

AUSTRALIA S ENERGY STORAGE POLICY OVERVIEW



What types of energy storage are available in Australia? Compressed air, thermal energy and redox flow batteries are just some of the alternative forms of long duration energy storage available in Australia. These technologies bring remarkable energy carrying capabilities, helping to maintain reliability while minimising the cost of the transition.



Can Australia take a leading role in energy storage manufacturing? Manufacturing Australia has limited potential to take a leading role in energy storage manufacturing for current technologies. The energy storage sector is developing at a rapid pace globally and attempting to compete against global manufacturers in established technologies would pose great challenges.



Can Australia be a leader in energy storage? Australia has the potential to be at the forefront of deployment of energy storage technologies. High penetration of rooftop solar systems coupled with high energy prices by international standards mean the appetite for distributed storage is large.



Can Australia develop a next-generation energy storage system? Australia is undertaking world-leading research in several energy storage areas, including next-generation batteries, hydrogen and advanced thermal storage systems. Australia also has strengths in polymer chemistry, a technology that could contribute to the development of next-generation solid-state batteries.



How can Australia contribute to the supply chain for energy storage technologies? Australia has the opportunity to contribute to the supply chain for many energy storage technologies due to the relative abundance of natural resources in this country, compared with other countries.

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Should energy storage be regulated? ntial of energy storage demands a coordinated and strategic approach to regulatory and market reform..The Clean Energy Council has identified thirteen energy market reforms required to drive the most efficient commercial roll-o arriers to storage behind the meter;Reco and reward the value of s behind the meter; and



Australia is undergoing an energy transformation that promises to intensify over the coming decades. In the electricity generation sector this transformation involves: a greater reliance on renewable energy in response to climate mitigation policies; relocation of where energy is generated and distributed as a result of changing economics of energy costs and technological ???



understand these and other changes. We need this understanding to plan for Australia's energy future, and to make sound policy and investment decisions, including action to address global climate change. The Australian Energy Statistics is the authoritative and official source of energy statistics for Australia



Overview Australia is a key energy exporter with a strong and diverse mix of energy resources that contribute to the nation's energy security and prosperity and support the transition to net zero. In 2022, Australia's identified storage resources (2P capacity and 2C contingent resources) are estimated to be 403 million tonnes CO 2.



Australia's Solar Growth According to the Clean Energy Council's bi-annual Rooftop Solar and Storage Report for the first half of 2024, Australia has achieved a cumulative rooftop solar capacity of around 24.4 GW, putting it on course to surpass the 25 GW mark by the year's end. This figure exceeds the remaining combined power generation capacity of the ???

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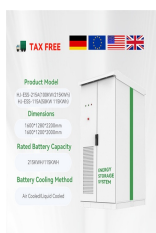
most efficient commercial roll-out of energy storage throughout Australia while ensuring a secure and affordable national power system. These reforms can be summarised under the following ???



IHS Markit makes a bold prediction in their most recent study that energy storage installations in Australia will increase from a mere 500 MW to an astounding 12.8 GW by 2030. Though Australia currently only accounts for less than 3% of total global installations for battery energy storage, the country is expected to represent 7% of the market by 2030, ultimately ???



challenges presented by the uptake of energy storage in Australia's energy supply and use systems out to 2030 delivered to the Australian Council of Learned Academies (ACOLA). Five key stationary energy storage technologies are reviewed: Battery technologies ??? i.e., the dominant lithium-ion chemistries, lead-acid,



UNLOCK THE POTENTIAL OF ENERGY STORAGE IN AUSTRALIA 3
The national energy market framework currently undervalues many of these benefits. Recognising and rewarding the value of energy storage is critical to ensure the security of Australia's energy system. While government funding is helping to accelerate early technology adoption and targeted



On 2 December 2021, the Commission made a more preferable final rule in response to a rule change request from the Australian Energy Market Operator (AEMO). The final rule makes several changes to better integrate storage and hybrid systems, and ???

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Energy and climate-related policies have been accelerated by both state and federal governments, and for many companies the time feels right to invest in energy storage. This event gathers together investors, developers, IPPs, grid operators, policymakers, utilities, energy buyers, service providers, consultancies and technology providers under one roof.



Delivered as a partnership between Australia's Chief Scientist and ACOLA, the Energy Storage project studies the transformative role that energy storage may play in Australia's energy ???



A new report from the CSIRO has highlighted the major challenge ahead in having sufficient energy storage available in coming decades to support the National Electricity Market (NEM) as dispatchable plant leaves the grid.. The CSIRO assessment used the Australian Energy Market Operator's (AEMO) 2022 Integrated System Plan for its analysis of what might ???



Today's announcement of retaining the eight-hour definition of long duration energy storage (LDES) within the Energy Infrastructure Act, the procurement of an additional 12 GWh of LDES capacity by 2034 and a requirement for AEMO Services to further consider the full range of LDES benefits, reflects longstanding advocacy by the Clean Energy Council aimed at ???

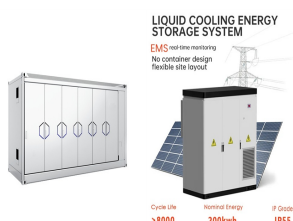


Other examples include Queensland, Australia's most carbon-intensive state, which is angling for very rapid adoption of renewables and storage. Energy-Storage.news" publisher Solar Media will host the 1st Energy Storage Summit Asia, 11-12 July 2023 in Singapore. The event will help give clarity on this nascent, yet quickly growing market

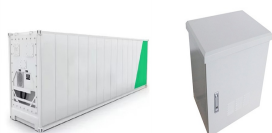
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Market Overview . The Australia Energy Storage Systems Market is witnessing significant growth and is poised for further expansion in the coming years. With a projected increase from USD 7829.13 million in 2023 to an estimated USD 15562.2 million by 2032, representing a compound annual growth rate (CAGR) of 5.02% from 2024 to 2032, the market



To match these increased ambitions, Australia is seeking to update its existing strategies, starting with the preparation of a new emissions reduction plan for 2050. In this report, the IEA will provide energy policy recommendations to help Australia effectively manage the transformation of its energy sector in line with its goals.



In its latest report, IHS Markit predicts that energy storage installations in Australia will grow from 500 MW to more than 12.8 GW by 2030. Today, Australia makes up less than 3% of total global



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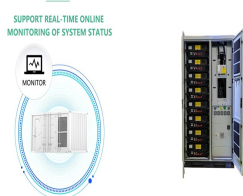


Figure 7. Australian energy storage capacity in MW (created from data obtained from [7,71]). At present, the key mechanism supporting energy storage in Australia is ARENA, which was established in 2012 by the ARENA Act 2011. It has funding of AUD \$2.5 billion and aims to drive down the cost and increase the use of renewable energy [72].

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It is key to areas such as on-grid and off-grid energy management, micro grids for remote and mining communities, as well as electric vehicles and advanced systems for managing the energy of buildings. The Australian Energy Storage Alliance (AESA) is an information sharing and networking platform to promote the wide range of existing and



key role to play in shaping Australia's future energy market. Following the recent unprecedented renewable energy boom, 2019 is set to focus on how renewables can transform Australia's energy generation mix. This is not being driven by ideology, but by economics. Energy storage will play an important role in this transformation.



Legislating Australia's 2030 and 2050 targets. Consistent with Australia's updated NDC, the Climate Bill provides that Australia's greenhouse gas emissions reduction targets are to: reduce Australia's net greenhouse gas emissions to 43% below 2005 levels by 2030, implemented as both: a point-in-time target for 2030; and



The International Energy Agency (IEA) regularly conducts in-depth peer reviews of the energy policies of its member countries. This process supports energy policy development and encourages the exchange of international best practices and experiences to help drive secure and affordable clean energy transitions.



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Energy policy International. In response to climate change, countries around the world, including Australia have agreed (under the Paris Agreement) to limit global temperature rise to 1.5 °C. This requires transitioning away from polluting fossil fuels like coal, oil and gas to solutions such as renewable energy well before 2050.



alternative forms of long duration energy storage available in Australia. These technologies bring remarkable energy carrying capabilities, helping to maintain reliability while minimising the cost of the transition. This report introduces these "alternative" long duration energy storage (ALDES) technologies.



2.1. Technologies and Current Global Capacity There are a number of energy storage technologies in various stages of development



The future of long duration energy storage Clean Energy Council 2 Australia's power systems are going through a process of rapid decarbonisation. This is central to meeting our national emissions reduction commitments. The pathway to power system decarbonisation has four foundations: generation, transmission, energy storage and



7 In the short-term, the final decision removes barriers to storage and hybrid systems participating in the market. This will primarily be achieved by introducing a new technology neutral participant category to accommodate participants with bi-directional energy flows.

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Overview of current energy mix. Historically, fossil fuels (coal, oil and gas) have consistently been Australia's dominant energy source. In 2021???22, fossil fuels (coal, oil and gas) accounted for approximately 91.1% of Australia's primary energy mix (27.5% coal, 36.5% oil and 27.1% gas).



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