



The European construction sector

A global partner

The European construction sector: a global partner

The construction sector is of strategic importance for many countries across the world. It delivers the buildings and infrastructure needed by the rest of the economy and society.

It generates 10% of gross domestic product (GDP) in the European Union and provides 20 million jobs. It has a direct impact on the safety of persons and on the quality of life.

The energy performance and resource efficiency of buildings, infrastructure and construction products have an important impact on energy savings, the fight against climate change and the environment in general. This has triggered important innovations and built expertise in Europe for the design of sustainable buildings and construction products, including renovation.

As such, the construction sector plays an important role in the delivery of the European Union's 'Europe 2020'¹ goals for smart, sustainable and inclusive growth. The strategy for the sustainable competitiveness of the construction sector² focuses on five objectives: stimulating favourable investment conditions; improving the human-capital basis; improving resource efficiency, environmental performance and business opportunities; strengthening the EU

internal market and fostering the global competitiveness of enterprises.

The European Union's internal market offers our international partners access to more than 500 million people and approximately EUR 13 trillion in GDP.

The European Union has put in place a comprehensive legislative and regulatory framework, including corresponding European standards, financial tools, information platforms, labelling schemes and other instruments, which are presented further on.

The European Union is a major actor in world trade and supports open markets, clear regulatory frameworks and the removal of barriers to trade.

The EU is engaged internationally to open opportunities for sustainable construction, cooperate with its partners in areas of mutual interest and share its expertise.

¹ http://ec.europa.eu/europe2020/index_en.htm

² *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).*



Buildings and other construction works

The EU policies for buildings aim at an integrated approach, covering sustainability, in terms of energy and resource efficiency, health and safety issues. There is a large market to cover, including newly built buildings and renovating the existing building stock.

Energy efficiency – towards nearly zero-energy buildings

The EU is aiming for a 20 % cut in its annual primary energy consumption by 2020. The building sector, together with public transportation, has the greatest potential for savings.

³ Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings.
http://ec.europa.eu/energy/efficiency/buildings/buildings_en.htm

The EU Member States retain the competency to regulate issues such as safety, indoor air quality, noise and radiation. They also have the responsibility to implement European legislation.

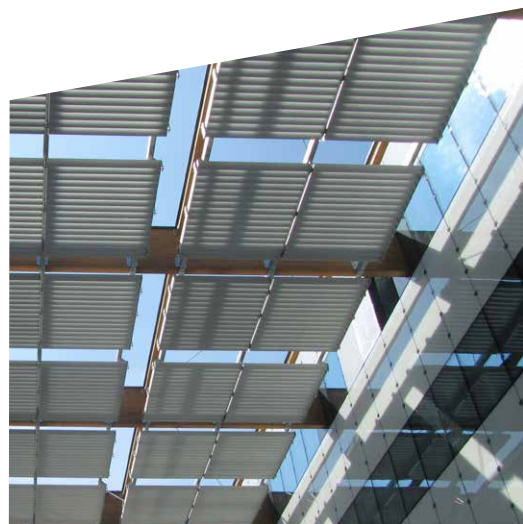
Local authorities have an important role to play in the promotion of low-carbon and resource-efficient cities, building on the involvement of stakeholders and citizens.

The energy performance of buildings directive (EPBD)³ promotes the improvement of the energy performance of buildings, taking into account outdoor climatic and local conditions, as well as indoor climate requirements and cost-effectiveness. It applies to new buildings and old ones undergoing renovation, and lays down minimum requirements for energy performance and requirements for related framework methodologies and strengthens the role of energy performance certificates and inspections.

Sustainable construction

Sustainable buildings combine improved energy performance and reduced environmental impact throughout their life cycle. Their users enjoy better health and well-being and productivity gains that translate into cost savings.

Buildings have the potential to reach a 90 % reduction in their greenhouse gas emissions by 2050.



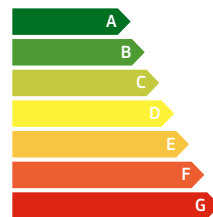
According to the EPBD, all new buildings shall be nearly zero-energy buildings by 31 December 2020, and 2 years earlier for buildings occupied and owned by public authorities.

‘Nearly zero-energy building’ means a building that has a very high energy performance. The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy produced on site or nearby.

Public authorities should set the example by renovating each year 3 % of central government buildings with insufficient energy performances, as required by the energy efficiency directive (EED)⁴. This requirement is complemented by the EED obligation for Member States to put in place longer-term renovation strategies.

The implementation of the EPBD is supported by a set of European standards⁵, dealing with the thermal performance of buildings and building components, ventilation, light and lighting, heating systems, building automation, controls and building management.

In line with the EPBD, the EU Member States have established systems of certification of the energy performance of buildings. The certificate includes the energy rating and recommendations for the cost-optimal or cost-effective improvement of the energy performance.



The EPBD has already had a positive impact on transaction prices and rents: higher energy-efficiency ratings result in substantially higher sales or rental values of buildings.

European support initiatives

The European Portal for Energy Efficiency of Buildings⁶ is an initiative of the European Commission that allows the finding and sharing of best practices and know-how on energy solutions for better buildings.



The Energy-Efficient Building European Initiative⁷ is an industry-driven research and demonstration programme with the vision that all European buildings will be designed, built or renovated to high energy efficiency standards by 2050.



⁴ Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency.

⁵ <http://www.cen.eu/cen/Sectors/Sectors/Construction/EPBD/Pages/default.aspx>

⁶ <http://www.buildup.eu>

⁷ <http://www.e2b-ei.eu>



Resource efficiency

The great challenge faced by economies today is to integrate environmental sustainability with economic growth and welfare by decoupling environmental degradation from economic growth and 'doing more with less'.

In parallel to the significant progress being made with regard to energy efficiency, there is a need for a more holistic approach which considers resource efficiency throughout the whole life cycle.

The main focus for sustainable buildings⁸ is the reduction of the environmental impact of resources such as materials, water and embodied energy, throughout the life cycle of buildings, from the extraction

⁸ <http://ec.europa.eu/environment/eussd/buildings.htm>

of building materials to demolition and the recycling of materials. More also needs to be done in the area of renovation of existing buildings.

The specific objectives are to set environmental performance standards, provide incentives for citizens and public authorities to choose resource-efficient products and services and stimulate companies to innovate. Our international partners can also benefit from this.

European legislation and support initiatives

Life-cycle assessments provide the best framework for assessing the potential environmental impacts of goods and services. The objective is to promote life-cycle thinking in business and in policymaking, including green public procurement (GPP)⁹.

The waste framework directive¹⁰ — with its objective of reaching 70 % of preparation for reuse, recycling and other forms of material recovery of construction and demolition waste — contributes significantly to the European policy towards increased resource efficiency in the construction sector and to treating waste as a secondary raw material in more general terms.

Improved design, sustainable materials and a higher waste recycling rate, together with fair, flexible and coherent rules ensure

- ¹Resource, Extration and processing
- ²Design
- ³Manufacturing & Retail
- ⁴Distribution
- ⁵Use
- ⁶Collection
- ⁷Reuse, Recycling, Energy, Recovery, Disposal



Life-cycle thinking seeks to lower the environmental impacts and reduce the use of resources, beginning with the extraction of raw materials, moving through manufacture, distribution and use, and ending with reuse, recycling and ultimate disposal.

⁹ http://ec.europa.eu/environment/gpp/index_en.htm

¹⁰ Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste.

the proper functioning of the internal market and boost the competitiveness of the construction sector. It also provides an example and ample opportunities for our international partners.

Construction¹¹ is one of the six sectors in the EU's lead market initiative, which aims to lower barriers for new products or services. Specific measures endeavour to improve the efficiency of the regulatory framework, standardisation and public procurement practices as well as to upgrade the skills of construction workers so as to foster innovation and sustainability in construction.

The public sector is an important purchaser of buildings and can drive demand for green buildings significantly. We are striving for this in Europe and encourage our international partners to do the same.

European standards¹¹ provide the tools for assessing and reporting the performance of buildings as regards social, economic and ecological sustainability, covering the whole life cycle. They are used throughout the EU and promoted internationally to set harmonised indicators and methods in the different certification schemes.

¹¹ http://ec.europa.eu/enterprise/policies/innovation/policy/lead-market-initiative/sustainable-construction/index_en.htm

¹² <http://www.cen.eu>

Structural design

The Eurocodes¹³ are a series of European standards providing a common approach for the structural design of buildings and other civil-engineering works.

They are used to determine the performance of construction products and are the preferred reference for technical specifications in public contracts.

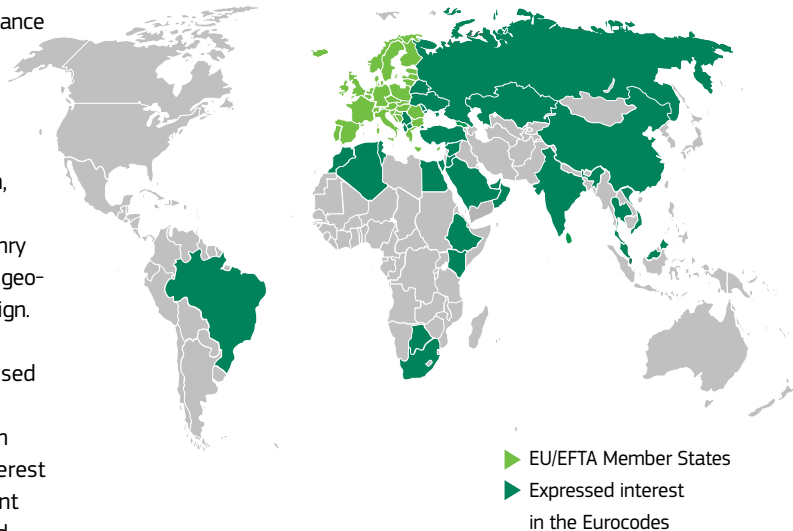
They cover the basis of structural design, actions on structures and the design of concrete, steel, composite, timber, masonry and aluminium structures, together with geo-technical, seismic and structural fire design.

The Eurocodes are implemented and used in the EU and the member states of the European Free Trade Association (EFTA)¹⁴. There is also considerable interest in their use by other countries who want to update their national standards based on technically advanced codes and to trade with the EU and EFTA.

The next generation of Eurocodes shall also cover structural glass, new performance requirements and design methods, and the assessment, reuse and retrofitting of existing structures, as well as enhanced robustness requirements.

¹³ <http://eurocodes.jrc.ec.europa.eu>

¹⁴ Iceland, Liechtenstein, Norway and Switzerland.



Construction products

Construction products affect the performance of buildings with respect to safety, health, environmental performance and energy efficiency. Sustainable use of resources relates to recyclability, durability and the use of environmentally compatible materials.

¹⁵ 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. http://ec.europa.eu/enterprise/sectors/construction/legislation/index_en.htm

¹⁶ Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products.

The focus of the Construction Product Regulation (CPR)¹⁵ is on the competitiveness of the sector, not least in the field of sustainable construction. Important policy priorities are the safety of the construction works and the free movement of engineering and construction services, which are facilitated through the implementation of European standards.

The Construction Products Regulation (CPR) covers seven basic requirements with regard to product standards for construction works, as follows.

1. Mechanical resistance and stability.
2. Safety in case of fire.
3. Hygiene, health and the environment.
4. Safety and accessibility in use.
5. Protection against noise.
6. Energy economy and heat retention.
7. Sustainable use of natural resource.

Products that comply with European legislation are free to circulate in the market. The CE marking is a declaration that the product conforms to all applicable provisions and that the appropriate conformity assessment procedures have been completed.

Assessment methods have been specified in harmonised European standards for products. They are to be applied by the manufacturers when declaring the performance of products and the national authorities when specifying requirements. Labelling and classes introduced in the standards help users choose the products most suitable for their intended use in construction works.

A European technical assessment is issued for construction products not covered or not fully covered by a harmonised standard. It includes the performance to be declared and all technical details necessary for verification of the constancy of performance.

Energy-related products used in the sector, such as windows, heaters and ventilation systems, account for a large proportion of the energy consumption in the EU. The ecodesign directive¹⁶ provides a coherent framework of requirements for taking into account all the environmental impacts of a product. As such, ecodesign measures enhance product quality and environmental protection and facilitate the free movement of goods.



The EU Ecolabel¹⁷ helps identify products and services that have a reduced environmental impact throughout their life cycle, from the extraction of raw materials through to production, use and disposal. Greener, more environmentally friendly, products of high quality available around the world are listed in the Ecolabel catalogue¹⁸.

The regulation on registration, evaluation, authorisation and restriction of chemicals¹⁸ (REACH) is relevant for construction products that use recovered substances, such as metals,

aggregates and glass. The main objectives of the regulation are to ensure a high level of protection of human health and the environment from the risks that can be posed by chemicals, the free circulation of substances on the internal market and the enhancing of competitiveness and innovation.



Green public procurement

Public authorities have a direct influence on consumption. In the EU, their purchases represent 16 % of GDP.

Green public procurement²⁰ enables them to procure goods, services and works with a reduced environmental impact throughout their life cycle. In the EU, criteria have been developed for construction materials and services, windows, glazed doors and skylights, thermal insulation, hard floor coverings and wall panels.

Green public procurement can be used to reduce the direct environmental impact of public activities while influencing the market towards the delivery of greener goods, services and works.

²⁰ http://ec.europa.eu/environment/gpp/index_en.htm



¹⁷ Regulation (EC) No 66/2010 of the European Parliament and of the Council of 25 November 2009 on the EU Ecolabel.

¹⁸ <http://ec.europa.eu/ecat>

¹⁹ Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the registration, evaluation, authorisation and restriction of chemicals (REACH), establishing a European Chemicals Agency.
http://ec.europa.eu/enterprise/sectors/chemicals/reach/index_en.htm



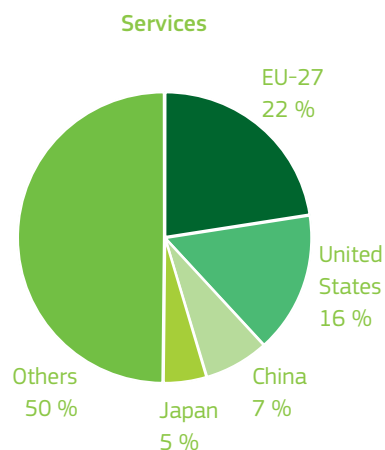
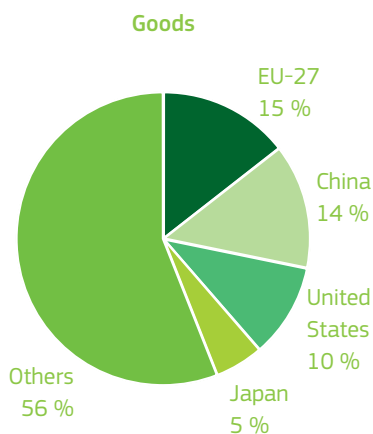
Benefits of international cooperation

The EU is a major actor in world trade. It promotes open markets, clear regulatory frameworks and the removal of tariff and non-tariff barriers to trade. It supports the conclusion and effective implementation of international agreements that facilitate trade, notably for sustainable and resource-efficient products and services, and undertakes joint initiatives with neighbouring and other partner countries.

In the context of its international trade negotiations, the EU has been seeking commitments to facilitate the exchange of goods and services for the benefit of both sides. A clear regulatory framework together with transparent and effective common rules and technical standards

for performance assessment are essential to remove trade barriers so that all firms, particularly small and medium-sized enterprises (SMEs), have access to international markets and to the European Union's internal market, with 28 countries and 500 million consumers.

Share of world trade in 2012
(data from Eurostat).



A transparent framework for the conformity assessment of products is a vital springboard for the European construction industry to increase its competitiveness in the European market and expand into global markets.

The Eurocodes provide common rules for the design of buildings and products. They facilitate the movement of goods and services and form a basis for technical and scientific collaboration between the EU and its partner countries, many of which many have already adopted them as national standards or are in the process of doing so.

The EU promotes the implementation of policies to reap the rewards of a green economy and greater resource efficiency. Various financial instruments, e.g. development aid and cooperation funds,

support efforts by less-developed countries to improve resource efficiency in the context of sustainable development²¹ and the implementation of relevant measures.

EU actions aim to benefit the health and well-being of citizens. They are protected from substandard products and enjoy a wider choice of goods and services, better quality, lower prices and higher environmental performance.

The EU supports actions that improve the scientific and technical dialogue with international partners in order to exchange experience and good practice, boost cooperation on research and higher education and encourage innovation in construction products and works, energy and resource efficiency.

²¹ http://ec.europa.eu/europeaid/what/sustainable-development/rio-un-conference_june-2012_en.htm



Support schemes & financial instruments

In the European Union, there are a number of instruments at EU and Member State level to speed up the market uptake of new knowledge and technologies for sustainable construction.

In addition to the schemes introduced on pages 5 to 7, the EU has developed the following support instruments and frameworks for the construction sector.

Support schemes

²² <http://ec.europa.eu/enterprise/sectors/construction/crip/index.jsp>

²³ http://ec.europa.eu/environment/emas/index_en.htm

²⁴ <http://ec.europa.eu/enterprise/newapproach/nando/index.cfm>

The European Construction Information Platform²² is a web portal that provides access to all relevant information on the construction sector at European and national level. This includes a set of features supporting the dissemination and communication of information to relevant stakeholders in the sector.

Financing instruments

European funding for energy efficiency and renewable energy in residential buildings is available from cohesion policy programmes²⁵, through grants and financial instruments, e.g. the renovation loan²⁶, in the form of equity funds and loan guarantees from the European Investment Bank, the European Bank for Reconstruction

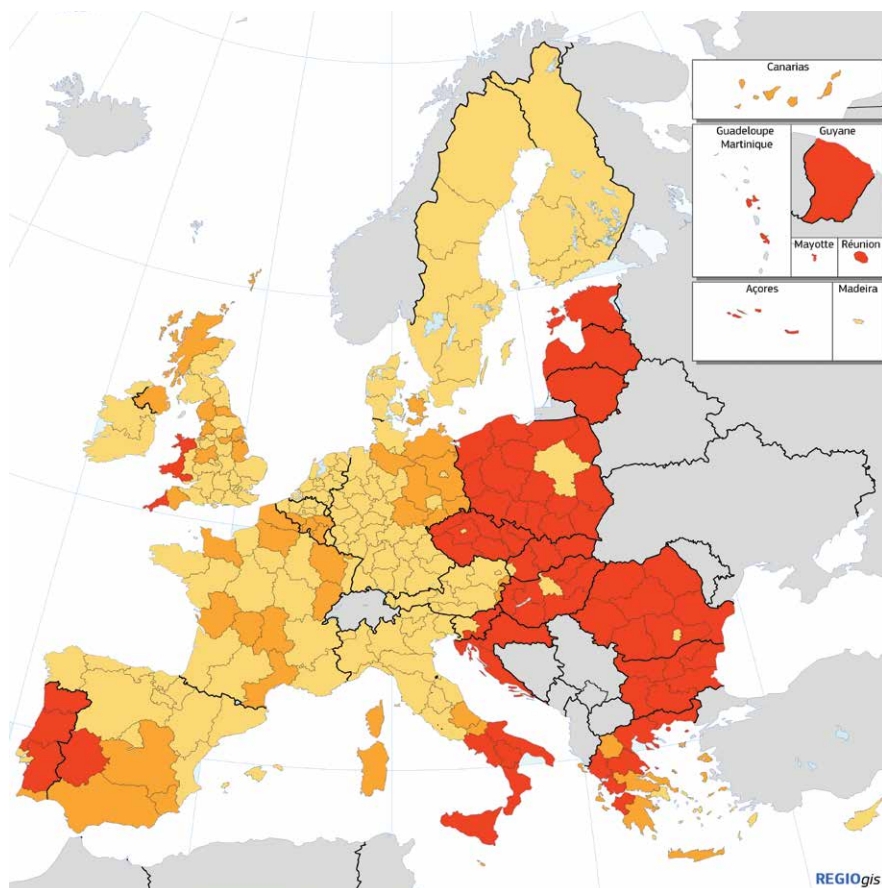


The EU Eco-Management and Audit Scheme (EMAS)²³ is a management instrument developed by the European Commission for use by all types of organisations to evaluate, report and improve environmental performance. It spans all economic and service sectors and is applicable worldwide.

²⁵ http://ec.europa.eu/regional_policy/index_en.cfm#enterprise/newapproach/nando/index.cfm

The NANDO Information System²⁴ lists the notified bodies designated to carry out conformity assessments, among others those under the CPR.





Structural Funds eligibility 2014-2020

- ▶ Less developed regions
- ▶ Transition regions
- ▶ More developed regions

and Development and the European Energy Efficiency Fund, and also from specific instruments such as ELENA²⁷. A guide on “Financing the energy renovation of buildings with Cohesion Policy funding” has been published recently²⁸.

COSME²⁹: European SMEs can benefit of the loan guarantee and venture capital instruments available under the EU programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises.

LIFE³⁰ is an instrument for co-financing pilot or demonstration projects that contribute to the implementation, updating and development of EU environmental policy and legislation. Environment and resource efficiency are priority areas of the new LIFE regulation³¹.



²⁶ http://ec.europa.eu/regional_policy/thefunds/fin_inst/index_en.cfm

²⁷ <http://www.eib.org/products/elena/index.htm>

²⁸ http://ec.europa.eu/regional_policy/information/brochures/index_en.cfm#5

²⁹ http://ec.europa.eu/enterprise/initiatives/cosme/index_en.htm

³⁰ <http://ec.europa.eu/environment/life/index.htm>

³¹ Regulation (EU) No 1293/2013 of the European Parliament and of the Council of 11 December 2013 on the establishment of a programme for the environment and climate action (LIFE).

³² <http://ec.europa.eu/social/main.jsp?catId=822&langId=en>

³³ <http://www.buildupskills.eu>

³⁴ <http://ec.europa.eu/programmes/horizon2020>

The transition to a resource-efficient and low-carbon economy will bring important structural changes in the construction sector: on-site construction and product manufacturers will be confronted with the need for skilled labour, especially regarding near zero-energy buildings. The European Social Fund provides funding for training and education schemes.

The 'New skills for new jobs'³² agenda addresses skills gaps, anticipates future labour market needs, supports the transition to a low-carbon economy and helps people to better exploit green job opportunities.

The 'Build up skills'³³ initiative focuses on continuing education and training of on-site construction workers on energy efficiency.

The transition to a green and low-carbon economy will require significant innovation, from small incremental changes to major technological breakthroughs. Basic and applied research should identify challenges and guide actions.

The seventh framework programme has initiated a number of relevant projects on sustainable buildings. Horizon 2020³⁴ also features resource efficiency as a key priority and thus will provide funding for projects aiming at improving the resource efficiency of buildings. Horizon 2020 will also address climate-change adaptation through its societal challenges priority.



For more information

European Commission
Enterprise and Industry Directorate General
Energy Directorate General
Joint Research Centre (JRC)

Internet

http://ec.europa.eu/enterprise/sectors/construction/index_en.htm

Email

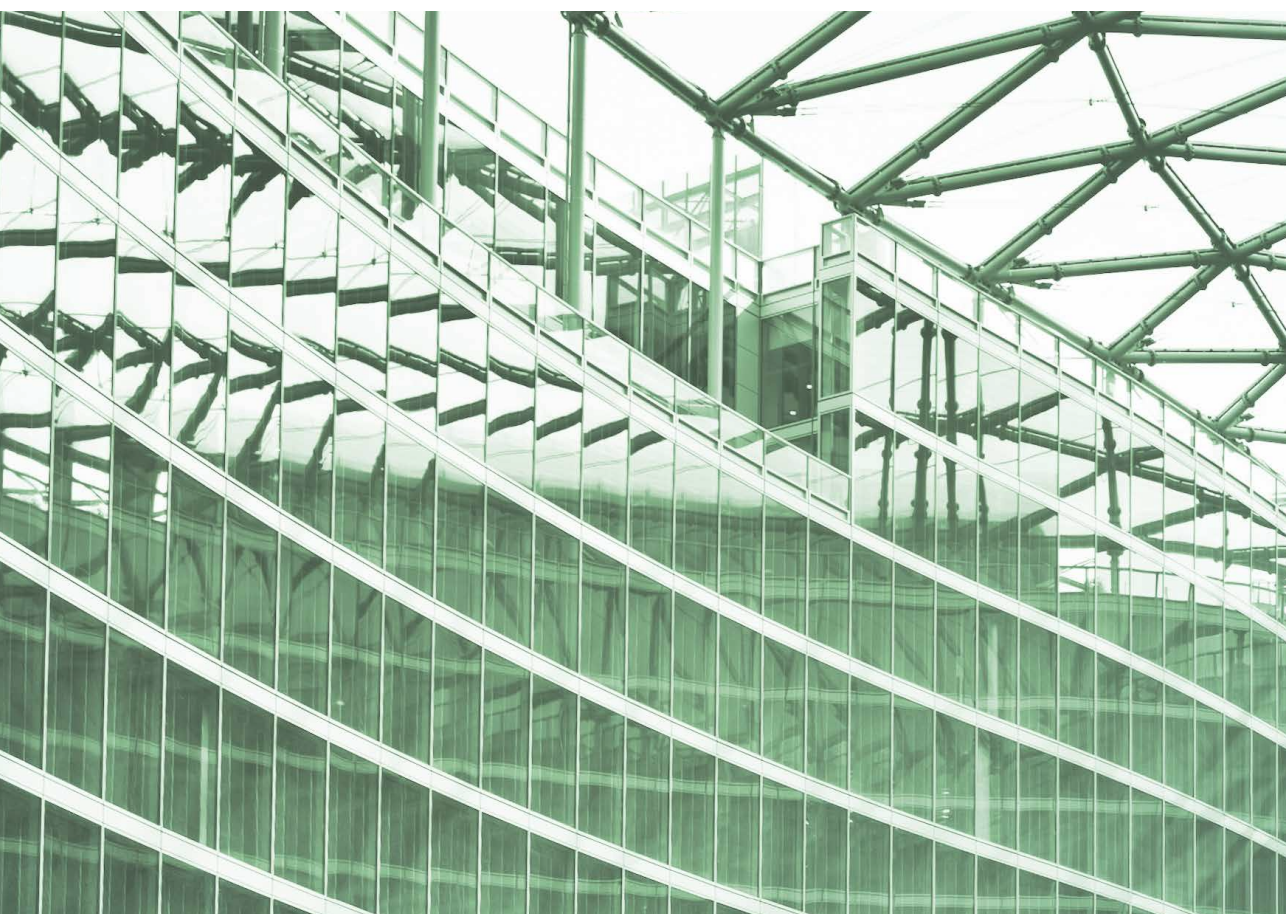
construction@ec.europa.eu

Contact points at national level (EU Member States)

http://ec.europa.eu/enterprise/sectors/construction/legislation/index_en.htm

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