

SUSTAINABLE CONSTRUCTION

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Europe's construction industry can drive EU policy goals, if it steps up to the plate. [University of Salford Press/Flickr]

Policy convergence hands opportunity to construction industry

Europe's construction industry can provide part of the answer to many of the European Union' economic and environmental concerns.

New European Commission policies to bolster energy security, fight climate change, boost flagging economies and shift the EU to a sustainable future foresee an important role for the construction industry.

Policy makers have pinpointed building renovation, construction, and demolition as vital to the success of major economic, environmental, energy and security strategies.

"There's a convergence of policy development which will deliver the construction industry the chance to take the lead in the continued economic recovery in Europe," said Adrian Joyce, campaign director of Renovate Europe.

This special report will look at

some of the ways that the industry is and can take advantage of this unique opportunity.

Energy Union and COP21

Today (18 November), the Commission will publish its State of the Energy Union report. The document outlines the EU energy market, highlighting the barriers to the creation of the Energy Union.

The Energy Union is the bloc's response to two threats; energy security and climate change. Russia's willingness to cut off gas supplies to the Ukraine, a vital transit country for EU supplies, gave the project the political impetus it needed to get off the ground.

At the same time, the Energy Union aims to help shift the EU towards a low-carbon economy. Global warming is uppermost in policymakers' minds because of the UN Climate Change Conference, which begins in Paris on 30 November.

World leaders will try and reach an international deal to cap global warming at two degrees above pre-industrial levels at the COP21. EU leaders have already agreed to cut their greenhouse gas emissions by at least 40% by 2030, and to increase energy efficiency by at least 27%.

Today's report, due to be launched

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at noon, was drafted to sketch out where the EU currently stands and what can be done to reach those goals.

Leaked versions of the report revealed that buildings and the construction industry have an influential part to play. Building renovation can deliver emissions cuts and efficiency increases, as well as local jobs and economic growth.

That is recognised in the leaked report. In 2016, the executive will make legislative proposals to revise the Energy Efficiency Directive to ensure it helps the bloc hit the 2030 goals.

“Equally important is a particular focus on buildings, whose energy represents about 40% of the EU’s total final energy consumption and a quarter of non-ETS greenhouse gas emissions,” the leaked paper said. ETS refers to the Emissions Trading System, which is the EU’s carbon market.

The Renovate Europe campaign said that EU buildings were responsible for 36% of the bloc’s CO₂ emissions. 75% of homes in the EU are inefficient, the European Commission has said.

The report said that a “thorough evaluation” of the poorly implemented Energy Performance of Buildings Directive was ongoing, before it too is revised.

Greater energy efficiency also minimises demand, strengthening the bloc’s energy independence. Renovate Europe said that the EU imports more than half (53%) of its energy every year, costing the bloc €400 billion annually. Reducing that dependence will make the EU more resilient to price shocks and unreliable suppliers, such as Russia.

Despite the multiple advantages of building renovation, current renovation rates are just 1% per year.

Growth and investment

Renovation programmes will stimulate investment and directly create two million local jobs in the construction

sector, which is a bellweather for the economy as a whole.

€60-€100 billion is needed to be invested annually in EU buildings to achieve Europe’s 2020 energy efficiency target of 20% compared to 1990 levels.

Private investment in energy-efficient buildings renovation must increase five-fold by 2030, according to the Energy Efficiency Financial Institutions Group (EEFIG), which has called for a “historic level of public-private collaboration” to bridge the funding gap for energy savings projects.

“Financing the required upfront energy efficiency investments remains a substantial challenge,” the draft Energy Union report said.

Dragging Europe back to growth is a preoccupation of the Juncker Commission. It conceived the European Fund for Strategic Investment (EFSI) to disburse the €21 billion public money earmarked for loan guarantees in the Juncker Investment Plan.

The draft State of the Energy Union report recognises that the EFSI is not ideally suited to financing smaller efficiency projects, such as renovation. The executive wants to set up a scheme that would allow smaller investments to be aggregated; stacked on top of each other to make a bigger investment.

The aggregation of smaller renovation projects is inspired by Energies POSIT’IF. The French company stacked up planned efficiency renovations of apartments to secure funding from the EFSI.

The scheme will strengthen development assistance and “off-the-shelf instruments with standard terms and conditions, notably in the area of buildings”.

Construction and demolition

The construction and demolition industries are singled out for special attention in leaked European Commission documents for its retabled circular economy package of waste,

incineration and recycling laws.

The circular economy is a term used to describe a sustainable, low carbon economy, where, as far as is possible, nothing is wasted. It is seen as vital for the future of a planet, with finite resources and a booming population.

The Commission controversially axed the package drafted by its predecessor, the Barroso administration, as part of its drive for better regulation.

The replacement is expected to be launched in December. EurActiv has seen internal documents that will form the basis of the new package.

The draft says that construction and demolition waste represents one of the highest volumes of waste in Europe.

While much of the “waste” can be recycled or re-used, the rates at which member states actually achieve that vary hugely across the EU.

The executive plans to develop guidelines for demolition sites to improve recycling rates by, for example, ensuring valuable materials are identified and recovered.

These will be complemented by voluntary protocols, aimed at spreading best practice through the European industry.

Guidelines will also be drafted to ensure potentially dangerous waste is properly handled.

Buildings last a long time. Nine out of every ten buildings in the EU will be standing and occupied by 2050. But new buildings should also be designed in a way that makes them more recyclable in the future and minimise their environmental impact, according to the Commission document.

The executive will develop environmental performance indicators to cover the whole lifecycle of a building, supporting that with demonstration projects and guidelines for green public procurement.

Climate change, the political response to the Ukraine, boosting jobs

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and growth, and the long-term goal of creating a circular economy to ensure the future are all central policy goals of the Juncker Commission.

The Concrete Initiative is a platform set up by industry associations to engage stakeholders on many of these issues, examining the economic, environmental and social implications of sustainable construction. It aims to show how the construction industry can help solve the

challenges facing policymakers.

Patrick Liébus, President of the European Builders Confederation, said, "Craftsmen and SMEs from the construction sector in Europe have long been supporting all measures to enhance energy efficiency in buildings. With the Energy Efficiency Directive, the upcoming Package on Circular Economy and the possibility to use funds from the Juncker Plan, the EU has empowered construction SMEs in achieving

sustainability in buildings.

"The work done by the EU institutions should boost the building sector activity, create many qualified jobs and significantly contribute to reducing Europe's costs for energy imports thus increasing energy security whilst improving quality of life and reducing fuel poverty. COP 21 must follow this path and include a commitment towards buildings."

Construction industry's recovery can drive economic growth

Europe's construction industry was badly hit by the financial crisis, suffering from the "double dip" recession hot on the heels of the 2008 meltdown.

The industry is still recovering. Its travails mirror the struggles of the European economy to return to growth. But that return to growth could be driven by construction, which would benefit both the industry and the European Union as a whole.

Construction is a bellwether of the economy, and, crucially for a bloc toiling to create jobs, generates local employment. It is the single largest economic activity and the biggest industrial employer in Europe. About 20 million people are employed in the construction industry.

European Commission analysis has suggested that every job created in construction results in two additional jobs elsewhere. And it can help promote growth through its links to other manufacturing sectors, such as the



Construction can provide a boost to the economy, according to a new research. [Department for Business, Innovation & Skills/Flickr]

transport infrastructure.

But, according to the Euroconstruct network, the industry will only resume solid growth by 2017. In the meantime, it is down to national and European policymakers to create a favourable regulatory framework to stimulate investment.

New research

Today (18 November) in Brussels, the Concrete Initiative, a group of trade associations, is holding its first annual conference. The event will focus on how sustainable construction can help the environment, and crucially, the economy.

It will also see the launch of a new report, which researched the impact of the cement and concrete industry, a major part of the construction sector, on

the economy.

The study, conducted by Le Bipe for the Institute, found that the cement and concrete industry directly generated €20bn in 2012. It estimated that it created 384,000 jobs.

According to the research, the industry generates a total of €56bn of value in the EU, and over a million jobs.

Those figures are based on industry purchases and the spending of its direct and indirect employees. Le Bipe claimed that represents a multiplier effect of 2.8.

"This means that, in the EU28, for each €1 of value added generated in the Cement and Concrete Industry, €2.8 are generated in the overall economy," the study said.

The consultancy said that their figures only considered contributions in

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the upstream value chain. This means that the activity of contractors, builders, concrete workers, and joiners, for example, were not taken into account.

A new circular economy

The European Commission plans to launch its revamped Circular Economy Package before the end of the year.

The package of waste, recycling, incineration and landfill laws is a first step towards a fundamental shift in the way the economy works.

Policymakers, faced with a booming global population and finite resources, recognise the need to shift to a low-carbon, sustainable economy, where as little as possible is wasted.

The construction industry will have to adapt to this shift, to remain a driver of growth. According to the Concrete Initiative, steps have already been taken to achieve that.

Cement and concrete can contribute to the circular economy, notably through the use of recycled materials and waste as a fuels in their production processes.

The industry has also cut its carbon

footprint when cement is produced. Specific emissions related to the cement production process have been reduced by 13% between 1990 and 2013

Europe's building sector represents 40% of CO₂ emissions in the EU. But today's concrete can reduce energy use and CO₂ emissions over the life-cycle of a building by 60% compared to 20 years ago.

Ongoing research in the recarbonation of crushed concrete allows for the uptake of up to 25% of the CO₂ emitted during production, according to the Concrete Initiative.

INTERVIEW

Vella: Construction essential for circular economy

Construction will be an essential part of the transition to a circular economy, and can also drive growth, the European Union's Environment Commissioner has said.

Karmenu Vella is European Commissioner for Environment, Maritime Affairs and Fisheries.

What do you understand by sustainable construction? Is it just an environmental issue?

Sustainability consists of three pillars, and they all need to go hand in hand. At the moment, we are focusing on the environmental performance of buildings, while keeping the social and economic aspects in mind.

Last year, the European Commission adopted a Communication on Resource Efficiency Opportunities in the Building Sector. It sets out a number of actions aiming at a better functioning market for recycled construction materials to boost



Karmenu Vella [European Parliament/Flickr]

its true sustainability.

One year on, several key initiatives are under way. One example is a study to develop specific tools that can assess construction and demolition waste streams before demolition or renovation begins. In fact these "pre-demolition audits" are already being used in some parts of Europe. The audits allow better waste management, because as well as identifying the fractions suitable for recycling, they also make it easier to separate hazardous materials, so they can be disposed of safely.

Another major action coming as a result of the communication is developing a common European approach to assess the environmental performance of buildings. Taking a holistic approach to "green buildings" will help the sector take all aspects of resource use into account, throughout the life cycle of a building. The idea is to

create a common language and open up the business case for green buildings.

How can construction fit into the circular economy?

Construction and all the businesses it involves will be essential in the transition to a circular economy.

The idea goes far beyond making buildings more energy-efficient when we heat and cool them. It is also about aspects like the materials we use for construction in the first place, and how we deal with them when we renovate or demolish the buildings, the energy and other resources we use to produce the construction materials, water consumption and so on.

Every year in the EU, nearly 15 tonnes of materials are used per person. Part of

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this comes from extractive industries, and construction materials account for a large proportion of those. The waste stream from the construction sector is one of the largest, and makes up about one third of the waste generated in the EU. So the advantages of moving to a more circular model here are legion.

Construction is seen as a bellweather for economic health. What role can it play in getting Europe back to growth?

Construction has great potential as a motor for growth – it already contributes 9% to EU GDP. Renovation, which is labour-intensive and often requires special skills, is a particularly important sector. And let's not forget that recycling construction and demolition waste, which comes with local work for sorting and collection, adds jobs that can not be moved elsewhere. Several interesting industry-lead initiatives are on-going, targeting circular economy in different ways. There we have a common objective, and this sector can certainly be the engine of recovery. We will make our best to support the sector and add incentives where we can.

Is the Commission aware of the energy efficiency benefits of concrete buildings? Some believe the industry is penalised for the high emissions of creating it without the benefits being taken into account.

We are aware of the pros and cons of a whole range of construction materials, concrete included. It's important to remember that choosing a building material isn't simply an economic decision, and that many factors, such as culture, aesthetic impression and individual choice all have a vital role to play. Different policies can come into play for different materials, but we do not consider that any specific sector is being penalised.

INFOGRAPHIC

The European Commission's planned Circular Economy Package of waste and recycling laws will highlight the role of construction and demolition. But what is the best way to demolish a home and how can waste be turned into a resource that can be re-used?

What's the best way to destroy your house?

How to deliver sustainable demolition

1

Hope that the building is designed for recyclability

2

View demolition 'waste' as a resource

3

Create markets for the resource

PLASTIC

- step 1:** Remove plastic waste materials from buildings
- step 2:** Collect and transport plastic waste to facilities for sorting
- step 3:** Sort plastic waste materials to recycling and energy recovery facilities
- step 4:** Plastic either used for new products or used for heating and electricity

METAL

- step 1:** Metal products collected during deconstruction re-used, or sent to scrapyards
- step 2:** Scrap is shredded, sorted and cleaned
- step 3:** Sorted scrap is melted and refined to make metal ingots for new products
- step 4:** Between 80% and 95% of this energy is applied to produce new metal from primary sources is saved

GLASS

- step 1:** Glass removed from building
- step 2:** Glass collected and transported to specialised glass recycling plants
- step 3:** Benefits include less raw materials, less energy and less CO₂
- step 4:** Shredded and processed to be used for making new glass

WOOD

- step 1:** Wood removed from house and taken to timber yard
- step 2:** Wood sorted for either reuse or recycling
- step 3:** Wood either recycled as chipboard or, at end of life, burnt as biomass
- step 4:** Wood to be recycled, used to specialist centres, made to be separated into separate streams

GYPSUM

- step 1:** Plasterboards, which are made from gypsum, are removed
- step 2:** Shipped to gypsum waste recycling centre
- step 3:** Recycled gypsum taken to factory and made back into plasterboards
- step 4:** Plasterboards used in construction

CONCRETE

- step 1:** Ensure concrete is separated from reinforcement bars and potential contaminants
- step 2:** Crush concrete on-site to aid in demolition process off-site
- step 3:** Recycled aggregates are 100% used – some in new concrete, some in other applications such as road base
- step 4:** Low extraction risk compared to sands and smaller transport distances

DEMOLITION SITE

Sources: Sources Timber Trade Federation, PlasticsEurope, Gypsum to Gypsum, CEMBUREAU, Eurometaux, Glass for Europe

With the support of

New Circular Economy package still a work in progress for construction industry

The European Commission's new Circular Economy package of waste and recycling laws, to be launched tomorrow (2 December), will be pored over by a construction industry keen to prove its sustainability credentials.

The European Commission's new Circular Economy package of waste and recycling laws, to be launched tomorrow (2 December), will be pored over by a construction industry keen to prove its sustainability credentials.

EurActiv can today reveal that while the new rules do sketch out long-term measures to boost recycling and reuse of construction waste, it fails to increase the EU-wide 2020 target.

The old package was axed under Commission First Vice-President Frans Timmermans' drive for "better regulation". Faced with criticism for binning the pending bill, Timmermans promised a retabled package would be more ambitious.

Previous leaks of the package revealed the Commission would instead lower recycling and landfill targets, calling Timmermans' promise into question. Instead of the 70% recycling and zero landfill target by 2030 envisioned in the old package, the new targets are 65% and a 10% landfill goal.

According to the Commission, construction and demolition waste accounts for a third of the EU's total waste production per year, amounting to some 450-500 million tonnes.



Even after tomorrow's launch, the new Circular Economy package is very much a work in progress.
[Nicholas Raymond/Flickr]

The latest leaked version of the Waste Framework Directive, part of the package, states that member states should promote sorting systems for construction and demolition waste for at least wood, aggregates, metal, glass and plaster.

Koen Coppenholle, is chief executive of Cembureau, the European Cement Association. Cement is used to make concrete, which in turn accounts for at least a third of EU construction and demolition waste.

"Better sorting and collecting will mean more of this demolition waste is available for recycling – and it will be clean and uncontaminated, making it easier to use," Coppenholle said.

For construction and demolition, the ambition remains a 70% target for all material recovery operations by 2020, according to the draft package, which is still subject to change.

But European Aluminium, an industry body, said this EU target would be more ambitious if it included specific goals for re-use and recycling of materials. Aluminium is used in construction - for example, in window frames.

Without that separation, European

Aluminium said member states would continue to send the huge majority of its construction and demolition waste to be backfilled. Backfilling is when waste is crushed and used in, for example, landscaping.

European Aluminium argues that that takes a lot of material out of the circle of the economy, as it cannot be reused. It points to Commission figures showing that the vast majority of member states' material recovery target is made up of backfilling rather than recycling.

Ambitious?

The executive will likely point to sector specific aspects in the action plan it will present tomorrow to rebut those accusations. Aspects related to eco-design, food waste, and, at first glance, construction and demolition support its argument.

But industry sources told EurActiv that many of the "new" construction and demolition initiatives in the action plan were already planned by the executive before the old Circular Economy package

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was ditched in December last year.

Drafting pre-demolition guidelines (expected 2017), voluntary industry-wide recycling protocols for construction and demolition waste (2016), and developing indicators and incentives for the lifecycle environmental performance of buildings (2017), were already planned by the Commission. It had simply shifted the planned measures within the framework of the new Circular Economy package, sources said.

EurActiv was unable to ask the Commission for comment on that issue because the executive has a policy of never commenting on leaks.

Obstacles and drivers

The action plan is not binding legislation in the same way as the retabled directives on waste and packaging, but it does point the direction the executive will follow in the future.

Eliana Garcés Tolón, senior economist and deputy head of unit, economic analysis, at DG Grow, spoke at the Concrete Initiative conference in Brussels on 19 November.

She stressed the need to create secondary markets for waste, adding, "We're coming on track to do that - thinking has shifted."

That was supported by recent remarks by Environment Commissioner Karmenu Vella. He told EurActiv, "We will do our best to support the [construction] sector and add incentives where we can."

The Commission is currently conducting a study to identify obstacles and drivers for construction and demolition waste recycling, as well as best practices.

Stéphane Arditi is products and waste policy manager at the European Environmental Bureau. He said, "With one third of all waste generated coming from construction waste, the Commission is right to tackle this waste stream and limit how much of it ends up

in landfills."

Often, the infrastructure is not in place to allow for quality recycled materials to reach a potential client in a cost-efficient manner, according to the Concrete Initiative, a construction industry body.

Garcés Tolón said at the conference it was vital that the construction industry could operate effectively in Europe. Burdens to cross-border needed to be removed, she said, and public procurement rules should be looked at to incentivise greater efficiency.

But at this stage, the action plan only states that targeted guidelines will be developed. That will not be simple.

At the event, Christophe Sykes, director general of Construction Products Europe queried whether the new circular economy would cover new products or buildings, or all products. In the case of old buildings, he questioned who would own the waste.

European Parliament

Tomorrow's launch is just a first step. Any final package must be agreed by both the European Parliament and Council of Ministers.

Julie Girling was one of the lead MEPs on the ditched Circular Economy package. Writing in EurActiv, she called for mandatory building audits before demolition.

"This goes further than soft measures like guidelines, and beyond the protocol for construction and demolition waste management currently under development," she said.

"It would allow operators to assess what is recyclable in the building and in what volumes, so ensuring maximum waste separation and higher rates of recycling."

Buildings should be designed for disassembly as a best practice in construction, Girling said.

It was vital to ensure optimal use of raw materials, said Girling, citing concrete as an example.

"At the end of its life, it can be recycled either back into concrete (closed loop) or into other applications such as a road base (open loop). It is essential that we maximise both open and closed loop recycling," she said.

"The European Commission's Circular Economy package has already been delayed far too long," said Girling, a British Conservative member of the European Conservatives and Reformists group.

"The delay will only prove warranted if the new version is better, smarter and more proportionate."

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