

accenture **eurelectric**
ELECTRICITY AND ENERGY

Power Choices and Trade-offs:
Finding the Right Balance between Sustainability,
Competitiveness and Affordability
June 3rd, 2014

High performance. Delivered.

The EU energy landscape in transition

Environmental objectives

- Renewable energy: 10.5% of total generation to 14.1% (2008-2012)
- CO₂ emissions: -18% by 2012, compared to the 1990 baseline
- Energy intensity of the EU economy: from 0.151 to 0.143 toe per €1000 GDP (2008-2012)

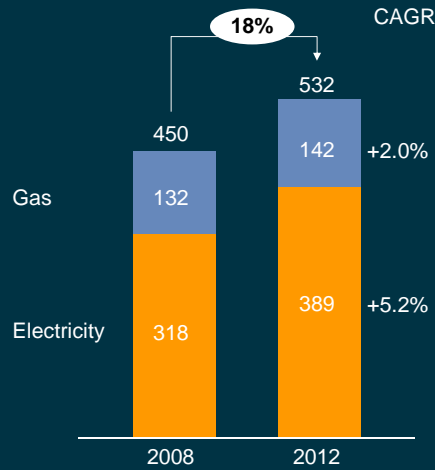
Security of supply

Economic competitiveness

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Rising prices are driving up energy expenditure

Electricity and gas expenditure 2008-2012 (bn€)

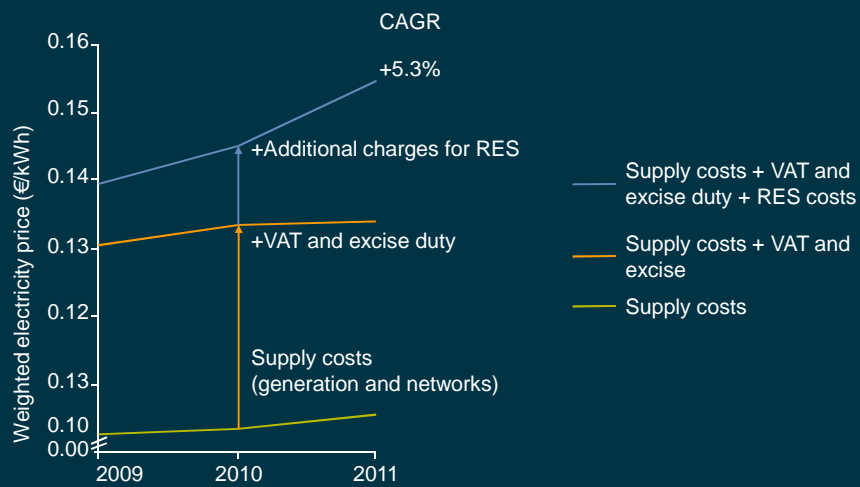


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Charges on top of generation and network costs are major cause

Weighted average electricity prices by component (2009-2011)

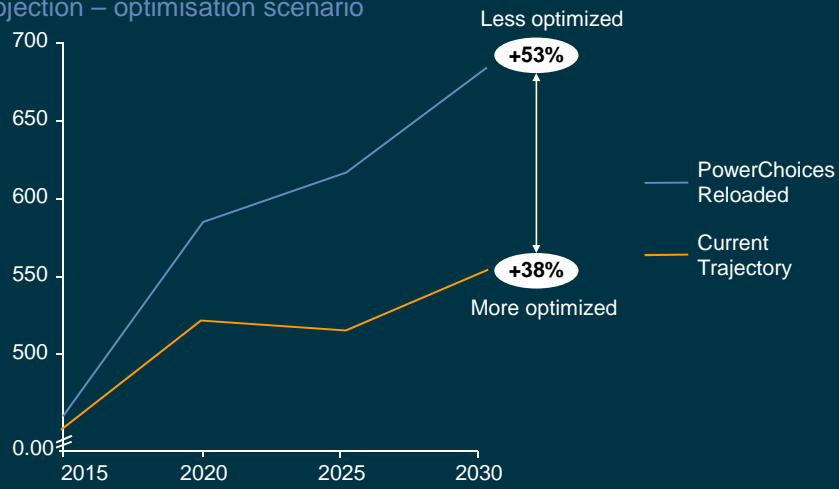


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Expenditure is set to rise further

Electricity and gas expenditure 2010-2030 (bn€ in 2005 monetary value) projection – optimisation scenario

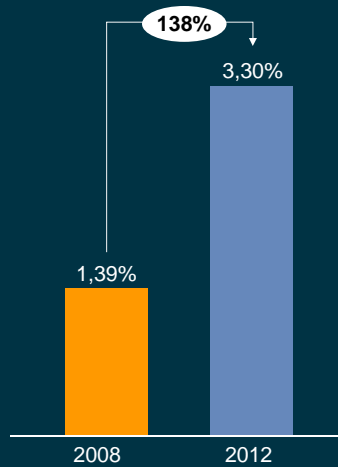


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The result? Mounting affordability pressure on residential consumers ...

Average share of disposable income spent on electricity 2008, 2012 (EU8)

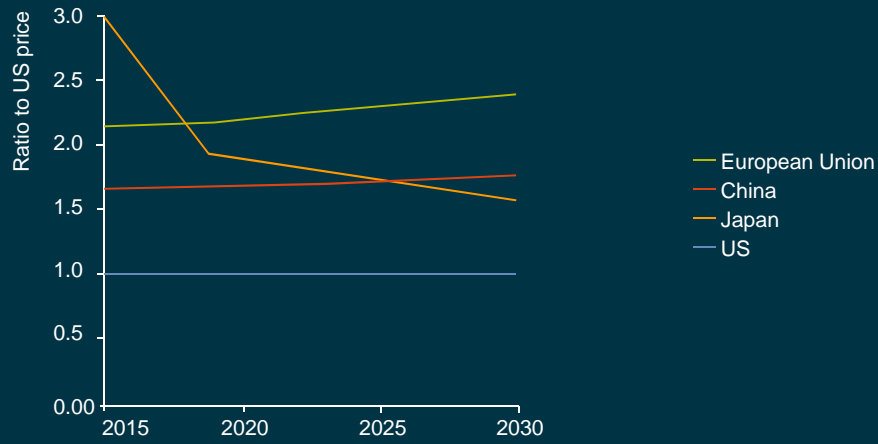


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... and increasing competitive pressure on the industrial sector

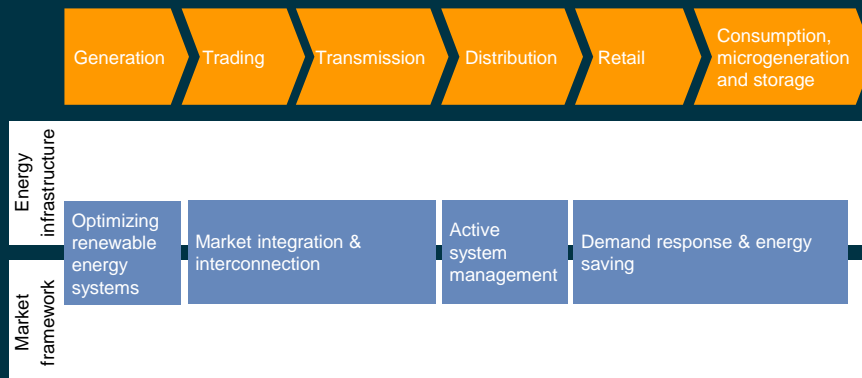
Ratio of European Union, Japanese and Chinese to US industrial electricity prices including tax*



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Moving towards a more pan-European optimisation of the energy system





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An integrated set of levers across the value chain



1. Optimising renewables across Europe



3. From traditional grid operations to active system management

2. Maintaining momentum towards further market integration

4. Towards a new value proposition for customers through demand response and energy saving

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An integrated set of levers across the value chain

1. Optimising renewables across Europe




- Value: €10 billion to €20 billion p.a.
- Coordinating mix and location
- Gradually integrating renewables into the market
- Stable, meaningful value of CO₂




1. Optimising renewables across Europe




2. Maintaining momentum towards further market integration




3. From traditional grid operations to active system management




4. Towards a new value proposition for customers through demand response and energy saving

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An integrated set of levers across the value chain

2. Maintaining momentum towards further market integration



- Value: €8 billion to €27 billion p.a.
- Harmonise market rules and regulation
- Better use existing interconnection and expand interconnection capacity over time



1. Optimising renewables across Europe



2. Maintaining momentum towards further market integration



3. From traditional grid operations to active system management



4. Towards a new value proposition for customers through demand response and energy saving

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An integrated set of levers across the value chain

3. From traditional grid operations to active system management



- Value: €5 billion to €15 billion p.a.
- Scaling up network intelligence, smart metering, grid operation controls
- Manage network assets closer to real time, making better use of existing assets



1. Optimising renewables across Europe



2. Maintaining momentum towards further market integration



3. From traditional grid operations to active system management



4. Towards a new value proposition for customers through demand response and energy saving

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An integrated set of levers across the value chain

4. Towards a new value proposition for customers through demand response and energy saving



- Value: €5 billion to €20 billion p.a.
- Progressive removal of these barriers to energy efficiency
- New business models stimulating effective energy management
- New sources of demand response for capacity and energy

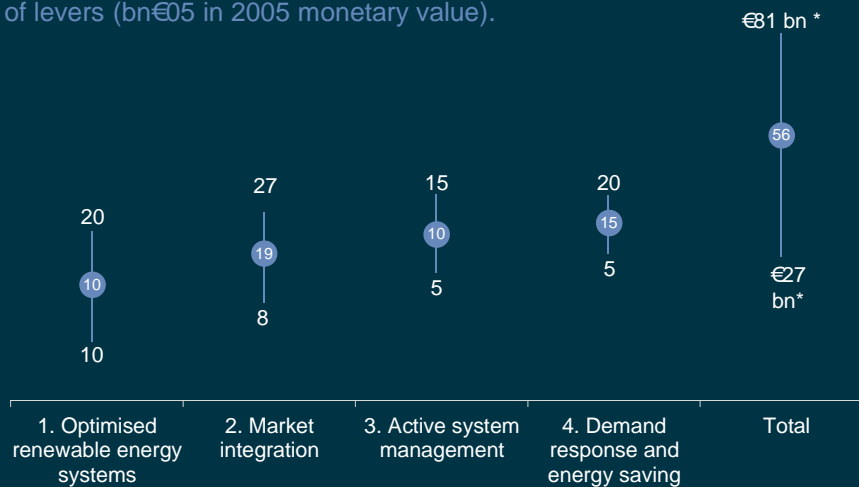


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The size of the prize

Figure 6. Estimated total annual value of implementing an integrated set of levers (bn€05 in 2005 monetary value).



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The call to action?



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Thank you



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