



# THE ENERGY CENTER

Politecnico di Torino has launched since 2016 the Energy Center Initiative (ECI) to support and stimulate series of actions and projects that will provide support and advice to local, national and transnational authorities on energy policy and technology.

The two pillars of the ECI are:

- / the **Energy Center House (EC-H)**, a new building in the Politecnico di Torino campus, that will host companies, start-ups and public administrations who are active in the field of energy technology, R&D, management and policy;
- / the **Energy Center Lab (EC-L)**, the Interdepartmental Center for Energy, that gathers a multi-disciplinary group of Politecnico faculty members who are devoted to discovering the best technical, economic, social and environmental solutions for a transition toward a more sustainable society.

## MISSION AND GOVERNANCE

The Energy Center aims to build national and European networks as a lever to develop new entrepreneurial activities in the energy sector, through the opportunities given by academic research, innovation and partnership. Companies, R&D business units and Public Administration can cooperate thanks to an environment that stimulates the interaction and the involvement in the scientific, social, technological and managerial innovation on the energy topics.

The answers to the emerging energy and environmental challenges require the integration of different expertise and backgrounds, able to tackle a multi-layer framework and to accommodate the interactions among different actors (policy and decision makers, manufacturers, service providers, utilities, research institutions, consumers, prosumers). As a consequence, the deep need to pool together different backgrounds and expertises is a crucial aspect to face these challenges through a multi-disciplinary approach. Energy Center House and Energy Center Lab have to interact bi-directionally to develop new synergies between the university research and industrial actors and policy decision makers.

According to this picture, the Laboratory should represent a multidisciplinary “horizontal” platform of knowledge and tools, aggregating and integrating the vertical skills and capabilities of the Politecnico research departments and able to support the Energy Centre initiative as a whole.

The Center is ruled by an Advisory Board with the principal national and international players for this sector: companies representatives (ENI, ENEL, Edison, Terna, IREN, FCA), local and regional governments (City of Turin and Piedmont Region), research institutions (ENEA, JRC) and other leading subjects at a global level in energy sector.



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## ENERGY CENTER HOUSE

The Energy Center House has been built with the support of City of Turin, Piedmont Region and two banking foundations (Compagnia di San Paolo, Fondazione Crt).

Today, about ten different initiatives are active in the Energy Center House, including firms that have own offices and R&D labs, as well as joint labs with Politecnico di Torino.

Around 60% of the available spaces for offices are allocated to external entities, while EC-HOUSE includes a 450 square meters of heavy laboratories, several meeting rooms and convenient conference facilities (including an auditorium capable of 150 seats).

Anyone (firms, institutions) can apply for spaces concession arrangements in EC-HOUSE: for this purpose, a general proposal about the activities to be located in EC must be submitted for evaluation by Politecnico, that will verify the alignment with the Energy Center mission.



## ENERGY RELATED FEATURES



The Energy Centre House was designed in order to fulfil high requirements in terms of environmental, energy and thermal comfort performances. It has been awarded under the ITACA design phase certification scheme with score 3.

The building has been built with great attention for materials and shape to maximize the daylight into the building and minimizing the energy consumption inside. Thanks to these characteristics it achieves very high-energy performance: the energy needs for space heating have been calculated as 0.89 kWh/(m<sup>3</sup>y). It achieves low energy consumptions by using technologies such as mixed air/water HVAC system for high indoor comfort quality, with radiant ceiling and primary air supply, district heating and absorption chillers.



The building provides part of its own energy needs through on-site resources including the exploitation of ground water as heat source and sink for heating and cooling and photovoltaic panels for electricity production (46kW occupying an area of 320 m<sup>2</sup>). Alongside more complex systems, the building also implements more common technologies including high performing LED lights and building management systems.

Energy Center won the Italian Gyproc Trophy and was candidate to the International Saint-Gobain Gyproc Trophy 2016, competing in the Innovation & Sustainability category.

<http://www.saint-gobain-gyproc.com/projects/torino-energy-center>

## CONTACT

V. Paolo Borsellino 38/16, 10138 - Torino, Italia

phone: +39 011.090.8500  
email: [info.energycenter@polito.it](mailto:info.energycenter@polito.it)  
[www.energycenter.polito.it](http://www.energycenter.polito.it)