



Fact Sheet: NextGen-ZEB Path to Sustainable Real Estate

July 23, 2024

NextGen to ZEB

On June 6, 2024, the U.S. Department of Energy (DOE) unveiled the “National Definition for a Zero Emissions Building” (ZEB). This voluntary, long-term goal for commercial and residential buildings aims to help building owners significantly reduce carbon emissions. Developed with input from The Roundtable’s Sustainability Policy Advisory Committee (SPAC), this non-regulatory definition marks a significant step in U.S. energy and climate policy.

To support the path towards ZEB status, the Environmental Protection Agency (EPA) introduced the ENERGY STAR “NextGen” program. Buildings across the U.S. can start applying for NextGen labels in September 2024. By achieving the voluntary NextGen certification status, buildings can demonstrate significant progress in energy efficiency and emissions reduction, setting the stage for meeting the stringent ZEB criteria.

NextGen and ZEB are designed to work cohesively and create a clear pathway—with identifiable milestones—towards achieving aspirational goals of net-zero emissions in real estate.

The EPA indicates that buildings must meet the following criteria to qualify for NextGen certification:

- **Highly energy efficient**, achieving an ENERGY STAR score of 75 or higher and meeting all criteria associated with ENERGY STAR certification;
- **Use renewable energy**, obtaining at least 30% of the total energy it consumes from eligible renewable sources; and
- **Meet a direct emissions target**, lowering the building’s direct (i.e., onsite) greenhouse gas emissions intensity (GHGi) to at or below a specified level.

The DOE defines a ZEB asset with three similar criteria:

- **Highly energy efficient**, such as having an ENERGY STAR score of 75 or higher;
- **Free of on-site emissions from energy use**, with an exception for emergency backup power generation; and
- **Powered solely from clean energy**, which can be achieved through on-site renewable energy measures or the purchase of verified renewable energy certificates that increase off-site supplies of clean power.



Fact Sheet: NextGen-ZEB Path to Sustainable Real Estate

July 23, 2024

U.S. Government Policy	Energy Efficiency	Renewable Energy Use	On-Site Emissions Reductions
EPA's NextGen	ENERGY STAR Score > 75 (Top 25%)	30% of energy use	GHG emission intensity target, based on building's heating degree days, property type, and floor area
DOE's ZEB	ENERGY STAR Score > 75 (Top 25%)	100% of energy use	No on-site emissions allowed

NextGen Certification

NextGen builds upon EPA's existing ENERGY STAR certifications, as an asset must obtain a 75 or higher score as a prerequisite for possible NextGen recognition. NextGen goes further than ENERGY STAR certification by incentivizing and rewarding top-performing buildings that also focus on low-carbon strategies. Like ENERGY STAR, NextGen is a national standard designed to work with a range of CRE property types and uses.

Renewable Energy Use

The renewable energy use requirement represents 30% of total site energy use, or 100% of electricity consumption, whichever is lower. As described in the EPA's [certification criteria document](#), most buildings do not currently use renewable energy, so this requirement has been set to incentivize buildings to procure green power.¹ It can be met with either on-site renewable electricity or off-site procurement, subject to a set of criteria:

- For unbundled renewable energy credits (RECs), power purchase agreements (PPAs), or any other renewable electricity procurements not conveyed through the utility electric bill, the RECs must be Green-e certified, or the owner must document that the RECs have been retired (by or on behalf of the owner) and were generated by facilities put into service within the prior 15 years;
- For green power products, such as community choice aggregation, utility products, green tariffs, or community solar, the products must be Green-e certified.

¹ ENERGY STAR NextGen Certification Criteria for Existing U.S. Buildings, U.S. Environmental Protection Agency, March 2024, https://www.energystar.gov/sites/default/files/2024-03/NextGen_Final_Criteria_508.pdf





Fact Sheet: NextGen-ZEB Path to Sustainable Real Estate

July 23, 2024

On-Site Emissions Reductions

On-site emissions must meet a specific direct GHGi target that depends on the building's heating degree days, property type, and floor area. Buildings can refer to this [NextGen technical reference document](#)² to calculate their target.

- The minimum NextGen direct GHGi target for all buildings is 0.10 kg CO₂e/ft². If the calculated target returns a value lower than that figure, then the minimum target is used instead.
- Each property type uses a slightly different equation to calculate the direct GHGi target, found in the criteria document mentioned above.
- Buildings compare their actual direct GHGi (calculated based on energy data entered into Portfolio Manager) to the GHGi target provided by EPA for the asset class at issue. If the actual value is less than or equal to its target, it meets the NextGen direct emissions criteria.

While buildings can only apply for either the ENERGY STAR certification or the NextGen certification in any given year, the EPA will allow an exemption to this rule for a limited time. For the period from 2024-2025, buildings can upgrade to NextGen certification regardless of when they received ENERGY STAR certification. From 2026 onwards, a building must wait 11 months between certifications.

ZEB

The DOE ZEB definition represents an aspirational goal for buildings to reach towards on their path to sustainability.

The DOE's definition is neither a requirement nor a mandate. It is intended to be used voluntarily by buildings and may also be used by NGO rating systems; capital markets; corporate climate-related financial disclosures filed with government agencies; green building investment, lending, and incentive strategies; commercial leases for government tenants; and building performance standards enacted by cities and states.

² ENERGY STAR NextGen Direct GHGi Targets, U.S. Environmental Protection Agency, April 2024, https://www.energystar.gov/sites/default/files/2024-04/Updated_Technical_Reference_NextGen_04222024%20508C.pdf





Fact Sheet: NextGen-ZEB Path to Sustainable Real Estate

July 23, 2024

Meeting the ZEB definition may send a powerful signal to the real estate marketplace regarding a building's zero emissions status—even though no agency has the authority to issue a ZEB label for federal brand certification.

Criteria

1. The ZEB definition's **energy efficiency requirement is the same as NextGen**, requiring that the building have an ENERGY STAR score of 75 or higher.
2. However, **the ZEB definition is stricter than NextGen for on-site emissions reductions**; direct GHG emissions from energy use must equal zero (except for emergency backup generators when grid power is unavailable).
3. Lastly, to meet the ZEB definition, **all energy used by a building must be from renewable energy sources**. This may include both on- and off-site sources, which must meet one of the criteria—such as Green-e certified—listed in the [ZEB definition document](#).³

DOE does not specify a method that must be used to document and verify that a building meets the ZEB definition. Instead, it suggests using the EPA's ENERGY STAR Portfolio Manager tool to document criteria and base verification on 12 months of whole-building energy use. This flexibility allows building owners and other users to choose the verification approach that best fits their needs.

³ National Definition of a Zero Emissions Building, U.S. Department of Energy, June 2024, <https://www.energy.gov/sites/default/files/2024-06/bto-national-definition-060524.pdf>

