

Shaping the Smart Sector Integration Strategy for a Green & Digital Recovery

The Electrification Alliance welcomes the initiative by the European Commission to set out a comprehensive strategy for smart sector integration, which, we believe, can greatly contribute to a “green” and “digital” recovery from the COVID-19 crisis.

A well-managed transition towards a resilient European energy system, exploiting synergies between different sectors, will be an **essential element of the cost-effective decarbonisation of our economy by 2050**. It will also further ensure the international competitiveness of the European industries, that will deliver climate neutrality.

Enhanced smart sector integration is mostly a matter of making electrification work, as shown by the European Commission’s Long-Term Decarbonisation Strategy 1.5 Tech and 1.5 Life scenarios. **Direct electrification must be the top priority of the Strategy** as we must ramp up rates of direct electrification from today’s 24% to at least 50% by 2050.

Investing in power grids and in the technologies and supply chains that will deliver climate neutrality must be central to the EU’s plan for a speedy and future-proof recovery.

Here are our 5 priorities for a successful roadmap on the Smart Sector Integration Strategy:

1. Prioritise direct electrification (combined with energy efficiency and the massive deployment of renewables), as it is the most cost-effective way to decarbonise the EU economy

- **Direct electrification of end-use sectors like buildings, heating and cooling, transport and industry can bring huge macroeconomic benefits in terms of economic growth and employment.** Up to €23 billion could be saved on energy bills with breakthrough levels of smart electrification and deep buildings efficiency, leading to the net creation of potentially 1.8 million jobs in Europe¹. A recent report by IRENA also shows that scaling up the deployment of renewables and boosting direct electrification would already generate 1.5 million new jobs in the EU’s energy sector.
- **Direct electrification with cost-effective technologies can accelerate today.** Heating and cooling are responsible for 50% of EU final energy demand, and most of that heat is generated by burning fossil fuels. Green, digital and cost-efficient technologies such as heat pumps (electric and hybrid) are three to five times more energy efficient today than traditional fossil fuels boilers and have lower running and maintenance costs for consumers. They bridge power and thermal needs, while contributing to improved air quality and grid flexibility. In the transport sector, electric vehicles (EVs) have an efficiency of 80-90% from tank to wheel today compared to 20-30% for internal combustion engines (ICE). Integrating the zero-emission transport and the energy sectors brings substantial benefits for the decarbonisation of both sectors, specifically with the development of smart charging. The further integration of all sectors should be at the centre of the upcoming Renovation Wave Strategy, to harness the benefits of direct electrification and cost-effective technologies.

2. Enhance demand-side flexibility across all sectors to smartly manage an energy system with large shares of renewables and reduce costs for grid extension

- **For a more reliable and digital energy system, demand-side flexibility from all sectors needs to be enhanced.** The Smart Sector Integration Strategy should recognise and foster the value of flexible loads that allow shifting power from peak to off-peak hours to reduce grid congestion and keep the grids stable. Therefore, it is crucial to roll out flexible electric loads such as heat pumps, smart charging infrastructure for electric vehicles, vehicle-to-grid and storage solutions.

¹ Element Energy and Cambridge Econometrics (2019). Towards Fossil-free Energy in 2050.

- **Accelerate deployment of distributed electric loads to reduce cost for grid extension.** The Strategy should foster valuing distributed flexible electric loads and self-consumption to reduce investments in additional grid infrastructure and contribute to reduce energy system cost.

3. Accelerate the deployment of a smart and climate-resilient electricity grid infrastructure

- **Optimise the existing power grid and significantly step up its build out,** as increasing the electricity share in Europe's energy mix will require larger and more flexible electricity grids (TSO and DSO). It is a "no regret option" to be evaluated against some investments in the gas infrastructure that could become stranded assets and make European energy costs globally uncompetitive. A coordinated infrastructure planning is therefore needed, taking into account all sustainability concerns, as well as the need for increased flexibility in the power system.
- **Enhance the deployment of smart grids to improve operating efficiency, increase security of supply and prepare the power system for the growing penetration of distributed renewable energy and flexibility sources.** It is crucial that the revised TEN-E regulation prioritises digitally smart and climate-resilient infrastructure, in full compliance of EU energy targets and Climate Law.

4. Revise the Energy Taxation Directive to ensure that all energy sources can compete on an equal footing, promote clean innovative technologies and ensure competitive energy costs in Europe

- **Undue taxes and levies on electricity that are a barrier to electrification should be removed and taxation should be harmonised across all energy carriers.** Taxation rules should prevent the distortions of grid tariffs, unlock the potential of smart and efficient electric-based renewable heating and cooling solutions and power-to-X, as well as of energy storage in buildings and EV batteries (e.g. no double taxation when providing grid services).
- **E-mobility will drive the evolution of the tax base for energy fuels taxation,** and thus of taxation rules. In the short and medium term, it is necessary to gradually adapt fuel taxes to maintain a stable tax revenue base for Member States, as fuel use declines. It is crucial that these changes factor in climate performance of energy sources and not result in a disincentive to electromobility.

5. Allow renewable-based indirect electrification to play a key role for "harder to abate" sectors

- **After direct electrification, indirect electrification through power-to-gas technologies should be given consideration to provide additional decarbonisation flexibility to the energy system.** These technologies should be integrated in a functioning market design that integrates electricity and gas infrastructure planning based on a future-proof cost-benefit analysis.
- **Green/renewable hydrogen (produced from renewable electricity using electrolysis pathways – currently only 4%) needs to be supported with a clear focus on the decarbonisation of the "harder to abate" sectors,** such as the steel, cement, chemicals sectors or some heavy-duty transport segments. EU policy support to green/renewable hydrogen and other renewable gases (such as biomethane) should be preceded by clear definitions informed and by real-life lifecycle emissions assessments

In conclusion, **the upcoming Smart Sector Integration Strategy should make use of the numerous advantages that further electrification can offer to speed up a "green" and "digital" recovery in line with the European Green Deal objectives.** This will give Europe's citizens and industries the opportunity to invest in growth that drives green jobs (based on a still to be upskilled workforce), industrial innovation, digital and market competitiveness, and improved quality of life.

As Electrification Alliance, represented by the signatories below, we would be pleased to offer our assistance and expertise to you in implementing a successful Smart Sector Integration Strategy.

