

Peer Review Report

Review Report on European raw materials resilience – turning a blind eye

Perspective, Earth Sci. Syst. Soc.

Reviewer: Andrew Bloodworth

Submitted on: 07 Jun 2022

Article DOI: 10.3389/esss.2022.10058

EVALUATION

Q 1 Please summarize the findings and viewpoint reported.

This paper is an opinion piece which argues that Europe's dependence on imports of metals from elsewhere in the world has a major negative impact on the continent's security of supply of these vital commodities. It opines that there are strong geopolitical, economic, environmental and moral reasons for Europe to encourage more domestic production of primary (mined) metals.

Q 2 Please highlight the limitations and strengths.

This is a short piece which focuses on the importance of primary production of metal and the dependence of Europe on imports from mines located elsewhere in the world. Whilst this argument is well-made and well-evidenced, the paper makes little mention of related supply vulnerabilities for a range of metals which are result of the location of refineries and other processing facilities outside Europe. The 'production concentration' of processing and refining outside Europe and the vulnerability of these supply chains to capture by competitor or even hostile states and/ or trading blocs is at least an equal threat to Europe's supply security, especially for metals vital to achieving the energy transition. The environmental/ moral argument for 'onshoring' Europe's primary metal supply is not commonly heard and is well stated in this piece.

Q 3 Please comment on the reported results and data interpretation. If there are any objective errors or fundamental flaws, you should please detail your concerns.

Data quoted to underpin the arguments made in the piece is from valid and up-to-date sources. The piece presents a useful statement regarding the limitations of metal stocks available from recycling and therefore the continued importance of primary (mined) metal sources.

Q 4 Check List

Is the English language of sufficient quality?

Yes.

Is the quality of the figures and tables satisfactory?

Yes.

Does the reference list cover the relevant literature adequately and in an unbiased manner?

Yes.

If the manuscript includes original data, are the applied methods accurate and comprehensively described?

Not Applicable.

Are the statistical methods valid and correctly applied? (e.g. sample size, choice of test)

Not Applicable.

Are the data underlying the study available in either the article, supplement, or deposited in a repository?

Yes.

Does the study adhere to ethical standards including ethics committee approval and consent procedure?
Not Applicable.

Q 5 Please provide your detailed review report to the editor and authors (including any comments on the Q4 Check List):

Although the generic arguments made in this piece are not especially original, it does provide a different perspective on European supply security for metals. In particular, the view that Europe needs to face up to the resource consequences of its consumption, and the resource implications of its aspirations to move toward a zero-emission economy, is expressed in a succinct and forthright manner. The main weakness of the paper is its lack of mention of the significance of extra-European value chains for metals which are downstream from mines and the vulnerability of these value chains to disruption in the face of the economic and geopolitical challenges set out in the paper. In a similar manner to mining, the considerable environmental impacts of these refining and processing facilities elsewhere in the world are 'offshored' and largely ignored by consumers in Europe. Please also see comments under Q2 above. The valuable arguments made in the paper regarding supply security and environmental performance will be strengthened further by the recognition of the importance of, in addition to mining, the 'reshoring' of processing and refining to Europe.

QUALITY ASSESSMENT

Q 6 Originality	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q 7 Rigor	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Q 8 Significance to the field	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Q 9 Interest to a general audience	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Q 10 Quality of the writing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Q 11 Overall quality of the study	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>