



Supporting study for the Fitness Check on the construction sector: EU internal market and energy efficiency legislation

Volume 1
Main Report

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Milieu and CEPS,
with contributions from
BPIE and DBRI
October 2016



EUROPEAN COMMISSION

Directorate-General for Internal Market, Industry, Entrepreneurship and SME
Directorate C — Industrial Transformation and Advanced Value Chains
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Luxembourg: Publications Office of the European Union, 2016

ISBN 978-92-79-52344-1
doi: 10.2873/378688

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MAIN ABBREVIATIONS AND ACRONYMS

AVCP	Assessment and Verification of Constancy of Performance
BAU	Business-As-Usual
B2B	Business to Business
CA	Concerted Action
CCA	Compliance Cost Assessment
CE	European Conformity
CEN	European Committee for Standardisation
CPD	Construction Product Directive
CPR	Construction Product Regulation
DOP	Declaration of Performance
EDD	Ecodesign Directive
eDOP	Electronic Declaration of Performance
EE	Energy Efficiency
EED	Energy Efficiency Directive
ELD	Energy Labelling Directive
EPBD	Energy Performance of Buildings Directive
EPC	Energy Performance Certificates
EQ	Evaluation Questions
ETA	European Technical Assessment
EU	European Union
FPC	Factory Production Control
FTE	Full Time Equivalent
GPP	Green Public Procurement
hEN	Harmonised Standard
IA	Impact Assessment
ITT	Initial Type Testing
LPD	Late Payments Directive
MEPR	Minimum Energy Performance Requirement
MS	Member States
NACE	Statistical classification of economic activities in the European Community
NEEAP	National Energy Efficiency Action Plan
NZEB	Nearly Zero Energy Building
OPC	Open Public Consultation
PA2B	Public Administration to Business
PCPC	Product Contact Points for Construction
PQD	Professional Qualification Directive
RES	Renewable Energy Sources
RESD	Renewable Energy Sources Directive
RPD	Regulated Profession Database
SBS	Structural Business Statistics
SCM	Standard Cost Model
SD	Services Directive
SME	Small and Medium-sized Enterprises
TFEU	Treaty on the Functioning of the European Union

1 INTRODUCTION

This Report is the final deliverable under the Contract No. SI2.705693 for a 'Supporting Study for the Fitness Check on the Construction Industry in the policy areas of Internal Market and Energy Efficiency' (the 'Study'). The Report is submitted to the European Commission - Directorate General for Internal Market, Industry, Entrepreneurship and SME (the 'Client') by a grouping of consulting firms and research institutes led by Economisti Associati and comprising the Centre for European Policy Studies (CEPS), Milieu Ltd, the Building Performance Institute Europe (BPIE), and the Danish Building Research Institute (DBRI) - Aalborg University (collectively referred to as the 'Consultants').

1.1 Nature of the Study

Purpose and Objectives. The Study is intended to support the **REFIT Sectoral Fitness Check of the Construction Sector** undertaken by the Commission and expected to be published in Spring 2017. The Sectoral Fitness Check aims at examining how various EU legal acts impact on the construction sector, and at identifying possible areas of improvement, including reduction of regulatory costs and burdens and a better alignment of provisions, if applicable. The analysis included evaluating the efficiency, coherence, effectiveness, relevance and EU added value of most relevant provisions of EU legislation, with respect to the objectives for a more competitive and sustainable construction sector, in particular for SME. A particular attention will be paid therein to identify any synergy or inefficiency arising from these acts.¹

In this context, this Study pursues two **objectives**: (i) assessing the impacts (in terms of both costs and benefits) that a number of pieces of EU legislation in two policy areas have on the construction sector, from both an economic and legal perspective; (ii) carrying out an ex-post evaluation of the efficiency, the coherence, the effectiveness, the relevance and the EU added value of selected EU legislative texts with respect to the achievement of the objectives for a more competitive and sustainable construction sector. The analysis consists of a **retrospective assessment**.

Policy coverage. The Study reviews the EU legislation concerning two policy areas, **Internal Market and Energy Efficiency**, focusing on the most relevant texts which have a significant impact on the construction sector's competitiveness and sustainability.² Based on the progressive refinement of a list of possibly relevant acts, the Study focuses on **nine pieces of legislation** currently in force as well as their predecessors in effect during the **2004 – 2014 period**. These pieces of legislation were selected through a three-step process. First, a long list of more than 40 acts in the areas of Internal Market and Energy Efficiency was identified based on a preliminary desk research. From the long list, an intermediate list of 19 acts potentially relevant for the study, because of their impact on the competitiveness and sustainability of the construction sector, was presented at the Kick-Off meeting and discussed with the Services. A short list of legal acts was then identified based on four eligibility criteria and three substantive criteria; it was finalised in agreement with the Directorate General for Internal Market, Industry, Entrepreneurship and SME and the Steering Group, and then validated at the first Meeting of the Mirror Group with stakeholder associations and national governments.³ The legal acts included in the short list, hereinafter cumulatively referred to as the 'Retained Acts', are as follows:

¹ Cf. European Commission, Roadmap for the REFIT Sectoral Fitness Check of the construction sector, 25.04.2016, hereinafter 'Roadmap for the Sectoral Fitness Check'.

² A parallel study is currently being completed by another Consultant on the policy areas of health and safety and environmental legislation.

³ More information on the selection of legal acts is included in Annex I.

- The Construction Products Regulation (CPR)⁴ and its predecessor Construction Products Directive (CPD);⁵
- The Professional Qualifications Directive (PQD),⁶ including the 2013 amendments;⁷
- The Services Directive (SD);⁸
- The Late Payments Directive (LPD 2011)⁹ and its predecessor Directive 2000/35/EC (LPD 2000);¹⁰
- The Energy Efficiency Directive (EED),¹¹ and its predecessor Directive 2006/32/EC (Energy End-Use Directive);¹²
- The Energy Performance of Buildings Directive (EPBD 2010)¹³ and its predecessor Directive 2002/91/EC (EPBD 2002);¹⁴
- The Ecodesign Directive (EDD);¹⁵
- The Energy Labelling Directive (ELD);¹⁶
- The Renewable Energy Sources Directive (RESD).¹⁷

In terms of temporal scope, the analysis also covers acts which have come into force only recently. This is the case of the CPR, the LPD 2011, the EED, the EPBD 2010 and the RESD. In all cases, when regulatory effects are yet too recent to be assessed, it is clearly acknowledged in the analysis. This is especially the case for effects generated by new provisions were not included in the earlier versions of the acts, e.g. certain derogations for SME under the CPR, mandatory obligations concerning Green Public Procurement (GPP) under the EED, or the accreditation/certification of RES installers. In other cases, regulatory effects are generated by provisions that were already included in the previous version of the legislation, sometimes with (minor) amendments, and these could be fruitfully evaluated. This is the case e.g. for the Energy Performance Certificate (EPC) under the EPBD, or product testing provisions under the CPR. The period of entry into force of the various acts, including the transposition period, is shown in Exhibit 1.1 here below.

⁴ Regulation No 305/2011 of the European Parliament and the Council laying down harmonized conditions for the marketing of construction products.

⁵ Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the MS relating to construction products.

⁶ Directive 2005/36/EC of the European Parliament and the Council on the recognition of professional qualifications

⁷ Directive 2013/55/EU of the European Parliament and of the Council amending Directive 2005/36/EC on the recognition of professional qualifications and Regulation (EU) No 1024/2012 on administrative cooperation through the Internal Market Information System.

⁸ Directive 2006/123/EC of the European Parliament and the Council on services in the Internal Market.

⁹ Directive 2011/7/EU of the European Parliament and the Council on combating late payment in commercial transactions.

¹⁰ Directive 2000/35/EC of the European Parliament and of the Council on combating late payment in commercial transactions.

¹¹ Directive 2012/27/EU of the European Parliament and the Council on energy efficiency.

¹² Directive 2006/32/EC of the European Parliament and of the Council on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC.

¹³ Directive 2010/31/EU of the European Parliament and the Council on the energy performance of buildings.

¹⁴ Directive 2002/91/EC of the European Parliament and of the Council on the energy performance of buildings.

¹⁵ Directive 2009/125/EC of the European Parliament and the Council establishing a framework for the setting of ecodesign requirements for energy-using products. The preceding act is Directive 2005/32/EC of the European Parliament and of the Council establishing a framework for the setting of ecodesign requirements for energy-using products and amending Council Directive 92/42/EEC and Directives 96/57/EC and 2000/55/EC.

¹⁶ Directive 2010/30/EU of the European Parliament and the Council on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products. The preceding act is Council Directive 92/75/EEC on the indication by labelling and standard product information of the consumption of energy and other resources by household appliances.

¹⁷ Directive 2009/28/EC of the European Parliament and of the Council on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

Exhibit 1.1 Gantt Chart of the Legislation in Scope of the Study

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Construction Products	CPD											
										CPR		
Professional Qualifications	Sectoral Acts											
					PQD					(amended)		
Services Directive								SD				
Late Payments	LPD 2000											
										LPD 2011		
Energy Efficiency					Energy End-Use							
										EED		
Energy Performance of Buildings	EPBD 2002											
										EPBD 2010		
Eco-Design									EDD			
Energy Labelling									EDD			
Renewable Energy Sources											RESD*	

*: RESD provisions relevant to the construction sector came into force in 2014, the RESD in 2010
 Notes: in grey, transposition period (for CPR, transition period). Source: Authors' own elaboration

Sectoral Scope. Construction of buildings is a major economic activity in the European Union (EU), with a total value of production in 2012 corresponding to over 9% of GDP, and a value added contributing for 3.1% to GDP formation in the EU28 countries. In 2014, there were over 3 million firms active in the construction of buildings, with total turnover of about € 1,300 billion and an employment of almost 11 million persons. The production structure is dominated by micro and small enterprises, with an estimate 94% of firms with fewer than 9 employees.¹⁸

The Study focuses primarily on the activities related to the construction and the renovation of residential and public buildings. In practice, the Study concentrates on the **construction sector**, encompassing the construction and renovation of buildings and specialized construction activities (NACE Divisions 41 and 43), with the exclusion of infrastructure works. In order to provide a comprehensive picture of the effects of EU legislation, the Study also covers the other sectors in the construction value chain, i.e. the manufacture of construction products (encompassed under NACE Sections B and C), construction-related professional services, e.g. architects, engineers, or energy auditors (NACE Group M71), and real estate (NACE Section L). While analytical work and interviews were carried out across the whole value chain, the coverage of the various actors in the components of this Study is variable, depending on the relevance of the effects generated by each policy area, and on the depth and breadth of the data collection activity.¹⁹ The correspondence between segments of the value chain and the economic and legal analysis of the themes covered by the Study is reported below in Exhibit 1.2.

¹⁸ Data are from Eurostat, Structural Business Statistics. Value of production and value added refer to NACE Rev 2. Divisions 41 'Construction of buildings' and 43 'Specialised construction activities'; Division 42 'Civil engineering' is excluded as it is not covered by the Assignment. Full sectoral analysis is included in Annex II to the Report.

¹⁹ The size of and the topics covered by the questionnaires and the other survey tools employed in this Study were constrained by the amount of time that could reasonably be devoted to an interview by the respondents. For this reason, questionnaires were drafted as to cover the most relevant topics for each group of stakeholders, even though other topics could, in principle, have been relevant.

Exhibit 1.2 Segments of the Value Chain Covered by the Analysis of the Various Themes

Sector	Internal Market	Energy Efficiency
<i>Renovation of buildings and specialised construction activities</i>	Cross-border movement of qualified craftsmen (PQD) <i>Domestic simplifications (SD)</i> <i>Cross-border establishment and provision of services (SD)</i> <i>Inward effects of cross-border liberalisation (SD)</i> Fight against late payments (LPD)	Energy efficiency requirements and support programmes (EPBD and EED) Issuance of EPC (EPBD) <i>Accreditation/certifications of inspectors of systems and RES installers (EPBD, RESD)</i> Exemplary role of central governments' building (EED)
<i>Professional services</i>	Cross-border movement of qualified professionals (PQD)	Issuance of EPC (EPBD) <i>Accreditation and certifications of inspectors of systems and RES installers (EPBD, RESD)</i>
<i>Construction product manufacturers</i>	Legal framework for construction products (CPD/CPR)	<i>Energy efficiency requirements and support programmes (EPBD and EED)</i> <i>Coherence of other energy efficiency requirements (EDD, ELD)</i>
<i>Real Estate</i>	-	Energy efficiency requirements and support programmes (EPBD and EED)

Note: In italics, qualitative assessments. Source: Authors' own elaboration

The sector focus is a distinctive feature of the Study, differentiating it from other Fitness Check-related exercises, which typically take a look at all impacts of EU legislation (e.g. including social and/or environmental effects), whoever is concerned and whenever they are or will be impacted. The approach of this Study concentrates on one single industry sector, representing 18 million direct jobs and contributing to about 9% of the EU's GDP. This allows for **a detailed analysis of regulatory impacts**, for instance with an assessment of the effects on operators active at different stages of the value chain; and for **a comprehensive assessment of the coherence** of various legislative provisions, i.e. whether any synergy or shortcoming identified generates positive or negative impacts on market operators. Yet, it has to be noted that such sectoral approach overlooks the impacts on industries other than construction and the society at large, be they at the core of EU legislation as in the case of environment or social protection.

Geographical Scope. The Study focuses on 10 Member States (MS) to be covered in detail and that were considered representative of the various economic characteristics of the EU construction industry. These MS are: (i) Belgium; (ii) Denmark; (iii) France; (iv) Germany; (v) Ireland; (vi) Italy; (vii) Poland; (viii) Romania; (ix) Spain; and (x) the United Kingdom. The list of MS to be covered in detail was selected to be representative of the five main construction business systems in the EU and was agreed upon with the Client. Additionally, the selection aimed at ensuring that a sufficient share of the EU sector in terms of output is covered, and these 10 MS do represent more than 80% of the EU turnover (2013 data from Eurostat SBS). Finally, the sample covers the various EU geographical sub-regions, and both large and small MS.

Components. The Study consists of two main components, namely:

- an **economic analysis**, concerned with the identification and, whenever feasible, the quantification of the costs and benefits of EU legislation;
- a **legal analysis**, aimed at assessing the coherence of EU legislation, with the identification of shortcomings, overlaps, gaps, and obsolete measures.

1.2 Structure of This Report

This report presents the results of the work carried throughout the Assignment; it builds upon three previous deliverables,²⁰ where interim results were already presented and approved by the Client. The present report is structured as follows:

1. Section 2 presents: (i) the list of regulatory effects; (ii) the methodologies for the assessment of costs and benefits, the legal analysis, and the ex-post evaluation; and (iii) the intervention logic;
2. Section 3 describes the results of the economic analysis ;
3. Section 4 provides the findings of the legal analysis;
4. Section 5 presents the conclusions with the answers to the Evaluation Questions (EQ);
5. Section 6 concludes.

²⁰ Three deliverables were submitted in the course of the Study: (i) the Revised Inception Report on 19.10.2015; (ii) the Revised First Progress Report on 15.01.2016; and (iii) the Revised Second Progress Report on 15.04.2016.

2 RESEARCH METHODOLOGY

In this section, the methodologies adopted throughout the Assignment are presented. Given the manifold objectives of the studies, the chapter is structured in four sections:

1. Section 2.1. presenting the methodology for economic analysis, which includes the typologies of costs and benefits which informed the assessment, the list of regulatory costs and benefits identified in the selected acts, and the methods for their quantification;
2. Section 2.2 discussing the methodology used for the legal analysis;
3. Section 2.3 listing the methods for the retrieval of primary information and the number of counterparts interviewed or contacted in the course of the Assignment, and the participation to the Open Public Consultation;
4. Section 2.4, where the Intervention Logic is presented; and
5. Section 2.5, where the Evaluation Matrix and the methodology for the ex post evaluation is described.

2.1 Methodology for the Economic Analysis

The identification of the effects, i.e. costs and benefits generated by the nine pieces of legislation in scope of the analysis was based on the most recent Commission guidelines²¹ and CEPS-EA study on the assessment of costs and benefits due to the EU legislation.²²

2.1.1. Typology of Costs

Regulation may result in various types of costs for operators. For the purpose of this Study, regulatory costs are usually categorized along two dimensions, namely: (i) the nature of the costs incurred; and (ii) the frequency of occurrence, i.e. one-off vs. recurrent costs.

Nature of Costs. Following the typology provided in the BR Toolbox, for the purpose of this Study, three categories of regulatory costs have been considered in this Assignment,²³ namely:

- **Regulatory charges** include special fees, levies, or taxes whose payment is made mandatory by legislation. These charges only refer to special obligations affecting a specific sector or type of operators, with exclusion of general taxation;
- **Administrative costs** refer to the expenses incurred for the fulfilment of administrative obligations stipulated in the legislation, such as the costs related to the registration, the notification or the permitting of certain activities or the costs sustained for the supply of data or information for monitoring or policy making purposes, the so called 'information obligations';
- **Substantive compliance costs** relate to the expenses incurred to fulfil obligations affecting the organization and/or production process of operators, typically through the imposition or prohibition of certain activities (e.g. the adoption of certain safety measures or the elimination from the market of certain products). Substantive compliance costs can be further subdivided into: (i) investment costs, incurred when regulations impacts on physical assets; (ii) operating costs, which occur when regulation entails an increase in variable costs (e.g. labour costs, raw materials); and (iii) financial charges, represented by the opportunity cost of the capital required for investments.

²¹ European Commission, Better Regulation Guidelines, SWD(2015)111, 19.5.2015.; European Commission, Better Regulation Toolbox, annexed to the European Commission, Better Regulation Guidelines, SWD(2015)110, 19.5.2015. Hereinafter, 'BR Toolbox'.

²² CEPS – Economisti Associati, Assessing the Costs and Benefits of Regulation, Study for the European Commission - Secretariat General, 10 December 2013. Hereinafter, 'CEPS-EA Study'.

²³ At earlier steps of the Assignment, the full set of regulatory costs and benefits, including both direct and indirect, as reported in the BR Toolbox, was considered for the analysis. Eventually, the regulatory effects considered significant in the selected acts (as reported in Exhibit 2.1 below) correspond to a subset of these categories. Only the relevant categories are thus described in Section 2.1.1 and 2.1.2.

Frequency of Costs. To perform a cost assessment, costs should be classified based on their categories, and in particular whether they are recurrent or one-off. **Recurrent costs** are incurred by operators on a regular basis, because of the need to constantly fulfil certain regulatory obligations (e.g. the monitoring of water discharges), whereas **one-off costs** are incurred in case of discrete changes, also at the entry into force of a new regulation (i.e. a change in testing procedures).

2.1.2. Typology of Benefits

The categorization of regulatory benefits is less neat than in the case of costs. This has largely to do with the 'asymmetry of effects' characterizing many regulations.²⁴ For the purpose of this Study, two categories of regulatory benefits have been considered, namely: (i) the benefits resulting from a simplification of pre-existing regulatory provisions, subsumed under the label of '**cost savings**'; and (ii) the benefits associated with the business opportunities created or otherwise facilitated by regulation, subsumed under the label of '**new market opportunities**'. Importantly, according to the scope of the Assignment, only benefits generated on operators of the construction sector are considered. The wider societal benefits of the selected EU acts are generally assessed in the respective evaluation of individual acts and were therefore not analysed in this Study.

- **Regulatory Cost Savings.** Regulatory cost savings are **conceptually analogous to the regulatory costs** described in the previous sub-section, although they obviously carry a different 'sign'. Therefore, cost savings may result from: (i) the elimination or reduction of regulatory charges (e.g. the removal of a fee for exerting a certain activity); (ii) the simplification of procedures for fulfilling certain administrative requirements (e.g. the reduction in the frequency for submitting a report, from monthly to quarterly), with ensuing decline in administrative costs; and (iii) the elimination or softening of substantive compliance requirements (e.g. the elimination of a requirement to install a metering device), with a decrease in investment and/or operating costs and/or financial charges. Cost savings, both administrative and substantive, also include those linked to the harmonisation of national norms (for cross-border operators or companies operating in more than one MS). Similarly to regulatory costs, savings may be recurrent or one-off.
- **New Market Opportunities.** This is a potentially very broad category, encompassing a wide range of situations in which regulation contributes to the development of new markets or products. A key point is that **regulation rarely 'generates' new opportunities alone**. In most cases, regulation may create the conditions for certain business opportunities to emerge. However, whether these opportunities actually materialize or not (as well as the scale of the new opportunities) depends on the interplay with a host of other factors (from general market trends to the sheer availability of financial resources), including notably the behaviour of the operators. Therefore, this category of benefits is intrinsically different from the regulatory cost savings described above, as the linkage between regulation and the attribution of effects to the regulatory framework, and in particular to the EU legislation, is not univocal due to the presence of other factors.

2.1.3. List of Regulatory Effects

Taking into account the typology described above, a list of effects, i.e. costs and benefits, accruing to operators in the construction value chain due to provisions in the nine acts in scope of the analysis was drafted and subsequently refined with the contribution of Commission Services and stakeholders participating in the Mirror Group. The list is presented in Exhibit 2.1.

²⁴ While costs tend to be visible and localized (i.e. affect a limited number of agents) and can usually be expressed in monetary terms, regulatory benefits are more dispersed, concern a wide range of variables (from economic growth to improved health) and are expressed in different unit of accounts (e.g. lives saved, CO₂ emissions avoided). Indeed, as pointed out in the BR Toolbox, "there is no commonly agreed taxonomy of regulatory benefits." (p. 341). Cf. also CEPS-EA Study), at pp. 17 and 31.

Exhibit 2.1 Effects Identified in the Retained Acts on the Construction Sector²⁵

Legal Acts	Nature of the Costs and Benefits Identified (main related provisions) ²⁶
Internal Market	
<i>Construction Product Regulation</i>	<ul style="list-style-type: none"> • Administrative costs/cost savings linked to the obligation of providing information to customers (drafting, supplying and storing of DOP and related technical documentation or instructions and safety information) (articles 4, 5, 6, 7, 11.1, 11.2 and 13.8) • Administrative cost savings linked to the possibility of (i) derogating from DOP (article 5) and/or (ii) posting the DOP online (articles 7 and 60) • Administrative costs/cost savings linked to the affixing of the CE marking on products and the provision of information on the label (articles 8, 9, 11 and 13) • Administrative cost savings due to the easier accessibility of information through the Product Contact Points for Construction (PCPC) (articles 10) • Substantive costs/cost savings linked to the obligation for manufacturers to put in place factory production controls and to have an AVCP performed (articles 11, 13, and Annex V) • Substantive cost savings due to the simplification of procedures for the testing of products and for AVCP for micro enterprises (articles 36 through 38)
<i>Professional Qualification Directive</i>	<ul style="list-style-type: none"> • Administrative cost savings due to the simplification of procedures for the recognition of professional qualifications for establishment under the Automatic Recognition System (articles 21, 49 and 50) • Administrative cost savings due to the simplification of procedures for the recognition of professional qualifications for establishment under the General System (articles 13, 16, 17 and 50) • Administrative cost savings due to the simplification of procedures for the occasional provision of cross border services (articles 5- 7) • Administrative cost savings due to the availability of information via the PSC regarding applicable requirements online (article 57 PQD) and the possibility of complying with formalities online (article 57a PQD) • Administrative costs due to the obligation for service providers to provide information to the recipient of temporary cross-border services (article 9) • New business opportunities from the removal of obstacles to the mobility of professionals and craftsmen providing services to the construction industry

²⁵ No effects were identified in the ELD and EDD, as none of their provisions, including those of the secondary regulation, applied to the construction sector in the period in scope of the analysis. ELD and EDD are considered in the legal analysis and the ex post evaluation.

²⁶ For convenience, the articles mentioned refer to the most recent act (e.g. CPR rather than CPD).

<p><i>Services Directive</i></p>	<ul style="list-style-type: none"> • Regulatory charges savings linked to the proportionality of administrative fees in authorisation schemes (article 13(2)) • Administrative cost savings due to the regulatory simplification of authorisations to the permanent establishment of services providers (articles 9, 10, 11, and 12) • Administrative cost savings due to the elimination of the vast majority of formalities concerning the cross-border provision of services on an occasional basis (article 16, namely 16(2)(b)) • Administrative cost savings due to the simplification of administrative procedures for all cross-border situations, resulting in simple form documents, acceptance of equivalent documents and tacit approval (articles 5 and 13) • Administrative cost savings due to the availability of information via the PSC regarding applicable requirements online (articles 7 and 21) and the possibility of complying with formalities online (articles 6 and 8) • Substantive cost savings linked to the elimination of the need to hire local staff when operating in another MS (articles 15(2)(f) and 16(2)(d)) • Substantive cost savings linked to the elimination of the need to proceed with corporate restructuring to meet entry requirements in another MS (articles 14.1.3, 15.2.b. and .c, and 25) • Substantive cost savings from the elimination of the need to acquire local insurance coverage when operating in another MS (article 23) • Substantive cost savings linked to the generalisation of alternative dispute resolution schemes (article 27) • Substantive cost savings from elimination of other particularly stringent restrictions (articles 14, 15, 24, and 25) • Substantive cost savings due to the elimination of the requirement to establishment for temporary cross-border providers (article 16.2.b) • Substantive cost savings linked to the disapplication of local rules on equipment and materials (article 16.2.f) and of most other host MS requirements (article 16) • Administrative costs due to the obligation for service providers to provide information to the recipient of cross-border services (articles 22 and 27) • New business opportunities from the removal of obstacles to the establishment and operation of construction firms and related providers of services
<p><i>Late Payments Directive</i></p>	<ul style="list-style-type: none"> • Substantive (financial) cost savings linked to the setting of maximum and/or default payment terms in commercial transactions and criteria for the identification of grossly unfair terms and practices (articles 4, 5, and 7) • Substantive cost savings in the form of reduced litigation costs linked to automatic entitlement to late payment interest (articles 3 and 4)
<p>Energy Efficiency</p>	
<p><i>Energy Efficiency Directive</i></p>	<ul style="list-style-type: none"> • New business opportunities linked to obligation to renovate the stock of existing buildings, including the 3% target for central government buildings (articles 4 and 5) • New business opportunities linked to the increase in demand for high energy efficiency goods and services (including construction) by public bodies (article 6) • New business opportunities linked to the increase in demand for energy efficiency services associated to the obligation for energy distributors to reduce their sales by 1.5% per annum (article 7).

<p><i>Energy Performance of Buildings Directive</i></p>	<ul style="list-style-type: none"> • Administrative costs linked to the obligation to obtain and display energy performance certificates of buildings (articles 11-13) • Substantive compliance costs linked to the obligation to meet energy efficiency requirements for buildings, building systems and building elements (articles 4, 6, 7, and 8) • Substantive compliance costs to become a qualified or accredited expert for building certification and equipment inspection (initial and continuous training, software licence, audit by administrations, etc.) • New business opportunities linked to the growing demand for energy-efficient buildings, building systems and materials in order to meet energy performance requirements • New business opportunities linked to issuance of energy performance certificates (articles 11-16)
<p><i>Renewable Energy Source Directive</i></p>	<ul style="list-style-type: none"> • Substantive costs for the installers of renewable energy systems to meet requirements of certification or equivalent qualification schemes (article 14.3)

Source: Authors' own elaboration

2.1.4 Quantification of Regulatory Effects

Estimation of Regulatory Costs. The methodology for the estimation of regulatory charges, administrative and substantive compliance costs is modelled after the **Standard Cost Model** (SCM) and the **Compliance Cost Assessment** (CCA) model. The SCM measures a specific category of regulatory costs, the administrative costs linked to the so-called 'information obligations'.²⁷ The CCA model follows the same principles of the SCM but expands their application to all regulatory costs, including substantive compliance costs.²⁸ The SCM and CCA model are well known, commonly used by the Commission in BR-related work and therefore they do not require an extensive presentation; their basic features are presented in Box 2.1 below.

Box 2.1 – Basic Features of the SCM/CCA

Under the SCM/CCA the costs incurred by operators in complying with a certain regulatory obligation are broken down into two main components, namely: (i) the cost of the personnel employed in complying with the obligation, and (ii) the other out-of-pocket expenditures incurred by the firm (e.g. fees for lawyers or accounts, investment in equipment, expenses for technical testing, etc.). When out-of-pocket expenditures also include investment costs, they are annualised over the appropriate amortisation period – depending on the investment at stake – and financial costs, that is the opportunity cost of capital, may be included in the calculation when relevant. The cost for each obligation is then multiplied for the frequency of the obligation (e.g. annual, quarterly, etc.), yielding the total annual cost. In practice, for any given obligation, the cost (C) is computed using the following formula:

$$C = [(T * W) + E] * F$$

where:

T is the time spent by the firm's personnel in complying with the obligation;

W is the unit cost of the personnel (i.e. the wage) involved in complying with the obligation;

E represents the expenditures incurred in complying with the obligation; and

F is the frequency of the obligation per annum.

The parameters used in the formula normally originate from interviews with firms. In order for cost estimates to be reliable, the firms interviewed must be or 'typical' of the situation being studied. The total cost of complying with a certain regulatory obligation can then be estimated by multiplying the average cost by the number of firms subject to the obligation in question.

²⁷ Cf. International Standard Cost Model Network, The International SCM Manual: measuring and reducing administrative burdens for businesses, 2005. A detailed description is also provided in the BR Toolbox, see Tool #53 available at http://ec.europa.eu/smart-regulation/guidelines/tool_53_en.htm.

²⁸ For a comprehensive review of the CCA model, see OECD, Regulatory Compliance Cost Assessment Guidance, 2014. The model is also discussed in the CEPS-EA Study, especially section 2.2.

Identification of the typical firm. The vast sectoral scope of the Study required the identification of 'several' typical firms. A typical firm had to be identified in the case of construction companies, professionals, and product manufacturers. Furthermore, in all cases the interviewees needed to include a sufficient number of typical cross-border companies, which are however not representative of the typical firm in each sub-sector. All in all, the application of the SMC and CCA model prescriptions to determine the typical firm, and hence the typical cost parameter, had to be adapted according to the specific context of individual legal acts. In certain cases, in line with these methodologies, the typical firm could be identified by identifying average or median parameters, and excluding outliers (e.g. for the CPD/CPR, PQD). In other cases, e.g. to estimate the regulatory effects in the energy efficiency policy area, interventions and market opportunities were so idiosyncratic and variable across the company population, that the Consultants could not identify a typical business and had to more largely rely on secondary sources.

Estimation of the Business-As-Usual (BAU) Factor. Sometimes, the costs imposed by regulation, both administrative and compliance ones, are commingled with other costs that a firm would incur under normal circumstances. In these situations, in order to estimate the true 'regulatory burden', an effort must be made to separate the two cost components. This requires the estimation of the so-called business-as-usual (BAU) factor, that represents the share of costs that would be incurred even in the absence of regulation. The Consultants estimated the BAU factor based on indirect qualitative information retrieved from companies, as they are usually not able to explicitly quantify the BAU factor. The BAU factor is particularly important for the CPR. In this context, companies and stakeholders were surveyed on the usefulness of the information provided via the DOP and CE marking and on whether they would carry out testing activities in the absence of any regulatory requirements. The qualitative findings, retrieved in over a four-step ladder, were then transformed in a quantitative assessment of the BAU factor.²⁹ In other instances, the BAU factor was estimated at 0: this is the case for the PQD – whereas costs are only incurred because of the professional's decision to undergo the recognition of professional qualifications – and of the EPC.³⁰ Finally, in one instance the BAU factor could be estimated based on secondary sources: this is the case of the 'normal' rate of renovation of public buildings, which was retrieved from the Commission's Impact Assessment of the EED.

Estimation of Regulatory Cost Savings. The assessment of cost savings resulting from regulatory simplification relied on the **same methodology used for the assessment of regulatory costs**. Regulatory cost savings (be they administrative or substantive) are indeed specular to regulatory costs, only carrying a different sign.

Estimation of New Business Opportunities. The SCM/CCA approach cannot be used to assess the positive effects of EU legislation in terms of new business opportunities. In fact, the SCM/CCA implicitly assumes a linear relationship between regulation and its effects, with no confounding factors. In contrast, regulation is typically only 'contributing' to the emergence of new business opportunities, whose actual materialization and magnitude is influenced by a host of other factors. Under these conditions, the estimation of these categories of benefits can be based on an **in-depth investigation of each specific situation**, with the careful consideration and weighting of the various elements at play. Where information about the situation at stake is available, a **'top down' approach** was considered as the effective methodology, e.g. in the case of new business opportunities in the new building and renovation markets due to EE requirements. The Consultants thus started from the review of available studies on the overall magnitude of the benefits, and then refined the analysis based on information retrieved from stakeholders. When little is known about the phenomenon to be investigated, a **'bottom up' approach** was considered as the only feasible, e.g. in the case of the demand for services triggered by the energy savings targets imposed to energy distributors by the EED.

²⁹ Cf. Section 3.2.1 below and, more in detail Annex III, Section 2.6.

³⁰ Cf. Sections 3.3.2 and 3.6.2.

Cumulative Assessment of Costs and Benefits. In section 6.1 below, a comprehensive view of the costs and benefits generated by the EU legislation is provided. However, it falls short of a cumulative assessment for three reasons. First of all, while costs and cost savings, both administrative and substantive, are commensurable quantities, new market opportunities are not. New market opportunities have a different nature, as (i) effects may be distributional, rather than additional; and (ii) market opportunities also generate actual or opportunity costs for market operators. For instance, a professional may enjoy revenues from the EPC, which are partly compensated by a loss of business / opportunity costs in other market segments or, *ceteris paribus*, a decline in demand in adjacent markets, due to the customers' budget constraints. Similarly, construction companies benefit from the market opportunities generated by energy efficiency legislation, but at the same time incur costs for improving their skills or purchasing higher quality input materials, and may face a declining demand if the price of energy efficient buildings or services increases. Secondly, these costs, benefits and market opportunities concern various operators representing different links on the value chain. However, the construction value chain can be better described as a 'network of competence' rather than a set of vertical relations, and this prevents a proper estimation of the necessary pass-on relationship. In a nutshell, it would not be possible to allocate a share of e.g. quantified benefits linked to increase mobility of professionals under the PQD, to construction companies, as this does not automatically translate into cost savings or market opportunities for the latter. Thirdly, due to data availability, not all costs and benefits could be quantified, especially with respect to the impact of simplifications for domestic and cross-border companies, and available quantifications have non-homogeneous geographical coverage. As such, a partial cumulation, if at all possible, would remain misleading, while the current approach allows to consider in fair terms both qualitative and quantitative impacts.

The question remains on how to provide a sound estimate of the cumulated costs and benefits falling upon the construction sector. While the analysis of cumulated regulatory costs – let alone benefits – is still in its infancy, past experiences allow drawing general guidelines for this purpose. First of all, the analysis is likely to be much sounder if it focuses on a single and homogeneous sector, as the 'core' construction sector would be, rather than on a complex industry with both vertical and horizontal links. Secondly, the analysis should not be limited to certain policy areas, but focus on all pieces of legislation which create the largest costs (benefits) to the sector, to draw a comprehensive picture. Thirdly, the cumulation requires the analysis to deal with commensurable objects, and this is the reason why it usually concerns only one side of the coin, i.e. costs, rather than both costs and benefits. Finally, such a study requires the commitment and cooperation of trade associations, at both EU and national level, which should agree on providing contacts with a sufficiently large sample of companies, and foster their associates to disclose sensitive data, e.g. about cost structure and financial performances.³¹

Attribution of Costs and Benefits to the EU Legislation. The separation of the effects attributable to the EU legislation from those resulting from national legislation and other factors is a crucially important aspect of the Study. Among the Retained Acts, only one, the CPR, is a regulation.³² In this case, effects are presumed to be entirely of EU origins, as confirmed by discussion with stakeholders and firms. However, eight Retained acts are directives, the impacts of at least two government tiers, i.e. national and European, are inevitably intertwined. As there is no mathematical method for disentangling the impacts of different institutions, the attribution was based on the retrieval of qualitative findings, which are then classified over a qualitative scale and transformed into quantitative values. Qualitative findings mainly include: (i) information on the temporal sequence of events, e.g. whether a certain effect was already at play before the approval or transposition of the EU Directive; (ii) a check of whether certain national norms refer to the EU legislation in defining their objectives; (iii) judgment from stakeholders and public authorities. This exercise had a different degree of complexity for the

³¹ Cf. Schrefler, L., Luchetta, G. and F. Simonelli (2013), Regulatory Impact Assessment: A New Approach to ex post Evaluation in the EU: The Cumulative Cost Assessment, European Journal of Risk Regulation, Vol. 4, No. 4, pp. 539 – 541.

³² CPR was approved in 2011, and replaced a Directive, CPD.

various acts. For the EPC provided for by the EPBD, the situation was clear, as a limited number of MS had every taken steps towards mandating certification of energy performance of buildings before the enactment of the EU legislation, which thus has a major role. For the EE requirements and support programmes, to the contrary, most of MS had already in place a legislation and national funding, which were then complemented, and in some cases relaunched, by EU provisions. For the LPD, available data, complemented with qualitative findings retrieved from public authorities and stakeholders, allow determining, based on the temporal sequence of the events, whether the variation in payment delays took place before, at the same time, or after the revision of the EU legal framework hence providing an indication of the role of this EU act.

2.2 Methodology for the Legal Analysis

The evaluation of coherence involves looking at how well or not different actions work together. Checking coherence in the context of this Study means looking at how the various internal components of several pieces of EU legislation operate together with respect to the overall objective of enhanced competitiveness and sustainability in the construction sector. Therefore, the alignment of the different EU legal acts in the field of Internal Market (products and services) and Energy Efficiency, whether in terms of definitions, scope (e.g. in terms of market actors and/or various sub-sectors), and other common substantial requirements (e.g. reporting and inspection regimes, product and standard requirements), were looked only from this specific angle in this Study. This does not prejudge the fitness of individual legal acts with respect to their specific objective.

Given the relatively large number of EU legal acts in these fields, the assessment of coherence is of critical importance, and will need to consider whether all pieces of EU legislation form a coherent regulatory set in which the different pieces are consistent and reinforce each other through aligned provisions and approaches, or whether there are shortcomings in EU legislation. In case the assessment concludes that there are shortcomings, the Study will identify and define them in specific terms, and assess whether these shortcomings are a result of faults in the provisions of EU legislation itself (e.g. contradictory terminology) or are due to national implementation and transposition. Finally, the evaluation of coherence will assess how the identified shortcomings impact the construction sector, i.e. the costs to the construction sector that can be attributed to these shortcomings. This aspect goes beyond the traditional analysis of coherence and is considered to be closely linked to the analysis of policy efficiency.³³

For the legal analysis, the Retained Acts were split into three main groups consisting of three acts each:

1. Legislation providing requirements for construction products, either as product requirements or as labelling requirements, namely the CPD/CPR, EDD, and ELD
2. Energy efficiency legislation that is applicable to the construction sector, that are the EED, EPBD, and RESD.
3. Legislation applicable to the provision of services in the construction sector, that are the SD, PQD, and LPD.

Additionally, coherence issues between EU legal instruments that were grouped into different blocks were also taken into account, in particular: (i) the EPBD, EED, EDD and ELD; (ii) the EPBD and CPR; and (iii) the EED, EPBD, RESD and PQD.

For each group of acts, the analysis assesses the extent to which the selected EU acts are mutually supportive, or whether, conversely, any legal shortcomings (i.e. inconsistencies, overlaps, gaps) could be identified. The analysis of coherence focuses on three main aspects, namely: (i) the consistency among the objectives pursued by the various pieces of legislation³⁴; (ii) the coherence of the scope and definitions; and (iii) the coherence of substantive

³³ Cf. Section 5.5 below.

³⁴ Following the requirement in the Terms of Reference for this Study to pay particular attention to “the SME related aspects and to the impacts of this legislation on them”, this subsection also assesses whether SME are effectively taken up in the scope of application of the various pieces of EU legislation.

requirements imposed upon construction sector operators. While the analysis obviously focuses on EU legislation, whenever relevant the interaction with national legislation was also considered. Finally, a conclusion is reached on whether or not (and to which extent) any of the shortcomings have an impact on the performance of the construction sector.

The main sources for the coherence analysis include the implementation reports prepared by the European Commission, the preparatory studies of the pieces of legislation and the evaluations and IAs of the individual instruments. Further, interviews with stakeholders at the EU level and in the MS, conducted in the context of this fitness check, have provided some detail on the coherence of the legal framework applicable to the construction sector. A survey of manufacturers and their trade association, also conducted in the context of this Study, provided additional information. Finally, our research was further enriched by policy documents, position papers, the results from open public consultations and other legal literature.

2.3 Retrieval of Primary Information

Retrieval of primary information for this Study was carried out via:

1. Face-to-face or telephone interviews with **stakeholder associations** at EU and national level;
2. Face-to-face or telephone interviews with **public authorities** in the MS to be covered in-depth;
3. Face-to-face or telephone interviews with **firms** in the MS to be covered in-depth;
4. The **Open Public Consultation** (OPC);
5. Two **additional surveys** targeted at special audiences, namely: (i) an online questionnaire with associations and other stakeholders active in the construction products industry; and (ii) an email survey of architects' professional bodies.

Finally, the Consultants attended four events organized by business associations/institutions.³⁵

Interviews with associations and national authorities were carried out in the 10 MS to be covered in detail. They were conducted on the basis of **checklists**, consisting of lists of themes for discussion. The checklists were always tailored to the specific context and interlocutor. Interviews with firms were conducted on the basis of structured **questionnaires**. A set of four questionnaires was developed, targeting different categories of firms, namely: (i) firms and craftsmen involved in the construction of buildings and specialized construction activities (corresponding to NACE Division 41 and NACE Groups 43.1, 43.3 and 43.9); (ii) firms and craftsmen providing installation services (corresponding to NACE Group 43.2); (iii) professionals providing construction-related architectural and engineering services (included i.a. in NACE Group 71.1); and (iv) manufacturers of construction products (which belong to various groups in NACE Sections B and C).

In total, there were **170 successful contacts**, of which **132 interviews**,³⁶ **10 contacts through the email survey of architects' professional bodies**, and **28 respondents to the online survey for construction products stakeholders**.³⁷ More in detail:³⁸

1. Interviews were held with 13 **EU stakeholder associations**, and, in addition, nine EU level associations were surveyed through the online questionnaire for the construction product sector.
2. With respect to **national stakeholder associations**, interviews were held with 28 entities; in addition, 38 associations and professional bodies were surveyed through the

³⁵ These include: (i) the Joint Committee meeting of the UEPC (European Union of Developers and House Builders) held in Utrecht on 5.11.2015; (ii) the meeting of the CEN Construction Sector Network Core Group held in Brussels on 20.10.2015; (iii) a workshop organized by Construction Products Europe on 12.11.2015; and (iv) the Annual Board Meeting of the European Builders Confederation (EBC) on 18.12.2015.

³⁶ The methodology originally envisaged 100 interviews, of which 10 with national authorities, 20 with industry associations, and 70 with firms.

³⁷ Participants to the online survey for construction products stakeholders were 32; however, 4 of them preferred remaining anonymous and are not accounted among the contacts described here above.

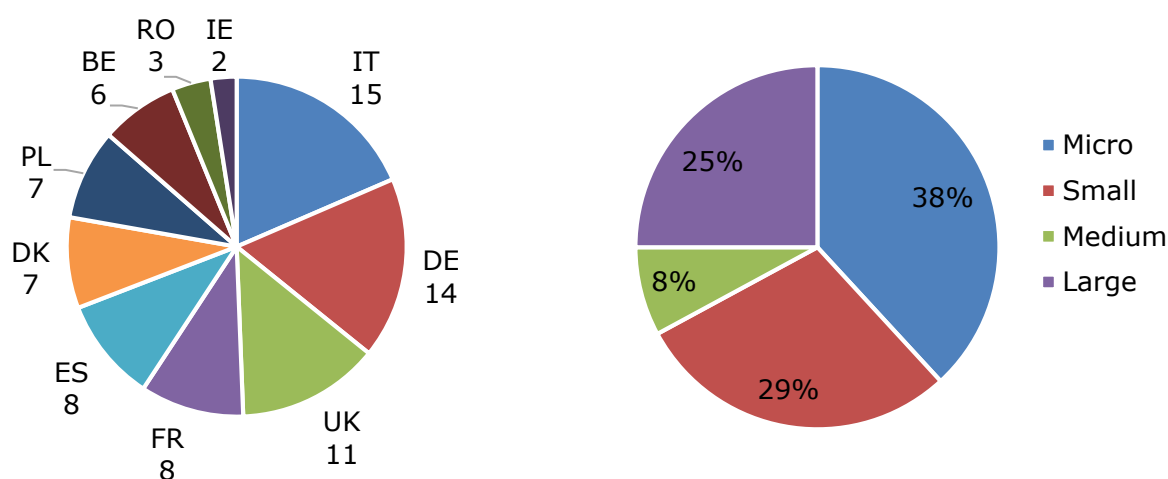
³⁸ Further information on the interviewees is provided in Annex V, Sections 2 and 3.

online questionnaire for the construction sector and the email survey for national chambers of architects.

3. All 10 **national governments** were interviewed; in several cases, the counterparts identified were responsible for only part of the themes addressed by the EU legislation to be analysed. Therefore, in order to ensure an adequate coverage, multiple contacts per country were sometimes necessary.
4. 81 **interviews with firms** were carried out, and in particular 48 interviews were held with construction companies and providers of specialised construction services, and 33 with other operators, of which 16 with professionals and 17 with product manufacturers.

Information on the geographical coverage and size class of interviewed companies is reported below in Exhibit 2.2. The geographical distribution of respondents³⁹ was defined *ex ante* based on the relative importance of each MS within the EU construction sector.⁴⁰ As for firm size, 75% of the sample is represented by SME, including a plurality of micro companies or independent professionals.

Exhibit 2.2 Geographical (left) and Size (right) Distribution of Interviewed Companies



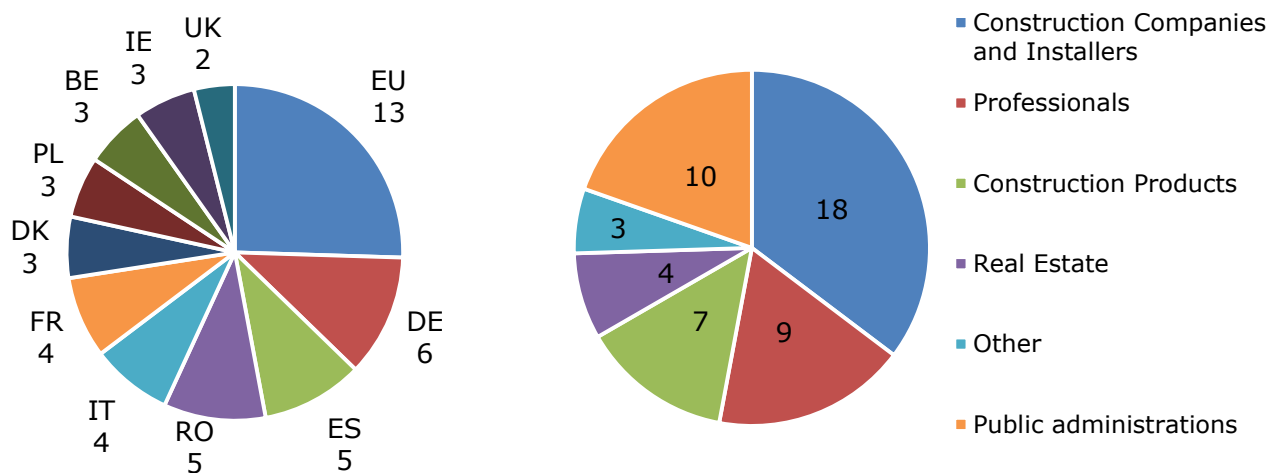
Notes: 5 companies declined to provide information on their size.
Source: Authors' own elaboration.

With respect to the semi-structured interviews with public administrations and stakeholder associations, their geographical distribution of is represented in the left side of Exhibit 2.3. At MS level, the number of counterparts interviewed depends on idiosyncratic features of national organisations, e.g. whether a single association covers both construction companies and installers, or whether SME are represented by their own association; and accounts for specific research needs, e.g. a discussion of issues with cross-border insurance with German and French insurance federations. On the right side of Exhibit 2.3, the coverage in terms of sectors is shown. Interviewed stakeholder associations mainly represent construction companies and installers, but also cover professionals, product manufacturers, and real estate operators.

³⁹ A Portuguese professional was included as he had experience in cross-border operations in Spain (and is thus accounted for among Spanish respondents).

⁴⁰ The exact *ex ante* distribution was defined based on the share of each country in terms of value added and number of persons employed, with each variable being given equal weight (source: Eurostat Structural Business Statistics). Then, the distribution was subsequently refined to account for issue of data quality and consistency emerging during the interview process, and to cover specific topics which deserved additional data points (e.g. cross-border provision of professional or construction services).

Exhibit 2.3 Geographical (left) and Sectoral (right) Distribution of Interviewed Stakeholders and Public Administrations



Source: Authors' own elaboration.

Open Public Consultation. Alongside the fact-finding strategy as described above, an OPC was set up to retrieve information from the public at large. The OPC was opened on March 29th and remained open for 12 weeks, until June 20th.⁴¹ It covered both the current Study and the parallel study on health and safety and environmental policies. The OPC was articulated over three questionnaires, defined in accordance with the Client: one for citizens, one for professionals, and one for public administrations. The definition of three questionnaires was necessary given the different kind of information and opinions that could be retrieved from the various stakeholder groups.

Findings of the OPC have been used to support and validate the current analysis throughout the Main Text. In particular, it has been verified whether results from the OPC were consistent with the evidences retrieved from other primary sources and secondary sources, and whether the problems and opportunities identified therein were consistent with the identification of the provisions most relevant in generating costs and benefits to the industry. The results of the OPC relevant to the policy areas covered by this Assignment are reported in Annex VII.

The OPC saw the participation of **55 respondents**. In particular: 37 respondents replied to the Professionals Questionnaire, 13 to the Authorities Questionnaire, and 5 to the Citizens Questionnaire.⁴² The 55 respondents originate **from 20 countries, including 18 MS and 2 non-EU countries** (Norway and Switzerland). The plurality of respondents came from Belgium (13 out of 55), also including a EU-wide organisation whose headquarter is in Brussels. Germany follows with 8 respondents, while 4 of them are from Finland and Spain. The United Kingdom and France host three respondents each, and Sweden, Luxembourg, Italy, Croatia and Denmark two respondents each. Other MS – from which one respondent originates - covered by the OPC includes Czech Republic, Estonia, Ireland, Malta, the Netherlands, Austria and Romania. One respondent declined to provide information on her/his/its country of residence.

⁴¹ In addition, some stakeholders contacted the responsible European Commission services indicating that they would be providing answers shortly after the deadline. The European Commission service accepted these submissions from three professional bodies and one public authority. Two of these late answers are however not covered within the scope of the analysis of the OPC, since such contributions did not explicitly address the OPC questions. These answers were however considered, where appropriate, in the main part of the Study.

⁴² During the analysis, it appeared that one respondent to the Authorities Questionnaire was in fact a professional body, which, for the purposes of the OPC, were classified within the Professionals Questionnaire. The answers from this stakeholder were therefore considered among the professional respondents. The analysis assumes that this respondent chose not to answer to those questions that were only asked within the Professionals Questionnaire.

Concerning the **nature of respondents** to the Professionals Questionnaire, 29 out of the 37 respondents provided information on their principal field of activity: 7 of them are manufacturers or traders of construction products; 8 of them are providers of construction activities; 5 of them are providers of professional services, and 9 are different market operators (including real estate operators and providers of testing and analysis services). Most respondents to the Professionals questionnaire (11 out of 37) are industry / business associations or workers organisation/associations and trade unions (9 respondents). Respondents also include four private companies, three non-governmental organisations, and two employees (who did not reply on behalf of their companies).

The Mirror Group. The methodology, the preliminary findings, and the results of this Study were presented and discussed in the course of the Assignment with a Mirror Group, in which 38 representatives of EU stakeholder associations and national governments took part. The Mirror Group met four times between July 2015 and March 2016. Finally, a draft version of this report was discussed with stakeholders at a Validation Workshop, organised by the European Commission on May, 26th 2016. Representatives of EU stakeholder associations, national stakeholder associations, national governments, and Commission Services attended the Workshop. The findings of the Study were presented and discussed in this forum, and stakeholders' feedback, provided both orally during the meeting and subsequently in writing, has been reflected in the current version of the Report.

Data Quality and Mitigation Strategies. The Consultants invested significant resources in ensuring a thorough coverage of the sub-sectors and MS in which the fact-finding work took place. All in all, the quality of the data retrieved from firms, industry associations, and public administrations proved to be good, though several iterations were necessary to reach a sufficient number of responses, validate findings, and clarify diverting diverging evidences.

- Contacts with **industry associations** were generally fruitful, although in certain cases the reaction was less warm than initially expected. Some associations have manifested concerns regarding the implementation of several parallel studies on the construction industry, which are perceived to place an excessive burden on their members. This resulted in some delays/difficulties in establishing contacts with national associations, which in turn reverberated on the ability to identify firms to be interviewed. In some cases, delays were also experienced at the level of national associations that not always have well developed contacts with firms, and therefore have to link up with territorial associations at the provincial/department level. In order to compensate for this, the Consultants activated own channels to reach out for firms and increased the number of contacts with national associations, so as to enhance the chances of getting useful referrals. In practice, this resulted in a number of contacts with industry associations significantly greater than initially envisaged.
- In the case of **national authorities**, there were initially some delays in identifying the right counterparts, but eventually interviews could be carried out with all 10 national governments. Reactions ranged from a very cooperative attitude, with the rapid provision of information and referrals, to difficulties in reaching out to the person in charge of the various dossiers covered by this Assignment. In several cases, the counterparts identified were responsible for only part of the themes addressed by the EU legislation to be analysed. Therefore, in order to ensure an adequate coverage, multiple contacts per country were required, or a pivot was identified, to disseminate requests and collect information from various offices.

Issues with data quality and availability emerged throughout different aspects of the analysis and pieces of legislation, and, across the various themes, were dealt with as follows:

1. With respect to the **CPD/CPR**, two issues concerned:
 - a. the lack of an agreed-upon definition of the NACE groups belonging to the 'construction product industry'. For analytical purposes, the definition adopted by the most recent evaluation study, refined as necessary, was adopted.⁴³ It is acknowledged that this may affect the quantitative findings in an unclear direction: on one side, not all companies included in the selected NACE groups are product manufacturers, and this may lead to an overestimation of costs and benefits; on the other, companies not included in the selected NACE groups are product manufacturers, and this may lead to an underestimation of costs and benefits;
 - b. the retrieval of data on derogations and simplifications. The sample of firms interviewed is much larger than what required by SCM and CCA methodology; however, this was insufficient to identify costs and benefits linked with these specific provisions, which still have limited take-up. To retrieve information on these aspects, and to validate other issues as well, an online survey of stakeholder associations was organised, in order to enlarge the range of actors covered by the fact-finding phase.
2. With respect to the **PQD**, two issues concerned:
 - a. the reliability of the Regulated Profession Database, which provides data on the population of mobile professionals and craftsmen. Commission services expressed reservations on whether data included in the database were comprehensive and up-to-date. However, the Consultants retrieved qualitative information from stakeholders and public administrations validated, through which the order of magnitude of the data included in the database could be validated;
 - b. the identification of a sufficient number of professionals who did undergo the PQD mechanisms, in order to retrieve cost parameters for the quantification of administrative burdens. Singling out cross-border professionals proved difficult; most importantly, skewing the sample towards them would not have been representative of the population when it comes to impacts from other pieces of legislation. To address this problem, an email survey of architects' professional bodies was carried out, to identify the cost parameters for the automatic recognition procedure, the general system procedure, and the temporary mobility.
3. With respect to the **SD**, companies were not able to provide any quantitative estimate of the benefits, concerning both domestic and cross-border simplifications. The Consultants attempted to fill data gaps by consulting additional stakeholders or secondary sources. While some pieces of information were retrieved (and is reported in Annex III to the report), the data gaps in terms of (i) number of occurrences of certain administrative activities; (ii) flows of construction companies operating cross-border; and (iii) cost and benefit parameters for simplifications remained too wide to carry out any quantitative analysis. A qualitative assessment was then performed.
4. With respect to the new market opportunities generated by the **energy efficiency policy area**, divergences appeared in the data provided by interviewees, both among respondents, and in relation to secondary sources. For this theme, the information from secondary sources was generally used as a starting point, with interviews being used for validation purposes. More in detail:
 - a. Concerning the diachronic analysis, retrieval of yearly estimates of incremental costs linked to EE requirements proved too burdensome; hence, stakeholders

⁴³ For a more detailed discussion, see Annex II, Section 2.1. Cf. RPA (2015), Analysis of implementation of the Construction Products Regulation, Final Report prepared for the European Commission, DG Internal Market, Industry, Entrepreneurship, and SME.

- were asked for three data points (2004, 2009, and 2014) and the series was interpolated, where necessary, based on data trends, secondary sources, and impacts due to time-bound changes in national EE requirements;
- b. additional research and validation concerned the market for energy EE-related renovation, for which there is little systematic information and the analysis had to rely on a variety of sources. Comprehensive studies are available for only few countries, and even in these cases there are at times discrepancies among the various sources. In most (though not all) the countries analysed, the EE-related renovation activities are driven by government support programmes and, therefore, in certain cases the market was estimated based on data on the assistance provided. The information collected from stakeholders and firms was usually of limited use, as either they were not able to provide any quantification, or the figures provided showed a wide range of variation, reflecting peculiar situations or distorted perceptions. Still, in few cases, information from interviews was the only one available forcing the Consultant to resort to fairly rough 'guess estimates'.
5. The lack of data points and of comparable data, mostly due to the specificities of national legal frameworks, prevented the quantification of the costs linked to the **qualification/accreditation of EPC experts, inspectors of heating and cooling systems, and RES installers**. The Consultants underwent additional research and resorted to the expertise of specialised research institutes; however, while this allowed for a qualitative assessment (which is included in Annex III), the number of cost parameters remained insufficient to perform a quantitative analysis.
 6. For the **LPD**, consistent data series, comparable across time and MS, could be identified only for 6 MS. Additional attempts were carried out to use other national sources, but they were frustrated by the different methodologies and types of data collected. For this reasons, the analysis was limited to these 6 MS.
 7. Concerning **coherence**, all interviewees were submitted a set of questions on the various legal shortcomings or overlaps. A limited number of firms was able to provide any comment on coherence issues, and none of them was able to provide any quantitative information on their effect. In general, the level of awareness of legal shortcomings and overlaps is fair across EU actors, limited when it comes to national stakeholder associations, and negligible when it comes to companies. For this reason, most of the attempts to provide a quantitative estimate of the impact of coherence issues were frustrated, and only a qualitative analysis could be provided for selected shortcoming or overlaps. In general, the paucity of data and information that could be retrieved from companies supports the hypothesis that coherence issues related to the selected EU acts had a limited impact on construction operators.

2.4 Intervention Logic

As mentioned in the Roadmap for the Sectoral Fitness Check, the 'EU legislation in [these] areas [...] has different features, in terms of policy objectives, mechanisms, and resources, which need to be recognised and taken into account throughout the Sectoral Fitness Check. This represents a methodological challenge [...] because the assessed legislation is not primarily targeting the construction sector'.⁴⁴ To cope with the 'different objectives, mechanisms, and resources', Exhibit 2.4 below shows the **intervention logic**, where the specific aspects of each acts are spelled out, in view of their proper consideration in the subsequent analysis with respect to their impacts on the construction sector. The intervention logic analysis is focused on the processes through which the acts triggered outputs, outcomes, and ultimately impacts, hence describing the underpinning causal linkages.⁴⁵

⁴⁴ Roadmap for the Sectoral Fitness Check, at p.2.

⁴⁵ Cf. the model proposed in the Roadmap for the Sectoral Fitness Check.

The intervention logic analysis starts from **the individual acts covered by the Study**, rather than from a general 'EU construction policy'. Indeed, this would risk being fictitious, since there is not a single EU construction policy enacted and implemented by a single body within the Commission. Rather, one of the outputs of the present Assignment is to investigate whether and how the various pieces of legislation analysed fit together, engendering synergies or duplication and loopholes. Actually, it appears clearly from the identification of policy objectives (see the first column of Exhibit 2.4) that most of these acts were:

1. implemented for **multidimensional purposes and to deliver societal benefits**, and, in particular, to achieve the overarching objectives of a more integrated Single Market and the EU climate and energy strategy; and
2. even when they directly promote the competitiveness or sustainability of EU companies, they are **horizontal** in nature, as they concern a vast range of industries.

To enter more into detail, only one of the nine acts of the Short List solely and directly targets operators in the construction value chain or, in other words, the supply side of the construction market. This is the case of the **CPD/CPR**. Another act directly targets the building sector, the **EPBD**, though covering both the supply and demand side of the construction market. However, and most importantly, EPBD main objective is the reduction of energy consumption in buildings in view of achieving the overarching objectives of EU climate and energy policy, hence its expected outcomes and impacts primarily consist of societal benefits, further to the effects on construction operators.

The other acts in the Internal Market policy area are horizontal in nature, as:

1. the **PQD** concerns all regulated professions, including professionals service providers and craftsmen in sectors other than the construction industry;
2. the **SD** concerns a vast group of service industries other than the construction industry;
3. the **LPD** concern all EU companies.

While these acts do have an effect on construction operators – both those operating cross-border and domestically – their general objectives are not to ensure the competitiveness and sustainability of the building industry, but to deepen Single Market integration, ensure its smooth functioning, and improve the competitiveness of the EU economy as a whole.

Also the other acts in the Energy Efficiency policy area are horizontal in nature, since:

1. the **EED** covers the whole EU economy and society, and, with respect to the demand side of the energy market, both industrial processes and buildings;
2. the **ELD** and **EDD** cover, in principle, all energy-related products, and only a limited set of them is also considered as construction products;
3. the **RESD** covers, in general, promotion of RES in energy consumption, in buildings, as well as in industrial processes, electricity production, and transport.

These acts are not only horizontal, but, most importantly, adopted for multidimensional purposes and to deliver societal benefits. As in the case of the EPBD, their first and foremost objective is indeed the achievement of the goals of the EU climate and energy policy.

To make clear that the evaluation includes acts whose objectives go further beyond than construction operators, Exhibit 2.4 shows (i) in bold, objectives which are both relevant and specific to the construction/building industry; and (ii) in bold and underlined, objectives which are relevant, but not specific, to the construction/building industry.

Exhibit 2.4 Intervention Logic

	Act	Objective	Process	Output	Outcome	Impacts	
Internal Market	CPR	<ul style="list-style-type: none"> • Freedom of circulation of construction products in the Single Market • Common language for declaring performance of construction products • Simplification of the legal framework for construction products 	<ul style="list-style-type: none"> • Harmonised standards • EOTA • Contact points for construction products 	<ul style="list-style-type: none"> • Rules to express the performance of construction products via DOP • Simplifications, derogations, e-government solutions • CE marking 	<ul style="list-style-type: none"> • Lower barriers to free circulation of construction products • Mitigation of regulatory burdens on enterprises <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>External Constrains</p> <ul style="list-style-type: none"> • National market surveillance • Demand features • Building customs • Local features (e.g. climate, seismicity) </div>	<ul style="list-style-type: none"> • More integrated Single Market for construction products • Increased competition (lower prices / more variety / better quality for customers) • Higher productivity • Customers' trust • Reduced environmental footprint of construction products 	Construction Competitiveness and sustainability
	PQD	<ul style="list-style-type: none"> • <u>Freedom of movement of professionals and craftsmen within the Single Market</u> • <u>Consolidation and simplification of the framework for recognition of professional qualifications</u> • Reinforcing guarantees for users of professional services 	<ul style="list-style-type: none"> • Automatic Recognition • General System • Professional card • Network of contact points 	<ul style="list-style-type: none"> • Uniform qualification recognition procedure in case of establishment • Simplified procedure for cross-border temporary provision of services • Alignment of educational and training requirements for certain professions 	<ul style="list-style-type: none"> • Facilitation of the labour mobility of regulated professions and crafts within the EU • Facilitation of cross-border service provision <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>External Constrains</p> <ul style="list-style-type: none"> • Language knowledge • Public health or safety implications </div>	<ul style="list-style-type: none"> • Increase in free movement of professionals and craftsmen • Improvement of the competitiveness of the professional service and craft markets • Increased competition (lower prices / more variety / better quality for customers) 	

	Act	Objective	Process	Output	Outcome	Impacts	
Internal Market	CPR	<ul style="list-style-type: none"> • Freedom of establishment for services providers • Freedom of provision of cross-border services 	<ul style="list-style-type: none"> • Revisions of and limitations to regulatory conditions for <ul style="list-style-type: none"> ◦ Domestic operators ◦ Cross-border service providers ◦ Cross-border establishment • Points of single contact • Administrative cooperation 	<ul style="list-style-type: none"> • Simplification of the regulatory framework for construction operators • Simplification of the regulatory framework for the establishment of service providers • Simplification of the regulatory framework for cross-border provision of services • Rights of recipients of services 	<ul style="list-style-type: none"> • Reduction of regulatory constraints and burdens • Reduction of barriers to entry in services markets • Lower barriers to free circulation of service providers <div style="border: 1px solid black; padding: 5px;"> <p>External Constrains</p> <ul style="list-style-type: none"> • Demand features • MS implementation • Language barriers • Tradability of services • Sectoral legal frameworks </div>	<ul style="list-style-type: none"> • Increase in free movement of service providers • Increased competition (lower prices / more variety / better quality for customers) • Higher productivity • GDP growth • Improvement of the quality of services • Strengthening service users' rights 	Construction Competitiveness and sustainability
	LPD	<ul style="list-style-type: none"> • Promotion of EU competitiveness • Reduction of and financial costs for companies • Facilitation of the functioning of the Single Market 	<ul style="list-style-type: none"> • Harmonisation of payment periods and ancillary conditions in B2B and PA2B transactions 	<ul style="list-style-type: none"> • Time limits for payment delays • Minimum interest rate • Compensation of recovery costs 	<ul style="list-style-type: none"> • Shorter payment periods • Reduction of costs for creditors (working capital, financial costs) <div style="border: 1px solid black; padding: 5px;"> <p>External Constrains</p> <ul style="list-style-type: none"> • Macroeconomic conditions • Fiscal constraints • Creditor's incentives to challenge the debtor </div>	<ul style="list-style-type: none"> • Improvement of firms' competitiveness • Avoidance of liquidity constraints for companies, especially SME • Better functioning of Internal Market 	
Energy Efficiency	EED	<ul style="list-style-type: none"> • Contribution to the 20% reduction target for energy consumption • Savings on the energy- demand side, including buildings and industry • Higher political commitment into energy efficiency • Creation and functioning of a market for energy efficiency improvements 	<ul style="list-style-type: none"> • National plans • Energy efficiency obligation schemes • Energy audits 	<ul style="list-style-type: none"> • Renovation of public buildings • Promotion of support programmes for EE (also in buildings) • Obligations on public procurement • Minimum annual energy savings for energy distributors and retailers • Smart metering 	<ul style="list-style-type: none"> • Improvement of energy efficiency in the EU <div style="border: 1px solid black; padding: 5px;"> <p>External Constrains</p> <ul style="list-style-type: none"> • Technical sustainability • Cost-effectiveness • Demand features </div>	<ul style="list-style-type: none"> • Reduction of greenhouse gas emissions • Lower reliance on energy imports • Economic growth • Energy security 	

	Act	Objective	Process	Output	Outcome	Impacts	
	EPBD	<ul style="list-style-type: none"> • Contribution to the 20/20/20 targets for reductions of energy consumption, use of RES and greenhouse gas • Promotion of cost-effective EE measures in the building sector • Provision of information on energy consumption of buildings and systems • Promotion of the leading role of the public sector 	<ul style="list-style-type: none"> • National plans • EPC and other certification schemes • Inspection and Control Systems 	<ul style="list-style-type: none"> • MS-based minimum requirements for EE in <ul style="list-style-type: none"> ○ new buildings ○ existing buildings undergoing major renovations ○ building elements ○ technical building systems • Common methodology to calculate energy performance of buildings 	<ul style="list-style-type: none"> • Improvement of energy performance of buildings in the EU • Creation of market for EE construction services and products <div style="border: 1px solid black; padding: 5px;"> <p>External Constrains</p> <ul style="list-style-type: none"> • Local climatic conditions • Indoor climate requirements • Cost-effectiveness • Affordability </div>	<ul style="list-style-type: none"> • New market opportunities for construction service providers, installers, and professionals • Construction sustainability (reduction of greenhouse gas emissions) • Lower reliance on energy imports • Energy security 	
	EDD	<ul style="list-style-type: none"> • Reduction of energy consumption and environmental impacts of energy-related products • <u>Support of the market transformation towards more efficient and environmental-friendly energy-related products</u> • <u>Creation and functioning of the Single Market for energy-related products</u> 	<ul style="list-style-type: none"> • Feasibility studies • Delegated acts for specific products • Voluntary agreements • Working plan 	<ul style="list-style-type: none"> • Ecodesign requirements • CE marking 	<ul style="list-style-type: none"> • Improvement of the energy and environmental performance of the products • Prevention of barriers to trade <div style="border: 1px solid black; padding: 5px;"> <p>External Constrains</p> <ul style="list-style-type: none"> • Market surveillance • Physical and technological limitation • Price and other demand features </div>	<ul style="list-style-type: none"> • Reduction of greenhouse gases emissions • Lower environmental footprint • Promotion of innovation • More integrated Single Market for energy-related products 	Construction Competitiveness and sustainability

	Act	Objective	Process	Output	Outcome	Impacts	
Energy Efficiency	ELD	<ul style="list-style-type: none"> Reduction of energy consumption and environmental impacts of energy-related products <u>Support of the market transformation towards more efficient and environmental-friendly energy-related product</u> <u>Creation and functioning of the Single Market for energy-related products</u> Provision of information on product performance to consumers 	<ul style="list-style-type: none"> Collection and provision of information for suppliers and dealers Feasibility studies Delegated acts for specific products Monitoring activity by MS Information campaigns 	<ul style="list-style-type: none"> Energy labels Other means of provision of information on the energy consumption of products 	<ul style="list-style-type: none"> Reduction of energy and non-energy consumption <ul style="list-style-type: none"> Per use Via more efficient uses Promotion of purchases of more efficient products Prevention of barriers to trade <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>External Constrains</p> <ul style="list-style-type: none"> Market surveillance Physical and technological limitation Price and other demand features </div>	<ul style="list-style-type: none"> Reduction of greenhouse gases emissions Lower environmental footprint Promotion of innovation More integrated Single Market 	Construction Competitiveness and sustainability
	RES D	<ul style="list-style-type: none"> Contribution to achieve the 20% target for the share of energy from RES Promotion of installation of RES technologies in buildings 	<ul style="list-style-type: none"> National plans Administrative procedures and regulations Guarantee of origin for energy MS reporting 	<ul style="list-style-type: none"> Mandatory targets for RES Information and training Grid access for RES Sustainability criteria for biofuels 	<ul style="list-style-type: none"> Increase of the share of RES over energy consumption <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>External Constrains</p> <ul style="list-style-type: none"> Cost-effectiveness Affordability Access to grid </div>	<ul style="list-style-type: none"> Reduction of greenhouse gas emissions Lower reliance on energy imports Economic growth Energy security 	

Source: Authors' own elaboration

Notes: in bold, objectives which are relevant and specific to the construction/building industry; in bold and underlined, objectives which are relevant, but not specific, to the construction/building industry

An ex post attempt can be made to conceptualise all these acts within the Commission Strategy for the sustainable competitiveness of the construction sector.⁴⁶ Therein, the main EU policy objectives and actions to achieve and improve the competitiveness and sustainability of this industry are spelled out. Taking into account the segments of the construction sector in the scope of this Assignment, i.e. 'construction of buildings' and 'specialised construction activities', these policy objectives can be summarised as follows:⁴⁷

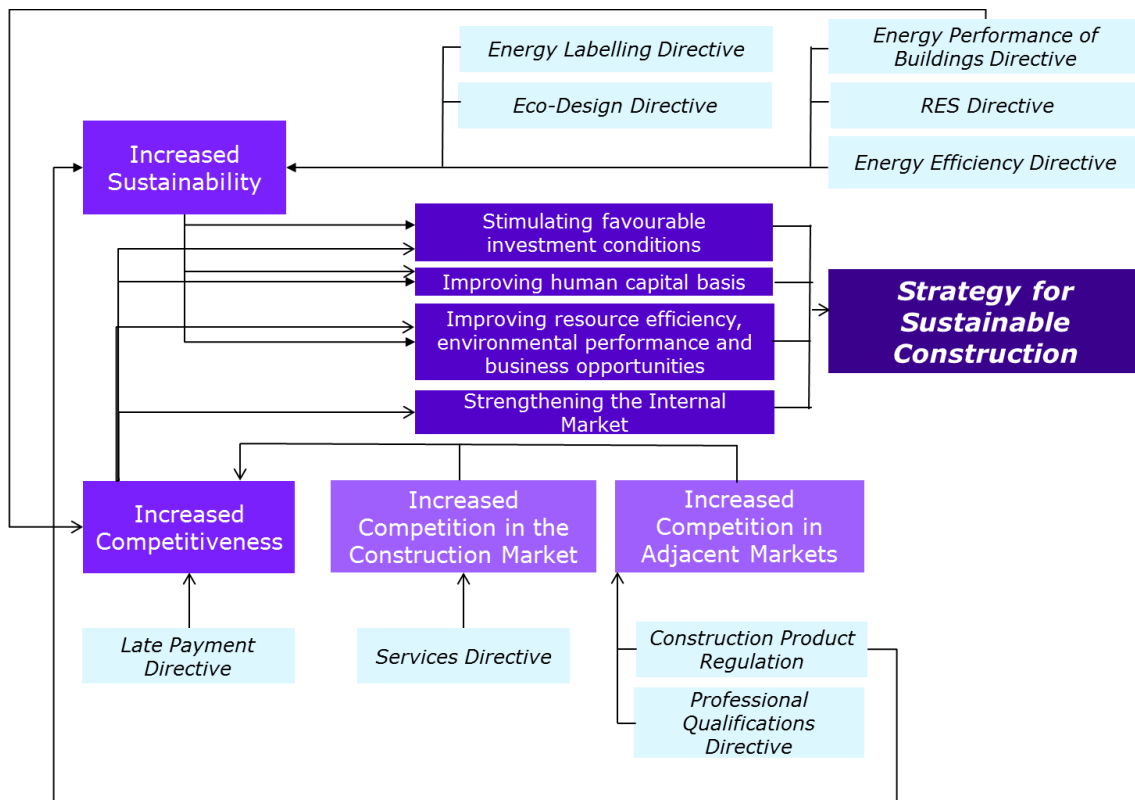
1. **Stimulating favourable investment conditions**, by placing great emphasis on building renovation and on combating late payments;
2. **Improving the human capital basis**, by attracting young workers to relevant construction professions, enhancing the mobility of skilled workers, and improving the working environment and the career management;
3. **Improving resource efficiency, environmental performance and business opportunities**, by developing harmonised indicators, codes and methods for the assessment of the environmental performance of construction products, processes and works, fostering GPP, and streamlining authorisation processes for construction projects;
4. **Strengthening the Internal Market**, by ensuring that the relevant legal framework is as clear and predictable as possible, reducing 'red tape', and accelerating the convergence of different national and regional regulatory approaches.

Exhibit 2.5 below shows the relationship between the acts retained for this Study and the Commission Strategy for the sustainable competitiveness of the construction sector. In general, acts in the Internal Market policy area aim at improving the industry competitiveness – with the exception of the CPR, which also aims at improving the sectoral sustainability. On the other side, acts in the Energy Efficiency policy area aim at improving the industry sustainability – with the exception of the EPBD, which is one of the pillar of the promotion of construction operators' competitiveness, especially as far as EE renovations are concerned. By increasing competitiveness and sustainability, these acts contribute to the specific objectives spelled out in the Strategy.

⁴⁶ Communication from the Commission, Strategy for the sustainable competitiveness of the construction sector and its enterprises, 31.07.2012, COM(2012)433.

⁴⁷ The Commission's Strategy for the sustainable competitiveness of the construction sector identifies another objective, that is 'enhancing access to international markets, especially in the public-works area'; it is mostly relevant for the civil engineering sector, which remains outside the scope of the Study.

Exhibit 2.5 Conceptual Framework



Source: Authors' own elaboration

2.5 Methodology for the Ex Post Evaluation

The various data collection and analysis exercises undertaken within the scope of this Assignment have fed into the **ex post evaluation of the impacts on the construction sector of the selected EU acts** in the policy areas of Internal Market and Energy Efficiency against the criteria of **relevance, coherence, effectiveness, efficiency, and added value**. The objective of this evaluation is to provide an evidence-based critical analysis regarding the performance of the selected EU acts with respect to the competitiveness and sustainability of the EU construction sector.

The evaluation criteria mentioned above are detailed in a series of **Evaluation Questions (EQ)**, to which the Report provides an analytical answer. Here below, the **evaluation matrix** is presented in Exhibit 2.6 below, detailing the judgment criteria, indicators,⁴⁸ data sources, and data collection and analysis methods for each EQ.

⁴⁸ The indicators included in the evaluation matrix have selected according to the RACER framework, in order to be (i) Relevant, that is closely linked to the EQ as operationalised through the judgment criteria; in particular, there is at least one indicator for each judgment criterion; (ii) Accepted, i.e. retrieved from relevant literature or best evaluation practices and partly verified through expert assessment and during the first set of interviews with stakeholder associations and firms; and (iii) Credible, that is easy to interpret and unambiguous, especially in view of drawing evidence for policymaking. . The two other criteria included in the RACER framework, namely 'Easy to monitor' and 'Robust', are more appropriate to evaluate objective indicators, that is those linked to the logical framework of the intervention as defined in the ex ante phase. Cf. European Commission, BR Toolbox, pp. 250 and ff.

Exhibit 2.6 Evaluation Matrix

EVALUATION QUESTION	JUDGEMENT CRITERIA	INDICATORS	DATA SOURCES	DATA COLLECTION/ ANALYSIS METHODS
Relevance				
<p>1. To what extent are the objectives of the different identified EU acts relevant in the context of a more competitive and sustainable construction sector?</p>	<p>•Alignment between objectives identified in the Commission strategy for the construction sector and selected EU acts</p>	<p>•Qualitative assessment of the alignment of objectives •Share of stakeholders expressing positive appreciation of the objectives of the selected acts</p>	<p>•Firms •EU and national trade associations •Legal acts and accompanying documents •IAs / evaluations •Policy documents •Position papers</p>	<p>•Legal analysis of pieces of legislation and policy documents •Checklist-based interviews with stakeholders •Desk research •Public consultation</p>
Coherence				
<p>2. To what extent do the selected EU acts fit together sufficiently well and provide the construction sector with a clear and predictable regulatory framework?</p>	<p>•Coherence and synergy of the selected EU acts •Legal clarity / non-ambiguous interpretation: <ul style="list-style-type: none"> ○ Definitions ○ Procedures ○ Scope of acts ○ Exceptions •Predictability: extent to which open-ended provisions and requirements can be anticipated</p>	<p>•Qualitative assessment of coherence •Share of stakeholders expressing positive perception with regards to coherence, clarity and predictability of selected EU acts •Number and severity of changes in definitions/interpretations</p>	<p>•Legal acts and accompanying documents •IAs / evaluations / public consultation reports •Policy documents •Position papers •Court rulings •Firms •EU and national trade associations •Public authorities •Country Reports</p>	<p>•Legal analysis of original texts and interpretation, queries, complaints, case law •Checklist-based interviews with stakeholders •Checklist-based interviews with public authorities •Desk research •Public consultation</p>
<p>3. What are the specific inconsistencies, overlaps (e.g. in terms of definitions), or gaps that can be identified across the selected EU acts?</p>	<p>•Identification of legal shortcomings <ul style="list-style-type: none"> ○ Inconsistencies ○ Overlaps ○ Gaps ○ Obsolete provisions </p>	<p>•Number and severity of shortcomings</p>		
<p>4. To what extent can the inconsistencies and overlaps be attributed to provisions in the selected EU acts or to implementation and/or transposition at national (including regional and local) level or to existing national legislative frameworks?</p>	<p>•Cause of legal shortcomings <ul style="list-style-type: none"> ○ EU legislative framework ○ National legislative framework </p>	<p>•Attribution (EU/national/local) of shortcomings</p>		

EVALUATION QUESTION	JUDGEMENT CRITERIA	INDICATORS	DATA SOURCES	DATA COLLECTION/ ANALYSIS METHODS
Effectiveness				
<p>5A. To what extent has the EU legislation in the areas of Internal Market and Energy Efficiency contributed to achieving the objectives of a competitive and sustainable construction sector?</p> <p>5B. What are the obstacles that still stand in the way of achieving the objectives of a competitive and sustainable construction sector?</p>	<ul style="list-style-type: none"> •Economic analysis of the market trends and competitiveness of the EU construction industry •Effect of selected EU acts in the Internal Market policy area on the competitiveness of construction firms •Effect of selected EU acts in the Energy Efficiency policy area on the competitiveness of construction firms, and their sustainability 	<ul style="list-style-type: none"> •Market data: <ul style="list-style-type: none"> ○ production volume ○ production value ○ share of renovation over total production ○ number of firms ○ jobs in the sector 	<ul style="list-style-type: none"> •Firms •EU and national trade associations •Sectoral publications and databases •Eurostat SBS •IAs / evaluations 	<ul style="list-style-type: none"> •Semi-structured interviews with firms •Checklist-based interviews with stakeholders •Desk Research •Economic Analysis •Public Consultation
<p>6. What are the unintended positive or negative consequences and side effects of the selected EU acts?</p>	<ul style="list-style-type: none"> •Effects (or lack thereof) which do not correspond to the objectives or intended outcome of the selected acts 	<ul style="list-style-type: none"> •Unintended positive and negative regulatory effects: <ul style="list-style-type: none"> ○ Administrative costs / cost savings ○ Substantive costs / cost savings ○ New business opportunities and efficiency gains 	<ul style="list-style-type: none"> •Firms •EU and national trade associations •Sectoral publications and databases 	
Efficiency				
<p>7. What are the costs and benefits associated with the implementation and transposition of selected EU acts for the construction sector, in particular for its SME?</p>	<ul style="list-style-type: none"> •Costs and benefits for construction firms •Distributional impacts along the value chain 	<ul style="list-style-type: none"> •Quantified regulatory effects, both costs and benefits, generated by the selected acts <ul style="list-style-type: none"> ○ Administrative costs / cost savings ○ Substantive costs / cost savings ○ New business opportunities 	<ul style="list-style-type: none"> •Firms •EU and national trade associations •Sectoral publications and databases •Eurostat SBS 	<ul style="list-style-type: none"> •Semi-structured interviews with companies •Checklist-based interviews with stakeholders •Desk Research •Economic Analysis
<p>8. Are the benefits achieved at the lowest possible cost for the sector given the objectives of the legislation?</p>	<ul style="list-style-type: none"> •Costs which can be avoided or recouped downstream 	<ul style="list-style-type: none"> •Share of avoidable / duplicated costs •Pass-on factor 		

EVALUATION QUESTION	JUDGEMENT CRITERIA	INDICATORS	DATA SOURCES	DATA COLLECTION/ ANALYSIS METHODS
<p>9. To what extent do 'shortcomings' in the selected EU acts, or in its implementation/ transposition at a national level, impact on the performance of the construction sector?</p>	<ul style="list-style-type: none"> •Effect of obstacles and shortcomings identified in the selected EU acts in the Internal Market policy area on the competitiveness of construction firms •Effect of obstacles and shortcomings identified in the selected EU acts in the Energy Efficiency policy area (and related obstacles and shortcoming) on the competitiveness of construction firms, and their sustainability 	<ul style="list-style-type: none"> •Regulatory effects, both costs and benefits, generated by the obstacles and shortcoming 	<ul style="list-style-type: none"> •Firms •EU and national trade associations •Sectoral publications and databases •Eurostat SBS 	<ul style="list-style-type: none"> •Semi-structured interviews with firms •Checklist-based interviews with stakeholders •Desk Research •Economic Analysis
<p>10. How do the costs and benefits differ across the EU?</p>	<ul style="list-style-type: none"> •Difference in costs and benefits for construction firms located in different MS 	<ul style="list-style-type: none"> •Difference in quantified regulatory effects, both costs and benefits, generated by the selected acts <ul style="list-style-type: none"> ○ Administrative costs / cost savings ○ Substantive costs / cost savings ○ New business opportunities 	<ul style="list-style-type: none"> •Firms •EU and national trade associations •Sectoral publications and databases •Eurostat SBS 	<ul style="list-style-type: none"> •Semi-structured interviews with firms •Checklist-based interviews with stakeholders •Checklist-based interviews with public authorities •Desk Research •Economic Analysis
<p>11. What factors influence the costs and benefits, in particular with regard to national transposition?</p>	<ul style="list-style-type: none"> •Institutions or legal provisions (in particular national) having a significant impact on cost differentials 	<ul style="list-style-type: none"> •Country-specific regulatory effects (costs and benefits) 	<ul style="list-style-type: none"> •Firms •EU and national trade associations •Public authorities •Sectoral publications and databases 	<ul style="list-style-type: none"> •Semi-structured interviews with firms •Checklist-based interviews with stakeholders •Checklist-based interviews with public authorities •Desk Research •Economic Analysis
<p>12. How are the various aspects related to inefficiencies and unnecessary burdens addressed by MS and the affected industry sector in terms of cooperation and coordination?</p>	<ul style="list-style-type: none"> •Forms of cooperation and coordination reducing costs or delivering benefits for construction firms 	<ul style="list-style-type: none"> •Regulatory effects, both costs and benefits, generated for the construction sector by forms of cooperation and coordination 	<ul style="list-style-type: none"> •Firms •EU and national trade associations •Public authorities 	<ul style="list-style-type: none"> •Semi-structured interviews with firms •Checklist-based interviews with stakeholders •Checklist-based interviews with public authorities •Desk Research •Economic Analysis

EVALUATION QUESTION	JUDGEMENT CRITERIA	INDICATORS	DATA SOURCES	DATA COLLECTION/ ANALYSIS METHODS
EU Added Value				
13. What is the added value of action at EU level, especially for SME?	<ul style="list-style-type: none"> •Attribution of costs and benefits to the EU and national level •EU added value 	<ul style="list-style-type: none"> •Share of costs and benefits attributable to EU / national level •Amount of costs avoided or benefits gained thanks to selected acts 		
14. What would have happened to the construction sector if the selected EU acts some of their specific provisions were to be removed and/or handled at MS level?	<ul style="list-style-type: none"> •BAU factor (share of additional costs and benefits compared to normal business practice) 	<ul style="list-style-type: none"> •Share of BAU benefits and costs over total benefits and costs 	<ul style="list-style-type: none"> •Results of the economic analysis 	<ul style="list-style-type: none"> •Semi-structured interviews with firms •Checklist-based interviews with stakeholders •Checklist-based interviews with public authorities •Desk Research •Public Consultation

Source: Authors' own elaboration

3 ECONOMIC ANALYSIS: COSTS AND BENEFITS OF SELECTED EU ACTS

3.1 Introduction

This Section of the Report is devoted to the illustration of the results of the fact-finding work aimed at assessing the effects of selected pieces of EU legislation in the policy areas of internal market and energy efficiency, namely the CPR, the PQD, the SD, the EPBD, the EED, the RESD, and the LPD, the regulatory effects of which are listed in Exhibit 2.1 above. For all the effects analysed, an effort was made to provide a quantification of the costs and benefits attributed to EU legislation. The quantification exercise relied on the methodology for estimating costs and benefits already presented in Section 2 above. While in this Section only the results and the main information are reported, the full analysis is developed in Annex III to the Main Report.

This Part is structured as follows:

- Section 3.2 reviews the effects of the CPR and of the passage from the CPD to the CPR, with reference to a wide range of provisions potentially generating costs or cost savings;
- Section 3.3 reviews the effects linked to the PQD, dealing with business opportunities, administrative costs, and cost savings;
- Section 3.4 analyses the effects of the SD, and in particular the benefits from simplification, for both domestic and cross-border operators, and the inward effects from inflows of EU construction companies;
- Section 3.5 discusses the market development effects of the adoption of stricter energy efficiency standards in buildings, in line with what envisaged by the EPBD;
- Section 3.6 reviews other effects generated by the EPBD linked with the issuance of Energy Performance Certificates (EPC);
- Section 3.7 assesses a set of other regulatory effects in the Energy Efficiency policy area, with respect namely to the EED, EPBD, and RESD;
- Section 3.8 analyses the effects associated with the LPD, with particular reference of the cost savings associated with the shortening of payment terms.

3.2 Costs and Cost Savings of the Construction Product Regulation and Directive⁴⁹

In this section, the regulatory effects of the **Construction Product Regulation (CPR) and Directive (CPD)** are assessed, including those linked to the transition from the latter to the former. The effects consist of substantial costs and cost savings, as well as administrative costs and cost savings. Data sources include:

1. Primary information obtained through interviews with companies;
2. Primary information obtained through interviews with trade associations, public authorities and other stakeholders;⁵⁰
3. Primary information obtained through an online questionnaire targeted at trade associations and other stakeholders;⁵¹

⁴⁹ This Section summarizes the key results of a more detailed analysis presented in Volume 2, Annex III, Section 2.

⁵⁰ Seventeen interviews were held with manufacturing companies, of which 14 delivered information on the CPD/CPR framework. The interviews with companies were key to retrieve cost and cost saving parameters and, as consequence, to carry out the quantifications provided below in this section; importantly, the number of data points retrieved largely exceeds those required by the SCM method. Furthermore, information was also retrieved from interviews with governments and trade federations at EU and national level. A workshop to retrieve information for this Study was organized by Construction Products Europe on 12 November 2015.

⁵¹ To cover several aspects of the CPR framework, including specific simplification provisions as well as the opinion of SME, a supplementary online survey of trade associations and other stakeholders was run. The dissemination of the survey was supported by Construction Products Europe. Thirty-seven stakeholder organisations from 13 MS, Norway and Switzerland participated in the survey.

4. Secondary sources,⁵² including the Impact Assessment (IA) carried out by the EU⁵³ and by UK authorities,⁵⁴ the CPD Evaluation Report,⁵⁵ the recent RPA study on the CPR,⁵⁶ and industry position papers.⁵⁷

3.2.1 The Regulatory Framework of the Construction Product Regulation and Directive

The CPR, as the CPD previously did, regulates the market for construction products according to the concept of the '**New Approach**' to Single Market regulation: the legal text sets the general objectives, while the detailed rules concerning every single product are defined through standardisation or secondary legislation. This ensures that the system remains flexible while promoting the fulfilment of the higher objectives.

However, the CPR/CPD is a *sui generis* regulation within the New Approach paradigm, because it does not set performance targets, but a **uniform framework to assess product performance and to declare related information**. While a New Approach Directive on e.g. the safety of certain products would state the minimum safety level that a manufacturer needs to guarantee to place a product on the Single Market, the CPR 'only' sets a common methodology for measuring the performance of construction products over their essential characteristics.⁵⁸

What is the reason for such an approach focusing on **performance measurement** rather product performance? The most important reason is that the definition of construction product requirements and, most notably, of building requirements is left to MS, at either national or local level. This complies with the subsidiarity principle, inasmuch MS and local governments can more effectively and efficiently tailor their construction product and building regulations to the geographical, climatic, and seismic features of their territory, and to the building customs and demand characteristics of their societies.

Secondly, construction product performances alone do not ensure that the construction works in which they are installed fulfil any essential requirements. Indeed, **the performance of a building depends on both the products used and its design**. The regulation of the essential requirements of construction works thus demands the combination of a 'construction product specification' and an 'application rule', concerning the design, construction, or installation of buildings, building systems, and building elements. The essential requirements for construction works, usually implemented by professionals through 'accepted solutions', vary from country to country, and even within a country.⁵⁹

⁵² Recently, the Commission adopted a Report on the implementation of Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC (COM(2016)445). Given the timeframe of its adoption, it could not be covered by this Study.

⁵³ Commission Staff Working Document Accompanying the Proposal for a Regulation laying down harmonised conditions for the marketing of the construction products – IA, 23.5.2008, SEC(2008)1900. Hereinafter 'IA on CPR'.

⁵⁴ Department for Communities and Local Government (2009), IA of the European Commission's proposed Construction Products Regulation. Hereinafter, 'UK IA'.

⁵⁵ PRC (2007), Study to evaluate the Internal Market and Competitiveness Effects of Council Directive 89/106/EEC, Final Report to DG ENTR, Hereinafter 'CPR IA background Study'.

⁵⁶ RPA (2015), Analysis of implementation of the Construction Products Regulation, Final Report prepared for the European Commission, DG Internal Market, Industry, Entrepreneurship, and SME. Hereinafter, 'RPA Study'.

⁵⁷ E.g., Construction Products Europe (2014) implementation of the Construction Product Regulation, Manufacturers' report. Hereinafter 'CPE Position Paper'.

⁵⁸ The essential characteristics of a construction product, as defined in art. 2.4 CPR, are those related to the Basic Requirements of a construction work. Those requirements are listed in Annex I to the CPR as follows: (i) Mechanical resistance and stability; (ii) Safety in case of fire; (iii) Hygiene, health and the environment; (iv) Safety and accessibility in use; (v) Protection against noise; (vi) Energy economy and heat retention; and (vii) Sustainable use of natural resources. The latest requirements was not included under the CPD.

⁵⁹ Cf. CPR IA background Study, at pp. 28 and ff.

In a nutshell, MS or local governments are free to set essential requirements for construction works; in addition, they may also set requirements for construction product performance, or rather allow any product to be used as long as the essential requirements of construction works are met. **The CPR does not mandate any performance requirement, for neither construction products nor works, but sets a uniform method to measure the performance of a construction product**, a method which is then defined through standards. In this way, construction operators across Europe are sure that product performance declarations 'speak the same language', i.e. that are drafted according to the same measurement methodology and parameters regardless of the country of production or installation. Consequently, performance declarations can be effectively used to verify whether a construction work meets national and local requirements.

Through such a framework, the CPR/CPD aims at ensuring the **free circulation of construction products within the Internal Market**, and as such at promoting the competitiveness of product manufacturers and of the construction sector as a whole.⁶⁰ This objective is achieved by: (i) mandating manufacturers to express the performance characteristics of their products using only the harmonised technical language set through the CPR framework (including the applicable standards);⁶¹ and (ii) prohibiting MS from impeding the making available on the market or the use of construction products compliant with the CPR framework, *as long as the declared performance correspond to the requirements for such use in that MS*.⁶²

The specific CPR/CPD approach has an important impact for the measurement of costs and benefits generated on the construction sector: companies do not have to incur into substantive cost to modify their products or production processes in order to meet any performance requirement, as confirmed by firms and trade associations. Rather, the CPR/CPD generates cost and cost savings related to the **measurement and certification of the performance of their products according to the applicable hEN or European Assessment Document (EAD)**.

3.2.2 The Changes Introduced by the Construction Product Regulation

The CPR was approved in March 2011 and fully came into force in July 2013.⁶³ It repealed the CPD and aimed at clarifying, simplifying and further harmonising the pre-existing legal framework. In this section, the most relevant changes, which could affect the competitiveness and sustainability of the construction industry, are described.⁶⁴ This description is functional to the quantification of the costs and cost savings carried out in sections 3.2.3 to 3.2.8 below.

DOP. Under the CPD, the manufacturer had to draw the Attestation of Conformity for the product that it intended to CE-mark;⁶⁵ under the CPR, the manufacturer needs to draw the Declaration of Performance (DOP) for all products covered by hEN or EAD.⁶⁶ Both the CPD Attestation of Conformity and the CPR DOP include similar information. The main difference between the CPD and the CPR is the duty for the manufacturer to provide the DOP to customers;⁶⁷ under the current framework, companies can opt for supplying their DOP in paper or via electronic means.⁶⁸ Derogations from the duty to draw a DOP have been introduced in the following cases: (i) products individually manufactured or custom-made in a non-series process, and installed in a single identified construction work; (ii) construction product manufactured on the construction site; and

⁶⁰ Cf. CPR IA.

⁶¹ Cf. Art. 4-6 CPR.

⁶² Cf. Art. 8.4 CPR.

⁶³ Art. 68 CPR.

⁶⁴ Hence, it does not aim at providing a full analysis of the new CPR framework. For a full analysis of the changes and the early implementation of the CPR, cf. RPA Study.

⁶⁵ Art. 13 CPD.

⁶⁶ Art. 4 CPR.

⁶⁷ Under the CPD, the Attestation of Conformity was not placed on the market; it was kept with the manufacturer and provided upon need or request.

⁶⁸ Art. 7 CPR.

(iii) construction product manufactured in a traditional way or for heritage conservation.⁶⁹ Under the CPD, there was no derogation from the duty to draw the Attestation of Conformity, though a simplified declaration of conformity could be drafted for individual and non-series production.⁷⁰

CE marking. Under the CPR, all products covered by a DOP or EAD need to be CE-marked.⁷¹ Under the CPD, CE marking was not mandatory in four MS: Finland, Ireland, Sweden, and the United Kingdom.⁷² In addition, the meaning of the CE marking in the context of the CPR was clarified.

Product Contact Points for Construction (PCPC). According to the CPR, MS have to designate a PCPC to 'provide information, using transparent and easily understandable terms, on the provisions within its territory aimed at fulfilling basic requirements for construction works'.⁷³ To reduce the proliferation of contact points, this role could be entrusted to existing national contact points (e.g. those foreseen under the SD) or to national SOLVIT centres.⁷⁴

Assessment and Verification of Constancy of Performance (AVCP). AVCP systems have been simplified, by removing System 2, foreseen under the CPD.⁷⁵ Art. 37 allows micro-enterprises to use different methods for products covered by Systems 3 and 4, where so provided for in the hEN, and to resort to System 4 for products for which System 3 would be required. Art. 38 allows manufacturers to replace AVCP with Specific Technical Documentation for individually manufactured or custom-made in a non-series process.

Simplified testing provisions. The CPR has introduced simplified procedures, such as in the following cases: (i) in case tests have been carried out for corresponding products (cd. 'test-sharing'); and (ii) for assembled products, when testing has been carried out on components (cd. 'cascading').⁷⁶ In those cases, type-testing or type-calculation needs to be replaced by Appropriate Technical Documentation. Some of the simplifications, such as test-sharing and cascading, were already part of the CPD broader framework, though they were not included in its binding text.⁷⁷

Sustainability. In the CPR, a new Basic Requirement was introduced, that is Basic Requirement 7 on 'Sustainable use of natural resources'. Under the CPD, the environmental performance of construction products was not dealt with. Basic Requirement 7 is an enabling provision, allowing manufacturers to declare the 'environmental performance' of their products in the DOP and in the CE marking.

3.2.3 Administrative Costs and Cost Savings Linked to the Obligation of Providing Information to Customers

In this section, the **administrative costs and cost savings related to drafting and supplying the DOP and the CE marking** are considered, based on the quantitative parameters retrieved from 17 company interviews, and the Consultants' analysis, which resorted to the SCM methodology.⁷⁸ More in detail, under the CPD regime, i.e. between 2004 and 2012, costs arose from the preparation and storing of the Attestation of Conformity and the preparation and supply

⁶⁹ Art. 5 CPR.

⁷⁰ Art. 13.5 CPD.

⁷¹ Art. 8 CPR.

⁷² Art. 4 CPR. Cf. CPR IA, at p. 9.

⁷³ Art. 10 CPR.

⁷⁴ RPA Study, at p. 139.

⁷⁵ Cf. Annex III CPD and Annex V CPR.

⁷⁶ Art. 36 CPR.

⁷⁷ E.g., for test-sharing, cf. §4.13 of the Guidance Paper M concerning Council Directive 89/106/EEC.

⁷⁸ When collecting data relating to costs, companies are asked to provide the costs incurred to issue a DOP. As a result, the cost savings due to CPR simplifications, e.g. because of the eDOP, are already accounted for in the figures included in this section. In other words, the cost of issuing a DOP would be higher in the absence of an eDOP, but the savings are already included in the cost figures provided by companies. While a separate estimation of costs and cost savings cannot be presented in this section, savings due to specific simplifications introduced by the CPR are discussed in Section 3.2.4 below.

of the CE marking; under the CPR regime, i.e. from 2013 onwards, costs have been generated from drafting and submitting to customers the DOP and CE marking. The two tasks are considered jointly⁷⁹ as a single business activity, as they are strictly linked to each other.⁸⁰

Interviewed firms were asked how many employees (in Full Time Equivalent - FTE) work on DOP preparation and updating, and whether other costs are incurred relating to the DOP preparation. However, a split between DOP preparation / DOP supply / CE marking preparation and supply appeared not to be realistic, because those tasks are usually conferred to the same people within a company. Hence, more aggregate data were collected from interviewees on:

1. **The number of people working on the DOP and the CE marking, including drafting, supplying and storing.** Based on the data retrieved, the following parameters are estimated:
 - a. A typical medium or large company employs 2 FTE (usually a technician and one/two clerks);
 - b. A typical SME employs 1 FTE (either a technician, or a technician and a clerk);
 - c. Micro-enterprises account for 80% of the company population according to available Eurostat data, with an average number of persons employed equal to 2.35.⁸¹ Based on experts' estimate, 0.2 FTE are considered to be devoted to these tasks.

Monetised values, based on Eurostat Earning Structure database per typical enterprise are shown in Exhibit 3.1 below.

Exhibit 3.1 Unitary Labour Costs for DOP and CE Marking, Including Drafting, Supplying and Storing

	Technician	Clerk	Salary: Technician	Salary: Clerk	Total Costs
Typical Micro	0.2 FTE	-	€ 37,100	€ 29,100	€ 7,400
Typical Small	0.2 FTE	0.8 FTE			€ 30,700
Typical Medium-Large	0.5 FTE	1.5 FTE			€ 62,200

Source: Interviews with firm and Eurostat Earnings Structure⁸²

2. **Out-of-pocket costs for buying standards.** The costs incurred to buy European Standards were provided by 12 companies and range from €80 to €40,000 per year.⁸³ The costs vary depending on whether the company buys only hEN, or rather a subscription from a standardisation body or private service provider for both access to standards and other tailored services. Excluding companies with special subscriptions, 9 data points remain, ranging between €80 to €4000, with a median value amounting to €1,000. The latter is considered the typical cost.
3. **Other costs linked to the DOP and the CE marking.** Two kinds of costs were investigated: (i) the costs linked to supplying the DOP and the CE marking to customers; and (ii) other administrative costs. As for the former, 10 data points are available, ranging from €100 to €30,000, with a mean and a median amounting to €9,200 and €6,000 respectively. Again, costs are not correlated to firm size. The median, i.e. € 6,000 per year,

⁷⁹ This section deals with administrative costs. Substantive costs, i.e. those linked to the ITT and the AVCP system, are considered below in Sections 3.2.5.

⁸⁰ Details of the calculation and the cost parameters are provided in Section 2.6 of Annex III.

⁸¹ Statistics on the firm size distribution are available at NACE 3-digit level, while some of the sectors included in the definition are at NACE 4-digit level; as an approximation, the share of micro, small, medium, and large companies in the corresponding NACE 3-digit group was used.

⁸² Earnings refer to 2010 data for EU28, inclusive of 25% overheads; annual salaries are calculated based on 200 working days per year and 8 working hours per day.

⁸³ From a supply-side perspective, a typical price to access hEN cannot be identified, as it depends on various factors: access to electronic or paper version, additional services associated with the purchase of the document, size of the document, country of establishment, market demand for a specific hEN, translation costs. CEN provides a guidance on standard prices, but no price list or binding rules.

is considered as the typical cost. As for the latter costs, only three companies reported other expenses, such as the cost of familiarisation, the cost of setting up a website, or the cost of buying new labelling machines. Given that most of the respondents did not mention these costs, the typical value is assumed to be €0.

To estimate administrative burdens, the BAU factor needs to be determined. Two preliminary considerations are made: (i) product manufacturers would inform customers of the performance of their product even without the CPR; and (ii) the prescribed tools, i.e. the DOP and the CE marking, are made necessary by the CPR. Since these two considerations lead to inconsistent conclusions, the Consultants asked companies, trade associations, and other stakeholders about the commercial value of the DOP, both through the interviews and the surveys.

The distribution of opinions is quite different across the two groups: for firms, the modal answer is 'to a high extent', selected by two thirds of the respondents. Still, opinions from interviews are quite polarised: one respondent mentioned that the DOP and the CE marking are '*very important, because they convey information about the quality of the product*'; another considered '*a big mistake to think of the DOP as useful for the user: it is a legal requirement and no customer asks for it; most customers, including professionals, would not even understand its content*'. For trade associations and other stakeholders, the modal answer is 'to a limited extent' – two ladders below –, selected by more than 40% of respondents. One association commented that '*the DOP includes what the legislators consider relevant, and not what customers need or want, as confirmed by contractors*'.⁸⁴ Split views on this issue were also reported at the Validation Workshop and in follow-up stakeholder contributions. To the contrary, respondents to the OPC expressed a more positive opinion on the usefulness of the DOP, though professionals had a less positive view compared to public authorities and citizens. Given the diverse range of opinions collected during the Study, the BAU factor is calculated by applying quantitative weights to the qualitative answers provided via interviews with companies and stakeholders.⁸⁵ The BAU factor would amount to 64% based on firms' answers, and to 36% on trade associations'. And given that answers from trade associations and other stakeholders are more representative of the diverse construction product industries, also including SME and non-exporting companies, the BAU factor is estimated at 40%. Based on these parameters, the administrative costs and savings due to the obligation of providing information to customers (including the DOP and the CE marking) are shown in Exhibit 3.2.

Exhibit 3.2 Unit Administrative Costs and Cost Savings Linked to the Obligation of Providing Information to Customers (Including DOP and the CE Marking)

Type of Enterprise	Labour Costs	Access to hEN	Costs for supplying DOP and CE marking	Other costs	Total Costs	Administrative burdens
Typical Micro	€ 7,400	€ 1,000	€ 6,000	-	€ 14,400	€ 8,700
Typical Small	€ 38,500				€ 45,500	€ 27,300
Typical Medium-Large	€ 78,300				€ 85,300	€ 51,200

Source: Authors' own elaboration

Based on the sector definition, as described in Annex II, the number of enterprises operating in 2013 is estimated at 245,300. According to Eurostat data, the share of medium and large enterprises can be estimated at 3.7%, the share of small enterprises at 12.6%, and the share of micro enterprises at 83.7%.⁸⁶ Based on these parameters, the **total administrative burdens for the EU28 in 2014 can be estimated at € 3.1 bln**. This amount accounts for **1.1% of the sectoral turnover**.⁸⁷

⁸⁴ A contractor association claimed that its members have '*extreme views*' about the usefulness of the DOP, being '*very useful for someone, completely useless for others*'. In any case, '*the choice of construction products is based on trust and long-standing relations, rather than on CPR-linked information*'.

⁸⁵ Quantitative weights are as follows: (i) not at all = BAU factor 0%; (ii) to a limited extent: BAU factor 25%; (iii) to a significant extent: BAU factor 50%; and (iv) to a high extent: BAU factor = 75%

⁸⁶ See note 81 above.

⁸⁷ Source for turnover: Eurostat SBS.

Cost differential between the CPR and the CPD. The possible cost differentials are the following:

- 1. Change in the number of employees working on the DOP and the CE marking.** Thirteen companies provided information on this possible cost differential, with 10 indicating that no change occurred. Differently, three companies reported an increase in the workforce, with 2 quantifying the increase (+5% and +20% respectively). According to these data points, the typical company is estimated not to have increased the number of employees working on the DOP and the CE marking after the introduction of the CPR.
- 2. Other one-off costs, related to the DOP or the CE marking.** First of all, the costs for supplying the DOP only relate to the CPR, as the CPD did not provide for this obligation. Hence, these costs, amounting to € 6,000 as shown in Exhibit 3.2 above, are considered as CPR-specific costs. As for other one-off costs, data provided mixed evidence. 6 out of 12 companies reported to have incurred other one-off costs related to the CPR, while according to trade associations and other stakeholders, 72% of the companies incurred some one-off costs. The magnitude of one-off expenses may be significant, ranging from several thousand € to more than one-hundred thousand €. In general, large companies report higher costs. Based on the information retrieved from both the interviews and the survey, the following estimates are made: 30% of the companies did not incur other one-off costs after the introduction of the CPR, while 70% did. The estimate is in line with previous evidence: according to the RPA Study, more than half of the surveyed companies had to adapt their internal system, e.g. by updating the IT systems, databases, websites, or preparing and translating DOP.⁸⁸ As a result, the cost differential is estimated at €3,000 for SME and €10,000 for large enterprises.⁸⁹
- 3. Change in the population of companies subject to CE marking obligations** (relevant in the MS in which it was not mandatory). Out of the 17 companies interviewed, 5 were based in a MS in which the CE marking was not mandatory; in all cases, products these companies CE marked their products for business reasons also before the introduction of the CPR. The issue was further investigated with EU and sectoral trade associations, and the result was largely confirmed, with the exception of specific sectors and/or products (e.g. aggregates). Based on this information, the share of companies which CE-marked their products only after the introduction of the CPR is estimated at 20% of the enterprises in Finland, Ireland, Sweden, and the UK.
- 4. Change in the number, frequency of updates, and/or burdensomeness of the DOP and the CE mark.** 13 companies provided information on this cost differential, with 7 reporting no change between the CPR and the CPD, and 6 indicating changes. However, in two cases changes are specific to the European Organisation for Technical Assessment (EOTA) route, which is discussed more in detail in Box 2.2 below. Only one company quantified the additional burden, amounting to 10%. For these reasons, this differential is conservatively costed at € 0 for the typical company.

Diachronic analysis. In Exhibit 3.3 below, the total administrative burdens and burden savings generated by the CPD/CPR obligation of providing information to customers (including the AOC, the DOP and the CE marking) for the period 2004-2014 are reported.⁹⁰

⁸⁸ Cf. RPA Study.

⁸⁹ The UK IA study estimated one-off costs at £ 4,000 / € 4,490. The RPA Study includes some case-specific estimates, though related to the whole transition from the CPD to the CPR, and not specifically to the changes related to the DOP and the CE marking. In particular, a UK company operating in the pavement sector spent about €270,000 for the CE marking, including testing, Factory Production Control (FPC), drawing of a DOP and labelling and packaging adjustments; on a different note, Irish notified bodies suggested that the costs for steel product manufacturers are likely to be in the range of €8,000 - €15,000. Importantly, these data include the ITT and the AVCP costs.

⁹⁰ Annual costs costs deflated through the price index for construction inputs (Eurostat). The following assumptions are made. (i) Number of companies: baseline data are taken from Eurostat SBS, as presented

Exhibit 3.3 Administrative Burdens (in €) Linked to the Obligation of Providing Information to Customers (Including DOP and the CE Marking): 2004 – 2014, one-off Costs Excluded⁹¹

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total burdens	1.1 bln	1.2 bln	1.3 bln	1.6 bln	1.6 bln	1.6 bln	1.6 bln	1.7 bln	1.6 bln	3.1 bln	3.1 bln
<i>Micro</i>	0.4 bln	0.5 bln	0.5 bln	0.6 bln	0.6 bln	0.6 bln	0.6 bln	0.6 bln	0.6 bln	1.8 bln	1.8 bln
<i>Small</i>	0.4 bln	0.5 bln	0.5 bln	0.6 bln	0.6 bln	0.6 bln	0.6 bln	0.7 bln	0.7 bln	0.8 bln	0.8 bln
<i>Medium&Large</i>	0.3 bln	0.3 bln	0.3 bln	0.4 bln	0.4 bln	0.4 bln	0.4 bln	0.4 bln	0.4 bln	0.5 bln	0.5 bln
% Turnover	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	1.1%	1.1%

Source: Authors' own elaboration

3.2.4 Administrative Cost Savings Linked to the Possibility of Derogating from the Declaration of Performance and/or Posting the Declaration of Performance Online

In this section, the administrative cost savings linked to the possibility of derogating from the DOP and/or posting the DOP online are discussed. These savings are related to: (i) the issuance of the **DOP via electronic means** (eDOP); and (ii) **art. 5 derogations** from the obligation to issue a DOP.

Provision of the eDOP. Differently from the findings of the RPA Study, **most of interviewees declared that they provide only the eDOP. Survey data also show that the eDOP is largely used by product manufacturers, as claimed by more than 70% of respondents.** Among the 13 companies that provided an answer, only one did not opt for the eDOP, and three firms supply both the eDOP and the paper version. Concerning the acceptance of the eDOP, all respondents reported that no problem was encountered with their customers. The widespread use of eDOP was further confirmed at the Validation Workshop and by follow-up stakeholder contributions.

The information on the cost savings due to eDOP is scarce, mainly because very few of the companies which were interviewed still rely on the paper version. **All interviewees using the eDOP considered it cheaper or much cheaper than the paper version.** Two firms were able to quantify savings, with one medium-sized company estimating them at €100,000, and a large company estimated at about 50% of the DOP supplying costs. However, quantitative data points are too thin to extrapolate results to the entire firm population. If the 50% saving, which are already accounted for in the figures presented in Exhibit 3.3, was representative of the typical firm, annual savings for the firm population would amount to €1.4 bln compared to a situation in which the DOP were to be submitted mandatorily as a paper document.

in Annex II. The share of large enterprises is assumed to amount to 0.47%, based on Eurostat SBS. For the period 2004-2012, 20% of the companies in FI, IE, SE, and the UK are assumed not to have incurred CE marking costs. RO and BG companies are considered from 2008 onwards, HR companies from 2013 onwards. (ii) Annual costs. As discussed in this section, the cost estimates retrieved from companies refer to the most recent situation, i.e. to 2014. Since the collection of cost data referring to the whole period was unfeasible, information on time trends in general, and in particular on cost differentials between the CPR and the CPD, was collected from companies. As already reported, data concur that the workload was quite stable across the whole period. The introduction of the CPR brought about changes, in particular in the content of the DOP (compared to the AOC), and with regard to the duty to supply the DOP to customers. While the former is one-off cost that is discussed further below, the additional costs for providing the DOP (€6,000 per year, as estimated above) are considered from 2013 onwards. For previous years, in the absence of major regulatory-driven changes, costs are deflated through the price index for construction inputs (Eurostat).

⁹¹ Exhibit 3.3 does not include one-off costs incurred by companies because of the transition from the CPD to the CPR, i.e. in 2013. As discussed above, these costs are estimated at €3,000 for small companies and €10,000 for large companies, assuming that 30% of the companies incurred in no one-off costs. One-off costs would amount to €522 mln for the whole sector, annualised over the years 2013 and 2014, as shown in the final quantification in Exhibit 3.4 below.

Art. 5 derogations. Through the survey, stakeholders were first asked whether art. 5 derogations apply to companies in their sector, and 36% of respondents replied that this was not the case. Among the 16 respondents for which art. 5 derogations were relevant, most of them (63%) replied that they knew of no cases in which these derogations were resorted to; five respondents mentioned that this derogation is used for products manufactured on the construction site; and only one for traditionally manufactured products. The limited use of art 5 derogations and possible problems with the clarity of this article were confirmed by stakeholders during the Validation Workshop and via follow-up contributions.

3.2.5 Administrative Cost Savings due to the Easier Accessibility of Information Through the Product Contact Points for Construction

The PCPC were introduced by the CPR to reduce the burdens for companies to familiarise with construction product and building legislation in other EU MS. Requests to PCPC may save: (i) internal work, i.e. the time needed to familiarise with unknown or uncertain legal provisions, and retrieve information from national and local authorities; and (ii) external costs, i.e. when consultants are resorted to provide information on unknown or uncertain legal provisions. Companies are likely to use PCPC for small- or medium-complexity requests; for very complex issues, a company is likely to resort to its own internal resources or to external consultants in any case. The time-saved for each request is based on Consultants' expert assessment; the degree of complexities of the various requests to PCPC is assumed over three different scenarios.

Based on the number of requests as extrapolated from the RPA Study, the average hourly salary rate for a technician inclusive of overheads (€23.2, source: Eurostat Earnings Statistics), the time-saved per request and the scenarios, the range of **administrative cost savings linked to the use of the PCPC then range between € 760,000 and € 1.2 mln.**⁹²

3.2.6 Substantive Costs and Cost Savings linked to the Obligation for Manufacturers to Put in Place Factory Production Controls and to Have an AVCP Performed

In this section, the costs due to the obligations linked to the AVCP system, including Initial Type Testing (ITT) and Factory Production Control (FPC), are assessed. The data points to estimate this cost item are extremely variable across the firm population, preventing the identification of typical cost parameters.⁹³ However, this is of limited relevance to the analysis once the BAU factor is taken into account. Opinions on the BAU factor are extremely consistent, as all interviewed companies reported that **most or all costs incurred for the AVCP, including initial testing, ongoing testing, and other FPC measures, would be incurred in any case because of quality management and to provide information on product performance to customers.**⁹⁴ In particular:

1. Declaring the product performance (even with tools different from the DOP and the CE marking) requires some form of initial testing;
2. Ensuring quality production requires ongoing testing and other quality management processes, that is FPC, tools and equipment.

All in all, the Consultants suggest considering the obligation for manufacturers to put in place factory production controls and to have an AVCP performed as a BAU-activity, i.e. **the BAU factor amounts to 100%.** When confronted with this hypothesis in the interviews, most of the companies and stakeholder associations interviewed agreed, while few others suggested that some costs should still be considered as regulation-driven. However, the elements to identify this small share of non-BAU costs are not sufficiently consistent across the population to provide a reasonable estimate.

⁹² Details of the calculation and the cost parameters are provided in Section 2.8 of Annex III.

⁹³ Retrieved data points are described in Section 2.9 of Annex III.

⁹⁴ This hypothesis may not be entirely true for small operators in certain sub-sectors, i.e. those selling simple products in local markets, where past business relationships make the provision of technical information less crucial.

Cost differential between the CPR and the CPD. To estimate the cost differentials between the CPR and the CPD for this item, interviewees were asked whether testing or FPC costs changed after the adoption of the CPR. All interviewed companies reported that neither testing nor FPC costs were modified by the introduction of the CPR.

3.2.7 Substantive Cost Savings due to the Simplification of the Procedures for the Testing of Products and for the Assessment and Verification of Constancy of Performance for Micro-Enterprises

Under this section, substantive cost savings linked to the simplification of the testing procedures and the AVCP for micro-enterprises are discussed, in particular: (i) **test-sharing and cascading** (art. 36 CPR); (ii) **the opportunity for micro-enterprises to use a simplified AVCP** (art. 37 CPR); and (iii) **the use of specific technical documentation in place of the AVCP for individually manufactured or custom-made products** (art. 38 CPR). Based in the RPA Study, the uptake of these provisions is considered low. To assess this regulatory effect, questions about the uptake and savings linked to art. 36 to 38 were introduced into the questionnaire targeted at trade associations and other stakeholders. **The main and consistent result is that 'no uptake' is the modal answer for all three kinds of simplifications**, hence confirming RPA results,

More in detail, **the uptake of art. 36 testing simplifications, including test-sharing and cascading, was higher than that estimated by the RPA Study**, as 57% of surveyed stakeholders reported some uptake among their associates.⁹⁵ While most of the stakeholders pointed out, qualitatively speaking, that **art. 36 simplifications did generate cost savings**, no quantitative estimates could be provided, as no company within our sample did make use of this simplification. The uptake of art. 37 and 38 simplifications remained very limited, also because only relevant to specific sectors or products.⁹⁶ As a result, art. 37 and 38 are not currently generating significant savings. Detailed results on the uptake are shown in Exhibit 3.4 below.

Exhibit 3.4 Uptake of CPR Testing Simplifications

	Art. 36	Art. 37	Art.38
Respondents	21	22	21
Not relevant	-	45.5%	67%
No uptake	43%	45.5%	19%
Limited uptake	38%	9%	9%
Some uptake	19%	0%	5%
High uptake	0%	0%	0%

Source: Online stakeholder survey

3.2.8 Benefits from the Construction Products Directive and Regulation

Retrieving from companies and stakeholder associations **quantitative estimates on the benefits linked to the CPD/CPR proved unfeasible**. Indeed, this would have required a different methodology establishing a counterfactual that considered what would happen without the EU framework. Consultants attempted to retrieve fact-based information on how the situation was before the implementation of the CPD, but companies did not have any 'institutional memory' about the situation prevailing back in the 1980's, and even in countries where CE marking was not mandatory before the introduction of CPR, no useful information could be retrieved. Here as follows, a qualitative analysis of the main regulatory benefits brought about by the CPR/CPD framework is provided.

⁹⁵ This was confirmed by stakeholders at the Validation Workshop and via follow-up contributions; it was also mentioned that in certain markets (e.g. fenestration products), art. 36 provisions are successfully used and considered very important by companies.

⁹⁶ This was also confirmed by respondents to the OPC and by stakeholders providing written contribution after the Validation Workshop. An exception is manufacturers of aluminium products, in particular for the fenestration markets, which reportedly use the simplified AVCP system allowed for SME by art. 37.

First of all, two preliminary considerations are worth discussing. In general, **stakeholders' attitude towards the CPR is positive**. True, the transition was not perfect, especially with respect to the definition of the content, layout and format of the DOP. At the same time, the legal clarity of certain new provisions and on their application modalities by national authorities is still to be improved, while complains remain about the smooth working of standardisation process with respect to the publication of standards by the Commission. However, in general the stakeholders show confidence in the legal framework, and in the quality and usability of hEN. Furthermore, two years after the take up, most of companies have now 'digested' the new framework, and carried out the necessary training and upgrading of the IT system. Reservations were made by two German stakeholder associations in relation to the recent CJEU case⁹⁷ and its impact on national norms and standards; however, other German manufacturers' associations pointed out that the very same judgment reduced compliance and administrative costs for their members, for about €4 mln per year.⁹⁸ All in all, this kind of complains remain limited to one MS, hence they can hardly be framed as a pan-EU regulatory hurdle.

The generally positive attitude also depends on the 'comparator' which companies have in mind when providing their assessment of the CPR. Even absent a EU framework, **manufacturers should measure and declare the performance of their work according to national legislation and standards**. Obviously, it remains impossible to determine whether national legislation and procedures would be more or less burdensome than the EU framework, but the situation is very different when compared to other piece of legislation, when the EU intervention is perceived by stakeholders as additional – as opposed as to substitutive – to national norms.

Benefits due to the CPR may fall either directly on product manufacturers, or indirectly on customers and the society at large. The following types of benefits have been considered, identifying where they fall upon:

1. **Free movement of construction products within the Single Market.** Obviously, this is the first and foremost outcome of the CPR, which should result in impacts such as lower price and better quality for customers on one side, and new market opportunities for manufacturers; furthermore, from a societal perspective, this should trigger more competition among manufacturers, thus higher productivity in the long-term. Unfortunately, no findings could be retrieved to confirm this hypothesis. CPR benefits, beyond the – so far – limited increase in trade flows could potentially profit contractors and investors/owners (through the diversified supply on local markets). However, the 2014 'Cecchini revisited' Report concluded that "trade in harmonised construction materials increased by 0.044% after establishment of CPR in the short run."⁹⁹ Therefore, it is reasonable to conclude that CPR effects on trade have not translated into significant benefits for the rest of the construction value chain, beyond manufacturers. Answers collected during the interviews, the OPC, the Validation Workshop, and follow-up contributions concurred that other drivers are significantly more important in shaping the EU Single Market for construction products. In particular, the tradability of many construction products is limited, given the low value-to-weight ratio. Though some products (e.g. wall tiles) or some niche specifications do travel the Single Market, in most cases transport costs offset any benefit from buying in another MS. Even construction companies operating abroad¹⁰⁰ largely rely on local suppliers. Secondly, in contractors' purchasing choices, existing business relationships and trust reportedly matter more than the declaration of the product performance required under the CPR framework. Finally, as already discussed, the regulatory framework is too old to retrieve fact-based data and information from companies about benefits due to the additional use of foreign suppliers after the introduction of EU rules in the construction product market. All in all, additional circulation of construction products is likely to be low for most of market segments, though

⁹⁷ Cf. Section 4.2.1 below.

⁹⁸ Cf. Section 4.2.3 below.

⁹⁹ Rand Europe (2014), The Cost of Non-Europe in the Single Market, Free Movement of Goods, Study for the European Parliament.

¹⁰⁰ Which indeed represents a small share of the total, see Section A.6.3 below.

positive for the ones whose products have a higher tradability; in any case, even for tradable products, CPR information cannot be expected to be among the main market drivers.

2. **Harmonisation.** Another classical effect of Single Market legislation is that multinational manufacturing companies have to comply with the same, or similar, requirements, throughout the EU, thus enjoying 'regulatory economies of scale'. This was confirmed by interviewees, which in many cases handle part of the compliance with CPR – especially the drafting of the DOP and the management of the IT system – at headquarter level, thus reducing costs. At the same time, product specifications also vary from country to country for non-regulatory reasons, and this reduce the potential savings linked to harmonisation. A recent testbed for these benefits was the removal
3. **Provisions of information.** Findings on the value of the information provided, both for manufacturers and customers, because of the CPR framework remains inconclusive. As already anticipated in the analysis above, product manufacturers perceive a large chunk of CPR regulatory obligations as BAU, because customers would need to know and trust the performance of construction products even absent any (EU) regulatory framework. However, both manufacturers and customers point out that the information provided in the DOP goes beyond what would be necessary. They both agree on the fact that most of the information on product performance also travels via other channels, including, most importantly, existing building relations.
4. **Simplification.** Another expected outcome of the CPR was the ease reduction of burdens on manufacturing companies, especially SME. Here, as already discussed in the analysis above, findings are yet interlocutory. Companies did appreciate the possibility of opting for the eDOP, though they were not able to put a price on this saving. With respect to other derogations and simplifications, their take-up is still limited, except for the possibility to use test-sharing and test-cascading. Here, issue of legal certainty still prevent the achievement of their full potential.
5. **Sustainability.** Another innovation introduced by the CPR is Basic Requirement 7, 'Sustainable use of natural resources'; however, it is too early to meaningfully assess any impact. Previously, the CPD did not cover the performance of construction products with respect to the use and consumption of natural resources in buildings and did not provide a common language and parameters to measure reuse, recyclability, durability, or the use of environmentally compatible raw and secondary materials. Basic Requirement 7 is an enabling provision, allowing manufacturers to declare the 'environmental performance' of their products in the DOP and in the CE marking. However, to become operational the provision requires the adoption of the relevant standards, so that hEN for construction products also include measurement methodologies for the environmental performance. To date, no hEN has reportedly included Basic Requirement 7.¹⁰¹ Currently, part of the industry is using the standard EN 1580413 as a voluntary method to provide environmental information to customers and further work is being carried out within CEN Technical Committee 350.¹⁰² As a result, the new CPR provision is not yet producing any effect and has not triggered an improvement in the sustainability of the sector. A stakeholder pointed out that the framework, when operational, could provide '*critical environmental performance information, which could be used for a better and more sustainable construction and operation of the building, and to perform carbon management or environmental risk assessment*'.

¹⁰¹ RPA Study, at p. 134.

¹⁰² CPE Position Paper, at p. 27-28.

3.2.9 Conclusions

Based on the SCM and CCA methodology, hence on data retrieved from the firms interviewed and the Consultants' analysis, the costs and cost savings generated by the CPD/CPR are summarised here below in Exhibit 3.5.¹⁰³ The quantification is in line with qualitative findings, which point out that the main incremental costs linked to the CPR were linked to the supply of the DOP, while substantive costs linked to testing and quality control mechanisms are largely considered as BAU.

Exhibit 3.5 CPR/CPD: Summary of Costs (Positive Values) and Cost Savings (Negative Values) (€ mln)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<i>Administrative burdens/burden savings linked to the obligation of providing information to customers (including the DOP and the CE marking)</i>	1,100	1,200	1,300	1,600	1,600	1,600	1,600	1,700	1,600	3,100	3,100
<i>One off-costs linked to transition to the CPR</i>	-	-	-	-	-	-	-	-	-	300	300
<i>Administrative cost savings linked to the possibility of derogating from the DOP and posting the DOP online</i>	-	-	-	-	-	-	-	-	-	(-1,500)*	(-1,500)*
<i>Administrative cost savings due to the easier accessibility of information through the PCPC</i>	-	-	-	-	-	-	-	-	-	-1	-1
<i>Substantive burdens/burden savings linked to the obligation for manufacturers to put in place an AVCP system</i>	0	0	0	0	0	0	0	0	0	0	0
<i>Substantive cost savings due to the simplification of the procedures for the testing of products and for the AVCP (art. 36)</i>	-	-	-	-	-	-	-	-	-	n.a.	n.a.
<i>Substantive cost savings due to the simplification of procedures for the testing of products and for the AVCP (art. 37-38)</i>	-	-	-	-	-	-	-	-	-	0	0
Total	1,100	1,200	1,300	1,600	1,600	1,600	1,600	1,700	1,600	3,400	3,400
Share over Turnover	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	1.1%	1.1%

* Savings already accounted for in the item above. Source: Authors' own elaboration over data from interviews and online stakeholder survey

In the IA Background Study¹⁰⁴ (at p. 41), costs for various sectors were estimated at between 0% and 0.9% of total turnover. As shown in Exhibit 3.4, data for 2006 (as the IA Background Study

¹⁰³ The analysis is sensitive to certain parameters. Concerning the population of companies subject to the CPD/CPR, on the one hand the number risks being overestimated, as the enterprises included within the NACE sector covered by the sectoral definition are also likely to include companies with 1 to 4 employees, which are unlikely to manufacture products on their own and thus to comply with CPR. On the other, however, the estimates do not cover many other NACE sectors, which are not sufficiently homogeneous to be considered as part of the 'construction product sector', but which are subject to these requirements. Moreover, the estimates are likely to underrepresent the benefits arising from art. 36, for which no quantitative estimates could be retrieved or inferred from the companies interviewed. At the same time, the estimates are based on the assumption of a '100% BAU Factor' for AVCP procedures, which may prove slightly over-optimistic, but for which no sufficiently granular information to disentangle the share of regulatory burdens could be collected.

¹⁰⁴ PRC (2007), Study to evaluate the Internal Market and Competitiveness Effects of Council Directive 89/106/EEC, Final Report to DG Enterprise and Industry of the European Commission,

dates back to 2007) are in line with those estimates. However, the methodology adopted is different and data are not directly comparable: the IA background study adopted a counterfactual *ex ante* methodology attempting to measure the additional cost compared to a counterfactual baseline in which no CPD/CPR is adopted; differently, this Study factually measures costs effectively borne by manufacturers over the 2004-2014 period.

Concerning the attribution of effects to the various government tiers, all cost and saving items – excluding BAU costs – quantified in this section are of EU origin.¹⁰⁵ This holds even more true for the period following the introduction of the CPR: differently from the CPD, the legal framework is now based on a Regulation, without an opt-out clause for MS intending not to impose CE marking obligations. MS authorities and public administrations clearly have an impact on costs, being the enforcement authorities; however, enforcement practices are not relevant to this analysis of regulatory costs.

3.3 Business Opportunities, Costs, and Cost Savings of the Professional Qualifications Directive¹⁰⁶

3.3.1 Introduction

The Professional Qualifications Directive (PQD) aims at facilitating the mobility of professionals and craftsmen and the intra-EU trade in services. This objective is to ensure that EU professionals may enjoy both the freedom of establishment, and the freedom to provide professional services in another MS on a temporary basis. To this purpose, the PQD establishes different frameworks. For the freedom of establishment, the PQD consolidates three recognition regimes:

1. The **automatic recognition system based on harmonised minimum training requirements**, currently applicable i.a. for architects.
2. The **automatic recognition system based on professional experience**, currently applicable for certain craft activities
3. The **general system**, applicable to all professions not covered by specific rules and to professionals that do not meet the conditions of the other recognition systems, i.a. engineers, architects whose title is not included in Annex V to the PQD, and craftsmen without sufficient working experience to access the automatic recognition system

As for temporary service provision ('temporary mobility'), the PQD prescribes that the host MS may only require incoming professionals and craftsmen a yearly declaration including details of insurance cover, nationality and professional qualifications. It may also conduct a prior check of these qualifications when the profession has public health and safety implications and is not subject to automatic recognition. This regime did not pre-exist the PQD.

In this section, the regulatory effects of the PQD in terms of new business opportunities, administrative costs, and cost savings are assessed.¹⁰⁷ The exercise is based on the following sources:

1. Primary information obtained through interviews with professionals;
2. Primary information obtained through interviews with trade associations, public authorities and other stakeholders;
3. Primary information obtained through an e-mail survey targeted at national Chambers of Architects to retrieve cost parameters for carrying out the cost and cost savings assessment linked to the recognition process;

¹⁰⁵ Such a conclusion applies to the current state of the world. In the absence of EU provisions, costs would not 'disappear', as national or local rules would replace them, as was the case before the adoption of the CPD. However, fact-based information on the costs or benefits of separate national regulations could not be retrieved, since the current legal framework dates back, in its main elements, to the early Nineties. As a result, companies and other stakeholders have little or no memories of the previous situation

¹⁰⁶ This Section summarizes the key results of a more detailed analysis presented in Volume 2, Annex III, Section 3.

¹⁰⁷ Cf. Section A.1 above for the full list of regulatory effects.

4. The Regulated Professions Database (RPD)¹⁰⁸ published by the European Commission, including legal information about whether a profession is regulated and in which MS, and the number of successful, unsuccessful and pending applications for establishment or temporary mobility.¹⁰⁹
5. Other secondary sources, including the IA,¹¹⁰ the PQD Evaluation,¹¹¹ and the mutual evaluation reports¹¹².

Box 3.1 Number of professionals and craftsmen included in the RPD

The RPD includes data submitted by MS, which retain responsibility for the quality, accuracy and responsiveness of the available information. To make it explicit, the Commission has introduced a disclaimer in the RPD, stating that “[t]he database contains information on regulated professions, statistics on migrating professionals, contact points and competent authorities, as provided by EU MS, EEA countries and Switzerland. Each country is responsible for updating information, on its regulated professions, competent authorities and statistics.”

The relevant Commission services have raised doubts regarding the comprehensiveness of the RPD, which may result in an underestimation of cross-border mobility. The Consultants were not in the position to verify the figures included in the RPD for each MS and profession. However, the information retrieved from the PQD was validated, where possible, via secondary sources and interviews. While discrepancies may remain between the number of accepted demands and the number of professionals and craftsmen establishing abroad or providing temporary services cross-border, the information obtained from other sources suggests that, whatever the gaps in the database, they are unlikely to alter the overall picture of limited cross-border mobility.

Obviously, the RPD does not account for professionals and craftsmen moving to a MS in which a certain profession or craft is not regulated. However, professionals and craftsmen moving towards these MS do not pass through the mechanisms of the PQD, as the recognition of professional qualifications is not necessary therein. Hence, the PQD can be neither attributed administrative costs or burdens falling upon these professionals and craftsmen, nor benefits because of their mobility. In brief, professionals and craftsmen moving towards MS where a profession or craft is not regulated are not relevant for the analysis of the economic effects of the PQD. This also means that the description of the main trends in cross-border mobility in the construction sector (reported in Section 3.2 below) does not account for the whole number of flows, but only for those that go through the PQD mechanisms.

The analysis focuses on the most-mobile construction professions and crafts: (i) architects; (ii) engineers, including both civil and building ones; (iii) electricians (iv) masons, bricklayers, painters, and decorators.¹¹³

¹⁰⁸ http://ec.europa.eu/internal_market/qualifications/regprof/ (last accessed on March 2016).

¹⁰⁹ Data were retrieved from the RPD in November 2015.

¹¹⁰ Commission Staff Working Paper, IA, Accompanying document to the Proposal for a Directive of the European Parliament and of the Council amending Directive 2005/36/EC on the recognition of professional qualifications and Regulation on administrative cooperation through the Internal Market Information System, SEC(2011)1558.

¹¹¹ European Commission (2011), Evaluation of the Professional Qualifications Directive, Brussels, 05.07.2011. Hereinafter ‘PQD Evaluation’.

¹¹² Directorate General for Internal Market, Industry, Entrepreneurship and SME E/5 (2015), Mutual evaluation of regulated professions: Overview of the regulatory framework in the business services sector by using the example of architects Report based on information transmitted by MS and on the meeting of 30th September 2014.; and cf. Directorate General for Internal Market, Industry, Entrepreneurship and SME E/5 (2015), Mutual evaluation of regulated professions Overview of the regulatory framework in the construction sector by using the example of civil engineers Report based on information transmitted by MS and on the meeting of 30 September 2014, at §2.

¹¹³ Description of the mobility flows of these professions is provided in Section 3.2 of Annex III.

3.3.2 Assessment of New Business Opportunities

Based on the data from the RPD, the new business opportunities created by the PQD for architects, engineers (both civil and building ones) and craftsmen (electricians, masons, bricklayers, painters, and decorators) were assessed.¹¹⁴ The methodology adopted is based on the calculation of the added value generated by professionals and craftsmen moving abroad. In particular, the Consultants attempted to identify the **cross-border added value**, i.e. the supplementary added value generated by the professionals or craftsmen moving to another country compared to the one that they would have generated by remaining in their home MS. The cross-border added value is calculated as follows:

1. The **full added value** generated by the share of moving professionals and craftsmen corresponding to the unemployment rate;
2. The **differential added value** generated by the complementary share of moving professionals.

As for the latter, the difference in added value per employee across pairs of MS and for each profession/craft was calculated based on the Eurostat SBS Database. This method enables to identify the additional productivity generated by professionals and craftsmen moving from a MS with a low average added value to a MS with a high average added value. Those flows account for most of, though not all, movements of professionals and craftsmen in the construction sector. For both architects and engineers, 60% of the movements go in this direction; for craftsmen, the share is significantly higher, that is 86% of the movements, implying that craftsmen are more likely to move for economic reasons. This also explains why the average differential added value (2013) for craftsmen is higher, amounting to € 22,170 per moving worker, compared to €11,630 and €14,740 for architects and engineers respectively.

As for the former, when an unemployed professional or craftsman moves and works in another MS, the whole added value, and not only the differential one, is to be considered as cross-border added value. Unfortunately, data on unemployment rates per sector of activity are not available. For this reason, the Consultants have used the average EU unemployed rate in the 28 MS, weighted by the number of professionals and craftsmen in the construction sector moving from each MS.

Once the average added value per person employed is calculated for the three professions, the following assumptions are made to calculate the cross-border added value:¹¹⁵

1. For establishment, professionals and craftsmen established abroad in each year are assumed to remain abroad for the whole period, up until 2014. For instance, professionals and craftsmen established in 2004 create mobility added value for 11 years, while professionals and craftsmen established in 2010 create mobility added value for 5 years;
2. For temporary mobility, professionals and craftsmen operating abroad are assumed to create mobility added value for one year.

The added value generated by professionals and craftsmen moving abroad is then multiplied by the number of successful establishments cumulated over the period 2004-2014, given the assumption of non-return, and the number of successful demands for temporary mobility. Results are shown in Exhibit 3.6. The impact of the mobility of professionals and craftsmen, in any case, remains low, amounting in 2014 to 0.04% of the value added for engineering services, 0.4% for the four crafts considered, and 0.3% for architects.

¹¹⁴ Full details on the calculation and the assumptions are provided in Section 3.4 of Annex III.

¹¹⁵ These assumptions may have an impact on the robustness of the results. For example, these values may be overestimated if professionals and craftsmen established abroad return to the country of origin after a certain number of years (a period shorter than the one in scope of the analysis), or if temporary mobility concerns projects shorter than one year. At the same time, the values may be underestimated if professionals and craftsmen moving abroad generate an added value above the sector average (but no evidence could be found in this respect), or if temporary mobility concerns projects longer than one year. However, given the marginal share of cross-border added value over the sectoral added value, any refinement is unlikely to generate a significant effect on total results.

Exhibit 3.6 Mobility Added Value: 2004 - 2014

		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Architects	<i>Mobility Added Value (€mln)</i>	0.1	4.2	8.2	22.0	39.8	43.5	50.2	53.2	60.6	64.6	60.4
	<i>% over Sector Added Value</i>	0.00%	0.02%	0.04%	0.10%	0.15%	0.19%	0.22%	0.24%	0.27%	0.29%	0.29%
Engineers	<i>Mobility Added Value (€mln)</i>	2.6	6.8	10.9	14.7	17.6	21.8	27.1	31.9	37.8	46.4	41.6
	<i>% over Sector Added Value</i>	0.00%	0.01%	0.01%	0.01%	0.02%	0.02%	0.03%	0.03%	0.03%	0.04%	0.04%
Masons, bricklayers, electricians, painters, and decorators	<i>Mobility Added Value (€mln)</i>	5.5	21.1	37.8	104.6	166.2	182.0	219.5	279.8	338.1	393.8	472.0
	<i>% over Sector Added Value</i>	0.01%	0.02%	0.03%	0.08%	0.12%	0.15%	0.18%	0.23%	0.28%	0.34%	0.41%

Source: Authors' own elaboration

3.3.3 Administrative Costs and Savings of Mobility

To assess the administrative costs and cost savings of professionals moving abroad, data were retrieved from professional bodies members of the Architects' Council of Europe through a written survey administered via e-mail, with the support of the Council itself.¹¹⁶ The information retrieved from the various recognition systems is described by the following statistics:

- Automatic system.** On average, professional bodies require 3.6 documents per application. Of these, on average one document shall be presented in original, and 1.5 documents shall be translated by the applicant. Fees amount on average to €103 and the average lead time is estimated to be about 36 days;
- General system.** On average, professional bodies require 4.1 documents per application. Of these, on average one document shall be presented in original, and 1.8 documents shall be translated by the applicant. Fees amount on average to €103, and the average lead time is estimated to be about 45 days;
- Temporary mobility.** On average, professional bodies require 3.7 documents per application. Of these, on average one document shall be presented in original, and 1.7 documents shall be translated by the applicant. Fees amount on average to €20.

Data retrieved via the survey was then transformed into cost and cost saving parameters by Consultants based on SCM standard assumptions (e.g. salary rate) market information (e.g. price per sworn translation, tax stamps), and complementary experts' estimates derived from information retrieved from stakeholders and professionals (e.g. time for familiarisation):

- Automatic system.** The familiarisation with the information obligation is estimated to require one person/day. The production of documents is estimated to require 2 hours per document, hence 7.2 hours in total. For translated documents, the cost is estimated at €150. Tax stamps and costs of reproduction are estimated at €100. Fees, based on average values, are estimated at €103.
- General system.** The familiarisation with the information obligation is estimated to require two person/days. The production of documents is estimated to require 2 hours per document, hence 8.2 hours in total. For translated documents, the cost is estimated at €180. Tax stamps and costs of reproduction are estimated at €120. Fees, based on average values, are estimated at €103.
- Temporary mobility.** The familiarisation with the information obligation is estimated to require one person/day. The production of documents is estimated to require 2 hours per document, hence 7.4 hours in total. For translated documents, the cost is estimate at €170. Tax stamps and costs of reproduction are estimated at €100. Fees, based on average values, are estimated at €20.

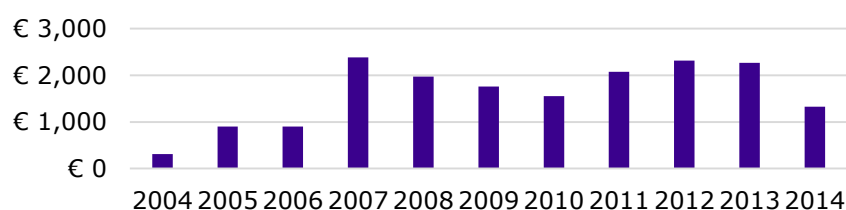
To monetize the time spent, the average hourly salary inclusive of overheads of € 16.90 (source:

¹¹⁶Architects were selected because they are the most mobile profession in the construction sector, and may undergo both the automatic and the general system. Ten professional bodies replied to the survey.

Eurostat) is used.¹¹⁷ Here below in Exhibit 3.7 the administrative burdens¹¹⁸ for the most significant construction professions and crafts are summarized.¹¹⁹ Estimates show that the burdens over the 2004-2014 period amount approximately to € 18 mln, i.e. a fraction of the estimated cross-border mobility added value.

Exhibit 3.7 Administrative Burdens Linked to the PQD (€ '000)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Architects	5	190	190	610	610	310	270	250	270	220	40	2,970
Engineers	140	220	220	160	110	240	200	210	230	280	40	2,050
Craftsmen	160	490	490	1,610	1,250	1,210	1,080	1,620	1,810	1,770	1,250	12,750
Total	310	900	900	2,380	1,970	1,760	1,550	2,070	2,320	2,270	1,330	17,760



Source: Authors' own elaboration

Here below, the administrative cost savings linked to the introduction of the PQD are estimated based on standard SCM assumptions, market information, and complementary experts' estimates derived from information retrieved from stakeholders and professionals.¹²⁰ Savings parameters are estimated as follows:

- Automatic system.** The professional/craftsman saves 0.5 person/days for familiarizing with the Information Obligation and 0.5 person/days in contacts with the public administration; furthermore, he/she saves €100 of out-of-pocket costs linked to a lower number of documents, including production of originals and certified/sworn translations;
- General system.** The professional/craftsman saves 1 person/days for familiarizing with the Information Obligation and 0.5 person/days in contacts with the public administration furthermore, he/she saves €150 of out-of-pocket costs linked to a lower number of documents, including production of originals and certified/sworn translations;
- Temporary Mobility.** Architects and craftsmen save the difference between the automatic system and the temporary application, that is about €80 of out-of-pocket costs and €83 of fees. Engineers save the difference between the costs for the general system and the temporary application, that is about one person/days €130 of out-of-pocket costs and €83 of fees.

To monetise working time, the average hourly salary inclusive of overheads of € 16.90 (source: Eurostat) is used.

Here below in Exhibit 3.8, administrative cost savings for the most significant professions and crafts are summarized. Data are provided for the period 2008-2014, i.e. following the date of transposition of the PQD.

¹¹⁷ This average value is considered as representative across the very diverse professions and crafts covered, also because professionals may delegate the tasks to an employee (e.g. an administrative assistant).

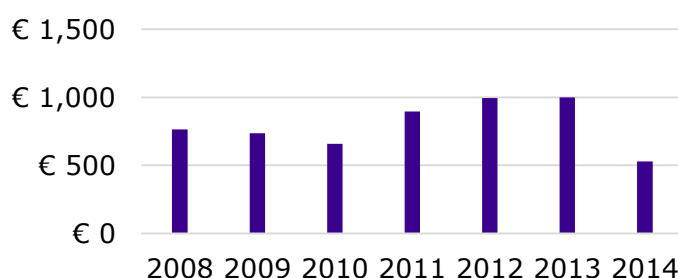
¹¹⁸ Administrative burdens equal administrative costs, as the BAU factor is assumed at 0%.

¹¹⁹ The costs are calculated over all accepted demands, distinguishing between those applying for establishment under the general or the automatic system, and those applying for temporary mobility.

¹²⁰ Importantly, those cost savings should not be subtracted from the costs described above, as they represent an estimate of the positive effect brought about by the consolidation of the system and the introduction of the temporary mobility regime. In simpler words, those costs are costs saved because of the simplification effect of the PQD.

Exhibit 3.8 Administrative Cost Savings Linked to the PQD (€ '000)

	2008	2009	2010	2011	2012	2013	2014	Total
Architects	236	117	102	94	102	85	15	750
Engineers	49	109	99	108	116	159	23	663
Craftsmen	481	510	457	693	778	756	491	4,166
Total	765	736	658	895	996	1,000	529	5,579



Source: Authors' own elaboration

3.3.4 Conclusions

Based on the quantification of costs and benefits described in the previous sections, the magnitude of the regulatory effects created by the PQD on the construction sector turns out to be small and unlikely to generate more than 0.5% of the sectoral added value for the categories concerned.¹²¹ The limited effects are mainly due to the number of construction professionals and craftsmen going abroad for permanent establishment or temporary mobility through the PQD mechanisms, which is very low compared to the size of the sector. This is in line with the qualitative feedback provided by stakeholders and secondary sources.

Box 3.2 Mobility of architects

Architects are the most mobile construction professions within the EU. However, in 2014, only 2.3% of architects worked or resided in a country different from the one in which they are mainly established, down from 7% in 2008. The fall, however, is not related to regulatory barriers to establish abroad, including the PQD, whose provisions for architects were largely left unchanged in this period – but to market developments.

Even considering architects who worked in whatever form – thus including cases not covered by the PQD – in another European country in the last 12 months, mobile architects only account for 5% of the sector. Only in small countries (e.g. Luxembourg, Slovenia, or Estonia), or in medium-to-small countries with larger neighbours speaking the same language (e.g. Austria, Belgium, or Ireland), the share is equal to or higher than 10%.

Source: Architects Council of Europe (2015), *The Architectural Profession in Europe 2014*

Interviews with stakeholders – including trade associations, professionals, as well as construction operators – showed clearly that most operators work abroad jointly with a local partner, rather than via the PQD mechanisms. Operators choose so for reasons of regulatory compliance, as the local partner is much better versed with the local building regulation and is already in line with qualification requirements, as well as for market reasons, because local partners have the specific knowledge of demand conditions and customer relationships. Construction professions and crafts are considered by stakeholders as mostly local activities, especially since infrastructure and civil engineering works are excluded from the scope of this Assignment.

¹²¹ This estimate relies on the quality and comprehensiveness of data included in the RPD database. However, given the estimated limited magnitude, large variation of data quality would not generate large impacts, when compared to the total sectoral added value.

In the few cases in which going abroad is 'worth the buck', regulatory requirements on professional qualifications are complied with through limited efforts and do not represent a major barrier. This is confirmed by the quantification provided, and by the opinions of the professionals interviewed, as a large share indicated that the complexity of the regulatory procedure in place is not a very important obstacle to the decision to operate abroad, and that the general assessment of the opportunities for cross-border mobility is positive or very positive. This consideration is largely shared by most professional associations. The situation is different for professionals and craftsmen covered by the general system, for which a more burdensome application and a lower rate of success reportedly still prevent a higher mobility.

Box 3.3 Mobility of professionals – Views from the OPC and other stakeholder contributions

The OPC findings confirm that the procedures for obtaining the recognition of professional qualifications in another MS became simpler over the past years. Qualitative answers to an open question stated that the PQD had indeed played a positive role in such a simplification. At the Validation Workshop, stakeholders also confirmed the limited share of professionals moving or providing services cross-border – in line with the figures presented in the analysis above -, and the limited relevance of regulatory barriers for cross-border professionals. Again, both at the workshop and in the follow-up contributions, a cleavage can be noticed between professions and crafts benefiting from the automatic system, and those having to undergo the general system. For the latter, differences in names of the professions, academic titles, and scopes of activity still negatively affect the potential mobility.

Source: OPC – Cf. Annex VII for more details; other stakeholder contributions.

In a nutshell, reducing regulatory barriers in this field would make the life easier and reduce costs for professionals moving abroad; at the same time, whether a reduction would have a noticeable impact on cross-border activities is unclear. In this regard, a special case should be mentioned, that is operators living in border regions, who are more likely to provide cross-border services, and hence are more largely impacted, in terms of both costs and benefits, by the regulatory framework, including the PQD.¹²²

The situation is more nuanced for craftsmen. Albeit the numbers extracted from the RPD are as low as, if not lower than, for professionals, some national trade associations mentioned an increasing inflow of foreign workers in sub-sectors characterized by lower skills, more limited capitals, and higher work intensity (e.g. masons, plasterers, tilers, painters). These flows are not always captured by the database, not tracking craftsmen moving towards countries where a profession is not regulated or moving as employees (also of temporary agencies). At the same time, the impact of PQD on the overall work flows of craftsmen can hardly be disentangled from the impact of the SD, the Posting of Workers Directive, and irregular jobs.

3.4 Effects of the Services Directive: Internal Simplifications, Cross-Border Activities, and Inward Inflows¹²³

3.4.1 Introduction

In this section, the regulatory effects of the **Services Directive (SD)** are assessed. As the SD aims at establishing 'general provisions facilitating the exercise of the freedom of establishment for service providers and the free movement of services', its effects fall, in the first place, on companies operating cross-border. However, the SD also has an effect on within-border operators, in terms of simplification of the regulatory framework. Furthermore, the SD also produces indirect effects on companies operating locally, due to the possible increase in competition caused by the

¹²² Professions and craftsmen in border regions may also be covered by bilateral cross-border employment agreements between MS.

¹²³ This Section summarizes the key results of a more detailed analysis presented in Volume 2, Annex III, Section 4.

facilitation of cross-border establishment and provision of services. Thus, three kinds of effects are discussed: (i) **simplifications** introduced by the SD for construction companies; (ii) the effects of the SD on **companies operating cross-border**, via both the freedom of establishment and the free movement of services; and (iii) the **indirect impacts of cross-border liberalisation** on construction companies.¹²⁴

The analysis relies on the following sources:

1. Primary information obtained through interviews with construction companies;
2. Primary information obtained through interviews with trade associations, public authorities and other stakeholders;
3. Secondary sources, including the Commission working paper on mutual evaluation of the SD,¹²⁵ the performance checks on the construction sector,¹²⁶ the recent Ecorys study on the impacts of the SD on the construction sector,¹²⁷ and the study on the cost of non-Europe and the untapped potential of the Single Market.¹²⁸

3.4.2 The Services Directive and Internal Simplification for Construction Companies

The SD includes provisions affecting the regulatory framework of certain service activities, including **construction services**.¹²⁹ While some articles and paragraphs solely target the cross-border service provision, **the SD also imposes simplification requirements on MS which benefit local operators**. In particular, MS are required to:

1. examine, and where necessary, simplify procedures and formalities applicable to the access to and exercise of a service activity (art. 5);
2. create a Point of Single Contact (PSC) for providers to complete procedures and formalities needed to access or exercise their service activity (art. 6 and 7);
3. introduce e-government solutions for procedures and formalities related to the access to and exercise of a service activity (art. 8);
4. remove authorisation schemes for access to or exercise of a service activity which are discriminatory, unjustified or non-proportional. In particular, MS are required to review requirements which could be arbitrary and dispositions on the duration of authorisations. Furthermore, the SD imposes to prevent unduly complex procedures, and to charge to service providers fees which are proportional to the costs borne by the public authority, as well as to make tacit approval ('silent is consent') the rule for granting authorisations, rather than the exception (art. 9-13);
5. remove certain requirements to which access to or exercise of a service activity may be subject, such as preliminary case-by-case economic testing or the involvement of competing operators in the procedure (art. 14);
6. assess, and remove if found discriminatory, unnecessary or non-proportional, certain requirements to which access to or exercise of a service activity may be subject, such as quantitative or territorial restrictions, legal form requirements, shareholding requirements, reserve of activities, limitation on the number of establishments in the MS territory, norms on the minimum number of employees, fixed tariffs, or service bundling requirements (art. 15);

¹²⁴ Issues related to the recognition of professional qualifications and more generally with cross-border activities of professionals are dealt in section 3.3 above. However, professionals are also covered in section 3.4.2, where simplification effects on purely internal situations are discussed.

¹²⁵ Commission Staff Working Paper On the process of mutual evaluation of the Services Directive, accompanying document to the Communication from the Commission, Towards a better functioning Single Market for services – building on the results of the mutual evaluation process of the Services Directive, SEC(2011)102, 27.1.2011.

¹²⁶ Performance Checks, State of Play of the Internal Market in the Construction Sector, Background Note, Expert Group Meeting, 22nd March 2012. Hereinafter, 'Performance Check'.

¹²⁷ Ecorys (2015), Simplification and mutual recognition in the construction sector under the Services Directive, Final Report for DG MARKT. Hereinafter, referred to as the 'Ecorys SD Study'.

¹²⁸ PWC and London Economics (2013), Study on 'The cost of non-Europe: the untapped potential of the European Single Market', Final Report for the European Commission. Hereinafter, 'PwC Report'.

¹²⁹ Explicitly mentioned at Recital 33.

7. allow multidisciplinary activities, except for justified cases concerning regulated professions and accreditation and testing activities (art. 25).¹³⁰

In several MS, **the SD was considered as generating a positive effect in terms of simplification** by both stakeholders and public authorities. Though simplifications of the regulatory framework for the exercise of the construction activities were clearly introduced following the implementation of the SD, it is clear that they are limited to a small number of MS.¹³¹ And even in relation to those, two key questions remain to be answered. First, to what extent these simplifications can be causally attributed to the SD. Secondly, to what extent these simplifications benefited stakeholders. The two questions are linked, as the attribution of benefits enables to identify the share of benefits of EU origin. However, as it will become apparent below, no quantification is possible.

The stakeholders' opinions on the attribution of simplifications to the SD were non-conclusive. Certain governments insisted that specific simplifications were adopted because of the overall revision of service regulations triggered by the SD. Other governments mentioned that the simplification of the regulatory framework for construction companies was largely unrelated to the SD, whose role is considerably more relevant in other sectors. Stakeholder associations largely claimed that simplifications could not be attributed to the SD. The Consultants could not retrieve any hard evidence concerning attribution, e.g. the mentioning of the SD in the recitals of preparatory documents of national legislation. The attribution is made more complex by the fact that construction companies barely heard of the SD at all.

Irrespective of the attribution being clear or not, **final beneficiaries, i.e. interviewed construction companies, noticed hardly any improvement from a simpler regulatory environment.** In the few cases when firms' answers were positive about a (partial) improvement, beneficiaries could not provide any quantitative estimate.¹³² **Over four types of authorisation, the perception of improvements for construction business activities remains limited.** The most optimistic view concerns the simplification of building permits, which was perceived as leading to an improvement by 30% of the interviewed construction companies, installers and professionals. Very limited simplifications were perceived concerning general authorisation schemes and operational permits. The limited perception of the benefits brought about by the simplification of the regulatory environment is further confirmed by the fact that **firms were almost unable to provide any quantitative estimate.**¹³³

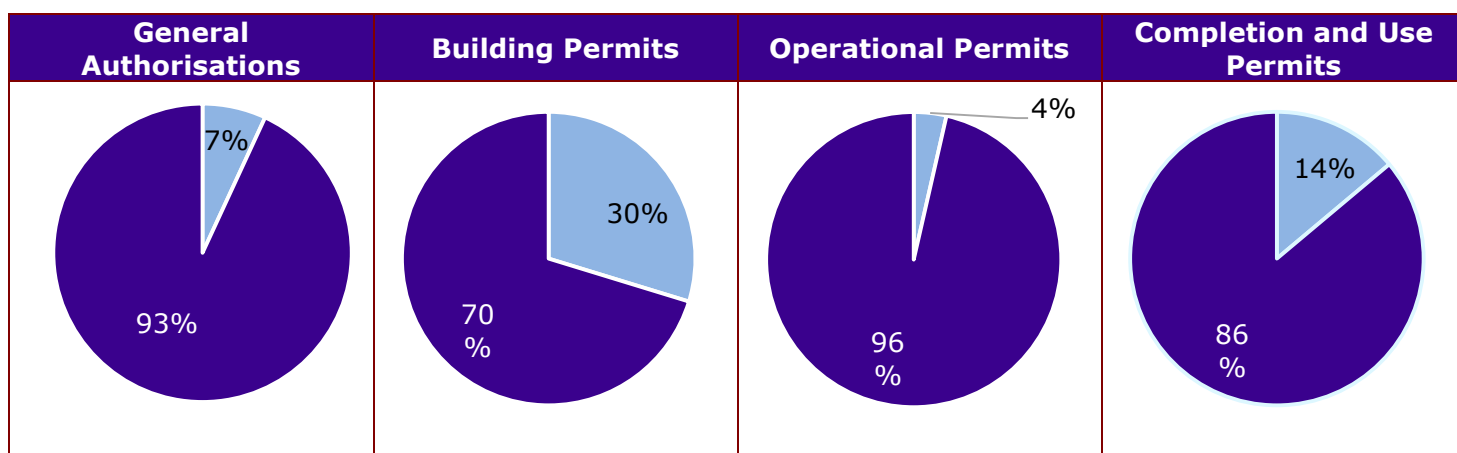
¹³⁰ Other SD simplifications are relevant for local operators, such as the generalization of alternative dispute resolution systems. However, in both primary and secondary sources, the Consultants could find no evidence of such issues being relevant for construction companies.

¹³¹ This results from interviews with stakeholders, in particular with public administrations, the Ecorys SD Study, and the Performance Check.

¹³² Through the interviews, construction companies, installers, and professionals were surveyed on whether the simplifications of administrative procedures introduced after the implementation of the SD in their country led to an improvement for their business. Exhibit 3.9 below shows the answers for four types of authorisations: (i) general authorisation schemes; (ii) building permits; (iii) operational permits required for certain activities during construction works; and (iv) completion and use permits. General authorisation schemes include authorisations or registrations required from construction operators to legally enter and/or operate in the market, not referring to actual construction activities taking place on the ground; building permits include ex-ante procedures through which the construction operator or the professional or the developer/owner demands from or communicates to a public authority the possibility to carry out certain construction activities, including, but not limited to, new buildings; operational permits include procedures through which a construction operator demands from or communicates to a public authority the possibility to carry out certain activities in the course of the construction work (e.g. scaffolding); completion and use permits include all procedures and checks that are carried out on a completed (or close to completion) building and/or in case of other completed (or close to completion) construction works, so that the building or other construction work can be deemed legally completed and/or can be used for residential and non-residential purposes.

¹³³ A Belgian company signalled that obtaining a construction permit is now much simpler, though local differences still persist. Another Belgian operator claimed that now all building permits in the Walloon region could consistently be granted in 60 days. Two companies in Italy mentioned that the introduction of lighter procedures for building permits for certain construction works reduced the lead time. Another Italian

Exhibit 3.9 Perception of Improvements over four Types of Authorisations by Construction Companies¹³⁴



Notes: in dark blue, no improvement; in light blue, some improvement.
Source: interviews with companies (construction operators, professionals, and craftsmen).

Box 3.4 Simplifications – Views from the OPC

In the OPC, stakeholders were asked about perceived changes in certain administrative procedures relevant for the construction sector: building permits for new construction, building permits for renovation works, operational permits, and use permits. In general, only a quarter of respondents perceived that the simplifications undertaken in the past years have materially reduced the administrative burdens on construction companies. With respect to the Professional Questionnaire, opinions are in line with those retrieved from the interviews: for three procedures – all but the operational permits –, a majority of respondents stated that the complexity has not diminished over the past years. To the contrary, public authorities perceived that these procedures have been simplified importantly, the number of respondents with direct experience with regulatory procedures is limited (17 out of a total of 55 respondents to the OPC).

Source: OPC – Cf. Annex VII for more details.

Specific reasons were identified by stakeholders as possible causes for limited improvements on the ground. Two reasons concern the legal and institutional framework, and in particular the role of local authorities and the fact that the SD was implemented through norms of principle in many MS; three reasons concern the economics and incentives of construction activities, including the cost of familiarisation with simplified procedures, the role of public authorities in ensuring legal certainty, and the overall impact of simplifications on the cost and time for construction works. These aspects are explored in greater detail below:

- 1. Legal principles vs. specific regulation.** First and more importantly, in most MS the SD has been implemented by means of horizontal legislation only, thus via legal principles valid for the whole services economy,¹³⁵ which have not always translated into detailed

company mentioned that thanks to the 'silent is consent' rule, obtaining a use permit for residential buildings is now much less burdensome and can take place immediately following the building completion. Similar considerations on the reduction of the lead time and the application of the 'silent is consent' rule to the building permit procedure were made by a French craftsman. A German company also appreciated the application of the 'silent is consent' rule in relation to the use permit for residential houses, pointing out in particular a reduction of fees and out-of-pocket costs ranging from 15% to 20% and a reduction of lead time of 20%. Two UK construction operators, including one professional, praised the possibility of issuing a notice of construction works through electronic means, resulting in a reduction of the procedural steps and days needed to complete the procedure.

¹³⁴ Number of respondents is as follows: 31 for general authorisations; 38 for building permits; 29 for operational permits; 32 for completion and use permits.

¹³⁵ Ecorys SD Study, at p. 74.

procedural norms to be followed by public offices in charge of specific economic activities. This is particularly the case for construction services.¹³⁶ Especially in civil law countries, where public authorities, including local ones, are not used or even allowed to apply principles in derogation of pre-existent detailed norms, this has limited the impact of the SD to those MS that have implemented it specifically to the construction sector.

2. **Role of local authorities.** The simplifications mentioned above largely concern the national legal frameworks. However, in several MS, regional authorities also have legislative competence over building procedures and technical regulations;¹³⁷ furthermore, local authorities are called upon to administer most of the building procedures.¹³⁸ Certain stakeholders claimed that local authorities lack '*expertise, knowhow and means*' to implement the simplifications introduced.
3. **Legal certainty and cost of familiarisation.** Even when a simplification cuts regulatory time and costs, companies may prefer to rely on established formalities rather than attempting, for the first time, a new and simplified procedure. This consideration also implies that simplifications are taken up only progressively and after a certain period of familiarisation and trust-building.
4. **Legal certainty and liability.** In several cases, simplifications concerned the abolition of the (express) consent to a construction work granted by a local authority. This creates two possible problems: (i) the responsibility for declaring that a work complies with the applicable rules is shifted from the public authority to the professional, which in turn may prefer to obtain a 'rubber-stamp' by a public body, even though more costly in terms of time and fees, rather than bear the liability; (ii) reportedly, as the building regulatory environment is very complex (also due to the role of legal principles vs. specific regulation), with various layers of overlapping local and national norms, relying on the express act of a public authority, ensuring a higher degree of legal certainty on the lawfulness of construction works, may be preferable.
5. **Share of regulatory costs over the total costs and time of construction works.** Depending on the size of the project, and especially, but not only, in the case of new buildings, construction works usually require a long time for completion and substantial funding. Put in this perspective, both companies and clients may have a limited interest in reducing the lead time due to authorisations by few days or in saving a few hundred € in administrative fees. As already discussed above, for construction works, the legal certainty and a proper allocation of liability for certifying compliance with building regulations may be worth more than savings from simplification.

3.4.3 The Services Directive and Cross-Border Operations

The first and foremost aim of the SD is to **reduce barriers to cross-border mobility of service providers, including construction operators**, with regard to both the establishment in another MS and the cross-border provision of service. The reduction of these obstacles is expected to generate new business opportunities for companies. In addition to the simplifications applicable to both local and cross-border activities, discussed above in section 3.4.2, the SD includes the following specific provisions relating to norms specifically targeted at the freedom of establishment and cross-border activities:

1. the simplification of administrative procedures for all cross-border situations, resulting in simple form documents, acceptance of equivalent documents and tacit approval (art. 5 and 13);
2. the elimination of a large group of requirements and formalities concerning the cross-border provision of services on an occasional basis, including the elimination of the

¹³⁶ *Ibid.* at p. 4-19

¹³⁷ E.g. Germany, Spain, Italy, and the UK (*ibid.*, at p. 69).

¹³⁸ All MS covered in depth by this Study for which Ecorys data are available delegate building permit procedures to local authorities. Cf. *Ibid.*, at p. 89.

- requirement of the establishment (article 16). These requirements may remain in place if found non-discriminatory, necessary and proportional; necessity is defined as justified for reasons of public policy, public security, public health, or the protection of the environment;
3. the elimination of the need to hire local staff when operating in another MS (art. 15(2)(f) and 16(2)(d));
 4. the elimination of the need to proceed with corporate restructuring to meet entry requirements in another MS (art. 15(2)(b) and (c) and 25);
 5. the disapplication of local rules on equipment and materials (art. 16(2)(f)) and of many other host MS requirements (art. 16);
 6. the elimination of the need to acquire local insurance coverage when operating in another MS, provided that the provider already has an equivalent coverage in its home MS (art. 23).

The first step to measure the benefits of the SD in reducing cross-border barriers would be an **estimation of how many construction companies operate in another MS**. However, these data are scarce, from either secondary sources¹³⁹ and stakeholder associations and governments. Though estimates of foreign activities could not be provided, all stakeholders agreed on one consideration: **cross-border operations by construction firms are currently very limited**, for structural reasons. According to the PwC report, **cross-border activities are considered the least important driver of competitiveness by construction companies**. However, the PwC report also states that: “[t]he case of the construction sector is not one of regulatory barriers in certain MS inhibiting cross-border activity but rather each MS’s plethora of regulations deterring market entry by non-domestic firms.”¹⁴⁰ This is even a more significant barrier for foreign construction service providers intending to enter the market. Several studies (although mostly related to professional services) have shown that: (i) heterogeneity of regulation across the EU is harmful for cross-border activities, and (ii) domestic regulation often has a *de facto* discriminatory effect on foreign service providers.¹⁴¹

In any case, some of the drivers for the limited mobility of construction companies are mostly related to mobile entry modes. **These obstacles can (at least partially) be overcome by entering the market in a more permanent way** (e.g. through a branch set up for long-term local business development in the host market). For this reason, studies have shown that construction companies going abroad prefer a permanent establishment when the host market is unfamiliar, risky, with intense competition or with entry restrictions. This was also confirmed by two business federations during the Validation Workshop.

Stakeholders – including both trade association and interviewed companies - largely confirmed these findings and analysis, with respect to both the limited foreign activities of

¹³⁹ A recent Commission document provides information on the relative Internal Market openness of several services sector, including construction. This is based on cross-border trade intensity (the average of intra-EU imports and exports over the total turnover of the sector); and intensity of secondary establishment (the share of value added generated by intra-EU foreign affiliates over total value added). Evidence shows that the construction sector is the least open among those covered by the analysis. However, the amount of turnover generated from imports/exports of service activities and the added value generated by intra-EU foreign affiliates do not allow to estimate the flows of construction companies and/or projects providing services abroad, which would be necessary to estimate regulatory barriers and new market opportunities linked to the SD – analogously to the work done in Section A.4 for the PQD. Cf. Commission Staff Working Document, A Single Market Strategy for Europe - Analysis and Evidence, Accompanying the document ‘Upgrading the Single Market: more opportunities for people and business Brussels’, 28.10.2015, SWD (2015)202. Cf. also Commission Staff Working Document, European Competitiveness Report 2014 ‘Helping Firms Grow’, SWD (2014)277.

¹⁴⁰ PwC Report, at p. 340. Interviewees consider regulatory barriers as less important in preventing activities abroad than other structural drivers. One national stakeholder association commented that ‘the main reason [for not operating abroad] remains the need to adapt to local building customs, linguistic barriers, cultural barriers, and business practices’.

¹⁴¹ Chuan C. (2008), Entry mode selection for international construction markets: the influence of host country related factors, Construction Management and Economics, Vol. 26, No. 3.

construction companies, especially SME, and the reasons explaining this phenomenon. Several stakeholders mentioned that, for the building market, companies have an incentive to go abroad only for large works, both public (e.g. hospitals) or private (e.g. large industrial plants). This *per se* reduces feasible business opportunities for SME, which are less likely to access these market segments, at least as main contractors. One exception are SME with expertise in specialised construction services operating in niche markets, which are more likely to have a multi-country scope of activities. Hence, in the current stage of deficient and sometimes inexistent implementation of the SD for construction service providers, the evidence points to the fact that most of foreign construction services are provided by large companies, which, because of their dimensions, are the least impacted by regulatory costs.

A limited number of complaints on the functioning of the SD, and more in general of the Internal Market for construction services, at least for companies already benefiting from it, is another reason why regulatory barriers are not perceived as a main obstacle for cross-border activities. Concerning paperwork duties, the SD requires MS to accept attestations and documents that a company obtained in the home MS, without asking for additional equivalent certifications and verifications. However, the empirical findings from companies operating cross-border and stakeholder associations suggest that that this acceptance rule is not implemented in some MS. Also, mutual recognition is not working to its full extent in the construction sector, for various reasons. The limited number of complaints may also be due to the limited knowledge of internal market legislation, particularly by SME, and also to the fact that, once the most restrictive barriers have been scrapped, larger companies have the means to deal with most regulatory obstacles, irrespective of their legality under internal market legislation. A national association further praised the Commission's efforts to tackle certain regulatory obstacles, as detailed in the 2015 Communication on upgrading the Single Market.¹⁴² Specifically, the initiatives targeted at easing the identification and provision of information by construction companies (including the 'services passport')¹⁴³ and at improving the effectiveness of the SD by reforming the notification procedures were considered as being potentially the most impactful. In addition to that, respondents mentioned that not all problems are linked to, and can thus be solved through, the SD: other pieces of legislation on social security, and the free movement of goods and professionals are relevant as well.¹⁴⁴

Box 3.5 Cross-border simplifications – Views from the OPC and other stakeholder contributions

The OPC confirmed both the limited number of construction companies active cross-border and the generally positive opinion about cross-border regulatory obstacles. Respondents were surveyed about whether obtaining the authorisation to provide construction services cross-border and to permanent establish in another MS were simplified over the past years, and they largely confirmed that this was the case. About a third of OPC respondents also affirmed that the simplifications helped facilitating the establishment in a MS other than their own the same position was reported in several stakeholder contributions following to the Validation Workshop.

Source: OPC – Cf. Annex VII for more details; other stakeholder contributions.

Insurance requirements.¹⁴⁵ A specific effort was made to identify the effects of insurance requirements on cross-border activities on construction operators. To this purpose, two national insurance federations were interviewed. The applicable legal framework is as follows. Art. 23 of the SD allows MS to require the subscription of a professional liability insurance or the provision

¹⁴² Communication from the Commission, Upgrading the Single Market: more opportunities for people and business, COM(2015)550, 28.10.2015.

¹⁴³ *Ibid.* at §2.3.

¹⁴⁴ Further than the PQD, two acts were mentioned: (i) Regulation (EC) No 883/2004 of the European Parliament and of the Council on the coordination of social security systems; and (ii) Regulation (EC) No 764/2008 of the European Parliament and of the Council laying down procedures relating to the application of certain national technical rules to products lawfully marketed in another Member State and repealing Decision No 3052/95/EC.

¹⁴⁵ A broader analysis of this issues is provided in Section 4.3 of Annex III.

of a financial guarantee from services carrying out activities presenting a risk to health, safety or financial security of recipients. The same article, though, requires that, when a provider establishes itself in its territory, the MS shall accept an equivalent or essentially comparable insurance coverage already subscribed by that provider in its home MS. In particular, insurance or guarantees issued by another MS finance institution or insurance company shall be accepted, as long as equivalent or essentially comparable.¹⁴⁶

Insurance requirements may indeed create barriers to the free movement of service providers, in case of activities presenting health, safety or financial security risks. This is the case for example for medical professions, tax advisors, lawyers, and construction operators. With respect to the latter, the problems in the mutual recognition of insurance requirements have various roots, linked both to the regulatory framework and the functioning of the insurance market:

1. National regulatory frameworks on insurance requirements are extremely different from country to country, and no EU piece of legislation harmonises the professional liability for construction operators. As a result, assessing whether an insurance issued in country A can be considered as 'equivalent or essentially comparable' in light of the requirements of country B is very difficult.
2. The professional liability insurance is a complex product, and the coverage granted to the insured company may vary over a large number of parameters. Consequently, assessing whether each insurance coverage subscribed by a foreign construction operator is 'equivalent or essentially comparable' given the requirements of the host MS is even more difficult.
3. Finally, insurance markets tend to exclude the coverage of idiosyncratic risks, i.e. those risks for which an insurer cannot estimate ex ante the statistical (actuarial) distribution of probability of adverse events. This may be the case for cross-border activities.

Broadly speaking, insurance requirements are still considered a barrier by stakeholder associations, and some of the interviewees reported that they could not rely on their own insurance coverage when going abroad. However, **stakeholders concurred that problems are less significant than a few years ago**. In particular, reference was made to the fact that companies intending to operate in France found it very difficult to buy a coverage for the *garantie décennale* required from contractors. A market-based solution was eventually identified, and perceived as a workable solution in most cases. The general opinion that the problem is currently more limited than in the past – though buying a cross-border coverage may still represent a significant cost – was also confirmed during the Validation Workshop and in the subsequent written contributions by stakeholders.

Interviews with companies. Efforts were made to include construction companies with cross-border experience within the sample. A quarter of the respondents provided cross-border services after 2009, i.e. including the period when the SD had already deployed its effects. Service were provided through the respondents' own company, a subsidiary incorporated in the host MS, or both. The choice depends on the size of the companies, as only two large companies reported having established a subsidiary abroad. Small companies are more likely to work in their own name, and largely as sub-contractors of larger companies from the same MS. Few companies could indicate whether certain regulatory requirements were abolished after the introduction of SD, e.g. concerning the use of own equipment or the acceptance of equivalent documentation. Most significantly, as in the case of domestic simplifications, no company could provide an estimate of the cost savings linked to the elimination or reduction of regulatory barriers.

3.4.4 The Inward Effects of the Services Directive

Stakeholder associations, governments and companies – both those operating cross-border and those which only operate locally – were also interviewed on the inward effects of the SD, i.e. asking whether they could see an increase in construction operators coming from other EU

¹⁴⁶ Art. 23 SD. Cf. also art 14(7). See Commission Staff Working Document, Access to insurance for services provided in another Member State, SWD(2014)130.

countries.¹⁴⁷ Since a limited number of construction companies currently operate abroad, grievances concerning the increase of competition were expected to be limited. Interestingly, this was not the case uniformly across the EU: ***in some countries, and in some market segments, both stakeholder associations and companies reported an increase in competition.*** How can these findings be reconciled with those presented above, not pointing out a significant effect attributable to the SD? The most plausible answer, based on Consultants' analysis, is that stakeholders perceive the increased competition not so much from actual cross-border construction service providers, but mostly from companies merely posting workers across borders or from irregular workers. The largest impacts would thus be generated by the flow of foreign employees which falls outside the scope of the SD, as opposed to companies or independent workers covered by the SD.

The negative perception of increased competition within the Single Market is not equally spread across countries, firms and market segments. The most affected actors include:

1. **SME.** As discussed above, the bulk of cross-border activities in the construction sector appears to be carried out by larger firms. Hence, the benefit from the opening of the Single Market to SME would be more limited. This implies that, in a cost-benefit comparison, SME are more likely to suffer from the increased competitive pressure without enjoying more opportunities in other MS. This cleavage can be noticed both in the firms' opinions, and in the considerations of SME-specific trade associations, both at national and EU level.
2. **Labour-intensive market segments.** The competitive pressure due to labour mobility is higher for certain market segments with a higher labour intensity and a lower skill intensity, as in the case of certain building services such as plasterers, tilers, bricklayers. Those services are more mobile and more fungible. On the contrary, contractors, i.e. those firms whose activity has higher capital endowments and added value, rarely complain about the increase in competition. Rather, contractors are likely to benefit from cheaper sub-contractors originating from other MS.
3. **Geographical areas.** The impact of increased competition shows a variation across geographical areas and is mostly felt in the MS which (i) can be conveniently reached, e.g. are not islands or too peripheral; (ii) have high social security costs; and (iii) have a healthier and sufficiently large construction market. Belgium and France correspond to these descriptions and were among the countries in which both companies and trade associations had the most negative assessment of increased competition.

Clearly, ***stakeholders rarely attributed the negative effects of increased and possibly unfair competition to the SD.*** Actually, even in one of the most affected countries, one SME stakeholder association considered the impacts of the SD as '*marginal*', and that the situation did not significantly change after the implementation of the SD. Stakeholders' grievances were mainly targeted at the posting of workers Directive, with regard to both its provision and its enforcement, and the abuse of worker's status by so-called 'fake independents'.

Box 3.6 Presence of construction firms from other EU markets – Views from the OPC and other stakeholder contributions

Findings from the OPC are in line with those retrieved from interviews. In the OPC, a majority of respondents (30 out of 55) reported that they have experienced a stronger presence of foreign companies in their home markets. A third replied that this was not the case, though this share includes a significant number of public authorities. Business federations at EU and national level also pointed out that problems of unfair competition arise because of the interlink between the SD, the Posting of Workers Directive, and social security legislation, and a generally weak enforcement system. These views were also confirmed by other written contributions submitted following to the Validation Workshop.

Source: OPC – Cf. Annex VII for more details; other stakeholder contributions.

¹⁴⁷ Findings from the interviews are presented in Section 4.4 of Annex III.

3.4.5 Conclusions

The assessment of the effects of the SD on the construction sector focused on three different areas: (i) simplifications; (ii) new business opportunities for cross-border companies; and (iii) the impact of increased foreign competition. Across all these areas, the effects were discussed, significant data gaps with regard to cross-border construction activities notwithstanding. As explained in detail in Section 3.4.2 above, the impacts are considered not to be significant for various reasons, including the challenge in implementing simplifications at local level and the currently limited mobility of construction companies. This, in turn, translates into a lack of perceived impact by construction operators. Furthermore, as the regulatory framework for both internal and cross-border construction activities depends on a complex group of intertwined pieces of legislation, at EU, national and local level, attributing specific impacts clearly to the SD based on the evidence retrieved is difficult.

3.5 Effects of EU Legislation on Energy Efficiency in Buildings – New Business Opportunities¹⁴⁸

3.5.1 Introduction

EU Legislation. The purpose of EU legislation on the energy performance of buildings is to **reduce energy consumption in the building sector**, in order to contribute to the achievement of overall EU energy saving targets. Adopted in December 2002, the **Energy Performance of Buildings Directive** (EPBD 2002) was the first EU legislative measure to introduce binding requirements for buildings, in particular by calling upon MS to introduce minimum energy performance requirements for both newly built buildings and those undergoing major renovations with a total useful area over 1000 sqm. In order to further reap the energy savings potential in the building sector, **a recast of the Energy Performance of Buildings Directive** was adopted in May 2010 (EPBD 2010). In particular, the EPBD 2010 (i) widened the scope of the directive (by removal of the 1,000 sqm threshold on renovation); (ii) introduced levels of ambition to be met in new buildings and in renovation (namely, with the requirement that, by end of 2020, all new buildings are 'nearly zero energy buildings'); (iii) strengthened the provisions concerning energy performance certification and inspection of heating and air-conditioning systems; and (iv) required MS to address financing issues related to renovation and high performance buildings.

Effects of EU Legislation. The effects of legislation on energy performance in buildings (EPB) ultimately fall upon the building owners and occupiers, who must incur whatever costs may be associated with higher energy efficiency standards and who benefit from the savings resulting from lower energy consumption. However, EPB legislation also exerts a major influence on the construction sector, as the growing demand for energy-efficient buildings, building systems and materials creates **new business opportunities for construction firms and related activities** (e.g. installers). This section is devoted to the analysis of these energy efficiency (EE) related business opportunities, hereinafter referred to as the 'EE market'. The assessment of the EE market focuses on the residential buildings sub-sector, with a detailed **analysis of both new buildings and building renovation**.

3.5.2 Regulatory Framework and National Support Measures

Regulatory Framework.¹⁴⁹ EPB requirements are incorporated in building codes or equivalent regulations developed by government authorities at the national and/or at the regional/local levels.¹⁵⁰ Most of the countries covered by this Study have a fairly long history of regulating EPB,

¹⁴⁸ This Section summarizes the key results of a more detailed analysis presented in Volume 2, Annex III, Section 5.

¹⁴⁹ An in-depth analysis for the countries in scope of the Study is provided in Section 5.2 of Annex III.

¹⁵⁰ Information for this section was mainly derived from the documents produced in the framework of the Concerted Action EPBD (hereinafter 'CA – EPBD'). In particular, reference was made to the volume CA EPBD (2016), Implementing the Energy Performance of Buildings Directive – Featuring Country Reports 2016 and to the previous implementation reports in the various countries.

with the first provisions often dating back to the 1970s or even the 1960s. The 2004 – 2014 period is characterized by two elements common to all the countries, namely: (i) the significant strengthening of EPB requirements; and (ii) the growing attention paid to building renovations. However, the process was far from uniform, with some countries opting for a more gradual approach and others modifying the levels of ambition *'en route'*. Differences also persist in the way in which the EPB requirements are expressed. While there was a general trend towards the adoption of performance-based requirements (i.e. considering the EPB as a whole), in several cases prescriptive elements are still present in building codes. While this is justified on several grounds, especially in the case of renovations, it also makes it more difficult to properly compare EPB requirements across countries.

Support Measures.¹⁵¹ Changes in the regulatory framework have been paralleled by the **deployment of financial measures aimed at supporting EE in buildings.**¹⁵² Three main elements emerge from the analysis of government support schemes.¹⁵³ First, in line with developments in the regulatory framework, in virtually all countries support programmes focus primarily (and often increasingly) on building renovation. Support to new buildings is available in some countries, but typically on a much smaller scale and/or only in selected cases. Second, the range of instruments deployed is extremely varied, reflecting national preferences and traditions. In some cases, the selection of instruments was influenced by considerations that have little to do with EE-related considerations. Third, there are significant differences across MS regarding the selectivity of government assistance. In some countries/regions (e.g. Germany and the Flanders), support schemes are increasingly geared towards the achievement of progressively higher EPB standards. In other countries, a significant share (sometimes the bulk) of support is provided through 'broad' schemes, that apply to a wide range of EE-related interventions, not necessarily entailing significant improvements in EE standards.

3.5.3 Energy Efficiency-Market for New Buildings

The EE-related market for new buildings is defined as **the turnover accruing to construction firms as a result of the extra costs linked to the adoption of stricter EPB requirements that are 'passed onto' clients.**

Approach. Estimating the EE-related market in the new buildings segment is a challenging task due to the presence of various concomitant factors. The two main variables to be considered are: (i) the increase in construction costs associated with the introduction of more stringent EPB regulations; and the (ii) the extent to which construction firms are able to compensate higher costs with a corresponding increase in prices (the so called 'pass-on' factor).¹⁵⁴ In practice, the first step in the analysis consists in estimating the increase in construction costs linked to the adoption of EE regulations. The cost increase is estimated with respect to the situation prevailing in 2004 (i.e. at the beginning of the period analysed), which is regarded as the 'baseline'. As

¹⁵¹ An in-depth analysis for the countries in scope of the Study is provided in Section 5.3 of Annex III.

¹⁵² EE-related financial instruments have been analyzed in a variety of studies. Comprehensive reviews include: ODYSSE – MURE (2015), Synthesis: Energy Efficiency Trends and Policies in the EU; Energy Efficiency Financial Institutions Group (2015), Energy Efficiency – the first fuel for the EU Economy - How to drive new finance for energy efficiency investments; and BPIE (2012), Energy Efficiency Policies in Buildings – The Use of Financial Instruments at Member State Level. This section is based on these reports as well as on other sources (e.g. press releases, government documents) providing information on the latest developments up to end 2014.

¹⁵³ It is important to note that EE-related measures coexist with a number of other instruments aimed at supporting building construction and/or renovation 'in general'. Often, these 'generic' support schemes can be cumulated with EE-related schemes, making it difficult to precisely assess the separate impact of the various instruments.

¹⁵⁴ In turn, the 'pass on' factor is influenced by various factors, including: (a) the very magnitude of the extra costs determined by more stringent EE regulations (as smaller increases are more easily transferred to clients); (b) general market developments, i.e. the general trend in real estate prices and volume of transactions; (c) presence and scale of government financing schemes aimed at supporting the purchase of more energy efficient buildings; and (d) house buyers' preferences, which may (or may not) result in the willingness to pay a premium for more energy efficient houses.

enterprises typically operate on a 'cost plus basis', the cost increase can also be regarded as indicative of the turnover linked to EE regulations. Therefore, as a second step, the cost increase, expressed in percentage terms, is multiplied by the value of the new buildings output, obtaining an initial estimate of the EPB-related turnover. Since the 'extra cost' due to EPB regulations and the new buildings output both vary overtime, this exercise is done for each year over the 2004 – 2014 period covered by the Study. The third step involves the estimation of the 'pass-on' factor, i.e. the extent to which the cost increase did actually translate into an increase in price. Finally, the 'pass on' factor is used to adjust the initial estimate, providing the final assessment of the EPB market.¹⁵⁵

Data Sources and Key Parameters. Information for the estimation exercise was retrieved from interviews with operators and industry associations as well as from secondary sources. The latter include engineering studies comparing the actual construction costs for new buildings 'with' and 'without' the EPB requirements implemented over the period covered by the Study, some IA carried out by national authorities at the time of the EPBD transposition, and some studies specifically focusing on the impact of more stringent EPB requirements.¹⁵⁶ Estimates of the **cost increase** linked to more stringent EPB requirements show significant variations across countries. The values retained for the analysis range from a maximum of 8% in Denmark and France to a minimum of 1% in Poland, with an average of about 5% across the ten countries.¹⁵⁷ Some data issues concerning these estimates are discussed in Box 3.7 below. Regarding the '**pass-on**' **factor**, available evidence suggests that in the majority of MS construction firms were generally able to incorporate the extra costs into prices, with a corresponding increase in turnover. However, this is not the case for Ireland, Italy and Spain, where the dramatic downturn in the construction sector resulted in a strong downward pressure on prices. Accordingly, it was estimated that in these countries construction firms were able to recoup only three quarters of the extra costs.¹⁵⁸

Box 3.7 Data Issues Concerning the Cost Increase Estimates

Differences Among Various Sources. Estimates of cost increases show significant variations depending upon the sources. In general, estimates provided by operators are considerably higher than those provided in engineering studies and other documentary sources, with estimates provided by industry associations falling somewhere 'in between'. For instance, in Belgium the firms interviewed for the Study reported cost increases of up to 20%. However, this is much higher than the values found in engineering studies (about 6%) and also at odds with the estimates provided by business associations (10%).¹⁵⁹ Similarly, in Germany, the firms interviewed for the Study provided very high estimates of the extra costs, up to 35%, which however is at odds with the 6% cost increase estimated by both business associations and government authorities.¹⁶⁰ Whenever the estimates from various sources could not be reconciled, preference was given

¹⁵⁵ The above approach incorporates a highly stylized version of the functioning of the new buildings market and this inevitably entails some limitations. For instance, the analysis is based on average values, which obviously does not do justice to extreme diversity of the new buildings market. Also, the approach is somewhat 'naïve' in the sense that it assumes that construction firms fully comply with the mandatory EPB requirements, whereas there is significant evidence that this is not always the case, especially in the years immediately following the entry into force of a new regulation.

¹⁵⁶ For a detailed list of the sources used, please refer to Annex III, Section 5.4 and to Annex VI.

¹⁵⁷ The values shown in the text refer to the maximum increase recorded over the 2004 – 2014 period. However, as stricter EPB requirements were introduced gradually, the maximum value apply only for the later years, whereas lower values were used for the initial years. For more details, please refer to Annex III, Section 5.

¹⁵⁸ Details on the country-by-country analysis are provided in Section 5.4.2 of Annex III.

¹⁵⁹ The 10% cost increase is mentioned in a written contribution submitted by FIEC after the Validation Workshop and refers to the situation in Wallonia since 2008. See FIEC, Response from FIEC Technical Committee, 10 June 2016.

¹⁶⁰ In Germany the theme of the extra costs linked to EPB requirements was investigated in detail in recent two studies, one sponsored by business associations and the other commissioned by the government. While diverging in many respects, the two studies concurred in assessing the extra cost at 6% for the period up to 2014. See ARGE, Kostentreiber für den Wohnungsbau - Untersuchung und Betrachtung der wichtigsten Einflussfaktoren auf die Gestehungskosten und auf die aktuelle Kostenentwicklung von Wohnraum in Deutschland, April 2015; and Wissenschaftliche und Technische Begleitung der Baukostensenkungskommission, im Rahmen des Forschungsprogramms „Zukunft Bau“ des

to the values provided in documentary sources, which usually include sufficient information to assess the realism of calculations. However, as documentary sources typically provide more conservative values, in some cases this may have resulted in an **underestimation** of the actual cost increase.

Declining Cost of EPB-related Interventions. As in the case of all innovative products, the unit cost of energy efficiency technologies tends to decline over time, as a result of learning effects and/or scale economies. However, the magnitude of the cost reduction varies depending upon the type of intervention. The building construction professionals interviewed for the Study suggested the possibility of significant cost savings for certain components (heating systems, windows and doors), but not for construction-related interventions, such as wall and roof insulation. This is in line with the results of a recent study, which, in the case of Germany, found a major decline in the cost of windows whereas the unit cost of wall insulation declined only marginally and that of roof insulation increased.¹⁶¹ The decline in the unit costs of certain interventions was not always taken into account in the sources utilized and this may have resulted in an **overestimation** of the actual cost increase.

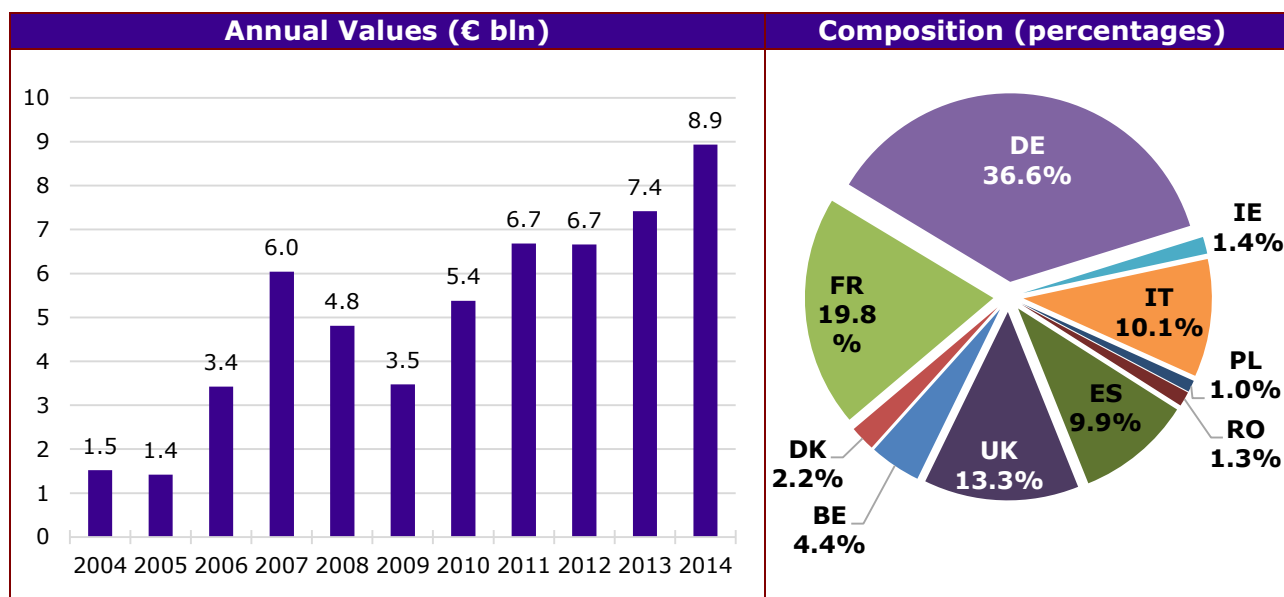
The above two factors obviously introduce a margin of error in the estimates of the cost increase. However, **considering that the two factors move in opposite directions, their effects tend to cancel each other.** Therefore, the values retained for the analysis can be regarded as reasonably realistic estimates of the extra costs linked to the introduction of stricter EPB requirements.

Results. Over the 2004 – 2014 period, the total value of the EPB-related market for new buildings is estimated at € 56 bln. This corresponds to about 3% of the total new residential buildings output over the same period. With more than € 20 bln, Germany accounts for more than one third of the total market, followed by France (€ 11 bln, i.e. about 20%) and the UK (€ 7 bln, i.e. 13%). Overtime, the value of the EE market shows a contrasted trend, with a growth until 2007, followed by a decline at the end of the 2000s, and by a recovery since 2010. In 2014, the EE-related market for new buildings amounted to about € 9 bln. The trend is the result of the interplay of two factors: (i) the overall evolution in the new buildings market; and (ii) the tightening of energy efficiency requirements. For instance, in France and Germany, the tightening of EE requirements combined with a recovery in the new buildings market, resulting in an overall growth since 2011. In contrast, in Italy and Spain, the effect of the progressive tightening of EPB was more than compensated by the drastic decline in the overall market, resulting in a negative trend.

Bundesministeriums für Umwelt, Naturschutz, Bau und Reaktorsicherheit (BMUB) – Endbericht, November 2015.

¹⁶¹ See IEA, Energy Efficiency Market Report 2015, 2015. The IEA report builds upon the results of Ecofys, Preisentwicklung Gebäudeenergieeffizienz Initialstudie, 2014. It is worth noting that unit costs are expressed in 'real' terms, i.e. after taking into account the general price trend for construction materials. As the general price index of construction materials increased, the decline in 'current' terms was lower. Also, the drastic decline in the cost of windows (about 60% in 'real' terms since 1994) refers to the most common type of glazed windows (with an U value up to 1.3). In the case of high performance glazed windows (with an U value up to 0.8) the decline was about 25%.

Exhibit 3.10 EE-Related New Buildings Market



Source: Authors' own elaboration

3.5.4 Energy Efficiency-Market for Building Renovation

The EE-related market for buildings renovations is defined as **the value of the works and related goods and services utilized to upgrade the energy efficiency of dwellings**.

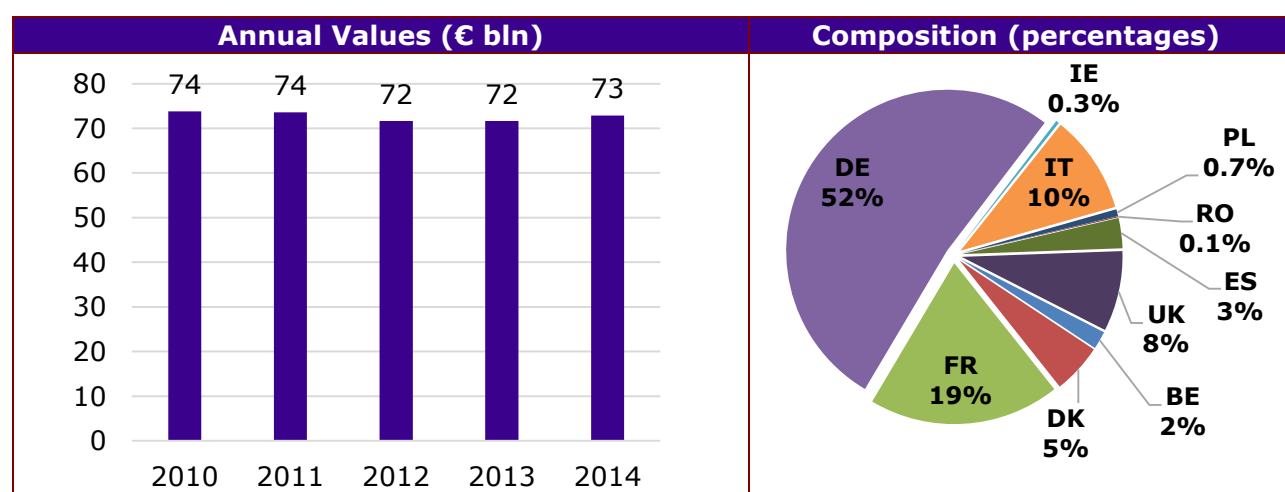
Approach and Data Sources. There is little systematic information on the value of EE-related renovations and the analysis had to rely on a variety of sources. Comprehensive studies are available for only few countries, and even in these cases, there are at times discrepancies among the various sources. In most (though not all) the countries analysed the EE-related renovation activities are driven by government support programmes and, therefore, in certain cases the market was estimated based on data on the assistance provided. The information collected from stakeholders and firms was usually of limited use, as either they were not able to provide any quantification, or the figures provided showed a wide range of variation, reflecting peculiar situations or distorted perceptions. Still, in few cases, information from interviews was the only one available forcing the Consultant to resort to fairly rough 'guess estimates'. Three points are worth noting. **First**, irrespective of the sources, sometimes the EE-related market was estimated as a share of the total renovation market. In these cases, the total market value was computed by multiplying the estimated share by the total value of residential renovations taken from sector statistics. **Second**, the definitions of 'EE-related renovation' used by the various sources utilized sometimes differ. The main difference refers to expenditures for RES, and in particular photovoltaic domestic installations, that are covered in some cases and excluded in others. **Third**, the estimates provided here also include the value of renovation works that were triggered by the recommendations formulated in the energy performance certificates issued over the relevant period,¹⁶² as well as the value of small-scale residential renovation triggered by the obligations for energy distributors to achieve energy savings (art. 7 EED).¹⁶³

¹⁶² Cf. Section 3.6.4 below.

¹⁶³ Cf. Section 3.7.2.3 below.

Results. Over the 2010 – 2014 sub-period, the only one for which data are available for all the ten MS, the total value of the EE-related renovation market is estimated at nearly € 364 bln. This accounts for about 23% of the total residential renovation market. With € 189 bln, Germany is by far the leading market, accounting for 52% of the total, followed by France (€ 70 bln, i.e. 19%) and Italy (€ 36 bln, i.e. 10%). Obviously, the ranking of countries largely reflects the total size of the market, but it is also influenced by the intensity of the EE renovation effort, with Denmark posting a value (€ 18 bln) that is more than 50% higher than that of Spain (€ 11 bln). Annual figures are in the € 72 – 74 bln range, with a marginally declining trend from 2010 through 2013, with a partial rebound in 2014. However, this is the result of widely divergent trends at the national level. Developments were globally negative in Germany, where the EE renovation market contracted from some € 40 bln in 2010 to less than € 35 bln in 2014. This appears to be due to a decline in the renewable energy segment, as the reduction of government incentives led to a major decline in the value of Renewable Energy Sources (RES) installations. On the contrary, in Italy the market grew from about € 6 bln in 2010 – 2012 to nearly € 8 bln in 2014, largely in connection with the increase of tax deductions for EE interventions starting in mid-2013. In France, after the strong growth recorded in the late 2000s, over the 2010 – 2014 period the market increased only marginally, by some € 0.5 bln. Positive developments can be noticed also in Belgium and Denmark, but, as the EE market was estimated as a fraction of the total renovation market, in these countries the trend is explained primarily by general market developments. The same applies to Spain, where the marginally declining trend until 2013 is due to a contraction in the general market, with a rebound in 2014. The UK constitutes a special case, as the globally positive trend started in the late 2000s was interrupted in 2013 due to the problems encountered by the Green Deal programme, which led to drastic decline in the insulation segment (whose value passed from more than € 2 bln to € 0.5 bln, with only a partial recovery to € 1.2 bln in 2014).¹⁶⁴

Exhibit 3.11 EE-Related Renovation Market – 2010 - 2014 (€ bln and Percentages)



Source: Authors' own elaboration

Box 3.8 The Nature of Building Renovation Interventions¹⁶⁵

Building renovation interventions typically fall into three main categories, namely: (i) thermal insulation works; (ii) heating system improvements and/or installation of RES; and (iii) replacement of windows. Other interventions include the installation of ventilation systems and improvements in heating control systems. The relative importance of these categories varies across countries. In France, over the 2006 – 2014 period, windows replacement was by far the main item, accounting for 52% of total renovation expenditure, followed by insulation works, with 36%. Improvements in the heating system (condensing boilers), came in the third position, accounting for only 9% of the total. In contrast, in the UK, over the 2008 – 2014 period, the replacement of boilers accounted for about 65% of total renovation expenditure, with insulation works and improvements in windows accounting for, respectively, 18% and 17%. Irrespective of the relative

¹⁶⁴ Details on the country-by-country analysis are provided in Section 5.5.2 of Annex III.

¹⁶⁵ For details on the sources used, see Annex III, Section 5.5.

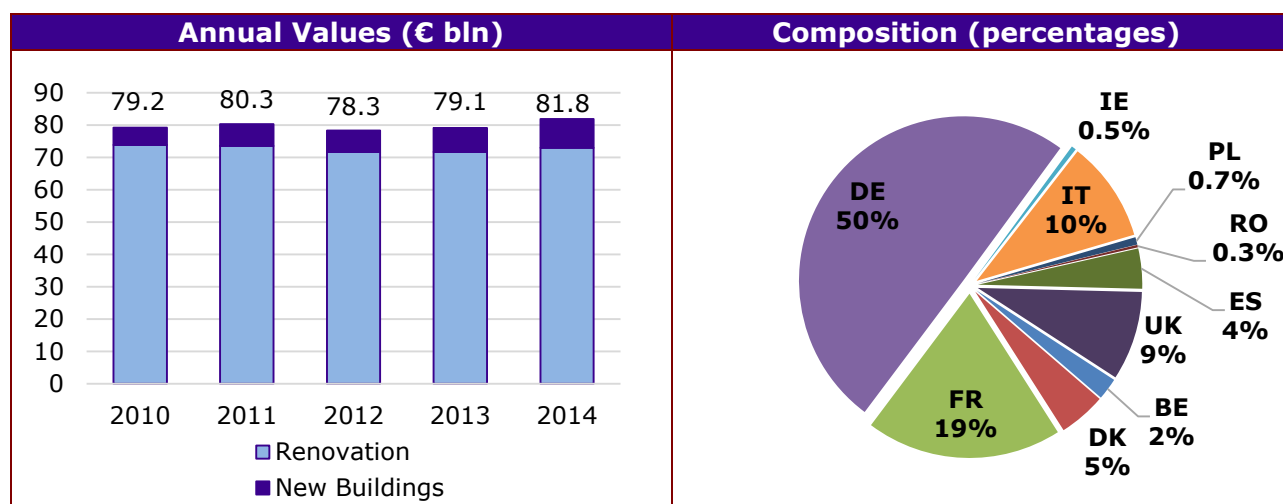
importance of the various typologies of interventions, **building renovations involve an increased demand for energy efficiency construction products and appliances, with beneficial effects on the earlier stages of the supply chain.**

Building renovation interventions are typically small scale. In France, in 2013, the average value of interventions was about € 4,140, with only roof insulation interventions costing more than € 10,000. A similar value was found in Germany, where in 2014 the average intervention was worth € 4,450, with a 12% decline compared with 2010. The average value of renovation interventions is a bit higher in Italy, € 10,750 in 2014, seemingly reflecting a higher propensity for deeper insulation works. **The modest value of building renovation interventions has important implications for the construction sector, as it enhances the role of SME and, in particular of micro enterprises.**

3.5.5 Total Energy Efficiency-Market and Influence of EU Legislation

Total EE-related Market. Based on the results presented in the preceding two sections, for the sub-period 2010 – 2014 for which there are comprehensive data, the total EE-related turnover for new and existing buildings is in the order of € 399 bln, of which about 91% (€ 364 bln) refer to renovation and € 35 bln (9%) to new buildings. On a per year basis, the market size varies between €78 and 82 bln, Predictably, Germany is the country with the largest share, about 50% of the total, followed by France (19%) and by the UK and Italy almost at par, with respectively 10% and 9% of the total. The trend is somewhat oscillating, with annual values ranging between € 78 bln and € 82 bln per year. While renovation is always by far the largest segment, the share of turnover in the new buildings segment shows a clear upward trend, passing from some 7% in 2010 to about 11% in 2014. This result, however, is heavily influenced by developments in Germany which is one of the two only countries (the other being Spain) to record a decline in the value of EE-related renovations.

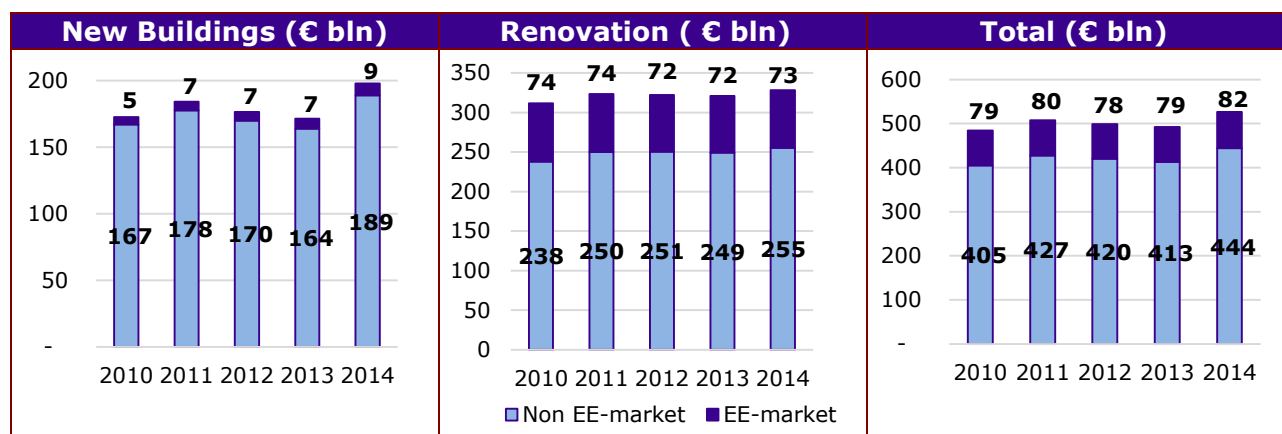
Exhibit 3.12 Total EE-related Market – 2010 – 2014



Source: Authors' own elaboration

In relative terms, over the 2010 – 2014 period, the EE-related market accounts for about 16% of the total residential buildings market, a share that remained stable overtime. EE-related business is comparatively more important in renovation, where it accounts for about 23% of the total, again with little variation overtime. Instead, the share of EE-related business in new buildings, while minimal, is on the rise, passing from 3% in 2010 to 5% in 2014.

Exhibit 3.13 Comparison Between the EE-Related and the Total Residential Market – 2010 – 2014



Source: CRESME elaboration on Euroconstruct and Authors' own elaboration

Influence of EU Legislation. The relative importance of EU legislation in generating the EE-related market cannot be neatly determined. The nature of the obligations imposed by the EPBD (and, whenever relevant, the EED and the RESD) upon MS is such that national authorities have a great degree of latitude. Similar considerations apply to the deployment of financial support measures. The establishment of these support measures is indeed contemplated by relevant EU legislation. However, national authorities retain full autonomy in determining the nature, scale and intensity of these measures.

Under these conditions, the influence exerted by EU legislation was assessed on the basis of a rating exercise, which took in considerations the various factors at play. The ratings were then converted into numerical values to provide an estimate of the value of the EE market that can be attributed to EU legislation. The nature of the exercise is briefly presented in Box 3.9 below.¹⁶⁶

Box 3.9 Assessing the Relative Importance of EU Legislation

The assessment of the relative importance of the EU legislation took into consideration **five main aspects**, namely: (i) the influence exerted by EU legislation on the setting and/or tightening of EPB requirements, on the basis of the temporal and logical sequence of events; (ii) the influence exerted by EU legislation in directing the attention of national authorities towards the theme of EE-renovation; (iii) the extent to which the EE market is influenced by support programmes involving a significant mobilization of government resources; (iv) the timing and salient features of these support programmes; and (v) the presence and scale of EU-funded support programmes.

Based on the analysis of the above factors, the role played by EU legislation was rated on a **five-level scale**, ranging from 'very low' to 'very high', with a percentage value attached to each level of the scale, ranging from 10% in the case of 'very low' to 90% in the case of 'very high'. In turn, these percentage values were used to measure the estimated contribution of EU legislation to a certain market (new buildings or renovation) in a certain MS over the 2004 – 2014 period.

As it is the case with all exercises involving not only a precise rating of complex phenomena but also the transformation of ratings into quantitative results, the analysis is inevitably exposed to the risk of subjectivity. To minimize this risk, the relative importance of the EU legislation vis-à-vis national factors was **extensively discussed with stakeholders during the Validation Workshop**. The results presented here take into account the feedback received from participants during the workshop as well as subsequent written contribution submitted by some stakeholders.

¹⁶⁶ For more details, please refer to Annex III, Section 5.6.

The EE-related Market Attributable to EU Legislation. Overall, making again reference to the 2010 – 2014 period, the EE-related market attributable to EU legislation (the 'EU value') can be assessed about € 124 bln, of which € 108 bln for the renovation segment and € 16 bln for the new buildings segment. Based on these values, EU legislation can be attributed 31% of the total EE market, with a higher role for the new building segment (45%), and lower for renovation (30%), in which national support programmes have a larger weight.

Exhibit 3.14 Estimated Contribution of EU Legislation: 2010 – 2014 (€ bln and %)

	EU Value (€ bln)	Value Attributable to National Policy and Other Factors (€ bln)	EU Value as a Share of the EE Market
<i>New Buildings Market</i>	15.91	19.1	45.4%
<i>Renovation Market</i>	108.3	255.3	29.8%
<i>Total Market</i>	124.3	274.4	31.2%

Source: Authors' own elaboration

3.5.6 Conclusions

The EU legislation on EPB played an important role in creating new business opportunities for the construction sector. In many cases, these opportunities would not have materialized in the absence of national support measures backed by substantial budgetary resources, but in some countries EU legislation was nonetheless instrumental in providing the initial impetus. Overall, the business opportunities generated by EU legislation account for about 5% of the total residential building market, which constitutes **a meaningful contribution to sustain the level of activity during a fairly difficult period**. This also had positive effects across the whole supply chain, with an increase in the demand for energy efficient construction products and for energy efficiency-related professional services. Possibly more important, considering the small scale of the majority of building renovation interventions, EU legislation on EPB had positive effects on SME.

3.6 Business Opportunities and Costs of the Energy Performance Certificate¹⁶⁷

3.6.1 Introduction

The Energy Performance Certificate (EPC) was introduced by the EPBD 2002. In certain countries or regions, such as the Netherlands, Denmark Germany, and certain parts of Austria, certificates on the energy performance of buildings had already been introduced before, though with a different format and different requirements.¹⁶⁸ The EPBD 2002 required that, when buildings or buildings units are constructed sold or rented out, an energy performance certificate is made available to the owner or by the owner to the prospective buyer or tenant.¹⁶⁹ Issuance and of EPC was also made mandatory for frequently visited buildings larger than 1000 m² occupied by public authorities.

Such a provision was then amended by EPBD 2010, by adding the following elements:

1. In case of rent or sale of buildings, including newly constructed ones, the energy performance indicator is to be displayed together with the advertisement;
2. The EPC shall include technically-feasible recommendations for the cost-optimal or cost-effective improvement of the energy performance of the building unless there is no reasonable potential for such improvement compared to the energy performance requirements in force;

¹⁶⁷ This Section summarizes the key results of a more detailed analysis presented in Volume 2, Annex III, Section 6.

¹⁶⁸ Cf. CA EPBD.

¹⁶⁹ Art. 7 EPBD 2002.

3. The threshold for EPC display in frequently-visited public buildings was progressively lowered to 500 m² and then 250 m².¹⁷⁰

Concerning professionals issuing the EPC, the EPBD 2002 mandated that the certification of buildings should be carried out 'in an independent manner by qualified and/or accredited experts'.¹⁷¹ The EPBD 2010 confirms this provision and requires that MS make available a list of qualified and/or accredited experts providing building certification services.¹⁷² Modalities for accreditation or certification, including minimum requirements, trainings and life-long learning have been defined at national or regional level.

This section discusses three of the cost and benefit items linked to the EPC, thus generated by the EPBD: (i) administrative costs linked to the obligation to obtain and display Energy Performance Certificates (EPC) of buildings; (ii) substantive compliance costs to become a qualified or accredited expert for building certification; and (iii) new business opportunities linked to issuance of EPC. The analysis relies on the following sources:

1. Primary information obtained through interviews with trade associations, public authorities and other stakeholders;
2. Secondary sources, including the Evaluation of the EPBD,¹⁷³ the Open Public Consultation on the EPBD,¹⁷⁴ the Concerted Action on EPBD (CA EPBD) and its publications,¹⁷⁵ the project ZEBRA2020,¹⁷⁶ a BPIE study on national approaches to EPC,¹⁷⁷ country specific databases, and market surveys.

In line with the scope of the Study, the evaluation of these items is done from the point of view of the construction sector, including in particular construction companies and professionals involved in the certification of building energy performance. Such a scope has two main implications: (i) costs and benefits falling on other subjects, such as building owners, tenants, or public authorities are not considered in the quantification; (ii) substantive issues linked to the working of the EPC framework, such as its quality and effectiveness, are not covered.

3.6.2 Administrative Costs Linked to the Obligation to Display the Energy Performance Certificate

The costs for issuing and displaying the EPC can fall upon different subjects:

- 1) Owners, for existing buildings or building units put for sale or rent;
- 2) Project developers for new construction buildings;
- 3) Real estate agents (at least for the duty to display and supply the EPC) involved in the sale or rent of buildings or building units;
- 4) Construction companies, when they operate as both constructors and sellers of new buildings.

According to the scope of this Assignment, administrative costs falling upon construction companies are calculated here below. As such, only the EPC issued for new buildings are relevant, thus excluding those issued for rent, sale of existing buildings, or for frequently visited public buildings.

¹⁷⁰ Art. 11-13 EPBD 2010.

¹⁷¹ Art. 10 EPBD 2002.

¹⁷² Art. 17 EPBD 2010.

¹⁷³ Ecofys (2015), Ex-post evaluation of the application of Directive 2010/31/EU, Final report for DG ENER. Hereinafter, 'EPBD Evaluation Study'.

¹⁷⁴ Ecofys (2015), Public Consultation on the Evaluation of Directive 2010/31/EU, Final report for DG ENER. Hereinafter, 'EPBD Public Consultation'.

¹⁷⁵ Available at: <http://www.epbd-ca.eu/> (last accessed on March 2016).

¹⁷⁶ Available at: <http://zebra2020.eu/> (last accessed on March 2016).

¹⁷⁷ BPIE (2014), Energy Performance Certificates Across the EU, A Mapping of National Approaches, hereinafter 'BPIE Study'

To estimate these costs, the following parameters are needed:¹⁷⁸

1. **Average price of EPC per country.** To a large extent, EPC prices are set on a market basis; prices were retrieved from market studies and surveys, both EU-wide and country.¹⁷⁹
2. **Number of EPC per country issued for new buildings.** To estimate the number of new buildings, the number of completed houses the period 2010-2014¹⁸⁰ is retrieved from CRESME elaborations on Euroconstruct data.¹⁸¹
3. **Share of buildings sold directly by construction companies.** Costs borne by construction companies refer to the case in which a constructor is operating also as developer and trader. Such operating modality is far from being the dominant modality in the real estate market:¹⁸² though it is more diffused in Southern countries, it represents a small share of total new buildings at EU level. Since data on the share of houses both built and sold by construction companies are not available, the following estimates are provided, based on evidences from stakeholders: (i) 30% of the new construction market for Italy; (ii) 25% of the new construction market for Spain; (iii) 20% of the new construction market for France; and (iv) 5% of the new construction market for all other MS.

Based on these assumptions, administrative costs are calculated by multiplying the average prices, the number of new completed houses, and the share of houses both built and sold by construction companies. As for the BAU factor, it is assumed to be 0%, meaning that construction companies would not adopt such a certification without a mandatory requirement. To finalise the quantification, the share of costs attributable to the EU level needs to be estimated. Out of the 10 MS covered in-depth by this Study, eight of them have introduced mandatory certification only after the EPBD 2002. For these eight MS, the share of costs of EU origin is considered at 100%. In Denmark and Germany, some form of energy certifications had already been introduced before; for these MS, the share of EU costs is estimated at 50%, as the EPBD 2002 and 2010 still had an impact on the coverage of the obligation, and the format and content of the certification. Administrative burdens of EU origin are shown in Exhibit 3.14 below. Across the five years for which data are available, total administrative burdens of EU origins amounted to €23 to €30 mln per year. The limited cost impact of EPC on the construction sector was further confirmed by stakeholders at the validation workshop.

Exhibit 3.15 EPC Administrative Burdens of EU Origin for Construction Companies 2010 – 2014 (€ '000)

MS	2010	2011	2012	2013	2014
BE	354	374	342	359	384
DK	239	251	335	303	273
DE	911	1,048	1,148	1,225	1,405
ES	9,034	5,903	4,313	2,430	1,755
FR	11,060	11,760	14,497	15,222	14,420
IE	88	54	56	54	73
IT	7,240	5,717	4,820	4,273	3,730
PL	458	442	516	490	484
UK	453	470	476	455	491
Total	29,837	26,018	26,503	24,811	23,014

Source: Authors' own elaboration

3.6.3 Substantive Compliance Costs to Become a Qualified or Accredited Expert for Building Certification

The substantive compliance costs linked to becoming a qualified or accredited expert for building energy performance certification fall upon construction professionals, namely on those

¹⁷⁸ Full data table are provided in Section 6.3 of Annex III.

¹⁷⁹ Cf. i.a. BPIE Study. Country-specific sources are used where available.

¹⁸⁰ 100% compliance rate assumed (1 new completed dwelling = 1 EPC). Data are not available for Romania.

¹⁸¹ Hereinafter, 'CRESME'.

¹⁸² As confirmed by follow-up contributions to the Validation Workshop.

undertaking such activity. While comprehensive information on the modalities of accreditation or certification are available,¹⁸³ data on the number of certifiers and the costs for such accreditation and certifications are not. For the 10 MS covered in-depth by the Study, statistics on number of registered certifiers are hardly available, apart from some countries (e.g. Romania) or specific years. Furthermore, there is a significant difference between the number of registered certifiers and the number of certifiers who have actually issued at least an EPC in the same year

Only anecdotal information is available on the cost of accreditation or certification. The BPIE Study reports some training costs, which represent only one of the steps of the accreditation/certification process. Training costs, as well as duration, vary from MS to MS, and also within MS across regions.¹⁸⁴ Due to high variability of such parameters, precise information on other costs and time spent by certifiers on this task could not be retrieved. Given the relatively poor data concerning the population of certifiers, the lack of data on the cost of the obligation, and the low priority of this cost item for the overall construction industry, it is considered that there is no sufficient ground to provide any tentative quantification.

3.6.4 New Business Opportunities Linked to Issuance of Energy Performance Certificates

The EPC generate new business opportunities for both professionals and construction companies:

1. for professionals active in the market for EPC, new opportunities are represented by the revenues
2. generated by the EPC, i.e. by the market size. Since our analysis takes into account the intra-value chain distributional effects, this amount needs to be lowered by the share of the market paid for by construction companies (as discussed in Section 3.6.2 above).
3. for construction companies and specialised construction service providers, the EPC may generate new business opportunities in two ways: (i) for new buildings and renovation works with improved energy efficiency performance (ii) by triggering additional renovations in existing buildings via the recommendations included in the EPC.

With respect for professionals, the market size can be calculated by multiplying the number of EPC issued per country¹⁸⁵ with the average price.¹⁸⁶ **New business opportunities for professionals issuing EPC** are thus shown in Exhibit 3.16 below. As done for administrative burdens generated by EPC provisions, business opportunities of EU origin have been obtained by discounting by 50% values in Denmark and Germany, where energy performance certificates were required before the introduction of the EPC. In addition, to take into account for intra-value chain distributional effects, those values are lowered by the amount of EPC paid for by construction companies (reported in Section 3.6.2 above). The market size, or, in other words, the revenues generated for EPC professionals, amount to €611 mln in 2014, the only year in which data for 9 MS are available. The steady amount is largely due to the increase of data coverage from additional MS, especially for larger MS, in 2013 and 2014, and should not be interpreted a sign of market increase.¹⁸⁷

¹⁸³ This information is presented in Section 6.4 of Annex III.

¹⁸⁴ Reported costs go from about €300 in Greece to €1,200 in Austria (for 5.5 days of training) and €1,600 in Estonia (for 10 days). Additional information, though unsystematic, was retrieved from interviews with companies and is included in Section 6.4 of Annex III.

¹⁸⁵ Data on the number of EPC are BPIE elaboration and concern the number of EPC issued, including both new and existing buildings, public buildings, and both for rent and sale transactions; for all countries except Poland, at least one data point for one year is available. The statistics provided originate from the EPC databases, provided by the ZEBRA2020 project, or extracted directly from national sources. Additional information has been extracted from Concerted Action EPBD. Full data are presented in Section 6.5 of Annex III.

¹⁸⁶ Cf. *supra* note 179.

¹⁸⁷ Data gaps in Exhibit 3.15 depend on the availability of data on the amount of EPC issued in each MS in each year, not on the progressive compliance in MS. Conservatively, the minimum number of data gaps was estimated. Data gaps were only filled for countries in which at least one data point is available, and only for the years following the first data point: the data-fill rule is as simple as possible: EPC in year t+1 in Country A are estimated to be equal to EPC in year t. For Poland, no estimation was considered possible or realistic.

Exhibit 3.16 EPC: New Business Opportunities of EU Origin for Professionals (€'000)

MS	2006	2007	2008	2009	2010	2011	2012	2013	2014
BE	913	4,219	7,088	39,499	29,718	37,414	41,919	35,291	42,915
DE	-	-	-	-	-	-	-	-	34,672
DK	-	-	-	-	-	15,007	10,634	12,310	13,594
ES	-	-	-	-	-	-	-	-	121,395
FR	-	-	-	-	-	-	-	72,643	76,650
IE	-	21	626	16,014	13,602	16,985	11,698	16,820	18,345
IT	-	-	-	-	-	-	-	36,114	137,156
PL	-	-	-	-	-	-	-	-	-
RO	-	-	-	-	-	-	6,813	14,328	14,328
UK	-	-	115,137	156,975	123,457	101,101	99,573	137,982	151,906
Total	913	4,240	122,851	212,487	166,777	170,508	170,637	325,486	610,961

Source: Authors' own elaboration

With respect to new business opportunities for construction companies linked to EPC, those linked to new construction and renovation of buildings with better energy efficiency performance are already discussed at length in Section 3.5.4 above. With respect to benefits generated by recommendations included in the EPC,¹⁸⁸ conclusive data are lacking. The stakeholders did not specifically mention effects from these recommendations, which were sometimes criticised by stakeholders as *'being of little or no use'* or *'too general'*. The recent summary of the EPBD Open Public Consultation reports that *'recommendations [...] are neither tailor-made, nor part of a holistic plan for the building'*, and this might have prevented the EPC to fulfil the role as a *'renovation accelerator'*.¹⁸⁹ The EPBD evaluation considered the EPC not to have triggered more ambitious renovations or more renovations.¹⁹⁰ So far, the impact of EPC on the rate and depth of renovation is estimated by stakeholders to be limited.¹⁹¹ This was further confirmed by stakeholders during the Validation Workshop.

3.6.5 Conclusions

The EPC can generate costs and benefits for both construction companies and professionals. With respect to construction companies, the impacts are estimated to be negligible. As for costs, they only bear a small share of costs, estimated in €23-30 mln per year in the 10 MS under analysis, as most of EPC duties fall on owners, tenants and developers. As for benefits, they are also estimated to be negligible, given the limited effect of EPC recommendations so far. With respect to professionals, the EPC generate new business opportunities for those engaging the activity of energy auditors. Given the number of EPC and the average price in the 10 MS under analysis, these business opportunities are estimated at €610 mln in 2014. As for costs, linked to the qualification/accreditation process that MS may set up to enter the EPC market, available data and information retrieved from stakeholders are insufficient to provide a quantitative estimate.

3.7 Other costs and benefits in the Energy Efficiency policy area¹⁹²

3.7.1 Introduction

In this section, other issues related to the energy efficiency policy area, namely to the EED, RESD, and EPBD are discussed, in particular

- Section 3.7.2 deals with the regulatory effects generated by the EED;
- Section 3.7.3 deals with the accreditation and certification of (i) inspectors of heating and cooling systems (EPBD); and (ii) RES installers (RESD);

¹⁸⁸ Content of the recommendations in the 10 MS covered in depth is presented in Section 6.5 of Annex III.

¹⁸⁹ Consultation Report, at p. 7.

¹⁹⁰ Evaluation Report, at p. 74.

¹⁹¹ Consultation Report, at p. 34.

¹⁹² This Section summarizes the key results of a more detailed analysis presented in Volume 2, Annex III, Section 7.

- Section 3.7.4 deals with the impacts of energy efficiency provisions, in particular energy performance requirements and support measures, on construction product manufacturers.

Regarding the benefits of EE legislation, the new requirements do not necessarily in the short term translate directly into 100 % benefits for contractors and installers. In the longer run, the cost of requirements may pass on to building owners/investors and the services provided by contractors/installers to fulfil the requirements increase their profit margin. And the latter could decrease over time according to the maturity of the technology and more competition into the market.

3.7.2 The Energy Efficiency Directive

The present sub-section explores the regulatory impacts of the EED on the construction sector, and more specifically of three items identified during the previous steps of the assignment as possibly generating costs or benefits for construction operators, that are: (i) new business opportunities linked to the obligation to renovate the stock of existing public buildings, including the 3% target for central government buildings; (ii) new business opportunities linked to the increase in the demand for high energy efficiency goods and services (including construction) by public bodies; and (iii) new business opportunities linked to the increase in the demand for energy efficiency services associated to the obligation for energy distributors to reduce their sales by 1.5% per annum. Information on these effects was retrieved via:

1. Primary information obtained through interviews with trade associations, public authorities and other stakeholders;
2. Secondary sources, including the 2011 IA on EPBD,¹⁹³ National Energy Efficiency Action Plans (NEEAP) submitted by the MS to the European Commission in 2014, and the National Green Public Procurement (GPP) Action Plans (policies and guidelines), national reports submitted in force of Art. 7 EED, and the Concerted Action EPBD (CA EPBD) and its publications.¹⁹⁴

3.7.2.1 The 3% Renovation Target for Public Buildings

Art. 5(1) of the EED requires MS, as of 1 January 2014, to renovate (on a yearly basis) 3% of the total floor area of heated and/or cooled buildings owned and occupied by its central government.¹⁹⁵ However, the 3% requirement may be opted out of, in case a MS decides to implement other cost-effective measures leading at least to an equivalent amount of energy savings (Art. 5(6)). While not implying any significant direct and/or indirect cost for the industry, Art. 5 EED may instead generate benefits to firms involved in building renovations, as well as to the entire construction value chain through an increased demand for renovation services. In fact, as the actual energy-efficiency renovation rate is only 1.7%, the 3% target set in the EED could pave the way for new business opportunities.¹⁹⁶

Actual benefits for the construction sector depend on the extent to which MS have opted for other 'alternative' measures that do not necessarily involve construction and renovation.¹⁹⁷ At the current date, 11 MS decided to opt for the 3% renovation rate while 17 MS opted for 'alternative' measures. Among the sampled countries, only Romania and Spain adopted the 'default' approach under Art. 5(1) EED. In these countries, the size of the regulation-induced market stemming from Art. 5(1) EED can be estimated by multiplying the floor area under renovation in 2014 by the

¹⁹³ Commission Staff Working Paper – Impact Assessment, accompanying the Directive of the European Parliament and of the Council on energy efficiency and amending and subsequently repealing Directives 2004/8/EC and 2006/32/EC, SEC(2011)779. Hereinafter, 'IA on EPBD'.

¹⁹⁴ Available at: <http://www.epbd-ca.eu/> (last accessed on March 2016).

¹⁹⁵ Art.5 of the EED applies to buildings owned and used by the central government with a usable floor area larger than 500 m² and, as of July 2015, also with floor areas of more than 250 m².

¹⁹⁶ IA on EED.

¹⁹⁷ The status of implementation for art. 5(1) and the alternative measures adopted are detailed in Section 7.2.2 of Annex III.

costs per m² to renovate such area. In this context, for **Spain** the total useful area was equal to 11,200 thousand m² with a renovation obligation of 336 thousand m². Estimated costs for energy efficiency renovation are equal to €391/m². This leads to revenues for the construction sectors of €131.5 mln in 2014. To calculate the additionality of the 3% requirement over the normal renovation rate, the EU renovation rate of 1.7% is used;¹⁹⁸ hence, the remaining 1.3% of renovations is attributed to the EED's renovation target. Accordingly, the additional revenues for the construction industry in Spain amounted to some €57.1 mln in 2014. Nevertheless, according to industry associations, the impact of Art. 5(1) EED on the Spanish industry still remained limited so far. In the same vein, in **Romania** the total floor area of 6,739 thousand m² under inventory required renovation works on 202 thousand m² in 2014. Estimated costs for renovation in Romania are equal to €251/m². Hence, in 2014 total revenues for the construction sectors from renovating buildings owned and used by the central government were equal to €50.7 mln and, applying a BAU renovation rate equal to 1.7%, €22.0 mln can be considered additional.

3.7.2.2 Purchase of High Efficiency Goods and Services (Including Construction) by Public Bodies

Article 6 of the EED requires MS to ensure that central governments purchase or rent buildings with high energy-efficiency performance and compliant with the (non-exhaustive) list of standards contained in Annex III and in particular the Minimum Energy Performance Requirement (MEPR) set under Article 4 of the EPBD. Interim results collected by the Commission show that energy efficiency requirements in public procurement are not fully understood by all agents and that the transposition of Art. 6 EED is not yet finalized in some countries.¹⁹⁹ The adoption of MEPR in public procurement rules is fragmented and still lagging behind in several countries included in the sample. Even in countries where full transposition of art. 6 EED has taken place, the actual impact on the time frame covered by this Study was limited. In this regard, it is worth remarking that potential benefits will most probably accrue in coming years, especially when considering that the Directive applies only as of June 2014. In addition, Art. 6 EED overlaps with other EU Directives on public procurement²⁰⁰ and this makes it more difficult to disentangle the benefits of the EED from those stemming from other EU rules or generated by national legislation.

Box 3.10 Green Public Procurement – Views from the OPC and other stakeholder contributions

In the OPC, respondents were enquired as to whether they had noticed an increased use of energy efficiency criteria in public tenders for buildings and construction services. Though a plurality of respondents had no opinion, among those who did answer, about three quarters expressed that indeed GPP criteria were more common in tenders issued by national, local, and regional governments. In its written contribution, the French Government underlined that GPP criteria have been made part of the national *acquis* on public procurement in 2015 and 2016, and this is expected to generate positive effects on the construction sector.

Source: OPC – Cf. Annex VII for more details; other stakeholder contributions.

3.7.2.3 Obligations for Energy Distributors to Achieve Energy Savings

Article 7 of the EED requires MS to set up an energy efficiency obligation scheme, ensuring that energy distributors and retail companies (cd. 'obligated parties') reduce the sale of energy, by volume, at least by 1.5% per year. Alternatively, under Art 7(9), MS can adopt other policy measures to achieve an equivalent amount of energy savings. A provision with a similar scope

¹⁹⁸ IA on EPBD.

¹⁹⁹ See Communication from the Commission, Assessment of the progress made by MS towards the national energy efficiency targets for 2020 and towards the implementation of the Energy Efficiency Directive 2012/27/EU as required by Article 24 (3) of Energy Efficiency Directive 2012/27/EU, COM(2015)574, at pp. 8-9. Full details on the implementation of GPP criteria in the 10 MS covered in depth are provided in Section 7.2.3 of Annex III.

²⁰⁰ Directive 2014/24/EU of the European Parliament and of the Council on public procurement and repealing Directive 2004/18/EC; and Directive 2014/25/EU of the European Parliament and of the Council on procurement by entities operating in the water, energy, transport and postal services sectors and repealing Directive 2004/17/EC.

and aim was included in article 6 of the 2006 Directive on end-use of energy.²⁰¹ Among the 10 MS in the scope of the analysis, only two countries have completely opted out from setting up an energy efficiency obligation scheme for distributors and retail companies, namely Germany and Romania; in Spain, the government expressed the intention to establish such a scheme but still has not done so. In all other MS, schemes were set up (including by regional governments in Belgium), to at least partly achieve the article 7 targets. In six MS (Denmark, France, Ireland, Italy, Poland, and UK), these schemes have switched from voluntary to mandatory measures over the recent years, and in particular following the adoption of the EED.²⁰²

Obligated parties have to either contribute to the funding of these schemes, or implement energy saving measures themselves.²⁰³ Where schemes require energy distributors and retailers to undertake energy savings actions, great attention is paid to small refurbishments in existing buildings, and in particular to heating systems, other building systems, windows, and insulation. Hence, those schemes benefit in particular SME in the construction and installation sectors. Such interventions in existing buildings are deemed to be cost-effective, and energy distributors and retailers are already in contact with end users for marketing and billing reasons, and hence have the means and capacity to propose small-scale improvements. These interventions resulted in new business opportunities for the construction sector, in particular for installers of building systems (especially heating) and windows, and to a lesser extent for construction operators, in case of insulation works or other larger-scale interventions. The value of these business opportunities is already accounted in the estimation of EE-related renovation activities carried out *supra* in section 3.5.4. Specific information on the market effect of article 7 schemes could be retrieved for three countries, i.e. France, Italy, and the UK and is presented here below (though already included in the figures presented above):²⁰⁴

1. In **France**, the energy efficiency scheme for energy distributors and traders managed through the '*Certificats d'économies d'énergie*' generated expenditures for €224 mln, of which 90.1%, that is about € 202 mln, were invested in interventions on existing buildings, especially on heating systems and building envelopes.²⁰⁵
2. In **Italy**, energy distributors and traders participate in the '*Certificati Bianchi*' scheme. In 2014, the scheme was worth about €830 mln. Small-scale interventions in buildings, in particular in heating and hot water systems, and interventions on the envelope accounted for 16% of this value, i.e. about €130 mln. The most common standard interventions include wall insulations, the substitution of boilers, and other improvements of the heating and cooling systems.
3. In the **UK**, several company obligation schemes required energy operators to achieve energy savings via interventions in households', commercial, and industrial buildings (e.g. the Carbon Emission Reduction Target and the Community Energy Saving Program). In 2013, these programmes were replaced by two new initiatives, the Green Deal programme and the Energy Company Obligation. In 2014, under the various programmes the following interventions were financed: (i) 320,000 cavity wall insulations; (ii) 60,000 solid wall insulations; (iii) 220,000 loft insulations; and (iv) 1,510,000 interventions on boilers and heating systems.²⁰⁶

²⁰¹ However, it included voluntary agreements as opposed as to mandatory targets.

²⁰² CA EBPD (2016), Implementing the EPBD featuring country reports, at p. 100.

²⁰³ In several cases, the duty to implement energy-efficient measures is coupled with a market for so-called 'white certificates', i.e. tradable certificates corresponding to a certain amount of energy saved, e.g. in France, Italy, and the UK.

²⁰⁴ The information refers to 2014, which is the year when the EED entered into force. A broader analysis is presented in Section 7.2.4 of Annex III.

²⁰⁵ Cf. Gouvernement Français (2015), Rapport annuel 2015, dû au titre de l'article 24 de la Directive Efficacité Energétique (DEE); cf. Art. 7 Report – France.

²⁰⁶ Committee on Climate Change (2015), Meeting Carbon Budgets – Progress in reducing the UK's emissions - 2015 Report to Parliament. No data is available concerning interventions on windows, also eligible under the programmes. Cf also. Rosenow, J. and N. Eyre (2014), Re-energising the UK's approach to domestic energy efficiency, ECEEE Summer Study Proceedings, pp. 281-289.

In conclusion, energy efficiency obligations for energy traders and distributors may represent a source of business opportunities for construction companies, and especially installers, as energy companies are very likely to suggest small-scale interventions to their residential customers, leveraging on their financial capacity and customer relationships. Even in MS where these programmes were not specifically targeted to the building sector, a significant or prevailing share eventually involved the stock of existing houses, especially with regard to heating systems, windows, and insulation. These benefits, however, can only partially be attributed to the EU framework because of at least two reasons:

1. Some of these requirements for energy traders and distributors existed before they became obligatory under the EED;
2. They are strongly dependent on the implementation modalities chosen by the MS, including the possible focus on small-scale interventions in buildings.

3.7.3 Accreditation and Certification of Inspectors of Building Systems and Installers of Renewable Energy Sources

The present sub-section explores two cost items which are relevant for a segment of the construction value chain, i.e. installers: (i) a cost item generated by the EPBD, that is 'substantive compliance costs to become a qualified or accredited expert for system inspections (initial and continuous training, software licence, audit by administrations)'; and (ii) a cost item generated by the RESD, that is 'substantive costs for the installers of renewable energy systems to meet requirements of certification or equivalent qualification schemes'. The above-mentioned cost items are assessed based on:

1. Primary information obtained through interviews with installers;
2. Primary information obtained through interviews with trade associations, public authorities and other stakeholders;
3. Secondary sources, including the evaluation of the EPBD,²⁰⁷ the mid-term evaluation of the RESD,²⁰⁸ the Concerted Action on EPBD (CA EPBD) and its publications,²⁰⁹ the Concerted Action on RESD (CA RESD) and its publications,²¹⁰ and the IA on the EPBD.

3.7.3.1 Accreditation and Certification of Inspectors of Building Systems

Articles 14 and 15 of the EPBD 2010 state that both heating and air-conditioning systems with an effective rated output over a certain threshold shall be subject to regular inspections of their accessible parts.²¹¹ **Article 17 of the EPBD 2010 requires that these inspections are carried out 'by qualified and/or accredited experts',**²¹² whether operating in a self-employed capacity or employed by public bodies or private enterprises'.²¹³ MS can opt out from the provisions on inspections and introduce other measures with an equivalent impact.²¹⁴ As a consequence, 13 MS introduced alternative approaches for heating systems, and seven for air-conditioning systems. Among the MS covered by this Study, Ireland opted for alternative measures for both cooling and heating inspections, while France, Denmark,²¹⁵ Germany, and the UK opted for alternative measures for heating inspections.

²⁰⁷ EPBD Evaluation Study.

²⁰⁸ CE-Delft (2015), Mid-term evaluation of the Renewable Energy Directive, A study in the context of the REFIT programme, report for DG ENER. Hereinafter 'RESD Evaluation'.

²⁰⁹ Available at: <http://www.epbd-ca.eu/> (last accessed on March 2016).

²¹⁰ Available at: <http://www.ca-res.eu/> (last accessed on March 2016).

²¹¹ Similar provisions were already included in the EPBD 2002 in articles 8 and 9, and were to be implemented as of January 2009. Cf. IA on EPBD, at p. 21.

²¹² The OPC confirmed that, in most cases, the inspection of heating and air-conditioning systems is carried out by visibly qualified/accredited experts.

²¹³ The same requirement was provided for by the EPBD 2002, in art. 10.

²¹⁴ Alternatives are spelled out in art. 13(4) and 14(4) and include: (i) provision of advice to users concerning the replacement of boilers/air conditioning systems; (ii) other modifications to the heating/air-conditioning systems; and (iii) and alternative solutions to assess the efficiency and appropriate size of the boilers/air-conditioning systems.

²¹⁵ In Denmark, the scheme of inspection of air-conditioning systems was discontinued as of 1st of January 2016.

The requirements concerning the qualification or accreditation of inspectors of both heating and air-conditioning systems are very different across MS.²¹⁶ In particular, accreditation or qualification may be based on training, exams, professional experience or attestation of competence. In addition to that, qualification may be 'automatically' granted to installers already operating in these market segments. Furthermore, in certain MS, these requirements are set and/or managed at regional level, e.g. in Italy, Spain, and Belgium. In most countries, a prior level of educational qualification is mandatory, and a secondary education diploma is usually necessary for installers. Professional experience is another common requirement to access the market.²¹⁷ Qualifying examinations, where mandatory, are different in coverage and depth. Information on costs was retrieved via interviews with installers and stakeholder associations. However, given the diversity of schemes across MS, the number of data points are not sufficient to perform a quantification.

3.7.3.2 Accreditation and Certification of Installers of Renewable Energy Sources

The accreditation and certification of RES installers is regulated by the RESD, which is not an act specifically designed for the building sector. The regulation of this aspect is quite loose, as article 14(3) RESD 'only' provides for MS to ensure that **certification or equivalent qualification schemes are or become available by 2012 for installers of small-scale RES generation capacity.**²¹⁸

The uptake of this provision is still limited. According to CA RES data, 13 MS introduced a certification scheme for experts, and 3 MS a qualification. These schemes vary to a large extent among MS, in particular concerning: (i) content/competencies; (ii) the subjects (companies or individuals); (iii) the responsible body; (iv) the length of training; (v) the demonstration of competences; (vi) the administration of the scheme; and (vii) the duration of the qualification and the requirement for continuous professional development. These schemes may be mandatory or voluntary, though voluntary schemes may still be linked to the subsidy/incentive schemes established at national level, providing much stronger incentives to obtain the qualification/accreditation.²¹⁹ For this reason, companies, and especially SME, may be sensitive to the costs generated by the schemes. As the EU legislation only mandates the existence of these schemes, but not their mandatory application, **no regulatory costs can be attributed to EU legislation.**

3.7.4 The Impact of Energy Efficiency Legislation on Construction Product Manufacturers

The present sub-section deals with the impacts of EE legislation on the upper part of the value chain, i.e. on construction product manufacturers. Manufacturing companies were surveyed and asked about their assessment of and the impacts originating from both EE requirements for construction products, systems and buildings, and EE support measures undertaken at national level. The analysis remains qualitative: given the constraints in the retrieval of information from interviewed companies, in agreement with the Client, the Consultants focused the questionnaire for product manufactures on the product-specific legislation (CPR/CPD, EDD, and EED), and only retrieved qualitative information on EE from the sub-set companies which were affected by these measures.

²¹⁶ Cf. IA on EPBD, at p .48. The analysis of national frameworks is provided in Section 7.3.2 of Annex III.

²¹⁷ CA EPBD (2011), Implementing the Energy Performance of Buildings Directive featuring country reports, at p. II-76.

²¹⁸ These schemes shall take into account existing ones, where available, and shall be based on the criteria laid down in Annex IV to the Directive. Annex IV gives MS great flexibility in the organization of the certification and qualification process, provided that it includes training and a final exam. With regard to training, the Annex details the conditions and the content. Article 14(3) require MS to recognize certifications awarded in other MS which comply with these criteria. The OPC confirmed that, in most cases, the installation of RES systems in buildings is carried out by qualified/certified experts.

²¹⁹ The analysis of national frameworks is provided in Section 7.3.3 of Annex III.

Indeed, EE measures are not relevant or equally relevant for all manufacturers. While in principle they all benefit from support measures targeted at EE renovation, at this indirectly increases their market demand, only a subset of them is concerned with EE requirements, depending on the product scope. Ten out of 17 of the interviewed companies reported to be affected by EE requirements. Furthermore, questions on the impact of EE legislation were also included in the survey targeted at construction product associations and other stakeholders, with 16 respondents reporting an impact on their market segments.

About a quarter of respondents signalled a high impact of EE requirements on their sector, and more than one third signalled some impacts; to the contrary, slightly less than 40% of those respondents considered that EE requirements have no or limited impact on their activity. When asked about the MS where the impacts of EE requirements are larger, Germany is the most mentioned, followed by Austria, France, the Netherlands, and the UK. Both stakeholders and companies were also surveyed on the additionality of these requirements compared to BAU market demand. All companies considered the requirements in line or additional compared to market demand; in particular, a majority of them considered them as stricter. As for other stakeholders, a majority considered these requirements stricter than market demand. Based on these findings, EE requirements present a significant degree of additionality, and thus a low BAU factor, from the point of view of the construction product sector. One interviewed company qualified the situation by stating that *'regulation, including support measures, is the main driver of EE in buildings'*.

Stakeholders were also asked about the effect of the EE requirements on turnover and margins. In this respect, stakeholders are split almost equally over positive, neutral and negative answers, and in particular the positive and the negative camps have the same weight in the sample. The view of the companies interviewed – keeping in mind that only those working in a sector affected by EE requirement are among the respondents – are much more upbeat, signalling a positive effect on turnover. Still, interviewed companies cautioned against making a direct link between EE requirements and support measures and the turnover of product manufactures. The market for construction product is affected by many factors, including the general economic situation, and the relative bargaining power of customers, construction companies, and manufacturers. In particular, whether EE requirements translate not only into higher turnover, but also into higher margins for companies is unclear, as this depends on the competition on each market segment and the demand being sufficient to generate economies of scale over a long period. For this reason, respondents pointed out that the stability of the legal framework is an enabler of competitiveness for the construction product industry. Obviously, companies welcomed subsidies and funding for EE renovation provided at MS level, and underlined again that the best working schemes are those stable and long-term.

3.8 Cost Savings of the Late Payments Directive²²⁰

3.8.1 Introduction

Directive 2011/7/EU on combating late payment in commercial transactions (hereafter 'LPD') aims at **reducing payment delays as well as mitigating the negative effects of payments taking place later than agreed**. Whereas no regulatory costs for the construction sector are expected to result from this piece of legislation,²²¹ the LPD is likely to generate benefits for companies operating in the construction value chain. In particular, two benefit items can be identified in the LPD: (i) substantive (financial) cost savings linked to the setting of maximum and default payment terms²²² in transactions with public entities and guidelines for transactions with

²²⁰ This Section summarizes the key results of a more detailed analysis presented in Volume 2, Annex III, Section 8.

²²¹ This conclusion was confirmed by VVA et al. (2015), Ex-post evaluation of LPD, Report for DG GROW, hereinafter 'VVA Study'.

²²² The following terminology is adopted: (i) 'payment term' is the time period set out in the contract and agreed by the two parties to pay a certain invoice; (ii) 'payment delay' is the period going from the expiration of the payment term to the moment in which the payment is received; and (iii) 'payment duration' is the sum of payment term and payment delay

private clients; and (ii) substantive cost savings in the form of reduced litigation costs linked to automatic entitlement to late payment interest.

The scope of the LPD include both business-to-business (B2B) and business-to-public authorities (PA2B) transactions. The LPD, in its current formulation, affects only the very last part of the time period covered by this Assignment, as it is a recast of the Directive 2000/35/EC (hereafter 'LPD 2000') and its transposition was due by 16 March 2013.²²³

The most impactful novelty introduced by the new LPD **is the setting of maximum time limits for the period of payment fixed in contracts with both private and public clients.** According to Article 3 of the LPD, the payment term fixed in B2B contracts should not exceed 60 days, unless expressly agreed otherwise and provided that a longer payment term is not grossly unfair to the creditor. Article 4 establishes a 30-day payment term for PA2B commercial transactions with few exceptions (e.g. contracts with public authorities carrying out economic activities of an industrial or commercial nature, or public authorities providing healthcare), unless expressly agreed otherwise and provided that it is objectively justified in light of the particular nature or features of the contract. At any rate, the PA2B payment term cannot exceed 60 calendar days and, in order to avoid any 'lawful' delay, the date of receipt of the invoice cannot be subject to contractual agreements between the parties.

Compared to the LPD 2000, the new LPD also introduced a higher interest rate for late payment (at least eight percentage points above the 'reference rate')²²⁴ and set out a minimum compensation for recovery costs (lump sum of €40), regardless of higher claims for any additional costs exceeding such minimum amount.²²⁵ These provisions aim at ensuring better compensation to creditors and further discouraging payment delays. Furthermore, the Directive holds as *per se* 'grossly unfair' to the creditor (and hence to be considered void or as giving rise to claim for damages) those terms or practices that exclude interest for late payment or compensation for recovery costs. The LPD also prohibits provisions which grossly deviate from good commercial practices or are inconsistent with the nature of the product or service.²²⁶

3.8.2 Data Analysis

While **payment terms are directly impacted by the provisions laid down in the LPD**, payment delays and the overall payment duration are affected to a greater extent by the general commercial practices adopted in specific sectors and within a given country. National commercial practices play a more central role in those sectors, such as constructions, that are less open to international competition and where suppliers and clients are usually local.²²⁷ In addition, the overall duration of payments largely depends on the relative bargaining power of the interested party vis-à-vis its clients and suppliers.²²⁸

A picture of the average duration of payments made by clients of construction companies is presented in Exhibit 3.17.²²⁹ First, it is apparent that, in the sampled countries, **payments in the construction sector take usually longer than the average B2B and PA2B commercial**

²²³ Information on implementation is provided in Section 8.3 of Annex III.

²²⁴ Article 2, Directive 2011/7/EU.

²²⁵ Article 6, Directive 2011/7/EU.

²²⁶ Article 7, Directive 2011/7/EU.

²²⁷ For further details, see Euler Hermes (2012), Payment periods in Europe: wide gaps.

²²⁸ See Fabbri D. & Klapper F.L. (2013), Bargaining Power and Trade Credit, working paper available at: <http://www.cass.city.ac.uk/media/internals/easy-edit-suite/wym?a=179726>

²²⁹ Further information for the 10 MS covered in depth is provided in Section 8.4 of Annex III, where national sources are also presented.

transaction.²³⁰ This evidence is confirmed by all the relevant literature on the topic.²³¹ Second, **the transposition of the LPD seems to have generated a general reduction in payment duration in the construction sector between 2010 and 2014.** Such a reduction has been more marked than in other sectors of the economy. In this respect, Germany and UK represent exceptions, as the days required to obtain a payment grew. This result is in line with comments made by stakeholders.²³² The decreasing trend in payment duration in the construction sector is confirmed by the 2014 Industry White Paper²³³ published by Intrum Justitia. In fact, in 2014, 51% of the payments were received by construction companies within 30 days and this constitutes the best performance over the period 2009-2014.

Exhibit 3.17 Average Payment Duration (in Days) in the Construction Sector and Difference with the Whole Economy

	A. Construction (B2B & PA2B)			B. National payment practices (B2B & PA2B weighted average*)			Construction - Whole economy (A-B)	
	2010	2014	Var. 2010-2014	2010	2014	Var. 2010-2014	2010	2014
<i>Belgium</i>	82	65	-17	58	54	-4	24	11
<i>Denmark</i>	57	n.a.	n.a.	37	34	-3	20	n.a.
<i>France</i>	87	66	-21	61	56	-5	26	10
<i>Germany</i>	41	45	+4	35	34	-1	6	11
<i>Ireland</i>	n.a.	n.a.	n.a.	60	55	-5	n.a.	n.a.
<i>Italy</i>	127	102	-25	103	100	-3	24	2
<i>Poland</i>	n.a.	75	n.a.	35	38	+3	n.a.	37
<i>Romania</i>	n.a.	n.a.	n.a.	n.a.	36	n.a.	n.a.	n.a.
<i>Spain</i>	174	87	-87	103	89	-14	71	-2
<i>United Kingdom</i>	33	55	+22	50	42	-8	-17	13

*Weighted average based on the estimate share of construction of public buildings over total construction of buildings.²³⁴ Source: Euler Hermes for the construction sector and Intrum Justitia for overall national practices.

Notwithstanding improvements in payment duration, **payment delays in the construction sector have increased between 2008 and 2014** both in B2B and PA2B commercial transactions (+53% and +106%, see Exhibit 3.18). This is consistent with feedback from several stakeholders stating that while the LPD had some impact on reducing payment terms (with few exceptions mentioned above), payment delays are still an issue. More specifically, **reductions in payment terms have been partially offset by longer delays.**²³⁵

²³⁰ While national data for the construction sector provided by Euler Hermes do not allow a distinction between B2B and PA2B transactions, cross-sectoral data gathered by Intrum Justitia separate payments made by private clients from those made by public authorities. Hence, to allow a comparison between constructions and other sectors, a weighted average of Intrum Justitia figures is relied upon. More specifically, this weighted average provides an estimate of the potential payment duration in the construction sector under the assumption that the same payment practices adopted in other sectors would apply also to all the commercial transactions involving construction companies.

²³¹ See *i.a.* Cribis D&B (2014), Payment Study 2014; Euler Hermes (2012), Payment periods in Europe: wide gaps; and Intrum Justitia (2014), European Payment Index 2014 - Industry White Paper.

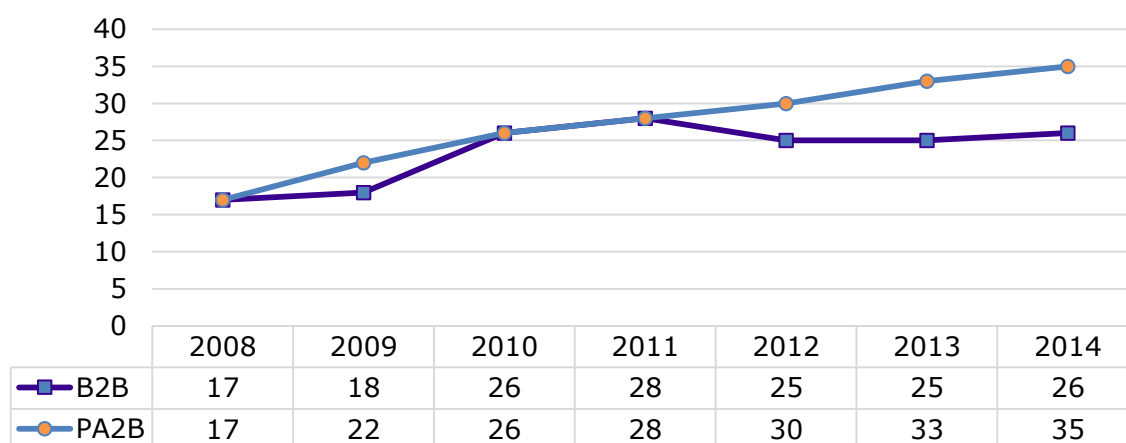
²³² Reportedly, some 'good payers' in countries where rules for the construction sector were stricter than those introduced by the LPD have extended their payment terms toward the maximum time limit allowed by the Directive. For instance, even though the UK Construction Act set a default 17-day payment term, parties tend to negotiate a time limit closer to that envisaged by the LPD.

²³³ Intrum Justitia (2014), European Payment Index 2014 - Industry White Paper.

²³⁴ Elaboration on Eurostat SBS and FIEC (2014), Construction activity in Europe.

²³⁵ Legal payment terms have decreased as a consequence of the introduction of the LPD, which sets the maximum time limits for the period of payment fixed in contracts. Nevertheless, Exhibit 3.17 shows that payment delays have grown, thus partially offsetting the positive effect of shorter payment terms on overall payment durations (i.e. payment term plus payment delay).

Exhibit 3.18 Average Payment Delays in the Construction Sector in Europe (Number of Days)



Note: Sampled countries include all EU countries (with the exception of Luxembourg and Malta) and six third countries (Bosnia-Herzegovina, Norway, Russia, Serbia, Switzerland and Turkey).²³⁶ Source: Intrum Justitia Industry White Paper (2014).

3.8.3 Estimated Benefits Generated by the Late Payments Directive in the Construction Sector

Late payments generate financial costs to companies insofar as they need to find alternative sources of liquidity. To cope with accounting liquidity issues, companies can: (i) resort to internal cash; (ii) delay payments to their suppliers; and (iii) seek access to finance, usually in the form of overdrafts. While internal cash reserves are generally a very limited source of liquidity for companies, all the available evidence shows that construction companies are on average in a very weak bargaining position vis-à-vis their suppliers.²³⁷ This implies that they have to pay their suppliers before they are able to get paid by their clients and that bank credit is their main source of emergency liquidity. Therefore, any marginal reduction in payment delays is reflected in lower interest to be paid on short-term loans. In the same vein, **any increase in payment delays comes at a financial cost.**

Against this background, Exhibit 3.19 provides an estimate of the financial cost savings generated by the reduction in payment duration in the construction sector between 2010 and 2014 registered in selected MS. The following conservative assumptions are adopted: (i) only payments received after 90 days are funded via bank credit, i.e. 17% of the overall payment in 2014;²³⁸ (ii) construction companies have access to finance at the average 2014 national interest rate for revolving loans and overdrafts to non-financial companies;²³⁹ (iii) any reduction/increase in the duration of payments leads to financial savings/costs. **As a result, the experienced decrease in the duration of payments led to financial costs savings of €160 mln.** Interestingly, a one-day reduction in payment duration corresponded to savings for some €17 mln for the sector.

²³⁶ Data from non-EU countries are not used in the proceeding of this section to calculate costs and benefits related to the LPD.

²³⁷ For further details, see Euler Hermes (2012), Payment periods in Europe: wide gaps; cf. *Observatoire des délais de paiement* (various years), *Rapport annuel de l'observatoire des délais de paiement*, Banque de France.

²³⁸ Cf. Intrum Justitia (2014), European Payment Index 2014 - Industry White Paper.

²³⁹ For France, Germany, Italy and Spain: simple interest at a rate equal to the annual interest rate for revolving loans and overdrafts denominated in Euro to non-financial companies; for Belgium and UK: simple interest at a rate equal to the annual interest rate for revolving loans and overdrafts, convenience and extended credit card debt denominated in Euro to non-financial companies. Source: European Central Bank Statistical Data Warehouse.

Exhibit 3.19 Estimated Financial Cost Savings for the Construction Sector

	Variation in payment duration in the construction sector (2010-2014, days)	Payment received later than 90 days* (2014, €mln)	Financial cost savings** (2014, €mln)
<i>Belgium</i>	-17	9,000	-24
<i>France</i>	-21	40,900	-45
<i>Germany</i>	4	35,200	18
<i>Italy</i>	-25	24,000	-83
<i>Spain</i>	-87	14,300	-104
<i>United Kingdom</i>	22	37,300	78
		Total	-160

Source: Authors' elaboration on Euler Hermes (various years) and Eurostat Structural Business Statistics.

The attribution of these benefits to the LPD, and thus to the EU framework, requires a nuanced response. In fact, it is very difficult to isolate the impact of this Directive on changes in payment behaviour from external factors such as the financial crisis and the prevalent business culture. In some cases, the improvement in payment terms resulted from national efforts which preceded the implementation, and even approval, of the LPD. In some other cases, concerted national efforts have been brought about by the need to comply with the Directive. All these factors are likely interlinked and isolating them with certainty is not possible.

As regards countries in which late payments were and are a major issues, in Spain decreasing trends started even before 2011: for instance between 2008 and 2011, payment duration for SME in the construction sector went from 130 to 103 days, that is -21% (see Annex III Exhibit 8.7).²⁴⁰ As mentioned, the revision of the LPD, the presentation of the Commission proposal and the following discussion may have had symbolic function, yet this is an insufficient ground to attribute a significant share of benefits registered in Spain to the EU legislation. At the other side of the spectrum, in Italy a decrease in payment terms has only started after the implementation of the LPD, in 2013. In the Italian case, not only the LPD itself, but also other European Commission actions are considered as crucial determinants of the benefits for the construction sector. Some examples are the subsequent opening of infringement procedures,²⁴¹ the flexibility granted in how to compute payment of the stock of late debts in public deficit statistics,²⁴² and follow-up close monitoring of both payment duration and payment practices by public authorities.²⁴³ For Belgium, information specific to the construction industry show no significant variation from 2013 onwards, pointing out to a less than full role played by EU legislation.²⁴⁴ A mixed case is that of France, whereas Euler Hermes data suggest a reduction on payment duration for the construction sector, while national data, though not fully comparable, suggest a stable trend and largely in line with the LPD requirements over the whole period.²⁴⁵ As in the case of Belgium, the role of the LPD is thus estimated to be limited. In Germany and the UK, to the contrary, payment times have increased, though remaining within the limits set by the LPD. Indeed, the LPD does not prevent national legislation and private parties to agree on shorter payment duration, and as such would seem not to have triggered increase in payment duration. However, stakeholders confirmed that the worsening of the situation is partly attributable to the changes in legislation followed the implementation of the LPD. As in the case of Spain, the LPD have played an expressive role, hence quite limited. Attribution of costs and benefits to the EU framework is shown below in Exhibit 3.20.

²⁴⁰ CEPYME (2015), *Boletín de morosidad y financiación empresarial*. The Commission is considering opening an investigation over certain reporting practices in Spain, cf. <http://archyworldys.com/the-european-commission-will-investigate-whether-spain-meet-deadlines-bill-payment/> (last accessed on August, 2016).

²⁴¹ Cf. Late payments: Commission seeks clarifications from Italy and Slovakia, Brussels, 18.062014, available at: http://europa.eu/rapid/press-release_IP-14-689_en.htm (last accessed on March 2016).

²⁴² Cf. Euractiv, *Direttiva pagamenti: Ue apre a Italia per saldo debiti pregressi*, available at: <http://www.euractiv.it/it/news/norme/6830-direttiva-pagamenti-ue-apre-a-italia-per-saldo-debiti-pregressi-.html> (last accessed on March, 2016).

²⁴³ As reported by stakeholders and confirmed at the Validation Workshop.

²⁴⁴ Graydon (2015), *Comportement de paiement*, Q3 2015.

²⁴⁵ Trends for France were further confirmed by stakeholders at the Validation Workshop.

Exhibit 3.20 Estimated Regulatory Costs and Benefits Attributed to the EU Framework

	Total cost savings (2014, €mln)	Share of attribution	EU cost savings (2014, €mln)
<i>Belgium</i>	-24	50%	-12
<i>France</i>	-45	50%	-22.5
<i>Germany</i>	18	15%	2.7
<i>Italy</i>	-83	100%	-83
<i>Spain</i>	-104	15%	-15.6
<i>United Kingdom</i>	78	15%	11.7
		Total	-118.7

Source: Authors' own elaboration

3.8.4 Litigation Costs

As mentioned above, the LPD is expected to increase legal certainty, thus reducing the recourse to litigation. Nonetheless, while still possible in principle, such hypothesis cannot be confirmed through available secondary data neither for the general economy nor for the construction sector. In this respect, data collected via interviews to construction companies provides an interesting picture. While the majority of the interviewees (57%) is aware that creditors are automatically entitled to interest for late payment, companies with a larger yearly turnover (above €1 mln) are on average more informed than smaller companies about the rights enshrined in the LPD. At any rate, 80% of the respondents have never taken clients to court in order to receive interest on late payment. More generally, several respondents stressed that the limited recourse to litigation is not a consequence of the LPD, rather it is a general business practice motivated by the need to keep good relationships with clients. Given these empirical findings, no cost savings concerning reduction of litigation costs can be attributed to the LPD.

3.8.5 Conclusions

Available evidence suggests a general reduction in payment duration in the construction sector between 2010 and 2014 that can be partially attributed to the LPD. The same trend is supported by the analysis of responses from the OPC, especially with respect to payment from public clients.²⁴⁶ In this respect, Germany and UK represent an exception, as an extension of payment terms was registered. However, payment duration in the construction sector is still longer than in other sectors. In addition, payment delays have increased between 2008 and 2014 in both B2B and PA2B commercial transactions and longer delays partially offset improvements in payment terms. Interestingly, stakeholders' view is less optimistic. Reportedly, the impact of the LPD on payment practices has been quite limited and several issues still need to be tackled to combat late payment.

Late payments are proven particularly detrimental for SME due to their limited bargaining power coupled with the typical difficulties they experience when seeking access to finance. In this respect, some of the stakeholders interviewed for this Study explained that SME operating in the construction sector are rarely compensated for costs borne as a result of payment delays. In particular, SME usually do not apply interest to the debtor in fear of endangering future commercial relations. Other stakeholders have also stressed that those companies that operate as sub-contractors (generally SME) are in the worst position within the construction value chain insofar as they are paid with substantial delays by main contractors (usually large companies) whereas they need to pay their suppliers in compliance with payment terms set by the LPD.²⁴⁷ These conclusions have been confirmed by several interviewees operating at different level of the construction value chain.

²⁴⁶ Cf. Annex VII.

²⁴⁷ See NSCC and FMB (2014), *Credit Where Credit Isn't Due - The Results of the NSCC & FMB Payment Survey 2014*; and FFB (2015), *Évolution des délais de paiement dans le bâtiment*.

At any rate, many questions are still open and it is too early to assess the full potential of the LPD for two main reasons. First, as in all MS this Directive applies only to contracts signed after 16 March 2013, a large part of the impacts is not yet registered in official statistics. This is particularly true for the construction sector where buildings are 'delivered' several months after signing a contract. Second, the general economic situation is proven to be a key driver for late payments in both B2B and PA2B transactions and, somehow, more impactful than any legislative instrument whether national or European.²⁴⁸ In this respect, the unparalleled economic downturn over the past years and the insolvency of many key players have worsened the issue of late or non-payment, especially in the construction sector where large upfront investment are required.

²⁴⁸ See VVA Study.

4 LEGAL ANALYSIS: COHERENCE OF SELECTED EU ACTS²⁴⁹

4.1 Introduction

The legal analysis presented in this section concerns the coherence within each of the three main groups of EU legal instruments, namely: (i) CPR, EDD, and ELD; (ii) EED, EPBD, and RESD; and (iii) PQD, SD, and LPD. Additionally, some of these pieces of EU legislation are also connected with one another outside these groups, as reflected through the cross-references within the legal text themselves. The following Exhibit systematically lays down any cross-reference that the legal act (or its predecessor) in each column includes to any of the other EU instruments.

Exhibit 4.1 Cross-References in the Retained Acts

	EPBD	EED	RESD	EDD	ELD	CPR	PQD	SD	LPD
EPBD		Rec.17, Rec.30, Rec.59, Art.5, Art.9, Art.16, Art.17, Art.24, Art.27, Annex III	[EPBD 2002] Rec.17, Rec.48						
EED	[Dir. 2006/32/EC] Rec.21, Art.5, Art.10, Art.14, Art.15		[Dir. 2006/32/EC] Rec.17						
RESD	Rec.5, Rec.6, Art.9(3)(c), Annex I	Rec.14, Art.15, Art.24							
EDD	Rec.12	Rec.58, Rec.59, Art.27, Annex III, Annex V	[Dir.2005/32/EC] Rec.17		Rec.2, Rec.7, Art.10(3)(a)				
ELD	Rec.12	Rec.58, Rec.63, Art.6, Art.27, Annex III		[Dir. 92/75/EEC] Rec.35					
CPR PQD	Rec.30		Rec.50, 51					Rec.31, Art.3(1)(d), Art. 4(11), Art.5(4), Art.15(2)(d), Art.17(6)	
SD							Rec. 5, Art.57, Art.57a		
LPD									

Source: Authors' own elaboration

²⁴⁹ This Section summarizes the key results of a more detailed analysis presented in Volume 2, Annex IV.

4.2 Instruments Establishing Product or Labelling Requirements: Construction Product Regulation, Ecodesign Directive, and Energy Labelling Directive

The retained acts (and their implementing regulations) include three instruments establishing requirements for construction products, either as product or labelling requirements, namely the Construction Product Regulation (EU) 305/2011 (CPR), Ecodesign Directive 2009/125/EC (EDD) and the Energy Labelling Directive 2010/30/EU (ELD).

4.2.1 Objectives of the Construction Product Regulation, Ecodesign Directive, and Energy Labelling Directive

The objectives of the CPR, ELD and EDD are distinct and considered as largely complementary and coherent. No apparent contradictions between the objectives of CPR, EDD, and ELD were identified in the literature and implementation reports reviewed for this Study.

With respect to the EDD and ELD, which were both adopted in the context of the EU commitment to become a highly energy-efficient and low carbon economy, the 2010 IA of the ELD review considered, but rejected, the option of integrating the ELD and the EDD due to the different nature of the legal instruments. Moreover, during the legislative procedure, it was noted that the EDD and ELD are considered implemented in a coherent way.²⁵⁰ The proposal for a new Energy Labelling Regulation nevertheless includes some provisions aimed at enhancing coherence of the two instruments. The Commission proposal establishes more explicit links and cross-references to the EDD, for instance, by requiring that the ELD label should clearly mention the situations where, because of ecodesign measures under the EDD, products can no longer fall into one of the lower classes.²⁵¹

With respect to the CPR, while the latter establishes rules for the declaration of the performances of the construction products with regard to basic works requirements, such as in relation to their reuse and recyclability, eco-design requirements are considered helpful to address minimum energy and environment-related requirements.²⁵² In spite of this coherence of the objectives of each of the instruments, some concerns are raised. The RPA Study on CPR implementation, the evaluation of the EDD and the interviews held as part of this Study showed that several stakeholders raised concerns about the coherence of the procedures established under the CPR, on the one hand, and the EDD and ELD on the other.²⁵³ During the CPR implementation study, stakeholders were asked whether they considered the CPR consistent with the objectives of other EU policies and strategies in the area of competitiveness, innovation and sustainability. It is remarkable that, while more than half of public authorities and organisations involved in conformity assessment indicated that the CPR is indeed consistent, a significantly smaller proportion of companies (28%) thought this to be the case, with the majority of company respondents (54%) unsure.²⁵⁴ In particular, in relation to sustainability, a majority of stakeholders were of the view that the CPR had not yet translated into a concrete framework in terms of sustainability issues. Moreover, in this context, there is no specific reference to energy efficiency of construction products.

²⁵⁰ Draft Report on the proposal for a Regulation of the European Parliament and of the Council setting a framework for energy efficiency labelling and repealing Directive 2010/30/EU (COM(2015)0341 – C8-0189/2015 – 2015/0149(COD)); Proposal for a Regulation of the European Parliament and of the Council setting a framework for energy efficiency labelling and repealing Directive 2010/30/EU, COM(2015)341; Commission Staff Working Document, Evaluation of the Energy Labelling and Ecodesign Directives, accompanying the document Report from the Commission on the review of Directive 2010/30/EU on the indication of labelling and standard product information of the consumption of energy and other resources by energy-related products, COM(2015)143; hereinafter 'EDD evaluation'.

²⁵¹ ELD Proposal.

²⁵² EDD evaluation, p. 167

²⁵³ See Section 4.2.2 below. Cf. RPA Study, at p. 178. Cf. also EDD Evaluation, p. 25 and ff.

²⁵⁴ RPA Study, at p. 124.

4.2.2 Scope and Definitions in the Construction Product Regulation, Ecodesign Directive, and Energy Labelling Directive

The CPR specifically applies to the placing or making available on the EU market of **construction products**. In contrast, the EDD establishes substantial requirements for energy-related products, while the ELD establishes labelling requirements for **energy-related products**.²⁵⁵

Several categories of construction products, covered by the CPR, can be classified as energy-using or energy-related products under the EDD and ELD. Therefore, the EDD and ELD may potentially affect a number of construction product manufacturers. Existing overlaps between the EDD and CPR for specific product categories currently relate to five product categories, namely solid fuel boilers, (solid fuel) local space heaters and space/water heaters, as regulated by recently adopted Commission Regulations (EU) 2015/1185, 2015/1188, 2015/1189, 813/2013, and 814/2013. Hence, potential impacts are very limited when compared to the whole market for construction products. With respect to windows, the preparatory study for an implementing measure concluded that the adoption of secondary regulation for ecodesign requirements for this product was not recommended.²⁵⁶

The Economic Operators Subject to the Requirements of the CPR, ELD and EDD. The CPR, EDD, and ELD impose obligations on operators who place products or make them available on the EU internal market. Remarkably, the different legal instruments do not use identical definitions of the 'economic operators' covered by the obligations, even though obligations might apply to the same operators, as is the case in the new implementing EDD regulation on solid fuel local space heaters. While the definitions in this case do not directly lead to substantial differences and inconsistencies, it is recommended in view of legal clarity to aim at using the same definitions where possible, especially in the situation in which the requirements under the different instruments will apply to the same operator for making the same product available on the market. It should be noted though that no specific concerns were raised by stakeholders, in the context of this Fitness Check, about this difference in definitions. The adverse impact of the inconsistency or any confusion on the part of operators has not been mentioned as a problem in practice.

Compatibility with national requirements. The European Court of Justice clarified, in a recent judgement against Germany, that MS have the right to set performance requirements for construction products, provided that the free movement of products with CE marking is not impeded, which is ensured by hEN.²⁵⁷ As a consequence, national marks cannot be required for placing construction products in a market. As discussed during the Validation Workshop, such outcome was not welcomed by several German business federations of construction product users (e.g. professionals, contractors), for whom abandoning national marks created legal uncertainty and problems with respect to the professional liability for buildings. However, in a follow-up written contribution, a German sectoral association of product manufacturers reported that the elimination of national requirements brought about some €4 mln per year of savings because of reduced administrative and substantive (testing) costs.

Specific Consideration of SME. Overall, the three instruments take particular account of the specific situation of SME in the construction sector. Stakeholders do not raise any imbalance or incoherence in the approach taken towards SME under these specific instruments. The CPR refers to the particular importance of SME. In its recital 27, the legislator notes that it is necessary to provide for simplified procedures for the drawing up of DOP in order to alleviate the financial burden of enterprises, in particular SME – which has been established in Chapter VI. Stakeholders confirm in interviews that the CPR is instrumental for SME, as it creates a more level playing field

²⁵⁵ List of ecodesign secondary acts, as of 2.9.2015, https://ec.europa.eu/energy/sites/ener/files/documents/list_of_ecodesign_measures.pdf. List of energy-labelling acts, as of 15.3.2016, **Error. Riferimento a collegamento ipertestuale non valido.** (last accessed on April 2016).

²⁵⁶ Final Report, LOT 32 / Ecodesign of Window Products, June 2015, <http://www.ecodesign-windows.eu/documents.htm> (last accessed on April 2016).

²⁵⁷ CJEU, Judgement of the Court (Tenth Chamber) of 16 October 2014, European Commission v Federal Republic of Germany Case C-100/13.

across MS and ensures access to the markets of the MS in a harmonised manner. Furthermore, the EDD makes specific reference to SME and contains a safeguard in its Article 15 aimed at ensuring that the implementing measures will take specific account of their competitiveness. A similar provision is contained in the ELD in relation to energy labelling requirements. In addition, Article 13 of the EDD contains specific provisions on SME, requiring the Commission to consider them in the context of support programmes or through specific guidelines. Finally, the ELD requires MS to refrain from adopting measures that could impose unnecessarily bureaucratic and unwieldy obligations on the market participants concerned, in particular SME.

4.2.3 Substantive Requirements Established by the Construction Product Regulation, Ecodesign Directive, and Energy Labelling Directive

Several types of stakeholders under previous studies²⁵⁸ and the current Study point to a potential overlap between the procedures established under the **CPR and EDD** for construction products, in particular to parallel routes for CE marking. In relation to **CE marking**, Article 8 CPR specifies that the rules for affixing the CE marking provided for in other applicable legislation shall apply without prejudice to the CE marking requirements under the CPR. The CPR moreover clarifies that, for any construction product covered by a Harmonised Standard (hEN) or for which a European Technical Assessment (ETA) has been issued, the CE marking shall be the only marking that attests conformity of the product with the declared performance. In addition, article 8(2) of the CPR notes that the affixing of a CE marking on a product ensures that the manufacturer takes responsibility for the conformity of the construction product, not only with the declared performance and the requirements of the CPR, but also with applicable requirements in other relevant Union harmonisation legislation providing for its affixing. This ensures that the requirements for CE marking under the CPR and EDD apply in parallel to those construction products that are at the same time considered as energy-related products under the EDD. However, one same CE marking applicable to a product type might have a different meaning, depending on its use.²⁵⁹

Stakeholders' views on the subject are somewhat divided. On the one hand, stakeholders representing the energy and environment sector argue that the EDD and ELD are helpful to address energy and environment-related issues not covered by the CPR. Stakeholders representing the construction sector, on the other hand, express a preference for regulating all requirements applicable to construction products under the CPR to avoid the parallel application of requirements under the CPR and EDD to a same product. The extent of the overlap will concretely depend on the standards and implementing measures adopted under the EDD.

Box 4.1 Overlap between CPR, EDD and ELD – Views from the OPC and other stakeholder contributions

In the OPC, respondents supported the view that performance of construction products, and in particular the methods for its assessment, should remain within the exclusive domain of the CPR. This was also re-iterated in several follow-up contributions submitted by both stakeholder associations and public authorities. It was mentioned that the EDD secondary regulation should adopt the method of performance measurement foreseen in the applicable hEN, if any, to avoid duplication of testing procedures, and thus costs.

Source: OPC – Cf. Annex VII for more details; other stakeholder contributions.

More in detail, the stakeholders interviewed for this Study state that the CPR covers environmental information and data related to construction products, similarly to the information covered by the

²⁵⁸ The RPA Study, at p. 178, notes that: "several stakeholders participating in the consultation noted that there is potentially an overlap between the CPR and the EDD and that such an overlap may be unnecessary, create a cumulative burden and contravene the principle of 'better regulation'".

²⁵⁹ For example, the CE marking for local space heaters may involve responsibility for compliance with the CPR, though only when the product is incorporated in construction works. This would most likely not be the case for portable local space heaters, which would however be subject to the requirements of the EDD.

EDD. Hence, they underline the possibility to adopt energy efficiency and sustainability requirements on the basis of basic requirements 3 and 7 set out in Annex I to the CPR, rather than via EDD. They request that, when such requirements are adopted, priority for the regulation of construction products be given to the CPR route. The construction sector stakeholders add that, in the situation where the EDD route is required to improve the sustainability of the built environment, legislative processes must be consistent and coordinated. So far, Basic Requirements 3 and 7 have not yet been included in any hEN, hence there is yet no estimate of any possible regulatory effect of this overlap. Furthermore, only one product, i.e. solid fuel local space heaters, is covered by both a hEN and an EDD regulation, thus limiting further the current impacts of this overlap. The IA for the implementing regulation for local space heaters, Commission Regulation (EU) 2015/1188, considers a potential overlap with the CPR but notes that no minimum requirements or mandatory information requirements regarding energy efficiency or emissions have thus far been issued under the CPR. The IA positively assesses the need for such requirements on the basis of the EDD. Also Regulation (EU) 2015/1185 explicitly refers to the CPR, in its recital 18, which states that solid fuel local space heaters are covered by hEN to be used pursuant Article 7 of the CPR. The recital continues that: “for the sake of legal certainty and simplification, it is appropriate for the corresponding hEN to be revised in order to reflect the ecodesign requirements established by this Regulation.” In the case of solid fuel local space heaters, there is thus a clear simultaneous application of the requirements under the CPR and the EDD. However, as discussed previously, it is important to analyse whether such overlaps result in a lack of coherence between both instruments.

First, even though the objectives of both the CPR and EDD are considered distinct but complementary, some practical issues have been raised at several instances by stakeholders due to the fact that five categories of products have thus far been considered both construction products and energy-related products. Stakeholders note, for example, that the implementing regulation under the EDD might go into much more detail about the characteristics of the product or while the standard under the CPR foresees one test for each essential requirement, the EDD may provide for more. Another stakeholder refers in this context specifically to the fact that the Declaration of conformity is usually quite different from the DOP and concludes this creates confusion among producers, in particular among SME. The RPA Study noted similar issues as those raised by stakeholders above.²⁶⁰ In no cases, stakeholders could provide any qualitative or quantitative estimate of the effects of this problem, which remains *in fieri* and whose potential effects are yet to materialise.

Secondly, the integration of ecodesign requirements established under the EDD into a simultaneously applicable hEN under the CPR, as suggested in Recital 18 of Regulation (EU) 2015/1185, aims at reducing the administrative burden for operators and enhancing coherence between the procedures under both legal instruments, while ensuring that compliance can be guaranteed with the requirements under and specific objectives of each of the separate legal instruments. This integration process would aim to meet the concerns of manufacturers related to similar parallel requirements under a hEN and ecodesign requirements. The adoption or modification of hEN is however a lengthy process and is not a sole competence of the European Commission. Close collaboration will be required between the European Commission and the European Standardisation Organisations. Finally, ecodesign requirements will have to be integrated with an applicable standard, when adopted, for every product category.

Finally, stakeholders point to the lack of explicit **cross-references** to the energy-related product legislation in the CPR. Similar concerns were previously expressed about the EDD and ELD. These were addressed in the proposal for a new Energy Labelling Regulation, which has been identified as an important improvement by the EP. A similar introduction of explicit cross-references to the EDD and ELD in the CPR for construction products may prove necessary to enhance the understanding of obligations applicable to economic operators in the construction sector. At the same time, they pointed out to no major cost effects of the lack of cross-references.

²⁶⁰ RPA Study, at p. 178.

EDD and ELD. While potential **overlaps** clearly exist between EDD and ELD instruments, these might not necessarily create a problem of legal coherence in the overall regulatory framework. The EP Draft Report on the proposal for a new energy labelling Regulation, which intends to repeal Directive 2010/30/EU, confirms that “the ELD has developed its operational life within a system of interrelated directives and regulations. Its closest relationship is with the EDD, both of them addressing issues at on opposite ends of the market for energy-related products, in a coordinated, complementary way.”²⁶¹ In relation to the declarations of conformity under the EDD and technical documentation under the ELD, the opinion of the EP is in line with most sources of information considered in this analysis, such as the preparatory and evaluation studies for reviewing the respective pieces of legislation and stakeholder views collected through interviews and a survey with manufacturers. The declaration of conformity under the EDD and the technical documentation under the ELD are considered coherent instruments, each serving specific and complementary objectives.

Framework for Establishing Product Requirements. The CPR, EDD and ELD use different types of instruments for establishing the technical specifications which a product category must meet to enter the EU market.²⁶² However, as there is a system to ensure that the different rules are taken into account, no specific issues of coherence were raised particularly in this respect by stakeholders. It is noted, though, that the timeframes for preparing technical specifications can be lengthy.

Surveillance of Products on the Market. Article 28 CPR implements a system of AVCP of construction products. In addition, the EDD contains similar measures, on the basis of which a MS may oblige a manufacturer to make the product comply with the requirements of the implementing measure for the product. Similar requirements have been set out in the ELD in relation to the provisions on energy labelling. Interviews with stakeholders and the literature review have not identified specific problems of coherence with the enforcement provisions of the three instruments.

4.2.4 Conclusions

The **objectives** of the CPR, ELD and EDD are clearly distinct and are mostly considered complementary and coherent. The CPR aims to eliminate barriers in the EU internal market. The EDD has the same objective and also aims at reducing the overall negative impact of products placed on the EU market in the perspective of sustainable development. The ELD complements the EDD by setting a framework for the labelling and the provision of information regarding energy consumption.

The different legal instruments do not use identical **definitions** of economic operators covered by the obligations. This could be problematic given the fact that the obligations established by each of the instruments might apply to the same operators, as is the case in the new implementing regulation on solid fuel space heaters. While in this case the definitions do not directly lead to substantial differences and inconsistencies, it is recommended, for legal clarity, to use the same definitions where possible, especially in the situation in which the requirements under the different instruments will apply to a same operator for making one same product available on the market.

²⁶¹ European Parliament, Draft Report on the proposal for a regulation of the European Parliament and of the Council setting a framework for energy efficiency labelling and repealing Directive 2010/30/EU (COM(2015)0341 – C8-0189/2015 – 2015/0149(COD))

²⁶² The CPR lays down conditions for the placing or making available on the EU market of construction products by establishing harmonised rules on how to express the performance of such products. To this end, the CPR relies on harmonised technical specifications, which can take the form of existing harmonised standards or a new ETA which sets out the test methods to be used for the products covered by them. Ecodesign requirements under the EDD are established through implementing measures or self-regulation measures for a specific product category. Implementing measures are adopted following an IA and detailed study, including sector consultations. Annex VII EDD ensures that these measures shall refer to existing EU harmonised standards which shall be used for the assessments. Similarly to the EDD, the ELD requires delegated acts to be adopted.

The **substantial requirements** under the EDD and ELD are mostly considered coherent and complementary. Several stakeholders, however, point to a potential overlap between the procedures established under the CPR and EDD for construction products. There are currently five **product categories**, for which implementing regulations have been adopted under the EDD which can be considered construction products if incorporated in construction works, namely solid fuel boilers, (solid fuel) local space heaters and space/water heaters. In one case, for solid fuel local space heaters, a product is covered by both a hEN under the CPR and EDD requirements. It should be noted though that this issue could expand to other product categories when new secondary regulations are adopted under the EDD. At this point in time, no integration of ecodesign requirements in standards has been finalized, though discussions to this end are ongoing. Finally, it is important to note that the parallel routes toward CE marking do not result in several CE markings. The CE marking is harmonised across the EU market and Article 8(2) CPR ensures that the affixing of the CE marking entails the assumption of responsibility by the manufacturer of compliance with CE marking requirements under not only the CPR, but also under other EU legislation.

The shortcomings identified above are, based on the available information, not expected to generate substantial costs, or to significantly affect the performance of the sector.

4.2.5 Impact on the Performance of the Construction Sector

So far, EDD secondary regulations have been approved for five construction products, with one – solid fuel space heaters – being covered by both EDD requirements and a hEN.²⁶³ The relevant EDD secondary regulation invites to revise the hEN. The call, however, is only mentioned in the recitals, without the hEN revision process being coordinated with the legislative procedure. Stakeholders in the construction product industry have been criticizing this overlap, and the other possible overlaps which may arise in the future if the scope of the EDD and the ELD is widened to other construction products covered by hEN. Construction product manufacturers, being familiar with the CPR and mainly considering the CPR as working well, clearly prefer that construction products are only regulated by the CPR. As a result, energy efficiency requirements could be developed within the current standardisation process based on Basic Requirements, as defined in Annex I to the CPR. Construction product manufacturers consider that having construction products subject to EDD and ELD requirements would create unnecessary and duplicated burdens. In addition, the possibility to CE mark products under both the EDD and the CPR would lead to confusion in the market with regard to the real meaning of CE marking. Importantly, the meaning was clarified only recently with the introduction of the CPR. All in all, based on the information examined, this overlap should not generate substantial costs, and significantly affect the performance of the sector. Nonetheless, this is a clear example of how regulatory requirements are unnecessarily duplicated, contrary to Better Regulation principles.

4.3 Energy-Efficiency Instruments Related to the Construction Sector: Energy Efficiency Directive, Energy Performance of Buildings Directive, and Renewable Energy Sources Directive

The retained acts include three pieces of energy efficiency legislation that impact the construction sector, namely Directive 2012/27/EU (EED), Directive 2010/31/EU (EPBD) and Directive 2009/28/EC (RESO).

4.3.1 Objectives of the Energy Efficiency Directive, Energy Performance of Buildings Directive, and Renewable Energy Sources Directive

The EED, EPBD and RESO were all enacted in the context of the EU commitment to become a highly energy-efficient and low carbon economy. As buildings enshrine a large energy saving potential, all the three Directives aim – to a higher or lesser degree – at tapping this potential.

²⁶³ As this overlap came into existence in 2015, while the Study focuses on costs and benefits during the 2005-2014 period, it is not attributed any cost in the economic analysis.

Therefore, the energy efficiency objectives in these three Directives are compatible and coherent.

The EPBD, EED and RESD all have the common goal to reduce energy consumption and CO₂ emissions – the EED and the RESD targeting the economy in general and the EPBD focusing on buildings – and to achieve the 20-20-20 targets by promoting energy efficiency and use of RES. From a legal perspective, the texts are therefore considered coherent with regards to their general objectives and can certainly complement each other to achieve their respective goals. This was corroborated in the recent 2015 public consultation on the EPBD, where the majority of respondents stated that RES and energy efficiency measures “face similar barriers and can generate synergies in [...] implementation”.²⁶⁴ Many respondents to the 2015 public consultation on the EED have also stressed that, in general, the pieces of legislation on energy efficiency seem to work well with each other. For example, it has been said that “[t]he EED has worked to complement other legislation and works well as a framework directive creating synergies.”²⁶⁵

Although the synergies between the EPBD, EED and RESD are mainly positive, there is also a potential compatibility issue between these three Directives due to the interactions between energy efficiency and RES in buildings: “as buildings become more energy efficient, each additional energy efficiency measure will have diminishing (energy and carbon saving) returns, and renewable energy becomes relatively more cost effective”.²⁶⁶ According to the CA, as long as there is dialogue between policymakers and stakeholders at the EU and national level on the appropriate balance between building-related energy efficiency and renewable energy technologies, this potential compatibility issue can be partially addressed. However, the fact that in almost half of MS the decision makers and officials responsible for implementing building regulation aspects of the RESD/EED and the EPBD were employed in different ministries constitutes an obstacle.²⁶⁷

4.3.2 Scope and Definitions in the Energy Efficiency Directive, Energy Performance of Buildings Directive, and Renewable Energy Sources Directive

Scope. The Study does not show any inconsistency in the **scope of the three instruments**. The EED is seen as providing the general framework for energy efficiency, also in areas where other Directives go into more detail, such as on buildings and products. With regard to buildings, the main pieces of legislation are in particular the EPBD and the RESD that work together with the EED. The following figure illustrates this relationship.

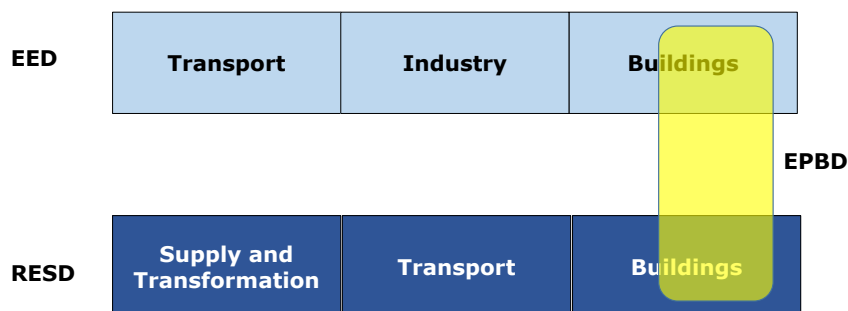
²⁶⁴ See the answers to question 38 in the EPBD Public Consultation.

²⁶⁵ See the reaction of EuroACE to question 1.2 of the 2015 EED Public Consultation.

²⁶⁶ See: CA-RES, WG 4. RES and district heating available at: https://ec.europa.eu/energy/intelligent/projects/sites/iee-projects/files/projects/documents/ca-res_working_group_publication_no_4_en.pdf. (last accessed on April, 2016). See also the example of Sweden. According to Göteborg Energi AB (in their answer to question 1.2 of the 2015 public consultation on the EED), “there is a conflict between RESD and EED. The RESD, supported by EPBD, promotes the use of renewables for heating buildings. In Swedish district heating systems, the main sources of heat are renewables and recovered heat from CHP, waste-to-energy (often co-generation) and industrial waste heat. We believe that priority should be given to recovered heat rather than renewables, since renewables can be put to use elsewhere, which is not the case with recovered heat. The Swedish implementation has put renewables higher than recovered heat, which in practice puts district heating to a disadvantage in comparison to individual heating based on electricity.” The same concern is heard by the Finnish Forest Industries Federation: “EED overlaps the RES target and GHG target. One target which should be GHG target would be optimal solution because then companies and countries could choose the most efficient way to reduce greenhouse gases”. Further, the Confederation of Swedish Enterprise has supported the one target-approach, and thinks that the climate target should be the superior target.

²⁶⁷ FEDARENE stated the following during the 2015 EED Public Consultation, with regard to question 1.2: “An example of the kind of problems that can occur is where different government departments or other public bodies are made responsible for the implementation of different, but overlapping or synergistic legislation, and do not coordinate effectively at national or regional level. For this reason, it would be useful to ‘tidy up’ the legislation at EU level, and make the links and connections clearer, while at the same time checking for full coherence and for any potential contradictions or misinterpretations.”

Exhibit 4.2 Link Between EED, EPBD and RESD



Source : SEAI / CA EPBD III²⁶⁸

Application to SME. The three Directives have considered SME in their scope of application, either explicitly or implicitly. As for the EPBD, neither its recitals (except for recital 19 of the EPBD, which refers to financial instruments) nor any of its provisions refer to SME. The IA on the EPBD does not include either a section on the impact of the Directive on SME. However, as the Directive is explicitly directed to the construction sector, where SME represent about 94% of firms, the EPBD implicitly pays specific attention to them. The RESD acknowledges, in its recitals 3 and 4, that its provisions specifically impact SME. Also Article 14 of the RESD, which deals with training and certification of RES installers, is particularly important for SME: building owners will need the “professional guidance, technical advice and sales services of the large community of experienced and trained construction crafts and SME throughout Europe, which need to become ‘energy advisors’.”²⁶⁹ A particular mention of SME in Article 14 is not provided. Also, the IA on the RESD does not mention SME. The EED, finally, explicitly refers to the fact that “[m]ost Union businesses are SME” and that, therefore, special help is needed for SME to adopt energy efficiency measures, for example MS are obliged to develop programmes to encourage SME to have energy audits (Article 8). The impact of the energy efficiency goals laid down in the EED on SME is largely dealt with within the Directive itself.²⁷⁰ Also the IA on EED regularly refers the specificities of SME.

Definitions. Inconsistencies have emerged regarding the definitions used in the EED, EPBD and RESD, although their practical impact appears to be minimal.

- **Energy.** All three Directives make extensive use of the words ‘energy’, ‘primary energy’, ‘energy from renewable sources’ (or renewable energy) and ‘energy efficiency’, but these terms are not defined in each act, and it is not straightforward why this is not the case. The EED, for example, includes provisions on ‘primary energy savings’ and ‘primary energy consumption’ but ‘primary energy’ is not defined, nor there is a cross-reference to this definition in the EPBD. The definition of ‘energy’, on the other hand, is only explicitly provided for in the EED. ‘Energy from renewable sources’ is defined in both the EPBD and the RESD (but not in the EED) and these definitions are literally the same, hence not leading to any incoherence problem. However, all three legal instruments also use the terms ‘renewable energy sources’ and ‘renewable energy’ (even within the EED’s ‘energy’ definition), instead of opting for a consistent terminology. Further, while the EED provides for a definition of ‘energy efficiency’, an explicit definition – or a cross-reference to the EED

²⁶⁸ J. Magyar (2014), CA EED – Core Theme 6, CA EPBD meeting in Dubrovnik – outcomes on co-ordinated approaches to training and accreditation of experts (EPBD recast Article 17 and EED Article 16).

²⁶⁹ UEAPME (2008) Position of the UEAPME Construction Forum on “Directive on the promotion of the use of energy from renewable sources” (COM/2008/19).

²⁷⁰ Additionally, the EED, which includes a definition of SME in Article 2(26), makes a cross-reference to the definition adopted in the Commission Recommendation 2003/361/EC concerning the definition of micro and SME – hereby enhancing horizontal coherence.

- has not been included in the EPBD or the RESD, even though the term is used multiple times throughout these two directives.
- **Buildings.** The EPBD, the EED, and the RESD include provisions applying to buildings. The EPBD includes definitions related to 'building', 'building envelope', 'building unit' and 'building element' (Art. 2). The term 'building' is not defined in both the EED and the RESD, even though this word is used throughout.
- **New buildings.** While the EPBD defines the term 'building', it does not include a definition or description of what may constitute a 'new building' – to which article 6 is devoted. No confusion or interpretation issues with regard to this term have however been reported.
- **Renovations.** 'Major renovation' is defined in Article 2(10) of the EPBD as "the renovation of a building where: (a) the total cost of the renovation relating to the building envelope or the technical building systems is higher than 25 % of the value of the building, excluding the value of the land upon which the building is situated; or (b) more than 25 % of the surface of the building envelope undergoes renovation."²⁷¹ With regard to the definition of 'major renovation', the EED correctly makes a cross-reference to the EPBD, while the RESD uses the term, but does not provide any cross-reference. The EED further uses other terms similar to major renovation, such as 'substantial refurbishment', 'deep renovation' and 'comprehensive renovation'. The first of these terms is defined in Article 2(44) EED, but a definition of 'comprehensive renovation' is lacking and a clear definition of 'deep renovation' can only be found in recital 16 and the Article 6 guidance document. This guidance document states the following: "Although 'deep renovations' are not defined in the Directive, Recital 16 refers to them as renovations 'which lead to a refurbishment that reduces both the delivered and the final energy consumption of a building by a significant percentage compared with the pre-renovation levels leading to a very high energy performance.' This implies that such renovations must at least go beyond the minimum efficiency requirements set under the EPBD." The term 'deep renovation', used in the EED, is explained by the Commission by making a direct reference to the EPBD, hence creating an unmistakable link between the EED and the EPBD.

While a greater consistency would be certainly desirable from a strictly legal point of view, neither the literature and jurisprudence reviewed nor the stakeholders consulted, have highlighted situations in which definition-related issues have resulted in any tangible consequence for construction sector operators.

Some stakeholders, in the public consultation on the review of progress on the 2020 energy efficiency objective, called for a revision of the EPBD and relevant parts of the EED "to include a measurable definition of deep renovations and a quantifiable objective to accelerate deep renovations of residential and tertiary buildings".²⁷² Related hereto, also an EU-wide definition of 'staged deep renovation' would be welcomed by energy efficient stakeholders, as there are different definitions at MS level.²⁷³ The need for aligning the definition of 'renovation' was also mentioned by several respondents to the OPC and in follow-up stakeholder contributions. However, construction sector operators appear to have a more lukewarm attitude, as some fear that such definition may not be easily adaptable to the different country contexts, preferring to rely on common business practice (based upon costs of the work, complication of the work, historical elements of the building, need for specialised staff, etc.). The question of what a definition of 'deep renovation' (or refurbishment or retrofit) at EU level could be has been tackled by, inter alia, the Global Buildings Performance Network. According to its research, "the definition of deep renovation varies between the regions. In Europe most definitions focus on heating, cooling, ventilation and hot water and the general understanding is that these should lead to an

²⁷¹ Recital 16 of the EPBD explains this definition by stating that "MS should be able to choose to define a 'major renovation' either in terms of a percentage of the surface of the building envelope or in terms of the value of the building."

²⁷² European Commission (2014), Report of the public consultation on the review of progress on the 2020 energy efficiency objective, at p.9 available at: https://ec.europa.eu/energy/sites/ener/files/documents/2014_summary_report_energy2020.pdf (last accessed in May 2016).

²⁷³ Ecofys, Public Consultation on the Evaluation of the EPBD, Final Report, Nov. 2015.

improvement of at least 75 % in the before and after performances of the treated building”.²⁷⁴ Notably, the majority of construction stakeholders interviewed during the course of this study have pointed out that any definition of major or deep renovation may well be in line with national legislation, but does not necessarily comply with common business practice. For construction companies, a major renovation is simply a renovation work that implies considerable costs or a complicated renovation work, for example because the historical elements of the building are imposing some limits, or because highly specialised staff or highly technological solutions are required.

4.3.3 Substantive Requirements Established by the Energy Efficiency Directive, Energy Performance of Buildings Directive, and Renewable Energy Sources Directive

Several areas can be identified where the EED, EPBD and RESD may potentially overlap or create synergies. Here below, three areas are devoted to a specific analysis: (i) public buildings; (ii) certification of buildings and building units; and (iii) accreditation and trainings of experts.

Public Buildings. The EED, EPBD and RESD all include provisions in relation to: (i) public buildings and/or buildings owned by the central government; and (ii) the exemplary role of the public sector in the area of energy efficiency. Art. 5 of the EED stipulates that central governments should play an exemplary role in energy efficiency through the renovation of the buildings that they own or occupy and which do not meet the minimum efficiency requirements set under the EPBD (Article 4 and Annex I). The article also contains obligations for MS to encourage public bodies at regional and local level to follow the central government’s exemplary role (art.5 (7)).²⁷⁵ Article 13 of the EPBD relates to the issuance and display of the public authorities’ EPC, while Article 11 urges the public authorities to lead by example as for the implementation of the recommendations included in the EPC. The exemplary role of public buildings (this time with regard to the use of renewable energy technologies) is further emphasised in Article 13(5) of the RESD. As the three Directives all emphasise the exemplary role of public bodies’ buildings, there is some overlap between the legislative provisions for public buildings, but, in practice, many stakeholders have emphasised their positive synergies, especially in relation to the energy efficiency of public buildings and public purchases.²⁷⁶ However, some stakeholders stated during the 2015 public consultation that the EED has clear overlaps with the EPBD, especially with regard to the exemplary role of public bodies’ buildings, suggesting that the related provisions do not work together but instead work in parallel to each other.²⁷⁷ Therefore, a “thorough harmonization and coordination” is asked for by these stakeholders.

Schemes Related to the Assessment of a Building (Unit). Both the EED and the EPBD include provisions on the assessment of the energy performance / energy consumption of a building / building unit. In the two acts, four different schemes are set up to assess the energy efficiency of a building (unit) by an expert.²⁷⁸ These schemes are as follows:

- EPC of residential buildings
- inspection of heating systems
- inspection of air-conditioning systems
- energy audit of large companies, which can include their buildings.

The Commission guidance note on Article 8 of the EED²⁷⁹ already explored the synergies (and

²⁷⁴ Shnapp, S., Gibert, R.S. and C. Higgins (2013), How can we renovate deeply if we don’t know what that is?, ECEEE Summer Study proceedings, pp. 1617 and ff., at p. 1617.

²⁷⁵ CA EED (2014), Following central government exemplary role in building renovation, Executive Summary Report 2.3, Core Theme 2 - Public Sector: public buildings and public purchasing, Working Group 3.

²⁷⁶ See the answers respondents to question 1.2 of the 2015 EED Public Consultation.

²⁷⁷ See the reactions to question 1.2 of the 2015 EED Public Consultation.

²⁷⁸ A fifth scheme, the voluntary energy performance certification of non-residential buildings under 11(9) of EPBD, has not yet been adopted.

²⁷⁹ Commission Staff Working Document, Guidance note on Directive 2012/27/EU on energy efficiency, amending Directives 2009/125/EC and 2010/30/EC, and repealing Directives 2004/8/EC and 2006/32/EC, Article 8: Energy audits and energy management systems, Accompanying the Communication from the

encourages MS to explore the synergies) between the EPBD and the EED in this regard. The document noted that while the previous directive on energy end-use and services granted the equivalence between the EPBD EPC and the energy audit, this is no longer the case, as “in recognition of the wider scope of energy audits under Article 8 of the EED, the EED no longer keeps this equivalence.”²⁸⁰ Indeed, EED-mandated energy audits are wider in scope, and are based on actual consumption data. However, “it is possible that in specific cases [...] certification and/or inspections under the EPBD in a given MS may fulfil the requirements of Article 8 and Annex VI of the EED.”²⁸¹ The overlap between EED energy audits and EPBD EPC was also underlined by several respondents to the OPC. The CA EPBD stressed that “[o]n the one hand, inspections tend to be seen not only as a check of proper maintenance, but also as an assessment of the energy efficiency of the systems. On the other hand, the system performance is assessed as part of the overall building performance [...]. There are several interactions that might occur between maintenance, inspections and certification procedures”²⁸².

Harmonization and coordination at a practical and national level is, nonetheless, not straightforward. In most countries, regular inspections / certifications and energy audits are managed by different public authorities and under different legislation.²⁸³ The establishment, at national or regional level, of 'one-stop-shops' for delivering independent, tailor-made advice to homeowners, covering both technical and financial aspects of energy efficiency is therefore to be advocated. Further, according to CA EPBD, the regular inspection procedure is generally well-defined, while the audit procedure has not yet been properly established in many MS. Additionally, reporting templates for inspections and energy audits are different, reflecting their different purposes and procedures. Indeed, the content and methods of the EPC, the inspection reports and the energy audits differ as to their technical difficulty and complexity.²⁸⁴ Nevertheless, respondents to the 2015 public consultation on the EPBD have suggested to link inspections with the energy audit requirements and the energy service providers laid down in the EED.²⁸⁵ The question of possible inconsistencies in national implementation of provisions on EPCs, in the EPBD, and of energy audits, in the EED was addressed in the Commission Communication on implementing the Energy Efficiency Directive²⁸⁶ and its accompanying Staff Working Document SWD (2013)447, where the link between the obligations on energy audits in large enterprises and the obligations to issue Energy Performance Certificate for buildings for rent or sale are explained. The SWD provides guidance for MS to ensure that national transposition measures exploit synergies between both pieces of legislation.

To conclude, the Commission has undertaken efforts to highlight the synergies between the EPBD and the EED related to energy efficiency audits but harmonization and coordination at the national level of EPCs should be further enforced. However, as the obligations regarding the certification of buildings and building units typically fall on the owners, the above considerations have limited impact on construction firms, whereas the lack of coordination among the various schemes may ‘artificially’ increase the revenues of the professionals involved in certification activities.

Accreditation and Training of Experts. The EPBD, EED and RESD all create legal obligations for MS to ensure that the experts, inspectors, energy auditors and installers may have the necessary accreditations and qualifications. The importance of training the experts is also underlined. However, where certification in the EPBD, and to some extent the RESD, covers a subset of the energy professions that can be certified under the EED, the qualification/accreditation schemes may overlap to a rather large extent. In addition, qualification

Commission, Implementing the Energy Efficiency Directive – Commission Guidance, SWD(2013)447. Hereinafter ‘EED Commission Guidance’.

²⁸⁰ *Ibid.* at §8.

²⁸¹ *Ibid.* at §9.

²⁸² CA EPBD (2010), Certification – Core Theme 1.

²⁸³ *Ibid.*

²⁸⁴ See also on the differences between the inspections and the audits: B. Young (2014), Core Theme 2, 6th Energy Efficiency Co-ordination Group Meeting, CA EPBD.

²⁸⁵ See the answers to question 75 and question 76 in the EPBD Public Consultation.

²⁸⁶ COM (2013)762 final.

and training remains a competence of MS, leading to different approaches with regard to the accreditation and/or qualification schemes and to the training programmes. Also the certification and qualification schemes for installers of small-scale RES in buildings are very diverse from one MS to another. The lack of a better coordination may result in entry costs, and thus barriers, in the various markets for professionals.

The Commission guidance note on Article 8 of the EED²⁸⁷ explicitly states that synergies should be explored and consistency should be ensured between the qualification/certification criteria and schemes of the EED and the EPBD. The CA EPBD has recognised that there are “significant potential interactions or intersections between the obligations and needs to be addressed by provisions in both the EPBD and EED regarding training, accreditation, certification and registration of experts”²⁸⁸. Moreover, there is not only synergy, but also overlap “where certification in the EPBD, and to some extent the RESD, covers a subset of the energy professions that can be certified under the EED”²⁸⁹. This hangs closely together with the following two considerations:

- The EPBD increasingly focuses on the integration of RES when calculating the ‘minimum requirements of energy performance of buildings’.²⁹⁰
- The scope of the EED is much wider than the scope of the EPBD and energy auditing, hence, requires a wider range of professional experience and broader knowledge than inspections alone. The EPBD experts are thus a subset of and may provide useful input to the energy audits in the EED. For example, it is possible for qualified energy auditors in the framework of the EED to be recognised as qualified experts to deliver EPC of buildings. Qualified experts to deliver EPC of buildings could thus be targeted for training to become qualified energy auditors.²⁹¹

All qualification/accreditation schemes and training programmes can have the same basis, but differ in the details. There is, hence, the possibility to create true synergies and avoid duplicated efforts. The different accreditation/qualification schemes and modalities foreseen in all three Directives correspond to different needs. One important recommendation, in order to create synergies is to work upon one harmonised set of definitions with regard to schemes for quality assurance. These schemes now have different names (including certification, qualification, label and accreditation) – at EU level and at national level - and the meaning of these words can be quite different from one country to another.²⁹²

However, also in this case, harmonization and coordination at MS level is not straightforward. Qualification and training remains a competence of MS and, in most MS, different ministries are responsible for the various qualifications. Furthermore, the existing certification and qualification schemes for installers of small-scale RES systems in buildings are so diverse among themselves that any harmonization with the schemes and training programmes foreseen under the EED and EPBD is impeded.

To conclude, there is a high potential for overlap between the EED, EPBD and, partly, RESD with regard to the accreditation and training systems for experts. Further coordination and integration, at EU and at national level, is recommended.

4.3.4 Conclusions

The comparative analysis of the EED, EPBD and RESD confirms that there is great synergy with regard to their objectives. The conclusion that external coherence does not raise a major issue

²⁸⁷ Cf. EED Commission Guidance

²⁸⁸ CA EPBD (2015), Training – Overview and Outcomes.

²⁸⁹ CA EED (2015), Consumer information programmes, training and certification of professionals.

²⁹⁰ CA EPBD (2015), Training – Overview and Outcomes.

²⁹¹ EED Commission Guidance

²⁹² This recommendation has also been given by ADEME with regard to the RES industry. See ADEME (2012), QualiCert Publishable report - Quality certification & accreditation for installers of small-scale renewable energy systems, supported by Intelligent Energy Europe.

fits with the conclusions of the Public Consultation on the EPBD and with the EPBD Evaluation Study.

There are some important overlaps between the EED, EPBD and RESD which may impact on the construction sector. Further to the differences in definitions and scope, the most important issue relates to the certification of buildings and building units (EPC, inspections and energy audits), and their related certification/qualification schemes and training programmes. Due to the existence of some overlaps with regard to the more substantive requirements of the EED, EPBD and RESD, a number of stakeholders suggest fully integrating the energy performance of buildings in the EED²⁹³ or to have only one directive entirely focusing on buildings (i.e. separating the EED into two directives – one for industry and another one for the building sector)²⁹⁴, due to the varying nature of the different sectors covered under the EED. The report on the 2014 public consultation on the review of progress on the 2020 energy efficiency objective, in turn, suggests that the building-related provisions of the EED (i.e. Articles 4 and 5) should be incorporated in the EPBD to have a “single and powerful policy instrument”.²⁹⁵ Similarly to this suggestion, the report on the 2015 EPBD public consultation states that a single and robust renovation strategy should be required, “rather than provisions under EPBD and under EED separately and linking to each other”.²⁹⁶ On the whole, numerous stakeholders are of the opinion that it is confusing that the energy performance of buildings is targeted in three different directives.

4.3.5 Impacts on the Performance of the Construction Sector

Both the EED and the EPBD regulate how the energy performance or consumption of a building or building system is to be assessed. In particular, the two directives provide for four schemes, namely: (i) the EPC of residential buildings; (ii) reports on the inspection of heating systems; (iii) reports on the inspection of air-conditioning systems; and (iv) energy audits of large companies. As energy audits are larger in scope than the EPC, under the current guidance documents the two schemes are no longer equivalent. This overlap can produce at least three different effects which are not necessarily negative for the construction sector. In particular, this may create: (i) costs of familiarisation for experts; (ii) additional revenues for experts; and (iii) costs for construction companies.²⁹⁷

Furthermore, the guidance note of the EED explicitly states with regard to the accreditation and training of experts that synergies should be explored and consistency ensured between the qualification/certification criteria and schemes under the EED and the EPBD. In addition, synergies are also possible with the accreditation and training of RESD experts. The existing potential for synergies, however, is still untapped. In particular, qualification/accreditation schemes and training programmes are not required to have a common basis and are adapted to the various categories of energy efficiency building experts through a modular structure. As a result, the schemes are different for each category, and in some cases even managed by different public administrations at national/regional level. Once again, in the absence of a better coordination entry costs, and thus barriers, may arise in the various markets for professionals.

²⁹³ See the reactions to question 1.2 of the 2015 EED public consultation. See also: Report of the public consultation on the review of progress on the 2020 energy efficiency objective, 2014, available at: https://ec.europa.eu/energy/sites/ener/files/documents/2014_summary_report_energy2020.pdf

²⁹⁴ Anonymous contribution to question 1.2 of the 2015 EED public consultation.

²⁹⁵ European Commission (2014), Report of the public consultation on the review of progress on the 2020 energy efficiency objective, available at: https://ec.europa.eu/energy/sites/ener/files/documents/2014_summary_report_energy2020.pdf (last accessed on May 2016).

²⁹⁶ EPBD Evaluation Study, at p. 160.

²⁹⁷ See more in detail Section 5.5 below, in particular EQ 9.

4.4 Instruments Applicable to the Provision of Services in the Construction Sector: Services Directive, Professional Qualifications Directive, and Late Payments Directive

The retained acts include two instruments applicable to the cross-border provision of services in the construction sector, namely the Directive 2006/123/EC on services in the internal market (SD) and the Directive 2005/36/EC on the mutual recognition of professional qualifications (PQD), as amended in 2013. Furthermore, another Directive has an impact on construction service providers, that is Directive 2011/7/EU on late payments (LPD), and this is also considered in this Section.

4.4.1 Objectives of the Services Directive and the Professional Qualifications Directives and their Relevance to the Construction Sector

The SD and PQD aim at making the free provision of services within the Community as simple as within an individual MS. They share the same general objective of removing obstacles to the free movement of services and enhancing professional mobility in the EU through different complementary measures, in line with the requirements of the TFEU.²⁹⁸ They concern both construction companies as well as construction-related professional services. The objectives of the SD and PQD are overall considered complementary and coherent. Implementation reports on the SD and PQD²⁹⁹ and stakeholders do not point to inconsistencies among their objectives. In spite of progress made, the 2015 Communication on Upgrading the Single Market however still identifies several obstacles affecting mobility of professionals across MS.³⁰⁰ These issues of implementation and how they may affect the coherence of the instruments will be discussed below.

4.4.2 Scope and Definitions of the Services Directive and the Professional Qualifications Directive

The analysis did not reveal any material issue regarding the **scope of the two instruments**. While the PQD covers the recognition of professional qualifications, use of titles and knowledge of languages as well as any other requirements under national legislation restricting access to a profession, the SD deals with other requirements, such as tariffs, legal form requirements or ownership requirements, among others. The SD covers a large variety of sectors ranging from traditional activities to knowledge-based services, including services in the construction sector.³⁰¹ Therefore, both Directives are considered to complement each other whilst covering different aspects of the free movement of professionals.³⁰²

As mentioned in recital 31 of the SD, the Directive “is consistent with and does not affect Directive 2005/36/EC [...]. With regard to temporary cross-border service provisions, a derogation from the provision on the freedom to provide services in this Directive ensures that Title II on the free provision of services of Directive 2005/36/EC is not affected. Therefore, none of the measures applicable under that Directive in the MS where the service is provided is affected by the provision on the freedom to provide services.” For matters not relating to professional qualifications, the “Services Directive” applies to those regulated professions that fall within its scope.

²⁹⁸ Article 3(1) (c) of the Treaty establishes the abolition of obstacles to the free movement of persons and services as one of the objectives of the Community. For nationals of the MS, this includes, in particular, the right to pursue a profession, in a self-employed or employed capacity, in a MS other than the one in which they have obtained their professional qualifications. Article 47(1) of the Treaty lays down that directives shall be issued for the mutual recognition of diplomas, certificates and other evidence of formal qualifications.

²⁹⁹ Communication from the Commission on the implementation of the Services Directive. A partnership for new growth in services 2012-2015, COM(2012)261, hereinafter ‘Communication on the implementation of the SD’; PQD Evaluation; Communication from the Commission on Evaluating national regulations on access to professions, COM(2013)676; and Commission Staff Working Document, Detailed information on the implementation of Directive 2006/123/EC on services in the Internal Market, SWD(2012)148.

³⁰⁰ Communication from the Commission, Upgrading the Single Market: more opportunities for people and business, COM(2015)550.

³⁰¹ Communication on the implementation of the SD.

³⁰² Commission Staff Working Document on the transposition and implementation of the PQD, SEC(2010)1292.

Consistency in the definitions is ensured through a specific cross-reference to the PQD in the definition of ‘regulated professions’ under the SD.³⁰³ Regulated profession is defined in the SD as ‘a professional activity or a group of professional activities as referred to in Article 3(1)(a) of the PQD’.

4.4.3 Substantive Requirements of the Services Directive and the Professional Qualifications Directive

The SD and PQD refer in several instances to the mutual complementarity of the requirements established under each instrument, with a view to achieve the internal market for services. Also, several initiatives have been undertaken to improve the coherence of the parallel complementary procedures under the SD and the PQD, with a view to enhance the mobility of professionals in the EU. All in all, no major overlaps, but rather synergies, both realised and potential, have been identified between the SD and the PQD. Stakeholders reported no major issues as well. For instance, as noted by the Architect’s Council of Europe, the interplay between the SD and the PQD appears to work reasonably well as far as the architectural profession is concerned.³⁰⁴

The 2011 evaluation of the PQD identified several areas where the coherence and interaction between the procedures under both Directives could be enhanced. For instance, the Commission proposal for the 2013 review of the PQD noted that the obligations for MS to exchange information had to be reinforced similar to the alert system existing under the SD.³⁰⁵ The proposal also noted that complexity and uncertainty of administrative procedures under the PQD is one of the major difficulties for a citizen interested to work in another MS. The report noted that the single points of contact established under the SD should be used for the purposes of the PQD. Such changes have been introduced in the amended PQD, which, for instance, requires MS to ensure that certain information is available online and regularly updated through the points of single contact referred to in Article 6 of the SD and that all requirements, procedures and formalities relating to matters covered by the PQD may be easily completed, remotely and by electronic means, through the relevant point of single contact or the relevant competent authorities.

Following the positive experience with the mutual evaluation under the SD, the European Commission proposal also recommended that a similar evaluation system should be included in the PQD, with a view to contribute to more transparency in the professional services market. A similar exercise of mutual evaluation has thus started under the PQD. Each MS will be required to actively perform a review and to modernise their regulations on access to professions and professional titles.³⁰⁶

On the negative side, problems sometimes arise from misinterpretation of Annex VII PQD, which sets out evidentiary rules for certain requirements but does not govern them substantively: compliance with requirements such as good repute, physical or mental health, financial standing, insurance or absence of criminal convictions is proven in accordance with Annex VII PQD, but the imposition of such requirements is governed by the SD, namely by Articles 15(2) (d) and 23 SD.

4.4.4 Inconsistencies at Member State Level

In spite of progress made towards the achievement of the internal market for services, the 2015 Communication on Upgrading the Single Market still identifies several obstacles in relation to the SD and the PQD, which affect mobility of professionals in other MS.³⁰⁷ The 2012 performance

³⁰³ Article 4, 2006/123/EC on services in the internal market

³⁰⁴ Architect’s Council of Europe, Response to consultation on the internal market for services. 2 May 2015.

³⁰⁵ Proposal for a Directive of the European Parliament and of the Council amending Directive 2005/36/EC on the recognition of professional qualifications and Regulation on administrative cooperation through the Internal Market Information System, COM(2011)883.

³⁰⁶ Communication from the Commission on Evaluating national regulations on access to professions, COM(2013)676.

³⁰⁷ Communication from the Commission, Upgrading the Single Market: more opportunities for people and business, COM(2015)550, 2015.

checks of the internal market for services, which focused also on the construction sector, noted that while the objectives of these Directives are shared, a number of significant challenges still exist for businesses, in particular when they intend to provide services in other MS.³⁰⁸ The report noted that businesses are often confronted with requirements imposed on them in addition to those to which they are subject in the MS where they are established. The 2012 State of play of the internal market in the construction sector³⁰⁹ noted that the level and intensity of regulation of the activities of the construction sector and the regulatory options taken vary considerably between the MS.³¹⁰ Business Europe noted in 2014 that the high number of regulated professions in some MS hampers cross-border service provision or establishment, and stressed the importance of the evaluation exercise taking place under the SD and PQD to remove such barriers.³¹¹

The Commission Staff Working Document on the results of the performance checks highlights a number of instances of deficient implementation of the SD and the PQD which jointly affect the mobility of professionals in the construction sector.³¹² The report points, for instance, to the fact that, in the construction sector, some MS carry out prior checks of qualifications for professions that should benefit from automatic recognition, such as architects. It also identifies additional notification or authorisation obligations and insurance obligations. Moreover, the Ecorys SD Study identified several horizontal authorization schemes which do not appear justified on the basis of the SD, with stakeholders noting that there are still important problems with the provision of services in another MS. For example, stakeholders pointed to problems relating to the understanding of documentary requirements (e.g. whether a translation is required), the limitation to locally registered professionals for submitting designs when applying for building permits, or very costly insurance obligations to be recognised in other MS. Finally, the Ecorys SD Study found that: “many companies choose not to work cross-border due to these problems. If cross border services are provided, a number of different strategies are used to circumvent problems, such as setting up a joint venture with a local company, or hiring a local architect or firm to handle administrative procedures.”³¹³

The performance check for the construction sector notes that the *cumulative application* of internal market rules at national, including the SD and PQD, lacks consistency and coherence.³¹⁴ For example, tariff or legal form requirements applicable to certain professional services cannot be tentatively applied to cross-border providers on the basis of Article 5(3) of the PQD (since they are not directly linked with professional qualifications). MS are only allowed to impose such rules on cross-border service providers if they are justified under Article 16 of the SD. Article 16 SD ensures that MS shall not make access to or exercise of a service activity in their territory subject to compliance with any requirements which do not respect the principles of non-discrimination, necessity and proportionality and prohibits the introduction of specific requirements affecting the free provision of services, such as residency or authorisation requirements, in national legislation. The 2015 Communication on upgrading the single market announced a first step aiming to enhance the notification procedure for MS, to enable the Commission to verify the conformity and proportionality of new regulatory measures adopted in the MS possibly affecting the free movement of services.³¹⁵

The problems highlighted above are confirmed by stakeholders throughout the interviews carried out under this Study. Several stakeholders highlight problems with the implementation of the SD

³⁰⁸ Commission Staff Working Document on the result of the performance checks of the internal market for services (construction, business services and tourism)) accompanying the Communication on the implementation of the SD, SWD(2012)147, hereinafter ‘Results of the performance checks’.

³⁰⁹ 2012 State of play of the internal market in the construction sector, Background Note Expert Group Meeting 22nd March 2012.

³¹⁰ *Ibid.*

³¹¹ Business Europe, “Remaining obstacles to a true single market for services”, 15 December 2014.

³¹² Cf. Results of the performance checks.

³¹³ Ecorys SD Study, at page, at p. 17.

³¹⁴ Cf. Results of the performance checks.

³¹⁵ Communication from the Commission, Upgrading the Single Market: more opportunities for people and business, COM(2015)550.

and PQD in the construction sector affecting the freedom to provide services in another MS. For example, one stakeholder noted that certain MS only accept documents authenticated by local professionals, such as translators or notaries. Another stakeholder notes that there is, to some extent, in practice an obligation to hire local people instead of working with people from their country of establishment with equivalent requirements due to the practical obstacles on the ground.

4.4.5 Directive 2011/7/EU on Late Payments

The LPD aims at contributing to the free provision of services through eliminating obstacles to the internal market resulting from the late payments of invoices. Nevertheless, it regulates a different matter than the SD and PQD. The correct implementation of the LPD should however contribute to a level-playing field for EU construction businesses providing services in another MS, in particular for SME. No specific inconsistencies were raised between the LPD and the SD or PQD in the implementation reports and interviews with stakeholders.

4.4.6 Conclusions

The objectives of the SD and PQD are overall considered complementary and coherent. Implementation reports and stakeholders do not point to inconsistencies among the general and specific objectives of both instruments. The PQD covers the recognition of professional qualifications, use of titles and knowledge of languages. The SD deals with other requirements hindering the provision of services in another MS, including, for example, tariffs, legal form, or ownership requirements. Therefore, the two Directives are considered to complement each other whilst both covering different aspects of the free movement of professionals.

The Directives cross-refer to each other in several instances, including the definitions. The 2011 evaluation of the PQD identifies several areas where the coherence and interaction between the procedures under both Directives could be enhanced. Such changes have been introduced in the amended PQD, which now, for instance uses the PSC referred to in Article 6 of the SD for making available information on the PQD and for easy and remote completion of all requirements, procedures, and formalities.

While the substantive requirements of the SD and PQD have been largely aligned, the implementation of the free movement of services in the construction sector in practice still raises important problems at national level. Stakeholders note, for instance, that mutual recognition in the construction sector is still not working in certain cases. The Commission Staff Working Document on the results of the performance checks highlights a number of instances of deficient implementation of the SD and the PQD, which jointly affect the mobility of professionals in the construction sector. These concern authorisation requirements for automatically recognised professions (i.e. architects), residence or nationality requirements and insurance obligations. The performance check for the construction sector also notes that the *cumulative application* of internal market rules, including the SD and PQD, lacks consistency and coherence.

While the LPD ultimately also aims at contributing to the free provision of services due to the elimination of obstacles from the late payments of invoices, it regulates a different matter from the SD and PQD. The overarching purpose of the Directive is to facilitate the functioning of the internal market through the elimination of barriers related to cross-border commercial transactions. No specific inconsistencies were raised between the LPD and the SD in the implementation reports and interviews with stakeholders.

4.4.7 Impact on the Performance of the Construction Sector

The implementation of the SD for the construction sector at national and local level is far from being perfect. In particular, (i) the SD was mostly implemented through horizontal regulations, without any specific provisions relating to the construction sector being introduced; (ii) the principles implementing the SD usually did not affect administrative procedures, especially at local

level; and (iii) in many cases, the expertise, skills and manpower to properly implement the SD was lacking in local authorities. As a result, both the studies and reports by the Commission and the empirical findings of this Study identified a set of persisting regulatory barriers hampering the activity of construction companies. In addition, the cumulative application of Internal Market rules, including both the SD and the PQD, is also lacks inconsistent and incoherent. As a consequence, operators are likely to be prevented from exploiting the full economic potential of the construction service sector, at both domestic and cross-border level. Hence, reducing these barriers, while maintaining a level playing field for market operators, would, on the one hand, increase competition, reducing prices and improving the quality for consumers, and, on the other, stimulate additional economic activities, leading to an increase in the GDP and the creation of new jobs. The scale of these missed benefits depends on (i) how significant regulatory barriers remain across and within each MS; and (ii) what additional cross-border potential can be exploited by EU construction operators.

4.5 Other Coherence Issues

4.5.1 Energy Performance of Buildings and Energy Efficiency Directives vs. Ecodesign and Energy Labelling Directives

The EPBD and the EED are generally considered to be “the EU’s main legislation when it comes to reducing the energy consumption of buildings”.³¹⁶ In addition, the ELD and the EDD mainly focus on the consumption of energy-related products (e.g. heating and lighting).³¹⁷ As the inspection of heating and air-conditioning systems – which are energy-related products – is laid down in the EPBD, the EPBD is already often linked to the EDD and the ELD. Equally, the energy-related products possibly in scope of the EDD and the ELD, though not covered by any secondary regulation so far (e.g. windows or insulation materials), can have a direct impact on the energy performance of buildings (i.e. EPBD).³¹⁸

Scope of the EED, EPBD, EDD and ELD. Within the context of the Roadmap to a Resource Efficient Europe³¹⁹ and the Strategy for the Sustainable Competitiveness of the Construction Sector and its Enterprises³²⁰, these directives aim to improve the energy performance of buildings, building systems and elements throughout their lifecycle.³²¹ Each has its specific scope, as the EED focuses on energy efficiency in general, the EPBD focuses on the energy performance of buildings, and the EDD and ELD both establish particular requirements and/or means to provide information on energy consumption for energy-related products. It is to be noted that the ELD addresses the supply side of the product markets, while the EDD addresses the demand side, and the EPBD and EED address both sides. The EPBD and the EDD/ELD do not overlap with regard to their objectives, as the EPBD focuses on the building level, components and systems, while the EDD and the ELD target energy-related products.

Definitions. While the EPBD includes definitions for ‘technical building system’ and ‘air-conditioning system’, similar wording is used in the EDD, without however providing a definition or a cross-reference to the EPBD. Equally, the EDD includes a definition of ‘components and sub-assemblies’, while the EPBD uses the word ‘components’ without referencing a definition. The EPBD Evaluation Study has therefore concluded that “to support implementation, the definitions within the Directives (as e.g. definitions of ‘system’ or ‘component’) could be streamlined”.³²² It is to be further noted that none of the directives includes a definition of ‘energy efficiency’ even

³¹⁶ <https://ec.europa.eu/energy/en/topics/energy-efficiency/buildings> (last accessed in April 2016)

³¹⁷ See also Communication from the Commission on Resource Efficiency Opportunities in the Building Sector, COM(2014)455.

³¹⁸ EPBD Evaluation Study, at p. 163.

³¹⁹ Communication from the Commission on Roadmap to a Resource Efficient Europe, COM(2011)571.

³²⁰ Communication from the Commission on Strategy for the sustainable competitiveness of the construction sector and its enterprises, COM(2012)433.

³²¹ See also, with regards to the environmental performance of buildings, Communication from the Commission on Resource Efficiency Opportunities in the Building Sector, COM(2014)455.

³²² *Ibid.*

though these words are used throughout. Therefore, this Study suggests to add a definition of 'energy efficiency' aligned with the EED.³²³ The lack of streamlined definitions does, however, not impact the construction sector.

Technical building systems. According to Article 8 EPBD, MS are to set system requirements for new technical building systems, their replacement and upgrading, including at least heating systems, hot water systems, air-conditioning systems and large ventilation systems. According to a recent study from Ecofys, several stakeholders have argued that incoherence issues with the EDD/ELD may arise related to the regulation of systems, although their comments generally lack argumentation.³²⁴ For example, some have stated that optimizing individual products could be to the detriment of system performance, hence concluding that product and system approaches could be in conflict. However, no example has been put forward, and the argument has therefore lost its attractiveness. After having indeed considered all arguments, Ecofys reached the conclusion that "[overall, the products and systems approach (under E[D]D/ELD and EPBD respectively) may be considered compatible, and may complement each other to realize a large energy savings potential. The E[D]D and ELD guarantee a good quality of the individual heating product, also if used for retrofit, while the EPBD addresses the performance of the whole building, mainly for new buildings." However, ecodesign requirements for individual product groups which are created under the EDD and which are laid down in specific regulations may overlap with Article 8 EPBD. An example mentioned in the Ecofys Study is the "package label" for boilers.³²⁵ Ecofys also added that the potential for contradictions would probably grow with provisions of Ecodesign on energy related products, which are also addressed by component requirements of the cost optimality process under the EPBD."³²⁶ Therefore, the Ecofys Study recommends "to explore potentials for including system aspects in regulations made under the EDD and ELD".³²⁷

Inputs and outputs. Articles 3 to 7 of the EPBD relate to the calculation of the energy performance of buildings, the methodology of which shall be adopted at national or regional level. As the EPBD uses the EU-wide primary energy factors to calculate the efficiency requirements of building systems, it is recommended that these are also used in the context of the EDD and ELD – even though there are arguments against, as these energy factors may not always take into account the technology used.³²⁸ In short, the EPBD, EDD and ELD would be more consistent if the required tests and measurements under the EDD and ELD were made directly compatible with the required data inputs under the EPBD.³²⁹ It is to be noted that Ecofys refers to 'Mandate M480 for updating the set of European Committee for Standardisation (CEN) standards underlying the recast of the EPBD' and that "[during recent discussions in M480, the argument came up that the CE marking, which is governed by the Common Provisions Regulation, might also be the place to

³²³ This suggestion has also been included in Draft Opinion of the Committee on the Environment, Public Health and Food Safety for the Committee on Industry, Research and Energy on the proposal for a regulation of the European Parliament and of the Council setting a framework for energy efficiency labelling and repealing Directive 2010/30/EU (COM(2015)0341 – C8-0189/2015 – 2015/0149(COD)).

³²⁴ Ecofys (2014), Final technical report Evaluation of the Energy Labelling Directive and specific aspects of the Ecodesign Directive Report for DG ENER (hereinafter, referred to as the 'Ecofys Study'). See in particular pp. 43-44.

³²⁵ See, e.g., EPBD Evaluation Study: "The Ecodesign Directive sets requirements of products such as boilers or air-conditioners and as such does in principal not create an overlap with the EPBD. An exception is the new "package label" for boilers that does create an overlap with the system requirement Article 8 of the EPBD. It remains to be seen whether this overlap will lead to issues in implementation. As a product-specific approach (e.g., an energy efficient boiler) does not consequently lead to an energy efficient building. It is important to reach for the highest efficiency in products to support energy efficiency in buildings and to reduce energy costs. But the highest overall efficiency will only be reached by optimising the entire system by effectively matching – if applicable e.g. in replacements or upgrades new and existing – components [DENA, 2011]. It can be concluded that the product approach of the ED and the system efficiency approach of the EPBD are complementary approaches, with the exception of the package label for boilers."

³²⁶ Ecofys Study, at p. 164.

³²⁷ Ecofys Study, at pp. 4-5.

³²⁸ More information on the primary energy factors, and on the compatibility with the EPBD, can be found *ibid.*

³²⁹ EPBD Evaluation Study, at p. 164.

define technical parameters that can be used as input into calculations of the energy performance of buildings rather than using Ecodesign for that purpose.”³³⁰

Conclusions. The EED, EPBD, EDD and ELD all have complementary objectives which are well aligned with each other and which do not overlap, given that the directives focus on energy efficiency at different levels in the building chain³³¹. Their synergies could be strengthened by streamlining the concepts of ‘system’, ‘product’ and ‘component’ and by focusing on overall system efficiency instead of single-minded measures. Further fragmentation can be avoided by requiring that the outputs under the EDD and ELD are directly compatible with the inputs under the EPBD. This conclusion is supported, inter alia, by the results from the ³³²ex-post evaluation of the EPBD and by the results from the evaluation of the EDD.³³³

4.5.2 Energy Performance of Buildings Directive vs. Construction Product Regulation

A link exists between the EPBD and the CPR, as the latter establishes harmonised rules for the marketing of construction products, hereby allowing the comparison of the energy-related performance of products from different manufacturers. As the EPBD takes a system approach while the CPR acts at product level, it is generally acknowledged that both directives do not overlap.³³⁴ One OPC respondent mentioned that requirements for building components set under the EPBD may risk obsolescence and may not be fit to achieve the Directive’s objective. Nevertheless, the adoption of a new standard on sustainability or energy economy under the CPR, could contribute to achieving the objectives of the EPBD.³³⁵ There is thus an opportunity to achieve important synergies between the CPR and the EPBD through a coordinated approach. Many stakeholders moreover clearly express a preference for regulating the issue of sustainable construction products through the CPR.

4.5.3 Energy Efficiency, Energy Performance in Buildings and Renewable Energy Sources Directives vs. Professional Qualifications and Services Directives

On one side, the EED, EPBD and RESD all provide for MS to set up certain certification/accreditation schemes. On the other side, the PQD and SD regulate the free movement of service providers, and the recognition of professional qualifications and other requirements for establishing providers. As such, the provisions on accreditation/certification should apply without prejudice to the requirements of the PQD and SD. Even though the EED, EPBD and RESD consistently urge MS to take the PQD into account, the differences in certification and qualification criteria persist and cross-border mutual recognition therefore remains slow to emerge. This is considered problematic in view of the PQD and the SD, which apply without prejudice to the specific certification requirements set out in these Directives in particular as – as indicated below – this applicability should result in some cases in automatic recognition whether under the PQD or SD. Additionally, any authorisation/certification scheme established under national law shall meet the requirements of Article 10 of the SD, including the requirement to be non-discriminatory, justified and proportionate. Under Article 16 SD temporary cross-border providers should, in principle, comply with requirements from the home MS only: host MS requirements can only be imposed if they can be exceptionally justified, in a proportionate manner, under overriding reasons of public policy, public health, public safety and the protection of the environment. Such justification can only be truly exceptional in cases where Directives such

³³⁰ *Ibid.*

³³¹ This conclusion is, inter alia, supported by the European Environmental Citizens’ Organisation for Standardisation in their reply to the 2015 EED public consultation.

³³² Ecofys (2014), Final technical report Evaluation of the Energy Labelling Directive and specific aspects of the Ecodesign Directive Report for DG ENER.

³³³ EBPD Evaluation Study; cf. also CSES (2012), Evaluation of Ecodesign Directive, 3rd stakeholder meeting, 18 January, available at: <http://www.cses.co.uk/upl/File/session-1.pdf> (last accessed on April 2016).

³³⁴ See, e.g., EBPD Evaluation Study, at p. 156.

³³⁵ Sustainable construction requirements for construction products would involve Basic Requirement 3 (hygiene, health and the environment), 6 (energy economy and heat retention) and 7 (sustainable use of natural resources). Cf. Annex I to the CPR.

as EED, EPBD and RESD harmonise the regulatory environment for service provision.

The EED, in Art. 16(3), urges MS to cooperate on the recognition of the certification and/or accreditation schemes or equivalent qualification schemes for the providers of energy services, energy audits, energy managers and installers of energy-related building elements. It does not explicitly refer to PQD, nor does it set rules on mutual recognition. The EPBD explicitly refers to the PQD in its recitals with regard to the mutual recognition of 'professional experts' (qualified and/or accredited). The RESD also makes a direct reference to the PQD in its recital with regard to the access or pursuit of the profession of installers in particular when it is a regulated profession. It also includes, in Article 14(3), a general requirement on mutual recognition for certification awarded in accordance with a number of general criteria listed in Annex IV to the Directive.

When there are no rules on the mutual recognition of certificates on professional qualifications, the recognition procedure of the PDQ applies:

- if the holders of the certificates have to fulfil minimum requirements, there should be automatic recognition of the certificates.
- in the absence of such minimum requirements, but when the EU legislation requires MS to establish a certification scheme, MS can decide on the criteria and the certificates should follow the general recognition procedure of the PQD.

The same approach should be followed for those other controls and requirements, not related to professional qualifications, governed by the SD:

- If requirements are set at EU-level, even at a minimum level, there should be automatic recognition of the authorisations/certificates.
- In the absence of such minimum requirements, but when the EU legislation requires MS to establish an authorisation/certification scheme, MS can decide on the criteria and the certificates should follow the general recognition rule of the SD (Article 10(3)).

Under each of the three energy-related directives, the certification schemes or equivalent can be voluntary. It should also be noted that the PQD and the SD do not apply to voluntary schemes. For instance, certification schemes under the RESD can be voluntary or compulsory, even if the majority of those are voluntary.³³⁶ Where the scheme is compulsory, the recognition of certificates shall meet the requirements of the PQD or the SD.

In 2012, the Commission raised concerns, noting that "businesses and professionals face problems because of the lack of mutual recognition clauses in sector-specific EU legislation that provides for authorisation or registration schemes or the certification of experts".³³⁷ Even in the case of the RESD, which provides for mutual recognition, the differences in certification or qualification systems lead to challenges in practice.³³⁸ This suggests that the application of the PDQ and SD does not prevent problems in terms of practical implementation. The mutual evaluation exercise of obstacles to the access to professions under the PQD could provide a useful tool to identify and address such problems in practical implementation.

To address this problem, *QualiCert* suggested an approach to make the various schemes compatible in the context of a European market with free movement of labour.³³⁹ Stakeholders have also suggested that providing EU-specific training and examination regulations could ensure a higher standard of installations and increase the coherence across MS, although this could lead to costly system adaptations. CE Delft has proposed the introduction of a standardised test for all

³³⁶ CA-RES (2015) II Core Theme Interim Report – Core Theme 3 RES HEAT, at p.6, available at http://www.ca-res.eu/fileadmin/cares/public/Reports/CT_Interim_Reports/CT3_Interim_Report_Final.pdf, (last accessed on April 2016).

³³⁷ Results of the Performance Checks, at p.9.

³³⁸ See, e.g., in the conclusions of RESD Evaluation. See also CA EPBD (2016) Implementing the Energy Performance of Buildings Directive, at p. 105, available at: <http://www.epbd-ca.eu/outcomes/2011-2015/CA3-BOOK-2016-A-web.pdf> (last accessed on April 2016).

³³⁹ ADEME (2011), QualiCert Manual - A common approach for certification or equivalent qualification of installers of small-scale renewable energy systems in buildings,

European installers/inspectors/certifiers/auditors as part of national certification/qualification (including country-specific elements), which could also benefit the harmonisation of training standards and would be a cost-efficient way to guarantee Europe-wide minimum standards while keeping intervention into national systems low.³⁴⁰

³⁴⁰ RESD Evaluation, at p. 26.

5 EVALUATION QUESTIONS

5.1 Introduction

This Section includes the results of the ex post evaluation of the selected EU acts with respect to the construction sector, in particular its competitiveness and, where applicable, its sustainability. It builds upon the EQ as defined in the Terms of Reference and refined in the course of the Assignment. Importantly, this Study does not amount to a full ex post evaluation of the selected acts. A proper evaluation would indeed require to consider not only the effects and impacts of these acts on a specific industry, but on the whole society. In the present Study, the analysis is only sectoral, even though most acts touch upon many more industrial sectors and parts of the society. Hence, the analysis which is presented on the following pages does not imply any judgment on the fitness of the acts in scope of the Assignment, but only on their effects on the construction sector value chain.

Five sub-sections present the findings for the various evaluation criteria: 5.2 for relevance; 5.3 for coherence; 5.4 for effectiveness; 5.5 for efficiency; and 5.6 for EU added value.

5.2 Relevance

The main policy objectives whose achievement is instrumental to addressing the challenges and needs of the EU construction sector and to ensure its competitiveness and sustainability are spelled out in a 2012 Communication by the Commission.³⁴¹ Taking into account the segments of the construction sector in the scope of this Assignment, i.e. 'construction of buildings' and 'specialised construction activities', these policy objectives can be summarised as follows:³⁴²

1. **Stimulating favourable investment conditions**, by placing great emphasis on building renovation and on combating late payments;
2. **Improving the human capital basis**, by attracting young workers to relevant construction professions, enhancing the mobility of skilled workers, and improving the working environment and the career management;
3. **Improving resource efficiency, environmental performance and business opportunities**, by developing harmonised indicators, codes and methods for the assessment of the environmental performance of construction products, processes and works, fostering GPP, and streamlining authorisation processes for construction projects;
4. **Strengthening the Internal Market**, by ensuring that the relevant legal framework is as clear and predictable as possible, reducing 'red tape', and accelerating the convergence of different national and regional regulatory approaches.

Against this background, the relevance of the Internal Market and Energy Efficiency legislation affecting the construction sector can be evaluated by checking the alignment between the four objectives listed above and the objectives pursued by each piece of legislation covered by this Study. This assessment is complemented with the stakeholders' feedback.

³⁴¹ Communication from the Commission, Strategy for the sustainable competitiveness of the construction sector and its enterprises, 31.07.2012, COM(2012)433.

³⁴² Please note that the Commission's Strategy for the sustainable competitiveness of the construction sector identifies another objective, namely fostering the global competitiveness of EU construction companies, by enhancing access to international markets, especially in the public-works area. While this objective is central to the 'civil engineering' division, it appears to be less relevant to the divisions covered by this Study with the exception of large projects for the construction of commercial buildings.

EQ1. To what extent are the objectives of the different identified EU acts relevant in the context of a more competitive and sustainable construction sector?

Internal Market policy area

The main objective of the CPR is to remove technical barriers to trade and, as a result, to enhance the free circulation of construction products in the Internal Market. In this respect, the CPR is relevant to strengthen the Internal Market for construction products and create a level playing field across the EU. Nonetheless, the relevance of this piece of legislation appears less central when considering that cross-border trade is rather limited for most construction products, due to both their low value-to-weight. In addition, the majority of stakeholder associations interviewed for this Study argue that, as things now stand, the DOP and CE marking convey information that is commercially relevant only to a limited extent. As a result, stakeholders pointed out that the DOP and the CE marking only play a limited part in shaping the EU Single Market for construction products. Interestingly, however, the CPR may play a role also in improving the resource efficiency and environmental performance of the sector, since Basic Requirements #3 (hygiene, health and the environment), #6 (energy economy and heat retention) and #7 (sustainable use of natural resources) enable manufactures to measure and declare the performance of construction product with respect to these requirements. Yet, relevant standards must be adopted to that end and the process is still ongoing.

The PQD aims inter alia at encouraging labour mobility within the EU and, more specifically, at facilitating the mobility of professionals and promote the cross-border provision of services in order to handle the temporary shortage of skills or qualified personnel. The objectives of this Directive are therefore aligned with two out of the four objectives listed above, namely improving the human capital basis of the construction sector and creating a well-functioning Internal Market for construction professions. Against this background, however, the number of construction professionals and craftsmen going abroad through the schemes set out by the PQD is still very low compared to the size of the sector. As a result, the actual relevance of this Directive seems to be limited as construction professions and crafts remain still mostly local.

As the objective of the SD is to establish 'general provisions facilitating the exercise of the freedom of establishment for service providers and the free movement of services', this Directive may contribute to strengthen the Internal Market for construction services. In addition, as the simplification of the regulatory framework applies also to local service providers, the SD has a positive impact on the need to improve business opportunities by streamlining authorisation processes. At any rate, the full potential of the SD seems to be still untapped, as only a limited number of MS have (partially) implemented this Directive in relation to construction service provisions. In fact, in most MS the SD has been implemented via horizontal legislation with limited impact on the construction sector, especially in civil law countries and in those MS where regional and local authorities are competent to regulate construction activities.

Finally, the LPD has the objective of combating late payments in both B2B and PA2B commercial transactions and mitigating the negative effects of delayed payments. Therefore, the LPD is fit to stimulate favourable investment conditions in the construction sector. The high relevance of combating late payments was confirmed by the vast majority of stakeholder associations and companies. Late payments have a negative impact on the financial management of construction companies and hamper their competitiveness and profitability. In particular, they are proven to be particularly harmful for SME due to the limited bargaining power of these companies and the difficulties they generally experience when seeking access to finance.

Energy Efficiency policy area

As buildings are responsible for some 40% of the final energy consumption in the EU, the EED requires MS to establish a long-term strategy for mobilising investment in the renovation of buildings and includes several measures that have a direct impact on the construction sector. The EPBD completes the framework laid down in the EED by providing a holistic approach towards

efficient energy use in the building sector and promoting the improvement of the energy performance of both new and existing, residential and commercial buildings and building systems. Therefore, the objectives of the EED and the EPBD are fully aligned with the objectives of both improving resource efficiency, environmental performance and business opportunities and ensuring favourable investment conditions in the construction sector. These Directives are considered relevant to all the links of the construction value chain and have the potential to create new market opportunities for construction companies, providers of specialised construction activities and manufacturers of construction products. In part, this is also due to the national financial support measures put in place by many MS on the grounds of both pieces of legislation. In addition, the EPBD partially contributes to enhancing skills of construction workers via the introduction of requirements concerning the qualification or accreditation of inspectors of heating and air-conditioning systems.

The RESD aims at establishing a common framework for the promotion of energy from renewable sources. When it comes to buildings, MS are called to introduce in their building regulations and codes requirements for the use of minimum levels of RES in new buildings and existing buildings undergoing major renovation. The RESD is therefore relevant to the needs of part of the construction sectors insofar as installers of small-scale RES are electricians, plumbers, roofers and other craft professionals that are part of the construction value chain. In this respect, in addition to contributing to the resource efficiency and environmental performance of buildings, this Directive may both generate new business opportunities for construction professionals and improve the human capital basis of the sector, as installers need to obtain a certification or equivalent qualification scheme and have the opportunity to upgrade their skills and knowledge. Yet, this specific measure is not binding.

The EDD aims at establishing a common framework for ecodesign requirements of energy-related products, i.e. both products that consume energy and products that have an impact on the consumption of energy. More specifically, the EDD has a twofold target: (i) removing barriers to trade and distortion to competition generated by disparities between national rules; and (ii) reducing the environmental impact of products placed on the Internal Market. In the same vein, the ELD aims at both: (i) removing barriers to trade and distortion to competition generated by the existence of voluntary or compulsory national schemes in the field of energy labelling; and (ii) providing accurate, relevant and comparable information to consumers when it comes to the consumption of energy and other resources by energy-related products, thereby reducing the environmental impact of the products placed in the EU market. In principle, both Directives can contribute to the need of improving the resource efficiency and environmental performance of construction related products and, as a result, of buildings, as well as to the need of strengthening the Internal Market. The relevance to the construction sector, however, is quite limited so far, as only a low number of products related to the sector and ancillary activities are currently covered by implementing measures.

Concluding remarks - Relevance

In principle, all the pieces of legislation covered by this Study are relevant to ensure the competitiveness and sustainability of the EU construction sector. More specifically (see Exhibit 5.1), the need to stimulate favourable investment conditions is tackled by the LPD by combating late payments, and by the EED and the EPBD by fostering building renovations. The PQD and, to a more limited extent, the EPBD and the RESD have the potential to contribute to improving the human capital basis of the sector by facilitating training and cross-border mobility. Differently, the pieces of legislation grouped in the energy efficiency area as well as the CPR may all contribute to the resource efficiency and environmental performance of buildings (or part thereof). In addition, the EED, the EPBD, the RESD and the SD play a part in creating new business opportunities. Finally, the CPR, the PQD and the SD have an impact on the functioning of the Internal Market for construction products, construction professions and construction services, respectively. On the contrary, the EED and ELD are only potentially relevant as they cover so far only a very limited number of energy-related products which are also construction products.

Exhibit 5.1 Alignment of Selected EU Acts with the Policy Objectives for a more Competitive and Sustainable Construction Sector

Need	Internal Market				Energy efficiency			
	CPR	PQD	SD	LPD	EED	EPDB	RESD	EDD/ELD
<i>Stimulating favourable investment conditions</i>				X	X	X		
<i>Improving the human-capital basis</i>		X				X	X	
<i>Improving resource efficiency, environmental performance and business opportunities</i>	X		X		X	X	X	(X)
<i>Strengthening the Internal Market</i>	X	X	X					(X)

Note: (X) potential impact. Source: Authors' own elaboration

In summary, the Internal Market legislation in the scope of the Assessment can be classified as fairly relevant in the context of a more competitive and sustainable construction sector. In fact, barriers other than regulatory are limiting the integration of the EU market for constructions and impinging on the potential of the CPR, the PQD and the SD. The relevance of the energy efficiency legislation appears to be high, especially thanks to the EED and, most importantly, the EPBD, whose objectives are to a large extent aligned with the challenges and needs of the EU constructions sectors.

5.3 Coherence

Under the coherence criterion, the extent to which the selected EU acts are aligned with each other is evaluated. The assessment of coherence is structured around three main groups of connected EU legal instruments, namely: (i) CPR, EED, and ELD; (ii) EED, EPBD, and RESD; and (iii) PQD, SD, and LPD. Additionally, some of these pieces of EU legislation are also connected with one another outside these groups, and this is further taken into account.

The coherence criterion is operationalised through three EQ. First, the assessment will consider whether the selected EU acts form a consistent regulatory set in which the different pieces are mutually supportive through aligned and predictable provisions and approaches (EQ2), and, conversely, identify any legal shortcoming (i.e. inconsistencies, overlaps, gaps, obsolete provisions) (EQ3). Then the role of national or local legislation on the identified shortcomings is discussed in EQ4. The impacts in terms of costs and benefits of the identified shortcomings is analysed further under the efficiency criterion, in EQ9.

EQ2. To what extent do all pieces of EU legislation fit together sufficiently well and provide the construction sector with a clear and predictable regulatory framework?

The list of legal instruments identified for the purpose of this Study consists of three Directives and one Regulation mainly aimed at Internal Market, and five Directives mainly focusing on Energy Efficiency. For the purpose of the coherence analysis, these EU instruments were divided into three groups. Within each group, an analysis was made as to what extent the three pieces of EU legislation fit together sufficiently well.

This Study has shown that all pieces of EU legislation fit together sufficiently well in the sense that their scope and their objectives are considered to be complementary and coherent. The main conclusions are further elaborated upon as follows:

- The SD and PQD share the same general objective of removing obstacles to the free movement of services providers, including construction services, and enhancing professional mobility in the EU through different complementary measures. Both apply to the mobility of firms,

professionals and craftsmen in the construction sector. The objectives of both Directives are considered complementary and coherent, as implementation reports and stakeholders do not point out to inconsistencies among the general and specific objectives of both instruments. Consistency in the definitions is ensured, for example, through specific cross-references to the PQD in the SD.

- While the LPD ultimately also aims at contributing to the provision of cross-border services, it regulates a different matter from the SD and PQD. The LPD aims at combating late payment in commercial transaction in order to ensure proper functioning of the Internal Market. No specific inconsistencies were raised between the LPD and the SD in the implementation reports and interviews with stakeholders.
- The comparative analysis of the EED, EPBD and RESD carried out has confirmed that there is great synergy with regard to their objectives. This conclusion has been corroborated through the 2015 ex-post evaluation of the EPBD.
- The objectives of the CPR, ELD and EDD are clearly distinct and are mostly considered complementary and coherent. While the CPR aim to eliminate barriers in the EU internal market, the EDD also aims at reducing the overall negative impact of energy-related products. The ELD complements the EDD by setting a framework for the labelling and the provision of information regarding energy consumption. The substantial requirements under the EDD and ELD are mostly considered coherent and complementary.
- The EED, EPBD, EDD and ELD all have complementary objectives which are well aligned with each other and which do not overlap, given that the directives focus on energy efficiency at different levels in the building chain.

While in terms of scope and objectives, great synergies have been found between the identified EU legal acts, the statement should be nuanced. The legal analysis has concluded that there exist several shortcomings related to the more substantial requirements and the definitions within these acts. These shortcomings are further discussed in the following EQ, but it must be noted that, from a practical perspective, the legal shortcomings do not currently impact on the performance of the construction sector. Consequently, it is considered that the regulatory framework is sufficiently predictable for the construction sector.

EQ3. What are the specific inconsistencies, overlaps (e.g. in terms of definitions) or gaps that can be identified across the identified EU legal acts?

- In general, no major overlaps, but rather synergies, both actual and potential, have been identified between the SD and the PQD. The proposal for the review of the PQD in 2013 took into account some areas where coherence could still be improved (e.g. with regard to the exchange of information, similar to the alter system under the SD, and the introduction of a single point of contact), resulting in consistent substantive requirements at EU level.
- The comparative analysis of the EED, EPBD and RESD shows a strong synergy with regard to their substantive requirements, which however implies that there may be potentially overlapping provisions, especially with regard to the certification of buildings and building units, and the accreditation and training of experts. The coexistence of four different schemes regarding the certification of buildings (or building units) may give rise to some inconsistencies, also due to the interaction with national legislation. Especially in those specific cases where certification and/or inspections under the EPBD in a given MS may go hand in hand with energy audits – for instance when auditing office buildings of a large enterprise – some of the respondents to the 2015 public consultation on the EED were of the opinion that

it is confusing that the energy performance of buildings is targeted in different directives.³⁴³ Concerning the accreditation and training of experts, where certification in the EPBD, and to some extent the RESD, covers a subset of the energy professions that can be certified under the EED, the qualification/accreditation schemes may overlap to a rather large extent. The various overlaps create some impact on the construction sector, but not necessarily in a negative way.

- There is currently only one potential inconsistency between the EDD and the CPR for specific product categories, namely for solid fuel space heaters, as regulated by the recently adopted Commission Regulation (EU) 2015/1185 and a hEN under the CPR. For four other product categories which may be considered a construction product and an energy-related product at the same time, there are currently no concrete overlaps as both acts cover different aspects of the products and have different objectives. The overlap could extend to other product categories when implementing acts for additional construction products are adopted under the EDD.
- The EDD, ELD, and CPR do not use identical definitions of 'economic operators' nor of the term 'placing on the market'. These inconsistencies, however, do not lead to substantial problems for the construction sector.

EQ4. To what extent can the inconsistencies and overlaps be attributed to provisions in the existing EU legislative framework or to implementation and/or transposition at national (including regional and local) level or to existing national legislative frameworks?

- The implementation of the free movement of services in the construction sector in practice still raises important problems. Significant obstacles affecting the mobility of professionals across MS have been identified in performance checks, mutual evaluation exercises and studies. Businesses are often confronted with requirements imposed on them in addition to those to which they are subject in the MS where they are established. For example, stakeholders point to problems relating to the understanding of documentary requirements (e.g. whether a translation is required) or to the limitation to locally registered professionals for submitting designs when applying for building permits. Also prior checks of qualifications for professions that should benefit from automatic recognition have been reported. Other concerns relate to the authorisation requirements for automatically recognised professions (i.e. architects), residence or nationality requirements and insurance obligations.
- With regard to the harmonization and coordination at a practical and national level of the EED, EPBD and RESD, several impediments have arisen. In most countries, regular inspections / certifications and energy audits are covered by different legislation and managed by different public authorities. Further, numerous problems have also been reported with regard to the proper implementation of the EPC at MS level, which obviously will prevent any harmonization with inspections and energy audits. One important recommendation, in order to create synergies, is to work upon one harmonised set of definitions with regard to the schemes aiming for quality assurance of energy professionals. These schemes currently have different names (including certification, qualification, label and accreditation) – at EU level and at national level - and the meaning of these words can be quite different from one country to another. Furthermore, also qualification and training of energy efficiency experts remains a competence of MS, sometimes at regional level, and, in most MS, different ministries are responsible for the EPBD and the EED/RESD, also leading to different approaches. In addition, the existing certification and qualification schemes for installers of small-scale RES in buildings are so diverse among themselves that any harmonization with the schemes and training programmes

³⁴³ The problem is covered by the Commission guidance note on Article 8 of the EED, which advises MS as to how to ensure that national transposition measures to exploit the synergies between the EPBD and the EED.

foreseen under the EED and EPBD is impeded. Finally, also the implementation of Article 14(3) of the RESD in various MS differs considerably.

- Even though the EED, EPBD and RESD consistently urge MS to take the PQD into account, the problem of differences in certification and qualification criteria persists and cross border mutual recognition therefore remains slow to emerge. This is considered problematic in view of the PQD and the SD, which aim at reducing obstacles to the freedom of establishment and free provision of services across the EU and which apply without prejudice to the specific certification requirements set out in these Directives. In addition, some specialised construction workers, such as installers of small-scale renewable energy systems, may be considered 'regulated professions' under the PQD in some MS, but not in all: installers of RES technologies are considered a regulated profession in 40% of the MS.³⁴⁴ The regulation of some specialised construction activities in a limited number of MS can further create an obstacle to the free movement of professionals, as protected under the SD and the PQD.³⁴⁵ Any authorisation/certification schemes established in national law shall meet the requirements of Article 10 SD, which requires, among others, that such schemes be non-discriminatory, justified and proportionate. In the absence of harmonisation, mutual recognition for establishing providers shall follow either the PQD or Article 10(3) SD. Harmonisation, even if at a minimum level, should mean automatic recognition in a host MS for temporary cross-order provisions. Temporary cross-border providers should be bound to home MS rules only, particularly in a (even partially) harmonised context. Particular attention thus seems necessary to the correct application of the internal market legislation for services to the certification schemes established under sector-specific legislation in the construction sector. The mutual evaluation exercise under the PQD could provide a useful tool for identifying and remedying the obstacles to the mutual recognition of professional qualifications in these specific cases.

Concluding remarks – Coherence

In general, the evaluation of coherence of the selected acts is positive. While a detailed assessment has identified shortcomings and overlaps, they are not perceived as currently having an impact on the performance, competitiveness and sustainability of the construction sector.³⁴⁶ In other words, the identified shortcomings have not yet generated material effect on the construction sector and would, at most, only entail possible future costs.³⁴⁷ Furthermore, a good deal of complementary measures or synergies could be identified.

5.4 Effectiveness

Under the effectiveness criterion, the extent to which the selected EU acts have achieved the objectives that they were intended to achieve on the sector is assessed. For the purpose of this Assignment, the relevant objective is to support the competitiveness and sustainability of the construction sector. This is in line with sectoral focus of this Fitness Check, whereas the effectiveness is not assessed in broad terms, i.e. with respect to other industries and societal impacts. The sector focus is a distinctive feature of the Study, differentiating it from other Fitness Check-related exercises.

The effectiveness criterion is operationalized through two EQ, the first including in turn two sub-questions. EQ5 concerns the effects of the selected acts, including the extent to which they create 'obstacles' to the achievement of the above-mentioned objective. EQ6 concerns the unintended consequences and side effects generated by the selected acts.

³⁴⁴ CA-RES, Working Group 5. Information and training

³⁴⁵ CSES, Study to provide an Inventory of Reserves of Activities linked to professional qualifications requirements in 13 EU MS & assessing their economic impact, Final Report, January 2012, p.1, available at: http://ec.europa.eu/internal_market/qualifications/docs/news/20120214-report_en.pdf

³⁴⁶ This aspect is discussed more in detail in Section 5.4 below.

³⁴⁷ Cf. EQ 9 in Section 5.5. below.

EQ5A. To what extent has the EU legislation in the areas of Internal Market and Energy Efficiency contributed to achieving the objectives of a competitive and sustainable construction sector?

The 2004-2014 period was a bleak decade for the EU construction industry.³⁴⁸ In terms of volume, in 2014 the EU industry output dropped by 20% compared to its peak in 2007, and by 10% compared to 2004. Only in 2014, the EU output increased again, after six years of decline in a row. In terms of value, the market for new residential buildings in the 10 MS covered by the Study declined by one third between 2007 and 2014, and the market for new non-residential buildings by one fifth. On the contrary, the renovation segment – both residential and non-residential – remained stable between 2007 and 2014. As a result, the renovation segment now accounts for more than half the construction market, namely 57% in 2014. The overall trend is somehow diversified at MS level, with three countries recording heavy losses in terms of construction output, namely Ireland, Spain and Italy, and the bulk of the Northern-Western MS keeping more stable, with 2014 production largely in line with 2004 levels (though still declining from the 2007 peak in most cases). Eastern countries, in this case Poland and Romania, showed a generally upward trend across the period.

Such a troubled decade caused an erosion of the production base. In particular, the number of persons employed in construction activities – excluding civil engineering – shrank by nearly one quarter between 2007, the year of the peak, and 2013. In 2013, the number of people employed in building construction activities fell by over 2 million compared to 2005, and by 3.4 million people compared to 2007. The situation varies considerably among the ten countries analysed, essentially reflecting the patterns in terms of volume; in particular, Belgium and Germany are the only countries in which the variation of persons employed between 2005 and 2013 shows a positive sign. At the same time, such a troubled decade also affected the upstream part of the value chain. The output of the construction product industry declined by about 20% between 2008 and 2013, and the number of persons employed by 18%.

Did the EU regulatory framework have an impact on the loss of competitiveness across the decade, by either speeding it up or slowing it down? The short answer is ‘to a limited extent’. The regulatory framework for the construction sector, though blamed for being complex and burdensome and not fully suited to ensure the completion of a functioning Internal Market, had a little role in the performance of the sector. The main and most prominent economic driver throughout the decade was the economic cycle, and in particular the impact of the economic and financial crisis, from 2007 onwards. The dramatic decline in demand and the problems of financial institutions, also coupled with an irrational bubble in the housing markets of several MS in the previous years, had an effect that no regulatory intervention could avoid. Even with hindsight, the EU framework can hardly be blamed for not having solved the problems of the industry.

In a situation where economic trends were different across MS, with some national markets healthier than others, a functioning Internal Market could have limited damages, allowing workers and capital to move to countries with better prospects. However, the effectiveness of the SD in the construction industry was none to limited in most MS, largely because of the national implementation and application rather than the EU framework *per se*. On the contrary, the effectiveness of the PQD was good, in terms of output, i.e. putting in place workable mechanisms for professionals and craftsmen going cross-border, but the outcome, i.e. the size of construction workers’ flows, remained limited. Most importantly, favouring Single Market flows at a time of crisis, i.e. when even healthier markets are far from flourishing, may exacerbate, and exacerbated, the reaction by local companies, which perceive this competition as unfair. Probably, a better moment to improve the functioning of the Internal Market for construction operators is now coming with the general amelioration of its economic performance. Moreover, the forthcoming initiatives by the Commission – such as the services passport initiative³⁴⁹ – could

³⁴⁸ Source: Eurostat, CRESME.

³⁴⁹ Communication from the Commission, Upgrading the Single Market: more opportunities for people and business, COM(2015)550, 28.10.2015, at §2.3.

garner more praise and achieve more significant results. As for the Internal Market for construction products, regulated by the CPR, the situation is different, as this Market was already functioning to a large extent under the CPD, and the shift to the CPR, not altering the situation in many respects, kept a high level of effectiveness.

For domestic operators, improvements were largely at the margin. The SD triggered some simplifications also affecting the building regulatory framework, but the benefits were far more limited than the impact of the economic crisis. The LPD, and most importantly the 2011 revision, did foster an improvement for construction companies in many MS, resulting in lower financial costs, and counteracted to some extent the liquidity problems. At the same time, however, the effects started deploying only in 2013, and how the trends will develop in the coming years is yet to be seen.

The judgment is more complex for the Energy Efficiency policy area. Undeniably, support programmes targeted, though not exclusively, at the energy performance of buildings helped the sector to strive, especially in the most difficult years and the most troubled MS. The growing importance of the renovation segment, by far the largest recipient of these subsidies, demonstrates this. Support programmes benefited the construction sector at large, by limiting the decline in activities, as well as specific segments, such as the installers of heating systems or companies specialised in cost-effective energy-saving measures, like window installers. All in all, the EU framework played a positive, but not decisive, part for at least two reasons. First, while in general the EU framework for energy efficiency had a propulsive role, the impact was differentiated across the EU, as some MS had already convincingly taken this road long before the EU push and the impact of national policies was more significant. Secondly, and most importantly, support programmes, including beneficiaries, modalities, and the amount of money channelled through them to the construction sector, remained a national prerogative, and, in some cases, the selection of instruments was influenced by considerations that had little to do with energy efficiency and more with economic and industrial policies at large.

Still in the Energy Efficiency policy area, the positive effects that the various inspections and certifications foreseen under EU legislation had on the revenues for professionals are also worth mentioning. From a societal perspective, however, this is not a net benefit, but a transfer of resources from consumers. Differently, the effectiveness of other specific provisions, such as the uptake of recommendations include in the EPC, the impact of the GPP on construction activities, and the exemplary role of public buildings, was scant so far. In certain cases, the limited effectiveness may be linked to the short period of time elapsed from the adoption of the measures, but in other cases (e.g. EPC recommendations, role of public buildings) this explanation does not apply.

As for sustainability, throughout the decade more stringent energy requirements for new buildings and building systems were adopted across the entire EU. Clearly, requirements remained different across MS, reflecting different political preferences, a different health of the construction market, and different starting points. More stringent requirements, in any case, improved the sustainability of the construction sector, in terms of energy consumption in buildings. The support programmes and the boost to energy efficiency renovation also prompted the adoption of cost-effective energy saving measures in existing buildings. While the societal benefits are quantified in other Commission documents and background studies focused on these specific measures, evidence collected in this Study points to a growing awareness of energy efficiency among construction companies, exploiting market opportunities in this policy area. On a different note, the results from the integration of sustainability consideration within the CPR framework, as foreseen by the revised Annex I, are not yet available.

EQ5B. What are the obstacles that still stand in the way of achieving the objectives of a competitive and sustainable construction sector?

Here below, the most prominent obstacles that were identified in the fact-finding phase and legal analysis are discussed. As not all are equally important, the obstacles identified are split into two

groups, the most pressing and least pressing. Obstacles are considered as most pressing when they concern a large chunk of the construction sector, rather than having a specific nature. As they concern the bulk of market operators, addressing these obstacles could potentially produce large benefits. Less pressing obstacles concern only a specific sub-sector or market segment.

Most pressing obstacles

- 1. Incomplete simplification of the regulatory framework for domestic and cross-border construction service companies.** EU legislation has a reduced leverage on construction and building regulation, being mostly competence of national, regional and local authorities. However, it can promote a progressive improvement of regulatory quality, in terms of both substantive rules – that should be as least intrusive and complex as possible given the objectives to be pursued – and application modalities. The SD failed to achieve this objective with respect to the construction sector, with market operators only perceiving limited improvements in this respect. The long chain of transmission, from Brussels to local municipalities, with multiple tiers of government involved, softened any possible impact. At the same time, however, whether the challenges in the regulatory framework applicable to the construction sector – a service activity with many peculiarities – can effectively be tackled by means of horizontal, as opposed to sectoral, legislation is questionable. Most strikingly, in the Energy Efficiency policy area a specific act for buildings, the EPBD, exists, while for the Single Market policy area the Study only analysed horizontal legislation also applying to the construction sector, such as the SD, the LPD and the PQD.³⁵⁰
- 2. An insufficient exploitation of Single Market opportunities.** To start with, the Study dealt with a mostly local activity, the construction of buildings. For economic, regulatory, market and cultural reasons, these activities have a limited attractiveness for companies from other MS. That said, the amount of cross-border flows – and also the quality and availability of data about these flows – was substantially lower than expected. Any EU action should not be limited to regulatory barriers, appearing not to be the most prominent obstacle within the Single Market. A case in point is that of the PQD: while the regulatory framework is largely praised for its effectiveness and limited burdens, cross-border flows appear limited based on available data. More than removing obstacles, an active promotion of Single Market is needed in a sector facing structural constraints and reduced awareness of existing opportunities. Improving the knowledge of local languages, regulations and market environments is key to better exploit the Single Market. At the same time, expanding the companies' network of competence across borders is also imperative to widen the area where they operate. Unlike the market for construction products, where the issue was that of regulatory barriers to trade, the construction sector is faced with a multi-faceted challenge which needs to be tackled with different tools.
- 3. The payment culture.** Late payments create costs for companies. When the associated liquidity problems become severe, late payments contribute to the ongoing erosion of the production base, or, in simpler words, to the closing down of main and sub-contractors. Construction companies are more affected than the overall economy, and, in most of the MS covered by the Study, the payment time for construction firms remains higher than the aim of the LPD. As a one-day reduction is estimated to generate benefits amounting to €17 mln in just 6 MS, gains to be reaped are large, and even larger at EU scale. As late payments depend on an interplay of EU norms, national institutions, and local business culture and customs, the effectiveness of any EU intervention is limited by other constraints. At the same time, evidence points to the fact that EU action can be effective, especially when legislation is combined with other steps towards a MS, including budgetary policies, as was the case with Italy in the recent years.

Less pressing obstacles

- 4. Disconnection between energy efficiency inspections, reporting, certifications, and subsequent improvements.** The various inspections, reporting and certification obligations enshrined in the EED and the EPBD are useful for the society at large insofar

³⁵⁰ The CPR obviously has a sectoral approach, but its targets are construction product manufacturers rather than construction service companies.

as they lead to cost-effective interventions in buildings. In the same vein, they are useful for the construction sector insofar as these interventions generate additional activities, and thus revenues. Both primary and secondary evidence, however, points to a limited effectiveness of these measures. Any improvement would be beneficial for installers and providers of specialised construction services.

5. **Take up of CPR derogations.** The CPR introduced several derogations and simplifications, with the purpose of easing compliance by SME. Excluding art. 36 derogations, making pre-existing guidance binding and being largely used in certain sub-sectors, other simplifications had no noticeable impact on the sector. Possibly, the limited impact can be traced back to the fact that the CPR has been in force only for a short period. At the same time, stakeholders argued that the lack of clarity and guidance for both market operators and public authorities might explain the reduced take up of these derogations.
6. **GPP and the exemplary role of public building.** With respect to the exemplary role of public building, most MS opted out from the obligation to renovate 3% of the central government's building stock each year, and largely focused on behavioural changes. From the point of view of energy consumption, these changes may be as effective as building renovation. From the point of view of construction companies, for which the additional renovation activity could be a source of revenues, however, this is not the case. As for the GPP, the MS are going through a transition period, considering both the recent implementation of the applicable EED provisions and the new public procurement directives. In any case, clearly the GPP is currently not effective in contributing either to the competitiveness of the construction sector, or at least of its most advanced segments, or to its sustainability.

EQ6. What are the unintended positive or negative consequences and side effects of the selected EU acts?

The analysis identified two unintended consequences generated by the selected EU acts, in particular by the LPD and the EED/EPBD.

1. The **LPD** introduced a default payment term for both B2B and PA2B transactions, respectively at 60 and 30 days. Parties may derogate to these deadlines by introducing longer terms – provided that they are not unfair, and in any case not longer than 60 days for PA2B transactions – or shorter terms. In two countries where the payment duration was shorter than the LPD default terms, Germany and the UK, the payment period for construction companies increased between 2010 and 2014. The evidence and the analysis do not allow considering this a causal effect of the LPD, with payment terms not binding either MS or contracting parties, which may introduce a more favourable treatment. At the same time, LPD limits may have played a symbolic part, and hence unintendedly pushed parties to extend payment terms where they were already shorter. This claim was confirmed by some stakeholders. However, based on available evidence, to the negative development of payment time can only limitedly be attributed to the LPD.
2. The **EED/EPBD** provide for various non-equivalent and complementary certification schemes for the energy consumption of building, building systems and companies (including their buildings). Besides the costs generated for both professionals and consumers in these markets, the proliferation of schemes may unintendedly raise revenues for professionals, who may be called to produce multiple certifications.

Concluding Remarks – Effectiveness

Assessing the effectiveness of the acts in the policy areas of Internal Market and Energy Efficiency on the competitiveness of the construction sector is a difficult task, given the impacts of the economic and financial crisis. The performance of the construction sector was severely hit by the crisis, throughout the EU in general, and in particular in certain MS. In this context, any regulatory

intervention could hardly heal the effects of the crisis. On the one hand, the measures under the Energy Efficiency policy area, coupled with national interventions and support programmes, did help companies to thrive. Differently, the impacts of the Internal Market legislation were only limited. Here, a line must be drawn between the CPR, whose objectives have been largely achieved; the PQD, whose mechanisms worked well, but which resulted only in a limited number of professionals and craftsmen working abroad; and the SD, whose effectiveness for the construction sector is none to limited. With respect to sustainability in particular, the Energy Efficiency policy areas supported the reduction of energy consumption in buildings, while the Internal Market legislation is scarcely relevant on this respect.

5.5 Efficiency

The assessment of the efficiency criterion is based on the quantification of costs and benefits generated by the selected EU acts on the construction sector; this analysis is summarised under EQ7. Based on this quantification, the following aspects are also assessed: (i) to what extent costs are as low as possible, under EQ8; (ii) what is the impact of the identified legislative shortcomings on the performance of the sector, under EQ9; (iii) what are national factors having an impact of costs and benefits, and the magnitude of these impacts, under EQ10 and 11; and, finally, (iv) whether market-based cooperation could be identified with respect to the themes touched by the Study, under EQ12.

EQ7. What are the costs and benefits associated with the implementation and transposition of selected EU acts for the construction sector, in particular for its SME?

Here below, the quantitative assessment of costs and benefits attributed to the various EU acts for the construction sector is presented. First, the analysis delves into administrative and compliance costs and cost savings; then, new market opportunities are quantified. For each category, costs, benefits and market opportunities are presented per category of operator.

Costs and benefits, including new market opportunities, are compared with sectoral added value and, where relevant, turnover (source: Eurostat). Comparison with total market size is also used when discussing the regulation-induced markets, e.g. for energy efficiency-related construction activities (source: CRESME). The comparison is not provided when the costs and benefits estimated are too low compared to the sectoral added value (or turnover, or market size).

The coverage of MS is extended to EU28 when the analysis is based on own primary sources and Eurostat Data, i.e. for the CPR and the PQD. When more specific data sources are used (i.e. CRESME for the construction market, various EU and national sources for late payment statistics, and national sources for energy efficiency related markets) the coverage is limited to the 10 MS to be analysed in-depth by the Study. The diachronic coverage spans from 2004 to 2014 where possible, depending on data availability and the date of coming into force of the provisions.

Administrative and compliance cost and cost savings

Construction Product Manufacturers. The administrative burdens and substantive costs due to the applicable regulatory framework, i.e. the CPD and, from 2013 onwards, the CPR, were calculated across the 2004-2014 period. Furthermore, part of the burden savings generated by the CPR were also estimated, as well as one-off costs linked to the shift to the new legislation. In 2014, total CPR costs account for about 1.1% of the turnover, and about 3.8% of the sectoral value added. The increase in 2013, linked to the introduction of the CPR, is due to:

1. one-off costs due to the adaptation to and familiarisation with the new regulation. These costs, were estimated at €522 mln in total, and annualised over 2013 and 2014 will not apply as from the following years;
2. costs linked to the provision of the DOP to customers, taking savings linked to the eDOP into account.

No quantitative information is available on the cost savings effect of other simplifications, due to the limited take-up of these provisions. Regulatory burdens are summarised in Exhibit 5.2 below.

Exhibit 5.2 EU Regulatory burdens and Burden Savings Generated on Product Manufacturers by the CPR/CPD in the EU (€ mln)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<i>Total Costs for the Sector</i>	1,100	1,200	1,300	1,600	1,600	1,600	1,600	1,700	1,600	3,400	3,400
<i>Share over Value Added</i>	1.3%	1.4%	1.3%	1.5%	1.5%	1.6%	1.7%	1.8%	1.8%	3.8%	3.8%*
<i>Share over Turnover</i>	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	1.1%	1.1%

Sectoral Statistics refer to the Construction Product Industry, as defined in Annex II

**: Estimate based on 2013 Value Added. Source: Authors' own elaboration*

Professionals and Craftsmen. As discussed in Section 5.4 above, the administrative burdens generated by the PQD mechanisms are not considered significant by stakeholders, and are low both in absolute terms and compared to the mobility added value. In the most recent part of the period, administrative burdens ranged from €1.3 to € 2.3 mln, mainly depending on the size of cross-border flows of professionals and craftsmen (i.e. the number of applications for establishment or temporary provision of services). The simplifications linked to the revision of the PQD were also quantified for the period 2008-2014, i.e. starting from its date of implementation. Savings were generated by the rationalisation and consolidation of the pre-existing acts on the mobility of professionals and craftsmen, and by introducing the temporary mobility regime.³⁵¹

Exhibit 5.3 EU Regulatory Costs and Cost Savings Linked to PQD in the EU (€ mln)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<i>Total Burdens</i>	0.3	0.9	0.9	2.4	2.0	1.8	1.6	2.1	2.3	2.3	1.3
<i>Total Savings</i>	-	-	-	-	0.8	0.7	0.7	0.9	1.0	1.0	0.5

Source: Authors' own elaboration

Construction Companies. Two effects on construction companies were quantified: (i) substantive (financial) cost savings linked to the introduction of the LPD; and (ii) administrative burdens linked to the EPC.

With respect to the LPD, financial cost savings could be quantified for 2014, i.e. the only full year in scope of the Assignment following the implementation date. In total, cost savings amounted to about €160 mln, of which €119 mln were attributed to the EU framework, accounting for about 0.02% and 0.01% of the total turnover and about 0.05% and 0.04% of the value added in the MS for which data on savings are available, respectively.³⁵² Exhibit 5.4 provides an estimate of the financial cost savings generated by the reduction in the payment duration in the construction sector in selected MS. Negative values refer to additional costs in countries where the payment time increased.

Exhibit 5.4 Financial Cost Savings Generated by the LPD in 2014 for the Construction Sector in 6 MS (€ mln)

	Total cost savings	EU cost savings
<i>Financial Cost Savings</i>	160	118.7
<i>Share of Sector Turnover</i>	0.02%	0.01%
<i>Share of Sector Value Added</i>	0.05%*	0.04%*

*Sectoral statistics refer to construction of buildings and specialised construction activities (NACE Sections 41 and 43). *: Estimate based on 2013 Value Added. Source: Authors' own elaboration*

³⁵¹ The comparison with turnover and value added is not meaningful here, given that burdens are almost insignificant when compared to sectoral statistics.

³⁵² MS are Belgium, France, Germany, Italy, Spain, and the UK.

With respect to the administrative burdens generated by the EPC, only a small share of the costs incurred due to this certification fall upon construction companies, with the bulk falling on owners, project developers and real estate operators. Data are available for the 2010-2014 period and are shown in Exhibit 5.5 below. The total burdens of EU origin for construction companies amount to €23-30 mln per year, which is a negligible amount compared to a value of production amounting to about €875,000 mln in 2014 in the same MS (source: CRESME).

Exhibit 5.5 EU Regulatory Costs for Construction Companies due to EPC in 10 MS 2010-2014 (€ mln)

	2010	2011	2012	2013	2014
<i>Administrative burdens</i>	29.9	26.0	26.5	24.8	€3.0

Source: Authors' own elaboration

New market opportunities

Professionals and Craftsmen. Two market opportunities for professionals were quantified: (i) the mobility added value generated by the PQD; and (ii) the new revenues generated by the issuance of the EPC.

The added value generated by professionals and craftsmen moving abroad, both for establishment and temporary mobility, was estimated for the period 2004-2014. The impact of the mobility of professionals and craftsmen remains low compared to the size of the sector, amounting in 2014 to 0.04% of the value added for engineering services, 0.41% for the four crafts considered, and 0.29% for architects. Results are shown in Exhibit 5.6.

Exhibit 5.6 Mobility Value Added Generated by the PQD in the EU (€mln)

		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Architects	<i>Mobility Added Value (€mln)</i>	0.08	4.15	8.16	21.95	39.83	43.49	50.20	53.23	60.57	64.57	60.35
	<i>% over Sector Added Value</i>	0.00%	0.02%	0.04%	0.10%	0.15%	0.19%	0.22%	0.24%	0.27%	0.29%	0.29%
Engineers	<i>Mobility Added Value (€mln)</i>	2.59	6.82	10.86	14.70	17.62	21.76	27.08	31.87	37.79	46.41	41.59
	<i>% over Sector Added Value</i>	0.00%	0.01%	0.01%	0.01%	0.02%	0.02%	0.03%	0.03%	0.03%	0.04%	0.04%
Masons, bricklayers, electricians, painters, and decorators	<i>Mobility Added Value (€mln)</i>	5.47	21.12	37.82	104.55	166.21	182.01	219.45	279.78	338.08	393.81	472.02
	<i>% over Sector Added Value</i>	0.01%	0.02%	0.03%	0.08%	0.12%	0.15%	0.18%	0.23%	0.28%	0.34%	0.41%

Sectoral statistics refer to NACE Classes for professionals and craftsmen as defined in Annex II.
Source: Authors' own elaboration

The revenues generated by the issuance of the EPC amounted to €611 mln in 2014 (the only year in which data for nine out of the 10 MS covered by the Assignment are available).³⁵³ The revenues have already been discounted for intra-value chain costs, i.e. by the share of EPC costs borne by construction companies. In 2014, this market accounted for about 0.5% of the value added generated by professionals in these 9 MS.

³⁵³ The steady amount of market revenues is largely due to the increase of data coverage from additional MS, especially for larger MS, in 2013 and 2014, and should not be interpreted a market increase.

Exhibit 5.7 EPC: New market Opportunities of EU Origin for Professionals (€ mln)

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Market Revenues	0.9	4.2	122.9	212.5	166.8	170.5	170.6	325.5	611.0
% over Sector Value Added	-	-	0.11%	0.22%	0.16%	0.17%	0.16%	0.29%	0.54%*

Sectoral statistics refer to engineering and architectural activities (NACE Sections 71.11 and 71.12)

**: Estimate based on 2013 Value Added. Source: Authors' own elaboration*

Construction companies. The total energy efficiency-related turnover for construction companies in both new and existing building segments was estimated for the sub-period 2010-2014, that is the years for which comprehensive data are available. The value of this business opportunity is considerably higher than the other categories of costs, benefits and market opportunities estimated above. In the residential markets of the 10 MS covered by the Study, the regulatory-induced market for energy efficiency-related construction activities amounts to about €81,800 mln in 2014, of which about 91% (€ 72,900 mln) refer to renovation and € 8,900 bln (9%) to new buildings. However, if only new business opportunities of EU origin are taken into consideration, thus disentangling national policy factors, the effect is lower, though still very considerable. In 2014, the EU regulation-induced market for energy-efficiency related construction activities amounted to almost €26 bln bln, of which €21.3 for renovation, and €4.1 bln for new buildings. This value is largely stable across the 2010-2014 period, varying between €24.3 and €25.8 bln. Compared to the overall size of the market for residential buildings in the 10 MS covered, EU-induced market opportunities account for about 7-8% of the value added at factor cost.

Exhibit 5.8 New Market Opportunities of EU Origin for Construction Companies – Renovation and New Building Segment, in 10 MS (€ mln)

		2010	2011	2012	2013	2014
New buildings	EU New Business Opportunities	2,617	2,942	2,976	3,268	4,129
	% over Total Market	1.5%	1.6%	1.7%	1.9%	2.1%
	% over Sector Value Added	0.8%	0.9%	0.9%	1.0%	1.2%*
Renovations	EU New Business Opportunities	22,100	21,977	21,300	€21,299	21,268
	% over Total Market	7.1%	6.8%	6.6%	6.6%	6.6%
	% over Sector Value Added	6.4%	6.4%	6.3%	6.4%	6.5%*
Total	EU New Business Opportunities	24,717	24,919	24,277	24,567	25,797
	% over Total Market	5.1%	4.9%	4.9%	5.0%	4.0%
	% over Sector Value Added	7.2%	7.2%	7.2%	7.4%	7.8%*

*Sectoral statistics refer to value added at factor costs of NACE Sections 'construction of buildings' and 'specialised construction activities' (41 and 43). *: Estimate based on 2013 Value Added.*

Source: Authors' own elaboration

EQ8. Are the benefits achieved at the lowest possible cost for the sector given the objectives of the legislation?

While a full-fledged comparison between costs and benefits remains out of the scope of the present Assignment – since only benefits generated on operators of the construction sector are considered, leaving aside the wider societal benefits of the selected EU acts – the following sections discuss whether some of the costs identified in the course of the analysis are additional compared to the possible minimum level of burdens.

Internal Market policy area

With respect to the CPR framework, stakeholders pointed out a certain duplication of costs between the CE marking and the DOP. In particular, the two tools include similar information which could be streamlined. This is considered as particularly burdensome in view of the possibility of including more information on additional product performances and characteristics within the CE marking in the coming years. Furthermore, having two parallel ways to CE mark construction products, one under hEN and one under EDD secondary regulations, possibly with different methods for measuring performance, is another cost which is perceived as a possible duplication. On the other end of the spectrum, the costs of the PQD, being a fraction of the added value generated, are not considered as hampering the achievement of the objectives of the legislation. Moreover, stakeholders do not consider PQD paperwork costs as a major barrier to cross-border mobility.

Energy Efficiency policy area

Assessing whether EPB requirements are the least stringent possible option to achieve the objective of energy efficiency legislation would require a comparison of costs and societal benefits. However, whether construction companies could bear the additional costs, e.g. in terms of physical or labour inputs, required to exploit this market opportunity depends on the pass-on factor, measuring a firm's ability to compensate higher costs by increasing prices for customers. The pass-on factor is influenced by various factors, including: (i) the very magnitude of the extra costs determined by more stringent regulations, as smaller increases are more easily transferred to clients; (ii) general market developments, i.e. the general trend in real estate prices and volume of transactions; (iii) the presence and scale of government financing schemes aimed at supporting the purchase of more energy efficient buildings; and (iv) house buyers' preferences, which may result in the willingness to pay a premium for more energy efficient houses. A qualitative estimate of this factor was done for the 10 MS in scope of the analysis:

- In **Belgium, Denmark, France, Germany, Poland, Romania and the UK**, available evidence suggests that construction firms were generally able to incorporate the extra costs into prices. After the real estate bubble of the mid-late 2000s, all countries experienced periods of declining prices. However, this mostly resulted in a reduction in the 'real estate rent', and did not fundamentally alter the cost plus pricing mechanism used by construction firms. In addition, in France and Germany the demand for high quality buildings was actively supported by subsidised lending schemes, therefore reducing the downward pressure on prices. Moreover, in West European countries homebuyers' preferences seemed to progressively reorient towards dwellings with higher EE standards for which they are prepared to pay a premium. Finally, in the case of Romania and Poland, the estimated extra costs linked to EPB requirements are quite modest, facilitating the passing-on to homebuyers.
- In contrast, in the case of **Ireland, Spain and Italy**, part of the extra costs linked to more stringent EPB requirements had to be absorbed by construction companies. In these countries, the decline in construction activity was deeper and/or more prolonged, resulting in a stronger downward pressure on prices. These negative market developments were only marginally mitigated by government programmes targeted at energy efficient new dwellings, that either did not exist (in Ireland), were short-lived (Spain's *Plan de Vivienda* was operational only in 2010-2012), or proved to be scarcely effective (Italy's *Plafond Casa*). Finally, with the partial exception of Ireland, evidence is scarce that homebuyers were willing to pay a premium for better energy performance. Under these conditions, from 2008 (in Ireland and Spain) and 2010 (in Italy) on construction firms were plausibly able to recoup only three quarters of the EE-related extra costs.

With respect to other issues in this policy area, the costs for construction companies related to the issuance of the EPC for new buildings were also quantified. These costs are minimal, and, as a result, more easily passed on to clients. Evidence of possible gold plating was identified with

respect to the certification of inspectors and RES installers. With regard to inspectors of air-conditioning system, France is the only MS among those covered in-depth in which an ISO certification is required. Inspectors have to be certified according to ISO standard 17024 by a body accredited by the French committee of accreditation. With respect to RES installers, again in France a certification scheme, the so-called *Reconnu Garant de l'Environnement* (RGE) was set up. Though not mandatory, resorting to an RGE-certified company is a prerequisite for customers to access public financial support for building renovation and RES deployment. RGE is not a certification *per se*, but a certification of existing accreditation or equivalent schemes (e.g. *Quali'Sol* for thermal solar, *Quali'Pac* for heat pumps, and *Quali'PV* for photovoltaic). Companies possessing these first-level qualifications can be RGE-certified. Though the RGE is a second-level certification, hence relying on existing schemes rather than setting up a new one, and simplifications were introduced (e.g. in terms of single audits for multiple technologies and systems), costs may still be significant for SME, amounting to approximately €1,000 for obtaining the qualification.

EQ9. To what extent do 'shortcomings' in the selected EU acts, or in its implementation/transposition at a national level, impact on the performance of the construction sector?

Based on the analysis presented in Sections 4 and 5.3, several shortcomings in the selected EU acts or their implementation at national level were identified as potentially having an impact on the performance of the construction sector, based on desk research, inputs from the OPC, and interviewees with stakeholders. However, detailed information on the impacts of these shortcomings were scarce, or pointing out that the impact was, in most cases, negligible. In general, companies were not able to provide a quantitative estimate of the impacts of these shortcomings. This is alone a signal that impacts may not have been significant in the period under analysis.

Several inconsistencies linked to legal drafting issues, e.g. with respect to definitions or cross-references were identified. They concern: (i) the definition of economic operators under the CPR, ELD, and EDD; (ii) the lack of explicit cross-references to energy-related products in the CPR; (iii) the definitions of energy, building, new building, and renovation under the EED, EPBD, and RESD; and (iv) the lack of cross-references with respect to energy performance of construction elements between the EDD and the EPBD. While a greater consistency in terms of legal drafting would be certainly desirable from a strictly legal point of view, neither the literature and jurisprudence reviewed nor the stakeholders consulted have highlighted situations in which the issues briefly summarised above have resulted in any tangible consequence for construction sector operators.

Then, four more substantive shortcomings were identified and are discussed more in detail below. Again, quantitative estimates of their impacts are not available. However, the assessment provides for a qualitative estimation of their current or potential magnitude where possible.

- 1. Overlap of ecodesign/energy labelling and CPR requirements.** Several categories of construction products, as defined by the CPR, can be classified as energy-using or energy-related products, possibly falling under the EDD and the ELD framework. So far, EDD secondary regulations were approved for five construction products and in one case – solid fuel space heaters – a product is covered by both EDD requirements and a hEN.³⁵⁴ The EDD secondary regulation calls for a revision of the hEN, but only in its recitals, and the hEN revision process has not been coordinated so far with the legislative procedure. This overlap, and further potential overlaps should the scope of the EDD and the ELD be widened to other construction products covered by hEN, is perceived by stakeholders in the construction product industry as creating potential costs, because of duplication. In practice, the same product risks being subject to two different testing methods for determining its performance, hence duplicating substantive costs. Stakeholders' views on

³⁵⁴ As this overlap came into existence in 2015, while the Study focused on costs and benefits during the 2005-2014 period, it is not attributed any cost in the economic analysis.

the subject are somewhat divided. On the one hand, stakeholders representing the energy and environment sector argue that the EDD and ELD are helpful to address additional energy and environment-related issues not covered by the CPR. Construction product manufacturers have a strong preference to keep their products under the exclusive scope of the CPR, a regulation to which they have been subject with since long, and reportedly working smoothly for most operators. As such, energy efficiency requirements would be better dealt with within the current standardisation process, relying upon Basic Requirements 3 and 7, as defined in Annex I to the CPR.³⁵⁵ Having construction products subject to EDD and ELD requirements would, in their opinion, create unnecessary and duplicated burdens linked to duplicated testing methods, hassle costs due to the need to comply with a familiarise with different – and possibly misaligned – legislation. Furthermore, having two parallel routes for CE marking, both under the EDD and the CPR, would create confusion in the market as to its meaning – a meaning which was only recently clarified when the CPR was introduced. Based on the available information, this shortcoming has not generated so far significant costs for the sector. Furthermore, given that its scope is currently limited to one construction product, this overlap is not likely to significantly impact on the competitiveness of the sector in the future – though the scope may be increased in the coming years. Still, costs which may be limited overall could be significant for specific manufacturers and product segments, especially in the early familiarisation phase. In practice, the extent of the overlap will concretely depend on the standards and implementing measures adopted under the EDD. The impact is expected to be low in general, but possibly high on the segments affected by the duplication. Regardless of the magnitude, this overlap remains a clear case of unnecessary duplication of regulatory requirements, not in line with the Better Regulation principles.

2. **Schemes related to the assessment of buildings and building systems.** Both the EED and the EPBD include provisions for the assessment of the energy performance or consumption of a building or building system. More in detail, four schemes are set up in the two acts, namely: (i) the EPC of residential buildings; (ii) reports on the inspection of heating systems; (iii) reports on the inspection of air-conditioning systems; and (iv) energy audits of large companies. Under the current guidance documents, the EPC and energy audits are no longer equivalent,³⁵⁶ given the larger scope of the latter. This overlap may create at least three effects on the construction sector:
 - a. **Costs of familiarisation for experts.** Professionals involved in these schemes have to make themselves acquainted with the various procedures, methods, and content under the four schemes. Furthermore, as discussed above, they may need to obtain an accreditation/certification based on different requirements and from different bodies. This cost creates a barrier to entry in the various markets for each scheme, inducing an artificial segmentation and lowering competition. The barrier to entry may indeed reduce the number of experts available for each scheme, raising market prices and reducing incentives for the continuous development of professionals. From the evidences retrieved, costs are low in many countries, but may be significant, especially for independent professionals and SME, whenever (third-party) accreditation/qualification schemes are made mandatory or necessary to access public incentives.
 - b. **Additional revenues for experts.** Unintendedly, having various non-equivalent schemes may multiply the revenues for professionals involved in the assessment of buildings or building systems. Obviously, this is never a benefit for the society, as the consumer will eventually pay the bill for the various assessments. And, on second thought, this is also unlikely to be a benefit for most professionals. The multiplication of certifications is likely to reduce the compliance rate by consumers, and, by exhausting consumers' willingness to pay, to skew the market towards low-price low-quality services, making it more difficult for high quality professionals to thrive.

³⁵⁵ So far, Basic Requirements 3 and 7 have not yet been included in any hEN, hence there is yet no estimate of any possible regulatory effect.

³⁵⁶ The Commission Guidance Document advises MS to ensure that national transposition measures exploit synergies between the EED and the EPBD with respect to building and building systems schemes. Cf. EED Commission Guidance.

- c. **Costs for construction companies.** This cost is likely to be low to negligible. Both inspection reports and energy audits are paid by owners or tenants, and do not concern construction companies, not even those which both build and sell buildings, which only pay for the initial EPC. Conversely, a simplification of these schemes is unlikely to benefit construction companies.
3. **Accreditation and training of experts.** The guidance note of the EED explicitly states that synergies should be explored and consistency ensured between the qualification/certification criteria and schemes under the EED and the EPBD. At the same time, synergies may also be sought with accreditation and training of RESD experts. However, the existing potential for synergies is not yet exploited. Qualification and training remain a competence of MS, with wide differences from country to country. In addition, qualification/accreditation schemes and training programmes are not required to have a common basis and then, through a modular structure, be adapted to the various categories of energy efficiency building experts. The schemes are hence different for the various categories – corresponding to only partially overlapping needs –, and in some cases even managed by different public administrations at national/regional level. The lack of a better coordination may result, again, in entry costs, and thus barriers, in the various markets for professionals. The modular approach to qualification/accreditation and training programmes are considered by stakeholders and experts as potentially generating benefits – as cost savings because of reduced duplication – but no information is available on the magnitude of these effects.³⁵⁷
4. **Insufficient implementation of SD provisions for the construction sector.** The implementation of the SD for the construction sector at national and local level is far from being perfect. In particular, (i) the SD was mostly implemented by means of horizontal regulation, without any specific provisions relating to the construction sector; (ii) the SD was mostly implemented through principle regulations, hence not affecting how administrative procedures are applied, especially at local level; and (iii) in many cases, local entities lacked the expertise, skills and manpower to properly implement the SD. Accordingly, the various studies and reports by the Commission, as well as the empirical findings of this Study, identified a set of persisting regulatory barriers to the activity of construction companies. Furthermore, the cumulative application of Internal Market rules, including both the SD and the PQD, lacks consistency and coherence. These barriers are likely to prevent operators from exploiting the full economic potential of the construction service sector, at both domestic and cross-border level. Hence, a reduction of these barriers, while preserving the level playing field for market operators, would on the one hand increase competition, reducing prices and increasing quality for consumers, and, on the other, spur additional economic activities, triggering a GDP increase and the creation of new jobs. The magnitude of these missed benefits depend on (i) how significant regulatory barriers remain across and within each MS; and (ii) what additional cross-border potential can be exploited by EU construction operators.

In conclusion, overlaps or inconsistencies identified in the selected EU acts affect, to a different extent, the various operators of the construction industry: manufacturers, with regard to the linkage between the CPR and the EDD; professionals, because of the duplication of certification schemes and accreditation and training requirements; and construction operators, with regard to the implementation of Internal Market rules. However, the expected magnitude of their impacts – though a quantitative estimate could not be provided – remains negligible to low. There may be exceptions, such as the impact of the overlap between CPR and EDD on specific product segments covered by both a hEN and secondary regulation under the EDD. Nevertheless, the first of such overlaps appeared in 2015, and it is too early to evaluate its effects; in any case, it is estimated that this problem hardly affects the competitiveness of the overall construction sector. Another exception could be the need to undergo multiple accreditation/qualification for EPB professionals; however, this is likely to create substantial burdens only when this accreditation/qualification is

³⁵⁷ Cf. CA EPBD, in particular the Core Theme 3 on Training.

made legally or *de facto* mandatory. With respect to Internal Market legislation, additional benefits could be tapped by better implementing the SD, for both domestic and cross-border operators. In any case, given that the regulatory framework is not the main barrier to construction activities, the current shortcomings may not be blamed for the limited output or profitability in the construction sector across many MS. On the contrary, the competitiveness of the sector is determined more by the general market trends and the economic situation. Regulatory simplifications and streamlining would clearly have a positive potential effect. At the same time, the overall competitiveness of the sector is better supported by appropriate financial and macroeconomic policies.

EQ10. How do the costs and benefits differ across the EU?

EQ11. What factors influence the costs and benefits, in particular with regard to national transposition?

National, and sometimes local, legislation remains the main means to regulate the construction sector, while the EU framework is not the most important driver. This is especially true for the Energy Efficiency policy area: whereas EU legislation sets targets and general requirements, the detailed regulation of EPB requirements, support measures, and expert accreditation/qualification are defined at national and regional level. Also in the Internal Market policy area, large differences persist with respect to the costs and benefits generated by the LPD, and, on a different note, the impacts of the SD. Here below, the impact of different national legislation is discussed in greater detail.

Energy Efficiency policy area

In the Energy Efficiency policy areas, differences across MS are more frequent than similarities. With respect to EPB requirements and support measures, in most MS the national framework has a greater impact than EU legislation, though the latter plays a fostering role and sets the general objectives. The requirements for the EPB are incorporated in building codes or equivalent regulations developed by governments' authorities at national and/or regional/local level. Most of the countries covered by this Study have a fairly long history of regulating the EPB, with the first provisions often dating back to the 1970s or even the 1960s. During the 2004-2014 period, the regulatory framework underwent significant changes in all the countries in scope of the analysis. In particular, two main trends are present, though a different degree, across all MS: (i) the significant strengthening of EPB requirements; and (ii) the growing attention paid to building renovations. The process was different across MS. In particular, some MS opted for a more gradual approach, while others modified the levels of ambition 'en route'. National differences also persist in the way in which the EPB requirements are expressed. While there was a general trend towards the adoption of performance-based requirements (i.e. considering the EPB as a whole), in several cases prescriptive elements are still present in building codes.

Changes in the regulatory framework went hand in hand with the deployment of financial measures aimed at supporting energy efficiency in buildings. Three main trends emerge from the analysis:³⁵⁸

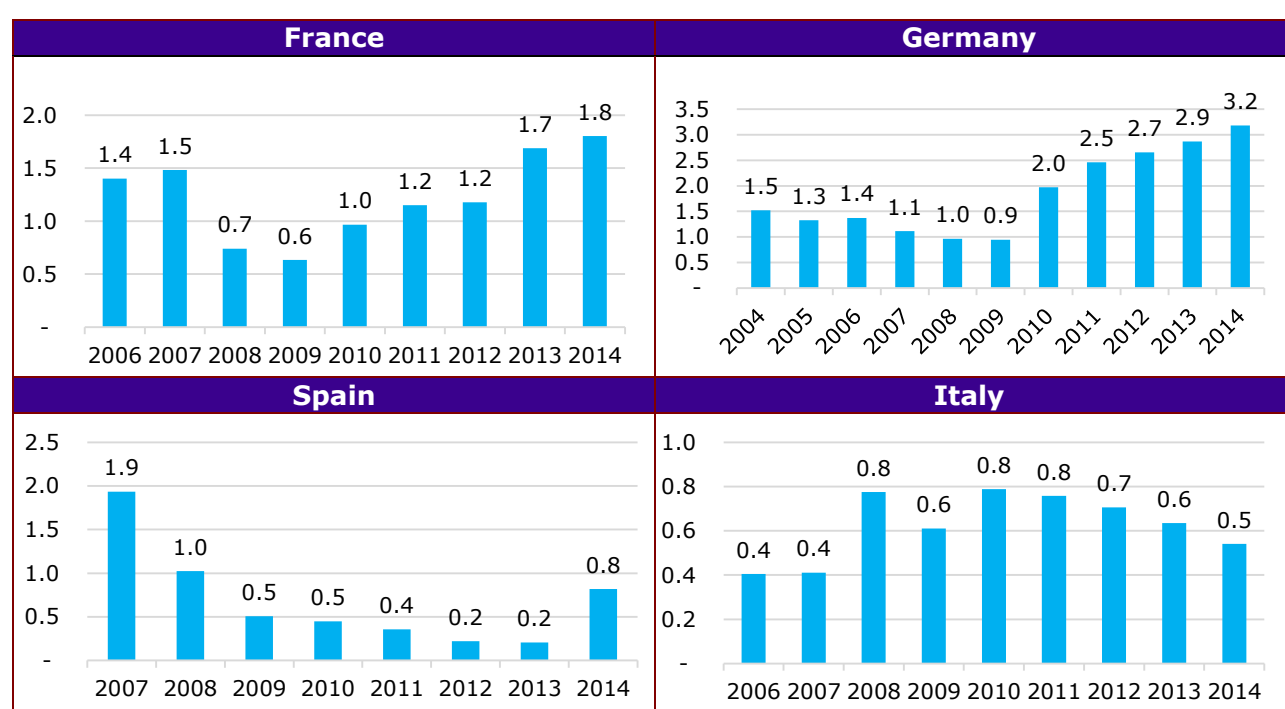
1. In most MS, the focus is increasingly on building renovation. Support to new buildings is available in some MS, but typically on a much smaller scale;
2. The range of instruments deployed is extremely varied, reflecting national preferences and customs. In some MS, the selection of instruments was influenced by considerations that have little to do with EE-related considerations.
3. There are significant differences across MS regarding the selectivity of government assistance. In some areas (e.g. Germany and the Flanders), support schemes are increasingly geared towards the achievement of progressively higher EPB standards. In

³⁵⁸ It is important to note that EE-related measures coexist with a number of other instruments aimed at supporting building construction and/or renovation 'in general'. Often, these 'generic' support schemes can be cumulated with EE-related schemes, making it difficult to precisely assess the separate impact of the various instruments.

other countries, a significant share of support is provided through 'broad' schemes, applying to a wide range of EE-related interventions.

The different national political contexts resulted in different trends in the EE-related markets. With respect to the market for new buildings, in France and Germany the tightening of EE requirements, combined with a market recovery, resulted in an overall growth of the EE-related market since 2011. In France, the market almost doubled between 2010 and 2014, from slightly less than €1 bln to €1.8 bln; in Germany, the EE-market for new buildings steadily increased by about two thirds between 2010 and 2014, reaching up to more than €3 bln. In contrast, in Italy and Spain, the effect of the progressive tightening of the EPB was more than outweighed by the drastic decline in the overall market, resulting in a negative trend. In Spain, the value of EE-induced new buildings jumped in 2014 by about four times, due to the strengthening of EBP requirements. In Italy, EE market size has been declining from 2010 onwards, up to about 500 mln in 2014, even though EPB requirements were made progressively stricter. Results are shown in Exhibit 5.9 below.

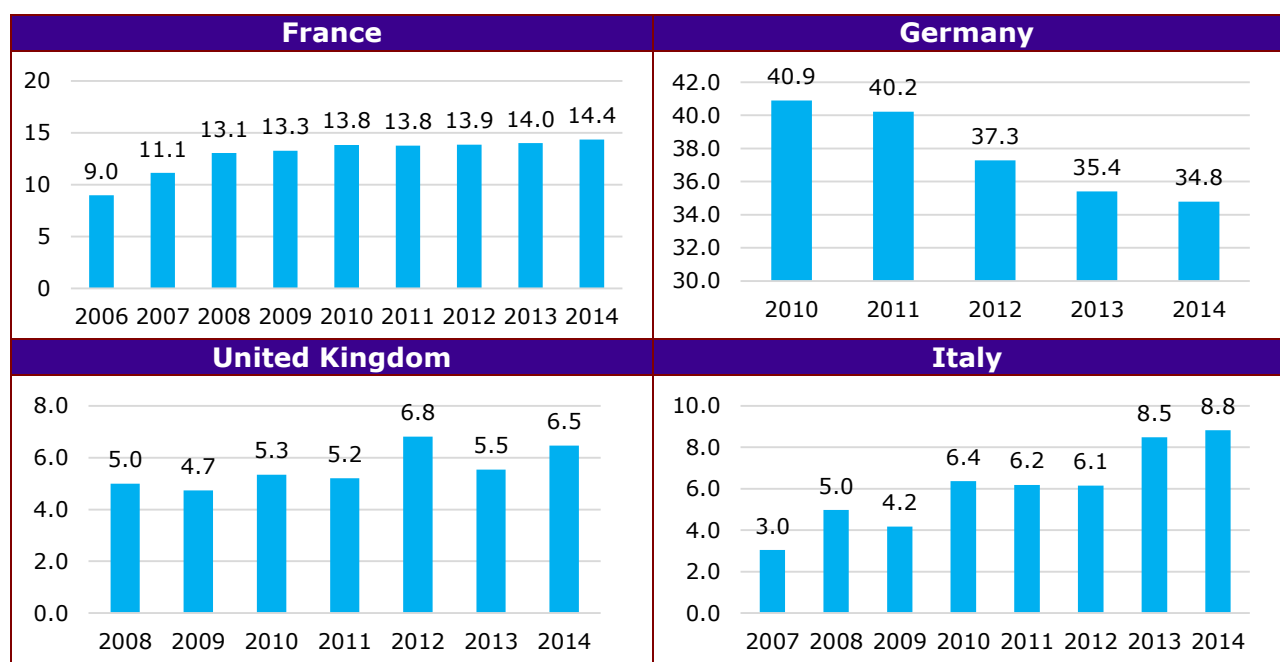
Exhibit 5.9 Development in the EE-Related New Building Market in Selected MS (€ bln)



Source: Authors' own elaboration

Results are also divergent with regard to the renovation market segment. Developments were globally negative in Germany, where the EE renovation market fell from some € 40 billion in 2014 to less than € 35 billion in 2010. This appears to be due to a decline in the RES segment linked to the reduction of government incentives. The decline in Germany is partly compensated by an increase in Italy, where the market grew from about € 6 billion in 2010-2012 to nearly € 8 billion in 2014, largely in connection with the increase in tax deductions for EE interventions starting in mid-2013. In France, after the strong growth recorded in the late 2000s, over the 2010-2014 period the market increased only marginally, by some € 0.5 bln. Positive developments can be observed also in Belgium and Denmark. In Spain, where the marginally declining trend until 2013 was due to a contraction in the general market, with a rebound in 2014. The UK is a special case, as the globally positive trend started in the late 2000s and stopped in 2012 due to the problems encountered by the Green Deal programme, leading to a drastic decline in the insulation segment (falling from more than € 2 billion to € 0.5 billion and only partially bouncing back to € 1.2 billion in 2014).

Exhibit 5.10 Developments in the EE-Related Renovation – Selection of MS (€ bln)



Source: Authors' own elaboration

Renovation of Central Government Buildings. Art. 5(1) of the EED requires all MS, as of 1 January 2014, to renovate each year 3% of the total floor area of heated and/or cooled buildings owned and occupied by its central government. The 3% requirement may be opted out of, in case a MS decides to implement other cost-effective measures leading at least to an equivalent amount of energy savings. At the current date, 11 MS decided to opt for the 3% renovation rate, while 17 MS opted for 'alternative' measures. Among the sampled countries, only Romania and Spain adopted the 'default' approach. In this context, additional revenues for the construction sectors in 2014 were estimated at €131.5 mln for Spain and €22.0 mln for Romania.

Accreditation and certification of experts/inspectors. The EPBD, the EED, and the RESD all provide for different mandatory or optional accreditation/certification schemes for experts and inspectors. In particular,

1. the EPBD requires that: (i) the EPC of buildings are carried out in an independent manner by qualified and/or accredited experts; and (ii) inspections of heating and air-condition systems are carried out by qualified and/or accredited experts;
2. the EED requires that energy audits are carried out in an independent manner by qualified and/or accredited experts; and
3. the RESD requires MS to ensure that certification or equivalent qualification schemes are or become available by 2012 for installers of small-scale RES generation capacity.

In all three instances, the implementation modalities of these requirements vary greatly from MS to MS, and sometimes within MS as well at regional level. The various frameworks are analysed extensively in Annex III to the Report. Information on costs was retrieved via interviews with installers and stakeholder associations. However, given the diversity of schemes across MS, the number of data points were not sufficient to quantify costs.

Internal Market policy area

Though quantification could not be provided, large differences were observed concerning the effects of the SD in terms of simplifications and increased foreign competition. As for the former, simplifications were clearly introduced to the regulatory framework applicable to construction activities following the implementation of the SD, but only in a small number of MS. In general, the effects perceived by construction companies were limited, i.a. because of differences in the national institutional framework. First and most importantly, in most MS the SD was implemented by means of horizontal legislation only, that is via legal principles valid for the whole services economy which not always translated into detailed procedures to be followed by the public offices in charge of specific economic activities. Especially in civil law countries, where public authorities, including local, are not used or even allowed to apply principles derogating from pre-existing detailed norms, the impact of the SD was limited to those MS which implemented the SD specifically to the construction sector. Secondly, SD simplifications largely concern the national legal frameworks. However, in several MS regional authorities also have legislative competences over building procedures and technical regulations; furthermore, local authorities are called upon to administer most of them. Some stakeholders claimed that local authorities lack the '*expertise, knowhow and means*' to implement the simplifications introduced. In addition, the regulatory playing field is reportedly uneven, with only a share of local authorities in the same MS administering simplified procedures. For instance, where the provision to set up a local one-stop-shop was introduced at national level, only a minority of municipalities did so.

As for the inward effects of the foreign competition which was fostered by the SD, the opinions and data retrieved showed the negative perception by stakeholders and firms varies from MS to MS. First and foremost, the impact of increased competition is mostly felt in the MS which (i) can be conveniently reached, e.g. are not islands or too peripheral; (ii) have high gross labour costs, i.e. including taxation and social contribution; and (iii) have a healthier and sufficiently large construction market to justify access by foreign companies from an economic point of view. Furthermore, the impact on healthier markets was exacerbated in recent times due to the economic crisis which affected the construction markets in certain MS severely. Belgium and France match this description and were among the countries in which both companies and trade associations had the most negative assessment of increased competition. In particular, 100% of Belgian and French respondents reported an increase in competition, while, at the other end of the spectrum, the share is the lowest for British and German operators. Italy is a case in point with regard to this cleavage, as foreign presence is frequent in Northern regions, which are more easily reachable and have a healthier market, while comparatively less relevant in Southern areas.

EQ12. How are the various aspects related to inefficiencies and unnecessary burdens addressed by MS and the affected industry sector in terms of cooperation and coordination?

During the Assignment, two market-based coordination mechanisms were identified:

1. a market solution was found concerning the barrier to cross-border activity represented by insurance requirement in France; the solution was supported by the French insurance federation and companies and, in case of German contractors, by the German federation and insurance companies;
2. in France and Italy, the cooperation between energy companies and construction operators with regard to the implementation of energy efficiency obligations resulted in being beneficial for both groups – though with possibly conflicting interests.

Cross-border insurance requirements. Insurance requirements for construction companies are still considered a barrier by stakeholder associations, and some of the interviewees reported that they could not rely on their own insurance coverage when going abroad. Problems in the mutual recognition of insurance requirements have several causes, linked to both the regulatory framework and the functioning of the insurance market:

1. national regulatory frameworks on insurance requirements are extremely different from country to country, and no EU piece of legislation harmonises the professional liability for

- construction operators. As a result, assessing whether an insurance issued in country A can be considered as 'equivalent or essentially comparable' in light of the requirements of country B is very difficult;
2. the professional liability insurance is a complex product, and the coverage granted to the insured company may vary over a large number of parameters. Consequently, assessing whether each insurance coverage subscribed by a foreign construction operator is 'equivalent or essentially comparable' given the requirements of the host MS is even more difficult; and
 3. insurance markets tend to exclude the coverage of idiosyncratic risks, i.e. risks for which an insurer cannot estimate ex ante the distribution of probability of adverse events, as may be the case for cross-border activities.

While barriers and costs linked to insurance requirements persist, stakeholders concurred that problems are less significant than a few years ago. In particular, reference was made to the fact that foreign companies intending to operate in France found it very difficult to buy a coverage there due to the *garantie décennale* required from contractors. A market-based solution was eventually identified, and perceived as a working solution. In 2010, the French federation of insurance companies set up a point of contact for foreign companies, providing information about insurance requirements and a guide on how to obtain a coverage.³⁵⁹ At the same time, agreements were signed between French and other EU insurance companies to ensure the flow of information about insured subjects and risks, and thus to sell, or have sold by a partner company, the coverage requested. Today a construction company intending to operate in France has three possibilities:

1. if its own insurance company sells the coverage for the *garantie décennale*, the contractor can adapt its existing insurance contract. This service is available only through specialised insurance providers, such as VHV in Germany;
2. if its insurance company is part of a multinational group or one of the agreements mentioned above, the contractor can be redirected to its company's French counterpart and negotiate the purchase of the coverage. This case is also relevant to contractors wishing to operate in any other MS: to top-up or purchase a coverage in compliance with the host country legislation, a contractor may contact its own insurance company, which can redirect the client to an international partner, e.g. within the same insurance group or its network;
3. if neither of these situations applies, the contractor can look for a French insurance broker, and be supported by the federation's point of contact in doing so.

Currently, in French neighbouring countries stakeholders report that the purchase of such a coverage is possible, though problems can still exist concerning its costs, which may not be worth incurring for small projects or for works with a short duration.

Efficiency Obligations for Energy Companies. Article 7 of the EED requires MS to set up an energy efficiency obligation scheme, ensuring that energy distributors and retail companies (hereinafter 'obligated parties') reduce the sale of energy, by volume, at least by 1.5% per year. Broadly speaking, the savings are to be obtained by reducing the energy consumption of final users, including both households and industrial customers. Among the 10 MS in the scope of the analysis, only two countries completely opted out from setting up such a scheme, namely Germany and Romania; in Spain, the government expressed the intention to establish the scheme, but still has not done so.

Obligated parties have to either contribute to the funding of these schemes, or implement energy saving measures themselves. In several cases, the obligation to implement energy-efficient measures is coupled with a market for so-called 'white certificates', i.e. tradable certificates corresponding to a certain amount of energy saved. The redemption of these certificates, based on the projects undertaken, enables obligated parties to comply with their obligation. In case the energy saved is lower than the mandatory target, certificates can be bought on the market.

³⁵⁹ Available at: http://www.ffsa.fr/sites/jcms/p1_1591570/fr/construction-insurance-the-bureau-of-european-manufacturers-set-up-by-the-ffsa?cc=p1_1371900 (last accessed on May 2016).

Where schemes require energy distributors and retailers to undertake energy saving actions, great attention is paid to small refurbishments in existing buildings, and in particular to heating systems, especially boilers, other building systems, such as ventilation and air-conditioning, windows, and insulation. These interventions in existing buildings are deemed to be cost-effective. Furthermore, energy distributors and retailers are already in contact with end users for marketing and billing reasons, and, as a result, have the means and capacity to propose small-scale improvements. As a consequence, these obligations resulted in new business opportunities for the construction sector, in particular for installers of building systems (especially heating) and windows, and to a lesser extent for construction operators, in case of insulation works or other larger interventions. In France and Italy, these schemes fostered the creation of a coordination mechanism among energy companies and providers of specialised construction services.

1. In **France**, in 2014 90.1% of the savings linked to the scheme '*Certificats d'économies d'énergie*', that is about € 202 mln, were invested in interventions on existing buildings, especially on heating systems and building envelopes. Based on these schemes, large French energy companies set up networks of operators: the energy operator sells energy-efficiency interventions to its customers, who can pay in instalments via the energy bills, and has its partner craftsmen carrying out the intervention on its behalf. For example, EDF set up the *Blue Ciel* platform, in which more than 4,000 French artisans, mainly installers, take part. While these networks create business opportunities for small craftsmen, EDF obviously enjoys a higher bargaining power, and is thus able to demand access requirements, fees, and other quality service requirements. French artisans are reportedly gladly participating in these networks, because of the business opportunities and because they can reach to the EDF network of customers.
2. In **Italy**, energy distributors and traders participate in the '*Certificati Bianchi*' scheme. In 2014, small-scale interventions in existing buildings accounted for about 16% of the value of the scheme, i.e. about €130 mln. The most common standard interventions include wall insulations, the substitution of boilers, and other improvements of the heating and cooling systems. Also in Italy, large energy companies try to leverage on their commercial and financial capacity and customers' knowledge to sell energy-efficiency interventions in building. Previously, the Italian legislation had prevented energy distributors from carrying out installation activities to avoid unfair competition and economic dependency. However, the provision was found in breach of the EU treaties. Since then, large companies, e.g. *Enelenergia*, have been offering energy-efficiency interventions to their customers.

Concluding Remarks – Efficiency

With respect to the assessment of the efficiency of the Internal Market policy area, the only significant categories of costs identified are generated by the CPR, which affects product manufacturers. On the contrary, the costs generated by EU legislation for contractors and professionals under other acts are negligible. This is again in line with the consideration that national and sometimes local framework matter significantly more. At the same time, benefits were also limited, the most important being new business opportunities under the PQD and financial cost savings under the LPD. In both cases, however, benefits only account for between 0.04% and 0.4% of the sectoral value added. Differently, the impact of the Energy Efficiency policy area was far more significant, with the business opportunities linked to EU legislation in the energy efficiency-related markets amounting to about €25 bln, or 7.4% of the sectoral added value. For professionals, significant business opportunities accrued from the EPC certificate, though the impact in terms of sectoral added value is only about 0.5%. All in all, both policy areas produced limited effects in terms of unnecessary costs. Importantly, however, a clarification is needed in this regard: companies in the most distressed markets may not have been able to recoup all costs linked to a more stringent EPB, in both the new building and renovation segments.

The impact of a set of shortcomings identified under the coherence analysis was assessed under EQ9, largely in connection with the provisions in the Energy Efficiency policy area and the energy product legislation. Quantitative estimates of the costs due to these shortcomings in the period under assessment are not available. However, the expected magnitude of their impacts remains

negligible to low. There may be exceptions, such as the impact of the overlap between CPR and EDD on specific product segments covered by both a hEN and secondary regulation under the EDD; or the need to undergo multiple accreditation/qualification for EPB professionals in certain MS. With respect to Internal Market legislation, shortcomings and obstacles persist, in particular with respect to the implementation of the SD in favour of the construction sector, and the functioning of a Single Market for professionals and construction companies. Surely, regulatory simplifications and streamlining would clearly have a positive potential effect. At the same time, the overall competitiveness of the sector is better supported by appropriate financial and macroeconomic policies.

The national frameworks have a large impact on the costs and benefits measured under this Study, especially when it comes to the Energy Efficiency policy area. There, national decisions on energy efficiency requirements, and, most importantly, support measures, remain the main regulatory drivers. Also for professionals, national and regional norms are the main drivers with respect to the accreditation and certification of experts. The national implementation, or lack thereof, also impacts the costs and benefits generated by the Internal Market legislation, with respect in particular to the SD and the LPD.

5.6 EU added value

EQ13. What is the added value of action at EU level, especially for SME?

EQ14. What would have happened to the construction sector if the selected EU acts or some of their specific provisions were to be removed and/or handled at MS level?

The pieces of legislation in the scope of the analysis generate EU added value in case their objectives are better achieved at Union level compared to e.g. national or local policies. In this respect, the analysis of these EQ builds upon the effectiveness and efficiency criteria discussed above with regard to the extent to which EU rules can promote a sustainable and competitive construction sector in a cost-efficient way. In the following paragraphs, the EU added value is assessed mainly qualitatively, and focusing on the attribution of regulatory benefits, cost savings and costs to the EU rather than national level and the calculation of the share of the costs which is independent from the regulatory framework (the BAU factor) In this respect, two clarifications are necessary: (i) the analysis below is centred on the EU added value delivered to the construction sector rather than to the EU economy as a whole; and (ii) the assessment of the EU added value relies on a series of assumptions that were extensively discussed in Section 3 and Annex III.

Internal Market policy area

All costs and cost savings stemming from the CPR are of EU origin, but not entirely additional when compared to the BAU activity. Most importantly, while regulatory costs would not entirely disappear in the absence of EU provisions, CPR benefits (in particular the additional trade flows and thus lower prices and better quality for customers; harmonisation of requirements for multinational and cross-border companies; simplifications, especially for SME) would be substantially reduced by a piecemeal national approach to the assessment and declaration of performance of construction products. More in detail:

1. the full attribution of regulatory costs and cost savings to the EU framework is explained by the fact that the current legal framework is based on a regulation rather than a directive, and an opt-out clause no longer exists for MS intending not to impose CE marking obligations;
2. the calculation of the share of BAU activities is based on the content of the DOP and CE marking, conveying commercial information that companies would have, at least partly, provided to their clients even in the absence of any legal obligation; and
3. national and local rules would remain even without an EU framework because building regulations largely rely on 'construction product specifications', which in turn require some kind of performance declaration.

When it comes to the administrative costs linked to the provision of the DOP and CE marking, the BAU factor is estimated at 40%. As regards the substantive costs linked to the obligation to put in place factory production controls and perform AVCP, all companies reported that the majority of such costs would be incurred in any case. As manufacturers care about the quality of their products and perform testing and other quality management processes on an ongoing basis, the BAU factor is estimated at 100%. Differently, Internal Market benefits could not be estimated for two reasons. First, the EU framework has been in place since 1989 and information on alternative scenarios could not be retrieved by companies. Secondly, stakeholders did not consider the CPR among the main factors for cross-border trade because of the limited tradability of most construction products. Interestingly, this does not mean that the CPR does not generate any benefits. On the contrary, the benefits in terms of costs savings stemming from a single EU regulatory framework are entirely attributable to the CPR and would not be achieved otherwise. Importantly, these benefits accrue mainly to companies operating in several MS rather than to SME serving local markets.

The PQD is a 'typical' EU act providing for mechanisms regulating the cross-border flows of people and goods. The cross-border effects and spill-overs lead to conclude that the EU action generates benefits that MS would not achieve on their own, or with higher coordination costs. For this reason, the new market opportunities generated by the PQD are considered fully of EU origin. Importantly, the estimate of PQD benefits may not fully capture the EU added value generated by cross-border flows of construction professionals and craftsmen, because they did not consider workers going abroad on the grounds of other EU provisions (e.g. the SD or the Posting of Workers Directive), working with local partners, or as employees. In the same vein, the administrative burdens linked to the PQD mechanisms, which are very low compared to the mobility added value, are also fully of EU origin. In summary, the effective reduction of regulatory barriers in the field of construction professions can only be achieved via an EU action, explaining the EU added value of the PQD.

The attribution of benefits to the SD is quite difficult, as these effects are limited to a small number of MS and largely overlap the impacts of other EU policies targeted at cross-border operators or national actions targeted at improving the regulatory environment. In this respect, the stakeholders' opinions did not provide a clearer picture. For instance, some governments argued that specific simplifications were made as a result of the implementation of the SD; other governments pointed out that the SD is a more horizontal piece of legislation with a limited role for the construction sector. Construction operators were generally unable to find a direct relation between the simplification of national or local regulatory frameworks and the SD. In the few cases where some benefits were identified and attributed to the SD, stakeholders were not able to quantify them. Also with respect to the Internal Market aspects and impacts on cross-border construction activities, attributing benefits to the SD is rather difficult, as the mobility of construction companies is still limited by several other factors (e.g. labour intensity, complexity of the supply chain, knowledge of the local market, etc.). The limited mobility is particularly relevant to SME (except those operating in niche markets), generally operating in a small area (within some 50km) and not having enough capacity (including financial and human) to offer 'all-inclusive' building services to foreign consumers and handle large projects that are worth the effort of going abroad. All in all, in light of a partial implementation, the EU added value of the SD for the construction sector seems to be still limited.

The EU added value of the LPD for the construction sector varies from country to country. In some MS (such as Italy), this Directive, jointly with other EU actions, was a breakthrough to combat late payments in the construction value chain. In some other countries (such as Germany, Spain and the UK), the LPD played a more limited part as decreasing trends in payment duration had already been registered before the enactment of this piece of legislation. Finally, the picture is more mixed in Belgium and France, where the LPD reinforced the impact of national actions. Based on this fragmented picture at MS level the conclusion can be drawn that in the absence of this Directive some MS would not be able to contain payment duration; on the contrary, some other EU countries would effectively ensure timely payment via national measures. Interestingly, SME, generally having a weaker bargaining position, are the operators benefiting the most from an EU action reducing payment time. Nonetheless, in this context, stakeholders (including SME) are less

optimistic and estimate a limited role for the LPD in combating late payments in the sector.

Energy efficiency policy area

As regards the pieces of legislation included the energy efficiency area, the EE-related market generated by the provisions of the EPBD and EED clearly features an EU added value. Providing an accurate estimate is difficult, as MS retained a large degree of autonomy in e.g. setting and tightening EPB requirements, devising national strategies for the renovation of buildings, and deploying financial measures supporting such strategies as well as the market uptake of EPB requirements. Against this background, the assessment of the EU attribution has to rely on qualitative assumptions and, more importantly, account for national specificities. As a result, EU legislation is considered as generating 31% of the total EE market in the ten MS covered by this assignment, with a greater role for the new building segment (41%), and smaller for renovation (30%), with national support programmes playing a more important part. This share of the EE market accounts for 5% of the entire market for the construction of buildings, i.e. some 7% of the renovation market and less than 2% of the market for new buildings. As mentioned, the EU added value of energy efficiency legislation delivered benefits to all links of the construction value chain, which is dominated by SME. Furthermore, EPB requirements affected also a share of manufacturers of construction products and had a high degree of additionality (and thus a low BAU factor) compared to the business-as-usual market demand. Nonetheless, the added value of EU energy efficiency measures is unevenly distributed across MS, implying that the removal of EU actions in this field would generate marginal impacts in some EU countries (e.g. Belgium, Denmark, France, Germany and UK) where national measures would deliver comparable benefits. In other MS (e.g. Italy, Poland, Romania and Spain), differently, the absence of EU rules would impinge on the functioning of the EE market in the construction sector.

When it comes to the administrative burdens generated by the EPC system under the EPBD and new business opportunities for professionals issuing these certificates, the share of the costs and benefits attributable to the EU level is equal to 100% in the majority of EU countries. The only exceptions are Denmark and Germany, which had already introduced some forms of certification schemes before the enactment of the EPBD. On the contrary, the EU added value, as well as the effectiveness, of the recommendations included in EPC for the construction sector is deemed very limited by both stakeholders and secondary sources.

With regard to other energy efficiency measures, a potential EU added value is generated by the provision requiring MS to renovate at least 3% of central government buildings (art. 5 EED), as the BAU energy-efficiency renovation rate is only 1.7%. Hence, if applied by all MS, this provision would trigger the additional renovation of 1.3% of central government buildings per year. The obligations for energy traders and distributors established by article 7 of the EED may represent a source of additional business opportunities for construction companies, especially for SME providing small-scale interventions to residential customers. Nevertheless, these benefits can only be partially attributed to the EU level as requirements for energy traders and distributors were already in force in some MS before the enactment of the EED. In addition, the actual effects largely depend on implementation modalities, which are entirely left to MS. In the same vein, a large degree of autonomy is left to MS when it comes to the accreditation and certification of inspectors of building systems (EPBD) and of RES installers (RESID). As a result, the EU added value of both schemes in terms of skill enhancement, business opportunities and cost savings is rather difficult to assess.

Finally, as a very limited portion of construction related products were covered by the EDD and ELD, the EU added value of these two pieces of legislation for the construction sector cannot be evaluated.

Concluding remarks – EU Added Value

The added value of actions at EU level for the pieces of legislation included in the Internal Market area appears appreciable. A clear case for EU added value was found for the CPR and the PQD. The EU added value varies across MS with respect to the LPD and is limited in the case of the SD. While the objectives of the CPR, the PQD and the SD by their very nature can be achieved only via EU actions, the actual attribution of benefits or cost savings to the EU government tier is complex as some Directives were still poorly implemented, the tradability of construction products and the mobility of construction services and professionals were still quite limited and encountered obstacles other than the regulatory, and the impacts of these pieces of legislation largely overlapped with other EU and national rules. Interestingly, an important share of the EU added value for the construction sector can stem also from the synergies among these three acts insofar as they facilitate the cross border mobility of all the actors of the construction value chain. With respect to the LPD, while its objectives could be achieved also via national rules, this Directive can have a major role in levelling the playing field across the EU and fostering a pan-European culture for timely payment.

The EPBD and the EED contributed to create an EE market for both new buildings and renovations. In this respect, the EU added value of energy efficiency legislation seems to be more prominent (although unevenly distributed across MS) and deliver quantifiable benefits at all links of the construction value chain that would not have been achieved in the absence of EU actions. Importantly, the EU added value is the result of reinforcing effects between these Directives. Although the value of EU actions related to the EPC (which seems to be confined to opportunities for professionals issuing certificates) and to other energy efficiency measures (whose attribution to EU rules is unclear) is more limited, the overall EU added value for the constructions sector of the energy efficiency legislation can be assessed as medium.

6. CONCLUSIONS

6.1 Overview of Economic Impacts

A **comprehensive view of the costs and benefits generated by the EU legislation** is provided in Exhibit 6.1 below, which **summarises the influence exerted by the selected pieces of legislation and provides an indication of the values at stake in 2014**.

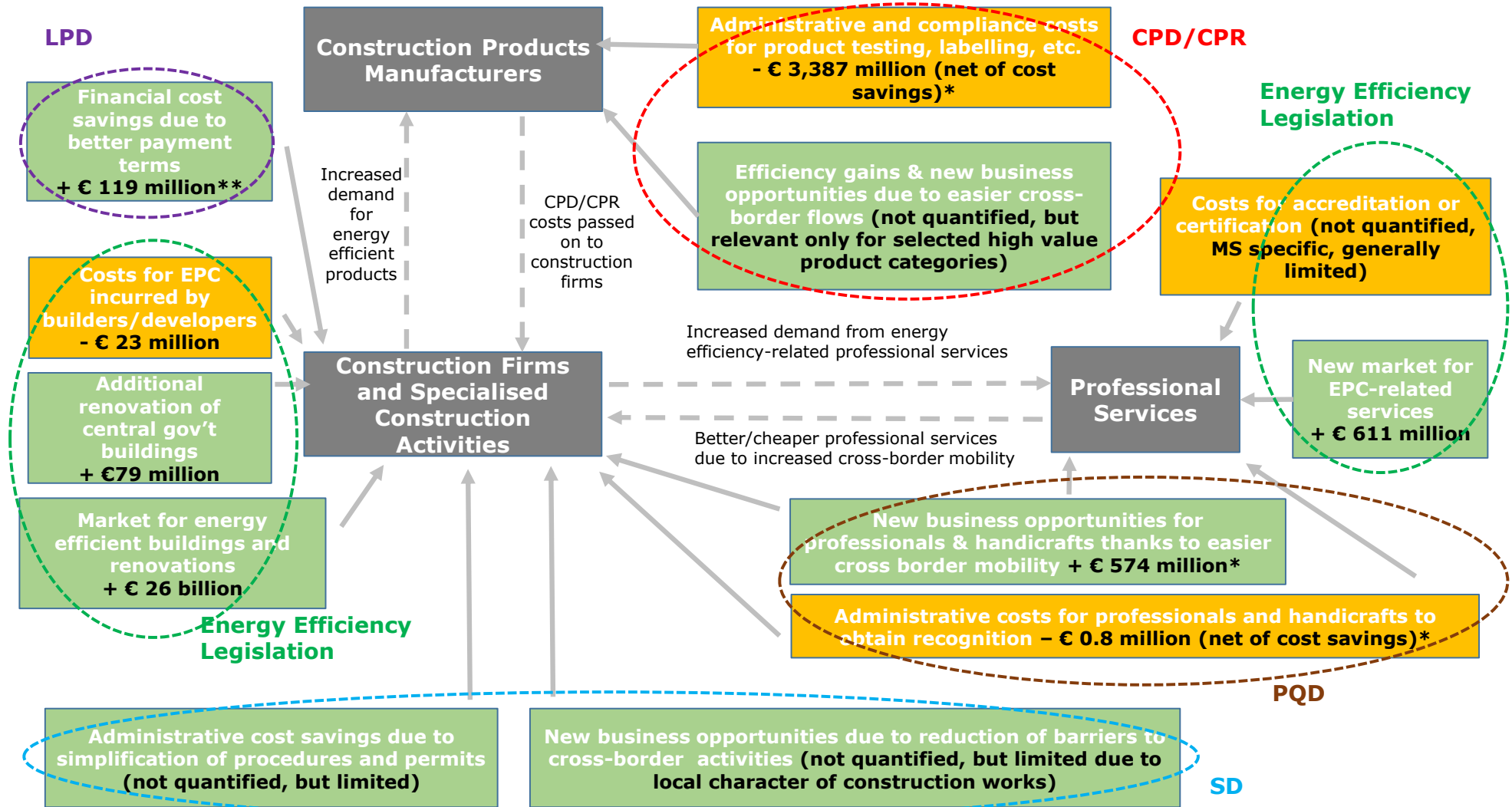
As already illustrated in the preceding sections, not all the impacts identified could be quantified or, when quantified, could be expressed in the same units of account. Also, the effects occur at different stages of the construction value chain and therefore carry a different 'sign' depending upon the perspective adopted (i.e. the benefits accruing to, say, service providers tend to translate into costs for construction companies). For these reasons the impact of EU legislation cannot be summarized in a single, all-encompassing figure. However, it is certainly possible to **provide an indication of the relative importance of the effects generated by the various pieces of EU legislation, both for the 'broad' construction sector and for its main components**.

The legislation on Energy Efficiency (mostly the EPBD, but also the EED and the RESD) has the most pervasive influence, directly impacting on both the 'core' construction sector and professional services, as well as indirectly on the construction products industry. **The impact on the 'core' construction sector is substantial, as the value of the market for energy efficiency buildings and building renovations attributable to the EU legislation is worth some € 26 billion** (including additional renovation linked to the exemplary role of public buildings), a multiple of any other estimated impact. However, an unknown but presumably substantial part of this market, concerns the purchase of construction products and is then passed on upwards to (a segment of) the manufacturing industry. **The effects on professional service providers are also substantial**. With respect to direct effects, the estimated value accruing to professionals from the new market for EPC amounts to €611 million in the 10 MS covered in depth by the Study; to the contrary, most of energy performance certificates costs fall outside the construction value chain, and builders/developers are estimated to pay about €23 million for them. With respect to indirect effects, professional service providers benefit from an increase in the demand for such services due to the increased demand for energy-efficiency construction activities.

As for the **legislation on the Internal Market**, the **Construction Products Regulation** has a significant direct impact on the construction products industry, resulting in **an increase in costs of about € 3.4 billion**. However, a share of these costs is likely to be 'passed on' to the buyers of construction products. The benefits of the CPR in terms of efficiency gains and new market opportunities could not be quantified, but mostly concern specific segments of the industry, such as high value-to-weight and niche products, as well as large multinational companies.

With respect to the other pieces of legislation having an impact on construction firms and specialized construction activities, the **Service Directive has a potentially quite pervasive influence on the construction sector**, by reducing the regulatory burdens for domestic operators and fostering cross-border business opportunities. However, for the reasons explained in detail in Section 3.4, **limited evidence of these impacts could be retrieved**, from both interviews and the OPC. A quantitative estimate of these impacts is thus not provided. To the contrary, a quantitative estimate is available for the effects of the **Professional Qualifications Directive** on professionals and craftsmen providing specialized construction activities. In 2014, the **cross-border mobility added value generated by PQD mechanisms is estimated at about €574 million**, that is the third largest impact among those quantified. The administrative costs (net of cost savings) generated by the PQD are estimated at €0.8 million in 2014. Finally, **an estimation of the financial gains linked to the Late Payments Directive for construction firms is available for 6 MS, and amounts to €119 million**.

Exhibit 6.1 Summary of Economic Impacts



Notes: in **green**, positive impacts (new market opportunities; cost savings); in **orange**, negative impacts (costs); in **grey**: typology of economic operators. Solid arrows refer to direct impacts while dotted arrows show indirect effects. Impact figures refer to the 10 MS analysed in detail, except for those with * which refer to EU28 and those with **, which refer to BE, DE, ES, FR, IT, UK

6.2 Impact of Legal Shortcomings

The legal analysis identified several shortcomings, such as inconsistencies, overlaps, or missed synergies, in the acts in scope of the analysis. In Exhibit 6.2 below, the impact of these shortcomings is assessed on a qualitative scale. As already discussed in Section 5.5 above, in general legal shortcomings do not currently affect the performance of the sector to a significant extent. However, with respect to the overlap of the CPR and the EDD and the implementation of the SD for domestic operators, the potential impacts – both in terms of costs and benefits – may be larger in the future.

Exhibit 6.2 Impacts of Legal Shortcomings

Issue	Impact
<i>Inconsistencies in definitions, cross-references³⁶⁰</i>	<ul style="list-style-type: none"> • Negligible
<i>Overlap of the CPR and the EDD/ELD</i>	<ul style="list-style-type: none"> • Limited costs for the whole sector, but increasing if and when the scope of the EDD is extended to other construction products • High costs for manufacturers of specific products covered by both hEN and the EDD
<i>Overlap of schemes for the assessment of buildings / building systems (EPBD, EED)</i>	<ul style="list-style-type: none"> • Limited costs of familiarisation for professionals, but more problematic: (i) for independents and SME; or (ii) in MS where third-party certification is mandatory • Moderate additional revenues for professionals • Negligible costs for construction companies
<i>Accreditation and training of experts (EPBD, EED, RESD) and interaction with PQD/SD</i>	<ul style="list-style-type: none"> • Opportunities for exploiting moderate synergies across EE-professions • Potential to allow for automatic recognition for cross-border services
<i>Insufficient implementation of the SD provisions</i>	<ul style="list-style-type: none"> • Limited costs and high potential from simplifications for domestic construction companies (via better/targeted/detailed implementation, raising awareness at local level and across market operators) • Limited cost, and limited potential largely limited to domestic impact in relation to simplifications for cross-border construction companies

Notes: the scale is as follows (i) negligible; (ii) limited; (iii) moderate; (iv) high.
Source: Authors' own elaboration

At the same time, issues other than inconsistencies, overlaps or missed synergies, which may generate costs or limit the potential benefits for the construction sectors were identified. Their impacts, either actual or potential, are summarised in Exhibit 6.3 below.

³⁶⁰ Several inconsistencies linked to legal drafting issues concern: (i) the definition of economic operators under the CPR, the ELD, and the EDD; (ii) the market surveillance mechanisms under the CPR, the ELD, and the EED (iii) the lack of explicit cross-references to energy-related products in the CPR; (iv) the definitions of energy, building, new building, and renovation under the EED, the EPBD, and the RESD; and (v) the lack of cross-references with respect to the energy performance of construction elements between the EDD and the EPBD.

Exhibit 6.3 Impacts of Other Issues for Which Quantitative Assessment Could not be Provided

Issue	Impact
<i>Usefulness of information mandated in DOP</i>	<ul style="list-style-type: none"> • Uncertain impacts, as stakeholders are split among those who consider the DOP as a useful document, and those who do not and call for a simplification of the information jointly provided via the DOP and the CE marking
<i>Clarity of CPR simplifications (art. 36 to 38)</i>	<ul style="list-style-type: none"> • Limited benefits so far (moderate for specific products) and moderate potential for increasing the take-up of CPR simplifications, especially for SME (by means of improved legal clarity of the provisions and the enforcement mechanisms)
<i>Clarity of CPR derogations (art. 5)</i>	<ul style="list-style-type: none"> • Negligible so far, uncertain potential
<i>Use of PQD mechanisms</i>	<ul style="list-style-type: none"> • Limited number of professionals/craftsmen moving cross-border, and limited potential as barriers other than regulatory are considered as more relevant
<i>Cross-border insurance mechanisms</i>	<ul style="list-style-type: none"> • High negative impact in past years (in specific countries) • Moderate/limited negative impact (depending on specific countries and features of the cross-border operators) at the moment
<i>Inward impacts of the SD</i>	<ul style="list-style-type: none"> • Perceived increase³⁶¹ of unfair competition in certain MS and market segments, but mostly linked to legislation other than the SD
<i>Take-up of EPC recommendations</i>	<ul style="list-style-type: none"> • Limited benefits so far, and moderate potential for stimulating additional EE-renovations
<i>Take-up of 3% renovation rate for public building</i>	<ul style="list-style-type: none"> • Limited benefits so far as 8 out of 10 MS covered by the analysis decided to opt out from this provisions
<i>Take-up of GPP provisions for construction products and services</i>	<ul style="list-style-type: none"> • Too early to assess
<i>Impacts of LPD on best performers</i>	<ul style="list-style-type: none"> • Uncertain effects of the LPD on MS whose payment practices are in line or better than the limits set in the act

Notes: the scale is as follows (i) negligible; (ii) limited; (iii) moderate; (iv) high.
Source: Authors' own elaboration

³⁶¹ No available data on cross-border flows of construction operators could confirm or contradict the qualitative information retrieved via primary data collection.

6.3 Summary of the Ex Post Evaluation

Exhibit 6.4 below shows the summary table of the ex post evaluation exercise. The assessment under each evaluation criterion is provided separately for the two policy areas over a three-ladder scale – High, Medium, and Low – together with a synthesis assessment (under the table).

Exhibit 6.4 Ex post Evaluation: Summary Table

Evaluation Criterion	Internal Market	Energy Efficiency
<i>Relevance</i>	Medium	High
<i>Coherence</i>	Medium	Medium
<i>Effectiveness</i>	Low	Medium
<i>Efficiency</i>	Medium	High
<i>EU Added Value</i>	Medium	Medium

Source: Authors' own elaboration

Relevance. The relevance of Internal Market legislation for the construction sector is considered as medium, with barriers other than regulatory hampering the integration of the EU construction market and reducing the potential benefits generated by the CPR, the PQD, and the SD. The relevance of the Energy Efficiency legislation can be rated as high, especially thanks to the EED and the EPBD pursuing objectives better meeting the challenges and needs of the EU construction sector.

Coherence. The coherence is assessed as medium for both the Internal Market and Energy Efficiency policy areas. With respect to the former, the SD and the PQD aim at removing existing barriers to the free movement of construction service providers and strengthening the mobility of professionals in the EU through different measures. These objectives are considered as complementary and coherent. However, a number of instances of inadequate implementation of the SD hampering the mobility of construction companies were identified. As for the CPR, some of its provisions remain in practice not applied because of their limited legal clarity, with respect to both the legal text itself and their enforcement. Furthermore, a potentially significant overlap exists between the CPR and EDD: though it is currently limited to only one product category, manufacturers risk bearing duplicated costs whenever the same product is covered by both a hEN and an implementing EDD regulation. With respect to the Energy Efficiency policy area, great synergies were observed among the aims pursued by the EED, the EPBD, and the RESD. Overlaps, however, exist among the EED, the EPBD and the RESD with regard to the relationship among the EPC, inspections and energy audits, and their related certification/qualification schemes and training programmes for professionals.

Effectiveness. Once the impacts of the economic and financial crisis are accounted for, assessing the effectiveness of the acts in the policy areas of Internal Market and Energy Efficiency on the competitiveness of the construction sector is far from easy. In addition to that, not all the acts in scope of the analysis necessarily target the construction sector. On the one hand, the measures under the Energy Efficiency policy area did benefit construction companies and other nexuses of the value chain, with national interventions and support programmes playing a major role. As for the Internal Market policy area, having only limited impacts, it is assessed as being little effective. Here, a distinction must be made between the CPR, largely achieving its aims; the PQD, working well, but resulting only in a limited number of professionals and craftsmen working abroad; and the SD, being almost ineffective for the construction sector. In terms of sustainability, the Energy Efficiency policy area contributes to the reduction of the energy consumption in buildings, while the Internal Market policy area did not have an important role in this respect.

Efficiency. With regard to efficiency, the only significant categories of costs identified in the Internal Market policy area were generated by the CPR, affecting product manufacturers and, depending on the pass-on rate, construction companies; differently, the costs generated for contractors and professionals under other acts are negligible. Once again, this points to the fact that national and sometimes local frameworks are far more important for construction operators. As costs, benefits in this policy area were also limited. The most important advantages are the new business opportunities created by the PQD and the financial cost savings generated by the LPD, both only accounting, however, for a fraction of the sectoral added value. As a result, the efficiency of this policy area is considered as medium. Differently, the Energy Efficiency policy area had a far greater impact, creating business opportunities in the related markets worth about €26 bln per year, that is 7.8% of the sectoral added value. Professionals benefited from the significant business opportunities accrued from the EPC. In light of the above, the Energy Efficiency policy area is considered as highly efficient.

EU Added Value. The added value of EU actions in the Internal Market policy area is rated as medium. By their very nature, the objectives of the CPR, the PQD, and the SD could only be achieved with EU measures. As for the LPD, it played an important role in promoting a pan-European culture for timely payments. Turning to the Energy Efficiency policy area, the EPBD and the EED contributed to creating an EE market for both new buildings and renovations, with added value delivered at all links of the construction value chain. National legislation, however, continued to play a very important, and sometimes predominant, part. Therefore, the EU added value of the Energy Efficiency legislation for the construction sector can be assessed as medium too.

