

lea batteries and secure energy transitions





Overview

Who wrote the IEA special report on batteries & secure energy transitions?

I would like to thank the IEA colleagues who worked on this special report on Batteries and Secure Energy Transitions for their excellent and insightful analysis – under the leadership of Laura Cozzi, Director of Sustainability, Technology and Outlooks, and lead authors Brent Wanner and Apostolos Petropoulos.

Are batteries a key role in energy transitions?

Batteries are set to play a leading role in secure energy transitions. They are critical to achieve commitments made by nearly 200 countries at COP28 in 2023. Their commitments aim to transition away from fossil fuels and by 2030 to triple global renewable energy capacity and double the pace of energy efficiency improvements.

Why are batteries important in 2023?

This report is part of World Energy Outlook 2023 Batteries are an important part of the global energy system today and are poised to play a critical role in secure clean energy transitions. In the transport sector, they are the essential component in the millions of electric vehicles sold each year.

What does IEA do?

At the International Energy Agency (IEA), we monitor and analyse the progress of more than 500 energy technologies on a daily basis, providing valuable insights into the trajectory of the global energy sector. This process supports the development of energy policies and fosters dialogue at the highest levels of policy making.

What's new in battery technology?

These include tripling global renewable energy capacity, doubling the pace of energy efficiency improvements and transitioning away from fossil fuels. This



special report brings together the latest data and information on batteries from around the world, including recent market developments and technological advances.

How should EVs and battery storage be regulated?

Establish clear and stable regulatory frameworks that define the role of EVs and battery storage in the energy transition. This involves clarifying the role over time of these technologies in the context of clean energy transition plans and emissions reduction targets.



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[Batteries and Secure Energy Transitions](#)

6 International Energy Agency , Batteries and Secure Energy Transitions Many highlevel government representatives and international experts from outside of the - IEA have contributed to the process, from early consultations to reviewing the draft at a later stage

Secure energy transitions in the power sector - Analysis

Secure energy transitions in the power sector - Analysis and key findings. A report by the International Energy Agency. Traditional frameworks for ensuring electricity security will not be sufficient in the face of these changes.The challenge for policy makers and

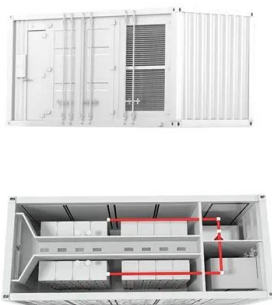
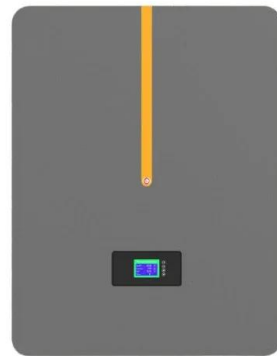


Batteries are critical for energy transition: IEA Report

Batteries are key to the transition away from fossil fuels and accelerate the pace of energy efficiency through electrification and greater use of renewables in power. In the NZE Scenario, about 60% of the CO2 emissions reductions in 2030 in the energy sector are associated with batteries, making them a critical element to meeting shared climate goals.

[Batteries and Secure Energy Transitions](#)

8 ????· The IEA's Special Report on Batteries and Secure Energy Transitions will highlight the important role of battery technologies to fulfil recent commitments made by nearly 200 ...



Batteries and Secure Energy Transitions

The IEA's Special Report on Batteries and Secure Energy Transitions will highlight the important role of battery technologies to fulfil recent commitments made by nearly 200 countries at COP28, including tripling global renewable energy capacity by 2030, doubling the pace of energy efficiency improvements by 2030 and transitioning away from fossil fuels.

Batteries and Secure Energy Transitions

Batteries and Secure Energy Transitions. Max Schoenfisch, World Energy Outlook. Energy Storage Summit Central Eastern Europe - 24 September 2024. About the International Energy

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18650^{3.7V}
Li-ion
RECHARGEABLE BATTERY
2000mAh



Executive summary - Batteries and Secure Energy Transitions

Batteries and Secure Energy Transitions. Executive summary. Batteries are an essential part of the global energy system today and the fastest growing energy technology on the market. ...



Batteries and Secure Energy Transitions - Analysis

The IEA's Special Report on Batteries and Secure Energy Transitions highlights the key role batteries will play in fulfilling the recent 2030 commitments made by nearly 200 countries at COP28 to put the global energy system on the path to net zero emissions.



G7 ministers draw on wide range of IEA recommendations

G7 ministers draw on wide range of IEA recommendations to strengthen energy security and accelerate clean energy transitions - News from the International Energy Agency Communique welcomes and references IEA work on battery storage, clean cooking

Batteries and Secure Energy Transitions

IEA 2024. CC BY 4.0. Page 4 The energy sector has propelled growth in the global battery market In 2016, the energy sector made up around half of global battery demand... by 2023, the energy sector accounted for more than 90% of a market that was ten times

Highvoltage Battery



Outlook for battery demand and supply - Batteries and Secure Energy

Batteries are set to play a leading role in secure energy transitions. They are critical to achieve commitments made by nearly 200 countries at COP28 in 2023. Their commitments aim to transition away from fossil fuels and by 2030 to triple global renewable energy capacity and double the pace of energy efficiency improvements.



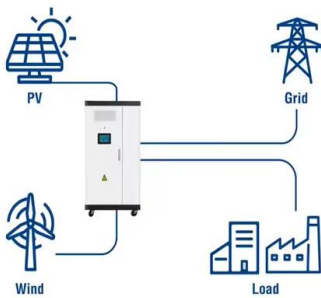


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Utility-Scale ESS solutions



IEA Publishes Special Report: Batteries and Secure Energy Transitions

The International Energy Agency has published Batteries and Secure Energy Transitions, a World Energy Outlook Special Report. Due to their versatility, batteries can serve both utility-scale projects and behind-the-meter storage for households and businesses as well as providing access to electricity in decentralised solutions such as mini-grids and solar home ...

Executive summary - Nuclear Power and Secure Energy Transitions

As an established large-scale low emissions energy source, nuclear is well placed to help decarbonise electricity supply. In the IEA's Net Zero Emissions by 2050 Scenario (NZE), energy sector emissions fall by about 40% from 2020 to 2030, and then decline to



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Status of battery demand and supply - Batteries and Secure Energy

Batteries are an important part of the global energy system today and are poised to play a critical role in secure and affordable clean energy transitions. In the transport sector, they are the essential component in the millions of electric vehicles (EVs) sold each year.



Rapid expansion of batteries will be crucial to meet ...

In the first comprehensive analysis of the entire battery ecosystem, the IEA's Special Report on Batteries and Secure Energy Transitions sets out the role that batteries can play alongside renewables as a competitive, ...

IEA Batteries and Secure Energy Transitions - World Energy ...

In the NZE Scenario, about 60 per cent of the CO2 emissions reductions in 2030 in the energy sector are associated with batteries, making them a critical element. Batteries in EVs and storage installations reduce the need for imported fossil fuels, increasing self-sufficiency in many countries.



Policy implications and recommendations - Batteries and Secure Energy

Batteries are an essential building block of the clean energy transition. They can help to deliver the key energy targets agreed by nearly 200 countries at the COP28 in 2023. The IEA Net Zero Emissions by 2050 Scenario sets out the pathway. For batteries to



Executive summary - Batteries and Secure Energy Transitions

Lithium-ion batteries have outclassed alternatives over the last decade, thanks to 90% cost reductions since 2010, higher energy densities and longer lifetimes. Lithium-ion battery prices have declined from USD 1 400 per kilowatt-hour in 2010 to less than USD 140



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