What data sources were used in the CPUC energy storage procurement study?

CPUC Energy Storage Procurement Study: Realized Benefits and Challenges Chapter 2 45 Data sources. Energy storage operational data was provided by Pacific Gas and Electric (PG&E), Southern California Edison (SCE), San Diego Gas & Electric (SDG&E), the CAISO, and the CPUC.

What will the CPUC's next energy storage procurement study look like?

In its next energy storage procurement study the CPUC will have even more historical data to work with--likely with more complex market interactions as storage penetration increases.

Where can I find a California energy storage procurement study?

California Public Utilities Commission Energy Storage Procurement Study. Lumen Energy Strategy, LLC. Prepared for the California Public Utilities Commission. May 31, 2023. No part of this work may be reproduced in any manner without appropriate citation.

What has the CPUC done to improve energy storage?

Contributions to advancements of the state's evaluation frameworks. The CPUC, utilities, and stakeholders have put forth significant effort across many planning and procurement proceedings to identify, quantify, and monetize the multiple cost and benefit streams of energy storage.

What is technological maturity in CPUC energy storage procurement?

CPUC Energy Storage Procurement Study: Market Evolution Chapter 1 17 Technological Maturity The path to technological maturity includes research and development to innovate, pilot projects to test and experiment with technologies, and small-scale demonstration projects.

Is CPUC energy storage a good choice for non-residential projects?

CPUC Energy Storage Procurement Study: Realized Benefits and Challenges Chapter 2 57 Energy value: Among all non-residential projects, we observe Clusters 1, 2, and 3 yield relatively high energy value (Figure 42) and associated GHG reduction value. Cluster 6 performs slightly worse due to its practice of night charging.





The CPUC also approved four energy storage contracts totaling 372 MW for Southern California Edison (SCE) to meet a portion of its prior mid-term reliability procurement requirement. The CPUC ordered utilities to procure an additional 4,000 MW of Net Qualifying Capacity in addition to the 11,500 MW ordered in June 2021.

Decision Enhances California's Energy Storage and Production by 10.6 GW. August 26, 2024 -. SAN FRANCISCO ??? The California Public Utilities Commission (CPUC) today established an innovative centralized procurement strategy aimed at boosting the state's clean energy resources.

The CPUC also approved four energy storage contracts totaling 372 MW for Southern California Edison (SCE) to meet a portion of its multidisciplinary CPUC team has carefully studied the clean energy procurement needs exemplified in the Decision we today. It will be key to closely monitor the load serving entities"





OAKLAND, California, June 9, 2023 ??? Lumen Energy Strategy, LLC has completed the inaugural California Public Utilities Commission (CPUC) Energy Storage Procurement Study required by CPUC Decision 13-10-040 and pursuant to California Assembly Bill 2514 (Skinner, 2010). The final study report includes a comprehensive assessment of the CPUC's stationary energy storage ???

Energy storage ELCCs decline with increasing penetration, which can be partially offset with longer duration storage additions. Solar ELCCs decline as the net peak is shifted later into the evening but then increase due to their diversity benefit with higher penetrations of energy storage on the system; by 2026,



The CPUC's energy storage procurement policy was formulated with three primary goals: Grid optimization, including peak reduction, contribution to reliability needs, or deferral of transmission and distribution upgrade investments; Integration of renewable energy; and. Greenhouse gas (GHG) reductions in support of the State's targets.





Energy Storage Procurement Framework and Design Program, and are approved without modification. PG& E filed Advice Letter 5322-E on June 29, 2018, requesting California Public Utilities Commission (Commission) approval of three capacity contracts and one purchase agreement, for four projects totaling 567.5 megawatts (MWs) in

The California Public Utilities Commission (CPUC), in ongoing efforts to ensure electricity reliability in the state and meet clean energy goals, today approved a historic decision ordering ???



The CPUC approved five energy storage contracts for a total of 497 megawatts (MW) of capacity, which are expected to provide 462 MW of capacity towards SCE's portion of the 11,500 MW of clean energy capacity ordered by the CPUC in June 2021 in the integrated resource planning (IRP) proceeding.





Between August 2020 and September 2021, the CPUC orders for procurement resulted in more than 2,100 MW of incremental capacity coming online at 61 different power plants. In addition to this significant progress in the past year, the CPUC is continuing to monitor procurement progress by load serving entities contracting for the remaining

The California Public Utilities Commission (CPUC), in ongoing efforts to ensure electricity reliability in the state and meet clean energy goals, today approved a historic decision ordering utilities to procure 11,500 megawatts (MW) of new electricity resources to come online between the years 2023 and 2026, enough to power approximately 2.5



The final study report includes a comprehensive assessment of the CPUC's stationary energy storage procurement framework, its impact on the evolution of California's energy storage market, and the resulting net benefits.





The CPUC approved five energy storage contracts for a total of 497 megawatts (MW) of capacity, which are expected to provide 462 MW of capacity towards SCE's portion of the 11,500 MW of clean energy capacity ordered by the CPUC in June 2021 in the integrated resource planning (IRP) proceeding.



The IRP "Procurement Track" was initiated in 2019, as ordered in D.19-04-040, to explore possible actions the Commission could take to address potential reliability or other procurement needs while the 2019-20 IRP cycle is underway.. Procurement Progress: Procurement in Compliance with D.19-11-016 and Mid Term Reliability (D.21-06-035) per ???



The CPUC has also authorised two clean energy programmes from SCE: a home energy storage pilot funded at US\$5 million and a heat pump programme funded at US\$13.9 million. The commission also approved changes to SCE's 20-year power purchase agreements (PPA) with two combined cycle gas power plants from AES.





CPUC Energy Storage Procurement Study: Safety Best Practices Attachment F F-5 emergency responders have gone through when attempting to extinguish or slow thermal runaway propagation once it starts. How Lithium-Ion Chemistries Compare Underlying battery chemistries differ in how prone they are to thermal runaway and this is an important

CPUC Energy Storage Procurement Study v ancillary services Ancillary services provide grid operational flexibility and stabilization for the purposes of reliable electricity delivery. CAISO ancillary services markets include non-spinning and spinning contingency reserves, and regulation up and down. We use the term more broadly to include



Company for Approval of its 2020 Energy Storage Procurement Plan (U39E). Application 20-03-002 And Related Matters. Application 20-03-003 Application 20-03-004 1 All statutory references are to California Public Utilities Code unless indicated otherwise. A.20-03-002, et al. ALJ/BRC/nd3 - 3 -





Commission (CPUC) today established an innovative centralized procurement strategy aimed at boosting the state's clean energy resources. This decision, which implements Assembly Bill 1373 (St. ts. 2023, Ch.36), will bolster California's efforts to achieve its ambitious greenhouse gas (GHG) reduction targets for 2045 and beyond.Under this

The California Public Utilities Commission (CPUC) has proposed the procurement of over 10GW of new energy resources, including 1GW of multi-day long-duration energy storage (LDES) and another 1GW of 12-hour-plus ???



approved an energy storage contract for Southern California Edison (SCE) to come online by August 1, 2022. procurement, The CPUC authorized SCE to enter into a \$1.226 billion, 537.5 megawatt (MW) engineering, construction, and maintenance energy storage contract with Ameresco, Inc. The energy storage projects will be sited at three existing SCE





The final study report includes a comprehensive assessment of the CPUC's stationary energy storage procurement framework, its impact on the evolution of California's energy storage market, and the resulting net benefits. The report concludes with a set of policy recommendations to the CPUC that aim to secure and strengthen future net benefits

CPUC must also ensure that the state has sufficient energy resources available to meet customer demand. The procurement ordered today is in addition to the 3,300 MW that the CPUC ordered previously to come online in 2021-2023, the 1,325 MW of energy storage required under Assembly Bill 2514 (2010), and the estimated 1,500 MW that will be pr.



C. LONG-DURATION STORAGE PROCUREMENT TIMING .. 20 1. California should install more renewable energy before installing more (CPUC), the U.S. Department of Energy (DOE) and the financial advisory firm Lazard have each found that pumped storage is uncompetitive for electricity storage up to 8-hour or 10-hour durations.





CPUC Energy Storage Procurement Study: End Uses and Multiple Applications Attachment E E-1 ATTACHMENT E: END USES AND MULTIPLE APPLICATIONS1 Energy storage technologies are emerging as highly flexible resources that can provide a wide variety of services and value to the grid and customers. In this attachment, we provide a brief overview of these

Assembly Bill 2514 also required the California Public Utilities Commission (CPUC) to open a proceeding to determine appropriate targets, if any, for the state's investor-owned utilities to procure viable and cost-effective energy storage systems and, by October 1, 2013, to adopt an energy storage system procurement target, if determined to be



Energy Storage Procurement Evaluation. CPUC Decision D.13-10-040 requires CPUC staff to conduct a comprehensive program evaluation of the CPUC energy storage procurement policies and AB 2514 energy storage projects. The final study, conducted by Lumen Energy Strategy, was released on May 31, 2023. The final study and its appendices are posted





Energy storage ELCCs decline with increasing penetration, which can be partially offset with longer duration storage additions. Solar ELCCs decline as the net peak is shifted later into the evening but then increase due to their diversity benefit with higher penetrations of energy storage on the system; by 2026,

It would authorize procurement starting in 2026 of up to 1 GW of multiday long-duration energy storage (LDES) and up to 1 GW of 12-hour LDES to come online in 2031-2037; procurement starting in