# Sources of Innovation and Disruption BIEE Oxford 2016



### Sources of disruption

How are megatrends affecting the energy sector?





resource scarcity





economic power



Accelerating urbanisation

### Disruptive dynamics

#### Customer behaviour



"Grid provides back up"

### Competition



"Outflanked and outpaced"

# Production service model



"Outdated or stranded"

# Distribution channels



"Digitalised intervention"

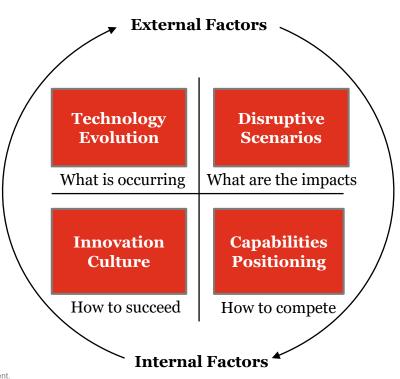
# Government and regulation



"Caught in the crossfire"

### Capturing value from disruption

### **Aligning the Factors**



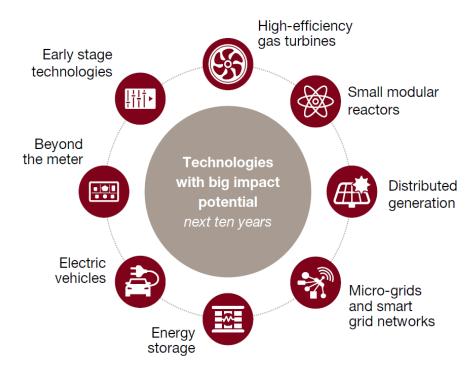
Source : Capturing value from disruption, PwC
PwC's Digital Services
Confidential information for the sole benefit and use of PwC's client

### Proliferation of technologies



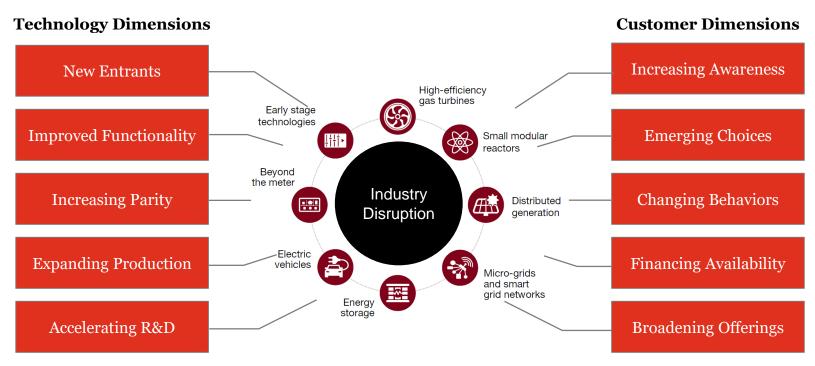
PwC's Digital Services

### Specific emerging technologies for energy



Source : Capturing value from disruption, PwC PwC's Digital Services

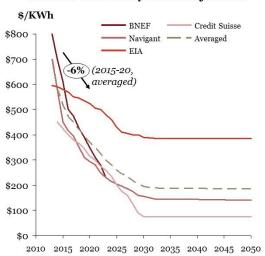
### 'Technology push' and 'Customer pull'



Source : Capturing value from disruption, PwC PwC's Digital Services

# Though technology is radical reducing manufacturing costs....

#### **Lithium-Ion Battery Price Projections**



...organisations must innovate the end-to-end supply chain

**MANUFACTURING** 

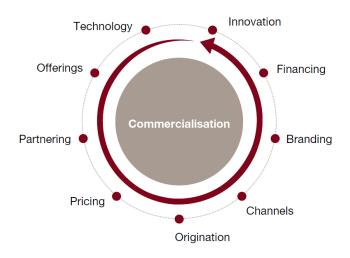
WHOLESALE/ DISTRIBUTION

INSTALLER

FINANCING/ SUBSIDY

Source : Capturing value from disruption, PwC PwC's Digital Services

# New capabilities will be needed for utilities providers...



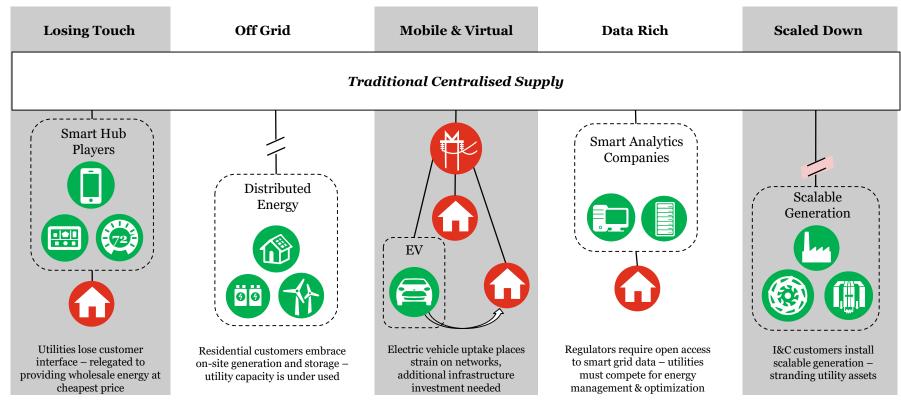
# ....while regulators will also have to adapt

- Manage overlapping incentives to avoid unintended consequences
- Customer-centric, rather than assetcentric
- Clear focus on principles and outcomes
- Avoid regulating for yesterday's technology

Source : Capturing value from disruption, PwC

WC's Digital Services

### Potential futures exist for the utilities industry



Source: Capturing value from disruption, PwC

### Innovation Culture is critical

#### Structure For innovation

Dedicated, small group to lead and drive

Protected funding, separate from development

Insulated, not isolated

### Leadership

## Inspire and support behaviour change

Act as role model

Tolerance for risk and failure – innovation is different from development

Provide safe and rewarding environment

### Culture Start-up mindset

Agile, flexible and quick Solution orientation, Thirst for revenue Can-do attitude & Collaborative

# Talent Creative, non-linear

Results-driven
Sense of urgency
Non-linear thinking
Comfort with ambiguity

### Management *Motivational*

Training

Motivators: recognition and visibility

Metrics: emphasize right behaviour (e.g. breakthroughs)