Financin hydrogen: focus on an additional value stream

Michael Salomon
Clean Horizon Consulting

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Financing hydrogen... through a favorable regulation

- Hydrogen: multiple revenue streams

- First, use the hydrogen molecule!

- Then, find additional revenue...

- What about grid support through fast responding systems?

Regulatory change: providing incentives...without spending money?
Our approach to energy storage

1. Detect
2. Analyze
3. Monetize

What business model for the storage system?

Revenue and Gross margin: European benchmark M€/year

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Source: Clean Horizon
Our UPDATE FROM THE FIELD report (2nd Edition) is available
Balancing energy and ancillary services

- **Upward energy**: energy *injected* on the grid
- **Downward energy**: energy *withdrawn* from the grid

**Load profile and generation blocks: example**

- **MW**: Measurement of energy in units of million watts
- **Blocks traded on wholesale market**
- **Load**: Demand for energy

*One year before real time*
*One month before real time*
*One week before real time*
Typical frequency variation on the electric grid
Which one of these two assets brings the best frequency regulation to the grid?

Power delivered by FAST asset

Power delivered by REGULAR asset

Source: Clean Horizon
A «mileage» payment is being set up in the United States – beginning in October 2012 with PJM.

The «mileage» payment allows a monetization of flexibility.
Regulation and investment

• New philosophy: from *indemnification* to *compensation*

• More appropriate regulatory scheme can open niches for fast storage assets… A good start?

• Reserve, mileage…short-term, uncertain revenues! Niche market! Subject to regulatory change! → **Unsafe for an investor**
Thank you for your attention!

michael.salomon@cleanhorizon.com
www.cleanhorizon.com

+33 1 78 76 57 03