

RE2020 (Environmental Regulation 2020)

Case study for:

Embodied Carbon Limits On End Products

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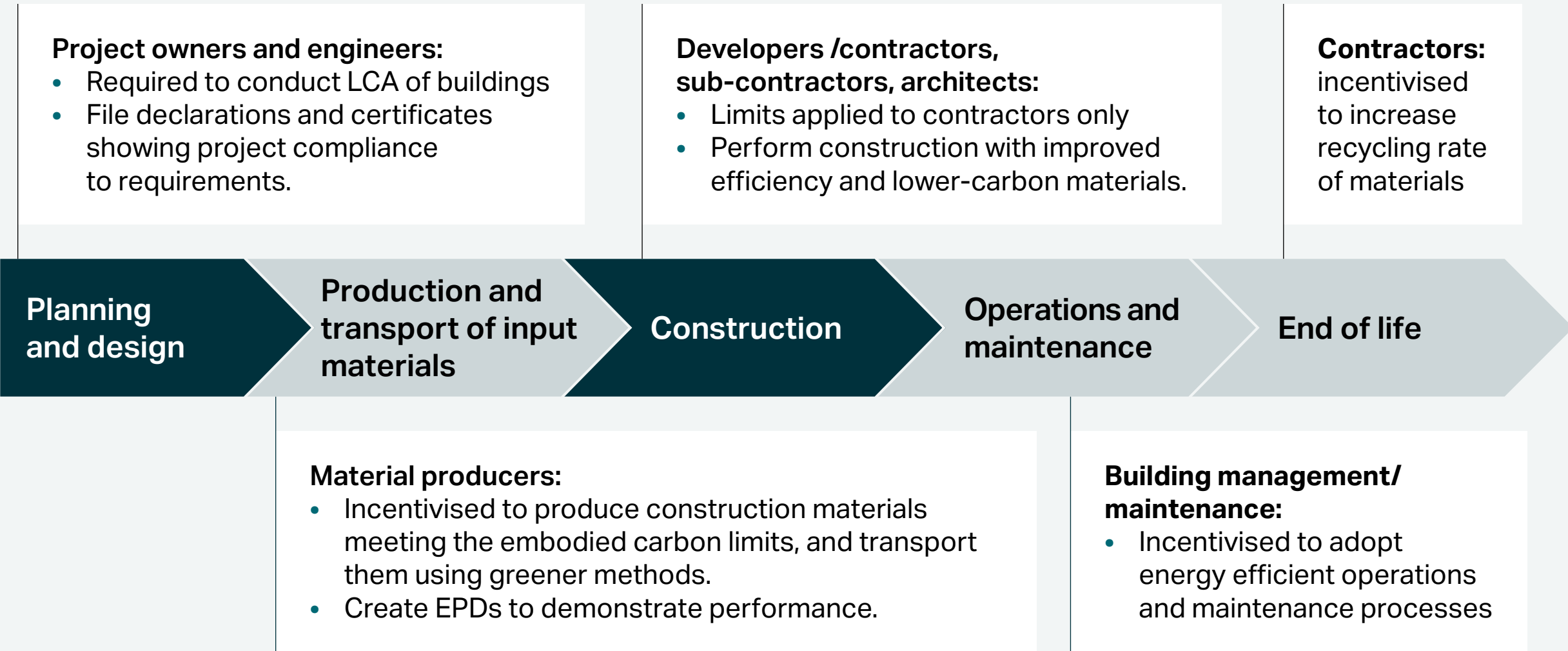
Adopted: 2022

Applies to: building materials

- **RE2020** aims to: firstly, improve energy performance and decarbonisation of operations-related energy consumption; secondly, reduce the lifecycle emissions of buildings; and finally, guarantee thermal comfort in case of heatwaves. It introduces environmental performance thresholds for new builds over their lifecycle (set at a reference building lifetime of 50 years).
- RE2020 uses a 'dynamic' LCA calculation method, where the carbon emitted today has more weight than those emitted later. For single-family homes, the material production and construction-related emissions limit is 640kg CO₂/m² in 2022 and 415kg CO₂/m² by 2031. For new apartment buildings, it is 740kg CO₂/m² in 2022, and 490kg CO₂/m² by 2031, applied at the building level.

Construction value chain

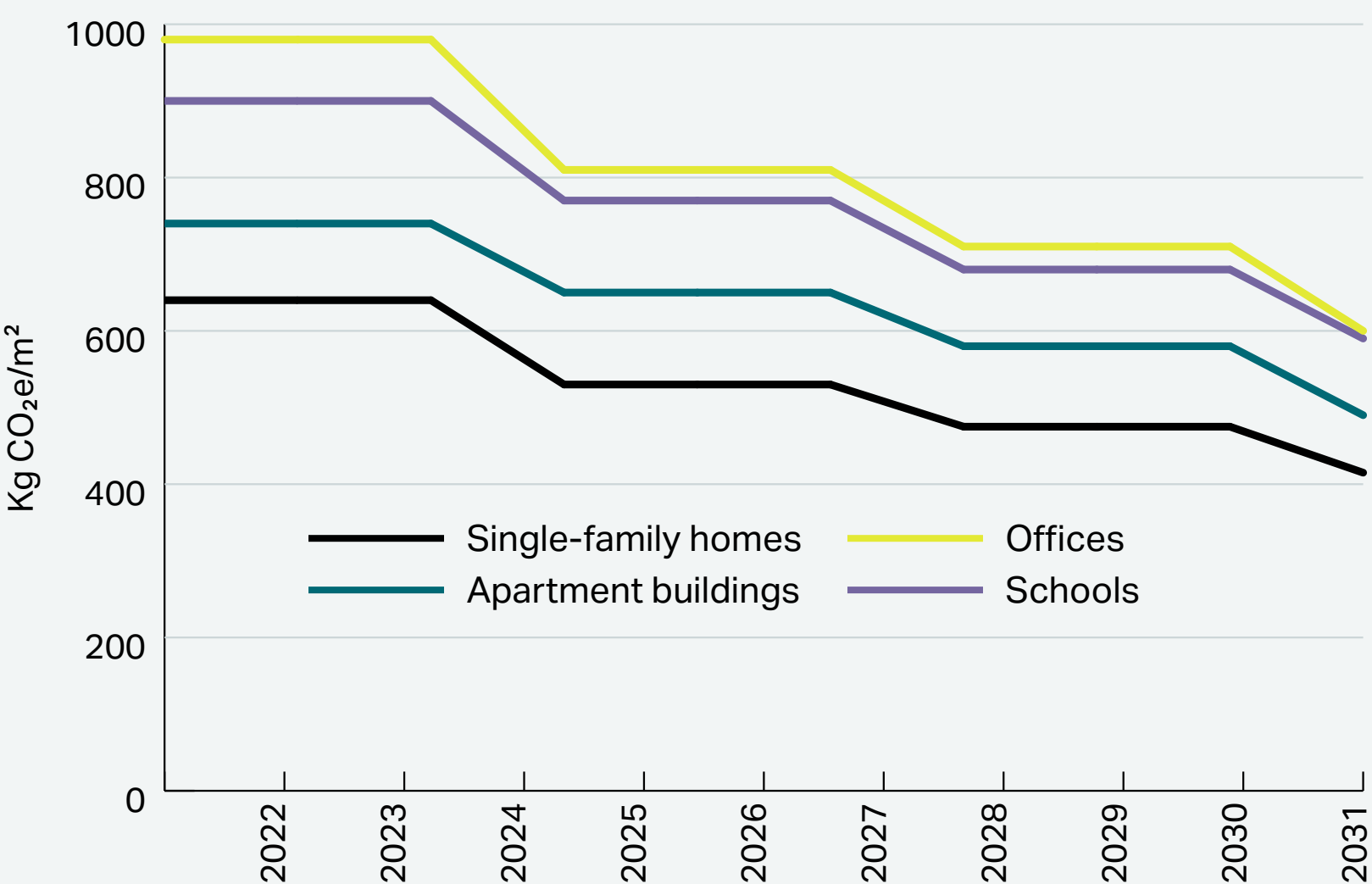
Stakeholders impacted



Impact

- The limits are projected to tighten progressively, as shown in the following chart:

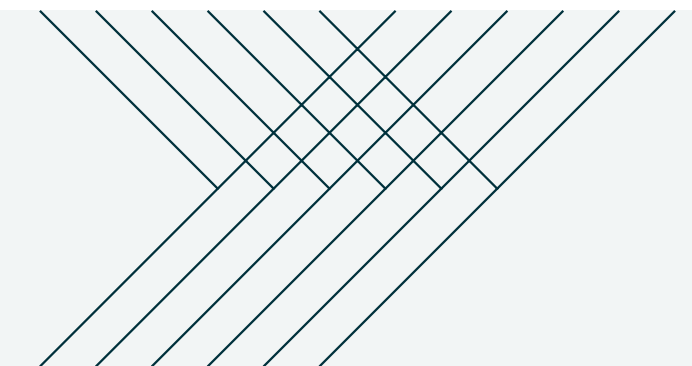
Maximum threshold for a building's CO₂ content in construction phase



- By 2031, France aims to reduce the overall emissions impact of new construction by more than 30% compared to the baseline reference level.

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Key challenges/risks



1 Ambition level of thresholds

- RE2020 is one of a few examples of national policies focusing on embodied carbon. It lends certainty to the demand for lower carbon construction materials and fosters market development for these greener products across a large jurisdiction.
- Currently, the average production and construction emissions of a residential building in France are estimated at 399kg CO₂/m². Critics have suggested the limit of 740kg CO₂/m² is too lenient. Because of such high limits, there is a risk that these will not on their own drive decarbonisation of input materials and other decarbonisation levers. Nevertheless, the limits are expected to tighten over time, increasing the impact.

2 The need for industry transformation

- Heavy industry needs to add new lower carbon solutions to their catalogue to make sure they will still be relevant in the construction market. Otherwise, there is a risk of material substitution using lower carbon materials such as timber.
- Construction companies will need to adapt the architecture of buildings to integrate new low carbon design and reduce the quantity of materials while preserving security.
- RE2020 hinges on Environmental Product Declarations (EPDs) registered in a publicly available database ('[base INIES](#)') managed since 2004 by stakeholders from the French construction sector. Companies and other stakeholders can submit an EPD that will be verified by an independent third party before official publication. With the introduction of the regulation, the number of EPDs registered has doubled since 2020, reaching more than 5,000 declarations.

3 Long lead time

- Establishing the limits has required considerable efforts to build an effective foundation. This has involved more than two years of public consultation, putting the new controls in place, and scaling up the creation of EPDs to underpin implementation.

4 Scope

- The regulation does not explicitly incentivise increased longevity of buildings, because the life cycle analysis is calculated on a fixed reference lifetime of 50 years. Nonetheless, the regulation does incentivise the reuse and recycling of materials. Designers are encouraged to use a more modular approach to facilitate the collection of materials during maintenance and demolition.