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**From:** [Paul Lieberman](#)  
**To:** [Palma-Rojas, Silvia@Energy](#); [Energy - Docket Optical System](#)  
**Cc:** [Dr. Behrooz Ershaghi](#); [Tushar Patel](#); [RDHN@cowi.com](#); [Ken L. FitzGerald](#); [Dallas Meggitt](#)  
**Subject:** Introduction of CAES barge system to CEC  
**Date:** Thursday, October 22, 2020 11:52:49 AM  
**Attachments:** [GLOSTEN\\_CAES SYSEM FOR BARGE PL.doc](#)  
[Submitted Completed Paper.pdf](#)  
[PAUL LIEBERMAN 2020.doc](#)

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Dear Dr. Silvia Palma-Rojas,

I attended your Webinar session this morning. I was strongly impressed with your presentation and the detailed discussion thereafter. You were successful in having Ron Heffron of COWI contact me to express interest in teaming. COWI is an international organization with experience with offshore wind farms, an important teaming consideration.

I attached the description of our proposed "Compressed Air Energy Storage - Barge" (CAES-B) system.

The system is described in the first attachment (Lieberman Research Associates). The Levelized Cost of Storage - LCOS (Glosten) is described in the second attachment. Atlas Copco is the supplier of the world-class Turbocompressors, Turboexpander Generator sets and Companders.

The CAES-B accumulates all the electrical power not being used by the offshore wind farm at the moment (say, night time) and uses this excess electrical power to drive a turbocompressor on the top surface of the barge. The turbocompressor pressurizes the pressure vessels under the barge so that the energy storage system and floatation system are the same. The CAES-B is cost competitive with Lithium Batteries as far as supplying electricity, whereas CAES-B also supplies chilled air flow such that for each 1-MW(electrical) there is 1-MW(thermal) power provided...an advantage not included in the LCOS.

The companies interested in partnering include Atlas Copco, Glosten, COWI. However, the matching funds requirement discourages our teaming. Atlas Copco is capital equipment rich, so can that be considered. My LRA CAES system feasibility project test was witnessed by EPRI, Sandia Lab and CEC. Can we work around the matching fund requirements.

Sincerely,  
Paul Lieberman

Dr. Paul Lieberman, President  
Lieberman Research Associates  
19815 Mildred Avenue  
Torrance, CA 90503-1121  
(310) 371 2198  
[LIEBERMAN.LRA@gmail.com](mailto:LIEBERMAN.LRA@gmail.com)