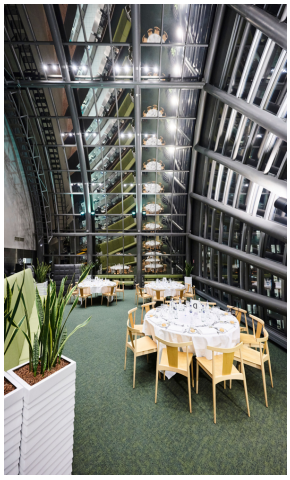
EUROPEAN CRITICAL RAW MATERIALS ACT

Wednesday 25 January 2023

18h00 – 18h30 Cocktail Reception
18h30 – 22h00 Dinner Debate

Restaurant 12th Floor Spaak Building
European Parliament



WELCOME & INTRODUCTION BY THE CHAIR

Seán KELLY MEP, (EPP, Ireland), Industry, Research & Energy Committee

Welcome to my fellow MEPs, the Commission and European Manufacturers for this first meeting of the European Forum for Manufacturers in the European Parliament since Covid.

I am reminding everyone that demand for rare earths alone will increase fivefold by 2030 and to quote Commission President von der Leyen, we must avoid becoming dependent again, as we did with oil and gas.

This is why the Commission has proposed a European Critical Raw Materials Act. Without secure and sustainable access to the necessary raw materials, the EU's ambition to become the first climate neutral continent is at risk. This is the subject of the debate of the European Forum for Manufacturing this evening with the Commission, Members of the European Parliament and European Manufacturers.

Peter HANDLEY, EUROPEAN COMMISSION, DG GROW, Head of Unit, Energy, Intensive Industries, Raw materials & Hydrogen

I am grateful to the European Forum for Manufacturing for the opportunity to address you tonight. These are turbulent times for European manufacturers. The effects of the Russian invasion have drastically increased energy prices, other jurisdictions have massively ramped up their appetite for industrial policies and the broken supply chains of the last few years have still not fully recovered.

In some fields, we have seen that our coordinated European approach has brought successes, such as in bringing down the gas price. Nevertheless, much more needs to be done. Last week in Davos, our President announced our Green Industrial Plan, consisting of several measures.

We will reflect on how to make Important Projects of Common European Interest on clean tech faster to process, easier to fund and simpler to access. To preserve a level-playing field, we also look into how to ensure the means for funding clean tech projects in the entire Union. In the summer, we will present our proposal for a Sovereignty Fund, but for the short term we are also looking into bridging solutions.

Our new approach also includes a Net-Zero Industry Act to simplify and fast-track permitting for new clean-tech production sites as well as an adaptation of our state aid framework. She also emphasised that our Net-Zero Industry Act will go hand-in-hand with our Critical Raw Materials Act.

Back in September, our Commission President already made it clear: without a secure supply of rare earths, lithium or cobalt, our green transition is at risk. Without silicon, the supply of chips that our digital transformation desperately needs, would be compromised.

You know the problem as well as I do: the EU is not the only one which needs those critical raw materials. And while every forecast points to a substantial demand increase for those metals and minerals, our allies and other actors around the world are stepping up their game. If the EU wants to meet the political objectives of the green and digital transitions, we cannot afford idleness and naivety. And that is exactly what the European Critical Raw Materials Act will overcome.

First, the Act will indicate clear priorities for the EU, by looking at its future needs to determine which raw materials are particularly strategic to achieve the EU's political ambitions and objectives.

Then, it will strengthen the way we work together, through a reinforced governance around critical raw materials. We need to develop a dedicated governance structure that is operational and can conduct tasks, notably to ensure that our companies and national authorities can benefit from better intelligence and monitoring on structural supply issues. It should also be a place where we can coordinate and define the best way to face such structural challenges.

The President repeatedly pointed it out: we need to reinforce our capacities in the EU across the value chain for critical raw materials. This is key to lower our dependencies overall. We need European capacities all along the value chain, for exploration, extraction, refining and recycling; and this can be achieved by identifying Strategic Projects, that take account of our resources and potential. Such Projects should contribute to reducing European dependencies, and benefit from financial de-risking as well as from streamlined permitting.

In any case, activities around the value chain should benefit from a stable and enabling regulatory framework and supporting standards. For that matter, and in line with the ambitions of our circular economy policy, we will adapt as necessary the waste legislation to ensure enhanced recycling rate for critical raw materials.

The Commission is working hard to preserve and improve the competitiveness of the European manufacturing sector. The European Critical Raw Materials Act plays a crucial role to reach this goal.

Giles Dickson, WINDEUROPE, Chief Executive Officer

Wind is 15% of the electricity we consume in Europe today. The European Union wants it to be 43% by 2030. That means building 30 GW of new wind farms every year. How much is that? Well, take all the wind farms that exist in France and Italy today, and we have got to build that many new wind turbines every year.

That is a huge number of new wind turbines. And therefore a huge amount of components and materials.

Wind turbines are made up mostly of concrete, iron, and steel – they are 90% of the structure. But turbines do not work if they do not also have aluminium, chromium, copper, manganese, molybdenum, and nickel. All three blades on the turbines additionally need glass or carbon fibres. And most turbines also need rare earths: neodymium, dysprosium, praseodymium. These materials are for the permanent magnets that are central to the rotating mechanics of most turbines.

Today, Europe is too dependent on Asian countries for the supply of these materials. Nearly all the rare earths come from China. As do the core materials for glass fibre.

The Critical Raw Materials Act is a crucial opportunity to change this - and to step up Europe's supply of the materials which we need to ensure energy security.

The Commission is proposing to help diversify the sourcing of key materials and boost Europe's own capacities for the wind energy supply chain. This is especially welcome. Particularly because Europe's wind energy supply chain is having a really hard time right now. Our input costs are up, we still face dysfunctional trade flows, and our volumes are less than they should be due to permitting bottlenecks. Our margins are not just low, they are negative.

Sourcing and processing more from Europe and from a wider range of like-minded trade partners will help us hugely. And that in turn increases the chances that the expansion of wind energy, as the number 1 source of renewables, will be "made in Europe".

But the Act must cover all the key materials needed in industries which are delivering the green transition, such as wind. Tackling European industries' dependency on China for rare earths for our magnets makes little sense if we do not also, at the same time, address the EU's 100% dependency on Chinese glass fibre rovings. If there are no glass fibre rovings, there are no turbines. If the current situation does not change, the wind turbines we make will then still remain 100% dependent on China.

Other key secondary materials, such as scrap steel, should also be covered by the Act.

Beyond its scope, what should the Act actually do?

- Trade agreements to provide preferential access to raw materials
- Public financial support for investments in the processing and production capacity of key materials in Europe
- Public support that will leverage private investments
- Promote innovation and material substitution
- And of course, the Act should fully align with the EU's energy, trade, and industrial policies.
- Alone, even a fantastic Critical Raw Materials Act is not enough to keep the wind supply chain in Europe.

There are 300,000 people working in wind energy in Europe today. That is meant to be 450,000 in 2030 - provided Europe gets its essential policies and regulations right. The Critical Raw Materials Act is one of them. Let us get it right.

René Schroeder, EUROBAT, Executive Director

A raw materials strategy that truly helps Europe achieving the Green Deal's objectives needs to enhance cleantech growth

The European automotive and industrial battery industry supports the proposal for a Critical Raw Materials Act to ensure a sustainable supply of raw materials in the EU. Europe relies heavily on batteries to decarbonise mobility, energy systems and other sectors. The battery industry is investing substantial resources in further developing battery technologies which deploy less significant percentages of lithium, nickel and cobalt, though such raw materials remain fundamental components of batteries and their use is set to increase steadily through 2050.

Considerable progress is being made to reduce Europe's dependency on third countries for raw materials and according to the European Battery Alliance, there are projects being developed in the EU for 310GWh of cell production per year. But Europe remains highly exposed to raw

materials trade flows disruptions as today less than 3% of battery production happens in Europe. Securing the supply of raw materials is not only of strategic importance—it would also allow European businesses to gain from the growing market for battery cells, which is expected to reach €360 billion globally in 2030.

Against such context, EUROBAT suggests a truly successful European Critical Raw Materials Act needs to support the further development of clean technologies making use of raw materials. Batteries in particular are set to represent a key growth vector of raw materials demand and the EU Raw Materials Act needs to incorporate both a domestic and international dimension as follows.

Get The Policy Framework Right At Home:

- Policy consistency across pieces of legislation.
  A stable and fit for purpose regulatory framework is the precondition for investing in EU raw materials mining, processing and recycling capacity. Inconsistencies with other pieces of legislation should be addressed, including the proposed classification as toxic of three lithium salts. The European Critical Raw Materials Act should avoid overregulating aspects of the battery value chain which are already addressed by other pieces of legislation. In particular, the Batteries Regulation proposal already introduces a robust sustainability framework for batteries, including ambitious recycled content and recycling efficiency targets. Those measures should be referenced in the European Critical Raw Materials Act and concrete measures to support investments in the EU recycling capacity should be introduced.

- Consider strategic raw materials demand sectors
  Batteries are of critical importance for the success of the EU Green Deal and the competitive environment in which battery manufacturers operate has significantly evolved since the first Battery Action Plan was developed in 2018. The European Critical Raw Materials Act offers the opportunity to update the EU Battery Action Plan and articulate the steps Europe should take to further support batteries roll out through an enhanced EU raw materials value chain.

- Strategic raw materials list
  Europe needs a list of priority raw materials for batteries and other cleantech, reflecting the real needs of the energy transition—now and through to 2030. This means including in the list strategic materials (such as nickel) for which there is no apparent risk of disruption today.

- 2030 headline goals
  Ambitious targets should be set not just for domestic sourcing of materials—diversification of supply and the expansion of the domestic raw materials industrial base, including refining, are also critical to reduce dependence from other jurisdictions. The European Critical Raw Materials Act should introduce targets across these three dimensions, and include regulatory, financial and political means to achieve them.

- Identifying priority projects and set up faster permitting and assisted finance
  The first step in boosting EU raw materials investments is pinpointing priority projects along the value chain, and then create the conditions for them to succeed—expedited permitting and sponsored financing.

Act Assertively Internationally:

- A level playing field across the board
  The battery market is inherently global. Raw materials, cells, modules and packs are shipped around the world to then be assembled, sold and distributed across markets. Other jurisdictions have been introducing subsidies for their domestic raw materials industries, which are set to create serious challenges for companies based in Europe. Though a subsidy

race is not a desirable outcome, the Raw Materials Act should leverage the EU defensive and offensive trade measures and support European companies investing in highly sustainable and environmentally friendly batteries and other raw materials-based products, in the EU and in third countries.

- Expand and strengthen the EU raw materials partnerships
  Europe has the highest environmental and human rights protection standards in the world. The European Critical Raw Materials Act should strengthen the cooperation with like-minded jurisdictions and define project pipelines across the raw materials value chain that respect European values. Europe could leverage its responsible cooperation model and expand partnerships to other regions rich in raw materials which have not yet joined forces with the EU. Robust scientific methodologies should be developed domestically in the EU and proposed globally regarding CO^2 emissions for primary and secondary raw materials. This would allow Europe to invest in the most sustainable raw materials projects abroad. Due diligence measures already included in the Batteries Regulation proposal should be reflected in the European Critical Raw Materials Act.

EUROBAT will continue supporting the European Commission's effort to craft a European Critical Raw Materials Act that is truly supportive of the EU battery industry and we look forward to the next steps in the process.

About EUROBAT

EUROBAT is the leading association for European automotive and industrial battery manufacturers, covering all battery technologies, and has more than fifty members. The members and staff work with all policymakers, industry stakeholders, NGOs and media to highlight the important role batteries play for decarbonised mobility and energy systems as well as all other numerous applications. (www.eurobat.org)

Nils Poel, CLEPA, Deputy Head of Market Affairs

The automotive industry depends on raw materials that are difficult to substitute. Technologies related to the green and digital transition (eg. e-mobility) will increase demand for (battery) raw materials and rare earths. Automotive suppliers play a crucial role in the transition with component production responsible for around 90% of the production cost of an electric car.

An electric car contains more than 200 kilograms of minerals versus around 40 kilograms for a conventional car, highlighting the increased material intensity of next-generation vehicles. Approximately 90% of sourced rare earths, critical for the manufacturing of electric motors, and magnesium, critical for lightweight components, come from the same country. Sourcing may depend on regions with high Environmental, Social & Governance [ESG] risks (eg. forced labour, environmental degradation). Without concerted action by government and industry, EU companies may struggle to secure sufficient and sustainably processed raw materials and remain subject to undesirable dependencies with just a few countries.

CLEPA proposes that the Act establish an EU agency for critical raw materials and an industry advisory board to anchor close cooperation between government and industry in order to secure a sufficient and diversified supply of raw materials.

CLEPA sees a need for coordinated action to:

- ratify existing trade deals (Mercosur, Mexico, Chile), negotiate trade and raw material partnerships with third countries (eg. Australia, Indonesia)
- a higher recovery rate of materials
- improved conditions for investment in EU raw materials supply chains.

Furthermore, there is space for more coordination between government and industry to work on building critical reserves.

Circularity
Recycling and circularity will be key, even though it will take time until improvements today result in higher supplies due to the long lifetime of vehicles. Increasing the contribution from circularity will therefore require more than setting targets for the use of recovered materials. Policymakers will need to work with industry to improve the recovery rate of materials through design innovation, certification of recycling companies, and measures to combat the illegal or inefficient disposal of used vehicles and realistic recycling targets.

Critical Reserves & Limitations of Government
Government can help build critical raw material reserves through joint procurement or by coordinating voluntary stockpiling targets for and agreed with industry. Governments cannot manage supply chains and should not become active actors in the procurement of non-commoditised goods, processed and tailored to specific end-use. Local content requirements or WTO incompatible measures (eg. sourcing quotas) should be avoided.

Barry McKeon, SAMSUNG, Senior Trade Manager

- The home appliance industry in Europe committed to the responsible sourcing and recycling of raw materials, as well as the promotion of supply chain transparency and due diligence. Moreover, we fully support efforts to increase access to raw materials for EU manufacturers, both through diversifying supply chains (especially though new and existing trade relationships) and investing in sustainable projects to increase Critical Raw Materials (CRM) extraction/recycling both in- and outside the EU.
- However, we caution the EC to: (i) guarantee proportionality; (ii) avoid legislative duplication and overlaps; (iii) avoid a one-size-fits all approach and (iv) avoid setting unrealistic targets that could hinder innovation/best sustainability practices.

(i) Guarantee proportionality:
The proposal should be scoped carefully in terms of which materials are deemed critical. Industry can help with this process. Moreover, any efforts to monitor / restrict CRMs in Europe should be subject to strict proportionality principles, and based on voluntary measures that also support free and fair trade.

(ii) Avoid legislative duplication and overlaps:
Bearing in mind our continued focus on circular economy, it is imperative for the proposal to be fully harmonised with all existing/upcoming EU legislation, with an eye to avoid duplication and unnecessary administrative burden.

(iii) Avoid a one-size-fits-all approach:

Industry should be involved in developing solutions to addressing any shortages or dependencies in CRMs, based on existing best practices which are often tailored to the specificities of a sector/product's supply chain and indeed, to the CRMs it uses/contains.

(iv) Avoid setting unrealistic targets that could hinder innovation and/or best sustainability practices:
Defining specific targets or objectives on certain CRMs (e.g. x% of lithium to be sourced in the EU), or at specific value chain stages (e.g. percentages of a CRM to be recovered in recycling in the EU), may not be the optimum way to best achieve circularity goals.

Lina GALVEZ MUÑOZ MEP, (S&D, Spain), Vice Chair Industry, Research & Energy Committee

(Illness prevented Lina from participation – she sent in her presentation)

We talk a lot about the concept of European strategic autonomy, a key pillar of our sovereignty, the defence of our values, food sovereignty or reindustrialization and as a consequence to make the green and digital transitions more just, with greater equality between territories and with better jobs, preserving our values and our democracy.

The concept of strategic autonomy also refers to the reduction of dependencies, which have been put on the table in a dramatic way in the energy field, but which are also beginning to be worrisome in relation to food or with basic components of the value chains of our industry such as semiconductors. The latter products are not just another component anymore, but a central part of the final products and for that we need to guarantee the supply of critical raw materials within the EU and also with strategic partnerships. The EU cannot go from one energy dependency to another dependency on critical raw materials. Therefore, materials like lithium or rare earths will soon be as important as fossil fuels have been for the industry of the previous centuries.

In this regard, in order to strengthen our strategic autonomy we must develop ambitious research and innovation policies and build international alliances with like-minded partners.

Moreover, the current inflationary situation together with the decoupling of the globalised world should make us think about alternatives to alleviate negative impacts in sectors of high interest for the future of the EU. If we do not act in time, this could mean an innovation setback, which will increase the existing gap with other regions, make us fall even further behind in the digital and technological race, and force our SMEs and start-ups, which are the heart of innovation in Europe, to stop developing European projects and look for other options or more favourable environments.

Europe cannot afford to lose its industrial leadership and innovative potential at such a sensitive time from a geopolitical point of view, when globalization as we used to know has stopped and we are moving towards a more segmented model in which the place where things are produced does matter.

We must work together to improve our ability to adapt to the new circumstances and to achieve the much-needed open strategic autonomy, which should make us less dependent on third actors while increasing the innovative capacity of the EU and all its territories. We must act without ideological blinkers, in an ambitious and transformative way to design solutions that allow us to complete the green and digital transitions and that truly result in the benefit of all EU citizens, moving from a logic of profit to a logic of resilience—the only possible logic in the face of the current global challenges and the intensification of uncertainty.

We cannot make the same mistakes as in the past; we cannot go from one dependency to another. Only then will we achieve true strategic autonomy.

Dr. Klemen GROŠELJ MEP, (Renew Europe, Slovenia), Industry, Research & Energy Committee

Rare earths elements and other raw materials will be of crucial importance for the future of EU industry and its global competitiveness. The Green Deal and Digitalisation depend on four major factors: technology, skills and raw materials, along with affordable energy. Investments in R&D, innovation and new technologies are the prerequisites for our success and the success of the Green Deal and Digitalization.

However, these alone are not sufficient for global success: we need to ensure the availability of the necessary skills. In ageing societies, like European ones, skills are of ever-growing importance. We need a combination of new technologies and skills that will preserve the welfare-based character of our economies and societies, while allowing our industries to remain competitive. The key to guarantee the sustainability and robustness of our economies lies in the access to raw materials and an abundance of affordable energy, or at the very least of a sufficient amount of energy at competitive prices.

Due to rising geopolitical tensions and the transformation of our industries towards zero-emission economies, raw materials are gaining importance. Access to necessary raw materials and security of supply are increasingly subject to growing competition, even geopolitical competition among global powers. Some global powers are trying to monopolise the access and trade of crucial raw materials. A very telling example are rare earth metals, more than 80% of which come from China or Chinese-owned mines. For this reason, the EU needs to guarantee itself access to raw materials and develop a strong resilience of its supply chains.

It is important to define what kind of policies we need to enact in order to ensure a sufficient supply of critical materials, and which materials are of particular strategic importance due to their scarcity or limited accessibility. On this basis we will define needs for strategic stockpiling of those materials at EU or/and Member State level. For other materials we need to optimise the diversification of sources and supply lines, by establishing a matrix of trade agreements with our partners as well as by using and developing our own resources wherever possible.

Therefore, what we need is a holistic approach to allow EU industries to secure uninterrupted access to critical raw materials, with a view to preventing shortages of materials and damaging competition between EU Member States and companies. An important aspect of any future policy must be sustainability, and to achieve it we need to develop robust and resilient models of recycling and circular economy. Our circular economy models, whether private, public or public-private must always be based on solid economic foundations.

Pernille WEISS MEP, (EPP, Denmark), Industry, Research & Energy Committee

Thank you for inviting me. Again. Three years have gone by, and a lot has changed since I did the exact opposite of what my then-advisers suggested. I said we should develop a kind of CO^2 label based on true and reliable life-circle data that can help us better navigate the green transition. Excluding no technologies. And inviting us into the jungle of dilemmas to better find out where more research is needed, where things need more, less or better regulation and what the missing incentives or muddy barriers really are. Let us use more facts and fewer feelings. My then-advisers told me that you would be unhappy if I said this.

But you were not. The opposite happened. Many of you either nodded or came to me after the little speech with the message: Yes! This is what we need. The time is now to make an EU framework crossing industries to find a common language and methodologies to make Europe greener and cleaner - and to strengthen the EU competitiveness and growth mechanisms. So that was a good start!

But then came corona, which almost took our breath away. And it indeed exhausted and diluted the political workshop to focus 100% on the EU Green Deal - and how to make it a clear and strong 'deal'.

And now we are for real challenged by critical raw materials and digital transition. And a lot more - not to forget. But let us focus on the two headlines of today.

My colleagues have already said many clever things. Of course, we do not agree on all the steps, but we share the same ambitions. More or less. So hope is alive, and let me give you one good and brand new example of that: The EP's proposal for the recast to the EU Waste Shipments Regulation. My first piece of legislation as Rapporteur.

Over 92% of all colleagues voted yes to the proposal, from far left to far right. So it is fair to say that it is both as green as it can get and deal-directed as needed.

The way we transport waste is one of the important sources for raw materials to be better extracted from being sent to the waste-management industries with the most modern and innovative technologies. With the recast, we create the sound legal framework to develop a truly EU Single Market for waste management. We make it easier to send waste around in the Single Market. Both legally and by digitalizing what is still a jungle of paper. And we make a better framework for research and innovation in waste management technologies.

Of course, we will continue to ship most types of waste into the open economy of the OECD and, when legally possible, also beyond. But we are not naïve and want to ensure that we stop all environmental and health-related damage from developing because of EU waste.

All these tools make it also easier for us in the EU to extract and keep critical raw materials inside the union and make them recycle again and again.

Lastly, let me return to where I started; The life-cycle economic approach. Also, that is in the Parliament position to the upcoming trialogue with the Council on the Waste Shipment Regulation. So, we can soon add the waste-related part of the transition to a truly transparent, Sustainable European way of life.

We have to have the maths work with us; we can only make the equations fit if we work together. This is why tonight is important. And why I am also happy that I incorporated in the WSR recast

a future partnership forum between the industry, relevant politicians and authorities, specialists and other relevant partners to engage in an ever-innovative collaboration to make tomorrow better than how we managed to do yesterday.

Sara MATTHIEU MEP, (Greens, Belgium), International Trade Committee

Introduction

- The discussions about critical raw materials, especially when they are linked to the energy transition, are very often framed as a threat.
- Take the speeches of Commission President Von der Leyen and Commissioner Thierry Breton, who point to the threat to supply chain resilience and geopolitical safety.
- And as Greens, we also see a major threat to the health and safety of workers and our living environment due to increased mining.
- Both of these warnings are justified. But I think we can provide a reply to both of these concerns by moving from a defensive to a more proactive long term strategy.
- By that I mean: that we should focus much more on developing a strong circular industrial ecosystem. In my opinion, this does not get enough traction today.
- On top of that, we should combine this approach with systemic shifts in our transport, energy and built environment sectors to flatten the demand curve for critical raw materials.
- Just one example from my own back yard: a study by Flemish Institute for Technical Research (VITO) in Belgium shows that demand for cobalt could be reduced by a whopping 5.5 to 8.5 times by maximizing public transport and shared electric vehicles, compared with a direct shift from combustion engines to private electric vehicles.
- This also provides huge co-benefits that make them worth doing in their own right, like healthier cities, and more locally embedded jobs.
- That is why I think policy makers who are afraid of security of supply threats should prioritize such systemic policy measures just as much as they advocate for new trade deals to diversify supply.

Some Key Asks:

- First, to kick-start the development of a circular ecosystem and a market for secondary raw materials over time, we need targets and policies on circularity of key critical raw materials. This can be done in all kinds of legislation, like Ecodesign, Batteries, Waste Framework Directive, End of Life of Vehicles and so on.
- This includes policies for better collections' systems, including deposit refund schemes, requirements for recyclability and reuse. Or ensuring that research funding and projects of common interest also focus on these activities.
- Second, the EU needs targets for the reduction of material and consumption footprints. This is key to minimize the increase in demand for CRMs and provides many positive knock-on effects.

- Third, if new extraction in the EU is unavoidable, we have to apply the highest environmental and social standards. There should be no ground for exemption of any EU legislation.

- We can and should at least guarantee that local authorities ensure effective and inclusive participation in permit procedures, and prohibit mining in protected areas such as Natura 2000.

- If we do not do that, rest assured that people will fight tooth and nail to bury these mining projects. This will not help our strategic autonomy at all.

Georgios KYRTSOS MEP, (Renew Europe, Greece), Economic & Monetary Affairs Committee

I believe that we have reached a critical crossroads.

We are paying the price for our increased energy dependency on Russia. At the same time, we are on danger of creating a new dependency on China.

The mistakes we made towards Russia during the period 2014-2022 gave the strategic advantage to Putin and made him think that he could repeat, on a larger scale, what he did in Georgia in 2008 and to Ukraine in 2014 without any major consequences for Russia.

Our dependency on lithium and rare earths, which will be soon more important than oil and natural gas, is even riskier.

China dominates at a global level the extraction and even the processing of lithium, rare earths and other critical raw materials. In addition, China dominates the production of lithium batteries.

China has similar characteristics with Russia but its potential is far greater. It has an authoritarian regime, a lifelong leader and an expansionist strategy with Taiwan as a primary target.

The more we depend on China for lithium, rare earths and batteries, the more probable will become that its leadership will follow, in the not to distant future, Putin's path of expansion.

China is not just a strategic rival. It is the second economic superpower and the EU's competitor and economic partner.

In order to face China's challenge in all its forms, we need creative initiatives that will make the European Union more competitive, resilient and independent in strategic terms.

I believe that the European Critical Raw Materials Act is a big step in the right direction.

Our goal should not be self-sufficiency, this is not realistic. We need a global strategy that will increase our productive capacity at the European level and our ability to cover our needs all over the globe without Chinese or other foreign interference.

During the past year, I visited Taiwan, Australia, Chile, Mexico and Morocco. There is huge potential for better organizing our green and digital transition.

It seems to me that we are moving too slowly in a competitive and rapidly changing world.

In Latin America, we are having trouble signing the necessary economic cooperation agreements.

In Africa, we are falling behind the Chinese in promoting strategic investments and we do not know how to react to the subversive activity of the Wagner Group of Russian mercenaries.

There is also immense potential for cooperation with strategically important allied countries like Taiwan and Australia.

The European Critical Raw Materials Act should also strengthen our position in relation to the U.S.A. President Biden is a reliable and a very important ally, but he is also an experienced and tough competitor. The Inflation Reduction Act has created strong incentives for European companies to invest in the U.S.A. At the Davos conference, representatives of American States made attractive investment proposals to major European corporations.

American subsidies, tax and financial facilities could reach $360 billion. This is an additional reason to move forward with the European Critical Raw Materials Act and the necessary financing and tax incentives.

Lorenzo Livraghi, ORGALIM - Europe's Technology Industries, Senior Adviser – Trade & Legal

The industries Orgalim represents are comprised of 770,000 innovative companies (mostly SMEs and microbusinesses) spanning the mechanical engineering, electrical engineering, electronics, ICT and metal technology branches, with 11 million direct employees. They constitute one third of Europe's total manufacturing industry.

Our industries provide the high-tech solutions that will enable a more sustainable, circular and decarbonised economy in Europe - good examples are batteries and charging stations for electric vehicles, among many others.

We are working hard to scale up manufacturing of clean technology and fuel Europe's green transition. However, to do so our industries need unfettered access to a stable and reliable supply of raw materials, which provide the essential input for all clean tech manufacturing processes.
What our industries are facing, however, is a quite different scenario. Over the past two years, volatile prices and supply chains disruptions due to the Pandemic and the Russian invasion of Ukraine have caused persistent shortages of raw materials.

Looking ahead at the next two decades, the challenge looks even more daunting. While geopolitical volatility and supply chains disruptions are here to stay, our industries will require massive additional supplies of raw materials, from steel and aluminium to lithium and Rare Earth Elements, to support Europe's green transition.

The European Critical Raw Materials Act is therefore a great opportunity to provide a future-proof solution to this fundamental challenge. From the perspective of Europe's Technology Industries, there are 5 key priorities to make the ECRMA a success:

- Domestic production alone will not be nearly enough to meet our foreseen demand for CRMs. Our companies need to be able to source from third countries to diversify their supply chains for CRMs and make them more resilient. We need Free Trade Agreements and other

partnerships with like-minded countries to secure a stable, sustainable and diversified supply of critical raw materials.

- Raw materials like steel and aluminium are as essential to clean tech manufacturing as are Rare Earth Elements. EU production of these raw materials is not sufficient to meet our demand, and access to imports is highly restrained by EU trade defence measures. The war in Ukraine has made things worse, disrupting supply chains and increasing price volatility. Therefore, we believe that the existing critical raw materials list should be expanded to include aluminium, copper, nickel and high-purity manganese. Also, the European Commission should assess the criticality of steel.

- By 2050, recycled materials could cover 45-65% of Europe's demand for key industrial metals, and over 75% for lithium and rare earth elements. There is an urgent need to lay the basis for a well-functioning market for recycled raw materials, primarily by boosting the development of a high-quality collection, sorting and recycling infrastructure across Europe.

- But between now and 2040, evidence suggests that most of our demand will have to be covered by primary production (both from Europe and third countries). There is huge potential for boosting primary extraction of CRMs in Europe, primarily by streamlining permitting procedures for CRM mining projects and revising the relevant regulatory framework at EU level.

- Finally, we would warn against excessive public interventions in industrial value chains with measures such as binding targets for domestic production of certain CRMs or mandatory provisions on the creation/redistribution of strategic CRMs reserves. These would constitute unnecessary distortions of the single market and discourage private investment.

Carolina Vigo, SIEMENS, Director Green Transformation of Industries - EU Government Affairs

Siemens selects its materials taking into consideration: a) scarcity of resources / supply, b) legal requirements, c) environmental damage.

Siemens tackles these challenges in two ways:

- product development (in the way we design our products, source our materials and manage our waste)
- diversification of supply.

We welcome the Commission's plan to adopt a package for critical raw materials as it will help us/our customers in diversifying our sources and mitigating risks.

Ahead of the finalization of the package, we recommend the Commission to:

- look beyond the legally defined "critical raw materials";
- support relevant R&D projects;
- provide a coherent and supportive regulatory framework to accelerate permitting procedures, support circularity and develop a strategic EU's trade policy;
- look beyond materials (aka look at our technology / product dependencies).

Chris Haenen, GE, Executive Government Relations

GE Aerospace is a leading original equipment manufacturer in the aerospace industry and the market leader in aircraft propulsion, both in the civil as well as the military domain. We have approximately 45,000 employees, of which a third are based in Europe. The aerospace industry is truly global, defined by supply chains spanning the world and close relations between airlines, airframers, engine makers and suppliers. The most successful commercial engine has been sold by CFM International, a Trans-Atlantic joint venture between GE Aerospace and Safran from France that was founded 50 years ago. Nearly all of today's commercial aircraft have our technology, either directly or through our partner Safran.

With regard to Critical Raw Materials, we not only acknowledge this as an emerging issue, but one that is already impacting our business. Until now, the Aerospace industry has traditionally been led by European and American companies. As explained, the industry is tightly connected across the Atlantic, despite of what some of the political rhetoric may wish you to believe. We also anticipate that our systemic rivals, like China and Russia, are trying to break our industrial leadership.

China recently certified its first indigenous airliner, flying with our engines at the moment, but will without a doubt try to crack the code in order to manufacture their own engines. Based on the recent geo-political events and the economic rupture with Russia, we expect these two countries to team up and try to reduce their reliance on Western technology. Now, if we look at Critical Raw Materials, the issue is that many of these, like rare earth, tungsten and titanium, are being sourced from Russia and China. This could mean that in the near future the supply of these materials could be weaponized.

Therefore, we support the initiative of an EU Critical Raw Materials policy instrument. We recognize the need to strengthen the EU's critical raw materials value chain (mining, refining, processing, recycling) in a global context. And I want to emphasize the wording 'global context'. As a Europe facing company, we understand and appreciate the notion of Strategic Autonomy.

However, any policies dealing with critical raw materials should not be developed with this intention in mind. If too much emphasis is put on European independence or event, we fail to recognize that on a global level we are increasingly looking at two economic systems. One is based on democratic values, open trade and the rule of law. The other is based on autocracy, coercion and extortion. If we want to remain in the lead in key technologies, such as aerospace, we will have work together in an international context with like-minded countries.

The need for critical raw materials and the lack of diversification impacts all of us in similar ways. The last thing we need, is even more competition between free societies which will lead to further supply constraints and higher prices. Instead, we should look for cooperation, which should also include strategic stock-piling to avoid disruptions in case of major geo-political events.

As GE Aerospace, a major European employer and provider of key technologies, we are looking forward to working with legislators to develop a solid EU policy instrument on Critical Raw Materials.

Oliver Blank, ZVEI, Head of Global Affairs & Economics

Raw Materials for Our Industries

ZVEI represents the electro- and digital industries, more than 1,300 companies of all sizes, with over 20 different branches and 90% are SMEs / German Mittelstand.

It operates in global markets: Europe, Asia Pacific, China, USA, with 899,000 employees in Germany and 781,000 internationally

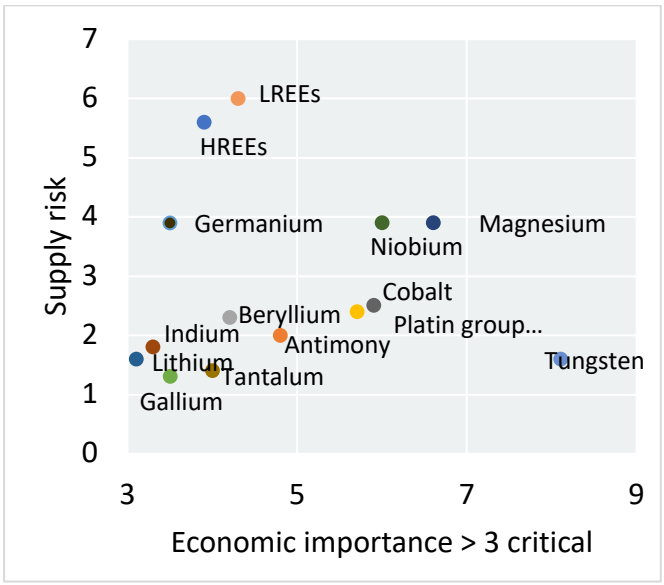
- Technological solutions for the digital and green transition:
  - transformers for smart grids,
  - electro motors and charging infrastructure for eMobility,
  - electric drives
  - automation and Industrie 4.0-technologies for smart production,
  - energy efficient lighting, household appliances and consumer electronics, heat pumps
  - Batteries
  - Semiconductors

For all these products and solutions, we need raw materials

For example: Rare Earth (ZVEI study on China):
- 86% of all rare earths used for electronic date interchange (EDI) are being extracted in China
- 98% of these rare earths are being processed in China

Our dependency on China is bigger than on Russia!

We need a more strategic look at where we can get what raw materials:
- Geopolitical risks and unilateral dependencies
- Alternative sources of supply – diversification of supplies



For the electrical and digital industries, the following CRMs are particularly important:
- Rare earth (Batteries, electric drives)
- Germanium (Semiconductors, solar panels)
- Niobium (Electrolytic capacitor)

- Magnesium (Solar panels)

Overall Industrial Policy Approach:
- The inclusion of the ECRMA in the new EU Green Deal Industrial Plan
- The announcement of the Critical Raw Materials Club with likeminded partners (like the USA or Ukraine)

We recommend:

- Better use of the already existing potential in the EU:
  - Recycling, circularity, resource efficiency – support for new infrastructure
  - Support for RDI in order to strengthen the entire CRM ecosystem
  - Europe-wide collection quota
- Speeding up permitting procedures and the reduction of administrative burdens for new CRM projects
- The creation of an EU body (EU Raw Materials Agency) to use synergies of national raw material agencies – early warning system and harmonized databases
- CRM list updated more often (last update was in 2020)
- Diversification and strengthening of supply chains through proactive EU Trade Policy
- Free Trade Agreements with other countries or regions around the globe – for that we need to have faster ratification processes – and understand the interests and needs of other regions

Franc BOGOVIČ MEP, (EPP, Slovenia), Industry, Research & Energy Committee

We live in a very changeable world, in which recent experiences, from covid, post-covid economic recovery, the war in Ukraine and now the American Inflation Reduction Act (IRA), have thoroughly shaken us. Under these circumstances, we quickly realized that Europe is not only short of critical raw materials, but also of completely basic life products, such as medical masks, ventilators, pharmaceutical critical raw materials, chips, batteries, solar panels, gas, oil, wheat, solar oil, and now also educated and capable people, which is why the EU needs more strategic autonomy in many areas.

We urgently need a prudent and consistent list of the most critical raw materials in the EU, which will not only take into account our current, but also our future needs, that will arise in the context of the green transition. In the market of geopolitical and economic competition, we must not (and can no longer afford) to fall behind. The basis for our decision-making must become fact-based findings. New trade agreements and strategic cooperation are necessary, namely with Latin America, Africa, Australia, New Zealand, Taiwan. We must by all means prevent further weakening of our industry.

We must also pay due attention to the circular economy, recycling, and ensure our energy autonomy to the greatest extent possible. Key to this will be technological neutrality, investments in future green technologies, environmentally friendly mining and thus the acquisition of critical raw materials on domestic European soil, and further investments in nuclear energy, also following the examples from the latest American Inflation Reduction Act (IRA), which is already impacting our economic market.

Malte GALLÉE MEP, (Green, Germany), Environment Committee
(Bullet points given of his presentation)

- How do we ensure wealth? Policy makers
- No protectionism
- Climate crisis
- Wind industry Permanent magnets
- Nickel, copper, cobalt

- Global cultural fight dictatorships v democracies
- China is reaching out, Russia is reaching out
- We have to offer the better option to civil society in those countries where raw materials are found
- Apply the highest mining standards
- Contribute to regional development
- Industrialisation
- Battery production
- Refineries

Franc Cardona, CELSA, Head of Public Affairs & EUROFER

Steel is key for the success of the Green Deal: steel is one of the key enablers of the EU green transition – including renewables and the clean-tech value chain, of which many representatives are here tonight.

Why**?**
The steel industry is the backbone of many clean-tech value chains in the EU economy and can significantly contribute to meeting the Green Deal targets, while delivering technologies and solutions to transform the EU into a competitive, carbon-neutral and circular economy. (EUROFER submission to European Commission's consultation on CRM Act, November 2022)

Steel is 100% recyclable for an infinite number of times and is the most recycled material in the world. By sector, global steel recovery rates are estimated at least 85% for construction, 90% for automotive, 90% for machinery, and 50% for electrical and domestic appliances. Steelmaking is nearing zero-waste: over 97% of raw materials used on-site are converted to products and co-

products that are used or recycled. (https://worldsteel.org/wp-content/uploads/Fact-sheet-steel-and-raw-materials.pdf)

- For example, my company - the Celsa Group - is the second largest recycler in Europe. We are recycling 8 million tons of ferrous scrap every year.

- At the same time, renewable energy is at the centre of the transition to a carbon-neutral society: steel plays an important role in all renewables, including solar but especially wind. Each new MW of solar power requires between 35 to 45 tons of steel and, most significantly, each new MW of wind power requires 120 to 180 tons of steel. Moreover, wind turbines are made of at least 70% of steel. (This number refers to off-shore foundations. ArcelorMittal, https://corporate.arcelormittal.com/media/case-studies/steel-is-the-power-behind-renewable-energy)

- The European steel industry is committed to reducing CO^2 emissions by 2030 by at least 30% compared to 2018 (which equates to 55% compared to 1990 levels) and to reach carbon neutrality by 2050, if the right framework conditions are in place.

How?

- The EU steel sector currently has 60 major low-CO^2 projects that can help to achieve a substantial reduction of CO^2 emissions. These projects will start before 2030 and have the potential of reducing CO^2 emissions by 81.5 million tons per year by 2030. (This is the equivalent of more than one quarter of all EU household direct emissions (51 million of EU homes per 1.6 tons of CO^2 per year)

However, steel decarbonisation needs the right framework conditions to be put in place at EU level: first of all, the sector needs access to low-CO^2 or fossil-free energy carriers such as wind energy and its related infrastructure. The other key condition is access to input materials. Future ferrous scrap availability plays a fundamental role in sustainable and circular steel production in the EU and is an important source of raw materials such as vanadium, tungsten, yttrium, niobium. Therefore, scrap needs to be considered as a "critical" resource.

- The successful transition of the EU steel industry towards CO2 neutrality depends on the availability of cost-competitive low-CO^2 energy carriers (especially electricity and hydrogen) and related infrastructure, (EUROFER, https://www.eurofer.eu/issues/climate-and-energy/maps-of-key-low-carbon-steel-projects/) but also on the availability of raw materials and secondary raw materials, particularly of scrap. The transition to a low-carbon and circular economy will indeed make secondary raw materials increasingly important as a mixture of materials often already containing CRMs that are easy to recycle in the production process again.

- For every tonne of carbon steel scrap recycled, we save 1,5 tons of CO^2, 1,4 tons of iron ore, 740 kilogrammes of coal and 120 kilogrammes of limestone. In the case of stainless-steel scrap, we save up to 5 tons of CO^2.

- However, the currently available amount of ferrous scrap will not be enough to cover our future green steel production needs. This is why we believe that ferrous scrap needs to be considered an essential secondary raw material and included in the list of CRMs.

  The use of large quantities of ferrous scrap in the crude steel production by both its production routes is a well-known circular practice. In particular, the electric-based steel production route uses typically more than 90% of ferrous scrap input and the primary route

can use up to 30%. Those figures will be further increasing in the next years with the technology change for producing low-carbon steel.
(https://www.eurofer.eu/assets/publications/position-papers/contribution-of-the-waste-shipment-regulation-to-eu-ambitions-on-circularity-and-climate/20200728_EUROFER-Input-WSRConsultation_Paper_Final.pdf)

- At international level, around 40 non-EU countries have put in place various types of export restrictions on scrap. For example: total ban on exports (eg. Kazakhstan, Argentina, UAE); licensing system (eg. South Africa, Indonesia, Tajikistan); export taxes (eg. Russia, China, Vietnam); export quotas (eg. Belarus, Colombia); other export measures (eg. India). On the contrary, exports of EU scrap have been on the rise for several years, increasing by 113% in 2021 compared to 2015. Paradoxically, instead of ensuring the EU's strategic autonomy, we risk to have by 2030 a scrap shortage which would jeopardize our decarbonisation and eventually lead also to a new/extended dependency on CRM from third countries.

More than 40 input materials are needed to produce steel, 14 of them are already considered as "critical", but nickel for example, despite its high import reliance and fundamental role in stainless steel production as well as in lithium-based batteries and in wind turbines, is not (yet) considered as such. The CRM list needs to be extended to additional primary raw materials in order to prevent most likely future shortages.

- The disruptions created by the war in Ukraine have made even more visible that the EU is strongly dependent from third countries and that this can lead to major supply disruptions and price shocks. Therefore, new policies need to be put in place to ensure the EU's strategic autonomy as well as supply security throughout the whole steel value chain.
- The CRM list needs to be extended to additional primary raw materials but also to other critical materials for key sectors of the green transition. Good examples are nickel and manganese - which are key for both wind and steel industries and important battery components, but also glass fibres, fundamental for the wind technology. The goal should be to prevent most likely future shortages – such as those triggered by the Indonesian full ban on nickel ore or by the war in Ukraine - that can have significant impact on key EU industries, its economy, as well as its decarbonisation.

Europe is now in competition with the US Inflation Reduction Act, which introduces subsidies and tax incentives for local supply chains.

The Critical Raw Materials Act must deliver targeted market measures that will offer at least comparable incentives for new investments building up sustainable input materials supply chains.

The EU steel industry needs:
- access to low-CO^2 or fossil-free energy carriers such as wind energy and its related infrastructure;
- access to key raw materials and particularly to scrap, nickel, and manganese, to adequately supply sustainable/circular steel to the EU market;
- incentives to boost recycling and securing EU's diversified access to critical raw materials.

Kresten Ørnbjerg, VESTAS, Wind Turbine Manufacturer, Vice President, Head of Global Public Affairs

We all agree on the importance of securing access to affordable and sustainably produced raw materials and welcome the recent emphasis the EU is attaching to this topic, though we would like to emphasise the need to include in the Critical Raw Materials Act, not only critical primary materials but all needed raw materials, thus including also concrete, iron and steel as well as semi-processed and composite materials like glass fibre fabrics.

Nonetheless, access to raw materials – though crucial – is not enough to build resilient supply chains for clean energy transition technologies in Europe.

The recent announcement of a Green Deal Industrial Plan including the Net Zero Industry Act is definitely good news. But it can only have an impact, if the green industrial plan and all of its elements are linked to a growing market. Factories without a market are not sustainable.

The focus must therefore still be on creating the right framework conditions that enable clean-tech markets to uptake. With regards to wind energy, this entails specifically the need for faster permits and more permitted projects – alongside the grid expansion and an uptake of flexibility solutions on supply and demand side.

As Commissioner Vestager rightly said: "State aid is a powerful solution to the current challenges, but you cannot build competitiveness out of subsidies."

The EU should thus focus on 'scale up funding' across Europe and avoid state-aid competition between EU countries.

Last, it will remain crucial that policy makers take a holistic approach and account for knock-on effects of existing and upcoming policies to ensure viability of European supply chains (current auction design for offshore wind pushes prices to the bottom, while the introduction of nationally defined non-price criteria will increase costs – as the Carbon Border Adjustment Mechanism will likely do too with regards to raw material imports that cannot be produced at scale in Europe).

Getting the policy mix right will future-proof economic growth, job creation, sustainability gains, and energy and material security.

Antony Fell, EUROPEAN FORUM FOR MANUFACTURING, Secretary General

The next European Forum for Manufacturing meeting will take place in the European Parliament on Tuesday 28 February.

I would like first thank Sean Kelly MEP for his skilful chairing of this event and WindEurope for their excellent support. My thanks go also to the European Commission, the Members of the European Parliament from the different political groups and the European manufacturers for their excellent contributions on critical raw materials and this proposed legislation. Getting it right is indeed vital to European manufacturers and we hope this evening's discussion has helped to bring this about.

********** ***** **** **** ****** ***