

The energy transition is a material transition

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Our appetite for resources is insatiable. The path to a climate-neutral society and economy requires the increasingly intensive use of strategy metals such as lithium and cobalt, but also the group of rare earth elements. This major transformation is not possible without the sustainable use of these so-called critical elements along the entire value chain. In the 60th position of the periodic table of elements is neodymium - an element that belongs to the rare earth-lanthanides and is essential for renewable energies. As a component of super-strong magnets, it not only plays a major role in our everyday lives, but is also the key to efficient wind power and electromobility. Every battery needs a magnet. 95% of electric vehicles utilize rare earth magnet based drive motors, the quantities required global will grow from 5,000 t in 2019 to about 40,000 - 70,000 t/a in 2030. The material history of neodymium is exciting and complex; monopolistic mining in China under ruinous conditions is just as problematic as our dependence on it. How "green" are the metals for renewable technologies? Who pays what price for it, and when?