



Promoting choice and value
for all gas and electricity customers

Delivering security of supply: How can the market meet Britain's energy needs?

Andrew Wright
Senior Partner, Markets

The Ofgem agenda in 2010

- Consumers: 30 day rule, annual statements, separate financial accounts, SME , CAB campaign
- Enforcement: Win at Supreme Court, mis-selling, payment diffs
- RIIO: Regulation for sustainable networks. Maintaining leadership.
- Delivery: Smart meters prospectus and Offshore round 1
- Europe: Third package implementation and “the Agency”

But today the focus is on energy market reform

How can the market meet Britain's energy needs?

- Ofgem Project Discovery (February 2010)
 - The challenge is unprecedented
 - Current arrangements are inadequate
 - “doing nothing is not an option”
 - 5 key challenges and 5 options for consideration by Government
- Since Discovery
 - Wicks, EMA, 1st bill, EMR, GIB
 - Given the strong response, the project was concluded in June 2010
- Ofgem now supporting HMG on their energy market reform work

What are “Britain’s energy needs”?

- **“Secure and sustainable energy supplies”**
 - Secure
 - Environmentally sustainable
 - Affordable/ competitive

“The mission of this Government is to support the transition to a secure, safe, low-carbon, affordable energy system in the UK....”

Annual Energy Statement, July 2010

1. "Secure"

- What is "security of supply"?
- How secure?
- What risks?
- Public good or private good?

2. “Environmentally Sustainable”

- Carbon
- Other pollutants
- Other environmental impacts

3. “Affordable/ Competitive”

- Efficiency
- International competitiveness
- Who pays?/ Who benefits?
- Affording adequate heat/light/power

The scale of the challenge

- *“Electricity supply may need to double, and will need to be decarbonised.”* - DECC 2050 Pathways Analysis
- Up to £200bn of investment required by 2020 and probably comparable amounts thereafter
- Significant delivery issues around low carbon options
 - Technology, economics, planning, delivery, supply chain, public acceptance, networks
- Rising prices could impact affordability and competitiveness

Do current market arrangements correctly reflect Britain's energy needs?

- Current market arrangements do not adequately reflect these objectives
 - Ofgem's Project Discovery, CCC, EMA, EMR all agree on this
- Carbon price signals inadequate
- Gas and electricity market arrangements do not properly reflect the value security of supply
 - "Dampening" of price signals
 - "Free riding" on firm disconnection

Fixing carbon incentives.....

- Concerns reported to us include
 - Specific issues over the integrity of the EU-ETS
 - Uncertainty over political commitment
 - Lack of long-term transparency over price
 - Multiple and complex incentives
 - Specific low carbon measures undermine the carbon price
- Government is now committed to introducing a floor price for carbon

“the EU ETS has not been sufficient in giving stable, long-term signals to generators” – Annual Energy Statement

Fixing cash out.....

- Proposals
 - Ensure cash out prices fully reflect costs and value of security of supply to customers
- Reduce artificial capping and smoothing in cash out mechanisms
- Require compensation to be paid for firm disconnection and other demand side measures (e.g. voltage reduction)
- Increased risk of extreme prices at times of system stress
 - Increased incentives to avoid imbalance
 - Increased “extrinsic” value embedded in forward prices

These changes will help

- Reduced carbon emissions (in GB)
 - Would encourage investment in low carbon plant
 - Would incentivise additional short-term abatement
- Increased security of supply
 - Would encourage investment in flexible generating plant, gas storage
 - Would encourage suppliers and customers to negotiate interruptible arrangements
- But....
 - End prices would rise
 - “Windfalls” for existing capacity – especially low carbon
 - May deter new entrants

Policy Interventions

- Renewables
 - 15% of energy by 2020, supported by RO
- Nuclear?
 - “No “public subsidy”, but strong policy support
- CCS?
 - Four demonstration projects, constraints on unabated plant
- Energy efficiency
 - Green deal, CERT etc.
- Distributed energy
 - Micro-generation, renewable heat

“Our energy security demands a mix of low carbon technologies, new nuclear (without public subsidy), renewables and carbon capture storage (CCS).”

Charles Hendry, 29th September 2010

Other reasons for intervention?

- *Given....*
 - Lessons from the financial crisis
 - Financing the huge investment needs against (market and policy) uncertainty
 - Constraints (technology development, planning, connections, supply chain, lead times)
 - Affordability

Lessons from the financial crisis

Is it prudent to rely entirely on the financial risk management actions of individual market participants to deliver adequate security of supply?

- Inadequate risk management tools and information
- Misalignment of motivations and incentives
- Moral hazard and “too big to fail”
- Collateral, limited liability
- Plus, un-priced externalities

Are some consequences too profound to leave to the market?

Lessons from the financial crisis

Is it prudent to rely entirely on the financial risk management actions of individual market participants to deliver adequate security of supply?

- Inadequate risk management tools and information
- Misalignment of motivations and incentives
- Moral hazard and “too big to fail”
- Collateral, limited liability
- Plus, un-priced externalities

Are some consequences too profound to leave to the market?

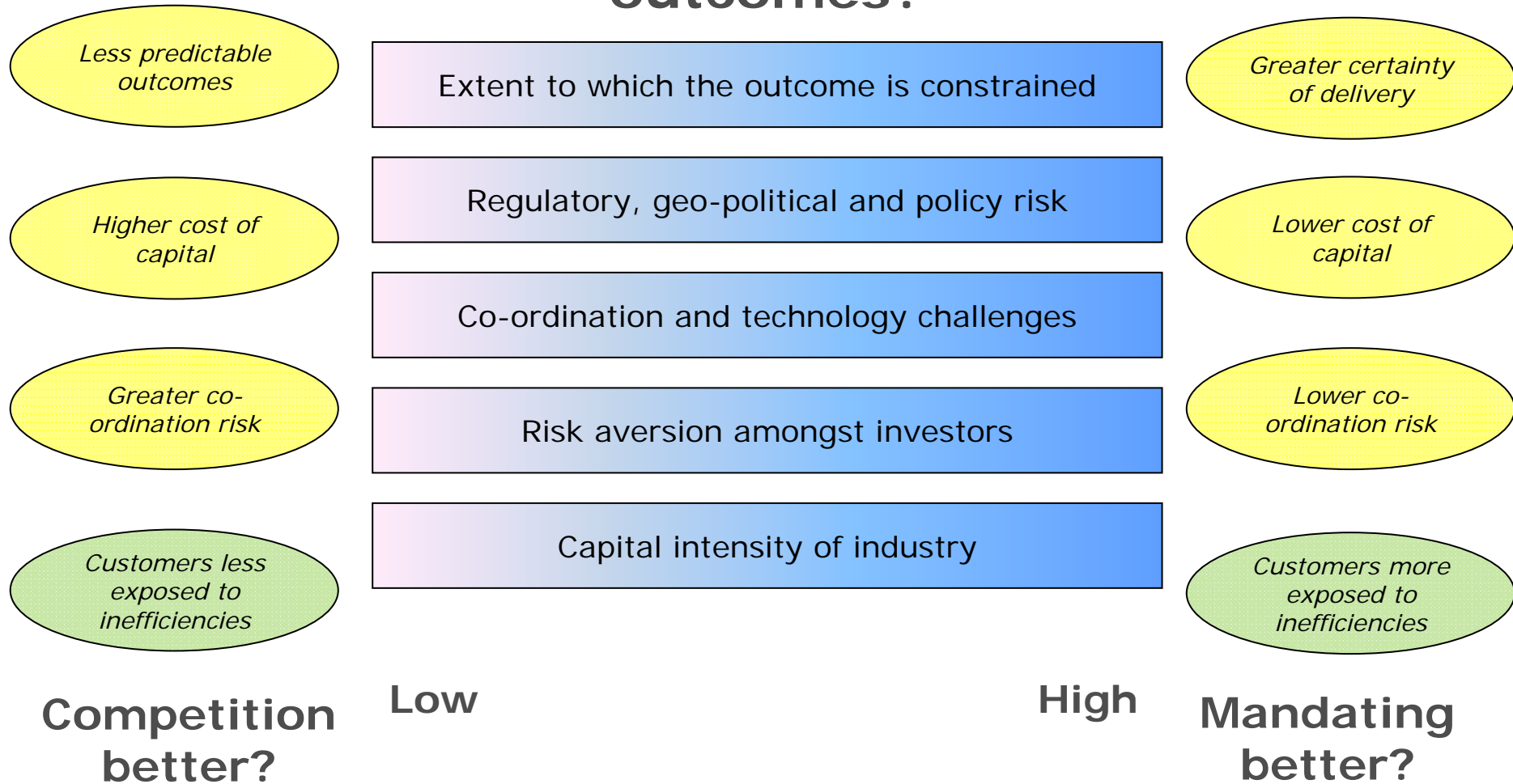
Delivering the finance

- **Why might this be a problem?**
 - Scale of investment ~£20bn per year for 20 years?
 - Project Risks
 - Delivery/ technical
 - Market
 - Policy
 - Nature of the investment
 - Lumpy
 - Capital intensive
 - Long lead times and payback
 - Risk of appropriation during the long “cash flow positive” phase

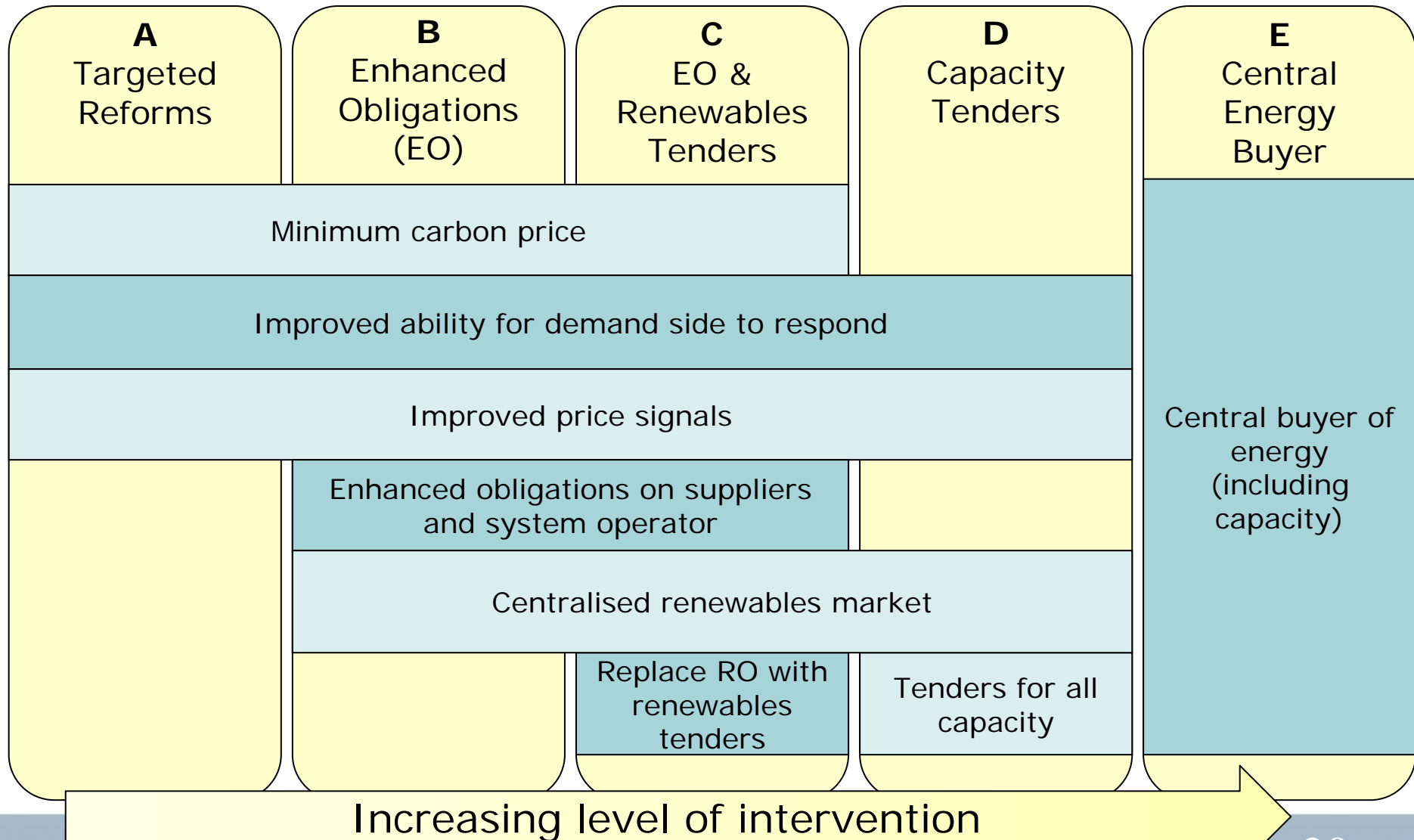
The case for going beyond markets?

- To ensure key energy policy objectives are met
- To ensure prudent management of security of supply risks
- To attract sufficient finance at a reasonable cost
- To address co-ordination risks and ensure potential low carbon options are kept on the table
- To ensure energy is sufficiently affordable

Is there a case for mandating some outcomes?



PROJECT DISCOVERY OPTIONS



DECC's EMA Options

Chart A: Overview of groups of options for market reform

A Greater carbon price certainty alone	B Support low-carbon in the current market	C Regulate to limit high- carbon generation	D Separate low- carbon market	E Single buyer agency
<p>Minimum carbon price guarantee at currently expected level, plus existing measures.</p> <p>Competitive market framework as today</p>	<p>Additional incentives for low carbon generation above carbon price.</p> <p>Competitive market framework as today</p>	<p>Regulate to drive decarbonisation</p> <p>Competitive market framework as today</p>	<p>Long term payments to low-carbon generators to provide revenue certainty and reduce barriers to entry.</p> <p>Conventional (and existing) plant trades in competitive market framework.</p>	<p>Single agency is the only purchaser of all electricity generation - all existing and new, low and high carbon - and only seller of this on to retailers.</p>

Wider measures to reduce barriers to entry in wholesale and retail markets and to ensure security of supply may also be necessary. Under any set of reforms, government will need to ensure access to finance, promote switching, enhance consumer protection and rights and facilitate energy efficiency.

The coalition energy reform menu

- Pricing reform in both gas and electricity
- Capacity “mechanisms” in electricity
- Emission performance standards
- Carbon price floor
- FITs
- Green investment bank
- The “green deal”



ofgem

Promoting choice and value
for all gas and electricity customers