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US and EU Support for Critical Minerals

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The Inflation Reduction Act

- Part I – Overview of the Inflation Reduction Act
- Part II – Advanced Manufacturing Production Credit (Section 45X)
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- Part IV – Free Trade Agreement
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The Inflation Reduction Act

- The Inflation Reduction Act (“IRA”)

- Signed into law by President Biden in August 2022
- It includes the general tax credit framework from the “Build Back Better Act” passed in 2021 and also builds on Biden’s “Bipartisan Infrastructure Investment and Jobs Act”, however, the IRA amplified the focus on clean energy and progress towards reaching net-zero climate goals.
- The IRA originally included \$369 billion in extensive green tax incentives being the largest most aggressive US investment in climate programs to date.
 - One year later, recent studies show that the IRA will provide an estimated \$1.2 trillion dollars in tax incentives over the course of the next decade.
- The IRA is targeted to, among other things:
 - Accelerate private investments in clean energy solutions
 - Strengthen critical mineral supply chains and boost domestic manufacturing
 - Increase job creation and investments in underserved and over-polluted communities

The Inflation Reduction Act

- Section 45X – Advanced Manufacturing Production Credit

- Created tax credits for the production of certain “Eligible Components” in the United States sold to unrelated persons
- The category of Eligible Components includes: (i) solar energy components, (ii) wind energy components, (iii) inverters, (iv) qualifying battery components and (iv) any applicable “Critical Mineral”
 - Below is a list of the 50 Critical Minerals designated by the IRA (sourced from the Energy Act of 2020):
 - Aluminum, antimony, arsenic, barite, beryllium, bismuth, cerium, cesium, chromium, *cobalt*, dysprosium, erbium, europium, fluorspar, gadolinium, gallium, germanium, *graphite*, hafnium, holmium, indium, iridium, lanthanum, *lithium*, lutetium, magnesium, *manganese*, neodymium, *nickel*, niobium, palladium, platinum, praseodymium, rhodium, rubidium, ruthenium, samarium, scandium, tantalum, tellurium, terbium, thulium, tin, titanium, tungsten, vanadium, ytterbium, yttrium, zinc, and zirconium
 - There are certain purity requirements that must be maintained for tax credit eligibility
 - “Lithium which is - (i) converted to lithium carbonate or lithium hydroxide, or (ii) purified to a minimum purity of 99.9 percent lithium by mass.”

The Inflation Reduction Act

- Section 45X – Advanced Manufacturing Production Credit
 - Controversial Copper – “Metal of Electrification”
 - Copper plays an integral part in the energy transition as it is used in solar components, wind components, EVs and other sectors.
 - Demand for copper is quickly increasing, with a prediction that the 2023 levels (resulting from the IRA acceleration) will double that of 2021. *The US is import dependent for copper.*
 - In 2022, **65%** of the US’s refined copper imports were from Chile (only 21% of Chile’s exports)
 - In March 2023, the USGS controversially denied adding copper to its list of critical minerals because its supply chain vulnerabilities were mitigated by domestic capacity and trade with reliable partners.
 - In August 2023, the Department of Energy (“DOE”) announced its Critical Materials Assessment for 2023, and included copper as a “Critical Material” because it was designated as “near-critical” in the medium term (2025- 2035). The DOE announced that the list will “inform eligibility” for government subsidies under the IRA.
 - First time copper has been included as critical, following the EU, Canada, Japan and China

The Inflation Reduction Act – Section 45X

- Section 45X – Advanced Manufacturing Production Credit
 - Eligibility began for the sale of Eligible Components sold after December 31, 2022.
 - Tax credit depends on the type of component or material produced:
 - Electrode: an amount equal to 10% of the costs incurred by the taxpayer with respect to production of such materials
 - Battery: flat amount + xkW hour
 - Mineral: **10% of the costs incurred by the taxpayer with respect to production/extraction**

The Inflation Reduction Act – Section 45X

- Section 45X – Advanced Manufacturing Production Credit
 - The tax credits can be “stacked”
 - The tax credits are also eligible for a direct cash payment if there is not sufficient operating income
 - The tax credits can also be transferred in exchange for cash
 - There is phase-out for Eligible Components under Section 45X
 - 75% for eligible components sold in 2030
 - 50% for eligible components sold in 2031
 - 25% for eligible components sold in 2032, and credits are no longer available after 2032
 - **There is no phase-out for Eligible Components that consist of Critical Minerals**

The Inflation Reduction Act

- Section 30D – Clean Vehicle Tax Credit

- Clean Vehicle Tax Credit (\$7,500 credit) was continued by the IRA but stringent new conditions were added.

- New clean motor vehicles that meet the *Critical Minerals Requirement* are eligible for a \$3,750 tax credit
- Vehicles that meet *the Battery Component Requirement* are eligible for a \$3,750 tax credit

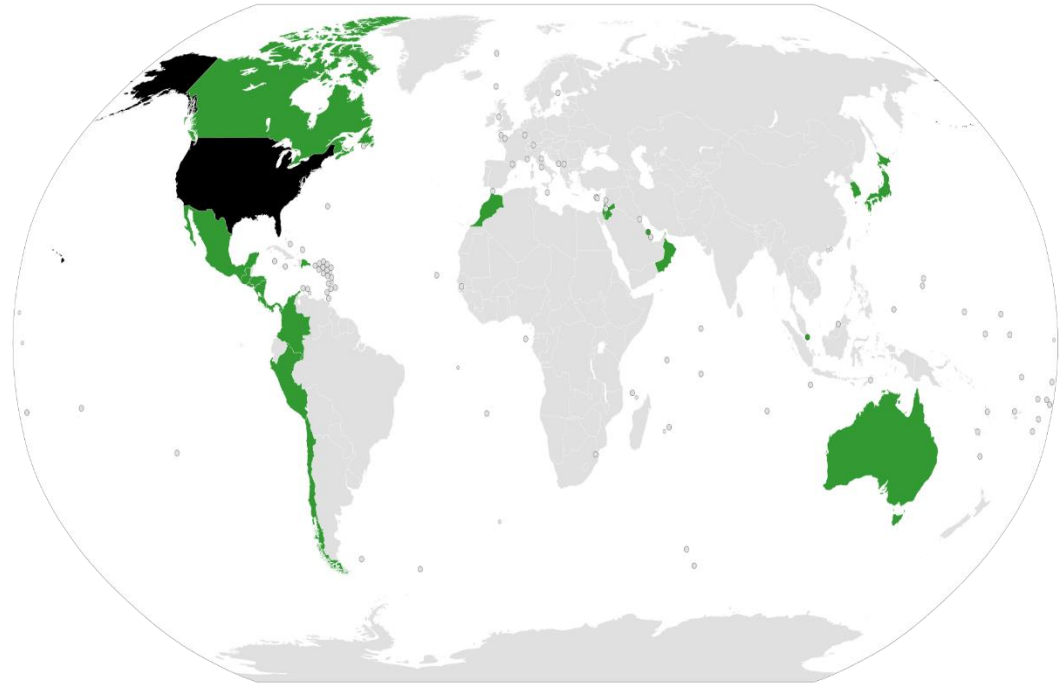
- Key Requirements

- To be treated as a “qualifying critical mineral” for the **Critical Minerals Requirement**, the critical minerals used in the EV battery must be either: (1) extracted or processed in the United States or in a country that has a free trade agreement (“FTA”) with the United States or (2) recycled in the United States.
 - 50% Value Added Test - If 50% of the value added of mining, processing or recycling the critical mineral occurred in the US or an FTA partner country then it is deemed a “qualifying critical mineral”
- To qualify for the subsidy for the **Battery Component Requirement**, the battery must contain a certain percentage of “qualifying critical mineral content”. The required share starts at **40%** for 2023 and increases 10 percentage points each year until it reaches **80%** at the end of 2026.
- **Starting in 2025**, an EV battery may not contain any critical mineral that was extracted, processed or recycled by a foreign entity of concern.

The Inflation Reduction Act

- Australia
- Bahrain
- Canada
- Chile
- Colombia
- Costa Rica
- Dominican Republic
- El Salvador
- Guatemala
- Honduras
- Israel
- Jordan
- Korea
- Mexico
- Morocco
- Nicaragua
- Oman
- Panama
- Peru
- Singapore
- USMCA
- Japan* - limited to battery minerals:

cobalt, graphite, lithium, manganese, and nickel



The Inflation Reduction Act

- Additional Loan Programs and Incentives
- Qualified Advanced Energy Project Credit (48C)
 - Established by the American Recovery and Reinvestment Act of 2009
 - The IRA expanded the program by appropriating up to \$10 billion in investments (current round allocated \$4 billion)
 - Covers projects that expand clean energy manufacturing and recycling and critical minerals refining, processing and recycling projects that reduce GHG.
 - Qualified investments may be allowed a tax credit of up to 30%
- Title XVII – Energy Policy Act of 2005
 - Clean Energy Financing Program (Section 1703)
 - Additional expansion of \$40 billion in guarantees for Loans for Eligible Projects through September 2026
 - Previously available to fossil energy and nuclear energy projects and now expanded to critical minerals processing and manufacturing

The Inflation Reduction Act

- Additional Loan Programs and Incentives

- EIR Program - Energy Infrastructure Reinvestment Program (Section 1706)
 - New Long Term Loan program of up to \$250 billion in guarantees for Loans for Eligible Projects
 - Projects that retool, repurpose or replace energy infrastructure that are no longer operating and projects that enable operating energy infrastructure to avoid, reduce, utilize or sequester air pollutants or GHG emissions
- Energy Independence and Security Act of 2007 – Advanced Technology Vehicles Manufacturing Direct Loan (Section 136d)
 - The IRA removed the program’s \$25 billion lending cap and allocated an additional \$3 billion to remain available through September 30, 2028 (current estimates project amounts will increased be up to \$40 billion)
 - New Loans for automakers for a range of advanced technology vehicles and components
- Domestic Manufacturing Conversion Grants (IRA 50143)
 - The IRA appropriated \$2 billion in grants to remain available through September 30, 2021
 - Funding to support the domestic manufacturing of efficient hybrid, plug-in hybrid, electric and fuel-cell vehicles.

The Inflation Reduction Act

- Additional Loan Programs and Incentives
- Defense Production Act
 - The IRA included \$500 million for the enhanced use of the DPA to assist with strengthening the US supply chain for critical minerals to remain available through September 30, 2024.
 - \$90 million grant to help Albemarle Corporation purchase fleet of mining equipment for its King's Mountain lithium facility.
 - \$20.6 million grant to Talon Nickel, LLC to increase domestic production of nickel.
 - \$37.5 million grant to Graphite One (Alaska) to secure a reliable sustainable supply of graphite materials in the US to be used in the production of large-capacity batteries.

The Inflation Reduction Act

- Implications and Unknowns

- Tax credits or not, cheaper is cheaper

- *“US lithium producer Albemarle’s [refinery in China] is projected to cost around \$500 million for 50,000 tons LCE. Their equivalently sized facility in South Carolina, USA is projected to cost \$1.3 billion. IRA tax credits may lessen the burden on companies operating in the US, but ultimately the bill has to be paid, whether by a company or a government subsidizing the industry.”*

<https://source.benchmarkminerals.com/article/financing-the-battery-arms-race-the-514-billion-cost-of-bridging-the-global-ev-supply-chain-divide>

The Inflation Reduction Act

- Implications and Unknowns

- While there is pressure around the world to sign up FTAs, and get battery factories started in the US, it is not clear that this will solve the *manufacturing issue* or the *domestic content issue*.
- Mining timeframes take much longer than manufacturing timeframes.
 - Gigafactories can be built in just a couple of years
 - Refineries can be built in 2 years
 - Mines needed to supply the minerals take between 5 to 25 years
- Despite the US government providing credits or capital (via loans) to get these domestic projects up and running, if these projects do not have offtake agreements at a high enough price to get them operating and profitable, they will be competing against Chinese producers that can use their market power to undercut costs and these projects may end up failing at the end of the day.

The Inflation Reduction Act

- Implications and Unknowns

It's... *working*?!

- *"The Inflation Reduction Act could cut economy-wide carbon dioxide emissions by 35% to 43% below 2005 levels by 2030..."*
 - Diana DiGangi, IRA could cut economy-wide carbon emissions by up to 43% by 2030: EPA, September 13, 2023. [ps://www.utilitydive.com/news/epa-inflation-reduction-emissions-cut-potential/693531/](https://www.utilitydive.com/news/epa-inflation-reduction-emissions-cut-potential/693531/)



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Meaghan Connors is a counsel in the Banking & Finance practice of Mayer Brown's Houston office. She represents lenders and borrowers in connection with various types of financings. Her experience includes secured and unsecured commercial transactions such as credit facilities for working capital, asset-based financings, acquisitions, refinancings, high-yield debt offerings, debtor in-possession financings and other types of debt financings. Meaghan has a particular emphasis on the energy-related industries (hard rock mining and oil and gas transactions).

See Meaghan's articles below that she has written on the IRA, Mining, Decarbonization and the Energy Transition.

- *ICLG Mining Laws and Regulations USA 2024 (September 19, 2023)*
- *Progress Towards EU-US Critical Minerals Agreement (June 20, 2023)*
- *US Treasury Issues Proposed Regulations on Section 30D Clean Vehicle Credit and Critical Minerals Components (April 3, 2023)*
- *US and Japan Enter into Critical Minerals Trade Deal (March 29, 2023)*
- *Critical Minerals and Electric Vehicle Battery Sourcing Requirements Under the IRA: Waiting with Bated Breath (March 24, 2023)*
- *Decarbonization: The Requirements for –and Role of– Mining Companies (March 16, 2023)*
- *Strengthening the US Supply Chain for Critical Minerals and the Inflation Reduction Act – Opportunities and Challenges (September 29, 2022)*



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