

Six essentials for e-mobility

Eurelectric policy recommendations

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In light of the analysis carried out with EY on the essentials to accelerate e-mobility in Europe, there are a number of conclusions we can draw for policymakers to act on. Below, we present Eurelectric's expansion on each of the six essentials to provide specific, actionable recommendations for policymakers to ensure Europe maintains its momentum in the turn toward e-mobility.



RESILIENT SUPPLY CHAIN

- 1.** The EU should encourage investment in domestic raw material production, incentivising companies to explore cobalt, lithium and/or nickel mining on European soil to reduce reliance on imports and have full control over the applied environmental standards. In cases where the domestic extraction of such materials in Europe should not be possible due to geological features, Europe should nonetheless strive for developing the necessary European processing value chains. The Commission's new Critical Raw Materials Act should help develop a more resilient value chain and ensure a steady supply of these materials for electric vehicle (EV) production.
- 2.** Foster recyclability, sustainability and responsible extraction as well as consideration for environmental and social impacts through international cooperation. Initiatives such as the Net-Zero Industry Act must reflect these prerogatives. Given the global nature of the EV industry and the reliance on complex international supply chains, access to critical raw materials should be regulated by policymakers in a way that identifies and addresses the bottlenecks and challenges of securing these essential materials from third countries by reflecting this in legislation such as the Corporate Sustainability Due Diligence Directive.
- 3.** Support research and development (R&D) for alternative battery technologies to reduce the reliance on critical minerals, improve the efficiency and performance of batteries, and ultimately reduce the overall cost of EV production. The Green Deal Industrial Plan needs to encompass all fields of cleantech development opportunities within the EV sector.





DECARBONISED GRID

- 1.** To create a net-zero emission society by 2050 – as the main goal of the European Green Deal postulates – we need encouraging and forward-looking policy solutions that deploy utility-scale renewable and decarbonised energy sources delivered through the electricity grid in the shortest possible timeframe. The Renewable Energy Directive should be just the start of what the EU must achieve in terms of incentives for the construction of new renewable power generation capacity, regulatory policies for faster permitting and a better framework for the holistic integration of clean energy.
- 2.** Establish a clear and ambitious national target for renewable energy deployment, as well as stringent measures for compliance by national governments on ambitious EU legislative provisions, with specific targets for EVs to become the biggest consumers of renewable energy. Member States should prioritise the deployment of renewable energy sources and encourage their integration with EV charging infrastructure.
- 3.** Increase investment in R&D for a grid of the future. From energy storage technologies that ensure the grid can accommodate increased renewable energy production, to the deployment of smart charging infrastructure, and optimising EV charging times and reducing peak demand on the grid. The development of new technologies will help EVs participate in demand response programs, allowing them to provide grid services and help balance the electricity grid, overcoming intermittency issues and ensuring a reliable and stable electricity supply for EVs.





EXPANSION OF CHARGING INFRASTRUCTURE

- 1.** Policies that regulate the number of charging stations and their dispersity – such as the AFIR and the EPBD – should set as ambitious and market-based targets for the number of charging stations needed to support EV adoption as possible, and ensure they are conveniently located for all drivers. Lawmakers must prioritise installing charging infrastructure in areas where there is currently a lack of charging options.
- 2.** Streamline permitting and approval processes to reduce delays in installing charging infrastructure. Legislators could also provide funding for local authorities to speed up these processes, while developing regulations that require new construction projects to include EV charging infrastructure.
- 3.** Incentivise businesses to install charging stations, particularly in areas where there is a lack of infrastructure and along major highways needing DC fast-charging stations. Tax credits or subsidies will reduce costs for installation and ongoing maintenance and keep growing companies with enough vital funds for an uptake in technological development for charging infrastructure.



DEVELOPMENT OF SMART GRID TECHNOLOGY

- 1.** Promoting the development and deployment of smart charging infrastructure will be the major key to unlocking an accelerated path for EVs. Advanced tariff structures and innovative promotional schemes will encourage consumers to charge at non-peak times (e.g., time of use tariffs) and mitigate the risk of overloading the grid. To achieve this, subsidies should be provided to companies and individuals investing in smart charging infrastructure and encourage public-private partnerships (PPPs) to enhance the deployment of smart charging stations.
- 2.** Policymakers should encourage the development and deployment of solutions such as bi-directional charging technologies, which permit energy stored within an EV battery to be exported and used in homes or other buildings, as well as vehicle to grid (V2G) technology allowing to push and pull energy to and from connected vehicles when demand threatens supply, or even to balance the electricity grid. This will require investments in research and development, as well as partnerships between automakers, utilities, and other stakeholders.



DIGITALISATION AND DATA INTEROPERABILITY TO PUT THE CUSTOMER AT THE CENTRE

1. Digital platforms and mobile applications provide customers with information on available chargers, best tariffs, and nearby amenities. Harmonise open protocols to support a neutral and seamless data exchange between different stakeholders in the EV ecosystem, such as EV manufacturers, charging point operators, and utilities. Connectivity should enable the sharing of data on charging station availability, energy consumption, and pricing. Utilities can leverage these insights to develop additional services for customers, create personalised product offerings, and expand EV infrastructure into non-core markets.
2. The creation of a digital twin of the grid to model traffic density, grid network capacity and potential for renewable integration, and to identify suitable sites, land usage requirements and permits should be encouraged. Investments in the creation of a digital twin should be enhanced to improve the efficiency and smart capabilities of the grid as a way to make not only the networks, but the energy system as a whole, more intelligent, and hence create better services for consumers.



LABOUR AVAILABILITY AND UPSKILLING

1. Lawmakers should guarantee EU-funded apprenticeship programmes, incentivising companies to create and implement training programmes that equip young people with the necessary skills for the EV industry. This will further enable regulators to create a standardised and recognised training pathway for workers seeking to enter the EV industry, making it easier for them to transition into the industry. This is especially true for those coming from underrepresented groups, such as women and minorities.
2. Governments must offer tax incentives to companies investing in employee training and upskilling. This would encourage companies to make the necessary investments in training their workforce for the EV industry.
3. Policymakers should help foster PPPs with educational institutions to develop courses and curricula that train students for the EV industry. This could include both vocational schools, and university level education.



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