Rare Earth Elements
Policy Position Statement

Key message: There are potential public health risks associated with rare earth element extraction and processing, particularly in relation to radioactivity. Tangible actions designed to mitigate these risks are required. Rare earths are metals that are used for a variety of purposes, some of which provide clear benefits to humanity and the environment. Rare earth elements coexist with radioactive minerals such as uranium and thorium. Rare earth element extraction and processing may result in radioactive exposures and radioactive waste generation.

Key policy positions:
1. Attempts at reducing, reusing and recycling existing rare earth elements should be made, irrespective of further extraction.
2. Any rare earth element extraction operation in Australia should only take place under strict environmental guidelines recognising the potential long term risks of environmental, worker and community exposures to the radioactive minerals coexistent in the ore.

Audience: Australian, State and Territory Governments, policy makers and program managers.

Responsibility: PHAA Ecology and Environment Special Interest Group

Date adopted: 26 September 2018

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PHAA affirms the following principles:

1. Rare earth elements (REEs) can provide benefits to society, however, these need to be weighed against their adverse impacts.

PHAA notes the following evidence:

2. REEs are a group of seventeen distinct metals. They are used in renewable technologies such as some solar panels and magnets for some wind turbines, devices such as illuminated screens on electronic devices, computer memory hardware, DVDs, mobile phones, rechargeable batteries, fluorescent lighting, phosphors and as chemical catalysts and polishing compounds. They are also used in some medical equipment and for military purposes such as night-vision goggles, precision-guided weapons, communications equipment and global positioning system equipment.¹

3. Currently, much of the world’s REEs come from mines in China, but Canada, the United States of America, Vietnam and Australia contribute.¹ ²

4. As of September 2018 Australia has one operational REE mine at Mt Weld in Western Australia. Several other potentially viable deposits in Australia have been identified. The Nolan’s Project in the Northern Territory, had an environmental impact assessment completed in January 2018, which concluded that the project “could be managed to avoid unacceptable environmental impacts and risks”.³ The Dubbo Project in New South Wales was granted a Mining Lease in 2015 but has yet to begin operations.⁴

5. REEs coexist with radioactive elements such as uranium and thorium. RSS mining and milling produces long lived radioactive waste.⁵

6. Water and airborne pollution from REE mining can pose a threat to surrounding populations.⁵

7. Transportation of REEs for processing poses risks of radioactive or heavy metal contamination in the event of an accident.

8. Final refining and separating of REEs from WA’s mine presently takes place in Malaysia. The Malaysian plant has been criticised for the potential to cause extensive local pollution and harm to public health unless the stringent operating standards are adhered to.⁶
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PHAA seeks the following actions:

9. A feasibility study should be conducted by international non-government organisations regarding global REE supply and demand before further approval processes for future RSS mines are undertaken. This should consider the potential for reducing REE use and dependency, and increasing reuse and recycling of REEs. Ideally this would be done at a global level.

10. Any radioactive waste incurred from REE extractive processes should be managed according to world’s best practice for radioactive waste management. This includes reburial of the radioactive waste with suitable steps taken to minimise subterranean permeability and atmospheric interaction. Industry should bear responsibility for costs of waste management and other costs, including those of rehabilitation of land, and management of incidents – these issues should be included in any development applications.

11. It should be a requirement that any REE refining and separating from Australian ore conducted overseas be carried out according to world’s best practice.

12. REEs should be reduced, reused and recycled so that local and global REE requirements are minimised.

13. REE mining should be opposed except in very sparsely populated areas of Australia.

14. A harm minimisation approach should be taken to REE mining, transportation and refining/separation.

15. Organisations with similar aims regarding REEs should collaborate.

PHAA resolves to:

16. Advocate for the above steps to be taken based on the principles in this position statement.

ADOPTED 2018
(First adopted 2015)
References


