

# Action needed so energy supplies remain secure: Ofgem's Project Discovery Findings

Factsheet 88

15.02.10

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**After nearly a year of extensive consultation and analysis, Ofgem's Project Discovery, a comprehensive review of Britain's security of supply prospects, has concluded that energy market reforms are needed to secure supplies and help meet climate change targets. This is because Britain now faces an unprecedented combination of challenges to its energy security.**

## ► Why are changes necessary?

The global financial crisis, tough environmental targets, increasing gas import dependency and the closure of ageing power stations have combined to cast reasonable doubt over whether the current energy arrangements will deliver secure

and sustainable energy supplies. Ofgem estimates that the cost of the investment needed to secure energy supplies and meet Britain's climate change targets could be as much as £200 billion between now and 2020.

## ► Will customer bills go up?

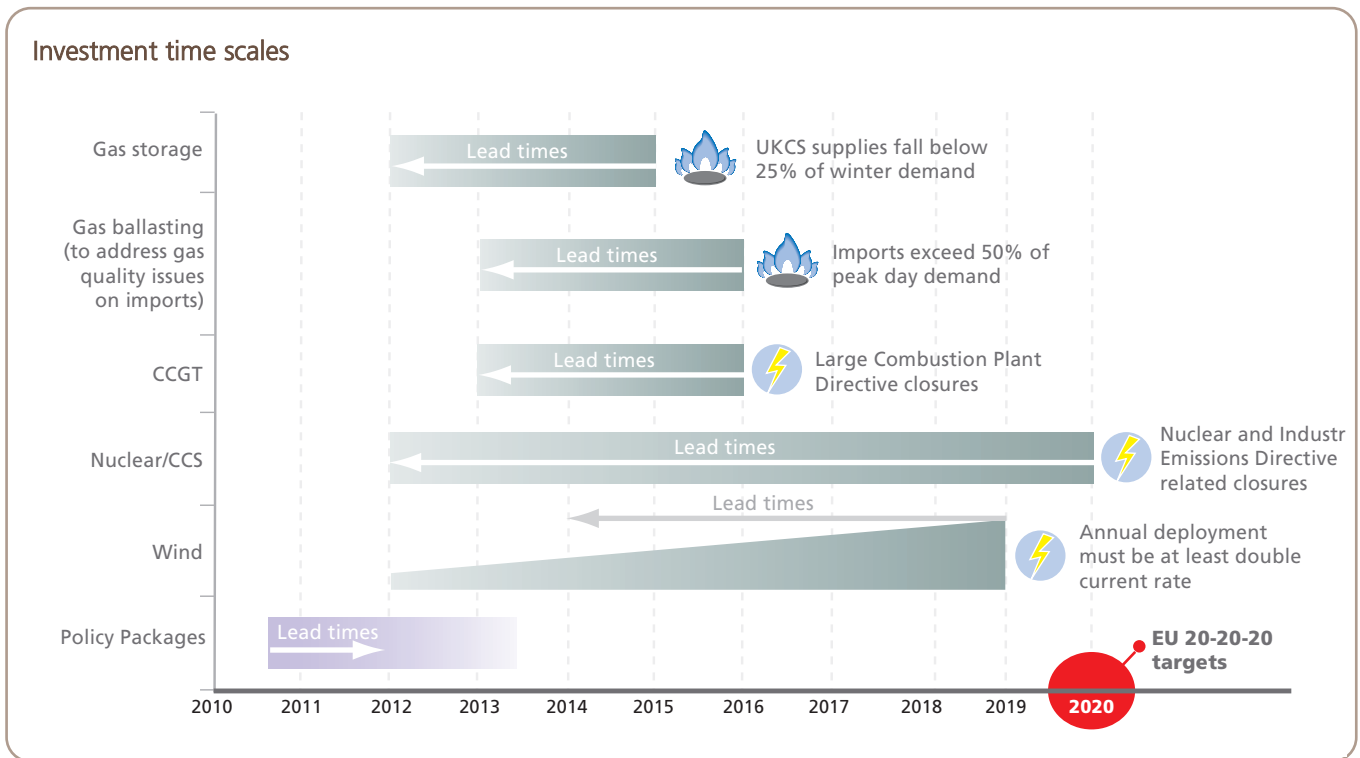
Last October, as part of Project Discovery, Ofgem published four scenarios on the risks facing energy security. The scenarios look at how security of supply and progress towards climate change targets in Britain would be affected by the rate of recovery from the worldwide recession and the rate of concerted global environmental action. The

scenarios show domestic energy bills increasing by between 13% and 26% by 2020 (from 2009 levels) – with the possibility that wholesale price spikes could lead to an increase in domestic energy bills of up to 50% in the interim.

## ► Timing

Although supply appears to be relatively secure until the middle of the current decade, the timescales required to secure finance, mobilise supply chains and deliver the infrastructure needed suggest that there is a window of

opportunity to implement any policy measures that may be necessary to make sure that investment takes place in a timely fashion.



## ► There are five main reasons why Ofgem has reached this view

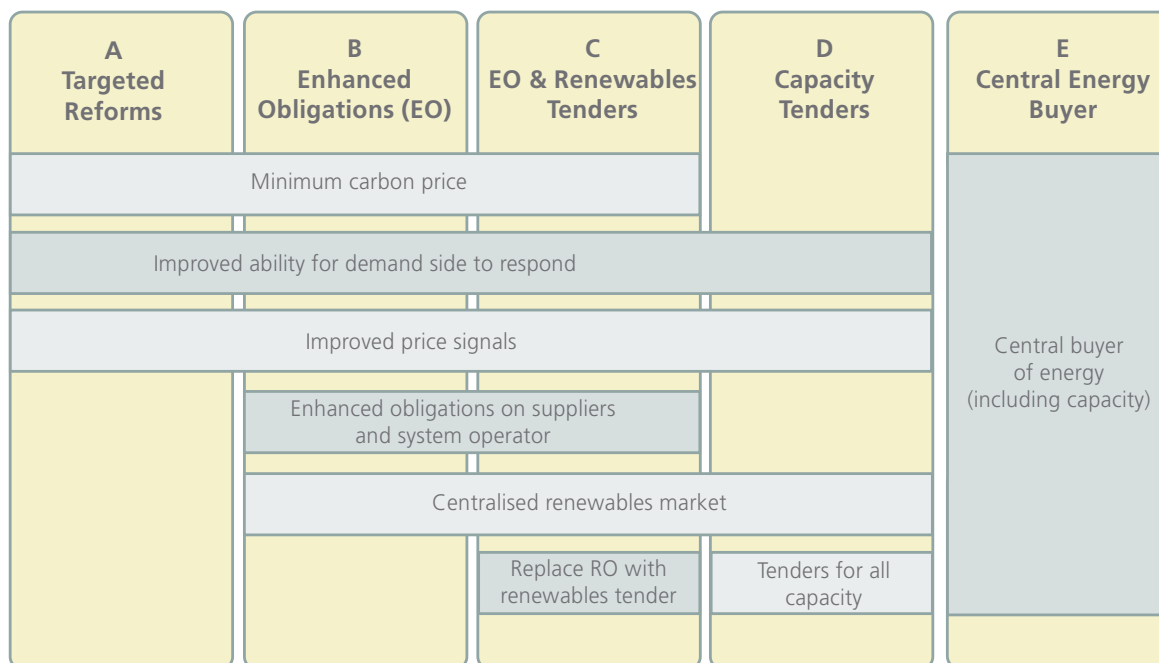
- There is a need for unprecedented levels of investment to be sustained over many years in difficult financial conditions and against a background of increased risk and uncertainty.
- The uncertainty in future carbon prices is likely to delay or deter investment in low carbon technology and lead to greater decarbonisation costs in the future.
- 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 capacity to meet peak demand are not strong enough.
- Interdependence with international markets exposes GB to a range of additional risks that may undermine GB security of supply. There is a risk that political considerations override the economic decisions impacting on the production of gas and the free flow of energy from international markets.
- 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.

## ► What is the solution?

Ofgem considers that leaving the current arrangements as they are is not in the interests of consumers. Prompt action will reduce risk to energy supplies and Ofgem particularly emphasises the importance of developing a coherent package rather than implementing reform in a piecemeal fashion.

Ofgem and the industry can take forward work through the existing industry codes to improve the ability for the demand-side to respond and sharpen market signals. However, these on their own might not be sufficient to tackle the challenges Britain faces. Any major reform would require Government action. The packages are broadly differentiated by the level of reform involved and are outlined in the table opposite.

Ofgem's policy options



► Targeted reforms

• Tackling carbon price uncertainty

This policy package seeks to promote investment in low-carbon power stations by reducing carbon price uncertainty. This could be done by introducing a minimum level below which the cost of emitting carbon would not fall. The current price of carbon is set through the European Emissions Trading Scheme permits. Permit prices have been volatile and at times close to zero which, combined with uncertainty over the long-term price, discourages investment. Furthermore the outcome of the Copenhagen Climate Change conference in December has added to the carbon price uncertainty. Although a minimum carbon price would best work as part of a European-wide scheme, if this did not happen it may be necessary to consider a minimum GB carbon price.

• Improved price signals with Ofgem-led reforms

Gas and electricity suppliers already face financial charges if they don't contract for enough energy to meet customer demand. However, these charges could be changed to give suppliers stronger incentives to secure sufficient gas and electricity supplies. For example, the costs a supplier would have to pay for not having enough gas is frozen during an emergency, with the risk that additional supplies are not attracted into the market and there are insufficient price signals for investment in

facilities such as storage. Reforms could mean gas prices would be allowed to rise during an emergency. In electricity, sharper price signals would give stronger incentives for suppliers to invest in peaking or flexible power stations and contract for demand-side response from customers. Demand-side response covers a range of actions energy customers, such as large businesses, can take to reduce their energy consumption at times of high demand in return for compensation by their supplier. Better price signals would encourage more demand-side response from energy users.

• Improving ability for demand-side to respond with Ofgem-led reforms

This could be achieved through improved short-term price signals as set out above. Smart meters could also improve ability for the demand-side to respond. For example, a range of time of use tariffs could be introduced encouraging customers to reduce energy consumption at times of highest demand.

**Key Benefit:** Increases incentives to invest whilst retaining the benefits of competitive markets

**Key Risk:** May not be sufficient to address the financing challenges and therefore deliver secure and sustainable supplies

## ▶ Enhanced obligations

If targeted reforms did not provide sufficient confidence for security of supply the enhanced obligations package could be considered. Suppliers could be required to demonstrate that they have sufficient plans in place to cope better with threats to security of supply. Obligations would also be placed on National Grid to take additional measures to help further improve security of supply. One possibility in gas is to introduce requirements similar to the public service obligations used in other European countries. For example in Spain,

security of supply considerations in the gas sector have led to obligations on minimum storage levels and maximum levels of import dependence.

**Key Benefit:** Puts onus on industry players to deliver a specified level of security of supply

**Key Risk:** May not be sufficient to address the financing challenges and achieve renewables and climate change goals

## ▶ Enhanced obligations and renewables tenders

In addition to the enhanced obligations package, the Renewables Obligation (RO) could be replaced with tenders for renewable generators. The tenders could require a specific level of capacity to be built - in contrast to the RO, which provides a subsidy once a renewable generator is operational. The tenders would offer a guaranteed return, over say a 20 year period. This would encourage investment in renewable energy by providing investors with increased certainty over the revenue they would earn. A central entity would need to

determine the amount of capacity in each tender, and also the timing of the tenders.

**Key Benefit:** Puts onus on industry players to deliver a specified level of security of supply and enhances probability of efficiently meeting renewables targets

**Key Risk:** May not be sufficient to address all the financing challenges and achieve longer term climate change goals

## ▶ Capacity tenders

These would be similar in concept to the renewable tenders, but extended to cover all forms of power generation as well as gas storage and other gas infrastructure projects. They should provide greater confidence for delivering security of supply.

**Key Benefit:** Facilitates raising finance thus accelerating investment in pre-determined levels and types of low carbon power generation and gas storage

**Key Risk:** Customers exposed to risk of any poor decisions surrounding the type and scale of capacity required

## ▶ Central energy buyer

If capacity tenders are deemed to be insufficient, the most radical of the five packages would be a central energy buyer. This solution would involve co-ordinating all future investment through a single entity. While significant legal issues would need to be addressed it would see a central energy buyer determining the amount and type of all new power stations needed and entering into long-term energy contracts for power. It could also tender for new gas infrastructure.

**Key Benefit:** Underwrites long-term contracts giving a high level of confidence of specific outcomes

**Key Risk:** May significantly stifle innovation and customers exposed to risk of any poor contracting decisions. Existing European legal framework would limit what is possible under this approach

## ▶ What are the next steps?

Ofgem has concluded that leaving the current arrangements as they are is not in the interests of consumers and that there is a window of opportunity over the next two to three years to put reforms in place. Taking action in this window could

avoid the need for more costly action being taken later. Ofgem is now consulting on options for reform with consumers, industry and Government. The deadline for responses is 31 March 2010.

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