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# Horizonte 2020 Convocatoria Green Deal

**ESHORIZONTE2020**

Portal español del Programa Marco de Investigación e Innovación de la Unión Europea

@EsHorizonte2020

Jornada Castilla y León, 10 de noviembre 2020

## 4.1 Building and renovating in an energy and resource efficient way

### Challenge

- The priority is the design and construction of **new or retrofitting of existing buildings** as zero-emission/zero-pollution, positive energy-houses

Two major components in this transition:

- **A transition** in designing and constructing buildings **to reduce their emissions and to increase the energy efficiency of their operation**; the same for retrofitting existing buildings
- **A transition to energy positive buildings** (producing electricity, covering their heating and cooling needs and contributing to the energy grid stability) **with renewable energy technologies**



## 4.1 Building and renovating in an energy and resource efficient way

### Scope

To deliver at least **two** (residential **and** non-residential, new **and/or** retrofitted) **large scale, real-life demonstrations** of promising technology, process and social innovation in different regions in Europe

- **scalable design of green, positive energy neighbourhoods** embedded in the context of the demonstration sites
- **energy and resource efficient industrial construction/renovation workflows** from design to manufacturing, installation and post-construction
- sustainable and highly **energy-efficient building designs** adapted to local environment and climatic conditions
- zero-emission and cost and energy efficient **renewable energy generation in the buildings** combined with urban service facilities (e.g. charging facilities) and heating-ventilation-air conditioning solutions



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### Scope

- **energy storage systems** (e.g. using second life batteries from electric vehicles) with bidirectional charging functionalities, that do not limit the use of living space
  - highly **energy-efficient building operation** at reduced maintenance costs and long-term performance, as well as **digital solutions**
  - **citizens awareness raising activities** to facilitate social innovation, promote education and training for sustainability conducive to good habits
  - **coordination on standards and regulatory aspects** to ensure operational efficiency of buildings and HVAC
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- ▶ From TRL 5/6 to TRL 7/8 (IA)
  - ▶ Size of projects: 10-20 M€
  - ▶ Total budget of the topic: 60 M€



## 4.1 Building and renovating in an energy and resource efficient way

### Impact

- **Primary energy savings** triggered by the project (in GWh/year)
- **Investments in sustainable energy** triggered by the project (in million Euro)
- **Reduction of GHG emissions** towards zero for the total life-cycle
- **Reduction of the embodied energy** in buildings by 50%
- **Reduction of air pollutants** towards zero for the total life-cycle
- Demonstration of **high potential for replicability**
- **Shortened construction/retrofitting time and cost** by at least 30%
- **Improved final indoor environment quality** by at least 30%



Include relevant indicators and metrics with baseline values

**Check “Call Conditions”**  
p. 154-161 del WorkProgramme

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