



Firm, Dispatchable Power. Now.

Energy Dome's technology platform delivers reliable, cost-effective, and safe grid-scale capacity through innovative power solutions.



OUR MISSION

Energy Dome is dedicated to giving people everywhere better access to energy by modernizing the grid with a unique, cost-competitive solution. Our mission is to play a crucial part in decarbonizing the world while delivering low-cost, sustainable energy storage at scale.

OUR TECHNOLOGY

The CO₂ Battery, Energy Dome's flagship technology, is a long-duration energy storage solution designed for rapid deployment; it strengthens grids, stabilizes energy prices, and also provides the flexible and reliable capacity needed for resilience, security, and independence.

The CO₂ Battery is now being deployed globally, making long-duration energy storage competitive, flexible, and reliable like never before.

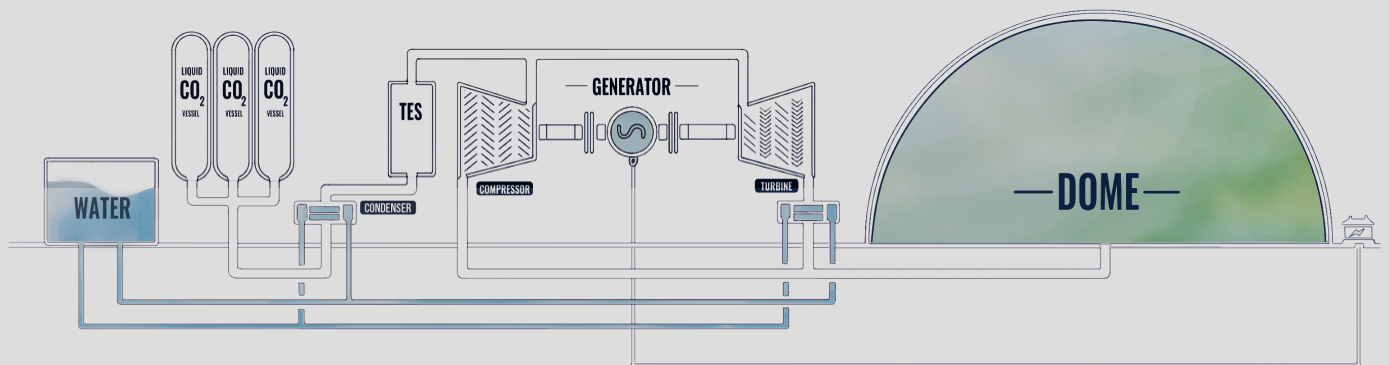
CO₂ BATTERY



HOW IT WORKS

Energy Dome's technology transforms CO₂ from its gaseous to liquid state and vice versa. When operating in charge mode, the CO₂ is withdrawn from an atmospheric gasholder, the dome, and compressed into an inter-refrigerated compressor driven by a motor. The heat generated from the compression is stored in a thermal energy storage system, whereas the CO₂ is liquefied and stored in vessels under pressure at ambient temperature with zero atmospheric emissions. This process allows for high-density energy storage without using extreme cryogenic temperatures. In discharge mode – whenever energy is needed – the CO₂ is heated, evaporated and sent into an expander before flowing back into the dome. In doing so, the expander drives the generator to feed carbon-neutral electricity to the grid.

The CO₂ Battery has high round-trip efficiency, meaning it returns 70%+ net of the energy it absorbs during its charge. There's no degradation during its prolonged life (30+ years), and its performance is third-party verified. Furthermore, the system relies on off-the-shelf equipment from Tier 1 and established global supply chains, ensuring virtually infinite scalability, other than ease of operation and maintenance.



QUICK EXECUTION

NTP to COD in 18 months



Efficient

Round-trip efficiency (70%+ net) AC-AC and MV-MV



Cost-Effective

Highly competitive CAPEX and OPEX



Flexible

CO2 Batteries can be constructed anywhere in the world



Proven

MW-scale plant already operational and grid-connected



Durable

No degradation of capacity or performance over 30+ years



Reliable

Off-the-shelf components made of eco-friendly materials



Independent

No dependence on rare metals such as lithium



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Our WORLD can't wait.