

Terms of Reference

Research Intern – Industrial Sustainability and Competitiveness

(Primary project: Critical Mineral Resources for India's manufacturing sector)

About Us

The Council on Energy, Environment and Water (CEEW) is one of South Asia's leading not-for-profit policy research institutions. The Council uses data, integrated analysis, and strategic outreach to explain – and change – the use, reuse, and misuse of resources. The Council addresses pressing global challenges through an integrated and internationally focused approach. It prides itself on the independence of its high-quality research, develops partnerships with public and private institutions, and engages with wider public.

In 2018, CEEW once again featured extensively across nine categories in the '2017 Global Go To Think Tank Index Report', including being ranked as South Asia's top think tank (14th globally) with an annual operating budget of less than USD 5 million for the fifth year in a row. In 2016, CEEW was also ranked 2nd in India, 4th outside Europe and North America, and 20th globally out of 240 think tanks as per the ICCG Climate Think Tank's standardised rankings. In 2013 and 2014, CEEW was rated as India's top climate change think-tank as per the ICCG standardised rankings.

In over seven years of operations, The Council has engaged in more than 180 research projects, published well over 110 peer-reviewed books, policy reports and papers, advised governments around the world over 400 times, engaged with industry to encourage investments in clean technologies and improve efficiency in resource use, promoted bilateral and multilateral initiatives between governments on more than 50 occasions, helped state governments with water and irrigation reforms, and organised more than 210 seminars and conferences.

Position offered: Research Intern

Work location: CEEW, Sanskrit Bhawan, A-10, Qutab Institutional Area, Aruna Asaf Ali Marg, New Delhi - 110067

Duration of engagement: Two to six months

Preferred academic background: Candidates pursuing Bachelor's or Master's degree courses offering specialisation in one of the following: Resource management/mineral economics/international trade and commerce/ foreign policy/industrial process/manufacturing systems/material recovery/geology/mineral chemistry/advanced technologies, or similar domains

Project description

Resource security and resource efficiency plays a crucial role in country's economic development, as it is an important driver of a competitive manufacturing sector. Sudden supply shocks or constrictions in the supply chain make a mineral critical, especially if there are no substitutes available in specific applications. This impact is larger if these products contribute to significant value addition in the economy.

In 2016, The Council published a report titled "Critical Non-Fuel Mineral Resources for India's Manufacturing Sector: A Vision for 2030¹". The study, which began in late 2014, was funded by the Department of Science and Technology, and evaluates 49 minerals and their criticality (from 2011 to 2030) in terms of economic importance (value addition and consumption in all manufacturing sub-

¹ Weblink: http://www.dst.gov.in/sites/default/files/CEEW_0.pdf

sectors) as well as supply risks (import dependence, geopolitical risks, substitutability, and recycling potential). It is the first-of-its-kind study undertaken in India and the most comprehensive effort to assess which minerals will be crucial for India's high-value-added manufacturing growth and the implications for India's resource security. The United States and the European Union have done some pioneering work on identifying critical minerals for their own economy. This report also draws attention towards strategic acquisition of overseas mines and need for high-priority trade ties for certain minerals, which are identified as critical for India's future, through a scientific framework and a decision tree approach.

With India's ever-growing interest towards indigenous manufacturing of modern day technology devices (smart phones, medical diagnostic equipment, etc.), and clear energy products (electric vehicles, solar panels); focus on mineral resource security becomes naturally crucial. This project aims to take forward the existing work on critical minerals to the next level of policy planning. The objective is to efficiently engage policy planners, industry, and other users from mining/mineral sector through a dynamic web-based interface. Outputs from this project will include an index of critical minerals, which will get periodically revised as per realistic economic condition(s), and supply position of minerals in India. It will also allow users to generate customised scenarios based on futuristic policy outlook. It will act as an intelligent decision-making tool for the policy makers, industry captains, mining and mineral exploration agencies, and a wide pool of researchers.

Internship Assignment

We invite interested candidates to take up a challenging assignment, and assist us in achieving one (or more) of the below mentioned tasks:

- Preparing a comprehensive list of current policies and programmes recently introduced (or planned) by the Government of India, which directly or indirectly impacts mining and manufacturing ecosystem of our country
- Measuring the impact of trade and geopolitics on supply position of certain minerals of key importance. How can policy drivers help India to develop a strategic plan around resource security?
- Advancing and updating available information (production, imports, consumption of minerals, etc.) with more granularities
- Conducting a comprehensive assessment of key technology developments that impacts mineral consumption or its recovery/recycling from the waste
- Identifying and evaluating substitution potential of key minerals for certain end-use applications

Job Duties and Accountabilities

There will be endless opportunities to learn and contribute across a wide range of research activities at The Council. The incumbent will be responsible for full range of research and associated duties as highlighted below:

- Conduct both traditional and online secondary research using various external sources including international data sets
- Collect information and prepare databases on resource mapping, trade and commerce linkages, technology profiles, etc.
- Conduct literature review, discussion with prominent researchers in this area, and carry field visits (if needed)
- Discuss theoretical approaches to understand and analyse the identified research outcomes
- Map key stakeholders relevant in this domain and reach out to them (if needed)
- Assist team in research and outreach responsibilities
- Write project report/issue briefs based on conducted research

Selection Criteria

Education

- Enrolled in (or completed) a Bachelor/Master's degree with specialisation in industry-research/manufacturing systems/resource (minerals) management/international trade and economics/ or relevant streams.

Key skills

- Self-starters with strong analytic skills including quantitative research skills (statistics), and, qualitative research methodologies to collate and analyse information in a meaningful manner
- Excellent written and oral communication skills, should be able to demonstrate good report writing skills
- Must be an adept user of MS-office suit (word, excel, and power point presentations).
- Ability to use statistical packages like Stata, R would be an advantage

Application process

Interested candidates are requested to share their curriculum vitae (CV) and cover letter explaining your interest in the position (in one document preferably PDF) and send it to jobs@ceew.in with 'Application: Internship – Critical Mineral Resources' as the subject line. We are an equal opportunities employer and female candidates are encouraged to apply. Applications will be reviewed on a rolling basis. Only shortlisted candidates will be notified by us.