



Media Release

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WWF: Action required now to ensure supply of critical materials for renewable energy infrastructure

(Gland, Switzerland) –The growing demand for renewable energy could put pressure on the supply of critical materials required in the production of renewable energy infrastructure, says WWF in new report released today.

The report, ***Critical Materials for the transition to a 100% sustainable energy future***, says supply chain bottlenecks can be overcome by applying the right technologies.

It is possible for renewable energy to fuel the world reliably while overcoming threats of climate change, and a fossil-free future is a key condition for the world to not exceed 1.5°C limit for global warming, says WWF's Global Climate & Energy Initiative leader Samantha Smith.

“Energy conservation and energy efficiency as well as substantive enhancement of recycling and reuse of key materials are the bedrock conditions required to ensure the world has abundant supply of these minerals,” she says.

WWF Global Energy Policy director Dr Stephan Singer says the growing demand for other technologies - like mobile phones, flat screen TVs, computers and batteries for example – which use the same critical materials as renewable energy, is driving enhanced mineral exploitation.

“A new political legislation is needed in all major economies to promote material recycling and drive substantial technological development to ensure that critical materials required to make renewable energy technology remain available,” he says.

Specifically identified critical materials are:



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- The most critical supply bottlenecks of non-energy raw materials are **lithium and cobalt**, which are used for batteries in electric vehicles, needed for renewably-powered cars replacing fossil oil. These bottlenecks can be alleviated by recycling lithium, substituting lithium in other sectors, and by using less cobalt-intensive cathodes.
- Some authorities and institutions warn of shortages of some **rare earth** materials before 2020. But the challenge may not be geological, but geopolitical – 90% of worldwide production of these materials is presently concentrated in China. Eliminating these geopolitical constraints in the short term may be difficult, but possible in the longer term as resources become available in other geographical areas as well.
- **Indium, gallium and tellurium**, used in solar power (photovoltaics), are not expected to become important bottlenecks as they can be substituted by applying technologies requiring less critical materials, such as silicon.

Supply bottlenecks are likely to pose less of a problem also for **copper**, which is used for transition grids and increasingly for highly-efficient appliances.

Ecofys Director of Science Kornelis Blok, responsible for the research for the report, says it is clear that supply chain bottlenecks occur, but with the right technology choice these can be avoided. “The report provides important guidance to technology and system suppliers. It may help them to make the right choices in making their products future-proof”.

Governments must legislate strong incentives and create regulations for enhanced recycling and reuse of precious and rare materials, says Singer. “In parallel, research and development must be fostered for new materials and high material efficiency.”

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Notes for Editors

1. Read the report here: www.panda.org/climateandenergy

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About WWF

WWF is one of the world's largest and most respected independent conservation organisations, with over 5 million supporters and a global network active in over 100 countries. WWF's mission is to stop the degradation of the earth's natural environment and to build a future in which humans live in harmony with nature, by conserving the world's biological diversity, ensuring that the use of renewable natural resources is sustainable, and promoting the reduction of pollution and wasteful consumption.

The Global Climate & Energy Initiative (GCEI) is WWF's global programme addressing climate change, promoting renewable and sustainable energy, scaling up green finance, engaging the private sector and working nationally and internationally on implementing low carbon, climate resilient development.

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