

BIP: SUNMat

Critical Raw Material for Solar Development

General information

Objectives and Description:

Critical raw materials (CRMs) are defined by the European Commission as "raw materials of great importance to the EU economy, the supply of which is associated with high risk". Their technological and economic importance, combined with concerns about their future availability as a result of geopolitical and geological factors, has led to increasing attention being paid to the raw materials used to produce energy from renewable sources. Indeed, in order to build the energy infrastructure essential to meeting greenhouse gas emission reduction targets, significant quantities of mineral resources need to be mobilized. The International Energy Agency also points out that an energy system powered by low-carbon energy technologies needs many more minerals, including copper, silicon and silver for solar photovoltaics. There is currently no shortage of these mineral resources, but recent price rises (copper in particular) show that supply may struggle to keep pace with global climate ambitions. The European Commission recently moved from concern to policy with its action plan on critical raw materials. The criticality of these materials calls for their recycling and the improvement of technologies that do not depend on mineral resource management, which are the two pillars of a global approach to mineral safety.

Methods and outcomes:

- 1) Virtual mobility: (October 2024). Duration: 3 hours of online classes in October 2024 to present the program and give instructions, followed by 20 hours of preparatory work.
- 2) Physical mobility: (November 17, 2024 to November 22, 2024). An intensive week of training through research during the mobility planned from November 17 to November 22, 2024, alternating:
 - workshops with participants in research projects on critical raw material for the energy transition in which IREG(USMB) is a partner or sponsor: ANR Scarcyclet and PEPR SousSol,
 - round-table discussions with professionals and/or lectures by teachers from the UNITA network,
 - PhD students' workshop organized by the French Association of Environmental (or Energy) Economists.
 Duration: 24 hours.

By attending and/or participating to research presentations, students will develop the following skills:

- Understand the fundamentals of multiculturalism;
- Discover the main relationships between solar energy development, critical raw materials and recycling;
- Apply the main methodologies of the social sciences;
- Present work to a scientific audience
- Be aware of the latest developments in solar and critical materials research.

Field of Education:

Engineering, economics, Management

Target audience / Participants profile:

Master's or PhD students in September 2024 with an interest in social sciences and solar energy or raw materials or recycling.

No of ECTS issued:

3 ECTS

Language of instruction and requirements:

English

Dates for physical activity:

17-22 November 2024

Location of physical activity:

Annecy

Dates for virtual component:

October 2024

Virtual Component Description:

Virtual mobility will take the form of an introduction to renewable energies and a bibliographical study on one of the school's themes. After a general presentation of the program, groups will be formed (binational pairs). Scientific publications in the field will be assigned to the groups. The main focus of the preparatory work will be on reading the article and understanding the method for presenting it

Organizing Board

Receiving/Host university:

USMB, France (Aude Pommeret aude.pommeret@univ-smb.fr)

Sending/Partner universities:

Open to any UNITA and non-UNITA university

Detailed programme

| | 17/11 | 18/11 | 19/11 | 20/11 | 21/11 | 22/11 |
|--------------------|---|---|---|--|---|---|
| | | Workshop ANR Scarcyclet+PEPR SousSol | | Professional day | Workshop FAERE/FAEE | |
| 09.00-12.00 | | Research presentations (lecture 1 on renewables and critical materials) | Research presentations (lecture 2 on renewables and critical materials) | Roundtable with companies, in relationship with Chair CLEE on Environmental Economics -scientific supervision by Pr. Aude Pommeret AND/OR Lecture by a teacher form UNITA | Students' presentations | Students' presentations |
| 12.00-14.00 | | Lunch | Lunch | Lunch | Lunch | Lunch |
| 14.00-17.00 | Arrival of international participants} | Research presentations and roundtable | Research presentations (lecture 3 on renewables and critical materials) | Hike | Students' presentations | Departure of international participants} |
| 17.00-19.00 | | Bilateral meetings or general discussion | Bilateral meetings or general discussion | | Bilateral meetings or general discussion | |
| 19.00-20.00 | Dinner | Dinner | Dinner | Dinner | Dinner | |

Application procedure

Deadline to apply: September 15th 2024 to be sent to mobilite-unita@univ-smb.fr

USMB will cover accommodation from Sunday night, November 17, 2024, to Thursday night, November 21, 2024.