

【欧州】【自動車】

Road/Railways - Environmentally friendly vehicles: The European Commission approves state-aid for European Battery Innovation projects

Andrea Antolini Former Researcher JTTRI

【概要 : Summary】

The EU's road transport was still responsible for about 72% of the transport sector's entire GHG emissions in 2017, and for about 25% of all GHG emissions in the EU. In order to meet the EU's Paris Agreement's targets as well as the European Green Deal's climate neutrality target for 2050, the CO2 emissions in the EU's transport sector will have to decrease significantly. Therefore, the electrification of road transport and the deployment of low- and zero-emission vehicles such as electric vehicles for the mass market are considered being a key element to make the transport sector more sustainable, presuming that the electric power is generated by using renewable energies.

However, the EU's dependence on battery imports for the production of electric automobiles is considered being a long-term competition disadvantage for European automobile industry. Therefore, the increase of battery cell production in the EU has become one of the key initiatives in order to avoid a continuous dependence on battery imports from Asia and the US. Therefore, in 2017, the European Commission together with the EU Member States and others launched the European Battery Alliance (EBA), to establishing a battery producing industry of

significant size in Europe. The establishment of a strong battery cell production industry in Europe has become a main political target for the European Commission and for the EU Member States. The EU will need about 10 to 20 large-scale battery cell production facilities for setting up a competitive and sustainable battery cell production industry.

On 26 January 2021, the Commission approved, under EU State aid rules, EUR 2.9 billion public support for the "European Battery Innovation" project, which was jointly prepared by twelve EU Member States for a second pan-European research and innovation project along the entire battery value chain under the Important Project of Common European Interest ("IPCEI") rule. The Commission's approval of the state-aid project forms part of the context of the wider Commission efforts to support the development of an innovative and sustainable European battery industry. Another part of the efforts is an Action Plan on Critical Raw Materials in the Commission Communication COM/2020/474 final.

【記事 : Article】

1. The importance of establishing a European battery industry

In the past years, Europe has gone through the

initial adoption phase of electric mobility. The EU's road transport alone is responsible for almost 25% of all GHG emissions and the emission of other air pollutants and there are still around 95% of automobiles in the EU using fossil fuels. Therefore, the electrification of the transport sector with electric engines as an environmental friendlier solution for the future propulsion systems for almost all transport means is considered being an important step for reducing the GHG emissions in transport.

The introduction of electric vehicles into the mass market is expected to be a cornerstone of the energy transition and sustainable transport, given the precondition that the necessary electric power generation is based on renewable energies. Electro mobility is also seen as a key element in the efforts to reach the EU's GHG emission reduction commitments under the Paris Agreement and the target of zero net GHG emissions by 2050 as part of the European Green Deal.

The deployment of low- and zero-emission vehicles such as electric vehicles for the mass market plays an important role for achieving the envisaged decarbonisation. However, the European automobile manufacturers are still highly dependent on imports of the latest lithium-ion cell batteries for EVs from Asia and the US, while only about 3% of batteries for EVs are produced in the EU. However, this dependence on battery imports from Asia and the US could create a long-term competition disadvantage for European automobile manufacturers. Therefore, the European Commission has identified the introduction of the battery cell production industry in the EU as one of the key initiatives. The establishment of a strong battery cell production industry in Europe has become a main political target for the European Commission and for the EU Member States. Under the Energy Union Strategy to achieve zero emission mobility, the mass-production of EVs needs to be accelerated and a battery cell production industry needs to be established in

the EU. The EU will need an estimated 10 to 20 large-scale battery cell production facilities ("gigafactories") in order to set up a competitive and sustainable battery cell manufacturing industry in Europe. Accordingly, the European Commission supports the European Battery Alliance (EBA) and other initiatives. The establishment of a European battery industry will contribute to the EU's objective of becoming the first carbon-neutral continent by 2050, provided that the electric power is generated by using renewable energies. However, the Commission will also have to set up a critical raw materials action plan to address the security and sustainability challenge of raw materials (beyond lithium), as announced in the Industrial Strategy.

2. The European Raw Materials Alliance (ERMA) for securing raw materials for the EU's battery production

The battery production in Europe needs to be pushed ahead and the European Battery Alliance (EBA), which was launched in 2017, is part of the Energy Union Strategy and aims at strengthening clean mobility and reducing dependencies deriving also from battery cell imports. The EBA has the purpose to support the creation of a competitive and sustainable battery cell manufacturing value chain in Europe. The European Commission is considering solutions for the raw material problem and plans to better secure the supply of raw materials for battery manufacturing.

The European Raw Materials Alliance (ERMA) was announced on 3 September 2020, as part of an Action Plan on Critical Raw Materials in the Commission Communication COM/2020/474 final on "Critical Raw Materials Resilience: Charting a Path towards greater Security and Sustainability". In a first phase, a European Raw Materials Alliance (ERMA) should focus on the increase of the EU's resilience in the rare earths and magnets value chain, as a vital part in the EU industrial ecosystems (including

renewable energy, defence and space). The alliance could also address other critical raw material and base metal needs over time. Looking at the geographical distribution of critical raw materials in Europe, the development of battery raw materials such as lithium, nickel, cobalt, graphite and manganese provides interesting opportunities. Companies in several EU Member States are already participating in the European Batteries Alliance, benefiting from private sector, EU and national funding, both for the exploitation of the raw materials and for their processing in Europe. The Action Plan on Critical Raw Materials outlines the challenges ahead and provides actions to foster the transition towards a green and digital economy. The Commission is expected to continue to mobilise all industrial actors, Member States and the EIB to building up the EU's raw materials resilience as part of Europe's strategic autonomy. In addition to the critical raw materials action plan, the Commission will work closely with industry to remove bottlenecks in supply chains through a dedicated alliance. This includes also reducing the EU's dependency on third countries, such as China and South Korea.

Considering the impact of the COVID-19 pandemic, which is continuing already since more than one year, it will be important to introduce a self-sufficient battery production industry in the EU, because during the pandemic, the automobile manufacturers in Europe already suffered from severe disruptions to their supply chain. According to Commission Vice-President Maroš Šefčovič's statement following the meeting with high-level industrial actors under the EBA, he is convinced that EBA could contribute to the EU's post COVID-19 pandemic recovery. Regarding the battery production targets, Šefčovič stated that the COVID-19 pandemic has further highlighted the importance to increase Europe's resilience and strategic autonomy in critical industrial sectors, including battery production.

1. The proposal for a sustainable battery regulation (COM (2020) 798/3)

In the EU, batteries and waste batteries have been regulated at EU level under the Batteries Directive (2006/66/EC) since 2006. However, in the light of the significant increase in their utilisation under the electrification of the transport sector and the push for producing more sustainable batteries in the EU, a modernisation of the legislation for batteries and waste batteries has become necessary. More sustainable batteries will make a key contribution to the electrification of road transport and the reduction of GHG emissions from road transport and they will help to facilitate a higher share of renewable sources in the EU energy mix.

Therefore, on 10 December 2020, the European Commission proposed to modernise EU legislation on batteries as part of its actions included in the new Circular Economy Action Plan of 11 March 2020, in which the Commission envisaged to propose a new regulatory framework for batteries. In fact, the production of more sustainable batteries is one of the keys for achieving the goals of the European Green Deal (COM/2019/640 final) as they promote competitive sustainability, green transport and clean energy. They are indispensable on the way to achieving the European Green Deal's target of climate neutrality by 2050. The Commission Proposal for a regulation concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) No 2019/1020, (COM (2020) 798/3, 2020/353 (COD)) addresses the social, economic and environmental issues related to all types of batteries. The regulation intends to improve the sustainability of batteries along their entire life cycle with the lowest possible environmental impact regarding their production, use and recycling. Batteries at the end of their life should be repurposed, remanufactured or recycled, feeding valuable materials back into the economy. Therefore, in its proposal for a

regulation concerning batteries and waste batteries (COM (2020) 798/3), the Commission proposes mandatory requirements for all batteries, including industrial, automotive, electric vehicle and portable batteries, which are placed on the EU market. The Commission proposes to establish new requirements and targets on the content of recycled materials and collection, treatment and recycling of batteries at the end-of-life part. The requirements include the use of materials with restricted use of hazardous substances, a minimum content of recycled materials, the carbon footprint, as well as meeting collection and recycling targets, among others. From 1 July 2024, only rechargeable industrial and electric vehicles batteries for which a carbon footprint declaration has been established, can be placed on the market.

All these requirements are also essential for the development of a more sustainable and competitive battery industry in Europe. The measures that the Commission proposes will facilitate achieving climate neutrality by 2050. With this proposal, the Commission also aims to boost the circular economy of the battery value chains and promote more efficient use of resources with the aim of minimising the environmental impact of batteries. All batteries from electric vehicles have to be collected, recycled and high levels of recovery have to be achieved, in particular of valuable materials such as cobalt, lithium, nickel and lead. The proposed regulation defines a framework that will facilitate the repurposing of batteries from electric vehicles so that they can have a second life, for example as stationary energy storage systems, or integration into electricity grids as energy resources. With its new battery sustainability standards, the Commission also intends to promote also globally a green transition and to establish a blueprint for further initiatives under its sustainable product policy. The Commission's measures are expected to help achieving climate neutrality by 2050.

2. Financial support and state-aid for setting up a European battery production

The EU intends to support increasing the battery-producing capacity in Europe by about 20 times in the next five years. The strategic Action Plan for Batteries as part of the Europe on the Move III package (COM (2018) 293 final) of 17 May 2018 includes a set of measures, ranging from the extraction and processing of raw materials, the design and manufacturing phase of battery cells, to their use and recycling and eventual disposal in a circular economy.

In February 2018, the European Investment Bank (EIB) approved EUR 52.5 million in financing for Swedish battery cell manufacturer Northvolt. In 2018 and 2019, the German and French governments announced several measures to set up facilities for the development and production of battery cells. Furthermore, on 9 December 2019, the European Commission approved EUR 3.2 billion in subsidies for several EU Member States including Sweden, France, Germany, Italy and the Czech Republic for developing the electric battery industry. Raw materials are supported by consortia in Sweden, Finland and Portugal. The chemicals, which are part of the battery production, are supported in cooperation between Belgium and Poland as well as between Germany and Finland. The automobile manufacturers in Germany, France, Spain and Slovakia are working on the battery packs, software, machine tools and engineering, whereas recycling is a focus in Belgium and Germany. The EIB support of the production of lithium-ion battery cells projects stands at 51GWh, which includes already-approved and signed facilities as well as those under appraisal. This would build on a present production capacity of 49GWh in the EU, which is equivalent to the US' current total, but only to around 10% of the Chinese capacity. Therefore, China is likely to continue to be the global centre of battery production for the years to come. However, the increase in the battery

production in the EU and the development of an independent European battery ecosystem would allow the EU to secure local battery capacity to boost the European automotive industry.

3. State-aid approval for the European battery innovation project

On 26 January 2021, the Commission approved, under the EU's state aid rules, EUR 2.9 billion in public support for the so-called "European Battery Innovation". It was jointly prepared by twelve EU Member States for a second pan-European research and innovation project along the entire battery value chain under the Important Project of Common European Interest ("IPCEI") rule. The 2014 State aid Communication on Important Projects of Common European Interest (IPCEI), sets out criteria under which several EU Member States can support transnational projects of strategic significance for the EU under Article 107(3)(b) of the Treaty on the Functioning of the European Union (TFEU). Where private initiatives supporting breakthrough innovation fail to materialise because of the significant risks such projects entail, the IPCEI State aid Communication enables Member States to jointly fill the gap to overcome these market failures. The IPCEI Communication complements other State aid rules like the Research, Development and Innovation (R&D&I) Framework, which allows supporting innovative projects, ensuring the limitation of potential competition distortions. The "European Battery Innovation" project was jointly prepared and notified by Austria, Belgium, Croatia, Finland, France, Germany, Greece, Italy, Poland, Slovakia, Spain and Sweden. The plan includes giving state aid to 42 firms including Tesla, BMW, Fiat Chrysler Automobiles, Arkema, Borealis, Solvay, Sunlight Systems and Enel X among others, that have signed up and could receive state aid to support the production of electric vehicle batteries, helping the EU's automobile industry to reduce imports of

batteries. The Commission assessed the proposed project under the IPCEI state aid rules and found that the proposed Alliance fulfils the required conditions. In particular, the Commission concluded that the project contributes to a common objective by supporting a strategic value chain for the future of Europe in particular with respect to clean and low emission mobility. Furthermore, the project is highly ambitious, as it aims at developing technologies and processes that go beyond current technology and will allow major improvements in performance, safety and environmental impact. The project also involves significant technological and financial risks, which makes public support necessary to provide incentives to companies to carry out the investment. However, the aid given to individual companies is limited, proportionate and does not unduly distort competition.

In particular, the Commission has verified that the total planned maximum aid amounts are in line with the eligible costs of the projects and their funding gaps. Furthermore, if large projects covered by the IPCEI turn out to be very successful and generate extra net revenues, the companies will return parts of the aid received to the respective Member States (claw-back mechanism). The results of the project will be widely shared by participating companies, which have benefitted from the public support, and will go beyond the participating companies and countries. As a result, positive spill-over effects will be generated throughout Europe. On this basis, the Commission concluded that the project is in line with EU State aid rules.

The direct participants will closely cooperate with each other through nearly 300 collaborations envisaged, and with over 150 external partners, such as universities, research organisations and SMEs across Europe. The project will cover the entire battery value chain from extraction of raw materials, design and manufacturing of battery cells and packs, and finally the recycling and

disposal in a circular economy, with a strong focus on sustainability. It is expected to contribute to the development of new technologies, including different cell chemistries and novel production processes.

The “European Battery Innovation” project will support research and innovation in the battery value chain and the public funding is expected to unlock an additional EUR 9 billion in private investments. The new project complements the first IPCEI in the battery value chain, which the Commission approved on 9 December 2019. This first IPCEI contained a funding of EUR 3.2 billion in public support by seven EU Member States with projects in all segments of the battery value chain. According to the Vice-President of the European Commission Maroš Šefčovič, with its focus on a next generation of batteries, this strong pan-European project will help pushing the battery market towards more sustainability. It will also boost the EU’s strategic autonomy in the battery production, which is vital for Europe’s green transition and long-term resilience. By 2025, it is expected that the actions under the European Battery Alliance will result in the establishment of an industry robust enough to power at least six million electric cars each year.

4. Conclusion

As a consequence from the high dependence on imports of batteries for the mass production of EVs, and the development of e-mobility as a whole, it is of high strategic importance to establish a strong but also sustainable battery producing industry within Europe. The establishment of an independent European battery ecosystem would allow the EU to secure local battery capacity to boost the European automotive industry, but also in a number of other areas of transport and energy. The batteries value chain plays a strategic role in meeting the e-mobility targets and helps to reduce GHG emissions and other pollutants. By

establishing a complete, decarbonised and digital battery value chain in Europe, the EU Member States and its automobile industry will become more independent from imports of batteries and will make the European companies more competitive and will reduce the EU’s dependencies on battery imports from third countries, making the EU’s market more resilient.

However, also the environmental challenges associated with the production and use of batteries will need more sustainable solutions. In this context, it will be important to make the batteries’ production, use and recycling more environmentally friendly. Once the proposal for a sustainable battery regulation (COM (2020) 798/3) will be introduced, the entire battery utilisation chain could become more sustainable. Another part of the related efforts to establish a sustainable battery industry in Europe is an Action Plan on Critical Raw Materials in the Commission Communication COM/2020/474 final. The geographical distribution of critical raw materials for the battery production in Europe, like lithium, nickel, cobalt, graphite and manganese will also provide interesting opportunities. The European Raw Materials Alliance (ERMA) will address critical raw materials and base metal supply as this is an important aspect in the transformation towards a more sustainable transport and energy sector with a circular and sustainable battery value chain.

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