


ENERGY

Drowning in the pool? Bring on the Multimart

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The Utility of the Future in Asia: What are the Likely Models?

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Beyond cost, towards *value*

There is a **great divide** between grid and renewables players

Renewables are not 'the problem' – they're part of the **solution**

Developers need **clearer revenue streams** to operate this way

East versus West: Difference in priorities

Markets in Asia poses different priorities, physical and regulatory landscapes from that of the developed markets in the West

- Western nations see the emphasis in designing markets more as **mechanisms for balancing and reliability of supply**
- ASEAN has its emphasis on providing a wide variety of mechanisms for electricity access



Source: Imperial College London

East versus West: Absence of legacy market structures

Developing a 21st century electricity market without the encumbrance of legacy infrastructures puts Asia at an advantage over the West

- Without legacy electricity market designs, implementation of market changes involves **lesser complexity**
- Developing markets in Asia have a **less restrictive role** on how electricity can be bought and sold
- **Emergence of mobile phones networks** without landlines would be a similar example

Asia is the ideal region for leap frogging legacy market structures



Emergence of the new markets in Asia

- Similar to Tesla charging stations, much smaller charging stations are found in corner shops across China and Southeast Asian countries
- A 10 minute fast charge costs approximately 1 RMB in China
- Payment can be made in cash or using vouchers available at convenience stores



Source: <http://www.evokemotorcycles.com>

Power Multimart – from hypermarket to corner shop

- The market of the future needs to support all kinds of generators, consumers and traders
- It is no longer simply a Power Pool, or a Bilateral Market
- It needs to support exchange of power between generators and consumers large and small – even between households and within Microgrids
- Time for a new hybrid market model – **The Multimart**



The Multimart is here to stay

- A number of more affordable technologies are enabling the concept of the Multimart (Evs, Batteries, distributed PV, smart grids etc.)
- Mulitmart's emergence will provide flexible access to electricity and facilitate rural electrification
- A proper formalisation moving to a Multimart requires the **use of standards and certifications** can help more businesses enter the electricity markets easily
- The Multimart provides a real solution to meet Asia's priorities and help **pioneer new market designs** relevant to the 21st century

The Multimart is here to stay: Effective and Relevant Implantation

- A key feature to the successful development of the Multimart will be the **emergence of technical and regulatory standards** for **connectivity and control**
- DNV GL is well positioned in contributing towards developing these standards and the certifications necessary to enforce them
- This is backed by our role in the **Universal Smart Energy Framework (USEF®)** Foundation which acts as the steward of a Multimart framework and has the ambition to establish it as the de-facto framework for smart energy products, services, and solutions.
- A similar framework is needed for the Asian context....



Thank You

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