Federal Ministry
Republic of Austria
Climate Action, Environment,
Energy, Mobility,
Innovation and Technology

MISSION INNOVATION AUSTRIA

IEA

International Collaboration for ensuring Secure and Sustainable Critical Minerals in Clean Energy Technologies

Webinar organized under the auspices of the
IEA Experts' Group on R&D Priority-setting and Evaluation (EGRD)

13 May, Spring 2022 13:00-15:30 (CET)

A wide range of clean energy technologies include critical minerals such as copper, lithium, nickel, cobalt and rare earth elements (REE) and the shift to a clean energy system will drive a huge increase in the demand for these minerals. This raises questions about the availability and the reliability of supply of these minerals.[1] Another fact to consider is that typically only around 1% of the REE are recycled from end-products, with the rest deporting to waste and being removed from the materials cycle[2]. The IEA has put forward six recommendations to build mineral security, one of which is to step up technology innovation at all points along the value chain – from extraction, processing to end-use in clean energy technologies such as wind turbines, solar cells, electric cars, electrical grids etc. This webinar aims at identifying a number of crucial research activities related to critical minerals, the landscape of international collaboration to ensure a secure and sustainable development and how IEA TCPs may contribute to raising global knowledge around certain clean energy technologies.

Key questions to be answered at the webinar are:

- What RD&D is crucial to unlock new supplies, promote more efficient use of materials, enable material substitutions, scale up recycling and improve environmental and social performance of production operations?
- Is it possible to shortcut the knowledge creation from basic science to application by means of new methods, technologies and mechanisms?
- How can governments support and accelerate RD&D in critical minerals?
- What are the best opportunities for the IEA TCPs to take forward these research questions?

Expected outcomes

The webinar will result in a summary report with the main discussion points and recommendations for further RD&D in critical minerals for clean energy technologies.

Registration: https://nachhaltigwirtschaften.at/en/iea/events/2022/20220513-iea-egrd-meeting.php

[1] https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions
[2] https://www.sciencedirect.com/science/article/abs/pii/S2452223617301256

Introduction: Opening and scene-setting remarks	
13:00 - 13:10	Welcome and introduction by Leonore Gewessler, Federal Minister for Climate Action, Austria IEA CERT by Birte Holst Jørgensen, Chair of EGRD
Session I: Why do we have to secure and diversify investments in critical minerals? Moderator: Johannes Tambornino This session focuses on the role of critical minerals in the clean energy transition.	
13:15	IEA The role of Critical Minerals in Clean Energy Transitions by the IEA Secretariat (Report) Tae-Yoon Kim, Energy Analyst, IEA
Session II: What RD&D is needed along the value chain of critical materials for clean energy technologies? Moderator: Atsushi Kurosawa This session provides examples of how to accelerate the use and production of critical minerals and focuses on RD&D related to: i) demand for critical minerals (efficient use and reuse/recycling, substitution) ii) production and processing of critical minerals (unlock new supplies) iii) circularity, environmental and social impact	
13:45	Building robust critical minerals supply chains through accelerated materials discovery Mark Kozdras, Natural Resources Canada
14:00	Material and Supply Chains Challenges for the Green Energy Transition in the European Union Michalis Christou, Senior Expert, European Commission
14:15	U.S. Department of Energy Critical Minerals and Materials Priorities Dr. Diana Bauer, Acting Deputy Director, Advanced Manufacturing Office, Office Energy Efficiency and Renewable Energy, U.S. Department of Energy
14:30	Energy-saving separation technology for resources recycling with carbon neutrality: Lithium-ion battery, Photovoltaic panel, and multi-materials adhesive Chiharu Tokoro, Waseda University, Japan
Session III: Panel discussion: How can governments accelerate RD&D in secure, affordable and sustainable critical minerals for the energy transition? Moderator: Herbert Greisberger • Bridging the gap between basic and applied research. How to speed up the knowledge transfer? • Related RD&D to ensure energy security and address environmental and social challenges • What is the role for international coordination/cooperation?	
14:45	Panellists: - Mark Kozdras, Natural Resources Canada and Mission Innovation's Materials Initiative - K.C. Michaels, Legal Advisor, IEA - Bert Witkamp (representative from TCP HEV – task 40 Critical raw materials for EV)
15:25	Concluding remarks by Chair EGRD
15:30	End