



**TATA POWER-DDL**

**TATA POWER DELHI DISTRIBUTION LIMITED**

A Tata Power and Delhi Government Joint Venture

# An Energy Island through Electric Vehicles

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India – Japan Industry & Energy Seminar

1<sup>st</sup> May 2018, Taj Diplomatic Enclave, New Delhi

with you *Non-Stop*

# Decentralised Prosumers to the Fore...

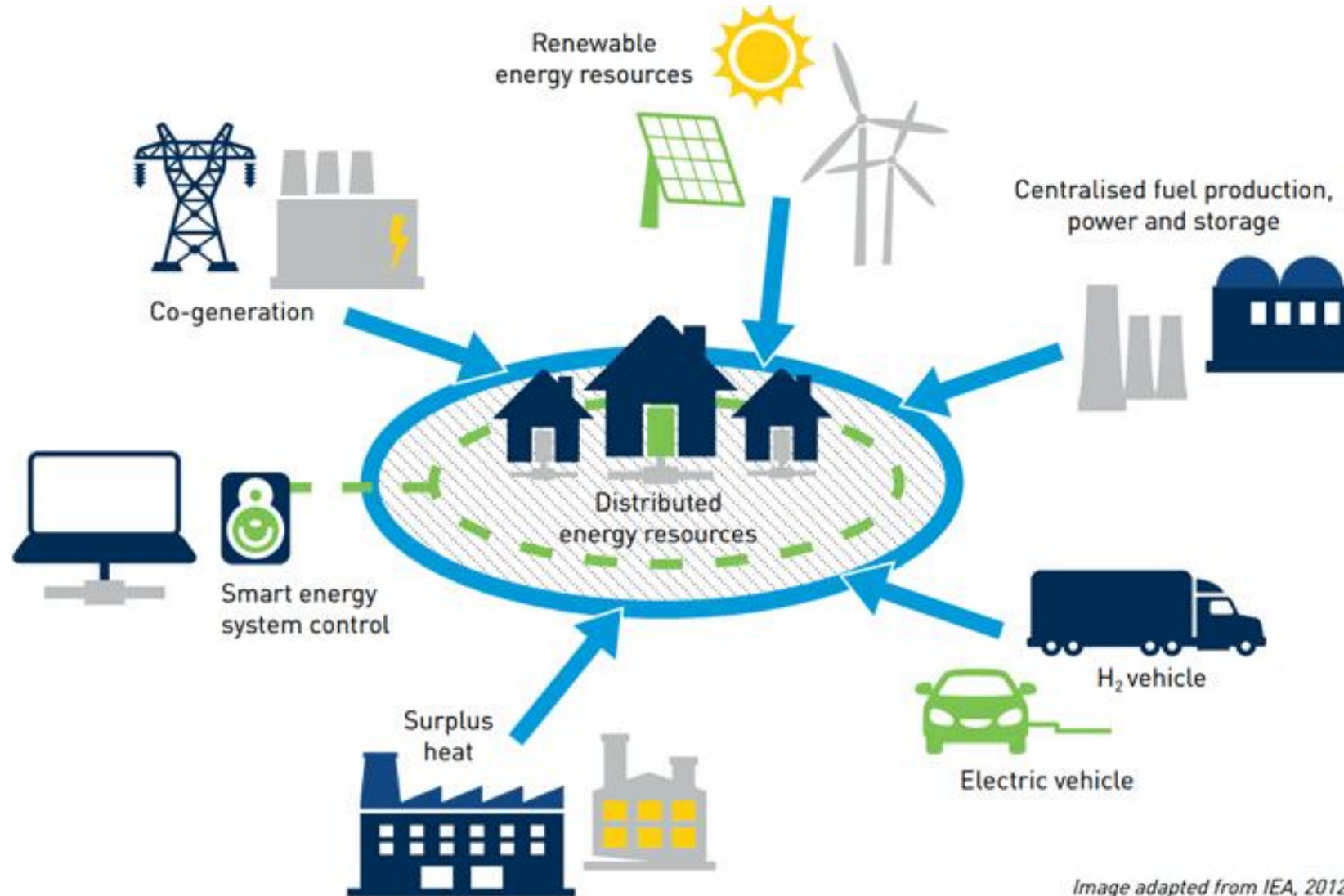


Image adapted from IEA, 2012

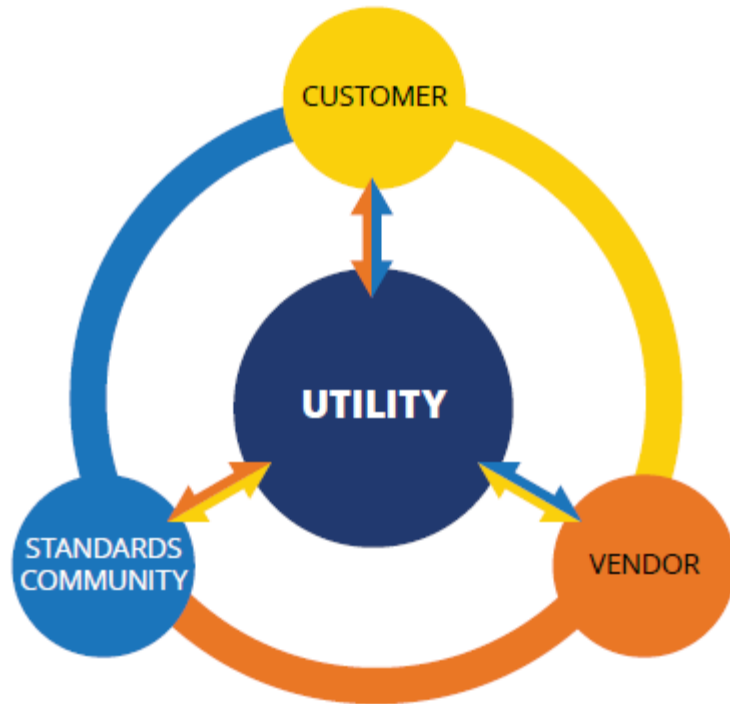
# Concept of Energy Island



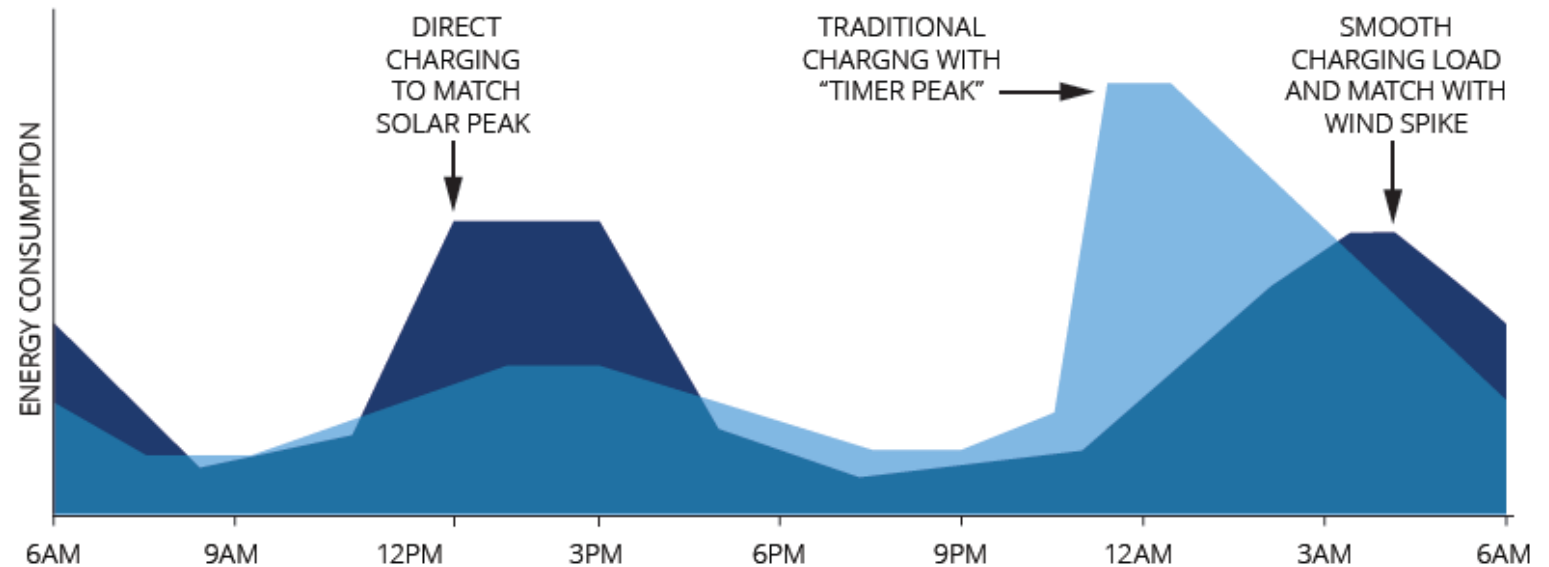
Smart Grid Micro – grid would ensure Better Reliability, Power Quality and Customer Experience while Integrating Intelligent Technologies to Integrate Renewables, Electric Vehicles and Storage

# Electric Vehicles – A Critical Component

*Combination of Infrastructure and Communication Signals to Control a Charging Event*



Source: Smart Electric Power Alliance, 2017



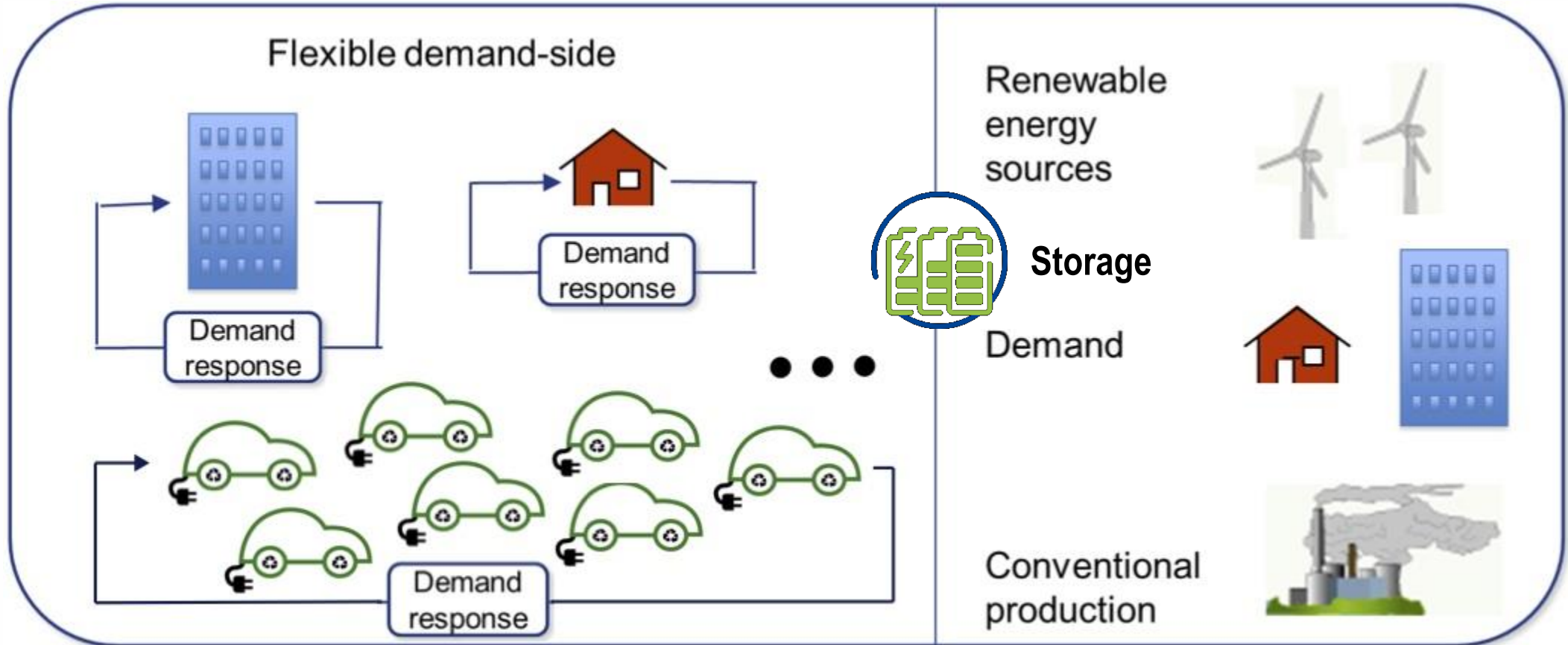
Source: BMW of North America, 2016<sup>27</sup> with edits by Smart Electric Power Alliance, 2017

Note: The light blue area illustrates the impacts of a hypothetical TOU residential charging rate with the lowest rate period beginning at 11 pm. The dark blue area shows how managed charging could distribute charging loads with peaks in renewable energy generation.

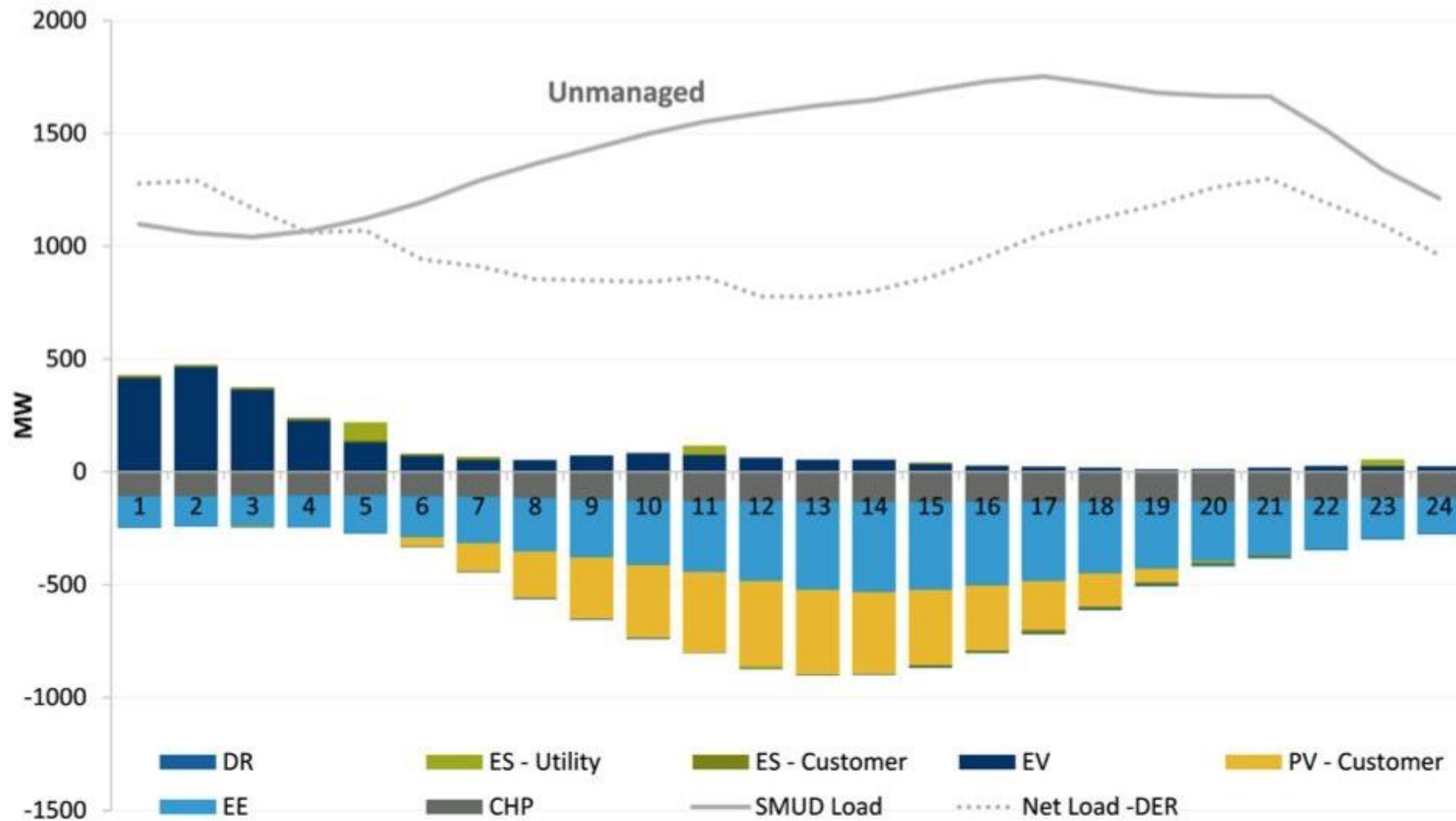
*However, Enabling V2G and Providing Incentives to Consumers would be Imperative to Realise the Full Potential*

# Not Just Electric Vehicles...

*A Combination of Demand Response, Storage and Solar would ensure higher Flexibility of the System*



# A Look into the Future...



Thank You



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