The European Commission has launched a fresh attempt at securing access to minerals like lithium and rare earth elements, saying those will be critical to underpin Europe’s growth in digital and green industries.

Last month, the EU executive launched a strategy to develop a full value-chain for raw materials in Europe – ranging from extraction to processing and waste recovery.

In this special report, EURACTIV looks at Europe’s renewed drive for “strategic autonomy” on critical raw materials.
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Europe faces up to China’s supremacy on raw materials

By Frédéric Simon | EURACTIV.com

When COVID-19 hit Europe and disrupted global supply chains, the EU came to a sobering realisation – it cannot continue to rely solely on imports for raw materials.

For some EU policymakers in Brussels, this awareness of needing autonomy when it comes to lithium and rare earths, materials critical for digital and green industries, was a silver lining of the pandemic.

“The pandemic] has revealed the EU’s problematic dependence on third countries for active pharmaceutical ingredients and medical supplies,” said Anna-Michelle Asimakopoulou, a Greek lawmaker in the European Parliament.

Looking ahead, she warned that Europe should be equally worried that the raw materials necessary for the green and digital transitions are sourced mostly from other regions.

“Europe’s ‘green recovery’ will be based on industrial leadership in the production of computers, batteries, electric vehicles, and wind turbines,” Asimakopoulou wrote in an opinion piece for EURACTIV.

“But we are increasingly reliant on China and other regions for supplying the metals and minerals required by those technologies,” she said, calling on the European Commission to defend EU industries against Chinese dumping and America’s “out-of-control tariff diplomacy” under President Trump.

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The wake-up call reverberated across the EU institutions in Brussels and beyond.

“This confirmed our analysis,” said Thierry Breton, the EU’s internal market commissioner, speaking at a Brussels event to mark the launch of the industry-led European Raw Materials Alliance last week. “We need to think more strategically to anticipate other possible disruptions in future.”

As Europe emerges from the COVID-19 crisis, it must boost its “own domestic capacity for primary raw materials” as well as secondary materials obtained through recycling and re-use, Breton said.

But opening new mines in Europe isn’t the whole solution, he added.

“It is not sufficient to have the raw materials if we do not have the processing facilities in Europe,” he warned, saying loopholes need to be closed across the raw materials value chain.

At the moment, Europe is heavily reliant imported raw materials from a small number of foreign countries. China provides 98% of the EU’s rare earth elements, while Turkey supplies 98% of the bloc’s borate and South Africa covers 71% of the EU’s needs for platinum.

“There are also many of these materials present in Europe. And that’s the good news,” he said, citing reserves of cobalt, bauxite, beryllium, bismuth, gallium, germanium, indium, niobium and borate.

The pressing question now is how fast Europeans can develop mining, refining and recycling capacities and how dependent it will be on imports while it does so.

In some cases, the Commission believes Europe can move swiftly. On lithium, for instance, Breton said the EU is positioning itself to be almost self-sufficient by 2025.

For rare earths, the process will be longer, officials told EURACTIV. The aim is to have European mining and refining capacity operational by the start of the next decade. In the meantime, that means ensuring “diversified and undistorted access to global markets for sustainably sourced raw materials,” Breton said.

‘OPEN STRATEGIC AUTONOMY’

To encapsulate the seemingly conflicting priorities of self-sufficiency and promoting free trade, policymakers have coined a new term: “open strategic autonomy”.

The phrase comes up eleven times in the action plan on critical raw materials, published by the European Commission last month.

But what does the expression actually mean? Commissioner Breton tried giving a definition when he launched the Raw Materials Alliance last week:

“When we speak of strategic autonomy – or what is sometimes referred to as sovereignty or resilience – we are not talking about isolating ourselves from the world, but having choice, alternatives, competition. Avoiding unwanted dependencies, both economically and geopolitically.”

The Commission’s action plan on raw materials gives the concept additional substance.

“Global trade and its integrated value chains will remain a fundamental growth engine and will be essential for Europe’s recovery,” the EU executive remarks in a footnote buried on page 1 of its raw materials communication.

“With this in mind, Europe will pursue a model of open strategic autonomy. This will mean shaping the new system of global economic governance and developing mutually beneficial bilateral relations while protecting ourselves from unfair and abusive practice.”

BUY-IN FROM EUROPEAN CAPITALS

Remarkably, the Commission’s wake-up call on raw materials supply seems to resonate beyond EU policy circles in Brussels.

In Warsaw, the deputy prime minister in charge of development, Jadwiga Emilewicz, supported the Commission’s drive for “strategic autonomy” of raw materials, saying it could “bring hope for people working in the black coal mines” of Poland.

Peter Altmaier, the German minister for economic affairs and energy, was among the speakers at the launch event of the European Raw Materials Alliance. Eight years ago, when he was serving as environment minister, he said raw materials were not seen as such a pressing issue.

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“Today, we know it is an utmost important challenge,” Altmaier insisted, saying the digital transformation and the EU’s decision to become climate neutral by 2050 have changed perceptions.

German companies have faced “growing international protectionism” on raw materials, Altmaier pointed out. “Many countries are trying to protect their own markets and secure privileged access to raw materials,” he remarked, saying this is “a matter of concern” on which Europeans “have to act”.

“We must support companies and the actors in the field of raw materials,” the German minister said, speaking in favour of boosting domestic production of minerals like lithium, which are necessary for the manufacturing of electric car batteries.

At the same time, he said boosting domestic production and recycling efforts wouldn’t be enough to reduce imports significantly because demand for items like battery cells is going to “increase exponentially” in the future.

“Therefore, we need domestic raw materials and, at the same time, we need to make sure that we have access to raw materials like lithium and cobalt from other regions of the world,” Altmaier said.

Canada and Australia are among the countries that have shown interest in deepening trade relations with the EU on raw materials.

Earlier this year, the World Bank predicted a 500% increase in the production of minerals such as graphite, lithium and cobalt by 2050, noted Seamus O’Regan, Canada’s minister of natural resources.

“This represents an incredible opportunity. And Canada is ready to lead,” O’Regan told the raw materials event. The North American country is “one of the only nations in the western hemisphere with vast deposits of the minerals needed to make the next generation of electric batteries: cobalt, graphite, lithium, nickel – we got them all,” the minister said.

What’s more, “Canada could meet the entire EU demand for germanium, magnesium, coking coal, niobium and graphite,” O’Regan added, saying Canada also harbours the companies capable of extracting and processing rare earth elements.

Closer to home, Europe is looking at importing raw materials from countries like Serbia, Albania and Ukraine. These countries have “very solid reserves” of many critical raw materials, said Maroš Šefčovič, the Commission vice-president in charge of foresight.

“I think that would bring a new positive chapter in our relationship,” he told EURACTIV in an interview.

RAMPING UP PRESSURE ON CHINA

By diversifying its imports and boosting home production, Europe aims to exert more leverage on China when it comes to trading raw materials.

The EU strategy includes applying anti-dumping measures on imports of materials like aluminium, which EU producers say are currently flooding the European market.

China’s excess aluminium production currently stands at 10 million tonnes, 5 times the total EU production. While European producers are reeling from the corona crisis, “China is leveraging the crisis to ramp up aluminium production even further,” said Gerd Götz, Director General at European Aluminium, a trade association.

“China is capable of wiping out and replacing the entire European aluminium industry in no time if the EU does not act assertively,” Götz warned.

The EU strategy doesn’t stop at anti-dumping measures or import diversification. Another key part relates to environmental and labour standards, which Europe wants to impose on all its trading partners – a concept Šefčovič refers to as “competitive sustainability”.

Back in December, Šefčovič said the EU would only import battery cells which adhere to the bloc’s stringent environmental and labour standards. Those that don’t would be banned from entering the EU market, he warned.

“We believe that sustainability will be the key selling point in the near future,” he told EURACTIV, saying European consumers would not accept buying cars or phones made from minerals mined using unethical labour and environmental practices.
GREEN DIPLOMACY

The move is part of a broader EU push to enforce “reciprocity” in trade relations, which now includes environmental standards. In 2018, the EU and Canada inserted a climate clause into CETA, the bilateral trade agreement which came into force in 2017.

Both sides agreed to “promote the mutual supportiveness of trade and climate policies”, with reference to their Paris Agreement commitments. Earlier in 2018, a similar climate clause was added to an EU-Japan trade deal, a move touted as the first of its kind in a major trade deal.

The European Commission has threatened to impose a carbon border tax on countries doing too little on climate change, reflecting the EU’s more assertive stance on trade and its determination to protect European companies from cheaper products made in countries seeking a competitive advantage from lower environmental standards.

The tax “should motivate foreign producers and EU importers to reduce their carbon emissions, while ensuring that we level the playing field in a WTO-compatible way,” said Ursula von der Leyen, the President of the European Commission.

The EU executive said a concrete proposal for the tax is being prepared and should be published in 2021 and implemented in 2022.

For Šefčovič, the potential reward for China continuing to trade with the European bloc is access to the EU’s internal market of 450 million consumers.

“The offer to the Chinese is that they will have access to the biggest trading bloc on this planet,” Šefčovič told EURACTIV. “We are the number one trading partner for China. They’re our number two trading partner.”

“So I think that, yes, we are currently dependent on getting some of these critical materials from China, but they’re also very dependent on having us as an important partner in the future,” he added, expressing confidence that Europe’s “call for fair treatment, for reciprocity, is well understood” in Beijing.

Europe’s pressure on China seemed to bear fruit last month when Beijing announced plans to become “carbon neutral” by 2060, bowing to one of the key demands from Brussels.

The need to add a green focus to Europe’s trade agenda has become more urgent with the EU’s decision to raise its carbon reduction target for 2030 and aim for climate neutrality by 2050.

As the European Union embarks on the journey towards net zero emissions, Europe’s more assertive stance on trade and climate change are being heard at the highest levels of the EU hierarchy.

“We must insist on fairness and a level playing field,” said Ursula von der Leyen, President of the European Commission in her first annual state of the union address to Parliament last month, citing ongoing work on a carbon border tax. “Europe will move forward – alone or with partners that want to join.”

European Council President Charles Michel echoed those sentiments. In a recent speech, he talked up the concept of “strategic autonomy” for Europe, emphasising that discussions are now taking place at the highest level.

“Autonomy is not protectionism, quite the opposite,” Michel said, insisting that the EU’s position as “the world’s largest trading bloc” gives it leverage over other nations.

Europe’s power “is the ability to spread rules and standards across the globe,” he said, citing the EU’s general data protection regulation, which set a global standard for online privacy protections.

Climate diplomacy, Michel added, is becoming “a new strategic front where Europe can win the battle of standards”.

“By pioneering environmental technologies and setting the relevant standards, we will achieve two goals: taking the lead in that field, and helping to win the fight against global warming,” he said.
EU’s Sefcovic: Europe must be ‘much more strategic’ on raw materials

By Frédéric Simon | EURACTIV.com

The European Union “cannot achieve” climate neutrality without critical raw materials like lithium and rare earths, says Commission vice-president Maroš Šefčovič. It now needs to be “much more strategic” in relations with supplier countries in order to ensure the bloc’s “strategic autonomy,” he argues.

Maroš Šefčovič is the EU Commissioner for foresight and interinstitutional relations, who is coordinating work on the European Battery Alliance. He spoke to EURACTIV’s energy and environment editor, Frédéric Simon.

INTERVIEW HIGHLIGHTS

• The EU is pushing the concept of “open strategic autonomy” on raw materials, by developing its own supplies of lithium and rare earths while diversifying import supplies
• Europe can be 80% self-dependent on lithium by 2025 and have its own rare earth mining and refining capacity ready by 2030
• The EU is talking with countries like Canada, Australia, Serbia, Albania and Ukraine about opportunities on raw materials and is requesting “reciprocity” in trade relations with China in return for granting access to its single market
• “Urban mining” will also contribute to the EU’s push for raw materials autonomy, with €1 billion going to recycling R&I in the next seven years (2021-2027)
• EU Commission is preparing a new regulation to ensure all batteries sold in Europe are the “greenest, safest and most sustainable on

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this planet,” including those imported into the bloc
• This will include a “battery passport” to ensure batteries and the raw materials they contain are sourced in an environmentally and socially responsible way
• Countries that don’t comply with new EU rules on batteries could be imposed a border carbon tax to ensure a level playing field

Full interview

Two years ago, I interviewed you on the same topic of raw materials – and you issued a stark warning back then, saying that “when it comes to the issue of dependency, Europe could end up in a situation where raw materials become the new oil.” Two years on, would you say that risk has receded or increased?

I would say we are much more aware of that risk now because the question of critical raw materials is not only related to Europe’s green ambitions, it is also closely linked to our digital strategy: nearly all the future technologies needed to build Europe’s green and digital growth are in dire need of critical raw materials.

Let me take an example. Europe’s need for lithium used in electric car and storage batteries will be 18 times bigger by 2030 and 60 times more by 2050. Industrial ecosystems, such as aerospace, construction, automotive and low-carbon energy-intensive industries – all highly dependent on secure access to raw materials – will represent altogether €2 trillion in economic activity and employ over 30 million of people by 2030.

For all of these sectors, critical raw materials are absolutely essential.

Today we are acutely aware that this dependency is something we have to take extremely seriously, which is why we created this European Raw Materials Alliance in September.

Clearly the statement I gave two years ago is still valid.

If the scope of raw materials use in the economy is larger than before, is the risk of dependency also bigger?

You are right, the scope of our analysis is larger. And I think we all agree that the COVID-19 crisis can serve as an accelerator for the green and digital transitions. We know perfectly well that we cannot achieve our 2030 and 2050 climate targets without cutting-edge technologies and for all these we are in a big need of critical raw materials.

At the European Commission, we analysed the applications one by one and checked where we are dependent, be it on one country or one supplier.

I hope we can repeat the success of the European Battery Alliance. When we launched the alliance in 2017, there were still carmakers that were hesitant. Today, they are all on board with the transition to electro-mobility and the need to diversify battery cells suppliers.

And the supportive role of the European Investment Bank here is key in this regard. Last year, the EIB changed their energy lending mandate and started working with potential European suppliers of lithium, to invest in extraction and processing, which is very important for investors.

In Europe today, we are now investing three times more into the battery sector than in China: our investments reached €60 billion last year. China, meanwhile, invested €17 billion. And this year, Europe has so far invested €25 billion – again, twice as much as China.

Europe is really becoming a hub for investment into the battery sector – from extraction, processing, software development, manufacturing, re-use and recycling – the whole value chain is covered. So I hope we can now repeat the success.

We also have clear milestones we would like to reach by 2025 or 2030. We know 2030 is a critical deadline if we want to have everything in place to reach climate neutrality 20 years later.

This is a very important decade, which will I think, decide how Europe will fare in comparison with economies like China or the United States, and how well prepared we are in making sure that we are climate neutral by mid-century.

The European Commission has launched an industry alliance on raw materials, which will initially focus on building “strategic autonomy” for rare earths and magnet value chains in Europe. What does this mean, are we going to start mining rare earths in Europe?

The concept of “open strategic autonomy” is now being discussed widely in the EU, for example among EU ministers at the General Affairs Council where I represent the Commission.

On the one hand, it is very clear that we will always support free and fair trade. But at the same time, I think there was a very clear signal from the ministers that we need to focus much more on reciprocity with our trading partners, and ensure open access to global markets. And that will always be the interest of the European Union.

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We have to be much more strategic in ensuring Europe’s autonomy of action when it comes to raw materials. Greek MEP Anna-Michelle Asimakopoulou explained it very eloquently at the launch of the European Raw Materials Alliance: “auto” in Greek means self, and “nomia” means law. So autonomy gives us the right to decide for ourselves. This is what we have to look for.

On raw materials, it means providing our economy with adequate and more diversified supplies of primary and secondary materials to make sure we can take our own decisions.

**Being self-sufficient and open to trade at the same time – isn’t this a bit contradictory?**

We are doing our homework about what kind of critical raw materials we have in Europe.

For example, we have quite solid reserves of lithium in Europe. There are four mining projects now in the pipeline, and if they gain the trust and support of the local population, as well as proper financing and support of the member states, we can secure 80% of our lithium needs by 2025.

We also have rare earth reserves in Europe, which until now, have not been fully explored. We currently don’t have enough refining, processing and magnet-making capacity in Europe for instance. This is why countries like France, Germany, Portugal, Spain, Sweden, Greenland and Norway, are looking into it.

There is also a huge potential for recycling and re-use when it comes to rare earths. In at least two of these countries – France and Sweden – they are also contemplating the processing, refining and/or recycling of rare earths, which are of course needed for almost all advanced technologies.

And then of course, developing trade relationships is very important. We are for example talking with countries like Canada and Australia about trading opportunities and I am sure raw materials will be one chapter of our cooperation.

**In terms of rare earths, do you know how much more autonomy Europe can gain by 2030? Currently, Europe is 98% dependent on China, which includes both extraction and processing…**

I don’t know. For lithium needed for batteries and storage, we’re confident that we can be 80% self-sufficient by 2025, but for rare earths, work is in progress. The figures I roughly remember is that China extracts 70% of rare earth ores, but its share in metals, alloys and magnets has continuously expanded to 90%, while we are 100% import-dependent on rare earths.

What we need is access to the raw materials, but also need to build refining capacity. For example, even if we extract lithium, we currently still have to ship it over to China to get it refined and then the carbon footprint makes it less attractive for consumers who, for example, would like to purchase an electric car. So this is a very important task ahead of us.

We are also looking at the Western Balkans – notably, Serbia and Albania – and Ukraine. They have very solid reserves of most of these critical raw materials and I think they will be interested in developing these reserves, which could open a new positive chapter for EU integration of these partners. Ukraine’s President Zelenskyi certainly thought so when I raised this with him in the margins of the recent EU-Ukraine summit.

And if they are interested in exporting these critical raw materials to Europe, we will do our utmost on our side to ensure that all these projects meet the highest environmental and labour standards.

**People in the industry say it takes roughly 15 years to get a new mine started – from the geological studies to the actual permits. But the Commission’s action plan says some projects could become operational as soon as 2025. What makes you think this is possible in such a short timeframe? Is it just for lithium or do you have other critical raw materials in mind?**

The most advanced ones are lithium because they started earlier. But now the number one goal for the European Raw Materials Alliance is to focus on rare earths and magnets because we see huge dependency there – and real potential.

Rare earths are absolutely critical for solar and wind power, but also for electric motors and almost all digital ecosystems. They will be the first focus. And when it comes to permits, investment or research and innovation, and financial instruments, we are we are currently putting all these different things in place.

At the same time, we’re also looking very hard at urban mining. If you just collect all the old cell phones we have in our drawers, we can immediately build four million car batteries just from the cobalt.

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There is also huge potential with electronic waste. Every year, the EU generates some 9.9 million tonnes of waste electrical and electronic equipment, while around 30% is collected and recycled. But the recovery of critical raw materials from this e-waste stands below 1% because we do not have the necessary technology and industrial processes in place.

This is why we’re funding research and innovation in order to develop these processes. We are currently spending almost €1 billion on raw material projects as part of the Horizon 2020 programme, with funding channelled through the Commission and EIT RawMaterials.

We are also discussing with member states to use recovery funds and the just transition fund for ‘shovel-ready’ raw material projects. And we also have these two funds under the Emissions Trading Scheme (ETS) – one on modernisation, one on innovation.

We will try to put together all of these elements to make sure there will be financial muscle behind this effort.

In parallel, we also started what I believe could be our deepest review yet of EU state aid guidelines. Here, we’re trying to address market failures on the single market. The new guidelines should be ready by June next year.

**The Commission says the raw materials initiative opens new opportunities for coal regions. Have you evaluated the potential for new mining jobs in those regions?**

Today in Europe, there is something like 200,000 people working in the coal mining industry. And some of the skills in coal mining could indeed be very useful for these new extractive industries.

With the €17 billion Just Transition Fund, we now have the opportunity to re-skill those people and make sure we look at other energy-intensive industries: steel, cement, and others.

In Poland, some new smart mobility projects are located in Silesia – they’re bringing the future Giga factory there and using the skill sets of that region to build something new. So I’d say they’re now going from black to green. And that is a very, very fast transition.

**You say Europe should seek more autonomy from China on critical raw materials like rare earths. Yet, China will probably remain a major supplier of rare earths, at least in the short to medium term. So what is the point of shouting loudly about Europe’s “strategic autonomy”? Are you trying to provoke a trade crisis with China?**

This is a very valid question. When I had the chance to talk to President Xi last year at the Belt and Road Summit, I told him what we want as Europeans – that China treats European companies in China as well as we treat Chinese companies in Europe.

So we want fair market access, we want protection of intellectual property rights, we want participation in research and innovation projects, and other things which form a good trade relationship.

We are China’s number one trading partner. They are our number two trading partner. So I think they simply have to understand – and I think they do – that to have such a rich relationship, both partners have to be satisfied with the conditions.

Therefore, I think the call for fair treatment and reciprocity is well understood. We’ve got our trade to such a level that we simply have to take care of this very important relationship and the same goes for the difficult discussions.

**How can Europeans be competitive on raw materials when China has lower labour and environmental standards? Can Europe ever become competitive?**

I am absolutely convinced of that because I think the world is changing, especially when it comes to global standards.

Europe is really developing the concept of competitive sustainability. We believe that sustainability will be the key selling point in the near future.
future. Because if we are serious about tackling climate change, we have to enforce the Paris Agreement, we have to be very serious about our climate goals.

I believe that the enormous attention the European Commission is giving to the Green Deal and clean technologies is giving us the first-mover advantage. So I do believe this will be our competitive edge.

You said back in December that batteries imported into Europe could be banned if they don't observe EU environmental and labour standards. How do you intend to put this into practice? Will it be through some kind of certification scheme which could be made mandatory?

I will tell you the concept. Currently, we are working on the battery regulation and we would like to adopt our proposal this autumn. To put it simply, we want to put the regulation in a form that would provide for mandatory requirements for the greenest, safest and most sustainable batteries on this planet.

We want to measure the carbon footprints of batteries over their life cycle. We are considering also something like battery passports that will ensure easy access to information about key parameters of batteries and their origin. We also want to make sure that we will be working with raw materials that are traceable and respect ecological, labour and other standards. This is important for European consumers.

And we want a fast process for approving this regulation. I know the German presidency of the EU Council is very much interested in that. I would be delighted if we can start to make progress at interinstitutional level with the support of Peter Altmaier. I know it will be very demanding schedule, but we definitely have a lot of support for that also from the Portuguese presidency, which starts on 1 January.

At the same time, we will start a parallel track on standardisation, clearly aiming at having the highest standards on the planet for car batteries used in Europe. The standards – the testing methods and methodologies – will be important for industry to ensure their batteries comply with the mandatory requirements in the regulation. We simply need to follow the rule that only the best available technologies are used for smart mobility.

Another very important element, which will have a very important economic impact in Europe and globally, is the carbon adjustment mechanism. There again, we want to give our trading partners a choice: either you introduce carbon pricing at home, like we have done here in Europe with the Emissions Trading Scheme (ETS), or there will be a carbon adjustment mechanism to level up the price of CO2.

Because we do not want to put our industry at risk. We’re asking a lot from them when it comes to reducing their carbon footprint and environmental standards. With the battery regulation, we are set to ensure a level playing field so that all batteries placed on the EU market, regardless of their origin, comply with the same stringent sustainability and end-of-life requirements.

In other words, we prevent that European markets will be flooded by cheaper batteries that do not respect our high sustainability requirements.

So this would be the approach that you will see through various streams to ensure we fill those three imperatives for the next decade: a green, digital and resilient EU economy.

When do you plan to have those standards for batteries coming into force?

We are aiming to have them in place as of 2023 onwards. The first Giga factories in Europe will be operational in 2021 or 2022 and we would like all batteries used in Europe to be manufactured according to those high requirements.
Raw materials: the missing link in Europe’s drive for batteries

By Frédéric Simon | EURACTIV.com

View of the future Tesla Gigafactory construction site in Gruenheide near Berlin, Germany, 01 September 2020. According to the US car manufacturer Tesla this first electric car plant in Europe will be the most advanced high-volume electric vehicle production factory in the world. [EPA-EFE/FILIP SINGER]

While Europe is rapidly catching up with China on investments into batteries for electric cars, it is still lagging behind when it comes to securing supplies of the critical raw materials that are needed to produce them.

Since the launch of the “European battery alliance” in 2017, the EU has made a leap forward in its quest to develop a full battery manufacturing value chain.

Investments in the EU battery sector reached €60 billion last year, while China invested only €17 billion, EU commissioner Maroš Šefčovič told EURACTIV in a recent interview. This year, Europe has so far invested €25 billion – again twice as much as China, he noted.

“In terms of investment levels in Europe, we probably have caught up,” says Andrew McDowell, the European Investment Bank’s vice-president responsible for economics and energy. According to him, there has been “a transformation in the level of ambition” in Europe since the battery alliance was launched in 2017.

“It’s not just about catching up anymore, it’s about Europe taking a leadership position in this industry,” McDowell told reporters during an online briefing in late August.

But the catch up is not over yet. Europe’s Achilles Heel is at the start of the value chain, where raw materials are mined and processed, according to Peter Carlsson, the CEO of Swedish battery maker Northvolt.

“We’re building plants but they need to be supported by raw materials, components and suppliers of equipment,” Carlsson told journalists at the August online briefing.

Northvolt is currently constructing Europe’s first battery gigafactory in

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northern Sweden, and a second site is planned in Germany following a deal signed with carmaker Volkswagen in July.

“Today, as we’re starting up the factory, we will still be dependent on a lot of suppliers from outside Europe,” Carlsson said, citing raw materials and components as part of a wider battery “ecosystem” that he says should be promoted in Europe.

“This is where we really need to continue strengthening the European ecosystem,” Carlsson said. “It’s going to require focus and investments.”

DEVELOPING HOME PRODUCTION

Raw materials like lithium and cobalt, which are currently imported into Europe, have come under close scrutiny as part of the EU’s push to secure raw materials for battery manufacturing.

Demand for lithium is expected to increase 16-fold by the end of the decade and be 60 times larger by 2050, according to European Commission forecasts. Cobalt, another key ingredient for batteries, will also see a spike in demand, growing 500% by 2030 and 15 times by 2050.

To address this weakness, the Commission launched an action plan on critical raw materials as well as an industry alliance last September, with the aim of strengthening the EU’s “strategic autonomy” on key raw materials.

And the focus is not only on car batteries – sectors such as aerospace, construction, and low-carbon industries are also concerned because they are considered key for the green and digital transitions.

“Today we are acutely aware that this dependency is something we have to take extremely seriously, which is why we created this European Raw Materials Alliance,” Šefčovič said.

The good news is that Europe can quickly become independent on some of them. “For lithium needed for batteries and storage, we’re confident that we can be 80% self-sufficient by 2025,” Šefčovič said, citing mining projects currently under development across Europe and neighbouring countries.

In April this year, a lithium mining project in the Czech Republic secured €29.1 million in funding and is expected to become the first EU producer of battery-grade lithium compounds. In July, global mining giant Rio Tinto announced a decision to invest nearly $200 million in a lithium-borate project in Serbia.

For rare earths, which are used in magnets founds in wind turbines and electric motors, it will be a longer shot. The EU is currently 100% dependent on imports but the Commission hopes the first European mines could open as soon as 2030.

“We also have rare earth reserves in Europe, which until now, have not been fully explored,” Šefčovič said. “This is why countries like France, Germany, Portugal, Spain, Sweden, Greenland and Norway, are looking into it.”

To diversify supplies, Europe is also looking to the Western Balkans – notably, Serbia and Albania – as well as Ukraine, which “have very solid reserves of most of these critical raw materials,” Šefčovič added.

GREEN STANDARDS

But developing mining at home and diversifying supplies is only part of the answer. The European Commission’s strategy also relies on recycling and green standards for batteries, which could help extract huge amounts of untapped raw materials contained in electric waste.

Every year, the EU generates some 9.9 million tonnes of waste electrical and electronic equipment but only 30% of it is collected and recycled, the Commission says. Worse, some valuable raw materials are not recovered because they are too difficult or costly to extract.

“The recovery of critical raw materials from this e-waste stands below 1% because we do not have the necessary technology and industrial processes in place,” Šefčovič said. “If you just collect all the old cell phones we have in our drawers, we can immediately build four million car batteries just from the cobalt,” the commissioner remarked, highlighting the vast untapped potential of so-called “urban mining”.

“This is why we’re funding research and innovation in order to develop these processes,” Šefčovič added, saying the EU is already spending “almost €1 billion” on raw material projects as part of the Horizon 2020 research and innovation programme.
Finally, the European Commission is planning stricter green standards for batteries as part of a new battery regulation, expected to be tabled on 9 December, spelling out new standards for batteries, with the aim of reducing the overall carbon and material footprint of batteries manufactured or imported into Europe.

This will include “something like battery passports that will ensure easy access to information about key parameters of batteries and their origin,” including the raw materials that went into the manufacturing process, Šefčovič said.

“We also want to make sure that we will be working with raw materials that are traceable and respect ecological, labour and other standards. This is important for European consumers.”

In total, fourteen new measures are expected to form the basis of the new EU batteries regulation, according to Recharge, a trade association representing manufacturers of advanced rechargeable and lithium batteries.

“To put it simply, we want to put the regulation in a form that would provide for mandatory requirements for the greenest, safest and most sustainable batteries on this planet,” Šefčovič told EURACTIV.

RECYCLING

The recycling of key raw materials used in the manufacturing of batteries is one of the flagship measures expected in the EU’s updated battery regulation, Recharge said in a briefing paper outlining the main elements of the future EU law.

As part of the new rules, the Commission is looking at introducing specific recovery rates for selected materials used in batteries, such as lithium, cobalt and nickel. It also plans to improve the collection rate of used batteries and pave the way for the introduction of mandatory levels of recycled content in new batteries as from 2030.

“Recycling is one of the most effective ways towards an efficient use of our resources in the battery industry. Especially the recovery of high-impact materials brings a true improvement to the environmental and social profile of batteries,” Recharge says.

Another flagship measure envisaged by the Commission is the introduction of a due diligence obligation on battery manufacturers, forcing them to trace the materials based on the model of the EU’s Conflict Minerals Regulation, which enters into force in January.

Further measures include the promotion of an aftermarket for used EV batteries and an extended producer responsibility scheme obliging producers of batteries to finance collection, take-back and recycling activities.

ECOS, a green NGO, says green standards for batteries are essential to ensure the transition to electro-mobility is done in a truly eco-friendly way.

“We need performant and durable EV batteries, which are easy to repair, reuse and recycle,” said Rita Tedesco from ECOS. “Parameters such as the state of health of the batteries and tests to evaluate them need to be comparable throughout different brands. A minimum set of design standards – such as lifting parts – would make the disassembly process for recycling cheaper, simpler and less time-consuming”.
Access to affordable energy is a key factor underpinning the competitiveness of European industries. But as the green transition gains momentum, pressure is building to put a higher price signal on energy and CO2 emissions, leaving regulators in a quandary.

When the European Commission presented its action plan on critical raw materials in September, the focus was deliberately placed on “non-energy” raw materials.

Yet, access to “low-carbon energy at competitive prices” is a fundamental building block for the competitiveness of European industries, the EU executive admits.

“Industry is the motor of growth and prosperity in Europe,” Commission President Ursula von der Leyen said as the EU executive presented its new industrial policy back in March.

“This is more important than ever as Europe embarks on its ambitious green and digital transitions,” she added, referring to the European Green Deal, which aims at cutting planet-warming emissions down to net-zero by 2050.

Green policies, once seen as a trade-off with industrial competitiveness, are now firmly placed at the heart of Europe’s revamped industrial agenda, with von der Leyen branding the Green Deal as “Europe’s new growth strategy”.

At the same time, reducing emissions across industry will depend on “a secure and sufficient supply of low-carbon energy at competitive prices,” the Commission added in

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Spanish workers of the Aluminum Company of America (Alcoa) protest against the planned closure of a plant in Galicia, Spain, 01 July 2020. Alcoa has referred to low aluminum prices and high energy costs causing heavy losses, making it impossible for the plant to compete internationally. [EPA-EFE/XOAN REY]
its revamped industrial strategy, saying this will require planning and investment in low-carbon generation technologies, capacity and infrastructure.

Energy makes up between 5.7% and 8.4% of the production costs of industrial sectors such as basic chemicals, iron and steel, or paper, according to Frontier Economics, a leading consultancy.

However, prices can fluctuate widely between countries and industries. In certain sectors like aluminium, the energy bill can reach up to 40% of production costs, says BusinessEurope, the EU employer's association, citing EU figures.

For big industrial users of electricity like the aluminium sector, this puts energy on the same level as any other raw material.

"Energy is a kind of ‘raw material’ for the production of aluminium and to several other energy-intensive industries," said Coline Lavorel, public affairs director at European Aluminium, a trade association.

"As a consequence, access to clean and affordable energy across Europe is also a condition to Europe’s industrial leadership and strategic autonomy," she added, saying that the European Raw Materials Alliance, to which the European aluminium industry participates, "should contribute to the ambition of developing a raw material policy promoting clean and sustainable electricity.”

Bringing energy prices down will be no small task.

Electricity prices in Europe are on average higher than in most G20 countries, BusinessEurope says. And pressure on energy prices will keep growing in the coming years as the EU adopts tougher climate goals.

All in all, energy costs are set to rise from about 11.5% of GDP in 2015 to 12.6% in 2030, according to the European Commission’s long-term climate strategy, which aims to reach net-zero emissions by 2050.

**ENERGY TAXATION**

So why is energy more expensive in Europe than in the rest of the world? The explanation boils down to one word: taxation.

“The premium that businesses pay compared with other G20 countries is largely due to taxes and levies: Without these, both electricity and gas prices tend to be more similar, except for the USA and the Middle East,” which have access to cheap and abundant supplies of domestic gas, BusinessEurope says.

This analysis is confirmed by the European Commission.

"Taxes and levies remain by far the most important source of differences in retail prices across member states," the EU executive said in its [2020 report on energy prices and costs in Europe. “This is due to the differences in member states’ policies and fiscal instruments affecting the taxation of electricity consumption,” it said.

Even though some of these national differences were addressed in the last EU electricity market reform, “shortcomings still exist in the energy market,” the Commission added in its [2020 state of the energy union report, saying this “unnecessarily increases costs for consumers and industry”.

Fixing these shortcomings will be “the foundation for the transition of the economy towards climate neutrality,” the Commission underlined in its 2020 report on the state of the Energy Union.

But reforming Europe’s spaghetti bowl of national energy taxation schemes, state aid and other energy-related perks will be no small matter.

Among market-distorting barriers are so-called “capacity mechanisms” which reward back-up power plants for keeping on standby in case of demand peak. Those “have had a growing impact on the functioning of the market in recent years,” the Commission said, but its latest attempt to reform the system has mostly failed.

Also in the Commission’s firing line are fossil fuel subsidies, which have remained stubbornly high over the last decade at around €50bn per year, despite pledges made at the G20 to phase them out.

“As outlined in the European Green Deal, fossil fuel subsidies should end,” the EU executive stated. Again, those calls have so far fallen on deaf ears, with no single EU state so far having spelled out a comprehensive phase-out plan.

And then, there is the most sensitive subject of all – taxation.
“The Energy Taxation Directive does not achieve anymore its primary objective related to the proper functioning of the internal market,” the Commission argues in its 2020 state of the energy union report.

The myriad of exemptions and relief measures granted at the national level “are, de facto, forms of fossil fuel subsidies, and not in line with the objectives of the European Green Deal,” the EU executive argues, saying the upcoming revision of the energy taxation directive will aim to reform those.

Still, the biggest source of worry for energy-intensive industries is the EU’s carbon pricing mechanism, the Emissions Trading Scheme, which drives up electricity prices.

“European aluminium producers face much higher electricity prices than their main competitors in Russia, the UAE and China due to increased costs linked with the greening of power generation systems and the ETS,” Lavorel said, adding that the indirect costs of the ETS can be “up to seven times greater than the direct costs of the electricity”.

Since aluminium is priced on global markets, “European producers cannot pass on their extra carbon costs without losing significant market share and are price takers on the market,” she pointed out.

And with higher climate ambitions expected to further push up the price of CO2, “the quest to balance competitiveness and the green transformation of our industry becomes even more critical,” Lavorel warns, calling for a continuation of existing compensation schemes and distribution of free allowances under the ETS to support the sector’s competitiveness.

The European Commission is aware of this and is currently reviewing its state aid regime and the free allocation of ETS allowances in order to bridge the competitiveness gap between EU industries and foreign rivals in China, the US and elsewhere.

Should those countries refuse to match the EU’s climate ambition, the Commission said it will impose a carbon border adjustment mechanism to restore a level playing field in selected industrial sectors like cement or steelmaking.

**ADDRESSING THE FUNDAMENTALS**

As welcome as they may be, compensation schemes, state aid or carbon levies by themselves will not address the fundamental challenges faced by energy-intensive industries.

“Disruptive and breakthrough innovation is the only way to move primary aluminium production towards carbon-neutrality and reduce direct emissions in the production process,” Lavorel pointed out. The technologies are there, she said, “but most of them are still at a low technological readiness level and will require massive investment, that the industry cannot bear alone”.

To finance those investments, public support will be needed, Lavorel stressed, saying the last investments in the EU’s primary aluminium smelting capacity date back to the 1990s. Since 2008, the EU has lost more than 30% of its primary aluminium production capacity, she points out.

At the same time, the carbon market was precisely designed to drive up energy prices, and provide an incentive for industries to invest in efficiency measures and other low-carbon solutions.

“With a high carbon price, investments will further prop up renewable energy that is already cheaper than any fossil fuel,” said Wendel Trio from Climate Action Network, an NGO.

At the end of the day, “this will obviously benefit businesses, industries, but also households,” he added.
There is no doubt that 2020 has been and for the time being will continue to be an enormous testing period for Europe, its industry and especially its citizens.

As one reflects on these times and considers the wide-spread fears and the associated pressure under current circumstances, surely many of us can relate to the words of Alan Shearer, one of the best strikers and penalty takers in the history of football, when providing insights on his special ability, taking penalties in decisive moments of the game.

“I always practise penalties, but what people don’t understand is that you can never recreate that pressure situation that you’re under”

Currently, Europe envisions a recovery that aims to help its economy get back on its feet and make its value chains more resilient. The fulfilment of this endeavour resembles a tightrope act which, due to the fragility of our time and the complexity of numerous interrelated mammoth tasks, creates unprecedented pressure on the decision-makers in charge. Amid alarming infection rates and staggering investment sums, another challenging task at decision-making level is to somehow grasp the everyday pressures and fears of those suffering from the ongoing COVID-pandemic. As the severely affected industry has always been the backbone of European prosperity, its recovery will certainly be crucial to all citizens of our continent.

Not so long ago, especially young people confronted the public with their fears with regards to the future of our planet. They successfully managed to be heard by politicians and they are right in their demand for concrete actions. In this quest, highlighting the actual effects of global warming, carrying ordinary people along by reflecting their down to earth perceptions made all the difference. Right now, this approach might be something that the value-added industry in Europe can implement to ensure that key-decisions of today lead to the hoped-for unfolding of tomorrow. For example, what if we started to speak vividly and in a close-to-life manner about the actual consequences for the everyday life of...
entrepreneurs, employees and our next generation if Europe were to fall behind in global competition?

ACHIEVING A TRULY LEVEL PLAYING FIELD

Looking ahead, China will remain an important trading partner. However, there is the widespread and fast-growing industrial sentiment that ‘one does not have to put up with everything’. Currently, China is leading the global recovery underscored by recent forecasts which suggest that by the end of 2021 the Chinese economy will be 10% larger than by the end of 2019. Vast excess capacities and dumping-products pose an imminent threat to European value chains and contribute substantially to this current outlook, while future prospects for a level playing field become increasingly sobering. Given our core believe in fair and free global trade, contrasting dull protectionism a coherent and robust anti-dumping framework is more urgent than ever.

While specific trade policies can be effective, they must be carefully considered in view of their impact along entire value chains. In this context, it is vital to underline that Europe’s industrial strength has always been linked to the quality of its products and the associated focus on exports. Proposed and much discussed measures such as the carbon border tax or the carbon border mechanism are equipped with the good intention of countering unfair global competitive conditions, but must not lead to a risk for export-oriented industries by potentially causing a spiral of new tariffs and trade barriers in global trade.

STICKS AND CARROTS – ANOTHER LEVEL PLAYING FIELD

EUMICON is firmly convinced that more ambitious CO2 reduction targets and the associated regulations must go hand in hand with targeted innovation funding in order to enable the long-term success of the economic transformation. In this light, the concept of ‘Strategic Autonomy’ is a significant first step to reduce import dependencies for raw materials and rare earth elements which are essential to future technologies, such as batteries, wind generators or solar panels. In a nutshell, sovereign and comprehensive access to raw materials is the foundation on which the ‘green economy’ will be built upon.

In addition to this, the European Raw Material Alliance was launched as an enabling platform for investments in future key-innovations. This initiative underscores the overarching principle that new environmental regulations must be matched by equal funding and innovation support.

GREEN AS THE DRIVING FORCE OF RECOVERY

In light of rising site costs and energy prices numerous companies may wonder whether they will be able to even survive in the upcoming years. Taking these concerns seriously, we encourage leading policy makers to considerably foster the access to clean and at the same time affordable energy. This includes electricity as well as hydrogen since these sources are of utmost significance to the mobility-automotive, the renewable energy and the low carbon energy intensive industrial ecosystems. The open approach of ensuring energy diversification and technology neutrality provides a major steppingstone for European corporates to become not only sustainability forerunners but once again also potential future market leaders on a global scale.

We as EUMICON are committed to do our part in significantly reducing industrial CO2 emissions and in achieving climate neutrality in Europe. Therefore, we welcome the path taken by the European Commission, to initiate the transformation to a ‘green’ and digitalized economy. Given this enormous undertaking in its nature and the additional quest of overcoming the economic consequences of the COVID-crisis, promoting European industrial ecosystems must generally be at the heart of present European policy making.

Against the background of seemingly innumerable challenges, the European industrial location is facing, we firmly believe in contributing to the European Commission’s ambition, to shape an ‘Economy that works for people’. Just as Alan Shearer excelled under immense pressure, we believe in the opportunity presented by the challenges of our times to elevate Europe’s industry to higher levels. Therefore, EUMICON will expand its role as a proactive player by fostering cross-sectoral cooperation, drafting future-oriented policy solutions, and passionately underscoring the potential of Europe’s ‘Sunrise Industries’.
FURTHER READING

EUMICON is a networking platform for strategic discussion processes and technology transfer actors along the value chains of energy, mobility and digitization. The platform creates links between public entities and institutions, domestic and international interest groups, the mineral resources industry, and science and research. EUMICON addresses topics along the entire mineral resources value chain, from extraction, to treatment and refinement, to use in processing and production, all the way to recycling. EUMICON regards sustainable life-cycle management and the responsible use of resources and energy as key priorities.
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