

# ENERGY STORAGE PROJECT ACCESS PLAN



What is the long duration energy storage program? The Long Duration Energy Storage program will pave the way for opportunities to foster a diverse portfolio of energy storage technologies that will contribute to a safe and reliable future grid. This program plays an important role in achieving California's zero carbon goals.



What is the energy storage safety strategic plan? Under the Energy Storage Safety Strategic Plan, developed with the support of the U.S. Department of Energy (DOE) Office of Electricity Delivery and Energy Reliability Energy Storage Program by Pacific Northwest Laboratory and Sandia National Laboratories, an Energy Storage Safety initiative has been underway since July 2015.



What is an energy storage roadmap? This roadmap provides necessary information to support owners, operators, and developers of energy storage in proactively designing, building, operating, and maintaining these systems to minimize fire risk and ensure the safety of the public, operators, and environment.



What are the safety requirements for energy storage technologies? Safety: Minimum safety and operating requirements are common considerations for energy projects. Energy storage resources present additional safety concerns given their unique technological profiles. For battery storage technologies in particular, safety requirements should adequately address fire risks.



What is energy storage system? Source: Korea Battery Industry Association 2017 ???Energy storage system technology and business model???. In this option, the storage system is owned, operated, and maintained by a third-party, which provides specific storage services according to a contractual arrangement.

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What is a battery energy storage Handbook? This handbook outlines the various battery energy storage technologies, their application, and the caveats to consider in their development. It discusses the economic as well financial aspects of battery energy storage system projects, and provides examples from around the world.



Carbon Storage Complex Feasibility for Commercial Development in Paradise, Kentucky ??? CarbonSAFE Phase II ??? Battelle Memorial Institute (Columbus, Ohio) and major project participants plan to conduct a storage complex feasibility study to advance carbon capture and storage commerciality in the Southeastern Illinois Basin while supporting

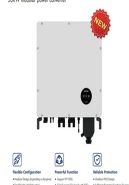
## Commercial and Industrial ESS

- Budget-Friendly Solution
- Renewable Energy Integration
- Minimal Design for Flexible Expansion



The Kapolei Energy Storage ("KES") project is a 185 MW / 565 MWh state-of-the-art battery energy storage system that will provide clean, firm capacity to the Hawaiian Electric Company. KES will be located on approximately eight acres of land zoned for industrial use (I - 2: Intensive Industrial) within the Kapolei Harborside Industrial Project.

## ESSK modular power converter



???Energy Storage Valuation Models/Tools are software programs that can capture the operational characteristics of an ESS and use forecasts, data, and other inputs. Consider the social and environmental impact of each project. Plan the circularity strategy for the project; its equipment and materials before it begins. Reduce, reuse, recycle.

## SUPPORT REAL-TIME ONLINE MONITORING OF SYSTEM STATUS



Advanced Clean Energy Storage I, LLC (ACES or the Applicant) has applied for a loan guarantee pursuant to the U.S. Department of Energy's (DOE) Renewable Energy Project and Efficient Energy Projects Solicitation (Solicitation Number: DE-SOL-0007154) under Title XVII, Innovative Energy Loan Guarantee Program, authorized by the EPAct.



2.6 Benchmark Capital Costs for a 3 kW/7 kWh Residential Energy Storage System Project 21 (Real 2017 \$/kWh) 2.7etime Curve of Lithium???Iron???Phosphate Batteries Lif 22 3.1ttery Energy Storage System Deployment across the Electrical Power System Ba 23 D.2cho

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Site Plan Sok 62 D.3ird's Eye View of Sokcho Battery Energy Storage  
System B 62

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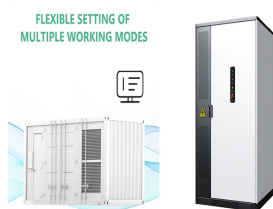
GOLDENDALE ENERGY STORAGE . HYDROELECTRIC PROJECT .  
Federal Energy Regulatory Commission Project No. 14861 . Klickitat  
County, Washington . DRAFT LICENSE APPLICATION . Exhibit B:  
Statement of Project Operation and Resource Utilization . For: FFP  
Project 101, LLC . December 2019



Five-Year Energy Storage Plan: Recommendations for the U.S.  
Department of Energy Presented by the EAC???April 2021 4 including not  
only batteries but also, for example, energy carriers such as hydrogen and  
synthetic fuels for use in ships and planes. DOE should also consider  
pursuing crossover opportunities that extend the



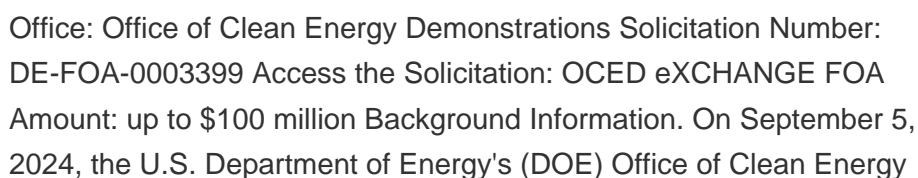
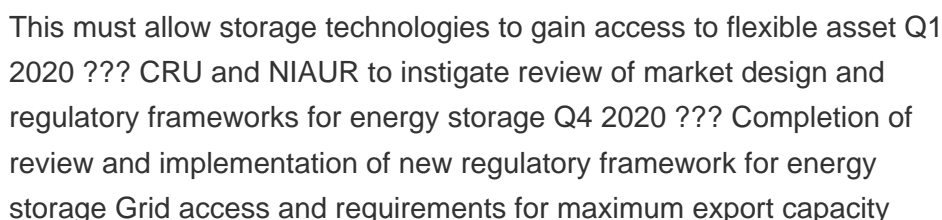
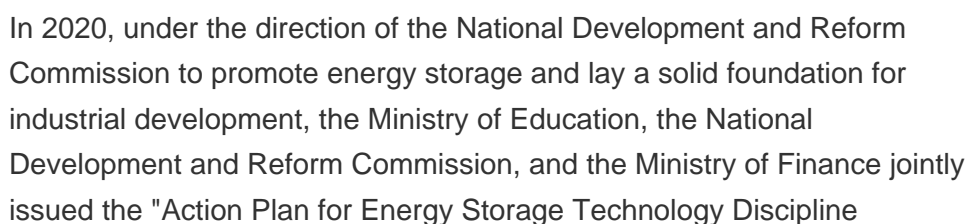
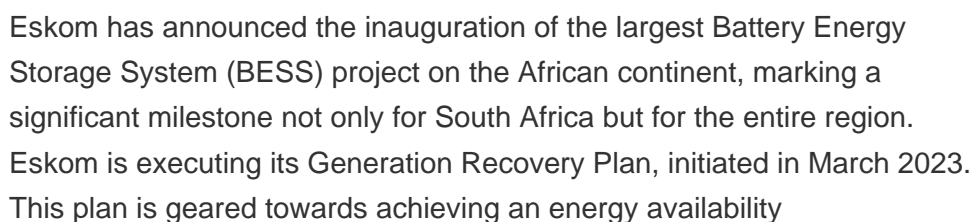
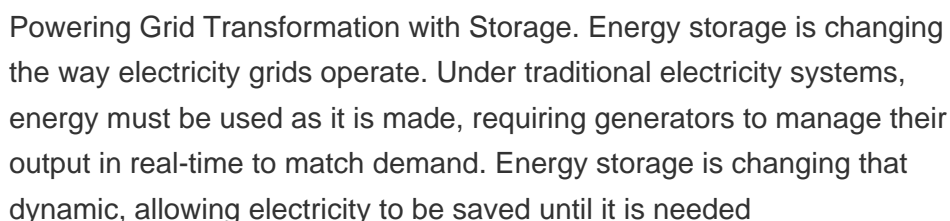
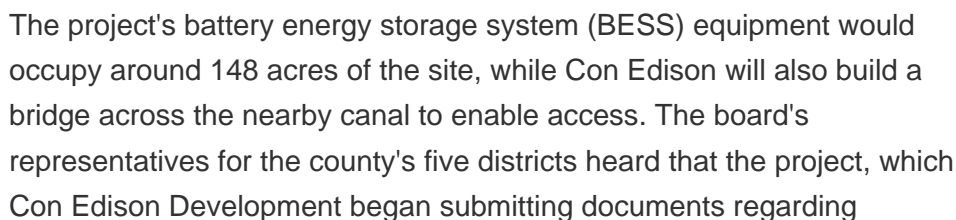
The Kingfisher Energy Storage project is a proposed Battery Energy  
Storage System (BESS) that will deliver reserve power to the local  
electrical grid, providing important energy resiliency benefits to King  
County. allowing close access to the transmission system. This site will  
allow the facility to provide maximum support and value for the



Access Chapter 1: Handbook Introduction and RACI Tables: P94L  
Chapter 2: Planning of Energy Storage: Chapter 3: Procurement of Energy  
Storage: Chapter 4: Deployment and Integration of Energy Storage:  
Chapter 5: Battery Energy Storage Project Operations and Maintenance:  
Chapter 6: Decommissioning and End-of-Life Management of Energy  
Storage



Background. The Long Duration Energy Storage (LDES) program has  
been allocated over \$270 million to invest in demonstration and  
deployment of non-lithium-ion long duration energy storage technologies  
across California, paving the way for opportunities to foster a diverse  
portfolio of energy storage technologies that will contribute to a safe and  
reliable ???



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Demonstrations (OCED) opened applications for up to \$100 million in federal ???

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LPO can finance commercially ready projects across storage technologies, including flywheels, mechanical technologies, electrochemical technologies, thermal storage, and chemical storage. DOE divides energy storage ???



The facility will serve as a large-scale battery energy storage system capable of charging from, and discharging into, the New York power grid. When fully functional, the 100MW battery energy storage project will be able to discharge electricity to ???



UK unveils LDES support plan: cap-and-floor, 6-hour-plus duration, and lithium-ion excluded. By Cameron Murray. January 10, 2024. Europe. Grid Scale, Connected Technologies. The government of New South Wales has signed a land lease agreement for a long-duration advanced compressed air energy storage (A-CAES) project.



Electrical Energy Storage (EES) refers to systems that store electricity in a form that can be converted back into electrical energy when needed. 1 Batteries are one of the most common forms of electrical energy storage. The first battery???called Volta's cell???was developed in 1800. 2 The first U.S. large-scale energy storage facility was the Rocky River Pumped Storage plant in ???



The proposed project, Valley Center Energy Storage, consists of a Site Plan (STP) to construct a battery energy storage system (BESS) facility capable of delivering 140-megawatts (MW) for a 4-hour period and associated improvements (Project). Access would be provided through a 60-foot private road and utility easement located off Valley



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The first project from Eskom's Battery Energy Storage System (BESS) programme has been connected to the grid, and will provide 100 MWh of storage capacity. Seven other projects are in construction as part of Phase 1 of the programme, which will together provide a total of 833 MWh of capacity. Seven preferred bidders for the



Utilizing a system design by Energy Dome, this innovative and efficient approach to long-duration energy storage is both simple and sustainable. The Columbia Energy Storage Project will take energy from the grid and store it by converting CO<sub>2</sub> gas into a compressed liquid form. When energy is needed, the system converts the liquid CO<sub>2</sub> back to a gas, which powers a turbine ???



A decision on plans for a battery energy storage system (BESS) has been postponed after fire safety concerns were raised. The BESS would be built on a field south of Barfields Lane near Reephram



most energy storage in the world joined in the effort and gave EPRI access to their energy storage sites and design data as well as safety procedures and guides. In 2020 and 2021, eight BESS installations were evaluated for fire protection and hazard mitigation using the ESIC Reference HMA. Figure 1 ??? EPRI energy storage safety research timeline

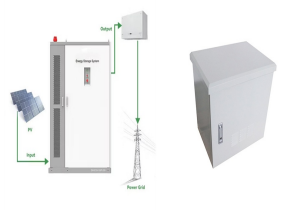


MW / 350 MWh battery storage project will provide energy and capacity services to the New England grid, enhancing grid reliability and accelerating the integration of readily available renewable energy. Cross Town submitted an application for Site Plan Review approval from the Town of Gorham's Planning Board.



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Mongolia for the First Utility-Scale Energy Storage Project. The report also describes the proposed administration of a grant to be provided by the High-Level Technology Fund<sup>1</sup> for the First Utility-Scale Energy Storage Project, and if the Board approves the proposed loan, I, acting



Arevia Power has signed a power purchase agreement with NV Energy for the largest solar energy and battery storage project in Nevada. Spanning 5,141 acres about 20 miles south of the Fort Churchill substation in Yerington, near the border of Mineral and Lyon Counties, Libra Solar is expected to be in service by the end of 2027.