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## The European Construction Sector Observatory

The European Construction Sector Observatory (ECSO) aims to inform European policy-makers and industry stakeholders on the market conditions and policy developments through regular analysis and comparative assessments. Visit our website and gain access to a wide range of industry data and analysis. ECSO has all the information for you to stay up to date with the latest news and practical analyses about the European Construction Sector.

28 Country Fact Sheets, 175 Policy Fact Sheets, 9 Analytical Reports, 3 Trend Papers and our updated website are now online.

IN THIS NEWSLETTER YOU WILL FIND:



## Energy Efficiency and Innovative Solutions

Innovative solutions can, no doubt, increase energy efficiency in buildings, both new and old. The construction industry is leveraging technology to facilitate construction management and site operations, but also to reduce the construction sector's carbon footprint. Innovations like building information modeling (BIM), green building solutions and the use of advanced building materials have become increasingly common in the industry. With the onset of the COVID-19 pandemic, construction companies were propelled to scale up or develop innovations around prefabrication, worker safety and robotics, and continue to consider their environmental impact.

Trend Paper

## Renovating the building envelope—Quo Vadis?

The trend paper focuses on the various renovation solutions and techniques that are being developed to meet the energy and climate objectives of the EU. Insulation of the walls, windows, doors, roofs, and floors together, the building envelope) can significantly improve the efficiency of heating and cooling of the indoor environment, thereby conserving energy and limiting CO<sub>2</sub> emissions. The new technologies and processes of all the individual components can reduce the environmental impact of a building and improve the comfort of its users. For example, green walls and roofs reduce the urban heat island effects, improve air quality, sequester carbon, have an aesthetic appeal, provide a positive psychological impact on urban dwellers, can support biodiversity and animal habitats, and provide a level of sound proofing. Read more about the benefits and challenges of building envelope renovation in the latest trend paper.

Read the full Trend paper

## Infographics - Renovating the building envelope—Quo Vadis?

Overview of the main benefits linked to renovating the building envelope. Includes categories: ECONOMIC (Reduce the increase in household energy bills, Increase energy efficiency (30-50% energy savings), Higher real estate values), ENVIRONMENTAL (Less CO2 after building renovation, Lower energy consumption and CO2 emissions (10% CO2 savings), Green walls and roofs can act as the perfect natural air filter), SOCIAL (Increase thermal and acoustic comfort, Improved indoor air quality), MICRO-LEVEL (Building envelope renovations help to improve the indoor climate and well-being, Climate change mitigation and preventing environmental costs).

There is a myriad of benefits to renovating the building envelope. Economically speaking, those who invest in upgrading their property's building envelope will see their energy costs decrease and their property value increase. Such a renovation would also lower energy consumption and therefore reduce CO<sub>2</sub> emissions, and it would improve air quality and indoor comfort. Take a look at [this infographic](#) that illustrate not only the main benefits of renovating the building envelope, but also its main barriers, various case studies and the takeaways for policymakers.

Download the infographics

## Policy Fact Sheets

Five new Policy Fact Sheets (PFS) are now available for download, focusing on policies in Bulgaria, Estonia, Finland, Italy and the Netherlands. The PFS provide an analysis of four national policies influencing the development of the construction sector in the area of energy efficiency and innovative solutions.

## Bulgaria – National Strategic Waste Management Plan

Bulgarian National Strategic Waste Management Plan (NSWMP) addresses the environmental impact of separating, recycling and reusing construction and demolition waste (CDW). NSWMP defined six targeted goals: 1) prevent/reduce CDW, 2) define good practices, 3) set up waste reduction targets that increase year on year, 4) expand the market for recycled construction material, 5) improve investment in waste management and finally 6) foster a positive attitude towards recycling and recovery in the construction sector. According to Eurostat, in 2014 and 2016, 90% and 90% respectively of construction waste was recovered. Data from the Bulgarian Ministry of Environment and Water shows an increase in CDW submitted for recovery since 2004, growing from less than 0% to over 70% by 2018. It is important to note, however, that due to the decentralised management and monitoring of the plan, the data collected is not consistent from one municipality to another.

Read the full Policy Fact Sheet

## Estonia - Factory Reconstruction Grant Scheme for Apartment Buildings

Many residential properties in Estonia were built between 1970 and 1990 and need renovating in order to make them more energy efficient. The Factory Reconstruction Grant Scheme for Apartment Buildings aims to reduce greenhouse gas emissions by almost 80% by 2050 compared to 1990 levels through innovative renovation solutions applied to the country's building stock. This is expected to achieve energy savings of approximately 60%. A total of 29 renovation projects have been approved for funding, this for an average cost per project is EUR 672,6 and the average grant funding award per project is EUR 206,376. Reconstruction work is expected to start later this year.

Read the full Policy Fact Sheet

## Finland - Circular Economy Sprint & Coaching

Between 2018 and 2019, the Green Building Council Finland (GGCF) and the Finnish Innovation Fund (Futera) led open workshops for construction stakeholders to discuss the sustainability of the built environment (Circular Economy Sprint – CES). Over 60 people participated in the first two large workshops. The Circular Economy Coaching (CES) project was launched in 2020 with the goal to disseminate and implement the results of CES into pilot projects, and to highlight circular economy solutions. Workshops were held for the organisation of the pilot projects, to find solutions to the particular circular economy challenges they each face. The discussions focused on circular work environments, the use of demolition materials and circular economy principles applied to zoning.

Read the full Policy Fact Sheet

## Italy – Superbonus 110%

Italy's Superbonus 110% is a tax incentive scheme that enables homeowners and non-profit social and voluntary organisations to commission energy efficiency and structural improvements to their properties, with costs covered by the Italian state. By the end of October 2021, almost 58,000 projects had been submitted, at an investment cost of EUR 9.741 billion and an overall cost to the Italian state of EUR 10.7 billion (10% of the investment cost). Since its launch in June 2020, the scheme has allocated over half (50%) of its overall budget. This initiative integrates two fundamental principles into all renovation projects: green ecology together with technical innovation.

Read the full Policy Fact Sheet

## Netherlands - Demolition Certification Scheme

European governments are actively trying to reduce construction and demolition waste (CDW) as it accounts for over 20% of the EU's total waste generation. The Dutch Demolition Certification Scheme (RRI, SVMS-007) is a Dutch initiative to set comprehensive requirements for demolition contractors. The objectives and auditors to make projects as safe and environmentally sound as possible. The scheme has issued over 1,600 certificates to Dutch contractors since 2009. Most recently, the scheme was expanded to cover demolition projects, 15 of which are already registered. RRI SVMS-007 certification provides demolition contractors with new business opportunities. It enables them to demonstrate their commitment to sustainability and become more innovative.

Read the full Policy Fact Sheet

## Country Fact Sheets

Six updated Country Fact Sheets are now available for download, focusing on the construction markets in Croatia, Cyprus, Belgium, Austria, Luxembourg and Malta. The reports provide an analysis of key figures, macroeconomic indicators, economic drivers, issues and barriers, innovation and the national/regional policy and regulatory framework.

## Country Fact Sheet Croatia

Under its EUR 4.3 billion 2021-2025 Recovery and Resilience Plan (RRP), Croatia has allocated EUR 780.4 million to the renovation of buildings. EUR 100 million is earmarked for the reconstruction of building-damaged by earthquakes, including their energy efficiency focused renovations. The government has launched a Renovation of Buildings initiative that promotes the decarbonisation of the construction sector. The renovations under this initiative should achieve at least a 30% increase in primary energy savings compared to the pre-renovation state. The country is considered an emerging innovator according to the European Innovation Scoreboard 2021. Together with the World Bank, Croatia's Ministry of Science and Education is working on enhancing the implementation of research and innovation policies in Croatia.

Download the Country Fact Sheet

## Country Fact Sheet Cyprus

Under the Recovery and Resilience Facility (RRF), Cyprus has been allocated EUR 1 billion in grants, 41% of which will be invested to support climate objectives. EUR 89 million have been allocated towards energy efficiency and renewable energy, and EUR 887 million for sustainable and green mobility. The country has great potential to develop renewable energies. Harnessing solar and wind energies could promote eco-innovation activities in Cyprus, while reducing their carbon footprint. The Cyprus Innovation, Education and Digital Skills Strategy has launched a support scheme to promote the use of Renewable Energy Sources (RES) in existing houses. Individuals living in existing residential buildings can be supported financially if they invest in RES. After renovations, residents would benefit from energy- and in turn, cost savings.

Download the Country Fact Sheet

## Country Fact Sheet Belgium

Under its Recovery and Resilience Plan (RRP), Belgium will invest EUR 1,972 million in the renovation of its building stock, with a primary aim to improve energy efficiency. In the last decade, CO<sub>2</sub> emissions by the private construction sub-sector decreased by 1%, however they increased by 53% in the real estate activities sub-sector. The country is creating policies that support the renovation and low-carbon technologies. For example, EcoBuild, a cluster for sustainable construction and renovation in Brussels, focuses on energy efficient retrofitting and the circular economy. Another is the Cluster for Eco-Construction of Wallonia that promotes the use of renewable energies and awareness of the environmental impact of construction projects over their whole lifecycle.

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## Country Fact Sheet Austria

Austria has taken several initiatives to improve energy efficiency across sectors, in particular for buildings. The Austria Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK, formerly BMIN) has launched the R&D program on Buildings and Energy Efficiency (BEE) under its open-innovation platform, focusing on developing new technologies and technological systems. According to the Energy Efficiency law, energy suppliers must achieve savings of 0.2% of the previous year's consumption, 40% of which must come directly from households. The law's strict requirements for building regulations and thermal renovation of buildings have also resulted in 10% energy savings. Austria's has a strong innovation environment that take advantage of its intellectual assets, networks and attractive research systems.

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## Country Fact Sheet Luxembourg

Renovation spending has been increasing steadily in Luxembourg, thanks in part to the introduction of various policy measures to renovate the existing housing stock, with a focus on improving energy efficiency. Under its Recovery and Resilience Plan, Luxembourg committed to invest EUR 51.5 million towards increasing the supply of a affordable and sustainable public housing in the country. EUR 3.5 million is allocated for the decarbonisation of its transport sector. Luxembourg has played an important role in Luxembourg's status as a leader in innovation. They have developed various programmes like Fit4Innovation, Fit4Start and Fit4Digital to support innovation in SMEs while providing coaching and financing options for start-ups. Such programmes help newer and smaller construction firms to remain competitive in the market.

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## Country Fact Sheet Malta

Under the Recovery and Resilience Facility (RRF), Malta plans to invest 54% of the EUR 316.4 million total budget towards reaching its climate objectives. Measures to secure its green transition include energy-efficiency renovations and the greening of private and public buildings, with an allocation of EUR 60 million for deep renovations and renewable energy installations. Another EUR 16.6 million is earmarked for investment in the transport sector to reduce emissions. Malta's innovation performance is relatively low compared to the EU average. To improve, the Business Balance R&D Grant Scheme was launched with a total grant of EUR 20.0 million. It provides a grants for a variety of research and innovation (R&I) activities including feasibility studies, R&D projects, research infrastructure and process innovation.

Download the Country Fact Sheet

## Construction News and Events

Construction is changing rapidly, with new business models, concepts and technologies being introduced to best respond to new demands and requirements. To keep you well informed, please find below a quick summary of news and upcoming events.

## Construction News

### Pact for Skills – a partnership of the construction ecosystem has been launched

On 8 February, in the context of the EU Industry Days 2022, the EU sectoral social partners of the construction industry, ESC and ESCROW, in cooperation with ESC, published the Pact for Skills in Construction sector. The partnership is part of the wider Skills Partnership Initiative under the European Skills Agenda, presented in July 2020. Calling for concrete commitments by construction and education stakeholders at all levels, the Pact aims at mobilising a concerted effort among private and public partners for quality investment in vocational education and training, as well as in knowledge, skills and competences to the benefit the European construction ecosystem workforce. The partnership aims to upskill and reskill at least 25% of the construction industry's workforce in the next five years, which corresponds to three million workers.

Read more

### BIM Explained: short free online course

Constructible is offering a free online course entitled "BIM 101 for AEC Professionals". It is a 30-minute session that introduces the fundamentals of Building Information Modelling (BIM). The course also covers how BIM is being used in the construction sector and its impact on construction methodologies and processes.

Learn more

### Six construction technology trends

According to Fabio Pontis, vice president of building solutions at Hochtief's Geosystems division, there are six technology trends driving the construction industry in 2022. The first is automation. Architects, designers and construction teams increasingly rely on technology that requires little or no human intervention on construction sites. The second trend is sustainable construction that focuses on new ways to extend a building's lifecycle and provide better solutions for energy-efficient operations. With an increasing use of artificial intelligence that provides easy access to and calculation of construction data. Then there is smart digital reality, or 3D imaging. With the use of this technology, construction teams can better simulate and envision future buildings. The next trend is the rise of digital solutions that are gradually replacing physical interaction. The final trend is digital twin data visualisation that allows project teams to visualise, share and collaborate with clients and colleagues in a digital space.

Read more about construction trends

## Upcoming Events

### Ecocity World Summit 2022

22-24 February 2022 – fully online

This fully virtual event takes place over a period of three days, and promotes the new ideas of how the urban environment can coexist with living systems. Themes include biodiversity, a circular city, resilient communities, social-ecological inclusive urbanism, adaptive urban landscapes and more. The Ecocity World Summit 2022 Programme at a Glance defines all topics, speakers and times.

Find out more

## International Conference on Future Smart Cities and Buildings

INTERNATIONAL RESEARCH CONFERENCE

March 21-22, 2022 – fully online

This online conference is for students, academics and construction industry researchers. New advances and research results in the field of structural and construction engineering will be presented. The organizers hope that attendees, with their various backgrounds and expertise, can collaborate, offer different perspectives and exchange ideas, strategies and best practices. Academic scientists, researchers and scholars are encouraged to submit original research relating to smart cities and buildings.

Find out more

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