

Batteries and Secure Energy Transitions

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About the International Energy Agency (IEA)

- Intergovernmental organization, initially founded in 1974 to safeguard oil security of supply
- Mandate has since been broadened to examine all fuels, all technologies and global energy issues ...
- ... including renewables, oil, gas and coal supply and demand, electricity systems and markets, energy efficiency, clean energy technologies, access to energy, and more
- The IEA has become the global authority on energy recommending policies that enhance the reliability, affordability and sustainability of energy
- The IEA publishes comprehensive energy data, outlooks and market reports for global energy demand and supply, technologies and regions



Batteries are taking off and transforming electricity and transport



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Favourable economics drive huge uptake under today's policies



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If properly valued, solar PV plus batteries can be one of the most competitive electricity sources in many markets. Over 700 GW of battery storage capacity is added by 2030, more than all new fossil fuel capacity combined.

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Batteries play a critical role in tripling renewables by 2030





To achieve the COP28 goal of tripling renewables by 2030, storage capacity needs to rise sixfold to over 1 500 GW, with batteries making up 90% the growth, complementing pumped hydro, compressed air and thermal storage.

Huge market potential and a linchpin for clean energy transitions



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Huge market potential and a linchpin for clean energy transitions



Increasing battery deployment by over six times by 2030 would create a market worth 500 billion USD per year, and deliver 20% of the emissions savings needed to get on track to net zero, while enabling another 40% indirectly.

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Battery manufacturing is booming and set to diversify



Completing all announced projects would be sufficient to meet the 1.5 °C scenario needs. Supported by robust policy frameworks, the United States and European Union are scaling up battery manufacturing, increasing diversification.

Addressing the challenges of critical mineral supplies for batteries



A combination of new supply investments and demand-side measures could help address the challenges;

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A combination of new supply investments and demand-side measures could help address the challenges; right-sizing batteries, enhanced recycling and innovation in battery chemistries could reduce demand by 25% in 2030.

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