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How electrification can help clean up the European economy

Technology and renewables are driving decarbonization of the electricity industry

By **EURELECTRIC** | 5/31/18, 9:00 AM CET | Updated 6/7/18, 9:51 AM CET

The world today is facing a series of interconnected challenges, from climate change and extreme weather events, to rising inequality and exceptional migration flows. Yet, at the same time, institutions, industries, and individuals are committed to finding answers.

Two landmark global commitments, the Paris Agreement and the U.N. 2030 Agenda, directly tackle these challenges and should be regarded altogether as part of a common ambitious path, aimed at refreshing our approach to economic growth, while increasing the resilience of our society and our planet.

The European response to climate challenges



Francesco Starace, president of Eurelectric, CEO & general manager of Enel | via Enel

In Europe, the process of decarbonizing our economy and reducing emissions is already well underway, and the Clean Energy Package is an important step in the right direction. However, in order to meet our new commitments, it is now time to raise our ambitions and for Europe to show global leadership.

“ Electricity can lead to the reduction of greenhouse gas (GHG) emissions in other sectors, and help build a cleaner, more competitive European economy — Francesco Starace, president of Eurelectric, CEO & general manager of Enel

Electrification — revealing the real value of electricity

While policy commitments are crucial, economic considerations are key drivers for this energy transition. The decarbonization of the electricity sector, initially propelled by national and international policies, is today strongly driven by the cost-effectiveness of renewable energy, backed up by advances in technologies, including energy storage.

Leveraging on the growing competitiveness of renewables and developments in storage, electricity can lead to the reduction of greenhouse gas (GHG) emissions in other sectors, and help build a cleaner, more competitive European economy.

Some sectors, often hard-to-decarbonize, such as heavy industry, transport, and heating and cooling, urgently need this shift as their continued reliance on fossil fuels has left them struggling to reduce their GHG emissions. Today, electricity represents just 22 percent of Europe's overall energy consumption, but higher levels of electrification are attainable, with digitalization holding the key.

Moreover, a growing percentage of non-subsidized renewable energy generation capacity added to the electrical system represents a trend of progressively lowering and stabilizing the costs of electricity as a consequence of eliminating volatile oil and gas commodities.

“ Lower and more stable electricity cost, coupled with the digital transformation of the grid, will push the use of electricity in the economy — Francesco Starace, president of Eurelectric, CEO & general manager of Enel

This lower and more stable electricity cost, coupled with the digital transformation of the grid, will push the use of electricity in the economy, enabling sector coupling between power, transport, heating, and industry, via electrification. In this way, we can deliver efficiency and decarbonize our societies, while solving a wider range of long-standing problems such as poor air quality.

Road transport is a key example of this. Looking at the entire well-to-wheel phase, electric vehicles are as much as three times more efficient than conventional ones from an energy-use standpoint.

Moreover, according to the European Environment Agency, conventional transport, with its heavy production of nitrogen oxides and particulate matter, is a major cause of poor air quality in European cities. In contrast, electric mobility has zero tailpipe emissions and can clean up the air we breathe, ultimately helping to reduce the health care costs — around € 4 billion for direct health care costs, and up to €20 billion for indirect costs — that EU citizens must bear as a result of air pollution each year.

Thanks to technology, electric vehicles (EVs) can become an asset for the power system too, further easing the integration of renewables into the energy mix. EVs are “batteries on wheels” that can help balance the grid during peak demand, providing valuable flexibility to network operators, while also offering owners a fresh source of revenue from selling those services to the grid. As the cost of ownership dips, more drivers will shift to EVs, with the transport sector becoming cleaner as it is electrified.



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A new paradigm

As traditional sectoral barriers are being torn down, also thanks to digital technologies, utilities will need to show increased willingness and flexibility to adopt new business models, as well as an openness to embrace new collaborations, partnerships and cross-sector integration.

In this respect, our industry has already become more dynamic: we are providing tools to reduce emissions; we are offering solutions to other sectors; and we are building renewable projects in remote areas, enabling the expansion of distributed generation.

It is a fantastic start, but, ultimately, we cannot do this alone. To fund the investments and deliver the energy transition we need, there needs to be a shift in public policy from the short-term to the long-term, and a broader, more far-sighted approach to renewable energy, clean mobility, energy efficiency, and digitalization.

European institutions play a pivotal role in shaping existing policies around decarbonization. However, to keep this process alive, we also need a pipeline of new ideas and legislation — not just in the power industry, but in other sectors too — such as the EU

Mobility Package, a great chance to keep up the momentum and further our ambitions.

We are living through times of change when feelings of apprehension and uncertainty are only natural. But we must always keep in mind that while we are free to choose how we act, we are not free from the consequences of our choices. Our future is in our own hands, and electrification can influence and even solve so many of the big issues that we face today.