



Joint Press Release – 15 March 2024

KU Leuven & Storyrunner - Horizon Europe ENICON, EXCEED, AVANTIS, CICERO & LITHOS - Prometia



Europe's Mining Renaissance, a Catalyst for Climate Neutrality: new documentary on Europe's quest to mine its own energy-transition metals

In April 2024, the European Commission's Critical Raw Materials Act is expected to become official law. The Act sets key benchmarks for diversifying Europe's critical and strategic raw materials supply chains, so that Europe becomes less dependent on a few third countries such as China and Russia. One of the benchmarks is that, by 2030, Europe needs to achieve at least 10% of domestic extraction of key metals such as lithium, cobalt, nickel, copper and rare earths. Without access to these metals Europe will not be able to feed its cleantech factories for batteries, electric vehicles, wind turbines *etc.* To meet the 10% target Europe will need no less than a Mining Renaissance. On 27 March 2024, during the prestigious DOCVILLE film festival in Leuven, the KU Leuven Institute for Sustainable Metals and Minerals (SIM²) will be releasing a new Storyrunner documentary that investigates the status of this Mining Renaissance in Europe. The documentary was developed with financial support from KU Leuven and the Horizon Europe projects ENICON and EXCEED, with additional public outreach support from several other EU projects and the Prometia association. The premiere of the film will be followed by a high-level panel debate. At the time of writing already more than 500 people were registered to join the première event.

With the launch of BYD's new electric vehicle-carrying mega-ships, the tsunami of BYD and other Chinese Electric cars and buses is no longer a distant possibility but is rapidly becoming part and parcel of the new economic reality. What is happening in the field of Chinese EVs, has also become the norm for Chinese electric buses, wind turbines, heat pumps, electrolyzers, solar panels... With more than 65% of the respective markets, China dominates in all these clean technologies. During the last decades, China has perfected visionary, long-term, vertically-integrated value chains, from mine-to-final-cleantech-product.

What about Europe? Well, Europe has been asleep at the wheel while the Chinese gradually built up their dominance. For many decades, Europe has been importing (refined) raw materials from the Global South, while exporting the social, environmental and cultural impacts (of substandard mining & refining) to that same Global South. In the New World (Dis)Order, this hypocritical and, ultimately, self-defeating stance is no longer tenable. Jones: *"Make no mistake about it: the era of neoliberal, free-trade globalisation is over. The*

age of protectionism and resource nationalism is upon us, driven by the United States' Inflation Reduction Act and China's all-conquering state capitalism and its Belt & Road Initiative. If Europe wants to prevent a disastrous scenario of de-industrialisation and widespread poverty, it must alter its path, pushing for a cleantech-based reindustrialisation."

Hungry gigafactories. Without domestic metals and minerals, Europe's flashy battery gigafactories and EV assembly lines – often co-funded through state aid – will be critically dependent on third countries, endangering Europe's climate targets if/when those countries decide to stop exporting (refined) raw materials. Just like China, Europe needs vertically-integrated mine-to-cleantech value chains, in which the upstream (raw materials provision) part is finally taken seriously. This implies the need for a European Mining Renaissance. Not the dirty coal mining of old that fuels the global heating problem, but future-oriented, responsible mining and refining of the energy-transition metals that are needed to catalyse Europe's climate change strategy. According to Peter Tom Jones a European Mining Renaissance *"could and should bring together Europe's diverse political factions, transcending traditional left/green-right divides."*

European road trip. For this documentary, the film's presenter, Peter Tom Jones, travelled to the far North of Sweden and Southern Finland. He descended 1,400 m underground to explore the illustrious underground iron ore/rare earth mine in the Arctic town of Kiruna, and visited Europe's largest open pit copper mine and its vast tailing ponds in Aitik. To obtain a view of the indigenous people of the far North, Jones engaged with a key spokesperson from the reindeer-herding Sami in their homeland of Sapmi, where he also met with local citizens in Kiruna. In Finland he got to visit a bespoke battery assembly plant that is asking for more EU-sourced input materials, while in Belgium he interviewed various experts about Europe's CRM potential and how mining waste can be transformed into green, low-carbon construction materials.

Jones also sat down with the European Commission's Executive Vice-President Maroš Šefčovič to see how Europe's new Critical Raw Materials Act aligns with the need to open new energy-transition mines. Šefčovič corroborated the urgent need for Mining Renaissance in Europe: *"Mining had a bad aura around it, but that is gradually changing. We know that the European mines are the most responsible ones in the world. It's our ethos. But, to meet the 2030 targets of the Critical Raw Materials Act, we will need to make it a little easier for the investors to come and invest in new European energy-transition mines."* Will Europe get its act together and secure its strategic autonomy? Will the "strategic projects" within the Critical Raw Materials Act – that would benefit from access to finance and shorter permitting timeframes – trigger the opening of new energy-transition mines before 2030? Or will anti-mining opposition and NIMBYism throw a spanner in the wheel? Jones: *"The clock is ticking mercilessly, and Europe is at risk losing out"*.

DOCVILLE & debate. The documentary *Europe's mining renaissance: a catalyst for climate neutrality* will premiere in Leuven on 27 March 2024. The film will be screened during the prestigious DOCVILLE film festival in Aula Vesalius in Leuven. After the film, a panel discussion will take place, featuring the film's presenter, **Peter Tom Jones** (Director SIM² KU Leuven), **Ia Modin** (Partner at Swedish law firm Gozzo Advokater, being of Sami descent she advises clients on Sami issues), **Julia Poliscanova** (Senior Director, Vehicles & E-mobility Supply Chains at Transport & Environment) and **Nick Meyen** (Programme manager climate transition at Leuven 2030). The debate is moderated by **John Vandaele** (MO* Magazine). (For more details about the speakers, see below)

Free tickets for the DOCVILLE Première (Aula Vesalius, Leuven, 27 March 2024, 20h) can be obtained here: <https://www.kuleuven.be/communicatie/congresbureau/formulieren/premiere-panel-discussion-europes-mining-renaissance/view>

(deadline is March 18, 2024)

More information and contact details:

- Dr Peter Tom Jones, Director of the KU Leuven Institute for Sustainable Metals and Minerals, is available for interviews. Email address: peter.jones@kuleuven.be
- The trailer for *Europe's mining renaissance: a catalyst for climate neutrality* is available [here](#). The film will be made available to the general public on the SIM² website on 30 March 2024.
- SIM² KU Leuven recently also launched a mini-documentary which presents the (reindeer-herding) Sami perspective with respect to mining of energy-transition metals in their homeland: <https://kuleuven.sim2.be/mini-documentary-the-sami-perspective/>
- The film crew: Director Stijn van Baarle (Storyrunner) | Presenter Peter Tom Jones (SIM² KU Leuven) | Cameramen Michael Van de Velde & Jérôme Demeyere | Sound technicians Casimir De Kimpe & Marius Acke | Graphic designer Jasper Vander Elst

Biographies of speakers:



Ia Modin (GOZZO Advokater): Ia Modin is an expert in the commercial exploitation of intellectual assets, specialising in commercial contract law, with a focus on innovation, industrial collaborations and commercialisation. Recognised for excellence in negotiating and drafting agreements for long-term strategic innovation partnerships, she represents international and domestic clients in a wide range of sectors, incl. the metals and mining industries. In addition, Ia is of Sami descent and advises clients on Sami issues. Ia Modin is a sought-after keynote speaker on innovation and strategy. She is President Elect of LES Scandinavia, and Co-Chair of the @LESI CEEM (Chemicals Environment Energy and Materials) Committee.



Julia Poliscanova (she/her) (Transport & Environment (T&E): Julia joined T&E in June 2015 and now leads the organisation's vehicles, electrification & supply chains work across Europe. Julia also represents T&E on the board of the Global Battery Alliance. Julia previously worked as senior EU environment expert for the Mayor of London and, as an advisor to an MEP, followed legislation on renewables, energy efficiency & sustainable transport. Hailing from Latvia, Julia studied European politics and French at Goldsmiths, University of London, and holds an MSc in energy from Heriot-Watt University in Edinburgh.



Nick Meynen (Programme Manager Leuven 2030): The last decade, Nick created the economic transition team at the European Environmental Bureau, where he was the senior policy officer for systemic change. He was a co-organiser of the largest event in the EP during von der Leyen's term: the Beyond Growth conference. He is author of books such as "Frontlines. Stories of Global Environmental Justice" – which he also unpacked in a TED talk. Nick recently jumped from working at EU level to Leuven, where he assists with executing the cities' climate contract with the EU in the most ambitious way possible. He has degrees in geography, conflict studies and investigative journalism.



Peter Tom Jones (SIM² KU Leuven): Tom is the Director of the KU Leuven Institute for Sustainable Metals and Minerals (SIM²), an interdisciplinary team of more than 250 researchers focusing on the exploration, extraction, processing, refining and recycling of energy-transition metals. Jones has been working in this field for over 20 years, since completing his PhD in Metallurgy at KU Leuven in 2001. He is the author of several books (e.g. *Terra Incognita* (2006), *Terra Reversa* (2009 & 2016)...) and presenter of documentaries (e.g. *Responsible mining in Europe* (2022), *Made in Europe: from mine to Electric Vehicle* (2023), *The Sami Perspective* (2024), *Europe's Mining Renaissance* (2024)) on the transition to a climate-neutral, circular economy.

Moderator: John Vandaele (MO* magazine)



Acknowledgements



SIM² KU Leuven

SIM² KU Leuven is the KU Leuven Institute for Sustainable Metals and Minerals, one of the flagship KU Leuven Institutes formally endorsed by the KU Leuven Academic Council. SIM² KU Leuven's mission is to develop, organise and implement problem-driven, science-deep research and future-oriented education, contributing to the environmentally friendly production and recycling of metals, minerals and engineered materials, supporting the transition to a climate-friendly, circular-economy. More information: <https://kuleuven.sim2.be/about/>

SOLVOMET

SOLVOMET is KU Leuven's Research and Innovation Centre for Circular Hydrometallurgy. We support mining, metallurgical and recycling companies in the development of more sustainable (circular, low-energy input) hydrometallurgical processes, using state-of-the-art lab and mini-pilot scale experimental facilities and modelling capabilities. SOLVOMET's vision is that metallurgical chemistry expertise allows to develop more efficient eco-friendly hydrometallurgical and solvometallurgical processes to provide the critical metals that are needed for the transition to a climate-neutral society. More information: <https://solvomet.eu/>

Storyrunner

Storyrunner is a video production agency with a strong focus on "science & sustainability". Turning complex information into a fascinating stories for a wide audience is our specialty. We make documentaries but also shorter videos with (or without) graphic animations for TV channels, universities and European research projects. <https://www.storyrunner.be/about>

Horizon Europe ENICON

ENICON is a Horizon Europe-funded Research and Innovation Action project. ENICON stands for "Sustainable processing of Europe's low-grade sulphidic and lateritic nickel/cobalt ores and tailings into battery-grade metals". In view of a "domestic and foreign sourcing" procurement model, ENICON exploits the potential of (low-grade) Ni/Co resources within Europe – i.e. sulphidic Ni/Co ores and derived Ni/Co-bearing pyrite and silicate tailings, and laterite Ni(/Co) ores – while improving and developing the Ni/Co-refining capacity that can process imported ores, concentrates and intermediates. ENICON comprises both major improvements to existing Ni/Co metallurgical unit operations in Europe as well as the development of a new HCl-based route for both Ni/Co sulphide concentrates and laterites. More information: <https://enicon-horizon.eu/about/>

Horizon Europe EXCEED

EXCEED's meta-objective is to unleash the full CRM and industrial mineral potential of Europe's vast Li LCT-pegmatite and Rare-Metal Granite hard-rock resources. Using four premier European pegmatite and RMG case studies, EXCEED

develops, upscales & demonstrates cost-effective, sustainable and responsible extraction routes for recovering the CRMs and industrial minerals as by-products from Li-bearing hard-rock ores. A suite of CRMs will be extracted and refined, while diverse industrial minerals will be refined and valorised in low-carbon building materials. More information: <https://exceed-horizon.eu/>

Prometia

PROMETIA is an international non-profit association that promotes innovation and sustainability in the fields of mineral processing, extractive metallurgy and recycling for metals and materials production. It's mission is to facilitate access to critical and strategic raw materials for European industry and citizens. With over 40 members sharing a vision for responsible raw materials supply in Europe, PROMETIA seeks to enhance European technical skills and industrial know-how in raw materials processing, supporting industrial and economic development. <https://prometia.eu/the-association/>

Horizon Europe LITHOS

By targeting the domestic processing and refining of lithium LITHOS directly contributes to the 1st and 2nd CRMA benchmarks (10% domestic extraction; 40% domestic processing). LITHOS processes and refines the ores from three "Strategic Projects" in terms of domestic battery-grade LiOH·H₂O production: two spodumene-bearing pegmatite cases (Keliber's deposits in the Kaustinen region, Finland; Savannah's Barroso Lithium Project, Portugal) and one Rare-Metal Granite (RMG) case (Imerys' Beauvoir mine in France). LITHOS triggers innovations along the value chain – mineral processing, concentrate pre-treatment & hydrometallurgical refining – making it possible to deal with different levels and types of impurities in non-spodumene Li minerals (lepidolite & petalite). LITHOS gives specific attention to closed-loop water systems in the mineral processing. <https://lithos-horizon.eu/lithos-project/>

Horizon Europe AVANTIS

AVANTIS' rationale is that Europe has a multitude of unexploited, low-grade V-bearing titanomagnetite deposits in Finland, Sweden, Greenland, Norway, Poland and Ukraine. However, these deposits have a complex "spiderweb-like" mineral assemblage. Without selective blasting, selective fragmentation and pre-concentration technologies to separate the Ti-rich ilmenite grains from the V-bearing magnetite, these deposits are not economically viable. Supported by a bespoke forensic geometallurgy, AVANTIS will develop a novel selective-blasting approach that allows for rock excavation with increased mineral liberation at the blasting stage, and reduced energy demand in the crushing and grinding stages. Likewise, AVANTIS designs tailored, water-free and water-lean pre-concentration technologies that can produce two distinct pre-concentrates: (1) ilmenite-rich, Ti-pre-concentrate and (2) ilmenite-free, V-pre-concentrate. <https://avantis-horizon.eu/>

Horizon Europe CICERO

To tackle the twin problems of (1) Europe's dependence on a few third countries for refined Ni, Co and Mn salts, and (2) these metals are currently mined, processed at a massive environmental, health & safety cost in DRC, Indonesia, and China, CICERO will develop a sustainable and cost-effective processing and refining model for Ni, Co and Mn, and their downstream conversion into "made-in-Europe" NMC materials for Li-ion batteries. CICERO's unique and innovative approach is that it integrates the Twelve Principles of Circular Hydrometallurgy with the smart use of methanesulphonic acid (MSA). <https://cicero-horizon.eu/about-cicero/>