

Article 53 standards or definitions for Net zero carbon building

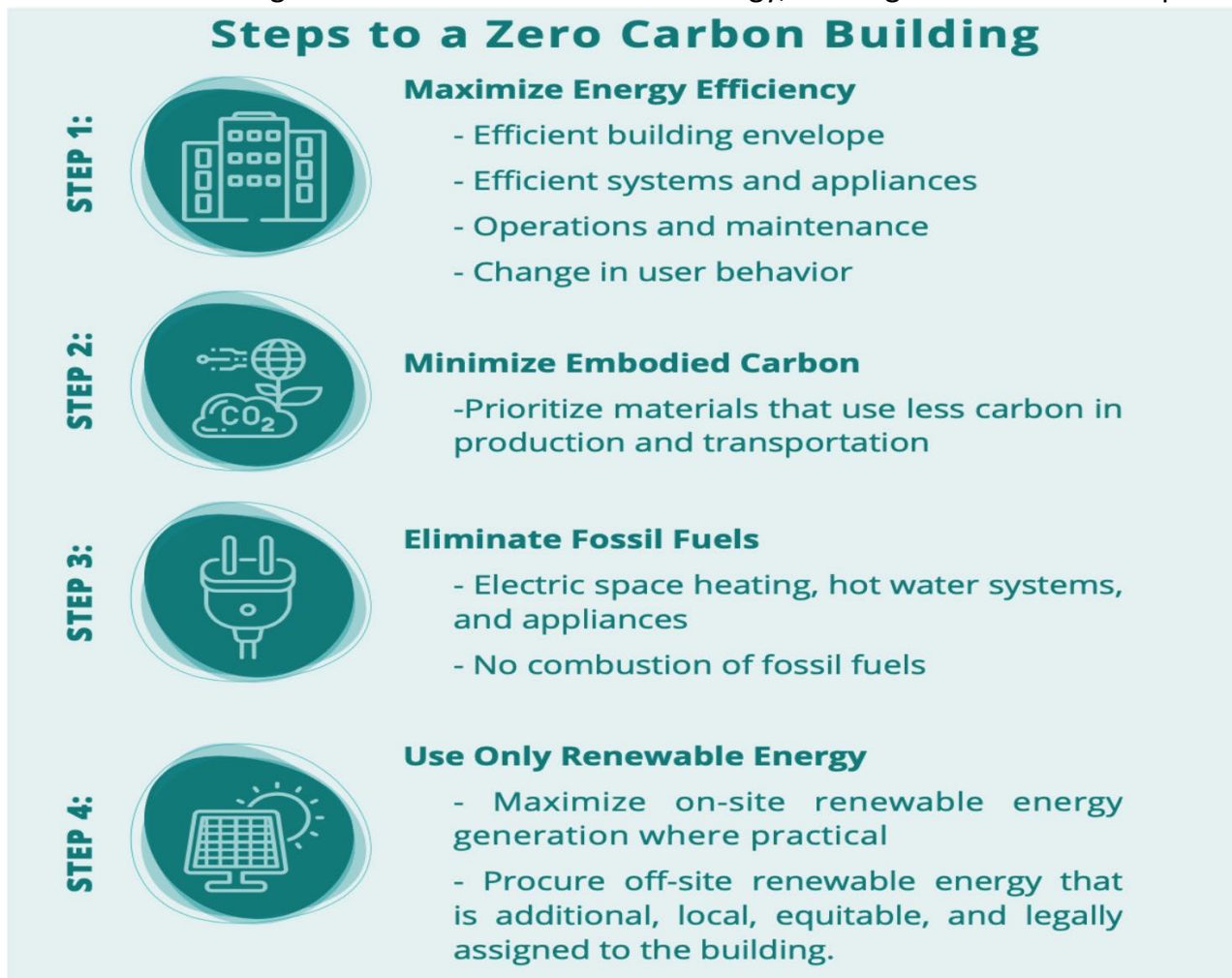
SHIFT TO ZERO

<https://shiftzero.org/what-is-zero-net-carbon-building/>

What is Zero Carbon Building?

Building decarbonization—the elimination of greenhouse gas emissions caused by buildings—is central to shift! Zero’s mission, but what does that mean? Carbon dioxide and other greenhouse gas emissions related to buildings fall into two categories: (1) “operational carbon” emissions associated with heating, cooling, and operating buildings, and (2) upfront “embodied carbon” emissions associated with the manufacture and transport of building materials and the construction of buildings themselves. Our definition of zero carbon building encapsulates both.

The first step is to maximize energy efficiency so that we dramatically reduce the energy required to operate our buildings in the first place. As we make those energy efficiency improvements, we need to make material selection and building design decisions that minimize embodied carbon. We also need to eliminate the burning of fossil fuels onsite, and recognize that by electrifying buildings we can leverage at the building level the ongoing decarbonization of the larger electricity grid. Finally, our zero carbon buildings will run on 100% renewable energy, either generated onsite or procured offsite.



<https://www.arup.com/perspectives/publications/research/section/net-zero-carbon-buildings-three-steps-to-take-now>

International Energy Agency pg. 9 (I'll get the exact report title)

1 A zero-carbon-ready building is highly energy efficient and either uses renewable energy directly or uses an energy supply that will be fully decarbonised by 2050, such as electricity or district heat.

This is somewhat similar to The US DOE's whose definition does not include the words "highly energy efficient "

World Green Building Council (the LEED people)

<https://www.worldgbc.org/thecommitment>

- **Existing buildings:** reduce their energy consumption and eliminate emissions from energy and refrigerants removing fossil fuel use as fast as practicable (where applicable). Where necessary, compensate for residual emissions.
- New developments and major renovations are built to be highly efficient, powered by renewables, with **a maximum reduction in embodied carbon** and compensation of all residual upfront emissions.