

# ECHOGEN

power systems

## News and Updates from Echogen Power Systems - Winter 2016/2017



Echogen is reinventing heat recovery with the world's first commercially available systems using a supercritical carbon dioxide (sCO<sub>2</sub>) cycle. Echogen offers a practical, sustainable and cost-effective way to monetize waste heat.

### The EPS100 is available for installations



The 8 MW EPS100 is the largest sCO<sub>2</sub> power loop in the world. Designed for medium-sized (20-50 MW) gas turbines, the EPS100 offers a combined cycle solution with no water usage, fast start, remote operation and a compact footprint for both new build and retrofit projects.

### Funded R&D Programs in 2016

Echogen and EPRI continue to develop integrated solutions for coal-fired power plants using sCO<sub>2</sub> power cycles as part of an ongoing DOE-funded project. Results show substantial improvements in efficiency over typical steam cycles.

Echogen completed the conceptual design of a 10MWe sCO<sub>2</sub> test facility for the US DOE Nuclear Energy group. Echogen has also used a similar cycle design to form the basis of a small commercial power plant with broad potential for distributed power generation projects, including biomass combustion.

#### About Echogen Power Systems

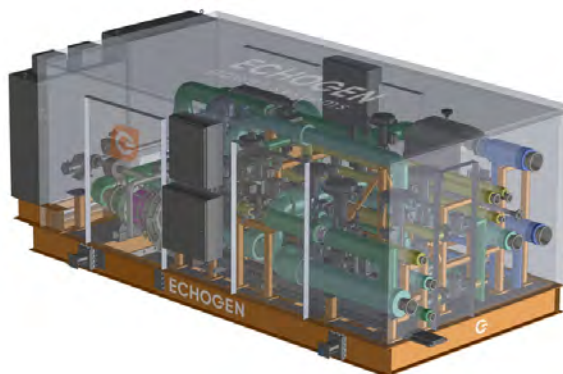
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### High-Speed Alternator/Motor Testing Begins



The system test of the high-speed alternator and power electronics has begun in Echogen's onsite lab. The PM alternator is capable of 1.5 MW output at 25,000 rpm with no oil anywhere in the system. The compact, SiC-based power electronics controls alternator speed and converts output to a steady 480V/60 Hz signal. The pairing of these two components results in the most power-dense package ever built at this speed/power combination. System will be part of EPS30 but can also be stand-alone motor.

### EPS30 1.35 MW Heat Recovery System



The EPS30 is a compact heat recovery system compatible with a wide variety of applications. Originally designed for marine installations, the EPS30 works with small gas turbines (3-6 MW), large diesel engines, LFG power plants and industrial applications. An updated version (up to 2 MW) of the EPS30 is currently being developed.

### Come See Echogen

Echogen will be at the Power-Gen International tradeshow in Orlando, FL on December 13-15 to promote our technology. Look for us in booth #4569.

Echogen will be presenting multiple papers at the ASME Turbo Expo in Charlotte, NC on June 26-30, 2017.

**Echogen is looking for partners for early installations. If you have a site, we'd love to hear from you!**