European Commission

# Supporting Study for Fitness Check on the Construction Sector – The Second Phase on EU Environment, Health and Safety Legislation

Executive Summary

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*October 2016*

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**EUROPEAN COMMISSION**

Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs
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2016

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Luxembourg: Publications Office of the European Union, 2015

ISBN 978-92-79-52366-3
doi:10.2873/254584

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# Executive Summary

## Background to the study

The construction sector provides 18 million direct jobs and contributes about 9% of the EU's GDP[1]. In 2014, the EU had the largest construction sector globally, with total construction output for the EU-28 being €1,211 billion. Despite the 2008 economic crisis, the prospects for the sector are now more positive and an expected growth of around 2% to 3% per annum has been forecast for the coming years[2].

The construction and use of buildings accounts for about half of the extracted materials and energy consumption and about a third of water consumption in the EU[3]. The sector also accounts for about 25% to 30% of all waste generated in the EU[4]. Environmental pressures arise at all stages of the construction life cycle, including the manufacturing of construction products, physical construction, use of buildings, renovation and the management of waste. Thus, the construction sector has the potential to make a major contribution in terms of environmental sustainability.

Although there have been big improvements over recent years in reducing the number and rate of injuries to construction workers, construction remains a high-risk industry and accounts for a high percentage of fatal accidents and major injuries. In 2013 alone, there were 645 fatal accidents at work among construction contractors in the EU (defined as NACE Sections F41 and F43)[5]. These accidents undoubtedly have important cost implications for companies and put additional pressure on an already struggling industry that is yet to fully recover from the 2008 downturn.

The goal of EU sectoral policy is to help the sector become more competitive, resource efficient and sustainable. The Communication from the Commission on a "Strategy for the sustainable competitiveness of the construction sector and its enterprises"[6] announced the Commission's intention to "undertake 'Fitness Checks' of EU legislation to identify excessive administrative burdens, overlaps, gaps, inconsistencies and obsolete measures" that affect the construction sector. A range of different legislation was mentioned, including occupational health and safety related

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1 DG GROW (2016): Construction, available at: http://ec.europa.eu/growth/sectors/construction/index_en.htm

2 Euroconstruct (2016): Ongoing recovery in European construction, available at: http://www.euroconstruct.org/pressinfo/pressinfo.php

3 European Commission (2014): Communication from the European Commission to the European Parliament, the Council and the European Economic and Social Committee of the Regions on Resource Efficiency Opportunities in the Building Sector, COM(2014) 445 final, available at: http://ec.europa.eu/transparency/regdoc/rep/1/2014/EN/1-2014-445-EN-F1-1.Pdf

4 DG Environment (2016): Waste, Construction and demolition waste, available at: http://ec.europa.eu/environment/waste/construction_demolition.htm

5 Eurostat (2013): Fatal Accidents at work by economic activity (hsw_n2_02), available at: http://ec.europa.eu/eurostat

6 European Commission (2012): Communication from the Commission to the European Parliament and the Council, Strategy for the sustainable competitiveness of the construction sector and its enterprises, COM(2012) 433 final, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/ ?uri=CELEX:52012DC0433&from=EN

legislation and environmental protection among others. These two areas are the subject of this Study.

Another study has also been commissioned to accompany this, related to the Internal Market and energy efficiency. Both studies have followed similar approaches and principles to facilitate comparability and aggregation in order to draw conclusions on the impacts of the selected acts on the performance of the sector, which will then be used to inform future policy making.

## Objectives of the study

The objectives of this study are to:

- Evaluate the cumulative impacts (both in terms of costs and benefits) that a number of pieces of EU legislation related to Environment and Health & Safety[7] have on the construction sector, considering the challenges facing the sector in terms of competitiveness and sustainability; and

- Evaluate the efficiency, the coherence, the effectiveness, the relevance and the EU added value of the selected EU legislative texts and their implementation/national transposing measures with respect to the achievement of the objectives for a more competitive and sustainable construction sector, in particular for SMEs.

In line with the terms of reference for this study, the analysis in this report is retrospective and focuses on the impact of the relevant legislation in the construction sector over the period from 2004 to 2014.

## Approach

The approach to the study has combined information from literature review and secondary data sources (e.g. Eurostat, EU-OSHA), with information from primary research by means of interviews with relevant stakeholders and an Open Public Consultation (OPC). 60 interviews were carried out with companies, MS authorities and industry associations and 54 respondents provided input to the OPC. A validation workshop was also held at the end of the study with 38 participants from industry and the Commission participating to discuss and validate the study's findings. Stakeholders that participated in the OPC fell into a variety of groups including companies, national authorities, industry associations, workers' organisations, NGOs, consulting companies and citizens. Due to data limitations, costs and benefits associated with the different pieces of legislation have been derived through the use of assumptions, taking averages and extrapolations from one or some Member States (MS) to others and, as a result, there are significant degrees of uncertainty in the overall figures.

The research has focussed on ten EU MS, namely: Belgium, Denmark, France, Germany, Italy, Ireland, Poland, Romania, Spain and the UK. These are considered to be representative of the various economic characteristics of the EU construction sector, and account for approximately 80% of the EU-28 turnover in the various construction sectors.

[7] As relates to health and safety at work and referred to as OSH (occupational safety and health).

The scope of the study has been limited[8] to four Directives in the context of OSH and two in the context of environmental protection as follows:

- Directive 89/391/EEC Occupational Safety and Health Framework
- Directive 90/269/EEC on Manual Handling of Loads
- Directive 92/57/EEC on Temporary or Mobile Construction Sites
- Directive 2009/148/EC on Exposure to Asbestos at Work
- Directive 2008/98/EC Waste Framework Directive
- Directive 2011/92/EU on Environmental Impact Assessment

It is noted that the legislation that has been assessed in this study is not focused solely on the construction sector, rather it applies to a variety of sectors. Nevertheless, the legislation selected is believed to have a direct impact on the construction sector, with this being the focus of the study. While the legislation may have wider environmental or social impacts beyond the construction sector (e.g. costs to individuals and society from accidents where these fall on the social security system, rather than on the employer; or environmental impacts which benefit society overall rather than enterprises within the construction sector), be they intended or unintended, these are not within the scope of the present study. Consequently, because the analysis is limited to its sectorial scope, it is difficult to make concrete conclusions in terms of overall costs and overall benefits of the legislation analysed.

In practice, the study concentrates on the following sub-sectors of the construction value chain:

- the construction and renovation of buildings and specialized construction activities (NACE Divisions 41 and 43), but with the exclusion of infrastructure works. *Hereafter referred to as "construction contractors";*
- the manufacture of construction products and equipment (NACE Section C);
- mining and quarrying (NACE Section B); and
- professional construction services (NACE Code M71)

In many cases, countries already had similar legislation in place before each of the Directives was transposed. Thus, the baseline for the assessment was taken as the situation in place in each MS before the Directive was transposed. In cases where national legislation already imposed similar or stricter requirements than corresponding measures at the EU level, the additional effect of the EU legislation is considered to have been negligible.

## Economic analysis

It is noted that the economic analysis conducted for this study is based on a sample of enterprises from a limited number of EU MS and must therefore be considered indicative but not fully representative. Significant difficulties were faced in collecting accurate data on costs and benefits of EU OSH legislation from interviews and consequently the estimates are predominantly based on data obtained from literature (utilising various assumptions and methods for extrapolation) and on the contractor's own assessment. Any reference to the following figures should take into account the assumptions, averages and extrapolations used, as described in detail in Chapter 4 of the main report.

[8] Based on the screening criteria used by Economisti Associati et al. in their parallel study on the Internal Market and Energy Efficiency, and following discussions with the Commission, Steering Group and Mirror Group.

***Occupational Safety and Health legislation***

The benefits for companies arising from OSH legislation can be estimated based on direct cost savings associated with a reduction in the number of deaths and injuries in the workplace and cases of work-related ill-health.

| Benefits to companies (costs savings) from reducing fatal and non-fatal accident rates in the construction sector (EU-28) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Estimated cases avoided in** | **2008** | **2009** | **2010** | **2011** | **2012** | **2013** | **Cases avoided (2008-2013)** |
| Fatal accidents | 126 | 116 | 105 | 96 | 87 | 79 | 608 |
| Non-fatal accidents | 62,631 | 54,866 | 50,453 | 47,987 | 41,841 | 37,825 | 295,603 |
| **Savings for construction companies (period 2008-2013, €m)** | | | | | | | **€ 2,147m** |
| **Average savings per year for the construction sector (€m)** | | | | | | | **€ 358m** |
| *Source: Eurostat and own calculations* | | | | | | | |

As for occupational health, available data indicates that ill-health in the construction sector accounts for around 72% of the estimated injury costs, adding €257m to the annual saving for the EU. The total benefits from applying OSH could be estimated at around €615m (mid-estimate) per year in direct financial savings to construction sector companies, based on a range of €234m - €1,274m. **This level of annual savings would indicate that the total cumulative benefits (over the period 2004-14) of OSH legislation are between €2.9bn and €15.6bn with a best estimate of €7.5bn for the construction sector as a whole**. These figures should be read with caution.

Additional benefits include enhancing companies' reputation with their workers and the public at large, greater legal clarity and certainty for companies across the EU and improved competition, although the latter was questioned by some stakeholders interviewed who were of the view that some companies from outside their own MS were not implementing OSH provisions to the degree required and able to undercut local companies as a result. However, it has not been possible to derive quantitative estimates for these types of benefits. Productivity benefits resulting from reduced absences at work are incorporated into the estimates of cost savings from reducing fatal and non-fatal accidents.

The table overleaf summarises the results of the economic analysis on the costs of OSH legislation for the EU construction sector[9]. **It is estimated that the total cost of OSH legislation for the EU construction sector (over the period 2004-14) is in the order of €63bn - €147bn.** This equates to less than 1% of the turnover of the sector over the same period.

[9] Whilst the costs will accrue to the construction sector as a whole, primarily they will be borne by construction contractors which account for most of the sector's activity.

| Summary of Estimates of Costs to the Construction Sector associated with selected EU OSH legislation | | | | | |
|---|---|---|---|---|---|
| **Item** | **Summary of assumptions** | **Costs (€m at 2013 prices)** | **Observations** | **Frequency** | **Cumulative Costs (2004-14*)** |
| Costs of risk assessments | 83% of all companies in construction sector undertake RA; Average costs of RA: €560 - €1,120 per annum (based on initial €2,000 - €4000 plus 10% (€200 - €400) per annum updates) All sub-sectors affected. | 1,700 - 3,400 | Not possible to apply different costs of RA conducted internally or by external providers. | Frequency may vary according to sub-sector. Perhaps more frequent for temporary or mobile construction sites and less so for the rest | €21bn - 42bn |
| Costs of applying preventive measures | 66% companies apply preventive measures. Measures included are: Work practice changes; Work environment changes; Load changes; New equipment; PPE at an average costs of €25k per company. Sectors affected: Construction contractors, Construction products and Mining and quarrying but excluding prof. services. | 23,700 – 47,000 | May overestimate the costs as not all companies will apply all measures | Unlikely to occur every year.<br><br>As such, measures assumed to be 'one-off' over period 2004-14 | €23.7bn - €47bn |
| Costs of information and training | 1 employee per company trained for between 1 and 5 days 82% provide training Average cost per training (value of time lost + cost of training course) €903. Range is €259 - €1,547. Sectors affected: Construction contractors, Construction products and Mining and quarrying but excluding prof. services. | 685 -4,000 | May underestimate the impacts as costs of providing information are not included and can vary significantly from negligible to significant. Also assumes one employee trained for each company, which although low, may compensate with the high level of compliance. | Likely to occur every year | €8,3bn - €48.9bn |

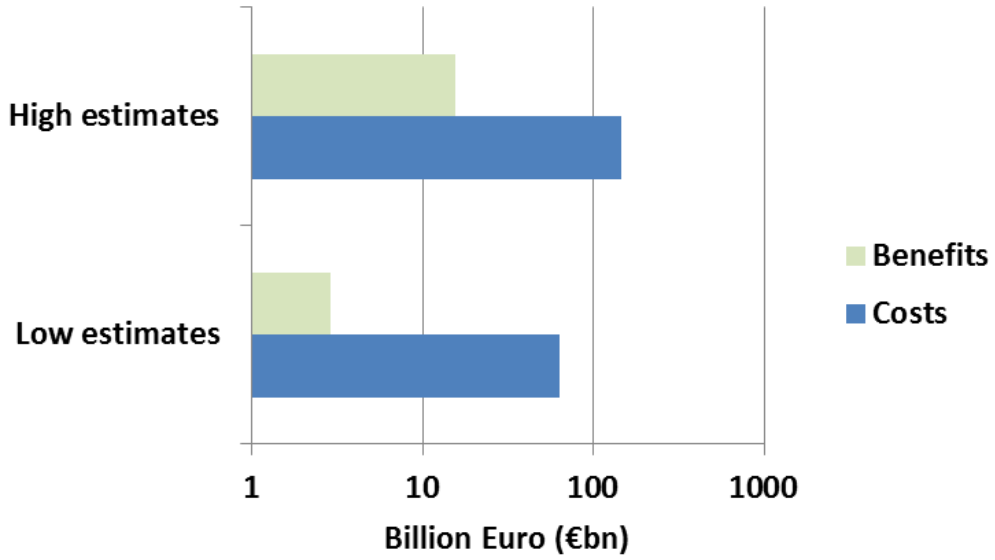
| Summary of Estimates of Costs to the Construction Sector associated with selected EU OSH legislation | | | | | |
|---|---|---|---|---|---|
| **Item** | **Summary of assumptions** | **Costs (€m at 2013 prices)** | **Observations** | **Frequency** | **Cumulative Costs (2004-14*)** |
| Costs of consultation | 4 Hours of a senior officials and managers. The hourly rate is €41.5 according to the SCC<br>If employees consulted twice a year, costs per company are estimated at €332 per year per company<br>65% companies consulting regularly based on ESENER-2.<br>Sectors affected: Construction contractors, Construction products and Mining and quarrying but excluding prof. services. | 700 | May underestimate the impacts as consultation may be more frequent. On the other hand, figures by ESENER appear high as to the percentage of companies consulting. | Annual costs | €8.5bn |
| Health monitoring and surveillance | Applied to the average employee numbers across band except for larger companies where assumption is 250 employees.<br>Number of companies from 2013 statistics<br>Assumes 52% of total number of companies undertaking health monitoring and record keeping. Applies to Construction contractors, Construction products and Mining and quarrying but excluding prof. services as these are assumed to use national health systems. Costs per employee based on SCM, ranging from €1.98 to €2.97 across EU (best estimate €2.58) | 13 - 20 | May underestimate the impacts | Annual costs | €0.16bn-€0.24bn |

| Summary of Estimates of Costs to the Construction Sector associated with selected EU OSH legislation | | | | | |
|---|---|---|---|---|---|
| **Item** | **Summary of assumptions** | **Costs (€m at 2013 prices)** | **Observations** | **Frequency** | **Cumulative Costs (2004-14*)** |
| Appointment of coordinators | Applies to companies under construction contractor sub-sector. Assumes all companies with more than 20 workers employ at least one construction coordinator at a costs of €2000 per company | 112 | May overestimate the impacts as compliance has been assumed to be 100% in absence of data | Annual costs | €1.4bn |
| | | | | **Total** | **€63-147bn** |

** Note that cumulative cost multiplier takes account of varying levels of construction activity over the period 2004-2014*
*Source: Consultants' calculations*

When comparing the calculated OSH costs and benefits to the construction sector over the 2004-14 period using the figures above, the level of monetised costs exceeds the monetised benefits by a significant margin as illustrated in the graph below. The graphic shows the calculated costs utilising estimated low and high levels of both costs and benefits arising from the legislation.

However, it is noted that the costs are only indicative, based on the sample of information identified and not necessarily representative, and that benefits in particular do not account for the benefits to wider society (e.g. the health benefits enjoyed by workers from the reduced numbers of accidents, avoided social security costs etc.) and various benefits have not been monetised due to the lack of available data.




**Comparison of Cumulative Costs and Benefits from OSH legislation over the period 2004-2014 under low cost/low benefit and high cost/high benefit scenarios**

***Environment legislation***

In relation to the selected environmental legislation, the analysis of costs and benefits is more complex. In relation to waste, most of the materials in construction and demolition waste (CDW) can be recovered and reused. However, where recovery of the materials is not possible, the final alternative for the waste holder is to dispose of it at a landfill site. Although precise costs are difficult to determine, estimates based on selected landfill tariffs and the quantities of mineral waste from construction in the 10 focal MS suggest associated costs ranging from **€2,460m - €4,000m per annum.** Since the Waste Framework Directive (WFD) has only been recently implemented, the cumulative costs may be perhaps a factor of two higher, although it is very early to produce any reliable estimate. However, such costs cannot be attributed directly to the WFD since there have always been costs associated with CDW disposal and, in some countries, the changes introduced by the WFD have been minor due to existing national legislation.

With improved waste management practices and the development of the 'circular economy', there is great potential for new jobs and innovation as well as benefits to the environment (although such benefits are not within the remit of the present study). However, there are barriers to progress in terms of waste reduction, reuse and recycling as the financial benefits for companies in the construction sector are limited (for example, recycled materials may be more expensive than virgin materials).

In relation to the EIA Directive, an estimate of the costs is based on the number of EIAs of particular relevance to the construction sector. It is estimated that approximately 20,000 EIAs are carried out each year within the EU[10]. Assuming that the construction sector accounts for 30% of these, and that an EIA costs between €35,000 and €53,000, the total cost for EIAs would be in the range of €210m - €318m per year. This would equate to a **total cumulative cost of €2.9bn - €3.9bn (over the period 2004-14)** for the construction sector arising from the EIA Directive**.** However, as for the WFD, such costs cannot be wholly attributed to the EIA Directive as in most, if not all, countries, similar national legislation was already in place. It is also important to note that it is the developer that is primarily responsible for conducting EIAs rather than the construction sector per se, although developers are likely to try and pass some of these costs on to the construction sector via reduced prices paid.

In terms of benefits, the main direct benefit to companies is reduced costs associated with reduced (legal) uncertainty as to when environmental concerns need to be accounted for in the development/planning process. The limited response from companies during interviews has not enabled the study to place a monetary value on this specific aspect. In addition, the purpose of the EIA Directive is to protect the environment and to encourage public participation in the process and this would be appear to be borne out in practice.

[10] European Commission (2012): Executive Summary of the Impact Assessment, Staff Working Document for proposed amendment of Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, COM(2012) 628 final, dated 26.10.2012

# Relevance

***Occupational Safety and Health Legislation***

Although there have been big improvements over recent years in reducing the number and rate of injuries to construction workers, construction remains a high-risk industry and accounts for a high percentage of fatal accidents and major injuries at work. An increasingly mobile workforce in the EU poses a challenge for maintaining a good standard of health and safety on construction sites and this, coupled with the anticipated growth of the sector in the coming years, highlights the importance of maintaining effective health and safety legislation, and a level playing field in all EU MS.

Although using products containing asbestos is now banned throughout the EU, many millions of tonnes of asbestos remain in public and private buildings (homes, offices, schools, hospitals, etc.) as a legacy of past asbestos use. The potential for workers to be exposed to asbestos in future works is incorporated into the Directive and thus the relevance of the Asbestos Directive will continue for the foreseeable future.

In order to remain competitive, OSH legislation must not pose too great a burden for the construction sector. This is especially challenging given that the vast majority of companies in the construction sector are SMEs. Our analysis indicates that the cost of OSH legislation is relatively small when compared to the overall turnover of the sector, but that the burden on SMEs is higher (relatively) than for larger enterprises.

***Environment legislation***

From material extraction, processing and the manufacture of construction products, through the physical construction of buildings/works, to disposal of construction waste, the construction sector has an environmental impact over its entire life cycle. Given that the sector is anticipated to grow over the coming years, there is clearly a need to maintain effective environment legislation.

The EIA Directive requires MS to adopt all measures necessary to ensure that, before development consent is given, projects likely to have a significant effect on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects on the environment. Thus, the EIA Directive is of particular relevance to construction professionals (e.g. architects) who may be required to tailor their design according to the outcome of the EIA. Most stakeholders have indicated that the criteria and thresholds for determining when an EIA is required are about right and that most of the right projects require an EIA.

CDW is one of the heaviest and most voluminous waste streams in the EU. The WFD requires MS to take any necessary measures to achieve a minimum target of 70% (by weight) of CDW by 2020 for preparation for re-use, recycling and other material recovery, including backfilling operations using non-hazardous CDW to substitute other materials. Stakeholders have identified that some countries are already fulfilling the 70% target in the WFD and that, for these countries, the WFD does not provide an adequate incentive to achieve higher targets. Some stakeholders would like the WFD to define more ambitious end-of-waste criteria, and place more emphasis on tracing of recyclable materials (on the basis of sampling at the source and with tracing-systems).

Our analysis presented in Section 4 indicates that the cost of environment legislation is relatively small compared to overall levels of turnover in the sector, but that the burden on SMEs is higher (relatively) than for larger enterprises.

# Coherence

***Occupational Safety and Health legislation***

The OSH Framework Directive, with its common legal framework and general principles, applies in full to all the areas covered by the individual OSH directives under the scope of this study, with the individual directives containing more stringent and/or specific provisions (addressing specific risks, tasks, sectors and/or groups of workers). This helps to ensure a high degree of synergy between the Framework Directive and the individual OSH directives. While no major coherence issues have been identified between the four OSH directives considered in this study, some stakeholders had perceived a potential overlap between the OSH directives and wider EU legislation on chemicals. While most stakeholders did not elaborate on exactly where these potential overlaps arise, there does appear to be a potential overlap or inconsistency between the OSH Directives and REACH in relation to risk assessment in some specific circumstances[11].

An analysis of literature and consultation results has identified some key gaps in the legislative framework pertaining to health and safety in the EU, namely that (i) there is a perception that are no duties or responsibility for the developer/client, particularly in the design phase of projects[12], and (ii) psychosocial risks are not adequately considered. Whilst the Framework Directive requires that the employer "shall have a duty to ensure the safety and health of workers in every aspect related to the work", Article 5(1), it makes no specific reference to psychosocial or mental health of workers, potentially leading to these aspects being neglected in favour of more traditional health and safety issues.

Stakeholders have generally found it difficult to discern between the impacts of EU legislation and national (transposing) legislation. In some instances, it appears that the identified inconsistencies and overlaps pertain to national transposing legislation as opposed to the directives.

***Environment legislation***

The prime objectives of the WFD and the EIA Directive relate to the protection of the environment and the promotion of sustainable development. While both directives impact the construction sector, they cover different aspects. Thus, no coherence issues have been identified between the WFD and EIA Directive. It has been noted by some stakeholders that there are overlaps between the WFD and the Directive on the Management of Waste from the Extractive Industries and that the definition of waste in these two directives is inconsistent. Stakeholders raising this issue were unable to discern, on the basis of the information available, whether this issue is related to the EU Directives or to their transposition and implementation at a national (or local) level. However it is noted that both Directives refer to the same list of waste established in Commission Decision 2000/532/EC of 3 May 2000.

[11] With particular reference to the need for some companies to prepare Downstream User Chemical Safety Reports in addition to risk assessment requirements under OSH in the event that supplier 'exposure scenarios' do not cover their specific uses.

[12] It is noted however that Article 4 of the Directive 92/57/EEC states that "The project supervisor, or where appropriate the client, shall take account of the general principles of prevention concerning safety and health referred to in Directive 89/391/EEC during the various stages of designing and preparing the project.." It is possible that the multi-layered structure of many construction projects, with multiple levels of contracting, leave some confused over who the ultimate responsibility lies with. In particular, the term "where appropriate" above is to a degree ambiguous.

## Effectiveness

The Commission's strategy for the sustainable competitiveness of the construction sector sets out five key objectives, namely:

- stimulating favourable investment conditions;
- improving the human-capital basis of the construction sector;
- improving resource efficiency, environmental performance and business opportunities;
- strengthening the Internal Market for construction; and
- fostering the global competitive position of EU construction enterprises.

The assessment of effectiveness looks at the extent to which the different pieces of legislation have made contributions to achieving these objectives.

In the EU-28 as a whole, the incidence rate of fatal and non-fatal accidents at work in the construction sector has shown a steady decline between 2008 and 2013. A first look at the statistics would thus suggest that the legislation has been effective in reducing the number of fatal accidents and non-fatal injuries. Indeed, a 2014 survey conducted by the EU-OSHA showed that the need to meet legal obligations was one of the main reasons why businesses in the construction sector address health and safety.

Among the measures highlighted by consultees as being the most effective, or those with the largest positive impacts, are carrying out an evaluation of the risks to the health and safety of workers, followed by:

- Implementing protective organizational measures
- Employing dedicated health and safety personnel (either in-house or externally)
- Monitoring workers' health
- Consulting with workers about issues relating to safety and health at work

As for the environment, the consultees agreed that EIAs have had a positive impact as regards protecting the environment. However, it is probably too early to come to a firm view on the impacts of the 'waste hierarchy' introduced by the WFD.

The majority of stakeholders across all stakeholder groups (MS authorities, industry associations and companies) consulted during the telephone interviews indicated that the OSH and environmental legislation had either moderate or significant impacts in helping to achieve a competitive and sustainable construction sector. In fact, the majority indicated that there were either large or slightly positive impacts associated with measures required under all four of the OSH Directives.

## Efficiency

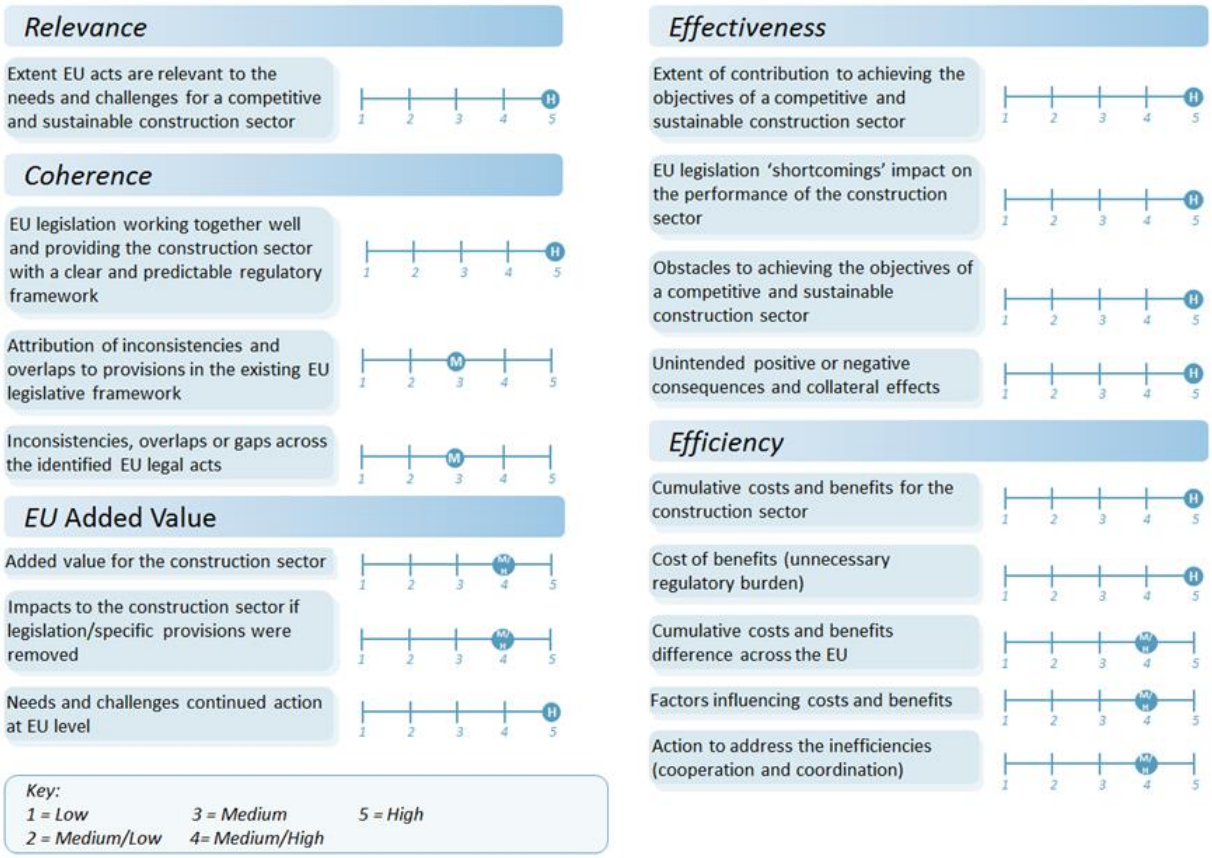
Responses to the OPC were positive regarding the benefits of the legislation and it is noticeable that for those measures that were considered to have incurred significant costs, the highest proportion of respondents believed that significant benefits had also arisen. Significantly, more than 50% of respondents indicated that the OSH legislation had had slight positive or large positive impact on reducing risks to workers health and safety, increasing productivity and reducing the number of work days lost due to injuries and ill-health.

## EU Added value

The majority of stakeholders participating in the interviews indicated that there is a need for continued action at the EU level to address the needs and challenges (in terms of health and safety and the environment) faced by the construction sector. Nevertheless, it would appear (based on the small sample of responses received) that the views of companies are more mixed. This is probably due to the fact that some MS already have more stringent measures in place. Raising awareness on the benefits of addressing OSH or environmental protection in terms of increased productivity could also encourage companies to undertake voluntary actions to reduce risks. Indeed, as shown by ESENER, increased productivity is one of the major reasons for compliance but so is the wish to avoid fines.

## Conclusions

The following graphic provides a visual summary of the table below which provides the study team's conclusions on each ex-post evaluation question.




The following criteria for the evaluation have been used in the table:

- **High:** Directives address the question to a significant degree, notwithstanding the need to address specific issues that may arise in the future;
- **Medium:** Directives address the questions but some issues have been identified/remain unaddressed that merit further attention; and
  **Low:** Directives address the questions but there remain gaps with implementation and the sector has identified caveats.

| Conclusions from Ex-post Evaluation | | | |
|---|---|---|---|
| **Evaluation Question** | **Judgement Criteria** | **Evaluation** | **Justification** |
| ***Relevance*** | | | |
| To what extent are the different EU acts identified relevant to the needs and challenges identified for a competitive and sustainable construction sector? | Degree to which EU legislation meets the needs of industry in terms of remaining competitive whilst protecting workers and the environment | High | The different OSH legislation analysed is clearly still relevant to the needs identified for a competitive and sustainable construction sector. Although the number of fatal and non-fatal accidents in the construction sector has reduced over time, the construction sector is still relatively risky for workers, and an increasingly mobile workforce across the EU will pose a challenge for maintaining a good standard of health and safety on construction sites. This coupled with the anticipated growth of the sector over the coming years highlights the importance of maintaining effective health and safety legislation. There are challenges, however. In order to remain competitive, such legislation must not pose too great a burden for the sector. This is especially challenging given that the vast majority of companies in the construction sector are SMEs. Our analysis (presented in Section 4) indicates that the cost of OSH legislation is relatively small when compared to the overall turnover of the sector, but that the burden on SMEs is higher (relatively) than for larger enterprises.<br><br>The environment legislation analysed is also still relevant to the needs identified for a competitive and sustainable construction sector. The construction sector has the potential for significant environmental impacts, not least because it produces one of the heaviest and most voluminous waste streams in the EU. Given that the sector is anticipated to grow over the coming years, there is clearly a need to maintain effective environmental regulation. Most stakeholders have indicated that the criteria and thresholds for determining when an EIA is required are about right and that most of the right projects require an EIA. However, it has been noted that some countries are already fulfilling the 70% target in the WFD, and for these countries, the WFD does not provide an incentive to achieve higher targets. Our analysis presented in Section 4 indicates that the cost of environment legislation is relatively small compared to overall levels of turnover in the sector, but that the burden on SMEs is higher (relatively) than for larger enterprises. |

| Conclusions from Ex-post Evaluation | | | |
|---|---|---|---|
| **Evaluation Question** | **Judgement Criteria** | **Evaluation** | **Justification** |
| ***Coherence*** | | | |
| To what extent do all the analysed pieces of EU legislation work together sufficiently well and provide the construction sector with a clear and predictable regulatory framework? | Clear and predictable framework – clarity and consistency in definitions and procedures, scope and treatment of exceptions | High | The analysed pieces of EU OSH legislation do complement each other and there are strong synergies between the OSH Framework Directive and the individual OSH directives. Most stakeholders agreed that the different pieces of EU OSH legislation complement each other and work together to provide a clear and predictable regulatory framework.<br><br>The prime objectives of the WFD and the EIA Directive relate to protection of the environment and promotion of sustainable development. While both directives impact the construction sector, they cover different aspects. |
| Are there any inconsistencies, overlaps (e.g. in terms of scope and definitions) or gaps that can be identified across the identified EU legal acts? if yes, which are the inconsistencies, overlaps or gaps? | Inconsistent definitions and/or scope<br>Overlaps between Directives<br>Major gaps in provisions/ measures<br>Obsolete provisions which are no longer relevant or superseded by other legislation | Medium | No major coherence issues have been identified between the individual OSH directives considered in this study. Some key gaps have been identified in the legislative framework pertaining to health and safety in the EU, namely that:<br><br>• there is a perception that there are few duties or responsibilities for the investor; and<br>• psychosocial risks are not adequately considered<br><br>Stakeholders have claimed a potential overlap between the OSH directives and legislation on chemicals in some specific circumstances.<br><br>No coherence issues have been identified between the WFD and EIA Directive. It has been noted that there are overlaps between the WFD and the Directive on the Management of Waste from the Extractive Industries and that the definition of waste in these two directives is inconsistent. |
| 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 and/or to existing national legislative frameworks? | EU legislation or national transposition/legislation as source of inconsistencies or duplication | Medium | Stakeholders have generally found it difficult to discern between the impacts of EU legislation and national (transposing) legislation. In some instances, it appears that the identified inconsistencies and overlaps identified by stakeholders pertain to national transposing legislation as opposed to the directives. |

| Conclusions from Ex-post Evaluation | | | |
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| **Evaluation Question** | **Judgement Criteria** | **Evaluation** | **Justification** |
| ***Effectiveness*** | | | |
| To what extent has the identified EU legislation contributed to achieving the objectives of a competitive and sustainable construction sector?<br><br>To what extent do 'shortcomings' in EU legislation, or in its implementation/transposition at a national level, impact on the performance of the construction sector?<br><br>What are the obstacles that still stand in the way of achieving the objectives of a competitive and sustainable construction sector? | Extent to which EU construction industry has maintained competitive position whilst improving safety of workers and protecting the environment.<br><br>Extent to which any shortcomings identified in the legislation impact competitiveness of the EU construction industry<br><br>Extent to which obstacles to achieving a competitive EU construction industry are a result of improvements in protection of workers or the environment | High | There is little doubt that OSH legislation and the measures introduced by the OSH directives have had a positive impact in terms of improving the health and safety of construction workers, particularly in the newer MS. Of course, many MS had already enacted similar legislation before the OSH Directives came into force, meaning that the additional gains from the OSH legislation would have been only marginal. Nevertheless, the presence of EU OSH legislation may have helped to prevent a weakening of health and safety legislation over time, which may have been particularly tempting for national governments when the industry was struggling during the recession. Thus OSH legislation has positively contributed to the objective of ensuring a (socially) sustainable construction sector.<br><br>Insufficient information is available to make any firm conclusions on the extent to which OSH legislation has contributed to the objective of ensuring a competitive construction sector. Significant costs have certainly been avoided by implementing OSH legislation and as demonstrated in Section 4, the costs associated with implementing a number of the measures required under the legislation represent only a relatively small percentage of construction companies' annual turnover (although it is noted that for SMEs this is a higher percentage and margins for SMEs in the construction sector can be relatively low). Some stakeholders that participated in the consultation noted that the OSH Directives have helped to level the playing field within MS and across the EU, although many also indicated that there have been no effects in this regard.<br><br>A lack of specific consideration of psychosocial risks has been identified as an important shortcoming of the EU OSH legislation. This shortcoming may affect the construction sector in numerous ways, including reduced productivity, increased levels of absenteeism, higher levels of employee turnover, more accidents/fatalities, and difficulty in recruiting skilled workers, etc.<br><br>A number of obstacles still stand in the way of achieving the objectives of a competitive and sustainable construction sector. In particular, high levels of non-compliance and low levels of enforcement, which are reportedly prevalent in some MS, are seen as a barrier to achieving the OSH Directives' aims. While many companies agreed that the benefits of health and safety legislation outweigh the costs (for their company), national 'gold- |

| Conclusions from Ex-post Evaluation | | | |
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| **Evaluation Question** | **Judgement Criteria** | **Evaluation** | **Justification** |
| | | | plating' of the legislation was viewed by some stakeholders as an obstacle to achieving a competitive construction sector.<br><br>Overall, it would appear that the two environment directives considered in this study have positively contributed to improving the (environmental) sustainability of the construction sector (although it is important to bear in mind that this conclusion is based on a very small number of consultation responses).<br><br>However, differences in national transposition and implementation of the environmental legislation may pose a barrier to cross-border trade in construction products/services.<br><br>The fact that many countries already appear to be achieving the targets set out in the WFD poses a key obstacle to improving the sustainability of the construction sector. |
| What are the unintended positive or negative consequences and collateral effects of the EU legislation in question? | Identification of effects not anticipated from legislation (positive and negative)<br>Identification of objectives not fulfilled | High | Stakeholders have identified several unintended impacts that may have arisen from the implementation of EU OSH legislation, namely that the EU legislation may act as a driver for innovation, may help to improve productivity, may improve the corporate image and reputation of the sector and increase the potential for litigation.<br><br>The environmental legislation analysed during this study appears to have had some unintended benefits – namely that it has created jobs (in consultancy and laboratory services) and that it may act as a driver for innovation. |

| Conclusions from Ex-post Evaluation | | | |
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| **Evaluation Question** | **Judgement Criteria** | **Evaluation** | **Justification** |
| ***Efficiency*** | | | |
| What are the cumulative costs and benefits associated with the implementation and transposition of identified EU legislation for the construction sector, in particular for its SMEs? | Costs and benefits for construction companies arising from EU legislation and any differences due to transposition at National level<br>Distributional impacts between small and large firms | High | Whilst research has identified sources which demonstrate that the benefits of companies investing in health and safety exceed the value of investments, the available data for this study has generated monetised estimates of costs exceeding benefits by a significant extent. However, it is understood that many of the cost estimates may be overestimated, being as they are derived from limited data often in only a few or even one MS. In addition, it has not been possible to quantify and monetise many of the benefits identified for the OSH legislation, such as enhanced reputation, clarity of the legal situation and establishment of a level playing field. It is also noted that a number of wider social benefits that are outside the scope of this study (e.g. costs to individuals and society from accidents where they fall on the social security system rather than on the employer) are not accounted for in the analysis.<br><br>What is clear is that the majority of those consulted via telephone interviews and the OPC are of the view that the measures required under OSH and environmental legislation have resulted in either large/significant or slight positive/moderate benefits whilst the costs incurred were considered as being moderate. Given that SMEs represent more than 99% of enterprises in the construction sector, the vast majority of the cumulative costs will be borne by SMEs. In relation to benefits, SMEs in the construction contractors sub-sector employing less than 250 people account for approximately 91% of all employees, with 9% being employed by those companies employing more than 250 people. This would suggest that the majority of benefits in terms of cost savings from a reduction in accidents accrue to SMEs, although larger companies are likely to be benefitting from economies of scale as the measures implemented are spread over a greater number of employees than the costs.<br><br>The benefits from implementation of the WFD and EIA have not been subject to quantification or monetisation (particularly in the former case because it is too early to assess). This also contributes to the imbalance between the calculated costs and benefits. Also, the majority of environmental benefits are likely to fall outside the construction sector (e.g. protection of the environment) and were therefore by definition excluded from the scope of this study. Consequently, because the analysis is limited to its sectorial scope, it is difficult to make concrete conclusions in terms of overall costs and overall benefits of the legislation analysed. |

| Conclusions from Ex-post Evaluation | | | |
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| **Evaluation Question** | **Judgement Criteria** | **Evaluation** | **Justification** |
| Are the benefits achieved at costs that are affordable for the sector, or is there evidence that the legislative requirements have caused unnecessary regulatory burden for the construction sector? | Identification of alternative means of achieving legislative objectives | High | When comparing the total cost for the sector with the turnover of the sector, the costs of dealing with OSH are less than 1%. The greatest costs appear to be related to the provision of preventive measures, including technical measures and organisational measures as well as undertaking risk assessments.<br><br>It is acknowledged (as discussed in Section 4.6) that some costs are relatively expensive for SMEs (i.e. they account for a higher percentage of turnover than for large companies). For example, the cost of risk assessments has been estimated to equate to 0.79% of turnover for construction contractors employing 1 to 9 people in the EU in 2013, but this figure was only 0.01% for those employing 50 to 249 staff, and negligible for those companies with more than 250 employees. So even within SMEs there is significant variation and the smaller the company, the more costly OSH measures are in relation to a company's turnover.<br>However, with overall costs estimated to be less than 1% of turnover, it would seem that the costs are affordable and this view is echoed by stakeholders interviewed by telephone who have often noted that the costs are 'moderate', particularly in relation to the benefits that the majority of those consulted through telephone interviews and the public consultation described as being significantly or moderately positive. |
| How do the cumulative costs and benefits differ across the EU? | Difference in costs and benefits for construction firms located in different MS | Medium/high | The costs would appear to differ significantly due to differences in the scale of the construction sector between MS but also because some MS appear to have applied more stringent requirements (e.g. say number of coordinators according to company size or record keeping for absences exceeding 1 day rather than 3 as stipulated by the Directive) |
| What factors influence the costs and benefits, in particular with regard to national transposition? | Identification of national provisions or transposition leading to higher/lower costs or benefits | Medium/high | As highlighted by the consultation exercise, the application of the measures required under the OSH Directives and in national legislation are in principle effective at reducing the incident rate of accidents. However, enforcement at MS level has been highlighted as a key factor in the variation of costs and benefits across the EU. |
| How are the various aspects related to inefficiencies and unnecessary burden addressed by Member States and the affected industry sector in terms of cooperation and coordination? | Degree of co-operation between MS authorities and construction sector | Medium/high | It has been highlighted that the availability of guidance at MS level can be regarded as a positive output towards the understanding of the legislation and also showing a high degree of cooperation. There are several guidance documents available (from the 10 focal country investigation) regarding loads and machinery as well as asbestos. These guidance documents, although they are not enforceable, appear to be followed by industry to large degree. |

| Conclusions from Ex-post Evaluation | | | |
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| **Evaluation Question** | **Judgement Criteria** | **Evaluation** | **Justification** |
| ***EU Added Value*** | | | |
| What is the added value of the different acts identified for the construction sector, especially for SMEs? | Identification of benefits (or reduced costs) arising from action at EU level as opposed to action taken at individual MS level | Medium/high | Stakeholders have provided mixed views on whether the identified EU legislation provides added value to enterprises (particularly SMEs) compared to national legislation alone. EU legislation may have provided a stimulus for some countries to improve their existing health and safety regime and has provided a minimum standard of health and safety protection across the EU. The extent to which countries may have implemented similar legislation in the absence of EU legislation cannot be determined.<br>It has not been possible to make any conclusions on the extent to which the WFD and EIA Directive have provided added value for the construction sector, especially for SMEs. |
| What would happen to the construction sector if that legislation or some of its specific provisions were to be removed? | Likely change in behaviour of companies regarding actions to protect workers or the environment | Medium/high | It is extremely difficult to say what would happen to the construction sector if OSH legislation, or some of its specific provisions, were removed. While some stakeholders have indicated that MS would implement similar provisions in national law, others have said that this would not be the case. It is likely that companies would implement some voluntary actions where these also serve to increase productivity.<br>It has been noted that the way in which health and safety legislation has been transposed and implemented in the MS is extremely varied. Over time, it is likely that the removal of EU legislation would lead to an even more fragmentary approach developing between countries.<br><br>Some of the requirements in the EU acquis are already present in other international legislation and so the effects of removing some specific provisions may be quite minimal in some MS.<br><br>Some of the requirements of the EIA Directive are already present in other international legislation (e.g. the Rio Declaration, Espoo Convention and Aarhus Convention). Thus removing some obligations from the EU acquis may not have any major impact, besides reducing legal clarity. |
| Do the needs and challenges addressed by the legislative acts continue to require action at EU level? | Degree to which MS legislation differs across countries and from EU minimum | High | It would appear that in both legislative areas, further action is required at the EU level to help level the playing field within the EU. Action is also needed at the EU level to help address some of the difficulties faced by SMEs. |
| *Source: Consultants' analysis – see main report* | | | |

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ET-01-15-795-EN-N

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doi:10.2873/254584