# Buy better to build better

Driving public purchase towards green construction products





## **About ECOS**

ECOS - Environmental Coalition on Standards is an international NGO with a network of members and experts advocating for environmentally friendly technical standards, policies and laws. We ensure the environmental voice is heard when they are developed and drive change by providing expertise to policymakers and industry players, leading to the implementation of strong environmental principles.

#### Author:

**Tudor Cherhat,** Programme Manager, Environmental Coalition on Standards (ECOS)

#### Edited by:

**Katarzyna Krok**, Communications Manager, Environmental Coalition on Standards (ECOS)

#### **Graphic design:**

JQ&ROS Visual Communications, jqrosvisual.eu

# Contents

Executive summary and recommendations	4
Green public procurement: harnessing the power of the market to decarbonise construction across the EU	6
State of play in the EU: Uneven ambition and missed opportunities for the economy and decarbonisation	6
GPP criteria for concrete and steel are largely overlooked – at the expense of our planet and Europe's economy	7
Sparse data collection and GPP monitoring means intangible climate progress	9
Green public procurement – potential for change with the new political mandate	9
Making green public procurement the next frontier of sustainable construction	10
Building on GPP's success to deliver substantial embodied carbon reductions	11
Modelling a greener future: Looking at Zurich's Allmend School	12
Reducing emissions hidden in concrete and steel impacts entire building construction	14
Significant climate benefits at marginal costs: harmonised and mandatory eu criteria for green public procurement	15
Purchasing green concrete and steel can cut the EU's public construction emissions by a quarter	15
Procuring greener construction products will not strain public budgets	16
The EU market can properly supply low-carbon concrete and steel in support of green demand	17
Moving towards 2030: how policymakers can maximise the potential of green public procurement	19
The EU should be leading the way – ECOS recommendations	20
Notes and references	21

## Executive summary and recommendations

Public procurement is one of the EU's most important economic tools. Products and services procured by over 250,000 public authorities amount to a staggering 15% of the EU's GDP<sup>1</sup>. This puts governments and cities in a privileged position to **move the needle on decarbonising construction by procuring green and creating lead markets for innovative solutions**, which often struggle to access markets. With public projects accounting for 31% of the sector's investments<sup>2</sup>, authorities can effectively and cheaply tackle up to 19% of the EU's public procurement greenhouse gas (GHG) emissions<sup>3</sup> – just by making more informed purchases.

The new European Commission means renewed opportunities to direct public investments towards the EU's strategic vision – a green and competitive European Single Market. Green Public Procurement (GPP) is increasingly being recognised as a go-to instrument to make that happen – directing public money towards environmental goals while promoting innovation and the economy.

Yet, GPP remains under-exploited. More than half of public contracts across the EU are awarded without the environment in mind<sup>4</sup>. In fact, research shows that eight Member States still award contracts to the cheapest offer in more than 80% of tenders, leaving only a handful of ambitious authorities to take the lead and effectively procure sustainably<sup>5</sup>. The result: underdeveloped markets for green products and related supply chains, preventing a level playing field for innovative actors.

One sector in particular deserves more attention when considering the role of GPP. Representing a significant share of the EU's overall GDP – approximately 6%<sup>6</sup> – and producing some of the most energy-intensive products on the market – such as cement and steel – **the construction sector has an essential role in making the green transition a reality**. With no way to cut down on emissions (known as "embodied carbon") after products are used to build our schools and bridges, procuring more sustainable materials represents a logical and crucial lever.

It is rather simple: we need to buy better before we can build better because the carbon embodied in our buildings is forever.



### What are embodied carbon emissions?

Embodied carbon represents the total share of GHG emissions associated with the production, transportation, installation, maintenance, and disposal of building materials throughout a building's lifecycle. Depending on the project, emissions from material production alone account for 65-85% of total embodied carbon<sup>5</sup>.

GPP's potential to cut embodied carbon emissions from construction materials is substantial. Our new research, based on an external study we commissioned, clearly shows that introducing ambitious requirements for the highest polluting materials can save approximately 19 million tonnes of emissions annually at minimal cost. That means lowering emissions from construction by a staggering 43% compared to a business-as-usual scenario. GPP is also a cost-effective measure with project cost increases at no more than 3-4%.

GPP's benefits go beyond direct cost savings and emission reductions. By providing long-term clarity on investments,

GPP can stimulate innovation, by encouraging the development and uptake of new low-carbon technologies and products.

Despite the potential for significant environmental gains, only a handful of EU countries are taking action. Without conscious approach by the EU to harmonise and level-up green procurement choices, the most polluting materials will remain the go-to option for public buildings and infrastructural projects, even while low-carbon alternatives are already available and scalable.

### Making it happen Key recommendations



## **Green public procurement:** harnessing the power of the market to decarbonise construction across the EU

# State of play in the EU: Uneven ambition and missed opportunities for the economy and decarbonisation

The EU has recognised GPP's role in fostering innovation and supporting the transition to a low-carbon economy for more than two decades<sup>8</sup>. Despite this, the bloc's public procurement landscape remains fragmented. Weakly implemented legislation and construction-specific guidelines, coupled with a patchwork of national and local initiatives expose the clear need for a common approach.

Currently, EU economy-wide procurement rules (stemming from the Public Procurement Directives) strongly incentivise Member States to integrate environmental considerations into their procurement processes. They do so by pushing public authorities to choose the Most Economically Advantageous Tender (MEAT) – which includes considerations on long-term environmental costs – over the cheapest bid. Procurers introduce specific selection and award criteria alongside technical requirements specifying what can be procured as "green". Still, in practice, most procurement procedures, including in construction, award projects to the cheapest offer.

Zooming in on the construction sector, there is no EU obligation on GPP. Rather, there are only guiding principles for Member States on how to implement GPP for office buildings<sup>9</sup>. These are voluntary, focus only on a

small share of our built environment (offices), and fail to directly tackle emissions from building materials. While the criteria encourage the use of Environmental Product Declarations (EPD) to evaluate the environmental impacts of the building's main elements, they do not specify limits or targets for highly polluting materials, like concrete and steel.

### Without an EU obligation with clearly defined criteria, GPP will remain an option rather than a routine for Member States.

This report fills a gap in understanding the current state of GPP across the EU – and its important role in getting the sector's emissions in check. Starting with an overview of the GPP landscape and spotlighting success stories, such as examples from Zurich, our findings are used to project ambitious scenarios on what is concretely needed to fully leverage GPP in the construction sector. It also identifies opportunities for actors from the whole construction value chain. Finally, in Section 4, we set out policy recommendations on how to move forward with a common GPP plan for Europe in the construction sector.

### GPP criteria for concrete and steel are largely overlooked at the expense of our planet and Europe's economy

Despite construction products being responsible for 250 million tonnes of CO<sub>2</sub> yearly, and half of the EU's material consumption<sup>10</sup>, most national frameworks lack specific, quantifiable thresholds tackling key environmental indicators such as embodied carbon reduction or circularity. Two of the most widely used construction materials – concrete and steel – are particularly carbon-intensive but hold the highest potential to drive emission reductions.

Take concrete, for example. Its main ingredient, cement, accounts for 8% of global emissions – more than three times the emissions of aviation. The bulk (90%!) of those emissions come from clinker, cement's main binding ingredient.

We urgently need to foster the uptake of low-carbon versions of these materials – and robust GPP policies are instrumental in driving this change.

### Limits on embodied carbon reduction exist only in two Member States

Only two Member States have set requirements to reduce embodied carbon emissions for carbon-intensive materials, such as concrete and steel: Ireland and the Netherlands. In Ireland, public tenders require a minimum of

GPP criteria are set as requirements

GPP criteria are set as optional award criteria or equivalent, no threshold values

through threshold values

No GPP criteria

30% clinker replacement for concrete products and the use of EPDs, alongside eliminating the use of carbon-intensive cement, as of September 2024<sup>11</sup>. In the Netherlands, the government and industry have got together to set limits on the environmental costs of concrete elements by placing a fixed cost on every kg of  $CO_2e^{12}$ .

Next to this, Finland and Sweden recommend the reduction of embodied carbon by selecting concrete with a lower climate impact, but without any thresholds or targets. This lack of specificity coupled with the voluntary application translates into lacklustre GPP uptake. Only 14% of Finnish public tenders include targets surrounding reducing emissions. This is significantly lower than in the Netherlands, where a strong commitment to using environmentally friendly concrete exists: 69% for office building construction and 90% for civil and hydraulic engineering.





### **Circularity criteria: Small, sporadic steps are not enough**

Circularity criteria follow a similar path. While there have been small steps forward, these have been sporadic and not yet widespread. Recycling demolition waste of carbon-intensive materials is encouraged in six Member States, but only three have set specific requirements.

For concrete, Italy<sup>13</sup> and Malta<sup>14</sup> have set minimum national requirements on recycled content, but with very low

percentages – 5% and 15%, respectively. The Netherlands incorporates circularity into its environmental cost assessment of concrete. Some sporadic initiatives exist at local level also: the City of Vienna requires 40% recycled aggregate in concrete<sup>15</sup>, while Berlin set a minimum quota for recycled content in concrete, which is in line with the upper limits of German industry standards (25-45%)<sup>16</sup>. For steel, Italy is the only Member State that requires a minimum of up to 75% recovered content for each product placed in a public building or infrastructural project.





# Sparse data collection and GPP monitoring means intangible climate progress

Monitoring GPP's uptake and performance is essential for tracking progress, setting realistic decarbonisation targets, and ensuring political commitment is translated into action<sup>17</sup>. However, GPP implementation in construction is inadequately monitored.

Only three Member States monitor GPP implementation in all public construction projects, while an additional

three countries do so indirectly (e.g., using surveys or questionnaires). Even when monitoring systems are in place, they focus almost entirely on whether GPP provisions are applied rather than measuring the amount of GHG emissions saved. In fact, the Netherlands remains the only country where GHG emissions avoided through GPP are calculated for a wide range of projects from office buildings to civil or hydraulic engineering projects.

## Green public procurement – potential for change with the new political mandate

In the construction sector, GPP is still a faraway reality for most of the EU. With only a handful of countries integrating criteria on embodied carbon and circularity while procuring steel and concrete for national projects, progress has been slow and uneven.

Others are already moving ahead. The United States' 2021 Buy Clean Initiative marked one of the largest investments into the American economy, including by establishing a robust set of GPP policies for several highly polluting construction materials, including concrete and steel<sup>18</sup>. Acknowledging that fragmented, voluntary national programs have been insufficient in addressing embodied carbon policies, the initiative sent a clear signal to the world: the government's large-scale purchasing power is a critical lever to drive markets toward industrial decarbonisation.

Nevertheless, there are significant policy opportunities for the EU to be a leader in creating leading markets for green construction materials:

 The new Ecodesign for Sustainable Product Regulation (ESPR) and the Construction Products Regulation (CPR) are set to develop a single set of requirements for steel and concrete respectively, to be applied all over EU. Starting from 2026, the process must take off swiftly, as any delays in bringing down emissions from steel and concrete undermine the EU's 2030 climate targets.

 For buildings, the recently revised Energy Performance of Buildings Directive (EPBD) mandates disclosure of Whole-Lifecyle Carbon emissions (WLC) for new buildings. While this has the potential to cut down on buildings' large environmental impact, increasing joint actions on GPP will secure further decarbonisation of the built environment. In this sense, while currently voluntary, the EU GPP criteria for office buildings, which are now under revision, can contribute to this goal provided they are extended to all buildings, mandated, and properly enforced.

Both sets of criteria – for products and buildings - are relevant and should coexist in a balanced system that addresses the project's overall environmental performance, while ensuring sufficient granularity to account for the environmental impact of the individual materials.

## Making green public procurement the next frontier of sustainable construction

Several success stories of GPP already exist across Europe: from infrastructural projects like the A12 motorway renovation in the Netherlands, Sweden's Gothenburg Harbor Line extension, and the Grand Paris Express expansion to landmark developments such as the Paris Olympic Village. All of these successes share a common vision: thought-out purchasing decisions leading to significant environmental benefits.

The city of Zurich is among those pioneering the implementation of GPP in its construction sector<sup>19</sup>. For nearly two decades, the Swiss city has effectively applied procurement criteria for low-carbon and resource-efficient construction materials. For example, the city's procurement policies:

- Aim at fostering circularity in its building stock by requiring all concrete used in public construction to contain a minimum of 25 to 50% recycled aggregates<sup>20</sup>. As a result, almost all concrete used in Zurich's public buildings contains a minimum of 50% recycled content with some projects reaching 98%.
- Mandate the use of less energy-intensive cements (CEM III/B), which represents a first step towards reducing embodied carbon in concrete.

By exploiting its purchasing power, Zurich has created demand for more sustainable concrete, cutting a quarter of embodied carbon in concrete<sup>21</sup>. The city has also supported systemic change in its construction market. In only a couple of years, the number of suppliers of recycled concrete has increased from one to ten.

Zurich's GPP policies demonstrate how public authorities can leverage purchasing power to stimulate market demand and foster innovation while reducing carbon emissions. The city's experience shows that GPP can be implemented in a real-world setting, balancing environmental goals with practical execution. It also underscores the importance of a synergistic effort between public administration, suppliers, and contractors to ensure that sustainable practices are effectively integrated from material selection to project completion.

These tangible outcomes offer a scalable and replicable model that other public authorities can follow and build upon to drive sustainability and systemic change across the construction sector.



### Lowering emissions from cement is possible

#### What is blocking low-carbon options?

European cement standard EN 197-1 covers 27 products grouped into five categories (CEMI to CEMV) based on composition – notably clinker content. New types of low-carbon cement that follow a performance-based approach (such as the one used in our ambitious scenario modelling) are not included within the scope of this standard, and need to follow other certification routes (i.e. **European Organisation for Technical Assessment**) to be allowed on the EU market. This is a very telling example of how a standard can effectively block the uptake of low-carbon alternatives.

# Building on GPP's success to deliver substantial embodied carbon reductions

There are a number of pathways to reduce environmental impacts of the built environment, each with its own advantages and limitations. When it comes to reducing the significant and unavoidable emissions of new constructions, renovation and reuse of existing structures should be the default choice. However, when new construction becomes inevitable due to structural limitations, functional requirements, or urban expansion, design choices should prioritise material efficiency. For example, by minimising material use or selecting products with a low-carbon footprint<sup>22</sup>.



Figure 3 Hierarchy of carbon reduction potential in construction Source: World Green Building Council

### Modelling a greener future: Looking at Zurich's Allmend School

The Allmend School in Zurich demonstrates how procurement choices have been used to construct a more environmentally friendly public building. The three-story school was built following the city's GPP requirements, incorporating a materially efficient design that utilises a share of timber alongside low-carbon concrete and steel.

Zurich's example sets a starting point for the development of GPP criteria, but much more can be done. As lowcarbon materials are ready to be used and technological developments continue to emerge, the criteria must also be continuously updated to ensure the uptake of the greenest materials available.

To illustrate the potential climate benefits of GPP, ECOS commissioned a study carried out by the consultancy Ramboll. Based on this research, we project three scenarios, indicating three different ambition levels:



Photographer: Matthias Vollmer, Zürich.





Figure 4 Key differences between GPP scenarios for the Allmend School

The numbers are clear: even a small increase in GPP requirements – such as the basic scenario – already cuts an important part of the emissions, while an extra effort to procure green doubles the environmental gains.

Since embodied carbon remains locked into the building once constructed, only emissions avoided from the start prevent permanent environmental damage.



Figure 5 Comparison of scenario results for structural components

# Reducing emissions hidden in concrete and steel impacts entire building construction

### Targeted intervention at the structural level also ensures environmental gains for the entire building

Even when accounting for construction emissions of the whole building – including insulation, technical systems, and other non-structural components – the reductions achieved from using low-carbon structural materials alone yield a significant decrease in the overall carbon footprint: 17% and 30%, respectively.



Photographer: Matthias Vollmer, Zürich.



Figure 6 Comparison of scenario results at the whole building level

## Significant climate benefits at marginal costs: harmonised and mandatory EU criteria for green public procurement

Examples like the Allmend school demonstrate the significant impact that can be made by individual authorities and the urgent need for broader adoption of green procurement practices across Europe. For the EU to meet its climate goals, the building sector must reduce its emissions by 60% before 2030<sup>23</sup>.

Structural elements, like concrete and steel, have the highest potential to drive embodied carbon reductions. Yet, GPP policies for these highly polluting materials are rarely adopted. Scaling up efforts to ensure that Member States leverage GPP's full potential for every project – whether large or small – is essential to getting the sector on track. And a harmonised and mandatory EU-level GPP framework is the only surefire way to ensure ambitious requirements are uniformly adopted.

# Purchasing green concrete and steel can cut the EU's public construction emissions by a quarter

To illustrate how emissions from public construction can be brought down by mainstreaming low-carbon concrete and steel, we projected the three scenarios derived from the Allmend school example at the EU level by averaging carbon intensities with the overall share of cement and steel in public buildings and infrastructure across the EU<sup>24</sup>.

#### The results indicate that:

#### With minimal effort

#### Basic

almost **12 million tonnes of emissions can be reduced annually** by simply adopting the practices that Zurich has successfully implemented for over a decade.

#### By introducing ambitious GPP criteria

#### Ambitous

an additional **6,5 million tonnes of emissions** can be saved annually, slashing the construction sector's public procurement-related emissions by a quarter.

This necessary step would not only position the EU as a global frontrunner in decarbonising construction but also usher the market towards making green materials the norm.



Figure 7 GHG emission reduction from applying the three GPP scenarios at EU-level

Additional design choices for material efficiency and lowcarbon alternatives – as demonstrated by the Allmend School, but not included in our EU-level modelling – further reduce the use of concrete and steel, thus decreasing emissions. As a result, potential savings for the environment are ever greater.

# Procuring greener construction products will not strain public budgets

Cost implications of procuring low-carbon materials – known as the 'green premium'<sup>25</sup> – are one of the primary considerations for project planners and procurers. However, contrary to popular belief, **GPP is a proven cost-effective measure with massive environmental gains at minimal costs.** 

Even for authorities with smaller budgets, price increases are manageable with appropriate planning and resource allocation. In the basic scenario for concrete and steel, these costs barely reach 1% when factored into a project's costs (i.e. labour, planning, financing)<sup>26</sup>. In the ambitious scenario, project-level price increases remain minor at around  $3-4\%^{27}$ . These costs become even smaller when considered in the context of the total life cycle costs of a building – including operational, maintenance, and end-of-life expenses<sup>28</sup>. For this, life cycle costing (LCC) tools are very helpful as they support procurers in making the most cost-effective decision (accounting for climate benefits, long-term savings, etc.) rather than focusing solely on initial expenditure.

Furthermore, **these minimal costs do not compare to the potential emission reductions at the EU level.** Raising ambitions to mainstream greener practices in the EU's construction sector is as urgent as ever with growing indications that current actions to achieve the bloc's climate targets will be insufficient<sup>29</sup>.

### Life Cycle Costing (LCC)

LCC is a methodology used to assess expenditure for a specific purchase throughout its lifetime. In the construction sector, this includes the initial acquisition or construction costs on top of the costs associated with operating, maintaining, and disposing of a product. LCC is generally considered a robust tool to deliver both savings and reduced environmental impacts by integrating the cost of emissions into overall cost considerations<sup>30</sup>.

### Producing carbon-intensive steel and concrete will become increasingly expensive

Historically, both concrete and steel have been underpriced due to the overallocation of free allowances under the EU Emission Trading System (ETS), as deemed at risk of carbon leakage<sup>31</sup>. Now, thanks to the roll-out of the Carbon Border Adjustment Mechanism (CBAM), this is about to change. **The phase-out of free allowances (from 2026) combined with stricter emission caps and greater availability of renewable energy will make it more expensive to procure carbon-intensive concrete and steel than shift towards greener alternatives.** This means that applying the basic GPP scenario will become the most affordable option, while the more ambitious scenario would entail minimal costs. Moreover, the CBAM will ensure that imports of steel and cement will face similar costs as products made in the EU, thus creating a level playing field for EU-based companies to remain competitive while adhering to stricter environmental regulations.

### EU Emissions Trading Scheme (ETS) and Carbon Border Adjustment Mechanism (CBAM)

**The EU's ETS** is one of the largest carbon markets globally. It is based on a "cap and trade" principle, where the cap – reduced annually - is expressed in allowances. Each allowance gives installations the right to emit one tonne of  $CO_2eq^{32}$ . Some sectors, like cement and steel, remain privileged: industrial installations at risk of carbon leakage have long been provided with allowances for free. This has allowed these sectors to keep polluting as usual with free allowances often covering the most carbon-intensive installations.

**The CBAM** is a policy designed to progressively substitute the allocation of free allowances under the EU ETS. On selected products, such as steel or cement, it aims at securing an equivalent carbon price for domestic and imported products. In doing so, it encourages trading partners to decarbonise, while also supporting low-carbon innovation on the EU market<sup>33</sup>.

### The EU market can properly supply low-carbon concrete and steel in support of green demand

Europe is well placed to lead the transition towards more sustainable construction. Production routes and technologies that reduce carbon intensity and promote circular economy principles are a growing reality for the EU market with innovations being introduced at a steady pace.



### Low-carbon concretes are ready to be scaled up today

Many proven and scalable material technologies exist to drastically reduce the carbon footprint of concrete. These technologies reduce the need for cement in concrete, while also enabling the use of low-carbon cement types and alternative binder chemistries.

The most common approach is clinker substitution in cement using existing and emerging supplementary cementitious materials<sup>34</sup>. The use of novel non-Portland cement types<sup>35</sup>, the use of alternative binders (e.g. geopolymers)<sup>36</sup>, and the recycling of clinker<sup>37</sup> also have great potential, providing similar or even enhanced performance compared to traditional cement.

Other, more expensive decarbonisation methods, such as increasing the energy efficiency of clinker kilns, using Carbon Capture and Storage (CCS) for residual emissions, or using biomass and alternative fuels as thermal energy mix, are also estimated to become predominant in the coming years<sup>38</sup>, further reducing the CO<sub>2</sub> emissions.

The widespread adoption of these solutions, however, strongly depends on how quickly suppliers can achieve economies of scale, or the cost advantages that arise when average costs are lowered due to increased production. While the business case is already strong, developing GPP criteria will help fast-track demand and enhance investment attractiveness.

But first, **it is crucial to remove current entry barriers by ensuring standards for cement and concrete are fully performance-based**<sup>39</sup>. Any delays will continue hindering the large-scale uptake of low-carbon materials – even with strong GPP measures in place – and, ultimately, prevent the EU from achieving its own climate goals for the construction sector.

### Low-emission steel already provides a strong foundation to support GPP

When it comes to steel, there are even fewer excuses for delaying the decarbonisation of construction sector. Low-carbon production methods are already widely in use and the industry has pledged to adopt mandatory green steel purchasing<sup>40</sup>.

### The EU steel market has a strong foundation to support the adoption of mandatory GPP requirements

Most of the steel used in construction (e.g., rebars, beams, wire rods) is produced in Electric Arc Furnaces using lowcarbon recycled steel (scrap steel)<sup>41</sup>. This foundation will only continue to be strengthened as existing Blast Furnaces – the traditional, carbon-intensive method of producing steel – will require technological updates by 2030<sup>42</sup>.

Over the past decades, EU scrap steel production has consistently increased and will continue doing so, given that it can be recycled endlessly without loss of quality<sup>43</sup>. With current production of up to 100 million tonnes of scrap steel annually — covering 70% of its total steel production — and net exports reaching 15 million tonnes<sup>44</sup>, there is significant potential to boost low-carbon steel production and support robust GPP requirements.

Improving waste recovery and processing can further increase the availability of secondary steel, ensuring that more scrap is captured and efficiently returned to the production cycle<sup>45</sup>, provided that existing regulations are respected.

Besides scrap steel, new technologies like the use of green hydrogen for the direct reduction of iron ore (H2-DRI) offer a promising pathway to further decarbonise and electrify steel production in a cost-effective way<sup>46</sup>. Although still in the early stages of commercialisation, H2-DRI is expected to advance toward full deployment in the coming years, providing a low-carbon, high-quality technology that complements the use of scrap steel.

### Time for a collective commitment to ensure the uptake of low-carbon materials

There is a clear need for synergistic efforts between supply and demand. When demand signals ensure credibility for producers to invest in developing newer technologies, suppliers respond by increasing their production capacities for low-carbon materials. As already shown above, this entails little or no costs. Only through a collective commitment can the construction industry meaningfully reduce its emissions – with all actors along the value chain chipping in.

## Moving towards 2030: how policymakers can maximise the potential of green public procurement

The 2030 deadline is rapidly approaching. With its pledge to cut emissions by 55%, the EU must ensure it does not undershoot its own objectives. Green public procurement is what is urgently needed to make up for progress lost. A new industrial plan is currently in the works<sup>47</sup>: strengthening the European industry's competitiveness while transitioning to a low carbon economy is a priority. Ensuring public investments are redirected to where they are strategically important – building green and cost-efficiently – is essential.

Our report shows that the situation is promising: the EU is ready to mainstream GPP in the construction sector and should swiftly implement a GPP framework in a way that public authorities gradually move forward by applying the basic criteria proposed today, with a plan to introduce ambitious criteria in line with the ambitious scenario by 2030.



### The EU should be leading the way – ECOS recommendations

Buying better to build better is a European affair. Faced with a changing international landscape, the EU has to ensure its transition to a greener economy is a structural one<sup>48</sup> that starts at reverting a large share of its GDP – spent on procuring schools, bridges and hospitals – in favour of greener materials and buildings. At the federal level in the USA, and at the state-level, Buy Clean initiatives have proven successful and the EU is now playing catch-up. There are many positive lessons the EU can learn from the USA on green public procurement.

### During 2024 to 2030 policy cycle, it is on the shoulders of policymakers to place green public procurement at the core of its plans for the European economy – and our planet:

### Policymakers should introduce common and mandatory EU-level GPP criteria for concrete and steel, focusing on embodied carbon and circularity by:

- Prioritising the development of harmonised GPP criteria for the construction sector under recently adopted EU legislation, notably the Ecodesign for Sustainable Products Regulation (ESPR) and the Construction Products Regulation (CPR).
- Ensuring these criteria are ambitious, matching environmental needs, commitments, and costeffectiveness.
- Reforming existing standards for cement and concrete in line with existing EU law to ensure fair competition and remove market barriers for lowcarbon products.

With the start of a new policy cycle and a pledge to a new industrial strategy based on bolstering competitiveness and clean investments<sup>49</sup>, GPP must play a central role in achieving these objectives.

Develop harmonised monitoring and reporting tools to provide complete and comparable data on GPP uptake by regularly collecting data using a common EU methodology on the uptake of GPP criteria, including its environmental benefits, to effectively evaluate actual savings achieved. 3

Support public authorities in implementing GPP, by:

4

- Providing appropriate training on applying GPP criteria and evaluating tenders, including exchange of best practices across Member States.
- Coordinating the national implementation of GPP policies through overarching mechanisms for oversight and monitoring, such as national procurement agencies.

Revise the EU Public Procurement Directives to ensure public authorities deliver the best value for public money by procuring green. That means:

- Consistently choosing the most economically advantageous offers, by accounting for costs related to the environment.
- Providing common tools for life cycle costing to ensure public authorities can make environmentally sound procurement decisions.

The potential of green public procurement in reducing the construction sector's carbon emissions is clear. GPP is a tool that is ready to be used, all that is needed is political will. The EU must not shy away from using all the tools in its toolbox to achieve its climate goals.

.11

## **Notes and references**

- Public procurement contracts | Factsheets on the European Union | European Parliament (europa.eu).
- 2 Wyns, T., Kalimo, H. and Khandekar, G. (2024) Public procurement of cement and steel for construction - Assessing the potential of lead markets for green steel and cement in the EU. Brussels School of Governance. Available at: https://www. brussels-school.be/output/events/roundtable-event-publicprocurement-steel-and-cement-construction-creating-lead.
- 3 https://www.ecologic.eu/sites/default/files/ publication/2023/33007-Report-Public-Procurement-for-Climate-Neutrality.pdf
- 4 https://single-market-economy.ec.europa.eu/single-market/ public-procurement\_en
- 5 https://www.eca.europa.eu/en/publications?ref=SR-2023-28
- 6 The greening of the EU construction sector | CEDEFOP (europa.eu).
- 7 Embodied Carbon 101: Building Materials RMI.
- 8 https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM: 2003:0302:FIN:en:PDF; A new Circular Economy Action Plan (europa.eu)
- **9** https://green-business.ec.europa.eu/green-publicprocurement/gpp-criteria-and-requirements\_en
- 10 https://ecostandard.org/news\_events/revised-eu-rules-forconstruction-products-miss-the-mark-on-sustainability/
- 11 https://www.gov.ie/en/publication/efa12-green-publicprocurement-gpp/
- 12 Betonakkoord.
- 13 DM\_23\_06\_2022\_cam\_edilizia.pdf (mase.gov.it).
- 14 greenPlanBook.pdf (gov.mt).
- 15 ÖkoKauf Wien Ergebnisse, Kriterien, Positionspapiere.
- 16 https://www.berlin.de/nachhaltige-beschaffung/recht/
- 17 REPORT FROM THE COMMISSION Implementation and best practices of national procurement policies in the Internal Market - Publications Office of the EU (europa.eu).
- **18** Federal Buy Clean Initiative | Office of the Federal Chief Sustainability Officer.
- **19** Given Switzerland's proximity and close integration with surrounding EU Member States, its innovative procurement practices can be easily applicable and adaptable within the context of the EU.
- 20 50 % for RC-C and 25% for RC-M. RC-C concrete refers to recycled concrete aggregate made primarily of particles from crushed concrete (concrete products, mortar and concrete

bricks); RC-M Concrete refers to recycled concrete aggregate made primarily from mixed demolition materials (fired clay bricks and roofing tiles, calcium silicate bricks and non-floating aerated concrete).

- **21** A-EW\_282\_Succ\_Stor\_BP\_Recycled-concrete-in-Switzerland\_WEB.pdf (agora-energiewende.de).
- 22 https://ec.europa.eu/futurium/en/system/files/ged/ntccp\_-\_ annex\_4\_-\_espon\_policy\_brief\_-\_re-use\_of\_spaces\_and\_ buildings.pdf
- 23 Building Europe's Net-Zero Future (europeanclimate.org).
- 24 Wyns, T., Kalimo, H. and Khandekar, G. (2024) Public procurement of cement and steel for construction - Assessing the potential of lead markets for green steel and cement in the EU. Brussels School of Governance. Available at: https://www. brussels-school.be/output/events/roundtable-event-publicprocurement-steel-and-cement-construction-creating-lead.
- 25 https://www.breakthroughenergy.org/our-approach/the-greenpremium/
- 26 Project costs up to the point where the building is ready for use.
- 27 When considering the EU ETS price increase and the gradual phase-out of free allocations.
- 28 WEF\_Scaling\_Low\_Carbon\_Design\_and\_Construction\_with\_ Concrete\_2023.pdf (weforum.org).
- 29 NEWS-SR-2023-18 | European Court of Auditors (europa.eu)
- 30 148f83f4-en.pdf (oecd-ilibrary.org).
- 31 cmw\_report-3.pdf (carbonmarketwatch.org).
- 32 What is the EU ETS? European Commission (europa.eu).
- **33** a-brief-explanation-of-the-cbam-proposal-1-1.pdf (carbonmarketwatch.org).
- 34 Methodology-report-Clinker-Substitution-in-the-EU-Cement-Sector.pdf (ecostandard.org); Cement substitution with secondary materials can reduce annual global CO<sub>2</sub> emissions by up to 1.3 gigatons | Nature Communications; https://lc3. ch/; A gamechanger for low-carbon cement - ClimateWorks Foundation.
- 35 New US Projects Focus on Low-Carbon Cement Technology | World Resources Institute (wri.org).
- 36 Geopolymers: The Green Alternative to Traditional Materials for Engineering Applications (mdpi.com).
- 37 Electric recycling of Portland cement at scale | Nature
- 38 Clinker Substitution in the EU Cement Sector (ecostandard. org), https://eur-lex.europa.eu/legal-content/EN/TXT/ PDF/?uri=CELEX:52024DC0062

- **39** ALCCC-REPORT-FAST-TRACKING-CEMENT-DECARBONISATION.pdf (alliancelccc.com).
- **40** https://www.euractiv.com/section/economy-jobs/news/ steelmakers-want-von-der-leyen-to-force-public-authoritiesindustry-to-buy-green-steel/
- **41** Wyns, T., Kalimo, H. and Khandekar, G. (2024) Public procurement of cement and steel for construction Assessing the potential of lead markets for green steel and cement in the EU. Brussels School of Governance. Available at: https://www.brussels-school.be/output/events/roundtable-event-public-procurement-steel-and-cement-construction-creating-lead.
- **42** https://www.agora-industry.org/publications/low-carbontechnologies-for-the-global-steel-transformation; https://gmk. center/en/news/european-investment-in-the-eaf-continuesto-grow/; https://www.recyclingtoday.com/news/steel-europerecycling-decarbonization-investments-electric-arc-furnace/
- 43 How will tramp elements affect future steel recycling in Europe? â€Â" A dynamic material flow model for steel in the EU-28 for the period 1910 to 2050

(sciencedirectassets.com); feb-2023---boosting-steel-scraprecycling\_positionpaper\_final.pdf(euric.org)https://data.europa. eu/doi/10.2861/01969

- 44 https://gmk.center/en/infographic/eu-scrap-market-balance/; https://circulareconomy.europa.eu/platform/sites/default/ files/the-circular-economy-a-powerful-force-for-climatemitigation.pdf
- 45 https://www.weforum.org/agenda/2023/01/davos23-steelscrap-decarbonization/
- 46 https://static1.squarespace.com/ static/5877e86f9de4bb8bce72105c/t/669de2f613dcdf7007 74b846/1721623332020/Green\_Steel\_Economics\_240721. pdf; https://www.globalefficiencyintel.com/green-h2-dristeelmaking-15-challenges-and-solutions
- **47** Stéphane Séjourné Mission letter | European Commission (europa.eu).
- **48** Enrico Letta Much more than a market (April 2024) (europa. eu).
- 49 6ef52679-19b9-4a8d-b7b2-cb99eb384eca\_en (europa.eu).



### **Environmental Coalition on Standards**

c/o WeWork Rue du Commerce 31 1000 Brussels, Belgium +32 2 899 76 80 ecostandard.org

### Follow us



X @ECOS\_Standard 🛛 in ECOS-NGO

ECOS gratefully acknowledges financial support from ClimateWorks Foundation.