

EMRC CONFERENCE

Dermot Costello— Clean Energy Council

28th October, 2016



WHO WE ARE

- Peak body for the clean energy industry in Australia.
- We represent hundreds of solar, wind, hydro, bioenergy, energy storage, geothermal and marine businesses.
- We provide accreditation, professional development and advice for more than 4,000 solar installers.
- Committed to transforming Australia's energy system to one that is smarter and cleaner.



CORPORATE MEMBERS





SPONSORING MEMBERS

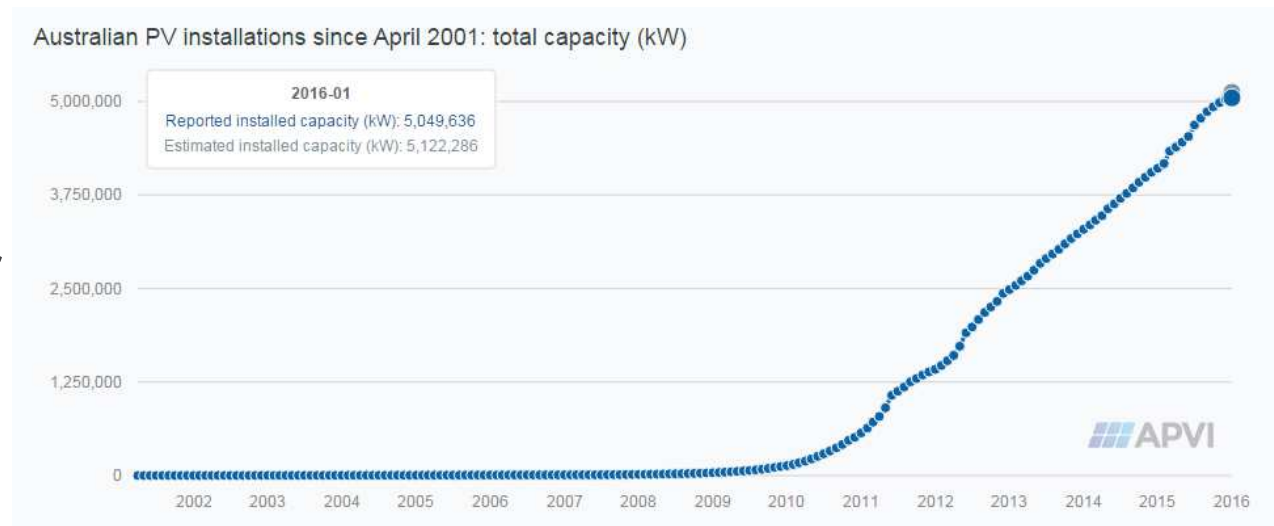


AGENDA

1. What we do
2. Transport, warehousing and end of life of lithium-ion batteries
3. What if I told you... Lithium is the new gasoline, Goldman Sachs report December 2, 2015.
4. CEC commitment to ensuring energy storage industry integrity

“PERFECT STORM” DRIVERS

- End of Premium Feed in Tariffs
- High Penetration of PV
- High Electricity Prices
- High Irradiance (Sunlight)
- Electricity Retailer Dissatisfaction
- Mature Market



Source: pv-map.apvi.org.au/

HISTORY & BACKGROUND

- PV Accreditation scheme tied to RET Legislation
- >1.5 million small scale solar PV systems
- >4000 accredited persons
- Prerequisite for most electricity distributors



CEC ACCREDITATION DEPARTMENT

- Accreditation scheme:
 - Case Study/ Insurance/ OH&S Evidence
 - Continuous Professional Development
 - Demerit Point Scheme/ Suspensions & Cancellations
 - Guidelines, Technical Updates & Installer Nights

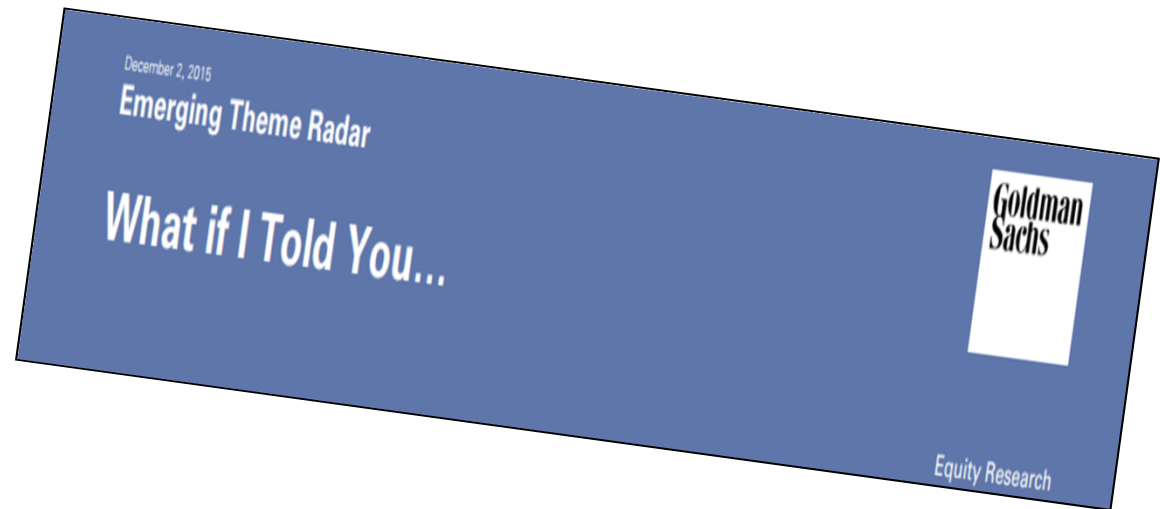


INDUSTRY INTEGRITY



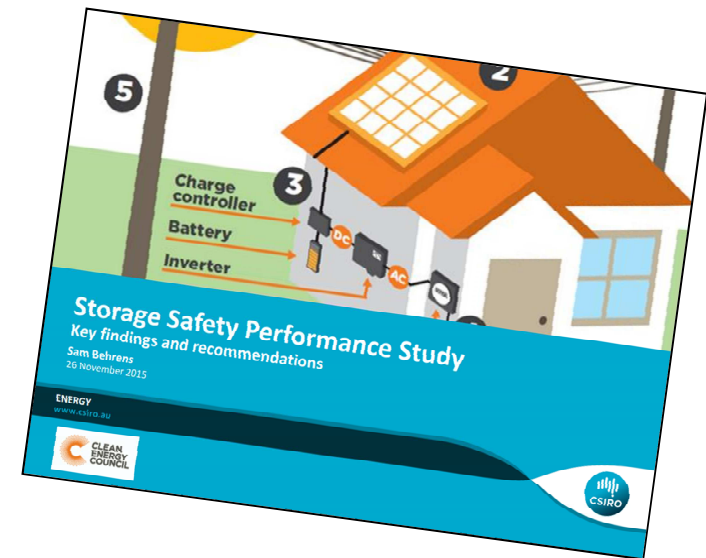
IS LITHIUM THE NEW GASOLINE?

- Goldman Sachs report December 2, 2015
- High energy density (Small Footprint)
- Low maintenance
- High power output
- High depth of discharge
- Known chemistry



STORAGE SAFETY PERFORMANCE STUDY

- Insufficient accreditation and training to support and provide qualifications for designers and installers of energy storage systems.
- Emergency response teams have limited education about the issues related to an energy storage technology in the event of an incident.
- There is a lack of standards for battery storage system disposal and recycling (except in the case of lead-acid battery systems)



STORAGE INTEGRITY WORKING GROUP

- Installation (Best Practice & Standards)
- Product Standards
- Tracking and registration/reporting
- Accreditation/ Training Recognition
- Recycling
- Transport



Source: simple.wikipedia.org



Source: directorytransport.com/

RECYCLING AND TRANSPORT FORUM

- Education & Awareness
- Connect Stakeholders
- Identify Gaps
- Training
- **Additional Transport & Recycling forums**



Source: www.ontariocreditcheck.ca/

FUTURE INITIATIVES

- Australian Standard Feedback loop
- Series of Energy Storage Leadership Events in 2017
- Industry Guide on Storage Stewardship
- Approved battery list
- Webinars for:
 - Accredited persons
 - CEC Members



CLEAN ENERGY COUNCIL INVOLVEMENT



**INSTALL GUIDELINES
FOR ACCREDITED INSTALLERS**
GRID-CONNECTED ENERGY SYSTEMS WITH BATTERY STORAGE



Storage Safety Performance Study
Key findings and recommendations

Sam Behrens
26 November 2015

ENERGY
www.cesro.au



STANDARDS
Australia

Battery storage endorsement

To become endorsed to install grid-connected battery storage, accreditation must also be held for the design and install of grid-connected (GC) photovoltaic systems.



QUESTIONS?

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