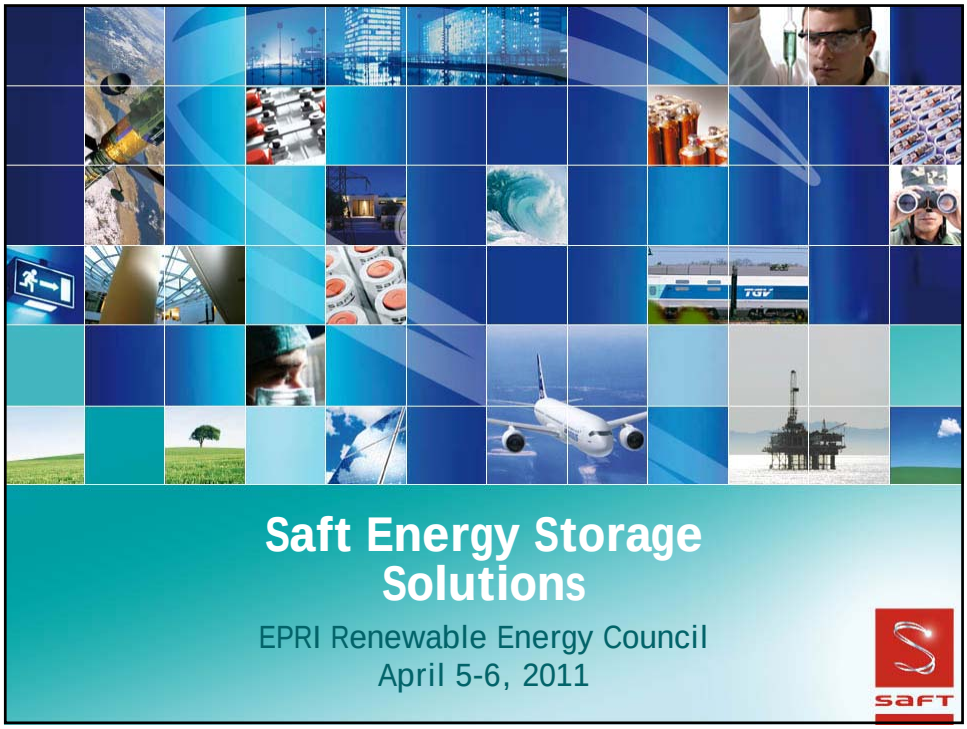


Saft Energy Storage Solutions

EPRI Renewable Energy Council
April 5-6, 2011

saft

The Saft Group in 2010 - Key figures*

*1.33 $/€ exchange rate (Dec. 2010)

Space

Defence

Industrial standby

Telecommunication

Specialty Battery Group
$345.8m
44.0 %

High performance primary and rechargeable lithium and silver batteries for the electronics, defence and space industries.

Sales 2010
$786.2m

Industrial Battery Group
$440.4m
56.0 %

Rechargeable nickel and lithium-based batteries for demanding industrial applications.

Joint-Ventures:
- Johnson Controls-Saft HEV and EV batteries
- ASB Group Thermal batteries

Equity accounted

Aviation

Clean Energy Storage

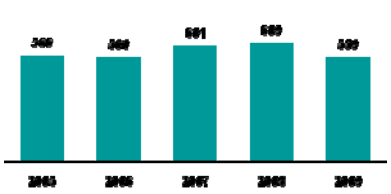
Metering and Professional Electronics

Emergency Lighting

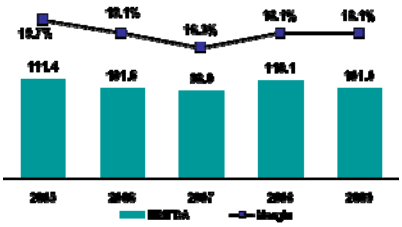
Rail and Mass Transit

Strong Financial Track Record

Sales – At Actual FX Rates (€m)

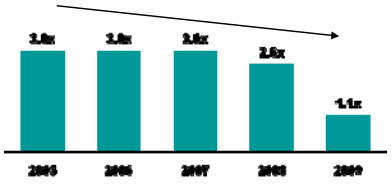


EBITDA (€m)



Cash Flow from Operating Activities (€m)

Net Debt / EBITDA (x)



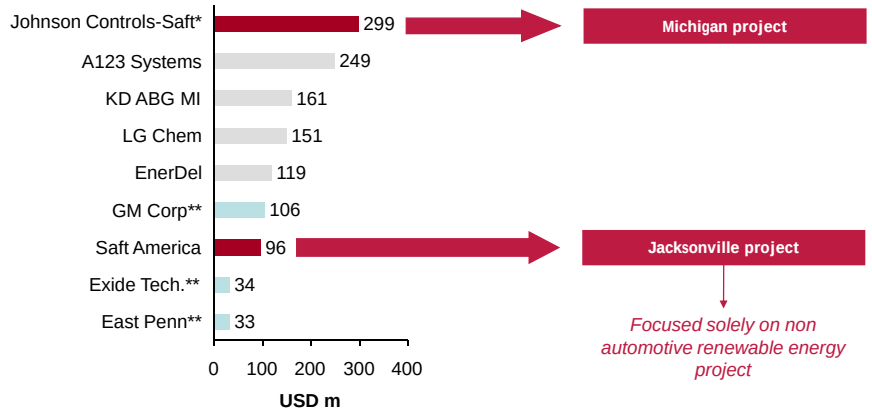
Note: Sales at actual exchange rates; EBITDA restated including Research Tax Credit. 2005 EBITDA restated for IPO costs., Restated figures for 2009 exclude the costs incurred by the Group in respect of the project for the new production facility in Jacksonville, USA for an amount of €0.7 million.

Johnson Controls – Saft Advanced Power Solutions

- JV to leverage Saft's technological leadership in automotive Li-ion
- JCI position as a tier 1 automotive supplier
- First contract to supply Li-ion to a major manufacturer (Daimler)
- Joint purchasing arrangement with Saft
- Synergies with energy storage

Saft: Recognized as a Very Credible Player

Johnson Controls-Saft and Saft are together the leading beneficiaries of the US grants



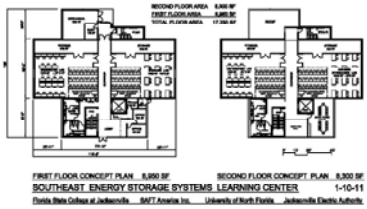
** Johnson Controls-Saft industrial project submitted by Johnson Controls Inc. to the Department of Energy*
*** non Li-ion manufacturing projects*
Source: US DoE

Jacksonville Project Update

- Contract signed with Department of Energy
- Factory construction contract signed
- Official ground-breaking ceremony 15th March
- Over 350 MWh plant capacity by 2015 with room for further expansion
- Start of production H2 2011

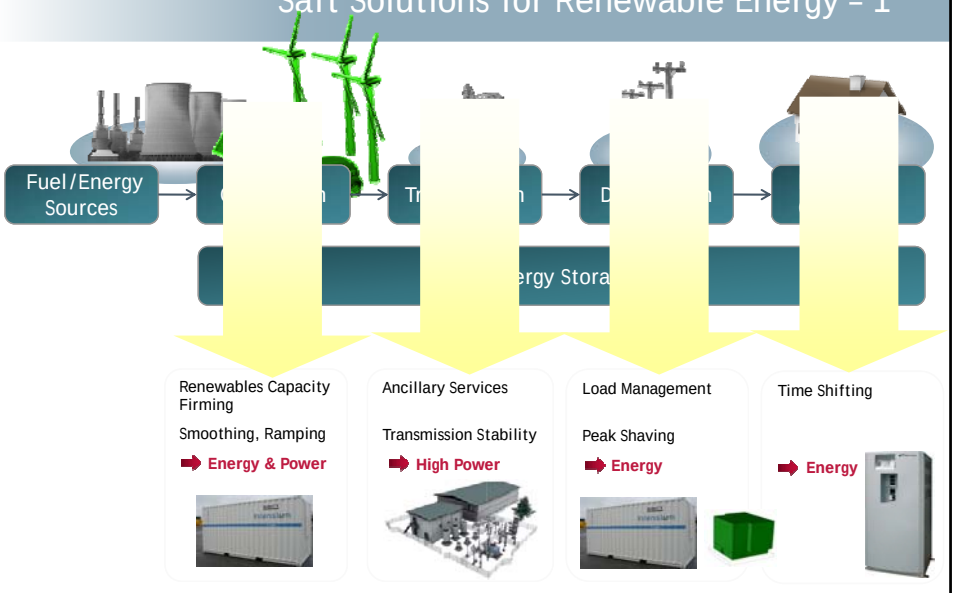
Building Progress (as of February)

Southeast Energy Storage Learning Center

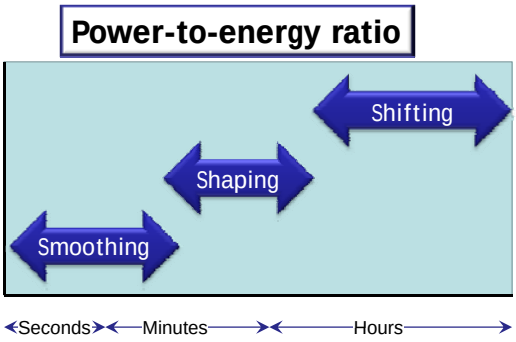


- Saft initiative with Florida-based partners
- Couple 1 MW rooftop PV with 1 MW / 1 MWh energy storage system
- Students will experiment with optimal dispatch
  - PV output
  - Grid signals from JEA

Saft Solutions for Renewable Energy – 1



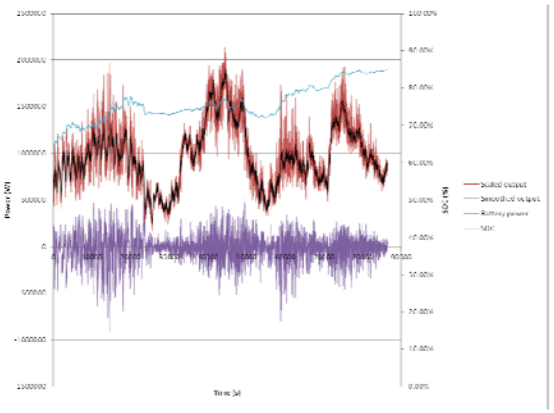
Saft Solutions for Renewable Energy – 2



- Li-ion technology has the flexibility to address all three functions

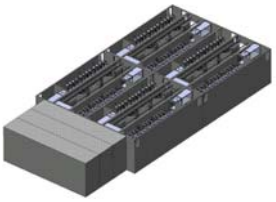
Smoothing

- Example – ramping support for wind farms
- Individual 2.5 MW turbine ramping from full output to zero in approx. 40 minutes
- Storage ratings
  - Approx. power 1 MW
  - Approx. energy 0.5 MWh (usable)
- Aggregation of wind output should lead to smaller storage ratings



Solutions for smoothing - large-scale

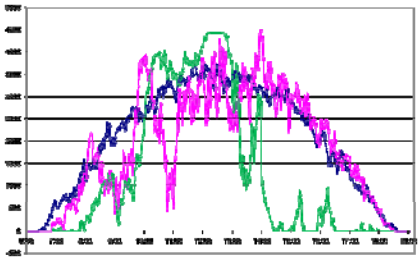
- ABB DynaPeaQ system (SVC Light with energy storage)
- Up to 50 MW, up to 1 hour
- Up to 80 kV dc
- Capability to sell VAR support to wind farms



Solutions for smoothing – smaller-scale

- Intensium Max containerized systems
- ISO containers – 20-ft or 40-ft
- Separate PCS
- Allows for maximum flexibility
  - Transportation
  - Siting
- Flexible power-to-energy ratio
- Medium power 20-ft
  - 560 kWh
  - 1.1 MW, 30 min

Shaping



Source: Aerowatt

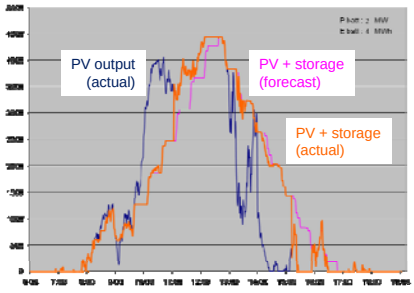
- Allows renewable energy source to be firmed
- Especially important in island grids

Smoothing and shaping PV farm output

- Storage of ~20% of daily PV output
- Smoothed injection to grid
- Conformance to forecast output

- Example:
  - Per MW of PV rating
  - 0.5 to 1 MW battery power
  - 0.5 to 1 MWh battery energy

Worst-case scenario

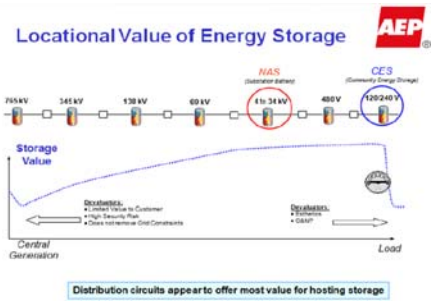


20 ft. container
1.1 MW for 30 minutes

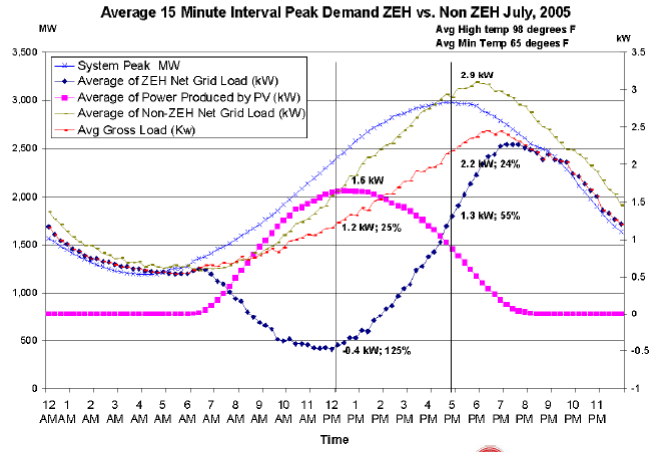
Shifting

- Hours of storage
- Low value in remote systems
- Locate closer to users to achieve higher value

- Local options
  - Substation storage
  - Community energy storage
  - Residential storage (with rooftop PV)



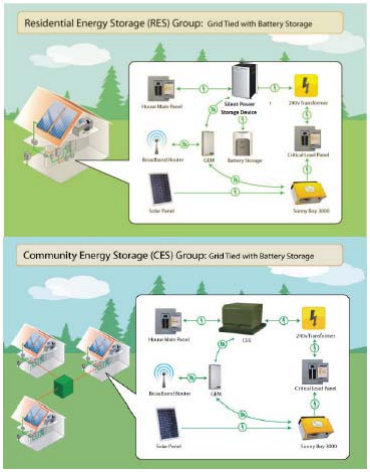
PV peak vs. system peak



SMUD
SACRAMENTO MUNICIPAL UTILITY DISTRICT
The Power To Do More.℠

SMUD Anatolia III project

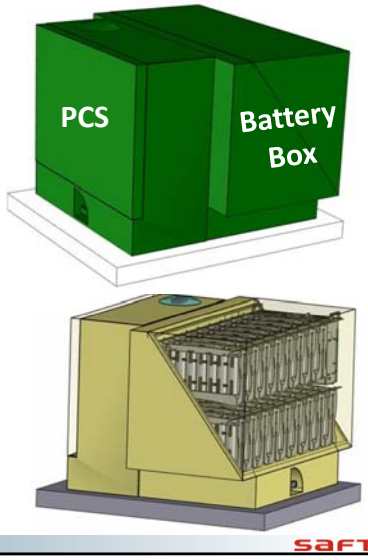
SMUD
SACRAMENTO MUNICIPAL UTILITY DISTRICT
The Power To Do More.℠



- ARRA FOA 85 Topic 4: High penetration solar development
- Installing 15 RES and 3 CES units in Anatolia 'SolarSmart' Homes that currently have 2kW PV systems
- Installing utility and customer portals to monitor PV, storage, customer load
- Sending price signals to effect changes in customer usage
- Developing specification for smart meter/inverter interface to enable management of distributed PV/storage system with AMI
- Saft is storage partner using advanced Li-ion technology developed for EV

SMUD CES systems

- 30 kW / 34 kWh systems
- Each serving 5 homes
- Partner companies
  - GridPoint - communications
  - PowerHub - PCS
  - Saft - battery

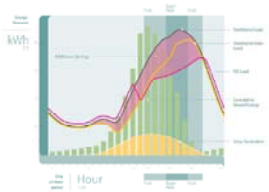


SMUD RES systems

- 4 kW / 8.8 kWh
- Partner companies
  - GridPoint - communications
  - Silent Power - PCS
  - Saft - battery

2500 R Street microgrid project

- Pacific Housing 34-home project in Sacramento
- Partner companies
  - Sunverge – system integrator
  - Schneider / Xantrex - PCS
  - Saft - battery
- Enhanced grid benefits with less PV



SUNVERGE

Optimizing value from PV storage

- Minimize cost of storage
  - Synergies with EV applications for Li-ion
- Storage requirements
  - Maximum life
  - Wide operating state of charge range
  - Very high efficiency (>95% dc)
- Maximize value streams
  - Residential PV shifting to avoid peak rates
  - Power reliability – islanding / microgrids
  - Participation in demand-response programs
  - Night-time ancillary services

Summary

- Energy storage provides solutions to RE integration issues, allowing higher penetration levels
- The cost of energy storage can be mitigated by addressing multiple value streams
- Saft's long history with Li-ion and success with EV make it a strong player in this market

Thanks for listening!

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