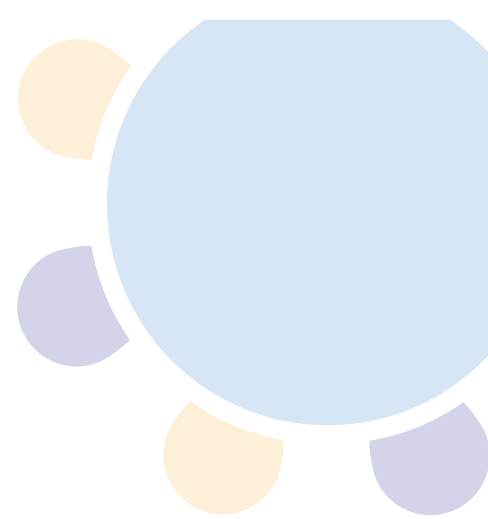




International Round Table
on Materials Criticality



“In-use stocks and secondary supply of Critical Raw Materials”

4th IRTC Round Table
July 7, 2019

About the project

IRTC is an international “Round Table” project on approaches towards assessing materials criticality, taking place in the form of workshops at international conferences. The results are consecutively published in the form of joint scientific papers and a Roadmap on Criticality for authorities. The project shall advance the research in criticality assessment, foster international exchange and education in the topic, identify common ground and differences, and raise awareness towards materials criticality, especially in industry. It shall also lay the cornerstone for a long-lasting international network of internationally leading experts. Awareness towards materials criticality, and its crucial role for a circular economy, shall be raised by creating visibility at established conference with a diverse audience and high impact in research and industry.

IRTC Round Table at the ISIE Conference 2019

Three Round Table events have taken place in 2018 and 2019: the first one in Vancouver, Canada, at the *Resources for Future Generations* Conference, on “How methodology determines what is critical”, a second one in Tokyo at the EcoBalance conference on “Criticality and circular economy”, and a third one at the TMS Annual Meeting and Exhibition in San Antonio, Texas, on “How industry manages criticality”.

The fourth Round Table will take place on July 7, 2019, at the 10th International Conference of the Society for Industrial Ecology in Beijing, China. The event aims at stimulating the discussion on in-use stocks and secondary supply of critical raw materials, and especially Rare Earth Elements, between researchers of different countries. Invited talks in the morning will set the scene on the role of secondary supply for criticality. It will furthermore be addressed how secondary supply can support global efforts towards a sustainable future, and how possible barriers can be overcome. While the first part of the morning covers these broad aspects, the second part will show concrete examples of research and industry efforts to analyse stocks and find new methods to reduce waste. At the Round Table discussion in the afternoon – with Consortium partners and invited guests – these aspects will be carved out in more detail. The outcomes of the session and the Round Table discussion will be summarized and published online to serve as a basis for further discussion. Simultaneous translation Chinese-English on site will help common understanding of the participants.



This activity has received funding from the European Institute of Innovation and Technology (EIT), a body of the European Union, under the Horizon 2020, the EU Framework Programme for Research and Innovation

Morning Programme

	Speaker	Topic
08:30-08:40	Ernst Lutz , ESM Foundation, Switzerland	Welcome address
08:40-09:00	Prof René Kleijn , University of Leiden, Netherlands	Metal supply constraints for a low-carbon future?
09:00-09:20	Dr Anthony Ku , National Institute of Clean and Low-Carbon Energy (NICE), China	The impact of technological innovation on critical materials risk dynamics
09:20-09:40	Dr Weiqiang Chen , Chinese Academy of Sciences	Structure and Evolution of the Global Material Flow Networks of Critical Rare Earth Elements
09:40-10:00	Dr Keisuke Nansai , National Institute for Environmental Studies (NIES), Japan	Nexus of critical metals and sustainable development goals
10:00-10:20	Prof Ester van der Voet , University of Leiden, Netherlands	Environmental risks and challenges of anthropogenic metals flows and cycles
10:20-10:50	<i>Coffee Break</i>	
10:50-11:10	Ms Eliette Restreppo , Empa, Switzerland	Supporting critical metal recycling policy with stocks and flows data: practical experiences and feedback from stakeholders
11:10-11:30	Dr Gang Liu , University of Southern Denmark	The physical economy of critical materials and criticality assessment
11:30-12:50	Dr Jinder Jow , National Institute of Clean and Low-Carbon Energy (NICE), China	Status report of potential critical materials recovery from fly ash in China
12:50-13:10	Prof Danhui Yang , Institute of Industrial Economics at the Chinese Academy of Social Sciences	Secondary Supply of Rare Earth in China: Market Mechanism and Policy Implication
13:10-13:30	Prof Chang Wang , Business School, Central South University	How to mitigate the supply constraints of byproduct metal for clean energy technology

Afternoon Programme

14:30-14:40	Alessandra Hool , ESM Foundation	The IRTC project
14:40-15:10	Presentation of the IRTC junior research award winners (via Skype)	
	Christoph Helbig , University of Augsburg	Supply risks and dissipative losses
	Jane Mwaba Mulenshi , Luleå University of Technology	Secondary sources of critical raw materials
	María Fernanda Godoy León , Ghent University	Assessing the circularity of Co: prediction of the flow of Co in society through eight applications
15:10-17:00	4th IRTC Round Table discussion: In-use stocks and secondary supply of critical raw materials	
	Vanessa Bach , Technical University of Berlin, Germany Weiqiang Chen , Chinese Academy of Sciences Jinder Jow , NICE, China René Kleijn , University of Leiden, Netherlands Anthony Ku , NICE, China Min-Ha Lee , Korean Institute of Technology Gang Liu , University of Southern Denmark Ernst Lutz , ESM Foundation Keisuke Nansai , NIES, Japan Eliette Restrepo , Empa, Switzerland Ester van der Voet , University of Leiden, Netherlands Chang Wang , Central South University Peng Wang , Chinese Academy of Sciences Qiaochu Wang , Chinese Academy of Sciences Danhui Yang , Chinese Academy of Social Sciences <u>Moderator:</u> Alessandra Hool, ESM Foundation, Switzerland	
17:00-18:00	Reception / Apéritif	

More information and contact

www.irtc.info

Alessandra Hool
ESM Foundation, Zürich/Bern, Switzerland
+41 76 511 9655
alessandra.hool@esmfoundation.org