Sustainable battery manufacturing: Can Europe take the lead?

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Event Report

In October 2017, Maroš Šefčovič, Vice-President of the European Commission launched the European Battery Alliance, an industry-led initiative aimed at scaling up battery production in Europe and improving the EU industry's competitiveness in this strategic sector. The **Strategic Action Plan on Batteries** encompasses all aspects of the value chain that need to be addressed to boost the battery sector in Europe while ensuring coherence with other EU policy initiatives. The European Parliament supports the initiative, with the creation of the Working Group 'Friends of the Battery' under auspices of the Intergroup on "Climate Change, Biodiversity and Sustainable Development". This event aimed to take stock of progress and look at the way forward.

Speakers included:

- **Ismail Ertug MEP**
- **Miapetra Kumpula-Natri MEP**
- **Pavel Poc MEP**
- **Dominique Riquet MEP**
- **Massimiliano Salini MEP**
- **Maroš Šefčovič,** Vice-President of the European Commission for Energy Union
- **Patrick de Metz,** Chairman of RECHARGE
- **Julia Poliscanova,** Transport and Environment
- **Dr. Victor Trapp,** Fraunhofer Institute

Opening the conference, **Pavel Poc MEP** stressed that "effective and affordable batteries are the ultimate condition for the transition to clean energy systems". This is a great opportunity for the European business sector to take back the battery market, estimated at 250 billion Euros per year by 2025. This new Working Group aims not only at including electro-mobiles, but also storage systems for factories, households and ships. Mr. Poc welcomed the recent developments within the European Battery Alliance (EBA), and highlighted that collaboration is key, as it will be the only way to ensure a competitive industry for the future, as well as the key to job creation in the industrial and transport sectors.

In his introductory remarks, **Ismail Ertug MEP,** Chair of the newly created "Friends of the Battery" Working Group of the European Parliament Intergroup on "Climate Change, Biodiversity and Sustainable Development", mentioned that "for a sustainable mobility and industry we need ambitious CO2-targets for vehicles, a European battery-cell production and a comprehensive network for alternative fuels. Only if these three elements go hand in hand we can combine the goals of sustainability and prosperity, for a cleaner environment and a more competitive economy that preserves and creates jobs". As other regions in the world, especially China, are leading on battery production, it is of uttermost importance that we deliver a European solution, Mr. Ertug added. Moreover, the MEP further congratulated the Commission on its initiative and called it a "game changer for electric mobility".

Maroš Šefčovič, Vice-President of the European Commission for Energy Union welcomed the new battery Working Group in the European Parliament. One year on from the launch of the European Battery Alliance (EBA), Mr. Šefčovič informed the audience about the progress made since October 2017 and the Action Plan on Batteries published in May 2018. Mr. Šefčovič also mentioned that the first pilot production facilities are being built and further projects are announced to establish the EU as the lead player in the strategic area of battery innovation and manufacturing. "I am proud to see the traction created by the European Battery Alliance. We can show how the various pieces of puzzle are coming together thanks to our collaborative work. We are now building a whole competitive value chain in Europe, with sustainable battery manufacturing at its core. And we are doing this at light speed", Mr. Šefčovič added. Highlighting the role of cross-border cooperation and interregional partnerships, he stressed that this new industry could bring high quality jobs into the regions, but appropriate funding is necessary. If we want to manufacture and use "green batteries", we need to ensure that the whole value chain is sustainable, referring also to the upcoming Ecodesign proposal. The ongoing work with the Standardization bodies CEN/CLC is also key to define standards, to be finalized by autumn 2019. During his discussion with the audience, Mr. Šefčovič stressed the role of stationary batteries, which are also important for re-use and recycling. Furthermore, the need for sufficient investment in research and innovation was underlined, alongside the prioritization of building capacity in Europe, while InnoEnergy should play a key role in the process.

The following panel discussion focused on "Sustainability, prosperity and responsible value chains", and was moderated by MEP Ismail Ertug. **Dr. Victor Trapp** brought a scientific perspective into the discussion representing the Fraunhofer Institute for Silicate Research, an active member of the European Battery Alliance. From his point of view, the development of circular material loops would ensure both technology innovation and address security of supply, while "lead acid batteries have 100% recycling rate". Dr. Trapp also stressed that it is of significant importance for the EU economy to secure battery cell production, and sell them at the best price to Original Equipment Manufacturers (OEM). "We need a full vertical

integration to prevent erosion of the automotive manufacturing value chain, to consider cell manufacturing a key technology, to address battery production within circular economy, to upscale Gen4 cells by 2025 and to implement European 'Design for Recycling' standards", as Dr. Trapp underlined.

In his presentation, **Patrick de Metz,** chairman of RECHARGE, the Advanced Rechargeable & Lithium Batteries Association, elaborated on how the EU Battery industry could support a sustainable development. Mr. de Metz stressed that batteries support decarbonization of our economies, enabling clean air and meeting climate targets. "If Europe wants to take the lead in sustainable battery manufacturing, closing the loop would be a necessity", as Mr. de Metz highlighted. In addition, for batteries, a "toxic-free environment" should not exclude the "controlled risk approach", as Mr. de Metz called for the inclusion of circular economy goals in the "flow" regulations. Last but not least, as to the second life of batteries, RECHARGE feels a cautionary approach would be needed, as products are designed for a specific use. They agree with reuse for the same purpose, but repurposing for a different use requires extra care and a reassignment of some responsibilities for operators who conduct repurposing (including EPR) to avoid "grey business". In view of the question on how to tackle externalities, Mr. de Metz suggested standards to rate CO2 performance to allow the consumer to make the best purchase choice on batteries.

Julia Poliscanova, Clean Vehicles and Air Quality Manager in Transport and Environment, brought in the NGO perspective. Within her intervention, Ms. Poliscanova stressed the need for transparency in the supply chain, especially cobalt, which is crucial for making batteries truly sustainable. Ms. Poliscanova moreover highlighted our global responsibility and pointed out that enforcement is key, as the traceability in the supply chain is missing. "Europe's own raw materials will suffice to meet a sizeable share of the electric vehicle batteries demand", she added. "Shifting production to EU can help slash emissions by 65% thanks to cleaner electricity". Ms. Poliscanova further suggested tapping into EU raw material resources and recycling to ensure sustainable and secure supply. "Battery labeling could be a competitive advantage for Europe, but it needs to incentivize innovation, as well as to ensure circularity of batteries". In view of the upcoming review of the Batteries Directive, Transport and Environment demands include i.a. a separate category for Li-ion batteries, targets for collection of spent batteries, recycling content targets for key battery materials and definition of producer responsibilities and guarantee.

Following the above, **Miapetra Kumpula-Natri MEP** highlighted her support to the previous interventions, mentioning that the Finnish and Swedish governments are looking forward to underpinning initiatives on batteries. Being a shadow rapporteur on the Connecting Europe Facility (CEF) file, Ms. Kumpula-Natri pointed out that Europe does not only need to benefit from technological advances, but also to create better electricity infrastructure, as well as to adapt its legislation accordingly in order to support innovation. From the MEP's point of view, "innovation on transportation is fundamental"; cars are the key drivers, however sea transportation can benefit from batteries, too. All in all, "we need to improve responsibility; develop certifications to have mining, production, use and recycling on board". In addition, EU should take all the above advantages into consideration and create better circumstances for the market.

During his speech, **Dominique Riquet MEP** mentioned that in order to make Europe a global leader in sustainable battery manufacturing, a proper amount of investment is required.

"While the discussions are mainly focused on how to finance the development of the battery value chains, it is, according to me, also important to address the aftermaths that such a policy could have on electric infrastructures. As a matter of fact, it has been estimated that if 10% of the European automobile fleet was electric, this would result in an increase of energy supply from 2 to 3%". In order to develop electric mobility, we have to first improve battery production. While "we need solutions for emissions", electric mobility has a very powerful role to play there. "This might be a technical issue, but also remains a social one". With reference to energy storage, Mr. Riquet underlined that it is also a key social, environmental, strategic and industrial challenge that needs to be addressed. "While I obviously welcome the propositions contained in the Strategic Action Plan on Batteries recently published by the European Commission, the question of the resilience of the electric infrastructures should rightfully be raised". The European Union should foster smart charging; investing in proper infrastructure is therefore fundamental.

"Europe can not wait any longer in this strategic sector", as **Massimiliano Salini MEP** highlighted. At the moment, "competition is strong, while global manufacturing is controlled by the Asian industry". The industrial challenges in energy storage go beyond the automotive sector, as batteries play a key role for the integration of renewable energies in electric grid. However, "if the EU wants to take the lead, we have to discuss more about how to ameliorate the background of batteries and develop a proper strategy". As a result, the European Parliament can help create a predictable, coherent legislative framework for investments.

During the continued discussion with the audience, that followed the above interventions, we need to focus our efforts towards energy storage. Moreover, "we have to utilize and invest on all available technologies", while some materials can also be extracted in Europe. At the same time, "we have to value the quality of European production, alongside its environmental and CO2 performance". Last but not least, the need to promote circular economy and cooperation by supporting companies' collaborative efforts was underlined.

The European Parliament should be more involved in batteries, as **Ismail Ertug MEP** concluded. "Many questions are still open about the regulatory framework in battery manufacturing", and within the European Parliament's next mandate, the MEPs should make sure to address how to include the complete value chain.

Documents of the meeting can be found here.

This conference was co-organized with RECHARGE.