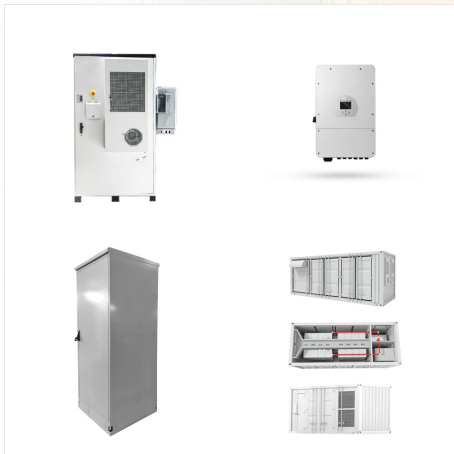




Amber Kinetics is the industry-leader in manufacturing flywheel energy storage systems (FESS). As the only provider of long-duration FESS, Amber Kinetics extends the duration and efficiency of flywheels from minutes to hours???resulting in safe, sustainable, reliable, efficient, simple and flexible energy storage solutions.



? These Advanced Flywheel Energy Storage System (FESS) startups are revolutionizing energy storage with new technologies. November 4, 2024 +1-202-455-5058 sales@greyb . Open Innovation; Amber Kinetics" flywheel technology boasts over 85% round-trip efficiency, no degradation over time, and total power output across the entire State ???



About Amber Kinetics Winner of pv magazine's Array Changing Technology Award 2017, Amber Kinetics began shipping pre-commercial Kinetic Energy Storage Systems in September 2016 and commercial units in 2017. To date, the company's fleet of demonstration units has accumulated over 35,000 hours of run time domestically and abroad. The firm is



# AMBER KINETICS FLYWHEEL ENERGY STORAGE SYSTEM



Flywheel Energy Storage System (FESS) An introduction to mechanical flywheel technology for dispatchable generation in the renewable energy market Russell Hanna Strategy & Product Manager 1 M32 M32 Amber Kinetics \$48,000 \$0 32.0 ???



These early flywheel batteries were bad at storing energy for long periods. So flywheels at the time were used more for short-term energy storage, providing five-to-ten-minute backup power in data centers, for example. And Beacon Power, before its bankruptcy, focused largely on using flywheels as frequency regulators for power grids.



Flywheels are one of the world's oldest forms of energy storage, but they could also be the future. This article examines flywheel technology, its benefits, and the research from Graz University of Technology. Energy storage has risen to prominence in the past decade as technologies like renewable energy and electric vehicles have emerged.



# AMBER KINETICS FLYWHEEL ENERGY STORAGE SYSTEM



Amber Kinetics partnered with PTLK International Ltd to deliver Taiwan's first four-hour flywheel energy storage system. Commissioned in February 2019, this 8kW system operates in New Taipei. ??? Only Ruggedized Energy Storage Solution ??? Providing Impeccable Performance & Flexibility



Meralco qualified the flywheel energy storage of Amber Kinetics, will be the perfect complement to the utility firm's journey into the renewable energy (RE) investment space as well as on planned supply procurements from clean energy technologies. "Meralco and Amber Kinetics are giving us a glimpse of the future as they light the way in



Amber Kinetics used this as a springboard to come up with the best long-duration solution through its flywheel technology and the company believes that the development of a system integrator will



# AMBER KINETICS FLYWHEEL ENERGY STORAGE SYSTEM



MIESCOR secures EPC contract to set up testing area for Amber Kinetics flywheel energy storage systems. Australian School Spins Up Flywheel Energy Storage System. June 2021 / Solar Quotes Blog DBP, Amber Kinetics sign P750M loan to ???



Amber Kinetics said the A32 can be configured to discharge power for a maximum of eight hours, delivering kW of constant power. To put this in perspective, one A32 can serve approximately five average Filipino homes for one day. "Amber Kinetics has engineered a highly efficient flywheel that meets the energy storage needs of the modern grid



The industry leader in flywheel energy, Amber Kinetics, explains why this groundbreaking renewable energy source is the future of energy storage. Powered by advanced technology, the Amber Kinetics flywheel has incredible capacity compared to similar kinetic energy storage systems, storing up to 32 kWh of energy in a two-ton steel rotor.



# AMBER KINETICS FLYWHEEL ENERGY STORAGE SYSTEM



California-based Amber Kinetics showcases its dome-shaped structures called A32 flywheel energy storage systems (FESS) at the De La Salle University Laguna campus grounds. Amber's FESS can store 32 kilowatt-hours of energy and discharge it for four hours, delivering 8 kW of constant power.



About Amber Kinetics Amber Kinetics is the industry-leader in manufacturing grid-scale kinetic energy storage systems (KES). As the only provider of long-duration flywheel energy storage, Amber Kinetics extends the duration and efficiency of flywheels from minutes to hours???resulting in safe, economical and reliable energy storage.



Amber Kinetics, Inc., developer of the first commercially available four-hour duration flywheel energy storage technology, and Enel, signed a two-year agreement to cooperate on jointly assessing Amber Kinetics' technology and to explore the possible development of future projects.. Enel will measure and demonstrate the performance of Amber Kinetics' flywheel ???



# AMBER KINETICS FLYWHEEL ENERGY STORAGE SYSTEM



Amber Kinetics and Elemental Excelerator partnered with Hawaiian Electric to install Hawaii's first ever long-duration flywheel energy storage system. The 8kW/32kWh storage system provides reliability, power smoothing to support a simulated PV array production and provides scheduled energy shifting to aid the integration of renewable energy.



The company described its flywheel to be a "promising energy solution that does not compromise environment and safety." Amber Kinetics said its storage system had been installed and commissioned in Australia, China, Hawaii, the Philippines, and the United States. More recently, flywheel units have been deployed and installed in Japan.



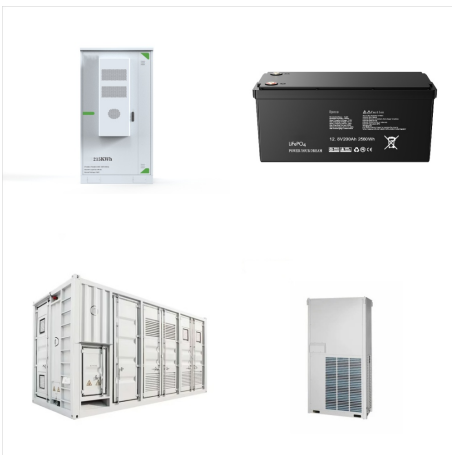
West Boylston Municipal Lighting Plant (WBMLP) partnered with Amber Kinetics to install a 128kW/512kWh flywheel energy storage system in Massachusetts. The flywheels are located next to an existing ground mounted solar array at a distributed energy generation facility. The flywheels were designed for energy arbitrage to reduce peak load and



# AMBER KINETICS FLYWHEEL ENERGY STORAGE SYSTEM



Amber Kinetics was selected by Enel to install its innovative long-duration flywheel energy storage system in California. The 8kW/32kWh system is being used to provide peak reduction to help balance the grid.



The Amber Kinetics flywheel is the first commercialized four-hour discharge, long-duration Flywheel Energy Storage System (FESS) solution [??] Amber Kinetics Inc. Leadership Edgar Chua Chief Executive Officer Former Country Chairman of Shell companies in the Philippines (2003-2016) and various senior positions across Shell Group Companies for



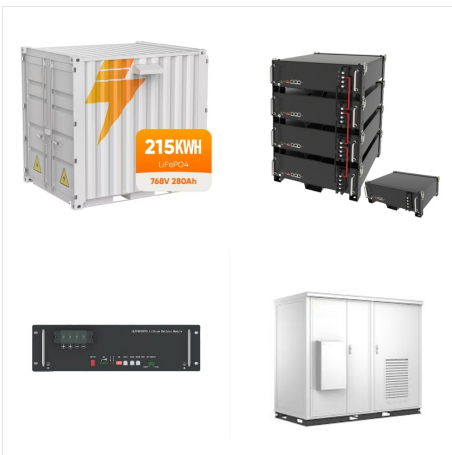
The presence of pioneering technologies like Amber Kinetics' Flywheel Energy Storage System in the country is just one way to show that a future with cleaner, more sustainable energy is within



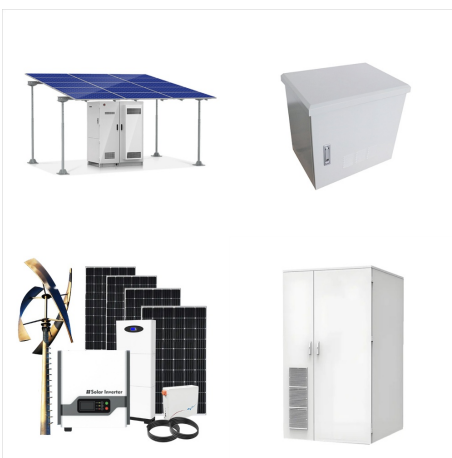
# AMBER KINETICS FLYWHEEL ENERGY STORAGE SYSTEM



The Amber Kinetics flywheel is the first commercialized four-hour discharge, long-duration KESS system, and it stores 32 kWh of energy in a two-ton steel rotor thanks to sophisticated technology.



"Indeed, Amber Kinetics has engineered a highly efficient flywheel that meets the energy storage needs of the modern grid." said Bobby Kanapi, Amber Kinetics Philippines Business Development



Amber Kinetics' Gen-2 Flywheel energy storage systems are reported to be the first four-hour discharge duration flywheels. Traditionally, commercial flywheel system capabilities were measured in minutes, with limited usefulness to electric utilities wanting to integrate renewables at transmission and microgrid levels.