EU-US critical minerals agreement
Building stronger supply chains together

SUMMARY

In March 2023, Commission President Ursula von der Leyen and United States (US) President Joe Biden announced their intention to conclude a critical minerals agreement, seeking to foster supply chains in raw materials needed in the production of electric vehicle batteries. The paradigm shift towards clean transport is driving a massive expansion in the market for electric vehicle markets, highlighting the importance of securing the mineral inputs used in their batteries. To that end, the US Congress has embedded various support measures in enacted legislation, notably in its 2022 Inflation Reduction Act (IRA). IRA's tax credit provisions for electric vehicles are of particular concern to the European Union (EU). To qualify for these subsidies, set and progressively increasing percentages of minerals and battery components must come from North America or a country with which the US has a free trade agreement. The EU and US set up an IRA task force to find a solution under which EU vehicles could be eligible for tax credits. The EU-US agreement would enable relevant critical minerals extracted or processed in the EU to count toward IRA requirements.

Commission presented the negotiating directives to the Council in June, and the latter authorised formal launch of talks in July. The EU is seeking to strengthen the international supply chains of critical minerals, facilitate trade, and improve sustainability and labour rights. It is also pushing for the inclusion of more than 50 minerals and materials relevant to the green transition in the agreement's scope. The US has expressed its intention to conclude an executive agreement without a vote in the Congress, which is drawing some criticism from US lawmakers. The European Parliament, which will decide whether to give formal consent to the agreement, adopted a resolution on the negotiations in September 2023, calling for wide coverage of minerals, inclusion of critical minerals obtained through recycling, an investment transparency mechanism, and an early warning system against supply chain disruptions.

IN THIS BRIEFING

- Context
- Batteries and minerals
- First steps
- EU-US Critical Minerals Agreement
- Expert views
Context

The global market for electric vehicles (EVs) is booming, with global sales more than doubling year on year from 2020 to 2021. Valued at US$384 billion in 2022, it is expected to swell to US$8.8 trillion by 2030, possibly hitting as much as US$66.7 trillion in value by 2050. Goldman Sachs Research estimates that EV sales will soar from around 2 million in 2020 to about 73 million in 2040. The EU will lead global sales of electric vehicles and over the next few years both the US and the EU will overtake China in market sales ratio (the percentage of total vehicle sales). While in 2020 only 2% of vehicles sold worldwide were electric, by 2040 this figure will rise to 60%. Electric vehicles will likely pass the milestone of accounting for half of global sales around 2035. By then, in many developed countries the share of EV sales is forecast to be well over 80%.

This boom is, and will be, largely driven by the paradigm policy shift towards electrification and clean energy solutions. Governments across the world are seeking to cut emissions as they adopt net zero targets for the coming decades. In 2018 the EU was a pioneer in setting a target to become carbon neutral by 2050, a move followed by other developed nations such as the United Kingdom (2019), Canada (2020) and the US (2021). Reaching net zero is also a goal of the Paris Agreement, whose signatories include 193 countries and the EU, notably China and India, both large emitters of greenhouse gases, committed to becoming carbon-neutral by 2060 and 2070, respectively.

Boosting clean transport is pivotal in these efforts. The EU has embarked on a task of progressive phasing out the CO₂-emitting cars (cars with combustion engines), as underlined by its commitment to stop selling such vehicles by 2035. The new CO₂ standards will also require average emissions of new cars to come down by 55%, and of new vans by 50%, by 2030. In the US, President Joe Biden has set an ambitious new target for half of all new cars sold in 2030 to be zero-emission.

Batteries and minerals

This global shift towards an electric future in the automotive sector underlines the importance of securing the mineral inputs used in the batteries (see Figure 1). The dominant type of rechargeable batteries used in electric vehicles are lithium-ion (Li-ion).

![Figure 1 – Selection of raw materials used in Li-ion batteries and their function](Source: European Commission, 2023.)

Batteries are the single most expensive component of electric vehicles, and their price depends on their complexity and mineral content. While estimates from 2019 to 2021 placed the cost of an EV battery between 30% and 33% of the total vehicle cost, technological progress is making them
increasingly affordable, with some new (and planned) car models' batteries as low as 16% of their total cost.

As evident from Figure 1, sufficient supply of most of the raw materials used in the Li-ion batteries is challenging. Ten out of eleven materials figure in EU’s 2023 list of critical raw materials. Importantly, graphite, nickel, manganese, cobalt, lithium and copper have been deemed to be ‘strategic raw materials’, owing to their use in key technologies underpinning the green and digital transitions, resilience and security. They are exposed to important gaps between projected supply and demand, and it would be challenging to boost their production and sourcing (see Figure 2).

Figure 2 – EU future demand for battery materials

N.B.: LDS denotes ‘low demand scenario’; HDS denotes ‘high demand scenario’.

Similarly, the US has identified graphite, nickel, manganese, cobalt and lithium as ‘critical materials for electric vehicle and stationary storage batteries’.

Demand for these materials is bound to increase significantly over the next few decades, whether in the low demand scenario (LDS) or high demand scenario (HDS). In the latter, there are very strong demand increases from the current supply levels for all the materials by 2050, particularly for graphite (26x), lithium (21x) and nickel (16x). Strikingly, China dominates global supply: in 2020 its production accounted for 60% of refined cobalt, 93% of graphite active materials (from natural and synthetic graphite), 69% of refined lithium, 79% of battery-grade manganese and 63% of nickel sulphate production capacity. Both the EU and the US rely significantly on imports of these materials, albeit not all are sourced from China.
Table 1 – EU and US import reliance and main suppliers of batteries materials, 2021

<table>
<thead>
<tr>
<th></th>
<th>EU import reliance*</th>
<th>US import reliance*</th>
<th>EU main supplier</th>
<th>US main supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobalt</td>
<td>81 %</td>
<td>69 %</td>
<td>N/A**</td>
<td>Norway (20 %)</td>
</tr>
<tr>
<td>Graphite</td>
<td>99 %</td>
<td>100 %</td>
<td>China (40 %)</td>
<td>China (33 %)</td>
</tr>
<tr>
<td>Lithium</td>
<td>100 %</td>
<td>40 %</td>
<td>Chile (79 %)</td>
<td>Argentina (54 %)</td>
</tr>
<tr>
<td>Manganese</td>
<td>96 %</td>
<td>100 %</td>
<td>South Africa (41 %)</td>
<td>Gabon (65 %)</td>
</tr>
<tr>
<td>Nickel</td>
<td>75 %</td>
<td>83 %</td>
<td>Russia (29 %)</td>
<td>Canada (54 %)</td>
</tr>
</tbody>
</table>

*Import reliance = (Import - Export) / (Domestic production + Import - Export)

** While the Commission states 'N/A' here, the Democratic Republic of Congo supplies 63 % of the globe's cobalt.

Data source: Author’s calculations based on European Commission, Congressional Research Service and Observatory of Economic Complexity data.

First steps

The Biden administration has been supporting the take up and production of electric vehicles in many ways, mainly by stimulating demand, financing charging infrastructure, funding the strengthening of manufacturing capacity and supply chains – including through programmes, and by electrifying the federal fleet. Similarly to the EU, the US is expecting a sharp increase in battery materials demand, driven mostly by the rising electric fleet penetration of the market (Figure 3). For example, by 2045 demand for nickel is expected to grow ten-fold, lithium nine-fold, and manganese six-fold.

Figure 3 – US battery materials demand


In order to meet this demand, Congress has embedded various support measures in enacted legislation, such as the Infrastructure Investment and Jobs Act (H.R. 3684). However, it is the other flagship imitative of President Biden that has grabbed the headlines in Europe – the Inflation Reduction Act (IRA) (H.R. 5376). It was enacted, among other things, to boost consumer demand for
EU-US critical minerals agreement

Electric vehicles and strengthen their supply chains, including those of battery minerals. The IRA enables state funding to incentivise purchases of new electric vehicles, by offering consumers a tax credit of up to US$7,500 per car. Prior to the IRA’s enactment in August 2022, the majority of US- and foreign-manufactured electric vehicles were eligible for tax credits. This was subject to a cap of 200,000 vehicles per manufacturer. The IRA removed this cap but introduced new requirements, notably relating to assembly and sourcing.

To start with, in order to qualify for IRA tax credits, the final assembly of vehicles must take place in North America. To be eligible for a full US$7,500 credit, vehicles must meet sourcing requirements for both the critical minerals and battery components. The cars that meet one of the two requirements are eligible for a partial US$3,750 credit. To fulfil the critical mineral requirement the set percentage of the value of the critical minerals contained in the battery must be extracted or processed in: (i) the US, or (ii) in a country that has a free trade agreement (FTA) with the US, or (iii) be recycled in North America. This percentage for critical materials increases from 40% in 2023 to 80% in 2027, by 10% each year. To meet the battery component requirement, the applicable percentage of the value of the battery components must be manufactured or assembled in North America. This percentage rises in incremental steps from 50% in 2023 to 100% in 2029. Starting in 2024, an eligible vehicle may not contain any battery components that are manufactured by a foreign entity of concern, and from 2025 any critical minerals that were extracted, processed, or recycled by such entity.

While the EU welcomed the commitment of the US to address climate change via IRA, some aspects – particularly those relating to tax credits – provoked criticism and fears that it would drive the EU firms across the pond so that they can benefit from the governmental support in America. In November 2022, the EU submitted its preliminary stance on the IRA to the US Internal Revenue Service. It expressed concerns over nine of the IRA’s tax credit provisions, underlining that: ‘While each of these tax provisions is problematic by itself, the potential for cumulative market distortion and possible adverse effects is even greater’. The disputes around the IRA cast a long shadow over the third ministerial meeting of the EU-US Trade and Technology Council (TTC) in Maryland. Within the TTC framework, a dedicated EU-US Task Force on the Inflation Reduction Act was launched in October 2022 to address the EU’s concerns in relation to the IRA. Following the ministerial meeting in Maryland and the work done by the task force, some of the EU concerns were addressed. On 29 December 2022, the US issued guidance reaffirming that EU companies could benefit from the commercial clean vehicle credit scheme under the IRA, without the need for any changes to EU producers’ established or envisaged business models. The task force confirmed that it would continue working to find further solutions, for example by enabling the EU to be treated in the same way as US FTA partners. In parallel, the EU announced its intention to establish a Critical Raw Materials Club for like-minded countries willing to boost their supply chains. The club is expected to be inaugurated in 2023.

EU-US critical minerals agreement

European Commission President Ursula von der Leyen and US President Joe Biden met in the White House on 10 March 2023. In their joint statement they stated their willingness to deepen ‘cooperation on diversifying critical mineral and battery supply chains, recognising the substantial opportunities on both sides of the Atlantic to build out these supply chains in a strong, secure, and resilient manner’. They added that their intention was an agreement enabling relevant critical minerals extracted or processed in the EU to count toward requirements for clean vehicles in the Section 30D clean vehicle tax credit of the IRA. The agreement’s objective would be to further the shared goals of boosting mutual mineral production and processing and expanding access to sources of critical minerals that are sustainable, trusted, and free of labour abuses. The partners would cooperate to reduce unwanted strategic dependencies in supply chains, and to ensure that supply chains are diversified and developed with trusted partners.
On 10 March 2023, the US forwarded a proposal for a critical minerals agreement (CMA) to the Commission, which subsequently transmitted it to the Council and Parliament on 21 March 2023. Following this, on 31 March 2023, the US Treasury Department published a notice of proposed rulemaking, making it clear that the Biden administration was treating the CMA as a new category of FTA, for the purposes of the IRA tax credits.

On 14 June 2023, the Commission adopted draft negotiating directives for a critical minerals agreement with the US. The overall objective is to support development of EU-US supply chains in critical raw materials needed in the production of electric vehicle batteries.

In the context of the recommendation for a Council decision authorising the opening of negotiations, the Commission argues that the provisions of IRA on clean vehicle credits are increasingly excluding EU-originating critical minerals, which is having a negative effect on the EU's export possibilities. The value of EU exports of relevant critical minerals to the US was €8.3 billion in 2022, representing 16.3% of total EU exports of these commodities. The FTA partners of the US do not encounter such obstacles under the IRA. The Commission also notes that 'the US has made clear that the conclusion of a CMA is needed to grant the EU equivalent status to US free trade agreement partners for the purpose of the clean vehicle credit'.

Notably, there was no EU impact assessment of the proposal, given the political imperative to move ahead swiftly in order to minimise transatlantic trade tensions in the aftermath of the IRA, and to ensure that minerals extracted or processed in the EU would qualify for clean vehicle tax credits as soon as possible. The Commission also underlined that the proposal was in line with the positive economic agenda of the Trade and Technology Council (TTC) as well as with the proposed critical raw materials act of 16 March 2023, designed to boost EU cooperation with third countries. Such partnerships seek to stimulate 'sustainable investments in critical raw material value chains and other components down the value chain'. The idea of a CMA is also consistent with the proposed net zero industry act, which aims to 'scale up the EU manufacture of key carbon neutral or technologies to ensure secure, sustainable and competitive supply chains for clean energy in view of reaching the EU's climate and energy ambitions'.

According to the directives for negotiation, the CMA should:

- contain provisions on strengthening international supply chains of critical minerals;
- be compliant with World Trade Organization rules and in line with the European Battery Alliance and the proposed critical raw materials act;
- strengthen the trade in and diversification of international supply chains of critical minerals and promote the adoption of electric vehicle battery technologies;
- ensure robust trade-related labour and environmental standards in supply chains of critical minerals, and cooperation in efforts to ensure that they are secure, sustainable, and equitable.

To facilitate trade, the CMA should:

- expand access to sources of critical minerals that are sustainable, trusted and free of labour abuses, and promote fair competition and market-oriented conditions for trade in critical minerals;
- aim to build a shared understanding of distortive non-market policies and practices in critical minerals, as well as other related sectors and develop coordinated action to foster supply chain diversification, reduce vulnerabilities, and de-risk strategic dependencies.

To improve sustainability, the CMA should:

- encourage cooperation in ongoing work including on international standards for critical minerals lifecycle assessment, extraction, labelling and recycling;
- promote high levels of environmental protection;
The labour aspects of the CMA should:

- promote high levels of workers' protection, including against any employment discrimination in accordance with the International Labour Organization's fundamental principles and rights at work.

The agreement also needs to give explicit recognition to the importance of consulting with a wide range of stakeholders on trade policy related to critical minerals supply chains, including labour, environmental and business organisations, representatives of SMEs, and civil society organisations. It should recognise the importance of continued bilateral and plurilateral efforts to strengthen sustainable and equitable supply chains. To that end, the EU and the US will cooperate with each other and in relevant forums. Notably, the directives do not contain provisions on enforcement or dispute settlement.

On 20 July 2023, the Council adopted a decision authorising the Commission to open CMA negotiations, on behalf of the EU, with the US – as well as the related negotiating directives. Following this, the Commission commenced formal negotiations with a view to concluding the agreement in the near term. Speaking to the INTA committee in July 2023, Matthias Jørgensen from the European Commission said that the proposal for CMA submitted by the US covers five raw materials, namely cobalt, graphite, lithium, magnesium, and nickel, with transatlantic trade worth around €1 billion. However, the Commission wishes the CMA to cover all 50 of the materials listed in the IRA (trade worth €23 billion), as well as copper, osmium, phosphorus, silicon, strontium and boron.

Some sticking points in negotiations are: (i) Washington's demand that the parties notify each other of specific investments in the context of their respective investment screening mechanisms (not possible under EU law); (ii) the idea that both parties should together work to address concerns of specific workers affected by labour law violations (not within EU competence); (iii) that parties will 'promote employer neutrality in union organisation and operation' (not an EU competence), and (iv) the US interpretation of national security exceptions is divergent from the WTO one, which is the only one acceptable to the EU.

Once the negotiations have been finalised, the agreement would need to be adopted by the Council. Importantly, the CMA would also require the consent of the European Parliament.

US-Japan CMA

The first and so far only US CMA was signed with Japan on 28 March 2023. It defined 'critical minerals' as cobalt, graphite, lithium, manganese, and nickel. The parties committed not to restrict the import or export of critical minerals or impose export duties. They agreed to consult on potential domestic measures to address those non-market policies and practices of other countries, which affect trade in critical minerals and their supply chains. Similarly, they pledged to exchange best practices on review of foreign investments in their critical minerals sectors. They also agreed to promote market-oriented conditions and competition.

Furthermore, they pledged to develop sustainable critical mineral supply chains through work on international standards on labelling and recycling, improving domestic environmental protection laws for critical minerals, ensuring responsible sourcing, evaluating the environmental impact of critical minerals projects, and promoting circular economy, among others. They also highlighted their intention to engage in, share information on, and undertake enforcement actions relating to labour rights in critical minerals extraction and processing sectors. The US and Japan also decided to cooperate to discourage the importation of goods containing critical minerals produced using forced labour. This executive agreement entered into force upon signature without Congress approval.
The MSP was set up in 2022 to catalyse public and private investment in responsible critical minerals supply chains globally. The MSP partners are: Australia, Canada, Finland, France, Germany, India, Italy, Japan, Norway, South Korea, Sweden, the United Kingdom, the US and the EU (represented by the Commission).

The objective of the MSP is to speed up the development of diverse and sustainable critical minerals supply chains (relevant for clean energy technologies), by cooperating with host governments and industry. The MSP offers financial and diplomatic support for strategic projects along the whole clean energy value chain: from mining, extraction, and secondary recovery, to processing, refining, and ultimately, recycling. It prioritises lithium, cobalt, nickel, manganese, graphite, rare earth elements, and copper, but other minerals are not excluded. Its main avenues of action are enhanced information sharing, investment in supply chains characterised by high environmental and social governance standards, and the development of recycling technologies.

Expert views

The 31st Global Trade Alert Report examines the US-Japan CMA critically highlighting that it is an executive agreement in the US, which can be terminated with 90 days' written notice. It argues that 'no private sector investor in the extraction or processing of critical materials will be afforded much comfort by this Agreement'. It is, according to the report, 'difficult to see how accords like this are going to reduce the significant inherent policy-related risks associated with multi-year investments in critical raw materials sectors'.

Jennifer Harris, former Senior Director for International Economics & Labor on the US National Security Council, argued that while US agreements with Japan and EU 'offer a promising opening', they are not enough to meet skyrocketing demand. The US and its partners should co-operate to boost overseas production and they should bring minerals' exporters to the negotiating table and offer them incentives to expand production responsibly. Otherwise, bringing together only buyers risks leading to the creation of OPEC-style cartels among the producers.

Global Policy Watch has highlighted that a CMA that does not have Congressional approval is drawing criticism from lawmakers. It adds that the CMA with Japan set a precedent for these types of agreements. If the CMA with the EU is similar, it will be very narrow in scope – the agreement with Japan covers only five critical minerals while there are 50 covered under the IRA.

The Congressional Research Service has assessed that the CMA negotiations with the EU may pose a number of oversight and legislative issues. Firstly, while the agreement may give partners more common ground to address challenges of shared concern together, it also 'could be a lost opportunity for them to make more ambitious commitments through concessions in broader-based trade negotiations'. Secondly, a limited scope of the CMA when compared with an FTA may give rise to potential WTO disputes or unilateral retaliation from other countries. Thirdly, lack of Congressional oversight may be a sign of the Biden administration limiting the legislature's role in US trade policy, which is causing backlash from policymakers.

Law firm White & Case maintains that the EU is seeking to keep the CMA with the US under its exclusive competence to avoid a potentially lengthy process for negotiation and ratification of the agreement. It also argues that this is echoed in the EU's mandate, which includes an explicit commitment to 'facilitate trade and expand market access', while the wording on labour and sustainability aspects is much softer. The lawyers suggest that in contrast, the US is interested in including more binding commitments in the CMA with the EU compared with the CMA with Japan, as US lawmakers criticised the lack of such meaningful provisions in the latter. Reportedly, the US is therefore seeking meaningful binding commitments for the CMA with EU in order for it to qualify as an FTA. So far there is however no plan to put it to the vote in Congress.
The European Parliament adopted a resolution on the ‘opening of negotiations of an agreement with the United States of America on strengthening international supply chains of critical minerals’ on 14 September 2023. MEPs welcomed the launch of negotiations on the CMA and underlined that it should fully respect the EU climate and sustainability acquis. The future agreement should also foster supply chain diversification and de-risking, and reduce vulnerabilities and unwanted strategic dependencies. The European Parliament called on both parties to agree that all minerals listed in the IRA are covered, and to define the list of sectors connected with the critical minerals that are the subject of this CMA. It also called for critical minerals obtained through recycling to be included in the scope of the agreement. Parliament underlined the importance of the inclusion of a transparency mechanism for the reciprocal sharing of information about public support provided to the critical minerals sector, as well as of an early warning system for critical mineral supply chain disruptions. MEPs demanded that the Commission carry out an ex post impact assessment on the agreement and analyse the extent to which it is achieving its stated objectives, within a maximum of 2 years of its ratification. Finally, Parliament noted that any formal agreement resulting from the CMA negotiations would require its consent.
MAIN REFERENCES

European Council, Decision authorising the opening of the negotiations on CMA and the Negotiating Directives, 2023.


ENDNOTES

1 While the EU tends to use the notion of ‘(raw) materials’, the US frequently refers to ‘minerals’. For the purposes of this paper, the two terms are used interchangeably.

2 The most commonly used varieties are lithium cobalt oxide (LCO), lithium manganese oxide (LMO), lithium iron phosphate (LFP), lithium nickel cobalt aluminium oxide (NCA) and lithium nickel manganese cobalt oxide (NMC). Another, fast-charging battery type is the global lithium titanate (LTO).

3 Benchmark Mineral Intelligence predicts that to meet global demand for minerals required for electric vehicles batteries, at least 384 new graphite, lithium, nickel, and cobalt mines are needed in the next 12 years. When factoring in recycling, it estimates that 336 new mines are needed. It would require for example 59 lithium mines, while currently only 26 are in operation globally.

4 The act includes multiple sections relating to the take up of electric vehicles and boosting the domestic supply of the critical minerals used in the batteries. Some examples include: Section 11401, Grants for Charging and Fueling Infrastructure; Section 40201, Earth Mapping Resources Initiative; Section 40207, Battery Processing and Manufacturing; Section 40208, Electric Drive Vehicle Battery Recycling and Second-Life Applications Program; Section 40210, Critical Minerals Mining and Recycling Research; Section 40401, Department of Energy Loan Programs; Section 71101, Clean School Bus Program; Division J, and Title VIII, National Electric Vehicle Formula Program.

5 The car prices should not exceed the manufacturers’ suggested retail prices of US$ 80 000 for a van, pickup truck, or sport utility vehicle, or US$55 000 for any other vehicle.

6 Apart from Japan, which has a CMA with the US, these include: Australia, Bahrain, Canada, Chile, Columbia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Israel, Jordan, South Korea, Mexico, Morocco, Nicaragua, Oman, Panama, Peru, and Singapore.

DISCLAIMER AND COPYRIGHT

This document is prepared for, and addressed to, the Members and staff of the European Parliament as background material to assist them in their parliamentary work. The content of the document is the sole responsibility of its author(s) and any opinions expressed herein should not be taken to represent an official position of the Parliament.

Reproduction and translation for non-commercial purposes are authorised, provided the source is acknowledged and the European Parliament is given prior notice and sent a copy.


Photo credits: © Sawitree / Adobe Stock.

eprs@ep.europa.eu (contact)

www.eprs.europa.eu (intranet)

www.europarl.europa.eu/thinktank (internet)

http://epthinktank.eu (blog)