



Promoting choice and value  
for all gas and electricity customers

# **Transporting Britain's Energy: Ofgem's perspective**

## ***Transporting Britain's Energy 2010***

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## Overview

- 1. Context: Future supplies Project Discovery**
- 2. (R)evolution in networks?: RPI-X@20**

# Project Discovery: Context



## Ofgem's global scenarios

		Economic recovery	
		Rapid	Slow
Environmental action	Rapid	Green Transition	Green Stimulus
	Slow	Dash for Energy	Slow Growth

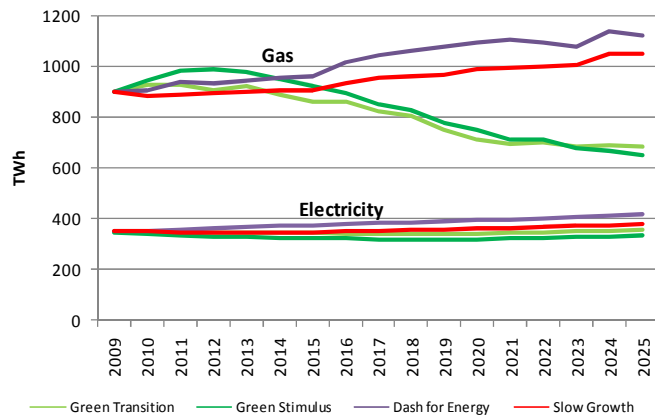
## Our approach

We cannot predict the future...

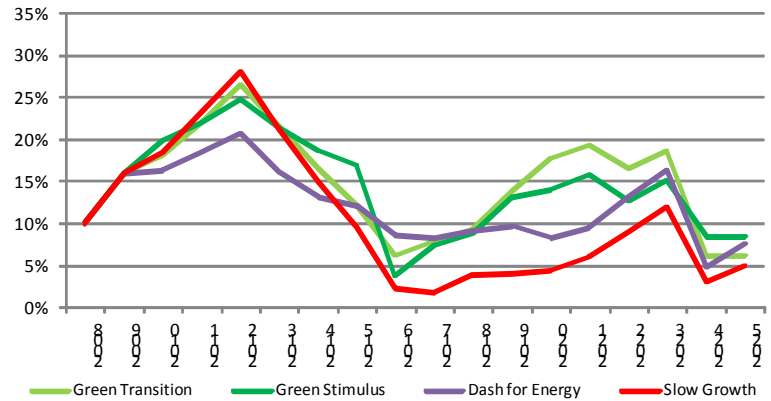
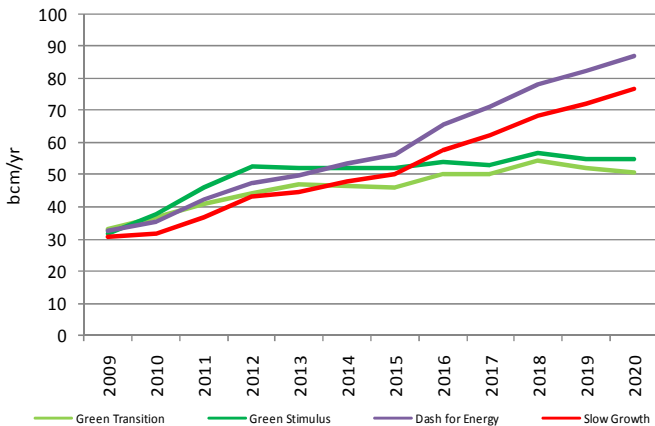
- Our scenarios are intended to be **plausible** and **internally-consistent** but also **diverse**
- These are **not forecasts**, but an **exploration** of possible outcomes
- We **assume** that markets respond to price signals
  - so our scenarios do not by themselves tell you if markets can deliver
- We are interested in **resilience** so we need to explore shocks through “stress tests”
- Our scenarios are **not policy choices** but reflect a global context

**UNCERTAINTY/RISK ANALYSIS ARE AT THE HEART OF OUR METHODOLOGY**

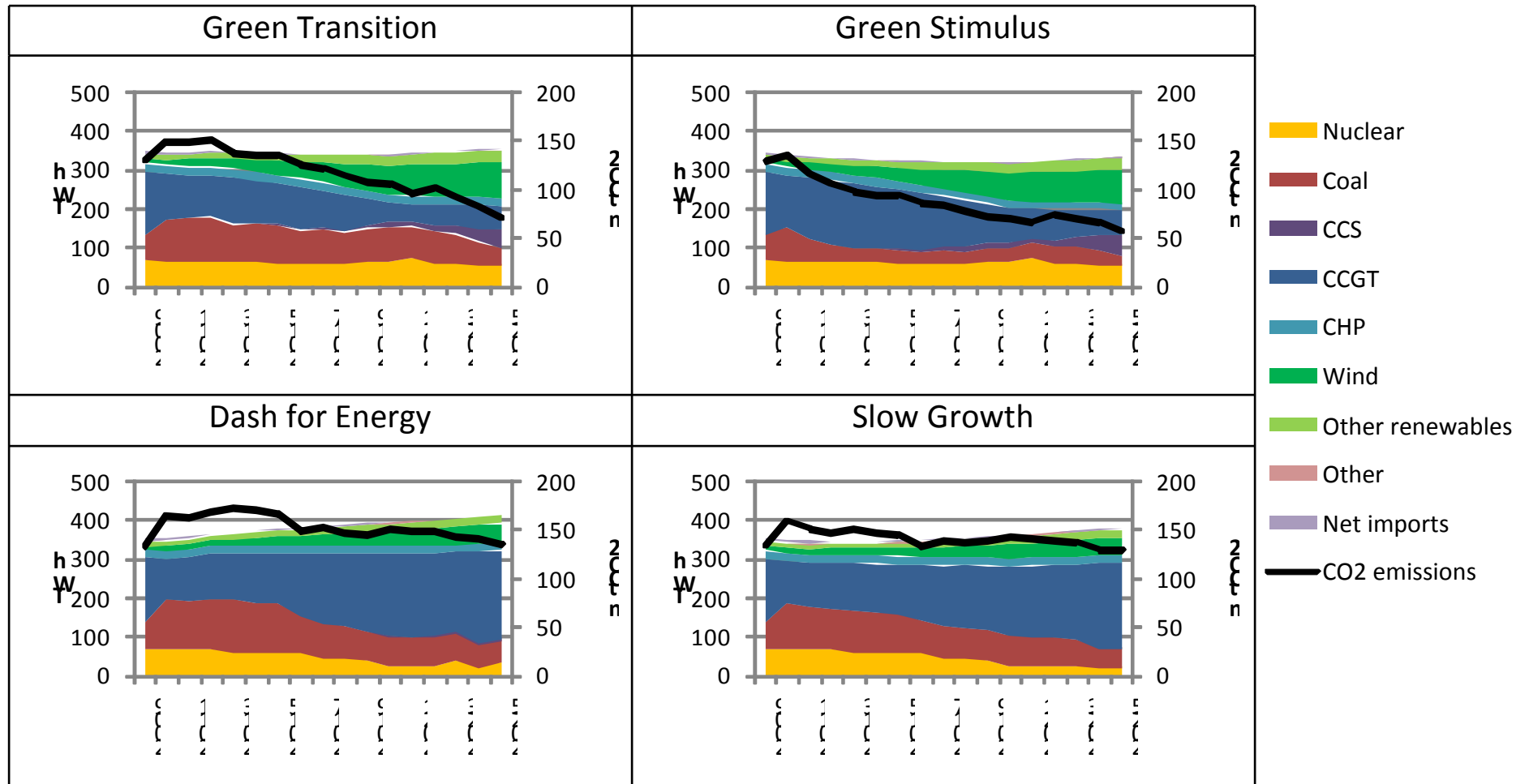
# GB energy demand, import dependence and capacity margins



**Decline in natural gas demand in green scenarios due to: energy efficiency; biogas; and alternative heat technology assumptions**



# GB generation output and carbon dioxide emissions from the generation sector



## Key findings from the appraisal

<p><b>Finding 1:</b> There is a need for unprecedented levels of investment to be sustained over many years in difficult financial conditions, and against a background of increased risk and uncertainty.</p>	<p>Up to £200bn of investment required by 2020</p>
<p><b>Finding 2:</b> The uncertainty in future carbon prices is likely to delay or deter investment in low carbon technology and lead to greater decarbonisation costs in the future.</p>	<p>Significantly higher emissions or reduced capacity margins</p>
<p><b>Finding 3:</b> Short term price signals at times of system stress do not fully reflect the value that customers place on supply security, which may mean that the incentives to make additional peak energy supplies available and to invest in peaking capacity are not strong enough.</p>	<p>Greatest risk in scenarios with high gas imports &amp; wind generation</p>
<p><b>Finding 4:</b> Interdependence with international markets exposes GB to a range of additional risks that may undermine GB security of supply.</p>	<p>Greatest risk in scenarios with highest gas import dependence</p>
<p><b>Finding 5:</b> The higher cost of gas and electricity may mean that increasing numbers of consumers are not able to afford adequate levels of energy to meet their requirements and that the competitiveness of industry and business is affected.</p>	<p>Consumer bills could rise by up to 50%</p>

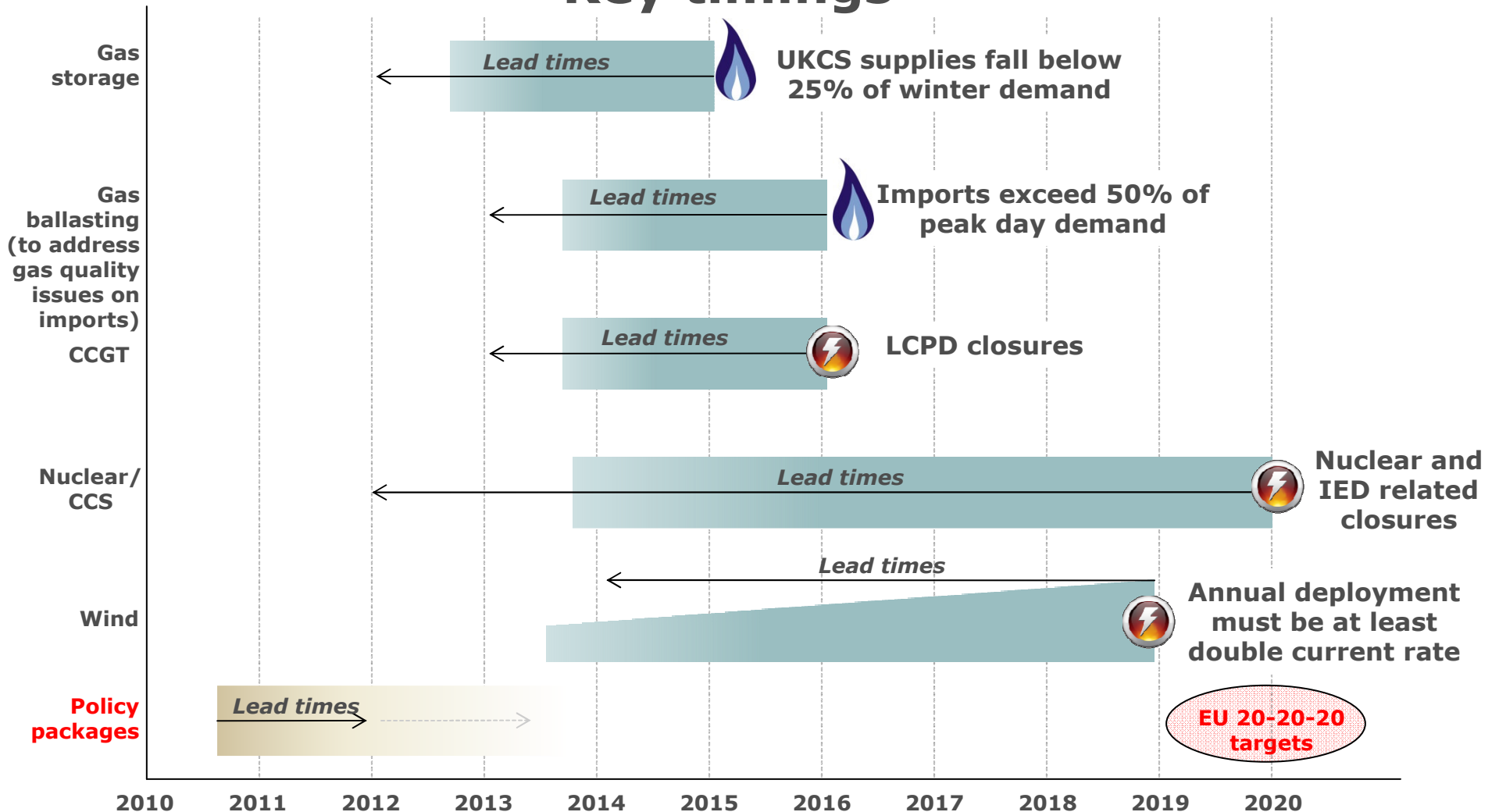
**COMBINATION OF FACTORS CAUSES CONCERN**





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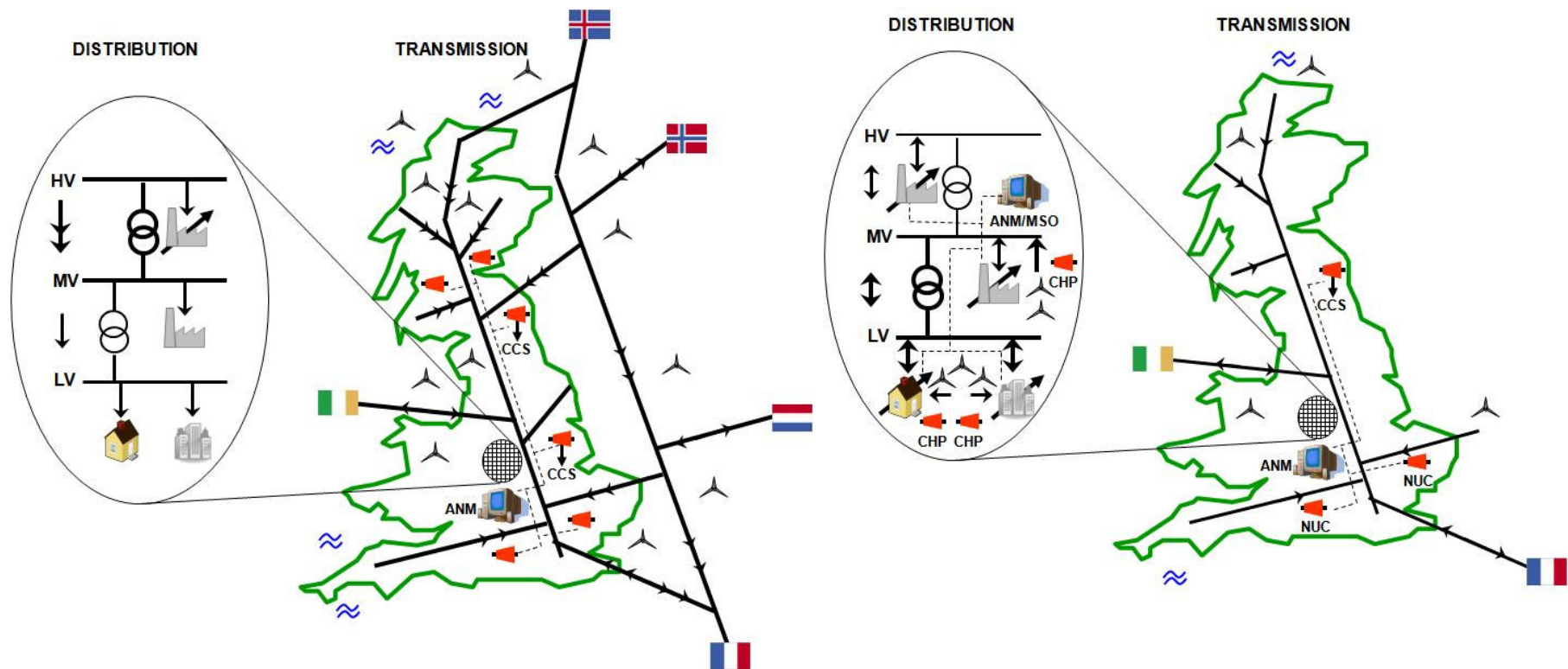
## Key timings



**INVESTMENT DECISIONS NEED TO BE TAKEN IN NEXT TWO-THREE YEARS**

# **So what's all that got to do with networks?**

# Networks face uncertainty about how to deliver...



**Big transmission and distribution**

**Micro-grids**

# **Ofgem's response: RPI-X@20**

## RPI-X@20

- RPI-X has been used to regulate GB energy networks for nearly 20 years
- RPI-X@20 is our detailed review of the regulatory framework launched in February 08
- Biggest review since RPI-X was introduced for British Telecom in 1984

### Drivers

- New and emerging challenges
- Good housekeeping
- Simplification

### Delivery targets

- More sustainable energy sector
- Value for money for consumers

## Current GB regulatory framework (stylised)

**Control on  
'revenue' set  
upfront,  
including return  
on asset base**

**Five-year price  
control  
periods, with  
some mid-  
period changes**

**Focus on  
(operating) cost  
efficiency  
incentives**

**Recently,  
incentives to  
meet specific new  
challenges**

➤ **RPI-X has delivered significant benefits for consumers:**

Reductions in  
network charges

Improvements in  
operating efficiency

More efficient  
financing

Improved  
quality of  
service

Increased  
investment

➤ **But critics have suggested it has led to:**

Networks focused on  
5 year price cycles

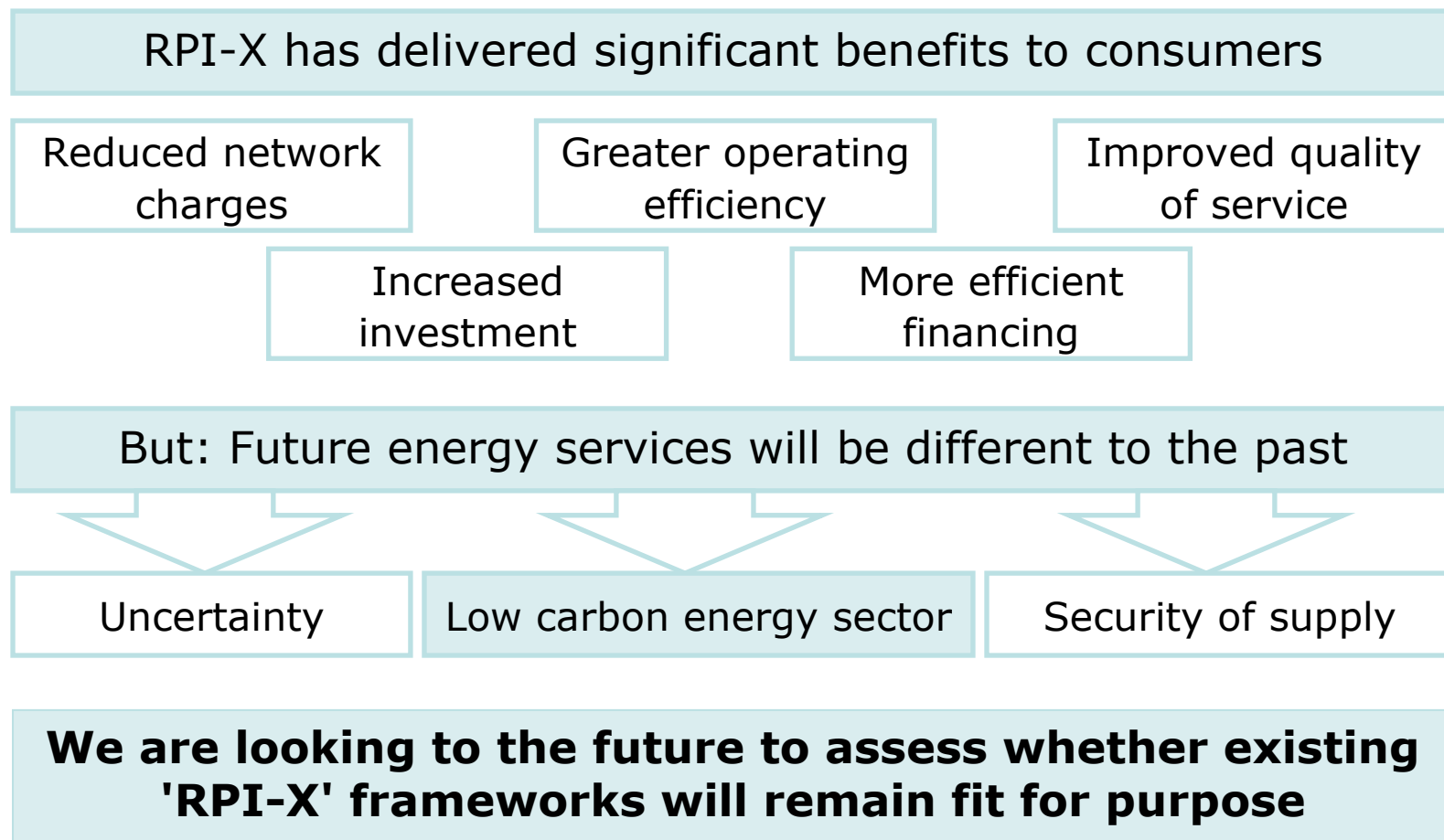
Networks focused on  
Ofgem not their customers

Limited consideration of innovation  
and 'how best to deliver'

Potentially limited appetite for risk

Limited focus on 'cross-sectoral' interactions

## Why? – The case for change



## Emerging Thinking: New regulatory framework

### What would remain the same?

Ex ante price control

Building blocks approach

Rewards for efficient delivery

**Network companies who deliver efficiently will remain financeable**

### What would change?

Outcomes-led

Longer term thinking

Incentives

Use of tendering

New business plans

Enhanced engagement

Facilitating competition in energy services



## An outcomes-led framework

**Focus on delivery of outcomes through six output categories**

Environmental targets

Safety

Reliability

Social obligations

Customer satisfaction

Network service  
connections

**Output measures in each category determined at price control reviews**  
**The level of each output proposed by network companies**

- Consistent with engagement and external requirements
- Ofgem set final outputs reflecting stakeholder engagement
- Rewards for output delivery
- Punishments for non-delivery

Outcome delivery

- Delivery of outcomes used to measure performance
- Anticipating future needs
- Differential treatment of networks

## Incentivising efficient long-term delivery: Length of price control

### **Partial lengthening:**

- Commit to some elements of price control for longer than others
- Balance benefits of long term review and regular reviews
- Provide clear financial incentives for longer term thinking
- Time periods may vary from sector to sector and develop over time

### **Monitoring of outputs:**

- Regular and transparent monitoring of output delivery
- Provide understanding of delivery progress and risks
- May trigger discussions and detailed assessment of approach to delivery
- Implementation of rewards and penalties

### **Provisions for re-opening certain aspects of control:**

- For example, used for change in circumstances or changing requirements
- Generally expect companies to manage risks they face and re-openers to be limited

## Incentivising efficient long-term delivery: Other measures

### Strong incentives for efficiency

- Focus on delivery of outcomes, not business plan
- Package of balanced incentives to provide lowest cost long term solution
- Encourage companies to anticipate future needs
- Interactions between charging and efficiency incentives

### Specific innovation stimulus

- High level of innovation needed in short/medium term
- Encourage innovative approaches to challenges
- Build on Low Carbon Networks fund developed in DPCR5
- Applicable to all network sectors
- Open to non-network parties
- Available for all phases of innovation

### Differential treatment

- Reflect differences in performance between companies
- Lower regulatory burden for 'best' performing companies
- Differences in plan assessment and incentive setting
- Transparent and credible approach
- Enhance comparative competitive pressures

## Tendering

### Only tender projects with certain characteristics

Large: justify transaction costs

Technically appropriate

Innovation opportunities e.g. in financing

- Tenders may be network or Ofgem led
- Look at whole life costs and benefits, and the costs of running a tender

### Benefits of tendering certain aspects of delivery

Expose actual efficient costs

Deliver innovative solutions

Third party involvement

Strengthen network incentives

- We recognise concerns over the use of tendering
- Clear principles for use of tendering would be developed

- **We also intend to explore use of our ability to revoke network licences**
- **If licence revoked, we may franchise some, or all, operations of a licensee**

## New Business Plans

### Longer term focus

- Consulting on which aspects of plan should be lengthened
- What should the time horizon be?
- Companies would need to provide evidence of learning over time

### Link between outcomes and costs

- Greater onus on benchmarking and efficient procurement

### Consideration of multiple options

- Take account of range of delivery options and future scenarios

### Evidence of stakeholder engagement

- Effective engagement on options presented in plan
- Evidence of incorporating stakeholder's views

## Enhanced engagement

### Multi-layered approach

- Focus on the needs of existing and future consumers
- Ongoing, effective engagement between networks and consumers
- Networks expected to demonstrate engagement in planning/delivery

Price control review  
forum

Developing  
existing suite of  
tools

Making better use  
of existing fora

More accessible  
information

**Enhanced engagement across a range of parties**

**Used to inform Ofgem and network decision making**

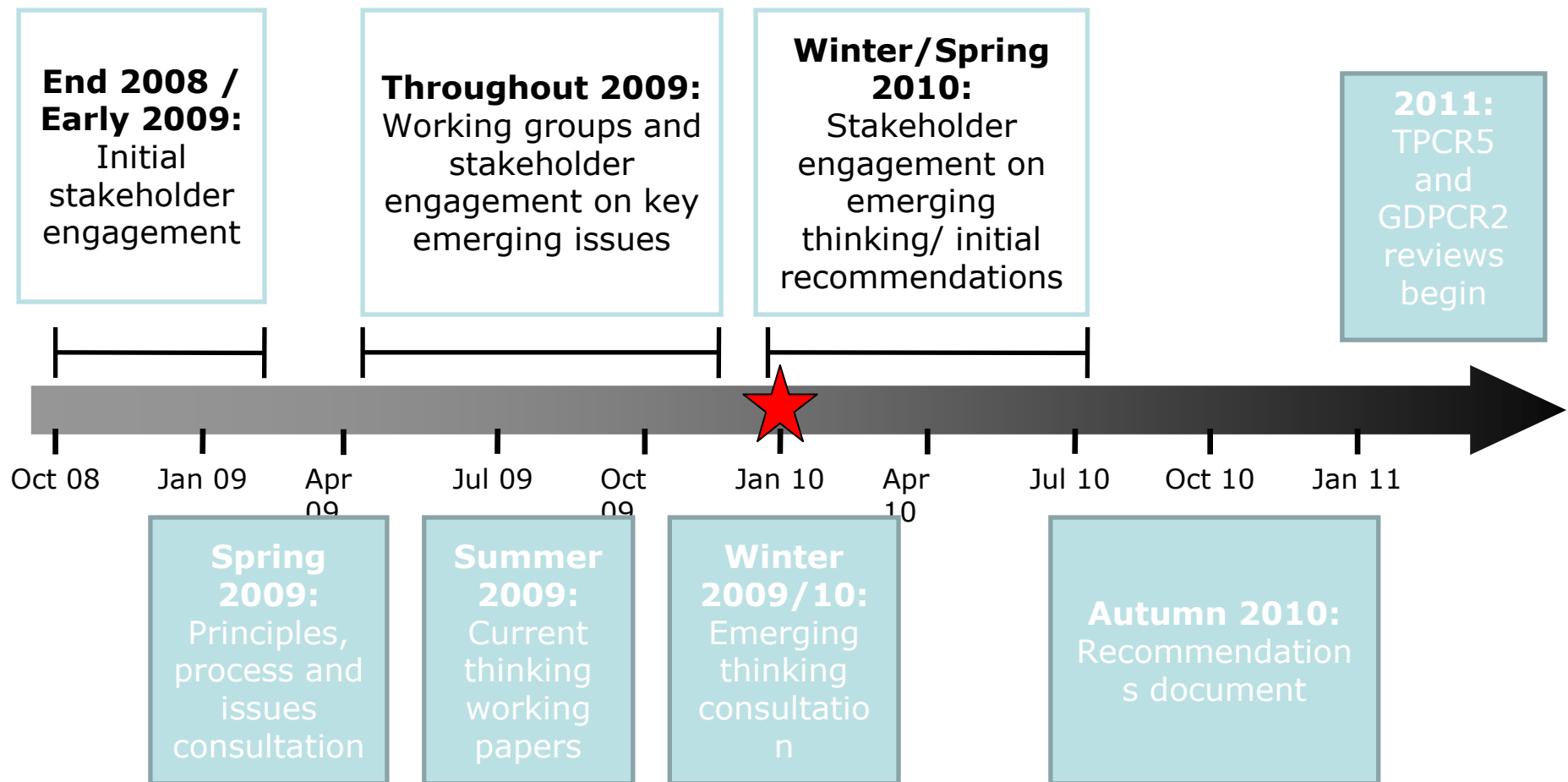
## Facilitating competition in energy services

**Energy service companies (ESCOs) offer broad range of low carbon energy solutions at community level**

**Ensure the regulatory framework is not a barrier to viable ESCo development**

- New framework will encourage networks to provide fair access terms
- Consider whether obligations on access conditions are sufficient
- Action may be taken if ESCos cannot gain these terms
- **We may force network companies to lease/sell assets such as distribution wires/ pipes at community level**

## Timetable to RPI-X@20 implementation





## Conclusions

- 1. Energy supplies – technology and location more uncertain than at any point since privatisation**
- 2. Creates huge challenges and opportunities for networks**
- 3. (R)evolution in networks necessary: innovation and investment required on a scale greater than any seen before**
- 4. Ofgem's response: RPI-X@20 – a new way of regulating networks to drive more innovation, smarter and more sustainable energy networks**

The background of the slide is a composite image. On the left, there are rows of solar panels under a bright sun. On the right, there are wheat stalks. In the foreground, there is a close-up of a gas burner with blue flames. The overall theme is energy and natural resources.

*ofgem*

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