

Intervention #9

Carbon pricing

Intervention point

By taking coordinated action on setting a standard internal carbon price and integrating it into investment decision making processes, the industry can incentivise decarbonisation efforts and create a more level playing field while simultaneously preparing for the application of external carbon pricing mechanisms.

Current situation

Around the world, governments are starting to put a price on carbon. Currently only some high-emission sectors in the buildings value chain are materially affected. In the near future, however, carbon pricing will directly impact the real estate market.

Evidence shows that considering carbon emissions through monetary cost implications can provide benefits that are critical to a successful green transformation such as incentives for lowering emissions as well as improving industry and energy efficiency.¹

“Carbon pricing”, or “putting a cost on carbon”, is an umbrella term for mechanisms and instruments that differ significantly in how they are administered and who administers them. Nevertheless, these different concepts converge on attempting to make organisations pay for the negative external impact that greenhouse gas emissions present. The World Bank’s Carbon Pricing Dashboard² provides an overview of the different types of mechanisms and instruments.

Carbon pricing instruments (CPIs) can be clustered into external and internal mechanisms. The former refer to policy instruments that are imposed on companies and sectors within national or regional borders, whereas the latter refer to a number of

tools companies use to aid their decision-making in their decarbonisation journey.

This briefing gives a brief overview of external mechanisms to show the global trend towards the increasing cost of carbon for an increasing number of countries and sectors. It then looks at voluntary internal carbon pricing, exploring why the real estate industry should consider adopting internal pricing mechanisms in preparation for the wider net zero transition.

External mechanisms

Starting at an international and cross sectoral level, external CPIs have gained strong positive momentum in recent years. The most common forms of such CPIs are Emission Trading Systems (ETS), in which tradable emission permits are released or distributed to companies in sectors that are covered by the scheme, and carbon taxes, which directly target emissions, usually at the fuel source.

According to a 2022 report by the World Bank, a number of jurisdictions recorded the highest price level in their ETS and carbon taxes reached similar records,³ showing the upward trend around the globe. The current EU ETS covers the sectors of energy, industry and intra-EEA aviation.⁴ ETS already indirectly affects the built environment via materials under the industry sector such

as cement, steel or glass, effectively targeting embodied emissions in buildings.

Additionally, in the recent past the EU ETS reached record prices, the timing of which coincided with the temporary removal of 900 million allowances from the market in 2018, and the 2021 proposal to tighten the ETS cap as a consequence of the decision to increase the 2030 mitigation target (more on this below). The evidence of the general impact of such a mechanism is already starting to play out. Between 2014 and 2019, emissions from entities under the current ETS have been cut by almost 4 percent with respect to the 2005 base year.⁵ However, building emissions increased by 2 percent,⁶ which has led to recent revisions and additions.

One of the new measures under the European Commission's "Fit for 55" package is a new and separate ETS covering fuel for buildings and road transport, starting from 2026. This measure will be felt in the real estate industry, specifically for building stock with low energy efficiency and fossil fuel-based heating systems (which is most of the European building stock),⁷ as it directly targets operational carbon emissions.

Further, the annual linear reduction factor⁸ of the emissions cap will be increased from 2.2 percent to 4.2 percent, meaning emissions allowances will decrease more quickly, incentivising faster decarbonisation of the covered sectors, which includes real estate indirectly through materials and fuel for buildings. Lastly, the EU Commission is introducing the Carbon Border Adjustment Mechanism (CBAM), which is essentially a carbon import tax⁹ targeting emission intensive imports into the EU, so that, for example, steel from within the EU is not disadvantaged from a carbon perspective to steel imported from outside the EU.

Besides the EU ETS, many EU jurisdictions have carbon taxes in place, or are planning to introduce them. Carbon taxes are a distinct policy instrument to ETS, but many countries still choose to introduce them into the policy mix, as they allow for a wider coverage (potentially economy-wide, rather than a small number of sectors) and a stable price of carbon, which, for entities not operating within large industrial organisations are much easier to understand and calculate. While

the appropriate carbon price level required to move the real estate industry is still to be determined, the coverage and general price level of carbon taxes is continuously increasing in the EU and around the globe. While the Russian war on Ukraine has made implementation politically more difficult, it remains clear that carbon taxes remain an important policy instrument in incentivising decarbonisation across the whole economy.

Internal mechanisms

Significant developments are underway concerning internal carbon pricing (ICP). ICP is done by organisations internally to better understand their transition risk exposure with emission producing assets and to help them in their green transition, ahead of expected regulation.

The motivation for setting an internal carbon price is to incentivise the mitigation of decarbonisation within an organisation and its supply chain, and to guide detection of emission-heavy processes that are part of the value chain. It can thereby help build the business case and allow for subsequent action.

ICP can take the form of a "shadow" carbon price, which is used as a hypothetical future cost, in place to guide investment decisions, with an amount that is internally decided. The bigger picture thinking is that given the global trend towards expansions of external carbon pricing schemes, and general legislation discouraging carbon emissions, investments with a long life cycle will eventually be subject to an external carbon pricing scheme, or seen as a liability in other related ways. As a result, adding a shadow carbon price into the investment underwriting now helps to make the financial case for the inevitable less carbon intensive investment and transformation required.

ICP can also take the form of an actual fee per unit of emitted carbon, which can be paid into a ring-fenced fund for decarbonisation activities or research and innovation. This could finance, for example, more general mitigating activities in scope 1, 2 or even 3 of the company, or it could take the form of a "transition fund", oriented towards gathering the resources needed to decarbonise larger assets with high capital expenditure. Either way, ICPs help to uncover inefficiencies, and can incentivise low carbon innovation within a company's departments.¹⁰

A 2021 McKinsey study,¹¹ drawing on the 2019 CDP survey, records that, globally, only 4 percent of real estate companies use an internal carbon price, 2 percent plan to begin in the next 2 years, 6 percent not planning to begin, and 88 percent did not report on the matter in the survey (determined by a sampling of the top 100 largest companies ranked by 2019 ranking).

However, with the rise of requirements for sustainability reporting, many organisations will soon face the need to develop an ICP scheme. For example, the Task Force on Climate-Related Financial Disclosures (TCFD) recommends an internal carbon price as a key metric to measure transition risk exposure,¹² and the UK-adopted TCFD-aligned reporting requirements in April 2022, covering around 1,300 companies to begin with.

Elsewhere, the G7 and G20 finance ministers and central bank governors pledged to promote implementation of TCFD-aligned reporting requirements,¹³ and sustainability reporting requirements are being developed in a number of jurisdictions, for example the EU's Corporate Sustainability Reporting Directive (CSRD).

The signals of external carbon pricing schemes clearly show a trend to wider coverage of more sectors, higher prices of emission allowances, and, in the case of cap and trade schemes, a trend to higher reduction factors. Carbon pricing, while already present in the wider built environment system through materials and – soon – building fuel, will undoubtedly start to affect real estate sooner rather than later. Further, requirements for emission accounting will make individual company emissions more easily taxable. In the interest of prudent investment decisions, an adoption of an ICP on assets can help future proof real estate portfolios and guide investors towards more sustainable investments.

Questions remain around the issue of how high an internal carbon price needs to be to make a tangible difference in the real estate market. What is needed in the built environment are deep energy retrofits, which electrify buildings and make them highly energy efficient. Investment into such retrofits can be significant, and without a sufficiently high carbon price, there is not

necessarily a monetary incentive for investors to carry out the necessary developments.

For effective carbon pricing that incentivises changes within the building system, there needs to be agreement on a number of open questions; for example, an agreed level of internal carbon pricing and the potential of a carbon price floor, how it should be integrated into investment decisions as well as disclosed to help assess the financial risks associated with carbon intensive assets (see *C Change Intervention #1 Transition risk-adjusted valuation*). Further, if a fee-paying carbon price is adopted, industry standard clarity is needed on if and how this can be linked to an internal decarbonisation fund for real estate assets.

These open questions cannot be addressed by individual stakeholders in isolation. By adopting a carbon price into investment decision-making, investors will necessarily under-bid in any market transaction, and therefore be limited in their impact. There is no first-mover advantage. In recognising the need for carbon pricing, and with increased sustainability reporting requirements, investors should look to coordinate on the introduction of a sector-specific approach on the issue.

It is important to note that internal carbon pricing is a fundamentally different concept than carbon “offsets”. There is a global market for offsetting carbon, which has been heavily criticised for a number of reasons, including the low quality of many offsets, the limited availability of high quality offsets and the primacy of the need to first and foremost reduce emissions that can easily be avoided,¹⁴ rather than compensate.

What is being done

The most significant development for internal carbon pricing is the rise of sustainability reporting (carbon disclosure) requirements. Starting as early as 2001 with the Carbon Disclosure Project's (CDP) request for voluntary corporate sustainability disclosure, this practice has now matured into, amongst others, the EU Corporate Sustainability Reporting Directive (CSRD).

The CSRD was proposed in April 2021 and was passed through the EU Parliament in November 2022. It requires all companies in the EU with

assets over €20 million to report to the new sustainability requirements from 2025, as an update from the previous Non-Financial Reporting Directive (NFRD). This is compounded by the continued rise in credibility and acceptance of the TCFD recommendations. In 2021, finance ministers of the G7 and G20 endorsed TCFD, and many expect for these countries to be on a similar path as the UK, which enshrined TCFD aligned reporting into law in April 2022.

Despite the very low reported usage of an internal carbon price, a number of forward-thinking real estate owners and managers have started to include carbon pricing in their underwriting to guide investment decisions as well as estimating transition risk exposure of their portfolios.

Internal carbon pricing is not only a tool for investors, but all kinds of actors with a strategic interest in decarbonisation. An example of a special case is the City of Utrecht, which adopted an internal carbon price of €875 per ton of CO₂e to guide its decision-making.¹⁵

However, without coordinated action, carbon price setting in real estate will for now remain the exception and not the rule. In response to this, several organisations are thinking more strategically about a common approach to carbon pricing for the real estate sector.

At the inaugural C Change Summit in Rotterdam in October 2022, ULI Europe hosted a leadership roundtable with real estate professionals from across Europe on the concept of carbon pricing, how it could be adopted in the industry and what the impact of it may be. This is intended to kick off a more strategic assessment of this need area in the coming year with the goal of spurring the industry into best practice for the assessment and treatment of internal carbon pricing.

Carbon pricing was also identified by the Urban Land Institute and PwC as one of the most significant global issues in its report *Global Emerging Trends in Real Estate 2023*.¹⁶

In parallel, the Laudes Foundation is hosting a two-year community of practice for many of the major standard setting, convening and enabling civil society and business membership

organisations and is planning to focus on driving greater coherence on the topic amongst these stakeholders on internal carbon pricing in 2023. This includes the World Business Council for Sustainable Development (WBCSD), the Institutional Investors Group on Climate Change (IIGCC), the Carbon Risk Real Estate Monitor (CRREM), and the World Green Buildings Council (WGBC).

Possible next steps

External pricing mechanisms are in the not-too-distant future for the real estate investment sector. This makes it very important that firms are mobilised towards a coalition that works on ways of dealing with the inevitable issue of carbon pricing. The barriers and open questions towards adoption will need to be addressed ahead of time, so that external mechanisms will not overwhelm the sector once they come into play.

For the real estate sector to move forward on this critical issue, focus is required by the key influencing and convening organisations identified in this paper, as well as the wider participating industry leaders, to propose new best practice industry guidelines to standardise the identification, treatment and disclosure of internal carbon pricing, and to engage the critical mass investors and managers to mobilise behind the findings.

By standardising an approach towards putting a price on carbon, it will be possible to more easily transfer and disclose knowledge on the carbon intensity of assets, and thereby create a more level playing field across the industry.

How to get involved

To get involved with the ULI leadership conversations on carbon pricing please email Andrea Carpenter at andrea.carpenter@uli.org.

The Laudes Foundation community of practice working group is a closed working group, but further information on results and learnings will be published later in the year. For further information email suzy@103.ventures.

The [Carbon Pricing Leadership Coalition](#) (CPLC) is an initiative that brings together leaders across governments, the private sector, academia and civil

society with the goal of putting in place effective carbon pricing policies. It comprises 35 national and sub-national governments, 176 private sector organisations and 102 strategic partners from NGOs, business organisations and universities. Joining the coalition is a commitment to leadership and action in driving the momentum on carbon pricing forward, and showcases government and private sector action. More information on becoming a partner [here](#) or in [this brochure](#). Contact details are as follows: CPLC Secretariat | cplcsecretariat@worldbank.org

TCFD refers to a list of guidelines of how to set an ICP.¹⁷

- Carbon Pricing Leadership Coalition's [Construction Industry Value Chain: How Companies Are Using Carbon Pricing to Address Climate Risk and Find New Opportunities](#)
- Carbon Pricing Unlocked Partnership's [How-To Guide to Corporate Internal Carbon Pricing](#),
- Carbon Pricing Unlocked Partnership's [Internal Carbon Pricing for Low-Carbon Finance](#),
- Yale University's [Internal Carbon Pricing: Policy Framework and Case Studies](#), and
- WBCSD's [Emerging Practices in Internal Carbon Pricing: A Practical Guide](#).

About C Change

C Change is a ULI-led programme to mobilise the European real estate industry to decarbonise. We're a movement empowering everyone to work together for a sustainable future. We connect the brightest minds from across the value chain. We challenge barriers, share expertise, and champion innovation to move swiftly to accelerate solutions that will transform our industry and protect our planet. C Change means real change.

C Change was formed in late 2021 by a group of leading real estate players that was united in its aim to focus on collaboration to ensure companies large and small have access to practical solutions and education on decarbonisation.

About these intervention briefings

This is one of a suite of intervention points developed as part of the C Change programme. Intervention points are specific places within a system where we can target action, interrupting business as usual to drive transformation. Of course, systems are dynamic environments that are always in flux. We expect movement over time, and will update this document as prevailing and anticipated trends change shape. This briefing was researched in 2022 and published in 2023.

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- 1 [p.9 State and Trends of Carbon Pricing](#)
 - 2 [What is Carbon Pricing?](#)
 - 3 [p.8 State and Trends of Carbon Pricing](#)
 - 4 [Emissions Trading – Putting a Price on carbon](#)
 - 5 [Ibid](#)
 - 6 [The EU Emissions Trading System for buildings: a help or a hindrance?](#)
 - 7 [Emissions Trading – Putting a Price on carbon](#)
 - 8 NB. In an ETS, a certain volume of emission allowances are released over a time span. The goal is to decrease the volume over time, which, in the EU, is dictated by the linear reduction factor of now 4.2 percent each year.
 - 9 [World's First Carbon Import Tax Approved by EU Lawmakers - WSJ](#)
 - 10 [Setting an internal price on carbon | The Gold Standard](#)
 - 11 [The state of internal carbon pricing](#)
 - 12 [p.27 Task Force on Climate-related Financial Disclosures](#)
 - 13 [G20 Finance Ministers and Central Bank Governors Communiqué | U.S. Department of the Treasury](#)
 - 14 [Science-Based Net-Zero Targets: 'Less Net, more Zero'](#)
 - 15 [Provincie Utrecht gebruikt als eerste overheid in Nederland een eerlijke CO2-prijs](#)
 - 16 [pp.22-34, ULI/PWC Global Emerging Trends in Real Estate 2023](#)
 - 17 [p.60 Task Force on Climate-related Financial Disclosures](#)

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