13η ΕΚΘΕΣΗ ΕΞΟΙΚΟΝΟΜΗΣΗΣ ΕΝΕΡΓΕΙΑΣ
SAVENERGY 2017

OEB

Μέγας χορηγός
ΣΥΝΕΡΓΑΤΙΚΗ ΚΕΝΤΡΙΚΗ ΤΡΑΠΕΖΑ

Poster Presentation Registration Form

Poster Session
Savenergy Conference, 13 May 2017, 9.00-14.30
Venue: Cyprus State Fair

To register, please e-mail this form to acharalambous@oeb.org.cy or send it by fax to 22666661 (c/o Mrs Anthi Charalambous).

Deadline for submission: 28th April 2017

Cost (students): free for poster presentation or 30 € for participating in the conference

Presentation period: 9.00-14.30, 13th May 2017

No unattended presentations: At least one presenter is required to stand by the poster for the entire session.

Poster presentation: Visual display of research which includes text, tables, graphs etc. Bring the poster printed in dimensions 1,30X1,30. Posters boards will be provided.

Poster Title: Green Hydrogen Compression and Storage through a Metal Hydride Compressor (MHC)

Topic (select one): renewable energy ☑ energy efficiency ☐

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Level (circle one): undergraduate ☐ postgraduate ☑

Academic Program (i.e., school, department): HYSTORE Technologies Ltd

Description of research work and key findings (max 250 words):
Metal Hydride based Compressors (MHC) is a promising technology for thermal compression of hydrogen. Besides the absence of a necessity for significant mechanical or electrical energy input, this type of compressor has the advantage that no moving parts are involved. The

experimental works as well as the PCT curves of the metal hydrides used for a MHC development and construction are presented here. The experimental works, the design, optimization and construction of the specific hydrogen compressor carried out by HYSTORE Technologies Ltd in Cyprus and in the framework of ***"Advanced Metal Hydride Hydrogen Compressors – Pilot Development and Market Penetration" project (ATLAS-MHC, FP7-PEOPLE-2013-IAPP/612292, 2014-2018)***. The MHC consists of single stages using AB_2 and AB_5 - type metal hydride alloys. The MHC is also operated between 10°C and 80°C, which is a temperature range that can be supplied by solar thermal collectors. Furthermore, the experimental results showed that even higher temperatures of 17°C are sufficient thus reducing the demand for cooling capacity. During the operation, the compressor achieved stable compression of hydrogen from 7 bar to more than 220 bar.