# Advancing Net Zero Snapshot: France

### Context

France is aiming to reduce greenhouse gas emissions in the buildings sector by 87% by 2050, compared to 1990 levels. It has also set a goal for 32% of final energy consumption coming from renewables by 2030. L'Alliance HQE-GBC has been collaborating with the government to develop a methodology and building label called E+C- to encourage and recognise energy positive and low-carbon buildings, to forecast the future environmental regulation for new buildings.

## Pathway: Certification

Launch date: November 2016

Certification can be achieved independently or through the established HQE certification program.

E+C- (Bâtiment à Énergie Positive & Réduction Carbone) is currently voluntary and available for new residential and commercial buildings.

Tools for awareness and professional learning have been developed to support delivery.

Performance requirements for Energy levels shown here:

| | Minimum energy reduction | Renewable energy |
|---|---|---|
| Energy 1 | Residential 5%, Commercial 15% | No specific requirement |
| Energy 2 | Residential 10% Commercial 30% | No specific requirement |
| Energy 3 | Residential 20% Commercial 40% | Residential 20kWh/m² Commercial 40kWh/m² |
| Energy 4 | No specific requirement | >100% energy demand |

### Certification E+C-

**7** Certified*

**130** Registered*

*as of November 2017

## GBC Definition

A net zero carbon building is a cost effective positive energy building (E+) with low GHG emissions on life cycle approach included embodied carbon (C-)

## 1. Measure and Disclose Carbon

New buildings aiming for certification must undertake a full lifecycle carbon analysis (LCA), with two levels of performance recognised: "Carbon 1" and "Carbon 2"

E+C- certified buildings are expected to achieve target levels of performance, and may choose to undertake HQE In Operation certification to verify

## 2. Reduce Energy Demand

Buildings must achieve prescribed minimum energy reductions and onsite renewable energy generation respective to "Energy 1-4" levels

For all levels, building performance must be better than TR 2012 (thermal regulations) as demonstrated with Bbio* modelling, and energy demand is <50 kwh/m²/yr for all regulated energy uses

## 3. Generate Balance from Renewables

Renewable energy must be generated onsite as shown to achieve respective "Energy 1-4" levels

Offsite renewable energy may be used to reduce carbon impacts associated with lifecycle analysis (LCA), as required for "Carbon 1" and "Carbon 2"

## 4. Improve Verification and Rigour

Certification is based on LCA covering manufacture of construction materials and construction phase processes, in addition to building water and energy consumption, in accordance with EN15978**

## Methodology and Verification

- Carbon level is determined by LCA based on INIES database (Environmental Product Declaration and Environmental Services data)
- Energy level determined by BEPOS rating^, calculated using approved software tools

## Additional Information

- *Bbio: A tool to encourage bioclimatism and high energy performance building envelope
- **EN15978: Sustainability of construction works, environmental performance of buildings
- ^BEPOS rating: a new indicator referring to the energy consumed by all uses associated with the building, after accounting for renewable energy production
- An economic valuation is required for the impact of technical choices made in order to attain various performance levels
- A database of project information, including levels achieved, is contributing towards establishing future benchmarks

## Find out more

- Bâtiment à Énergie Positive & Réduction Carbone
- WorldGBC's global Advancing Net Zero project

## Advancing Net Zero

WorldGBC's global project to accelerate uptake of net zero carbon buildings to 100% by 2050. These snapshots outline specific GBC action, and how it relates to the project framework, including the four key principles shown left.