



## PRESS RELEASE

### "ENERGY TRANSITION STRATEGIC SUPPLY CHAINS" STUDY BY ENEL AND THE EUROPEAN HOUSE-AMBROSETTI: THE DEVELOPMENT OF NATIONAL AND EUROPEAN SUPPLY CHAINS IN KEY ENERGY TRANSITION SECTORS STRENGTHENS AUTONOMY AND PROVIDES ECONOMIC, SOCIAL AND ENVIRONMENTAL BENEFITS

- *The Study analyzes the competitiveness and opportunities for industrial supply chains in Europe and Italy in the photovoltaic, battery and heat pump sectors, also in light of the targets set by the European Commission through the 'Net Zero Industry Act' (NZIA)*
- *A series of strategic choices could enable the EU and Italy to cover, by 2030 - thanks to domestic manufacturing production - more than 50% of its photovoltaic panel demand, about 90% of its battery demand and more than 60% of its heat pump demand*
- *The Study highlights the socio-economic benefits of creating and strengthening industrial supply chains for the transition with an economic return of up to 640 billion euros by 2030*

**Cernobbio, September 2<sup>nd</sup>, 2023** - The development of European and Italian industrial supply chains in strategic sectors for the energy transition, such as photovoltaics, batteries and heat pumps, will contribute to the achievement of the decarbonization targets set by Brussels, ensuring higher levels of energy security and strategic autonomy for the EU and its member states, with significant socio-economic returns for businesses and citizens. This is the finding of the study "ENERGY TRANSITION STRATEGIC SUPPLY CHAINS. INDUSTRIAL ROADMAP FOR EUROPE AND ITALY" carried out by the Enel Foundation and The European House - Ambrosetti in collaboration with Enel, presented today as part of The European House - Ambrosetti Forum at a press conference attended by **Valerio De Molli**, Managing Partner & CEO of The European House - Ambrosetti, **Nicola Lanzetta**, Head of Italy at the Enel Group and **Maria Chiara Carrozza**, President of Italy's National Research Council (Consiglio Nazionale delle Ricerche, CNR).

The Study highlights that, in order to accelerate the transition and decarbonization pathway, the EU and its member states are called upon to develop and implement a new strategic vision. The latter places the creation and strengthening of an integrated and coordinated local technological and industrial base at the center of the energy transition, particularly in key sectors such as photovoltaics, batteries, and heat pumps. In recognition of the need to act quickly and effectively to close the gap with international competitors - especially China - European and national institutions have identified a set of targets for 2030 that would enable Europe to strengthen its energy system in terms of sustainability and security, while at the same time ensuring significant socio-economic returns.

*"The decarbonization process is a unique opportunity to support important industrial sectors of our economy and reduce our dependence on foreign countries. A realistic goal provided that the entire value*



*chain is innovated, in a sustainable sense,” said **Nicola Lanzetta**, Head of Italy at the Enel Group. “A key role is attributed to industrial sectors that encourage the spread of renewable energy, such as photovoltaics, heat pumps and storage systems. The study shows that accelerating the implementation of these technologies and doing so through the development of European supply chains, reduces dependence on foreign suppliers and provides environmental, social and economic benefits for people and businesses.”*

*“To fully reap the benefits of the current energy transition, it is not enough to make massive investments in infrastructure; we must also develop local skills and strengthen green industrial supply chains. This process is of strategic importance as it will support the growth expected in the coming years, while reducing technological dependence on third countries,” commented **Valerio De Molli**, Managing Partner and CEO of The European House – Ambrosetti. “The Study highlights how effective use of the available funds, environmentally and socially sustainable production processes, an increased recycling capacity, R&D and innovation are the main factors that the European Union and Italy have to activate the development of local supply chains for photovoltaics, batteries and heat pumps. By taking advantage of these opportunities and implementing the announced projects on time, in 2030, Italy and the European Union will be able to meet more than 50% of the demand for photovoltaic panels, about 90% of the demand for batteries, and more than 60% of the demand for heat pumps, thus achieving the NZIA targets”.*

Italy and Europe have set themselves some ambitious goals with regards to developing renewable energy sources and electrifying end consumption. However, supply chains for key technologies to achieve decarbonization are heavily concentrated outside Europe, mainly in China (on average 65% of the total). For Italy and Europe, this situation is a risk but also an opportunity to develop value chains with undeniable socio-economic benefits. To address these challenges, in March 2023 the European Union unveiled the '**Net Zero Industry Act**' (NZIA) program, with the goal of achieving European and national production of at least 40% of the annual demand for green technologies by 2030: Europe should reach 30 GW per year of production capacity for all stages of the photovoltaic value chain, as well as at least 550 GWh of manufacturing capacity for the battery value chain and 31 GW for heat pumps.

In order to achieve these goals, the European Union must effectively reshape the existing funds. The full decarbonization of the energy system will require the development of a wide range of technologies along the entire value chain: renewable generation, storage, energy transmission and distribution, as well as final uses. The Study focuses on three key industry sectors from now until 2030: photovoltaics, batteries and storage systems, as well as electric heat pumps. Regarding power generation technologies, the largest increase in installed capacity in Europe is expected for **photovoltaics**, the cheapest of the available generation technologies: between 2021 and 2030, the EU is expected to record an increase of 432 GW for solar, compared with 323 GW for wind. During the same period in Italy, an increase of 58 GW is expected for solar compared to 25 GW for wind.

**Batteries and storage systems** are essential to facilitate the penetration of variable renewable energy sources, the deployment of electric vehicles and changes in electricity demand patterns. Within the European Union, battery production capacity is expected to grow by 810 GWh by 2030 (more than 10 times the current capacity of 76 GWh), while in Italy it is due to grow by 60-106 GWh (over 20-30 times the current 3.35 GWh). At the same time, 51 million electric vehicles are expected to be in circulation in the EU by 2030 (8 times the current 6.1 million) and 6 million electric vehicles in Italy (17 times the current 300,000).

Electric **heat pumps** powered by renewable sources are the most effective way to efficiently decarbonize heating and cooling in buildings. Based on recent estimates by the European Heat Pump Association (EHPA), 60 million additional heat pumps are expected to be installed by 2030 in Europe, rising from 17



million in 2021 to 77 million in 2030. In Italy, 10 million additional heat pumps are expected to be installed by 2030, going from 1.6 million in 2020 to 11.6 in 2030.

Producing photovoltaics and batteries in Italy and the EU is currently more expensive than in China, due to higher investment costs, longer lead times for manufacturing plants, higher cost of energy, lack of specialization (skills and adjacent industries) and integration (raw material extraction and refining) in the upstream stages. It is estimated that a series of strategic choices could enable the EU and Italy to use domestic manufacturing production to cover, by 2030, more than 50% of its photovoltaic panel demand, about 90% of its battery demand and more than 60% of its heat pump demand.

In addition to identifying a set of policies to be implemented at Italian and European level to foster the development of industrial supply chains of the energy transition in Europe, the Study suggests the main policy measures suitable to achieve these goals: the effective use of the public funds currently available through EU institutions, the strengthening of socially and environmentally sustainable production processes, the adoption of ambitious policies in terms of material recycling and circular economy, the development of cooperative processes of innovation in the European sphere, and finally the definition of a transparent and stable fiscal and regulatory framework.

Having defined the European and domestic manufacturing capacity growth scenarios projected by the NZIA for 2030, the Study highlights the socio-economic benefits from the creation and strengthening of industrial supply chains in the sectors considered. In light of both the net benefits brought about by the reduction of imports of products and technologies from abroad and the direct, indirect, and induced benefits from the creation of local supply chains, the investments required to achieve the NZIA's goals would create an economic return of up to 640 billion euros total between now and the end of the decade.