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THE EUROPEAN BATTERY ALLIANCE: AMBITIONS AND REQUIREMENTS

歐洲電池聯盟：雄心和要求

This contribution offers some insights into the strategy adopted by the European Battery Alliance, which was launched in 2017, and the challenges it faces before the review of the Clean Mobility Package is published.

On 11 October 2017, Vice President for Energy Union Maroš Šefčovič launched the European Battery Alliance (EBA), aiming to spur entrepreneurs towards the manufacture of 'made in Europe' batteries, to be used as components in electrical vehicles. The industrial objectives underpinning the EBA extend to 2023, with a view to contributing to the 2025 and 2030 policy goals laid out in the European Commission's Clean Mobility Package, which puts forward a set of legislative proposals aimed at sending a 'green' light to electro mobility.

本期摘要(KEY INFORMATION)

◎2017 年 10 月 11 日，歐盟委員會能源聯盟副主席馬洛斯・塞夫科維奇(MarošŠefčovič)宣布啟動歐洲電池聯盟（EBA），標榜推動「歐洲製造(made in Europe)」電池作為電動汽車的組件。比利時歐洲政策研究中心(CEPS)指出，EBA 涵蓋電池生產的整個價值鏈，包含組件、電池、模塊的生產，以及組裝成電池組等階段，以及研究中心、中小企業和回收設施。根據其公布的製造能力，EBA 將為在歐盟內外發展 200 萬輛電動汽車（BEV）提供堅實的基礎。如果該計畫達到預期的 10 至 20 座工廠的建設目標，到 2026 年之前，歐盟於全球電池製造能力占比估計將達到 15%。這樣的規模需要大量生存於陽極中的材料，例如鋰、鎳、鈷和石墨，已進行礦物萃取或材料處理。從長遠的角度思考，歐盟對電池原材料供應的依賴也需要進行評估，另外，於歐盟境外進行原料萃取、冶煉和精煉的程序，亦是需考量的重點。

◎世界資源研究所（WRI）宣布 IKEA 基金會將資助 230 萬美元，為印度和東非地區的百萬居民提供清潔電力。透過該基金會的資助，WRI 將教育、衛生和農業三大關鍵領域就地發展組織，其中擴大電力服務具有重要影響，如延長營業時間、教育更多學生和減少食物浪費。這樣的服務模式由供應驅動(supply-driven)的能源模式轉變為用戶驅動(user-driven)，將真正滿足那些沒有能源使用的人的需求。IKEA 基金會的投資組合主管 Jeff Prins 提及：「我們必須使用大數據來描繪弱勢社區的能源需求，我們需要確保清潔能源的努力得到良好的協調和用戶驅動，並且沒有人被遺漏」。

This contribution presents this initiative, traces its origins and comments on its prospects for long-term success towards 2023 and beyond. It also speculates on the extent to which this success may hinge upon other European policy objectives.

Policy objective: Supporting the deployment of electric vehicles in the European Union

Although initially developed in parallel with a large-scale cell battery manufacturing project located in Sweden – called Northvolt – the EBA is an industrial initiative encompasses the entire value chain of battery production. This activity covers four main stages of manufacturing: production of components, cells and modules and their assembly into a battery pack. It also involves research centres, SMEs and recycling facilities. Given that the production of battery cells and modules is intensive in both raw materials and R&D, the industrial roadmap identifies no less than 80 actors in the fields of raw materials, active materials, battery cells and packs, applications and battery recycling. Five core industrial projects are under consideration in Sweden, Germany, Hungary and Poland, with a total annual production capacity of at least 80 GWh. France is moving closely in parallel with a non-exclusive alliance formed through Total-Saft, Solvay, Siemens and Manz. Other countries, including Luxembourg and Austria, have also signalled their interest through other forms of investments.

Based on announced manufacturing capacities, the EBA will provide a solid foundation for the deployment of some 2 million battery electric vehicles (BEVs) both within and outside the EU. If the plan lives up to its expectations of building between 10 and 20 gigafactories, the European Union would account for an equivalent estimated 15% share of global cell manufacturing capacity by 2026. Such scale requires that large amounts of raw material, such as lithium, nickel, cobalt and graphite, present in anodes, are secured either as extracted minerals or as processed materials.

Towards a sustainable access to raw materials

Besides the manufacturing capacity that the initiative has successfully promoted, the EBA intends to secure sustained access to the raw materials used in batteries. The concept of 'sustained access' links to the 2008 Raw Materials Initiative, and encompasses both a domestic access and an external access dimension through external trade. As for the external access, a European regulation oversees the conditions of raw materials sourcing specific to tin, tungsten, tantalum and gold. In domestic access, the potential of the circular economy is being incorporated into the roadmap.

In the long term, the EU's dependence on the supply of battery raw materials would also have to be assessed, taking into account the fact the extraction of needed raw materials as well as the processes of smelting and refining are all located outside the European Union. The EU's raw materials policy, based on the assessment of critical raw materials, partly addresses this issue.

The reactivation of upstream activities through enhanced exploration in some member states (Sweden and Serbia, for example) or in

neighbouring regions and countries (Norway and Greenland) is certainly an option. However, it needs to be addressed in the context of a comprehensive environmental strategy based on sustainability principles. It will thus be necessary to strike a balance between sustainability policies and security of supply policies. In revisiting the EBA's stance for a secure and sustainable access to raw materials, the EU's contribution in terms of its domestic potential in deposits and/or through the circular economy is an important element to consider.

Removing barriers to deployment of infrastructure for recharging batteries in the EU

The future of the European Battery Alliance is closely linked with the Clean Mobility Package, as the industrial policy-led approach of the EBA complements the objectives expressed as emissions standards under the Clean Mobility Package. The success of the EBA depends on the removal of barriers to the roll-out of charging infrastructure as requested by the Directive on the deployment of alternative fuels infrastructure (2014/94/EU) (see below). National deployment plans set out the number of public and semi-public charging points that Member States are willing to achieve by 2020, 2025 and 2030 under specific required criteria linked to the number of recharging points per vehicle. These plans, submitted to the European Commission, have been incorporated in the Clean Mobility Package.

Directive on the deployment of alternative fuels infrastructure (2014/94/EU) promotes access to public or semi-public battery charging points. The Directive addresses low-carbon infrastructure such that vehicles using compressed natural gas, hydrogen, or electric battery have the possibility to recharge. But its progress has been limited so far, with only two member states (Norway and Denmark) providing more than 100 recharging points for electric vehicles per 100,000 city inhabitants.

Aside the deployment of physical infrastructure constituting a backbone of recharging points, norms governing the interoperability of the different points are required. For electric vehicle drivers, interoperability guarantees a single and uniform identification or payment method, based on the universal observance of open communication protocols at charging stations. Standardisation between US norms (ANSI) and those adopted in China and Europe (Cenelec) is also underway, but there are not yet any universal standards or international regulatory requirements to ensure EV fast-charger interoperability.

Departing from existing technological dependencies?

Within the EBA, different actors (energy companies, automobile suppliers, recycling groups, etc.) are advancing with different considerations, based on their perceptions of the degree of technological maturity (lithium-ion batteries vs third-generation batteries). The Alliance represents an interesting approach to foster and stimulate technological evolution in the European Union. If successful, this initiative would help the Union move away from its dependency on outdated technologies, such as the combustion engine and its associated

technologies, and towards a cycle of technological development, particularly in a context in which global manufacturing competition between actors and regions is moving up the value chain (see Appendix 1 for the role of Asia in the global battery market).

For this dynamic to gather pace, an ambitious, large-scale R&D programme needs to be aligned across the road map. According to Eurobat, the Association of European Automotive and Industrial Battery Manufacturers, the industry spent €740 million on RD&I over the period 2010-15. Future efforts in R&D, of which some of them have been selected as EU-funded schemes backed by the European Investment Bank, are required.

原始連結：
https://www.ceps.eu/publications/european-battery-alliance-ambitions-and-requirements

NEW WRI PROJECT TO BRING CLEAN ELECTRICITY TO 1 MILLION PEOPLE IN INDIA AND EAST AFRICA

世界資源研究所為印度及東非的百萬居民提供清潔電力

WORLD RESOURCES INSTITUTE

IKEA Foundation Gives WRI $2.3 Million to Support Clean Electricity

WASHINGTON (May 23, 2018)— World Resources Institute (WRI) announced a $2.3 million grant from the IKEA Foundation to bring clean electricity to a combined 1 million people in India and East Africa. The funding will help integrate affordable, reliable and clean electricity for all – an inaccessibility for more than 1.1 billion people worldwide.

Many critical services like schools, medical clinics, and agricultural facilities in rural areas of India and East Africa are currently off the electricity grid. With the IKEA Foundation's grant, WRI will identify development organizations working locally in three key sectors—education, health and agriculture—where expanding electricity service has important development impacts, such as extending their operating hours, educating more students and reducing food waste.

"Our work with the IKEA Foundation is exciting because it's changing the historically supply-driven energy model into one that is instead user-centric, and most importantly, inclusive," said Davida Wood, Energy Access & Governance Lead at World Resources Institute. "What makes this project different is that it enables development service organizations to drive the market for clean energy. This user-focused approach will be critical to meet the Sustainable

Development Goals, and will truly serve the needs of those without energy access."

IKEA Foundation funding will enable three components of the project: making the demand for electricity visible through maps, building partnerships to link development facilities to clean and affordable electricity, and mobilizing finance at scale. The project will target entrepreneurial opportunities to raise $8 million in investment finance for the chosen development organizations to scale renewable energy infrastructure.

"We have to use big data to map out the energy needs of vulnerable communities and we need to ensure that clean energy efforts are well-coordinated and user-driven, and that no one is left behind" said Jeff Prins, Head of Portfolio at the IKEA Foundation. "This is what we are trying to achieve with this new partnership."

Achieving Sustainable Development Goal 7 will ensure universal access to affordable electricity by 2030, which requires investment in clean energy sources. By engaging with users directly, this project assesses electricity needs using data from the demand side, enabling knowledge-sharing that can take solutions to scale.

原始連結：
http://www.wri.org/news/2018/05/release-new-wri-project-bring-clean-electricity-1-million-people-india-and-east-africa