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# Western Regional Group

## Critical Raw Materials for the Energy Transition

*Dr Kathryn Goodenough, British Geological Survey*

Tuesday 18<sup>th</sup> January 2022

Zoom Talk: opens at 6:15pm for 6:30pm Start

The Western Regional Group is pleased to welcome Dr Kathryn Goodenough who will discuss the raw materials required for the energy transition as we move towards greener energy.

The global objective of achieving net zero emissions is driving significant decarbonisation of energy and transport, with a shift towards renewable energy sources and electric vehicles. It is now widely recognised that this will drive significant increases in demand for a range of minerals and metals, including lithium, graphite, manganese, nickel and cobalt (used in batteries), the rare earth elements (used in magnets in motors) and the platinum group elements (for electrolysis to produce green hydrogen).



*Example of the Energy Transition copper mine (background) at Anglesey with wind turbines in the foreground*

There are concerns about the security of supply of some of these raw materials, and the increasing demand cannot be met solely by recycling; mining of primary resources will be essential. This talk will describe the types of geological resources that are mined, focusing on our recent research into deposits of the rare earth elements and lithium. It is important to note that geology isn't everything, and a range of other challenges can also impact the raw materials value chain; these may relate to mineral processing, social and environmental impacts, economics and politics. This talk will also give an overview of some of our recent and ongoing research on sustainable exploration, mining, and value chains for these raw materials that are critical for the energy transition.

Dr Kathryn Goodenough is a Principal Geologist at the British Geological Survey, with a research focus on the geology of critical raw materials and on sustainable resource management. She also leads engagement in international geoscience for the BGS. She has a degree in Earth Sciences from Oxford University and a PhD from the University of Edinburgh, and has worked at BGS for just over 20 years. She is Chief Editor of the Open Access journal Earth Science, Systems and Society (ES-cubed), a Council Member of the Geological Society, and UK representative on the Executive Committee of the International Continental Drilling Programme. She is also active on Twitter at @kmgoodenough

**Zoom Details:** When: 18<sup>th</sup> January 2022 06:30 PM London. *Entry is free, non-members welcome.*

<https://us02web.zoom.us/meeting/register/tZUof-GtrDqvHNWhEdc7ylwJk9n3Nsx7z3CK>

**e-mail**

Get in touch

[westernregionalgroup@gmail.com](mailto:westernregionalgroup@gmail.com)

**www**

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[www.geolsoc.org.uk/wrg](http://www.geolsoc.org.uk/wrg)



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