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ELECTRIFY ITALY STUDY: THE ENERGY TRANSITION PROMOTES SAVINGS ON BILLS AND HEALTH EXPENSES

- *The “Electrify Italy - An electrical triangle for the energy transition” study, carried out by the Enel Foundation, Politecnico di Torino and the MIT Laboratory for Information and Decision Systems, was presented today*
- *The study quantified the environmental, economic and social benefits for the country deriving from the energy transition and the process of gradual electrification of consumption*

Rome, December 4th, 2020 - The use of renewable sources will grow rapidly over the next 30 years and will have significant positive impacts on the environment and on the quality of life of people, resulting in a reduction in energy costs and health costs thanks to less air pollution. These are the main results of the “Electrify Italy - An electrical triangle for the energy transition” study, carried out by the Enel Foundation, Politecnico di Torino and the Massachusetts Institute of Technology (MIT) Laboratory for Information and Decision Systems, with the aim of evaluating and quantifying the environmental, economic and social benefits for the country deriving from the energy transition and the process of gradual electrification of consumption.

The study was presented today during the webinar “The role of electricity in the energy transition: the case study of Italy and the European challenges”, which was attended by, among others, Michele Crisostomo, Chairman of the Enel Group and the Scientific Committee of the Enel Foundation, Francesco Profumo, President of the Compagnia di San Paolo, Ettore Bompard, Director of the EST@Energy Center of the Politecnico di Torino and Audun Botterud, Principal Research Scientist at the “Laboratory for Information and Decision Systems”, of MIT.

“The study, developed together with two partners of undisputed scientific prestige such as the Politecnico di Torino and MIT, shows that the energy transition, with a boost to renewables, electrification of consumption and digitization of networks, is the only path to take in order to allow for an effective improvement of environmental, economic and social conditions,” said Enel Chairman **Michele Crisostomo**. *“Enel was among the first utilities in the world to understand the potential for change towards a more sustainable model and to invest in its development. A commitment that we have confirmed with the new Strategic Plan, in which we have planned investments for 190 billion euros over the next 10 years to accelerate the energy transition and create shared and sustainable value.”*

“It is a common belief that an energy transition is unavoidable,” said **Ettore Bompard**, professor at the Politecnico di Torino and scientific coordinator of the project. *“A traditional commodity such as electricity can play a new, crucial role through the so-called electric triangle (generation from renewable sources, transport and distribution, electrification of end uses). Politecnico di Torino, Massachusetts Institute of Technology and Enel Foundation have studied together how this can be expressed in the Italian reality, highlighting the energy, environmental and economic benefits in a scenario projected to 2050.”*



The results show how the "electricity triangle", which is the paradigm based on the generation of energy from renewable sources, electrification of end uses and efficient and digitized electricity grids, is the scheme that allows for the combination of the production of clean energy and efficient consumption, with consequent significant improvements in performance not only in terms of energy, but also environmental, economic and social.

According to the study, in the next two years renewable energy will represent about 48% of the total energy supply sources, exceeding 85% in 2050. This change will favor the process of electrification of consumption which will reach significant percentages in various sectors in the next thirty years: from industry (42%) to transport (41%) passing through the residential sector (53%). The energetic transition will bring a series of benefits for the country in environmental, economic and health terms. According to estimates, CO₂ emissions should, in fact, more than halve in the next 30 years, with the most significant reductions expected in the 20 years to come.

The energy transition will also have significant impacts on public and private finances, with effects such as the 17% reduction in the cost of bills and health expenses quantifiable at around 692 billion euros by 2050, by virtue of the improvement in air quality and the reduction of atmospheric pollution.

The research carried out proposes an evaluation method that uses inputs from sectoral analyzes of future scenarios, such as the consumption of different energy raw materials and the average efficiency of related technologies. Compared to other evaluation methods, the proposed one, in addition to providing the percentage of electricity on the total final consumption, is able to calculate the specific contribution of electrification to energy transition scenarios, measured in terms of economic, social and environmental parameters.