

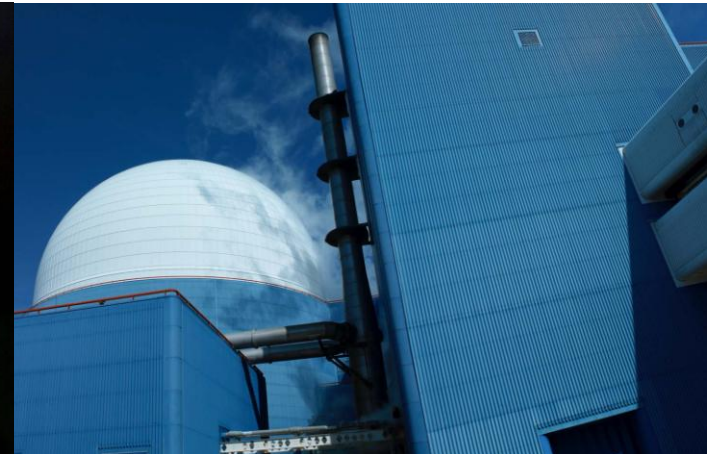
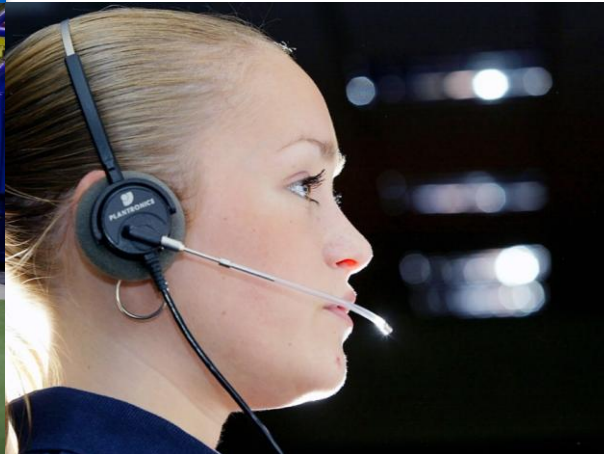
17 December  
**2010**

# EDF in the UK

## Investor workshop



LEADING THE ENERGY CHANGE



17 December  
**2010**

# EDF in the UK

## Investor workshop

Henri Proglio

Chairman and CEO



LEADING THE ENERGY CHANGE

# An industrial strategy based upon EDF Group core business and know-how



Generation



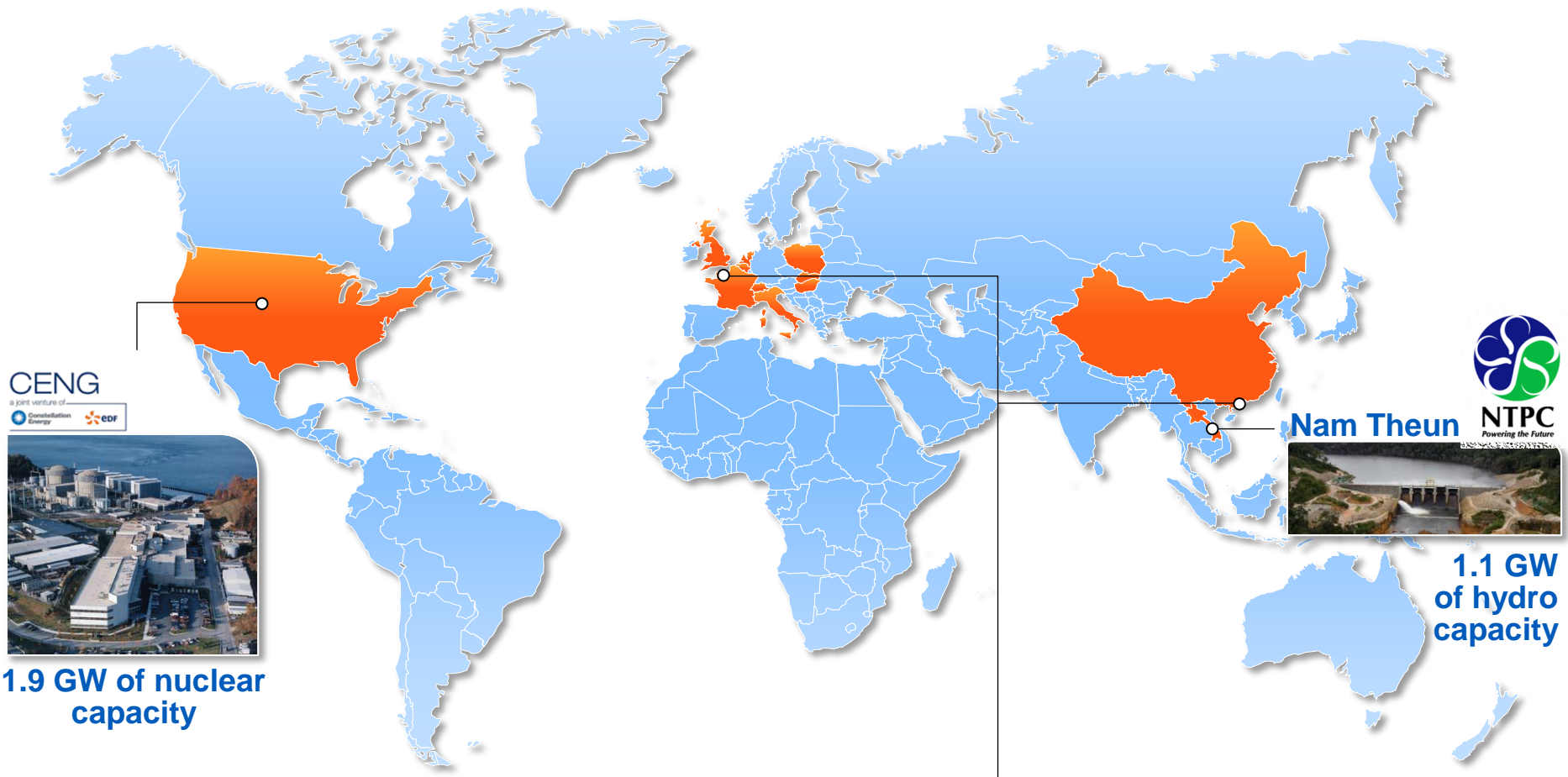
Networks



Optimization/Supply

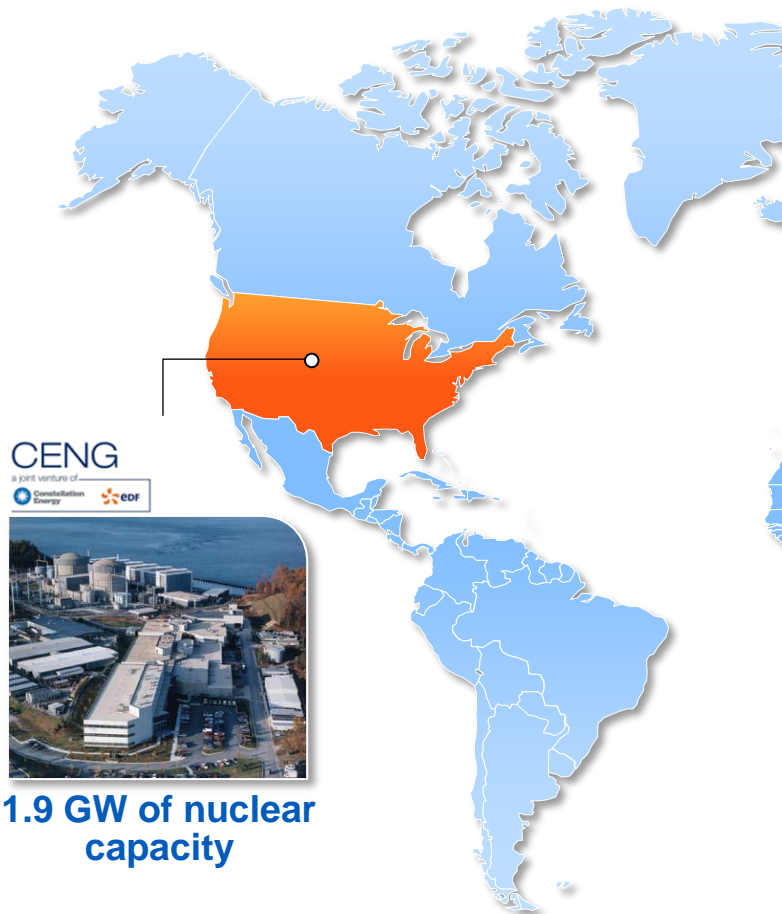
- Primary focus on organic growth, supported by an important pipeline of projects
- A management organization combining geographical and industrial responsibilities
- Strict financial discipline

# EDF Group today



3 EPR currently under construction in France (FLA3)  
and in China (Taishan 1&2)

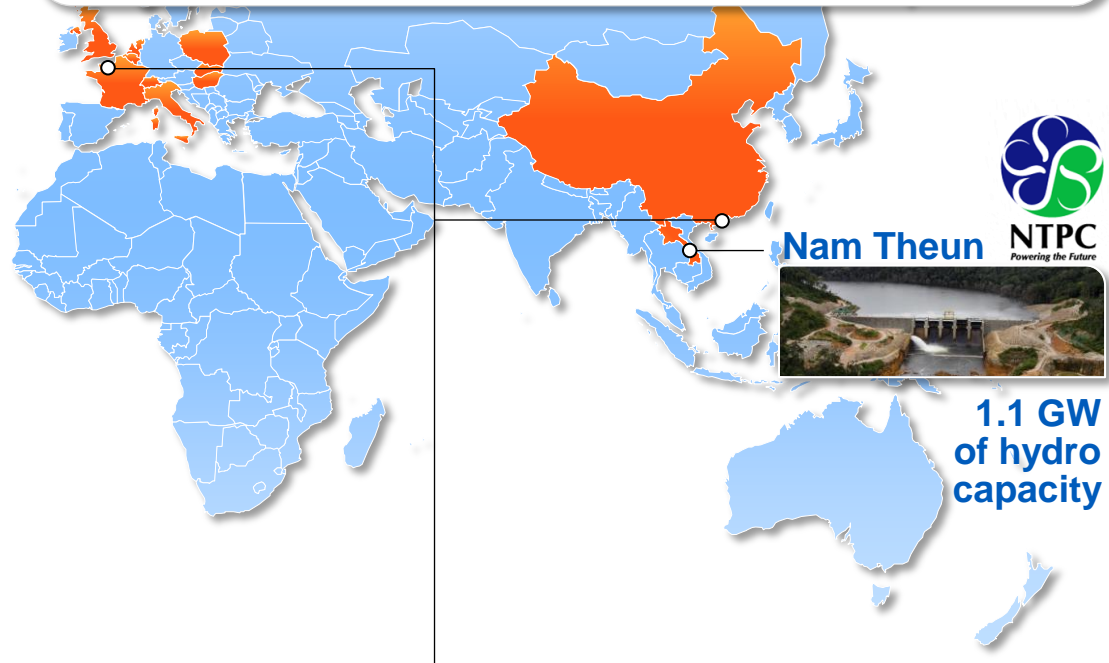
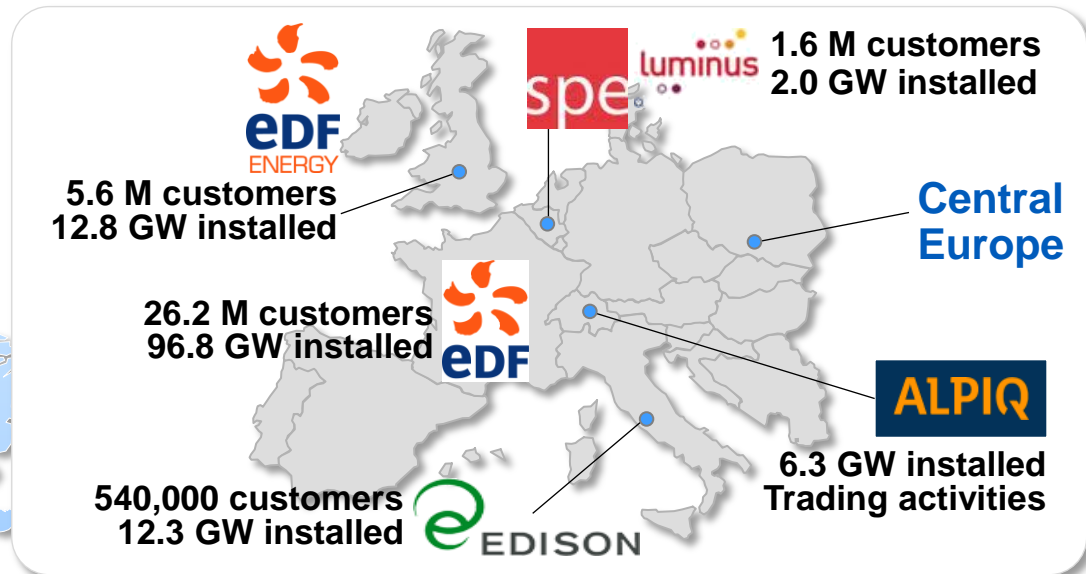
# EDF Group today



**CENG**  
a joint venture of  
Constellation Energy and EDF



**1.9 GW of nuclear capacity**



**NTPC**  
Powering the Future



**Nam Theun**

**1.1 GW of hydro capacity**

**3 EPR currently under construction in France (FLA3) and in China (Taishan 1&2)**



# Progress made on Group's priorities

- Industrial performance



- +14.1 TWh (+4%) as of end Nov 2010 and in line with our FY target of 4 to 6% vs 2009 to 405-415 TWh

- French power market reform



- Law official on December 7<sup>th</sup>, 2010 and first decrees allowing full implementation expected during H1 2011

- De-risking of the Group business profile



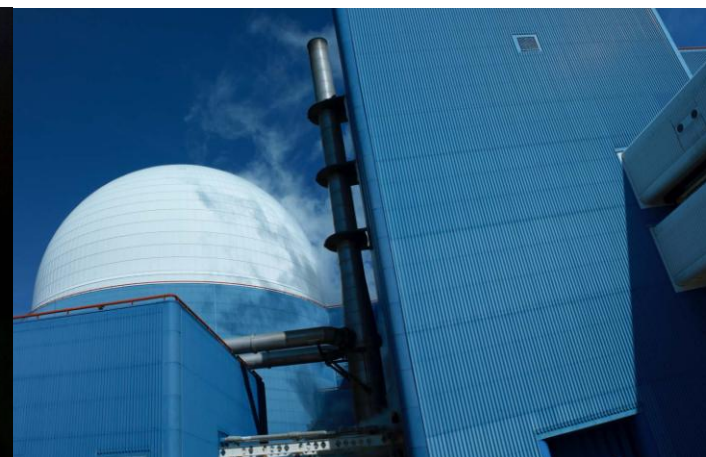
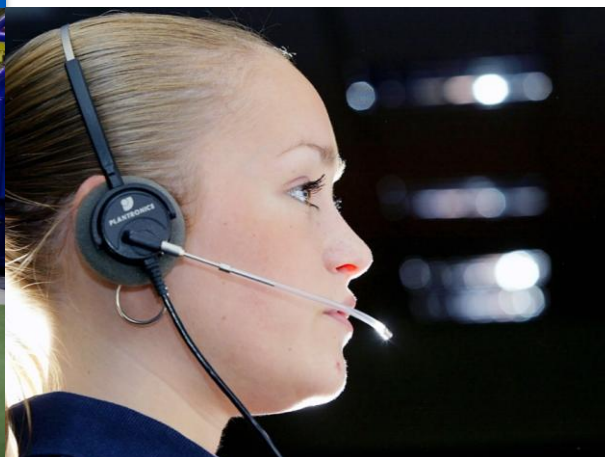
- Comprehensive agreement with CEG, disposal of EnBW

- Targeted debt reduction of at least €5Bn through disposals



- Total achieved: -€13.7Bn

**Confirmation of 2010 financial objectives**



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# EDF in the UK

## Investor workshop

Today's objectives and programme

Thomas Piquemal

*Group Senior Executive Vice President  
Finance*



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# Rationale for a workshop on EDF in the UK

- Capital employed: €18Bn<sup>(1)</sup>
  - Solid upstream/downstream business model
  - 2009 EBITDA<sup>(2)</sup>: €2Bn
  - Additional value creation (life extensions, supply margins)
- Potential for additional value creation through NNB
  - Consistent with EDF Group core skills and business
  - Provided all the right conditions are met, final investment decision late 2011

*(1) As of December 2010 estimated*

*(2) Restated for EBITDA from UK networks, including IFRIC 18 and excluding IAS39 impact*

# EDF Group finance as a partner to UK business

- New investment process and selection criteria
- Harness Group synergies and deploy Group industrial purchasing
- Active Assets-Liabilities Management
- Richer dialogue with financial community



- NNB: final investment decision to be taken by end 2011



- Leverage on scale purchasing on key components
- Group purchasing related to general expenses



- Matching long-dated cashflow with long-term assets in the UK



- UK workshop, including UK-only analysts

# What we want to address

- Well-balanced upstream/downstream business model and strategy in the UK
- Challenges and opportunities of the UK power market
- Value creation drivers in existing business and in new nuclear
- Key financial assumptions for EDF Energy

# UK workshop schedule

- Welcome and introduction
- Today's objectives and programme
- EDF Energy compelling story
- UK market
- **Q&A session**

Henri Proglio  
Thomas Piquemal  
Vincent de Rivaz  
Paul Spence

- *10:45-11:00 Coffee break*

- Energy Sourcing and Customer Supply
- Existing Nuclear
- **Q&A session**

Martin Lawrence  
Andy Spurr

- *12:15-13:25 Lunch (optional sessions on ROCs and Sizewell B)*

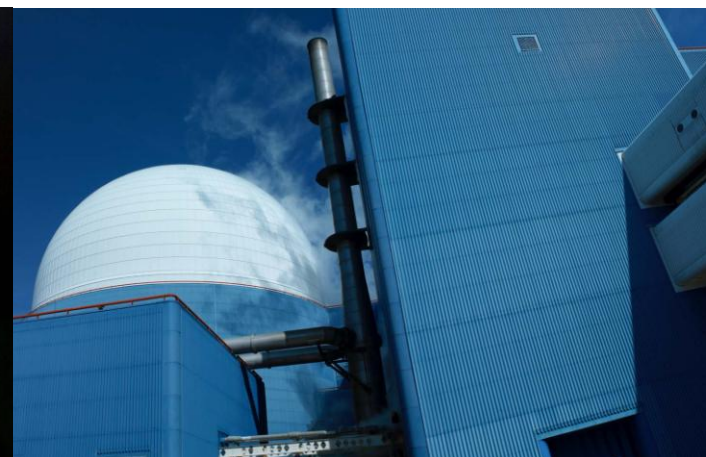
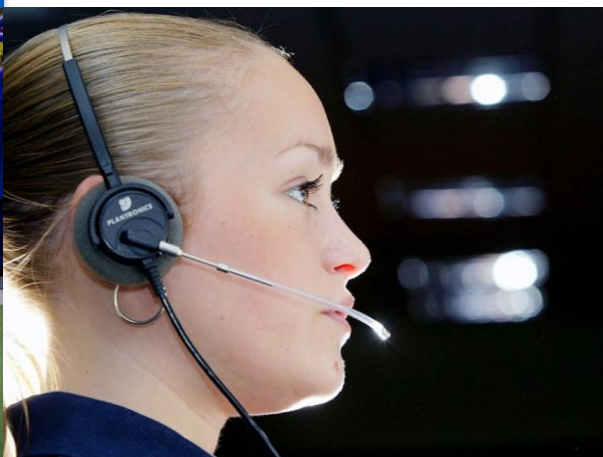
- Nuclear New Build EDF Group strategy
- Nuclear New Build in the UK
- **Q&A session**

Hervé Machenaud  
Humphrey Cadoux-Hudson

- EDF Energy key financials
- Summary of key UK management priorities
- Conclusions
- **Q&A session**

Thomas Kusterer  
Vincent de Rivaz  
Thomas Piquemal

- *15:30 End of workshop*



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# EDF in the UK

## Investor workshop

EDF Energy compelling story

Vincent de Rivaz

*Chief Executive, EDF Energy*



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# Building a leader in the UK

**Key  
Financials**

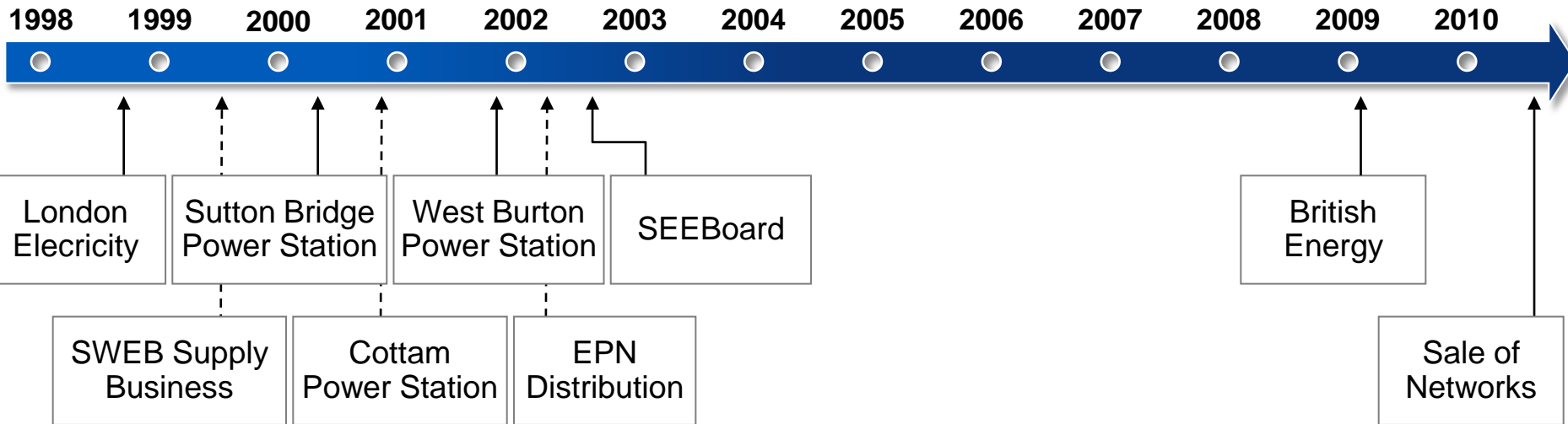
**Sales: £2.0bn  
EBITDA:£278m**

**EBITDAx3.4**

**Sales: £4.6bn  
EBITDA:£935m**

**EBITDAx2.7**

**Sales: £9.8bn  
EBITDA:£2.5bn**



**Scale building  
through acquisitions**

**Operations  
integration**

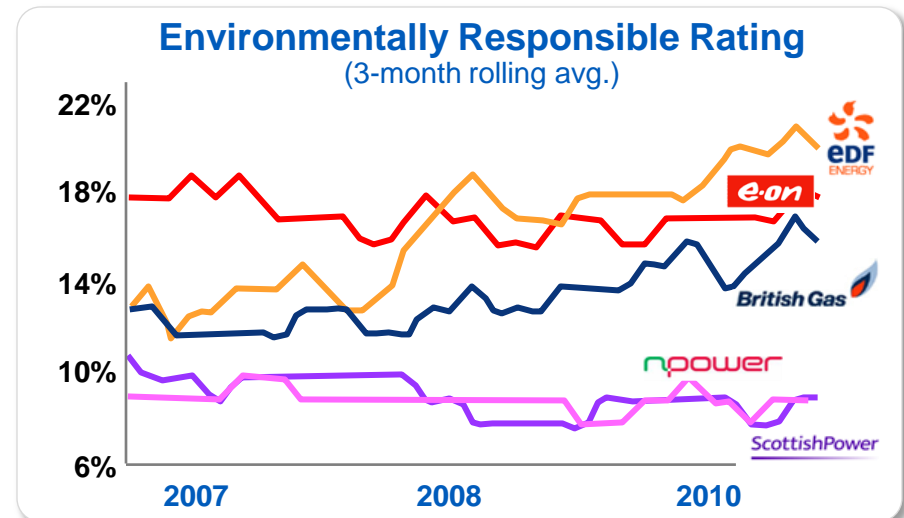
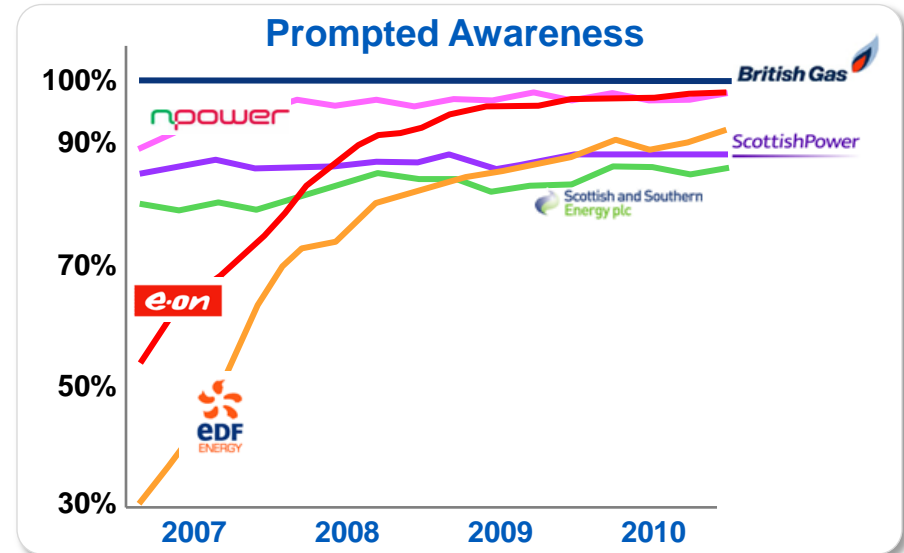
**Organic growth**

**Upstream-  
downstream  
integration**

**Recent sale of our Networks business allows us to look forward**

# EDF Energy: from several regional brands to a strong national brand

- Build a brand that customers know and find meaningful
- Improve both customer retention and customer acquisition
- Strategic investment to build synergy with EDF Group and to ensure competitiveness in the out of area market
- 2012 Olympics and Paralympics offer unique Group opportunity
- A very successful journey so far with over 90% of prompted awareness and strong environmental credentials



# EDF Energy plays an important role in the shaping of the market reform

- **Leading the way** in the discussion on market reform
  - First to assert the need of a carbon floor price
  - Strong supporter of market reform that takes into account the value of available capacity
- The challenges of **Security of Supply, Climate Change and Affordability** did not exist when the market was first privatised
  - Need to adapt the framework to tackle these challenges
  - We want to help shape a better market structure
- Need to **build a consensus** embracing the views of:
  - Policy makers / regulators
  - Investors
  - Customers
  - Local communities

# EDF Energy is a key investor in the UK energy market

## ■ Investor in **Generation**

- Fossil
- Renewables
- Existing and New Nuclear

## ■ Investor in **Customers**

- B2B
- B2C

## ■ Investor in **People**

- Recruitment
- Training

### Two key criteria for investment

- Safety
- Value creation

# Investing in Generation

Generation Asset	Capacity (MW)	Timeline	Investment
West Burton B CCGT	c.1,300	2012	c.£800m
Renewables	>365	2011 - 2020	c.£500m
AGR Life Extension	c.7,500	2014 - 2023	c.£350m
NNB	3,300 for first twin	2018 - 2019	c.£9Bn* for first twin

- Investing in a new **CCGT** at West Burton that will more than offset our scheduled divestment of Sutton Bridge
- Controlled and targeted **Renewable Strategy**
- Optimisation of plant lifetime of our **Existing Nuclear fleet**
- Potential substantial investment in **Nuclear New Build**

\* Construction costs

# Investing in Customers

- We are the **leading electricity supplier** in the UK, with over 5.5 million electricity customer accounts
- **Investing in information systems** is a key enabler for profitability to increase along with **product innovation**
- Our coming together with **British Energy** strengthens our **optimisation** capabilities: balancing what we produce with what we sell
- We continue to work towards growing our customer base while achieving our profitability targets by 2015
  - **B2B: over 3% EBITDA margin on sales**
  - **B2C: 5% EBITDA margin on sales**

# Investing in People

- Of all our assets, our people are our most important investment
- We must have an **integrated approach** within EDF Group/Existing Nuclear/ New Nuclear to building and developing our human capital
- Recruit over **8,000 talented** professionals by 2015
- Develop **leadership skills** for transition to a sustainable economy
- Improve employability of those in our **local communities**
- **Educate** existing workforce and the wider UK public

Leading the way on skills for a low-carbon economy

# EDF Energy's organisation and leaders

**Chief Executive Officer**

*Vincent de Rivaz*

**Chief Financial Officer**

*Thomas Kusterer*

**Chief Officer People,  
Organisation & Brand  
Performance**

*Philippe Huet*

**Director of Strategy  
& Regulation**

*Paul Spence*

**Existing Nuclear**

*Andy Spurr*



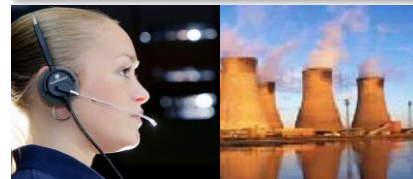
**Nuclear New Build**

*Humphrey  
Cadoux-Hudson*



**Energy Sourcing  
and Customer Supply**

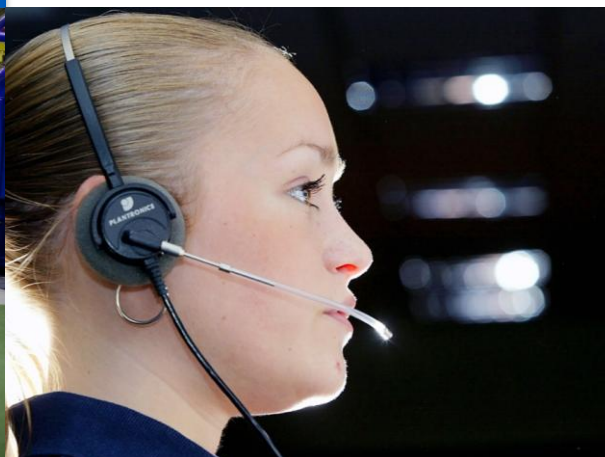
*Martin Lawrence*



**Director of Company  
Shared Services  
& Integration**

*Peter Hofman*

Today's speakers



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# EDF in the UK

## Investor workshop

### UK market

Paul Spence

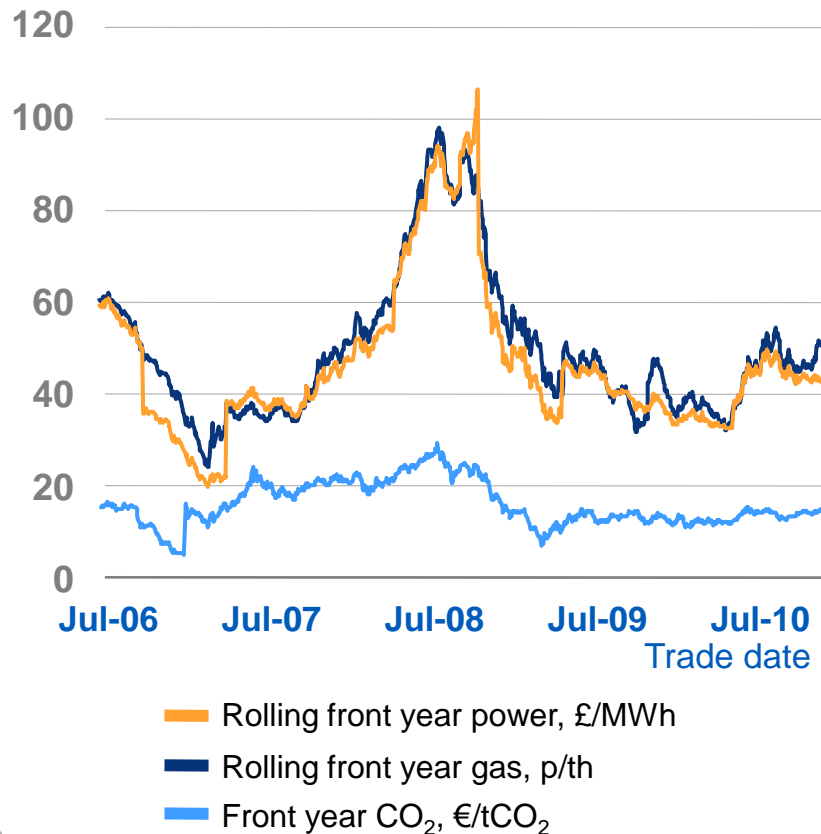
*Director of Strategy and Regulation,  
EDF Energy*



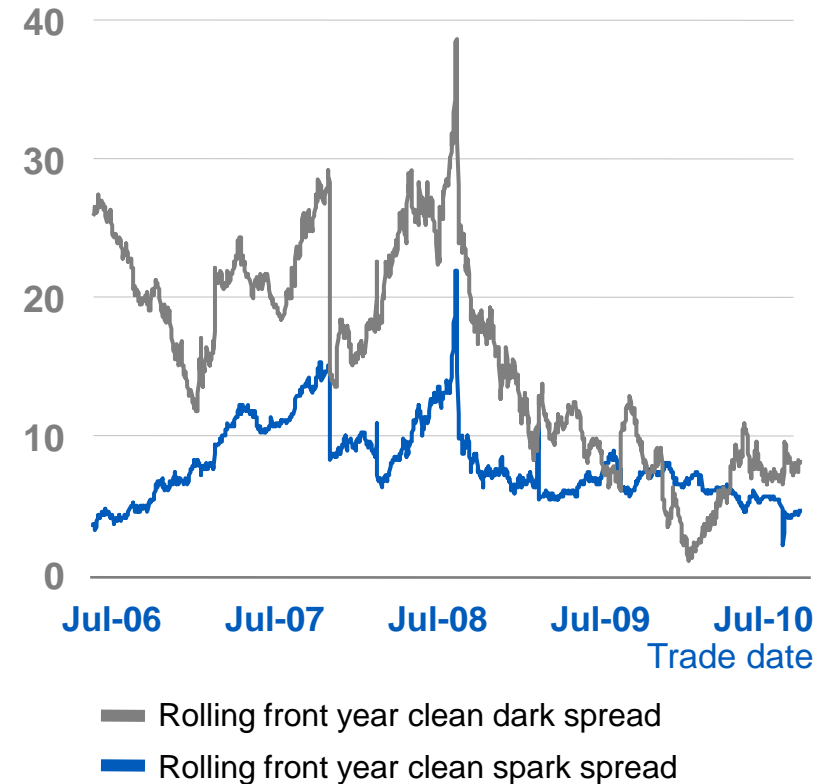
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# Price volatility

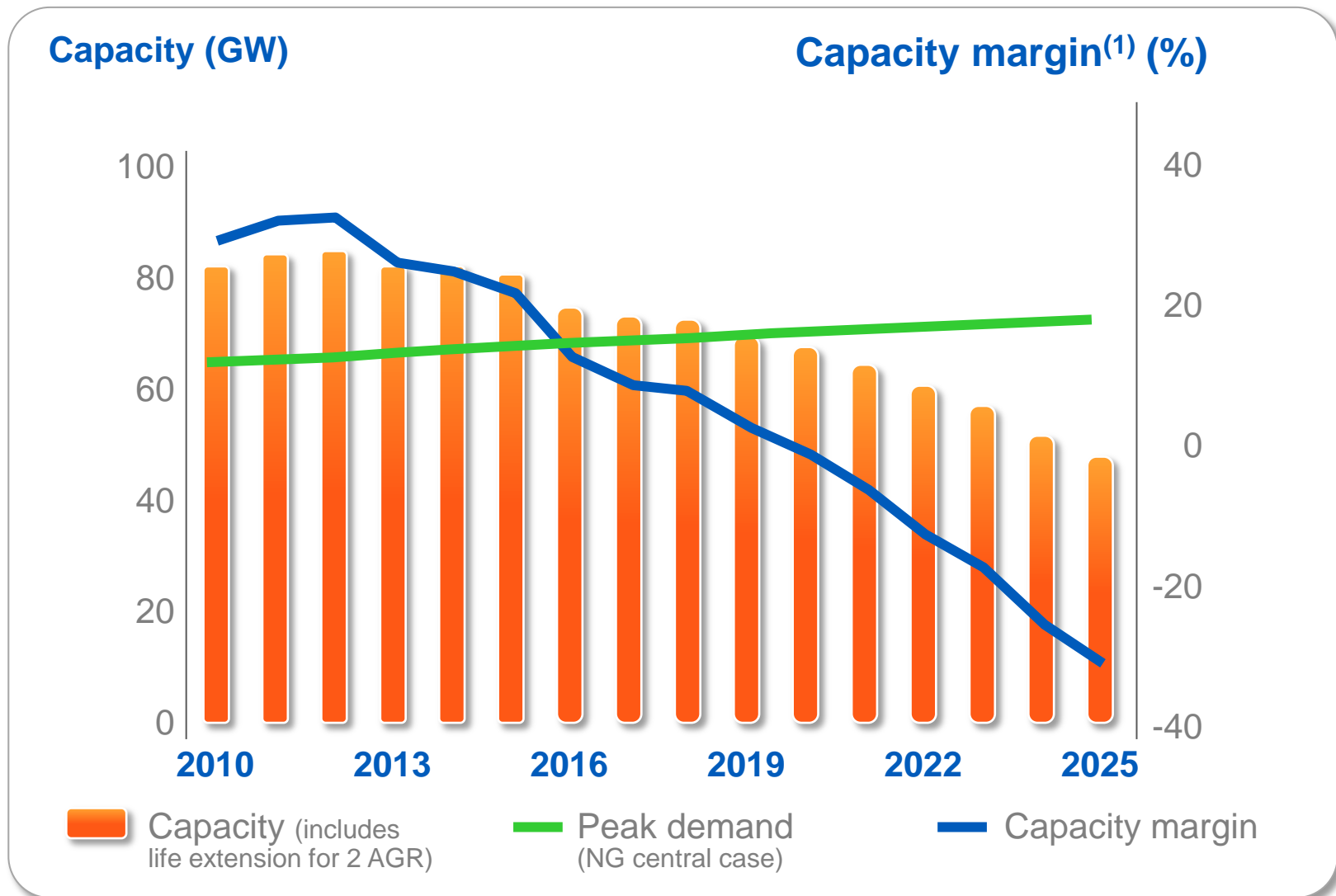
Front year gas, power and carbon price  
£/MWh, p/th, €/tCO<sub>2</sub>



Rolling front year clean spreads by trade date  
£/MWh



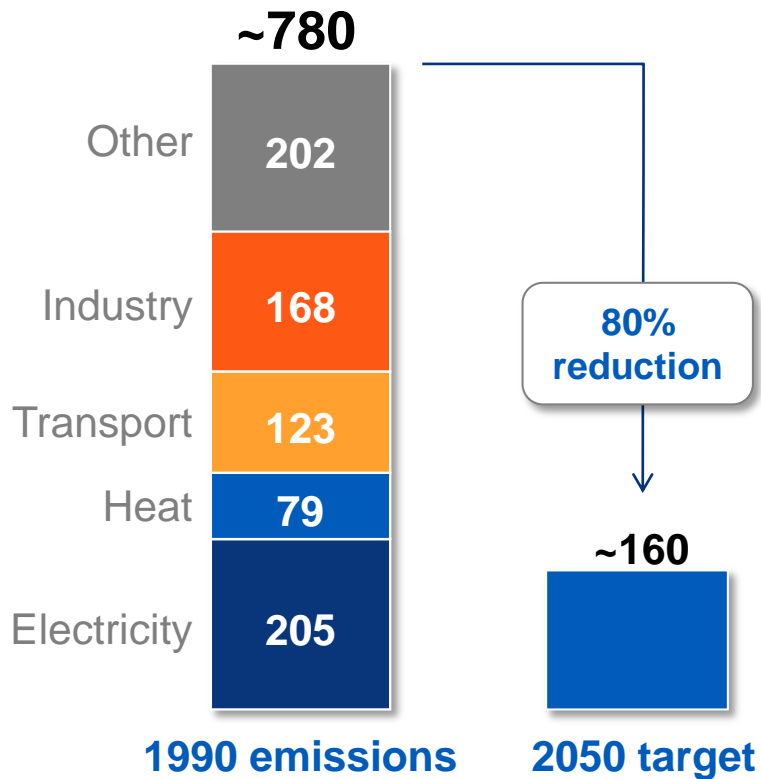
# Rising demand and retiring plants



(1) Wind de-rated at 10%, all other generation is not de-rated (i.e., 100% contribution)  
Source: EDF Energy analysis 2010

# A low carbon future

## UK emissions, Mt CO<sub>2</sub>e



## Opportunities

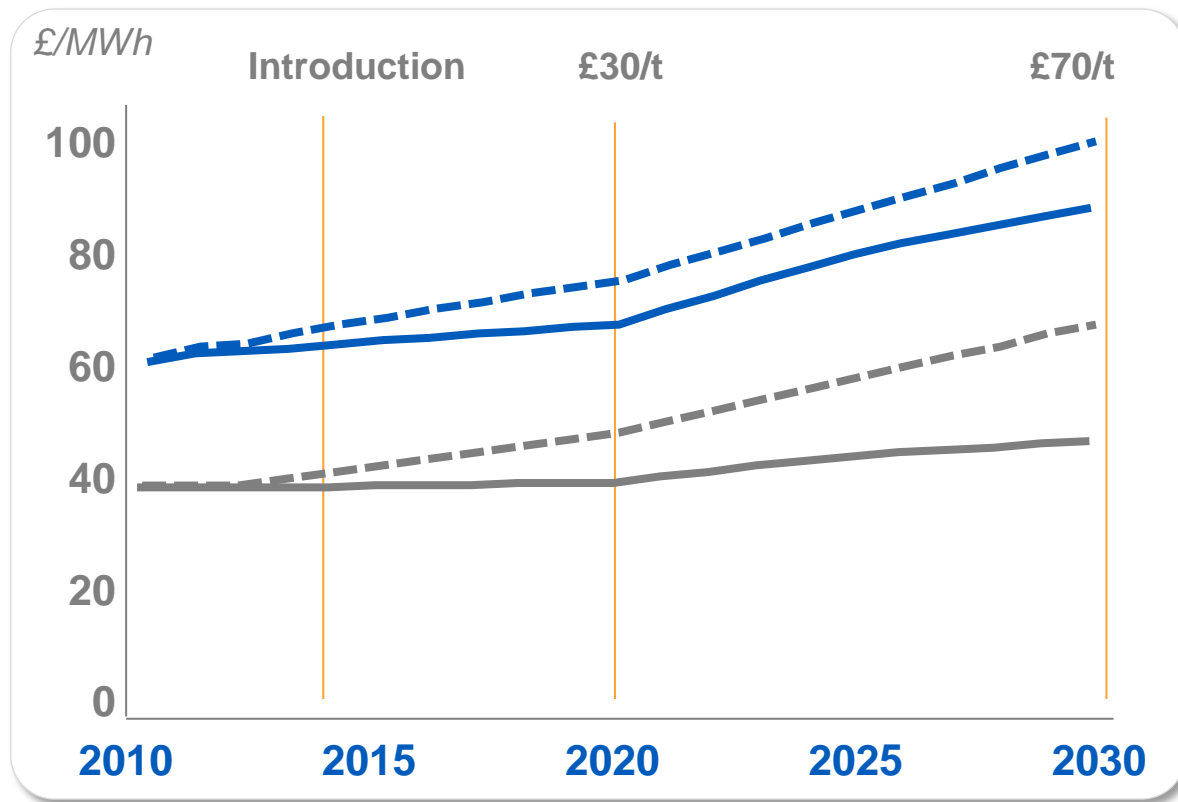
- Efficiency
- Decarbonised generation
- Electric heat and transport

# Market reforms

- Carbon price support
- Support for low carbon generation
  - Contracts for difference
  - Premium feed-in tariff
- Emission performance standard for new coal
- Security guarantee (capacity mechanism)

# Carbon price support

## Power price - Illustrative impact of carbon price support



### ■ Description

- Removing exemptions for fossil fuels in generation from Climate Change Levy
- Top-up referenced against EU ETS prices
- Trajectory outlined to 2030

### ■ Implications

- Clear carbon price signal
- Power price impact depends on underlying ETS and power prices

### ■ A balancing act:

- Encouraging new low carbon investment
- Maintaining flexible fossil capacity
- Impact on customer bills

DECC low gas, CO<sub>2</sub> price scenarios

DECC low prices with CPF

DECC medium price scenarios

DECC medium prices with CPF

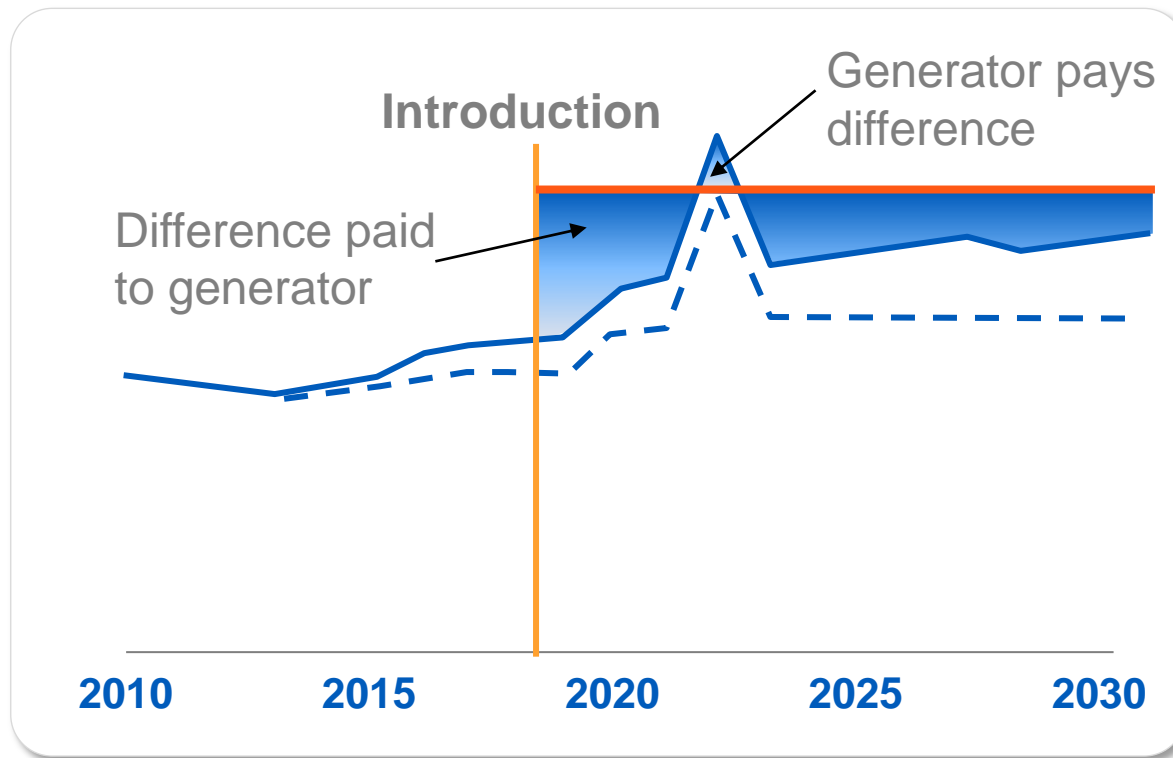
*Note: Assuming gas generation plants as price-setters*

*Source: DECC gas price projections and carbon price projections (June 2010); EDF Energy Corporate Strategy modelling*

*Source: HM Treasury carbon price floor consultation*

# Contracts for difference

## Illustrative impact of contracts for difference on revenues for low carbon generators - £/MWh

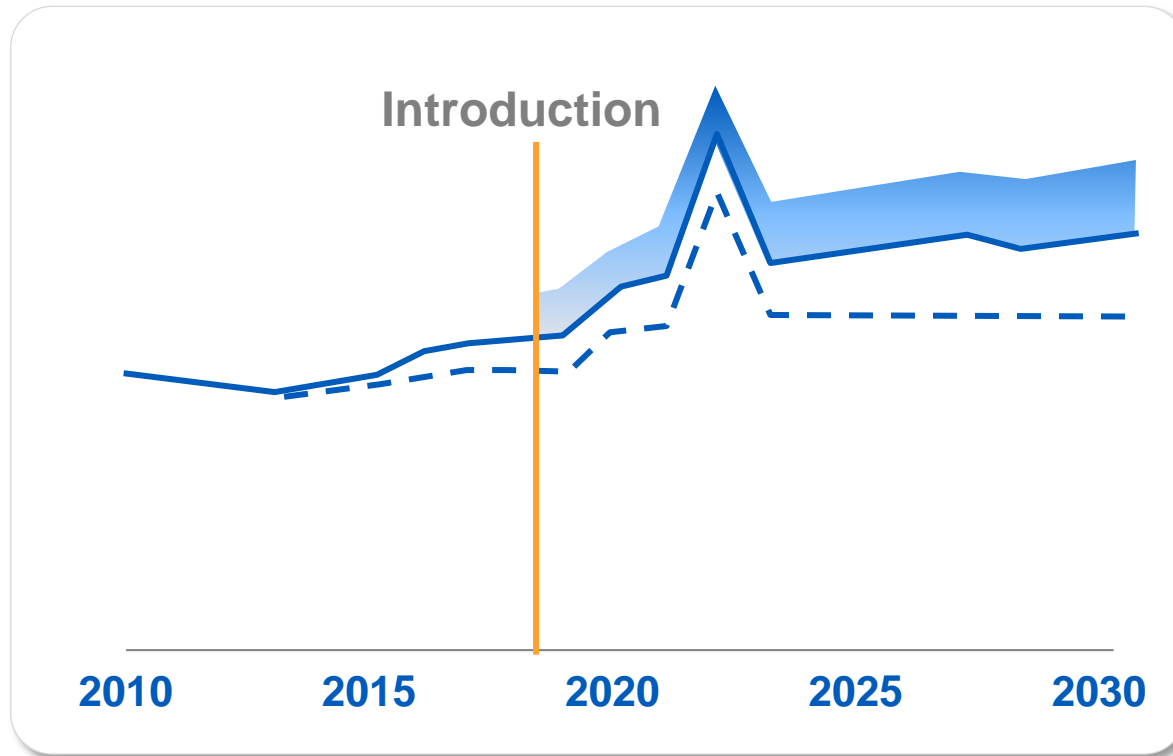


- Illustrative contract strike price
- Power price + carbon price support
- - - Power price

- Description
  - Long term financial (not physical) contract
  - Referenced to wholesale power price (index to be defined)
  - Operational detail (and transition) to be defined
- Implications
  - Price certainty for generator but operational and construction risks remain
  - Higher strike prices for more expensive renewables and CCS

# ... or premium feed-in tariff

## Illustrative impact of premium feed-in tariff on revenues for low carbon generators - £/MWh

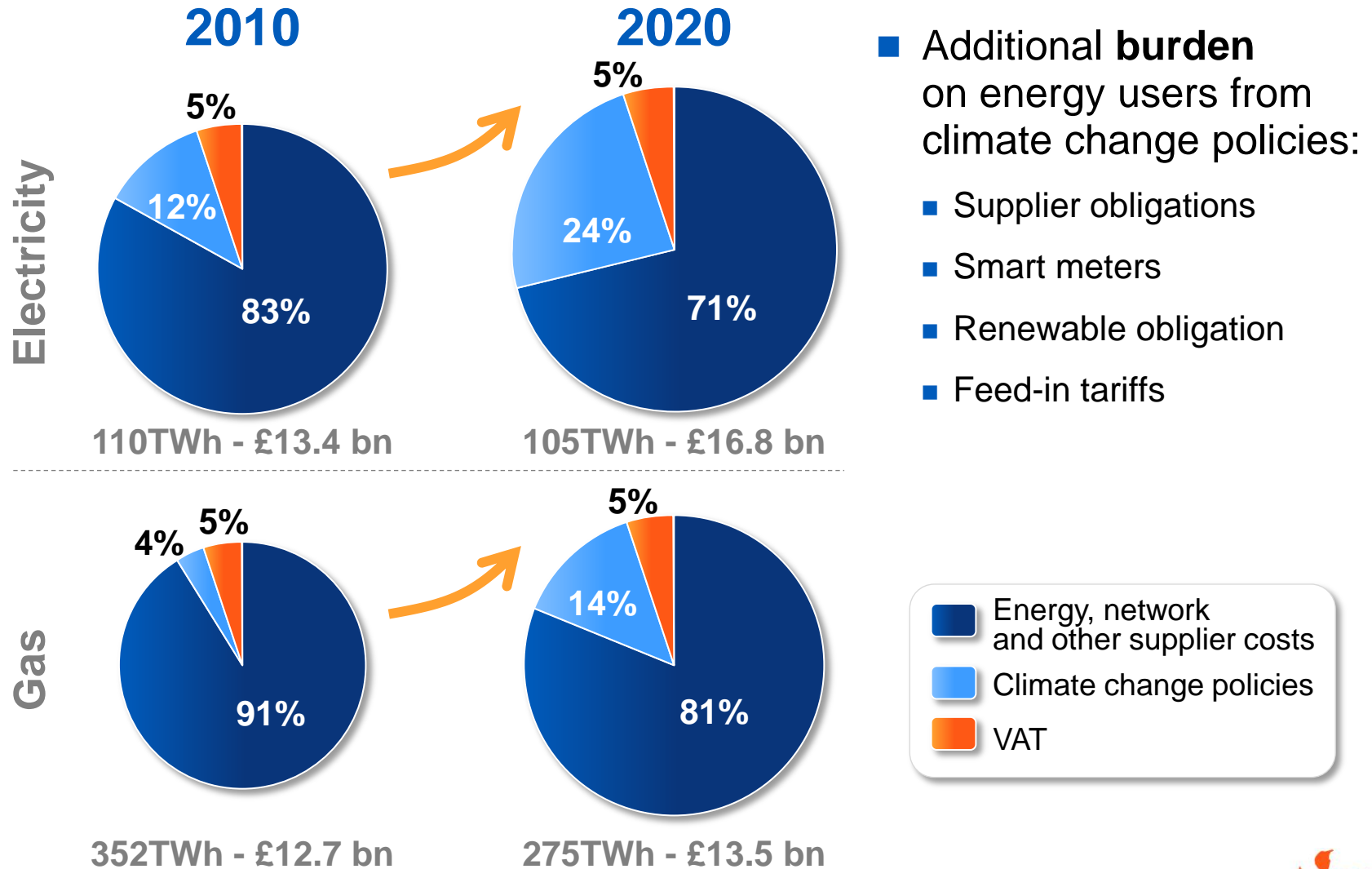


- Illustrative premium feed-in tariff
- Power price + carbon price support
- - - Power price

- **Description**
  - Provides extra revenue above wholesale market price for low carbon generation
  - Probably banded by technology
  - Could reward capacity (kW) or energy (kWh)
- **Implications**
  - Exposure to power price uncertainty remains
  - Less impact on wholesale market operations

# Supply market growth

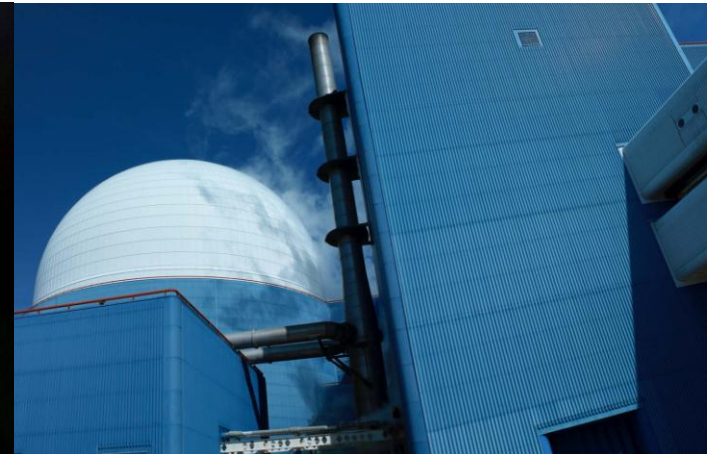
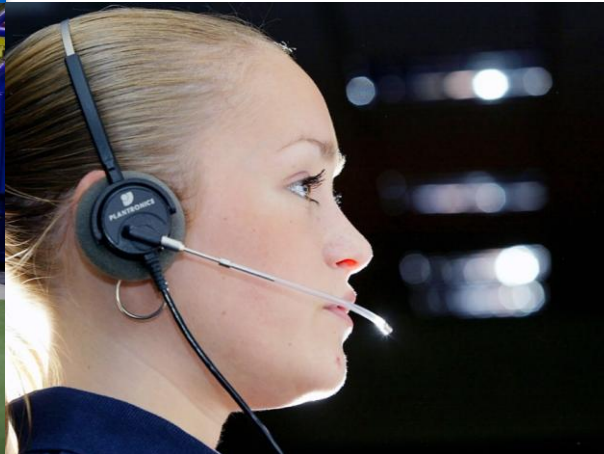
## Total domestic electricity and gas value breakdown



Source: DECC

# Conclusion: an attractive market

- World gas prices and low demand growth are the key determinants of the **current and medium term relatively low UK energy market prices**
- Decreasing capacity reserve margin and impact of climate change policy on generation mix provide **upward price pressure**
- **Market reform is needed to ensure smooth transition to low carbon economy** and to incentivise new generation investment



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# EDF in the UK

## Investor workshop

### Energy Sourcing and Customer Supply

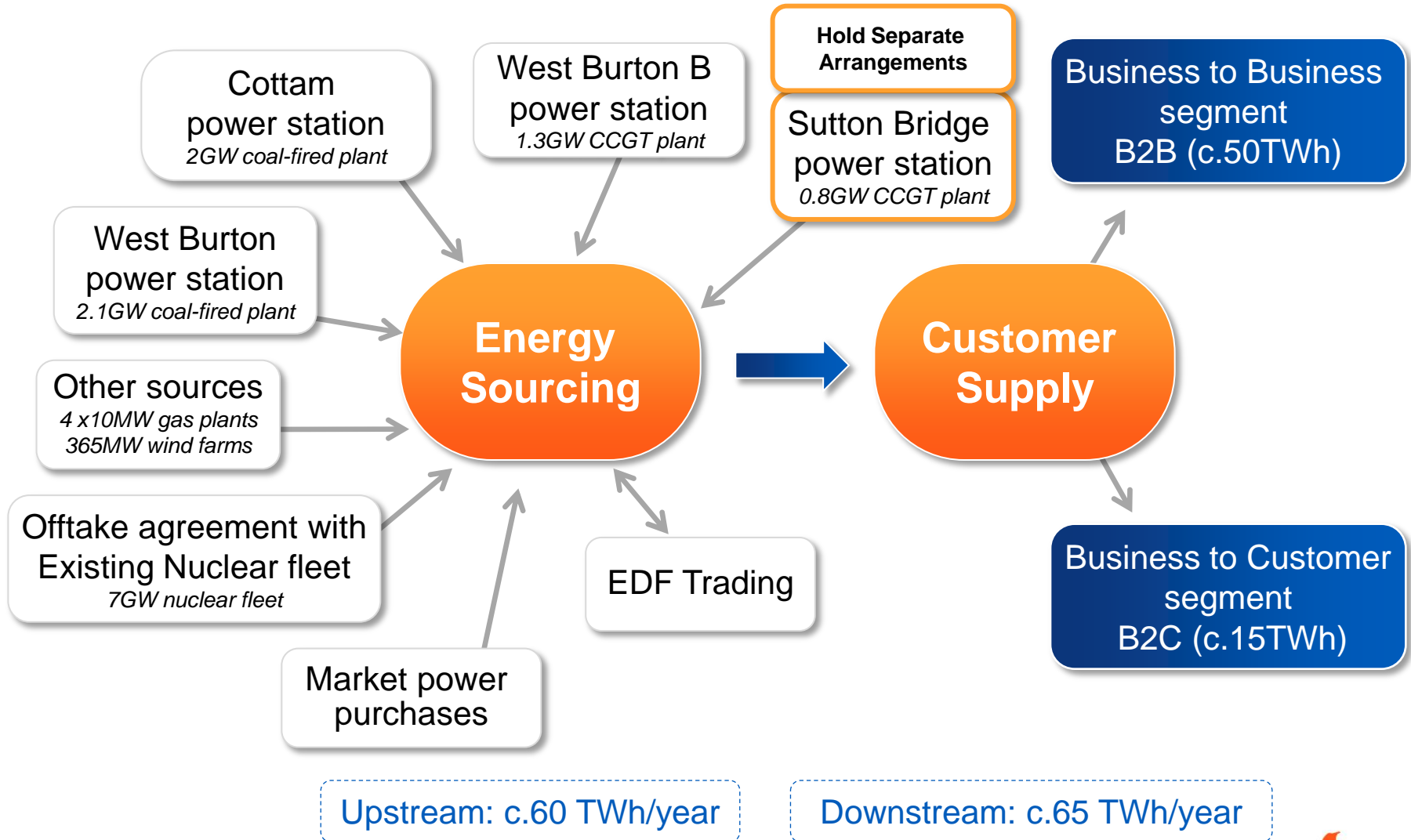
Martin Lawrence

*Managing Director, Energy Sourcing  
and Customer Supply, EDF Energy*



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# ESCS: a cornerstone of EDF Energy's business model



# Energy sourcing

## A diversified portfolio of new and older generation assets

### ■ Existing portfolio includes:

- Two coal plants: West Burton (2,052MW) and Cottam (2,008MW)
  - Combined output: 7 TWh in H1 2010 and 17 TWh in 2009
- Sutton Bridge - 800 MW CCGT (ring fenced - will be divested)
- Renewable portfolio (pipeline of 365 MW)

### ■ New projects include:

- New CCGT West Burton (c.1,300MW), expected to be in commercial operation early 2012
- Fast cycle gas storage facility in Cheshire (100m cubic meters - progressively commissioned from 2012)

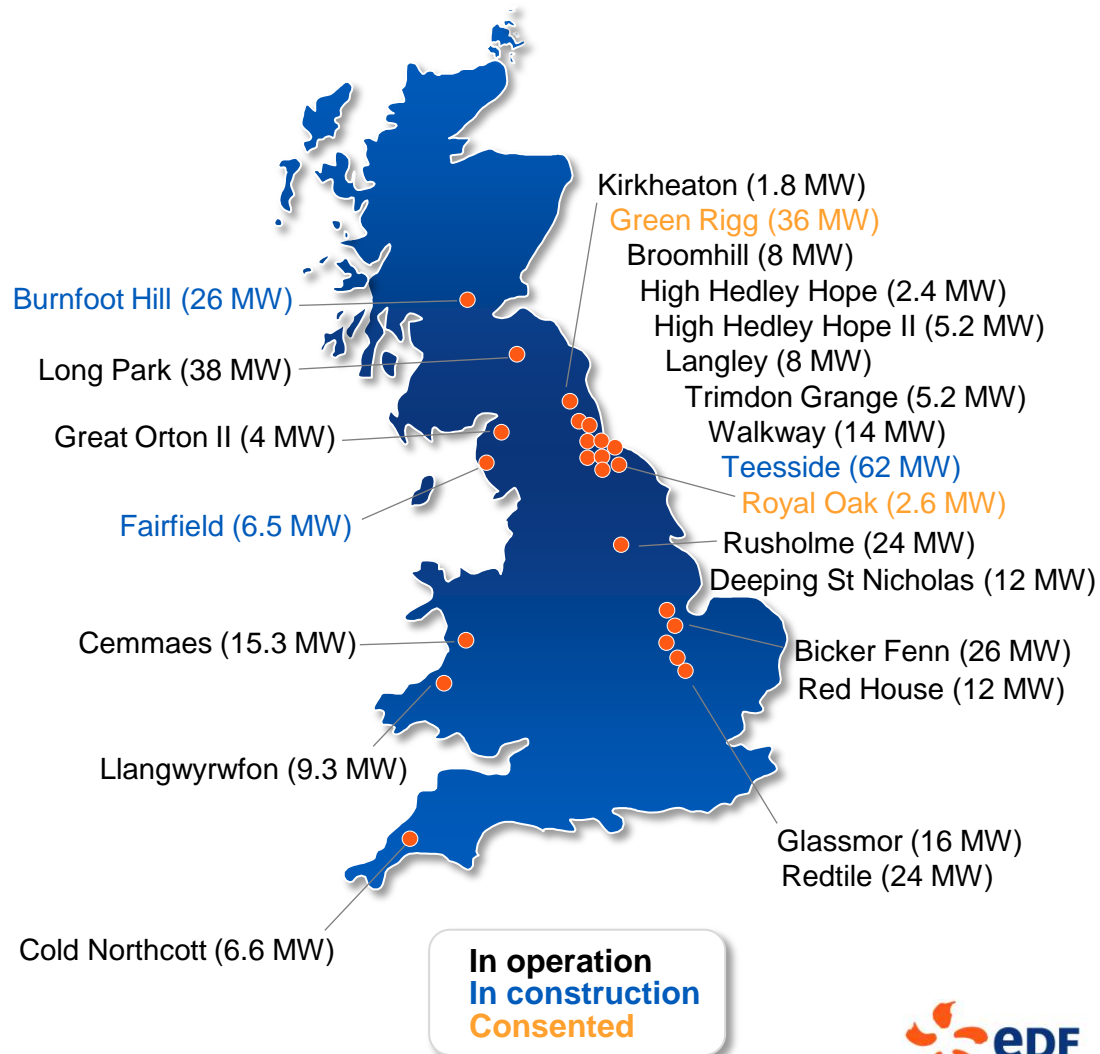
### ■ Challenges facing Energy Sourcing:

- Volatility of commodity prices; low dark/spark spreads
- End of free carbon allocations in 2013
- Develop flexible capacity to complement the company's asset portfolio
- Manage coal assets' lives through to 2023

# Energy Sourcing

## 365MW of renewable capacity in joint-venture with EDF EN to leverage synergies

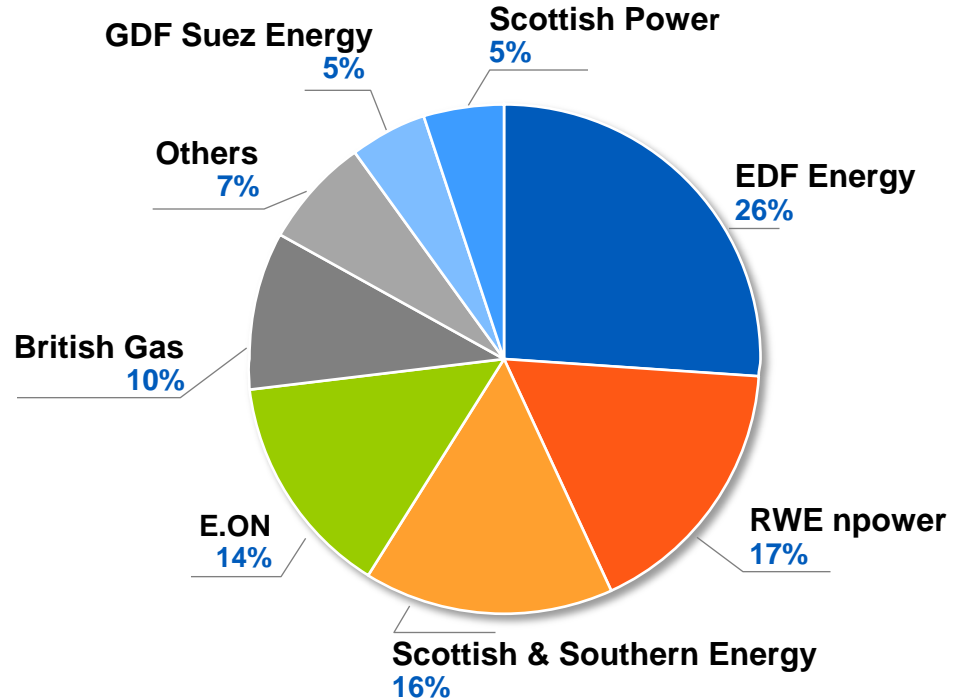
- The EDF Group has **23 wind farms** in the UK with capacity of **365 MW**
- **Shared Ownership** between EDF Energy (50%) and EDF Energies Nouvelles (50%)
- Latest Project: **Teesside**
  - Fully consented near shore project 62 MW
  - Eligible for 2 ROCs/MWh
  - 50-year lease
  - Contracts being placed in Q3 2010 and with first electrical output in Q3 2012



# Customer Supply

## EDF Energy is the UK's leading B2B business

- UK B2B market is c.190 TWh  
7 major suppliers



- EDF Energy is the largest supplier of B2B electricity (c.300,000 customers)
  - Merged with British Energy B2B business (British Energy Direct)
  - c.50 TWh of electricity representing 26% market share
  - 2009 key financials: £3.8bn sales and EBITDA of c.£160m

# Customer Supply

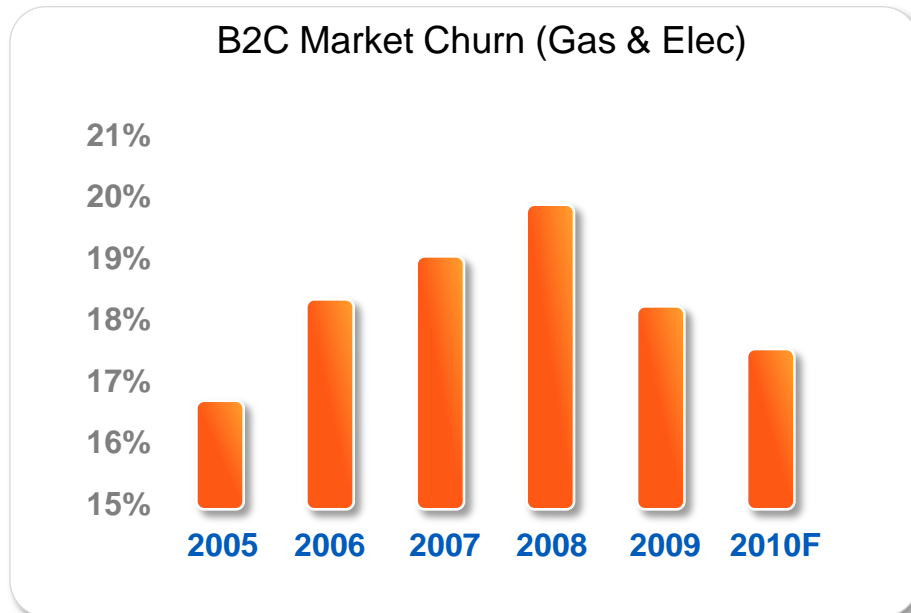
## B2B strategy focused on customer service and risk management

- **Limit volatility of earnings** and deliver **at least 3% EBITDA margin on sales**
- Top line growth to be delivered through development of **customised energy services**
- Areas of focus:
  - **Secure margin**
  - **Improved contract management**
  - **Customised hedging**
- **New systems** development to deliver cost savings and improved services

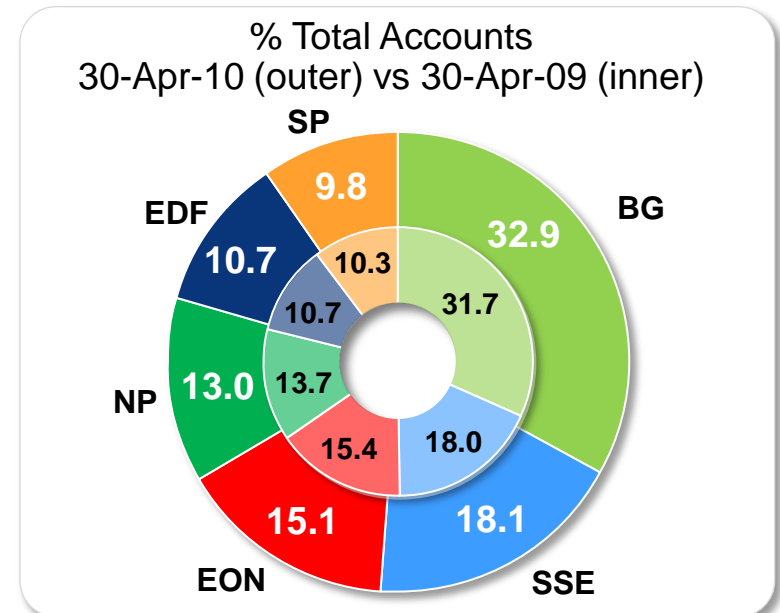
# Customer Supply

## B2C is a very competitive market with further growth opportunities for EDF Energy

- UK B2C market is c.120 TWh electricity and c.335 TWh gas - 6 Major Suppliers



(source: DECC)



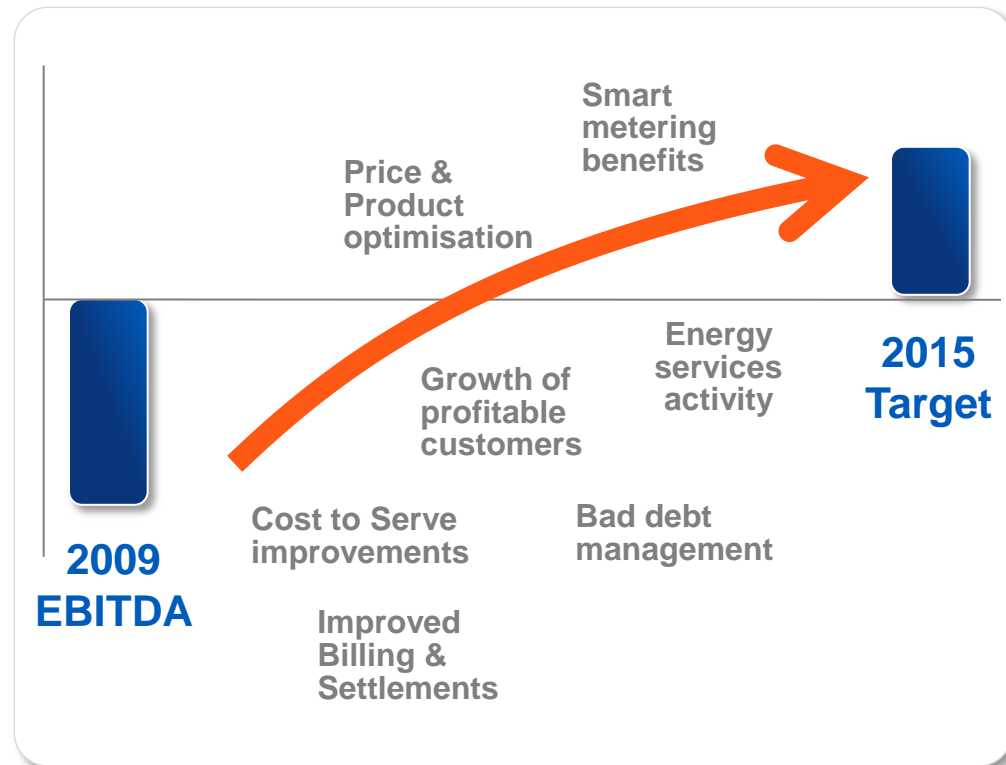
(source: CEA)

- The EDF Energy B2C business is the 5th largest in the UK (5.1m product accounts)
  - In 2009 the B2C business supplied 15 TWh of electricity representing 12% market share and 26 TWh of gas representing 8% market share
  - For the year ended 31 December 2009, B2C recorded an EBITDA loss of £167m

# Customer Supply

## Three main levers to reach 5% EBITDA margin on sales by 2015

- Investment of c.£150m in new Customer and Billing System
  - Reduced Cost to Serve
  - Improved Customer service
  - Started 2009 - Full implementation 2011
- Target to grow from 5.1m to 6.1m product accounts by 2015
  - Targeted customer growth (high value/ low risk) to achieve economies of scale
  - Develop innovative energy products and non-energy products
- Leverage smart metering opportunities

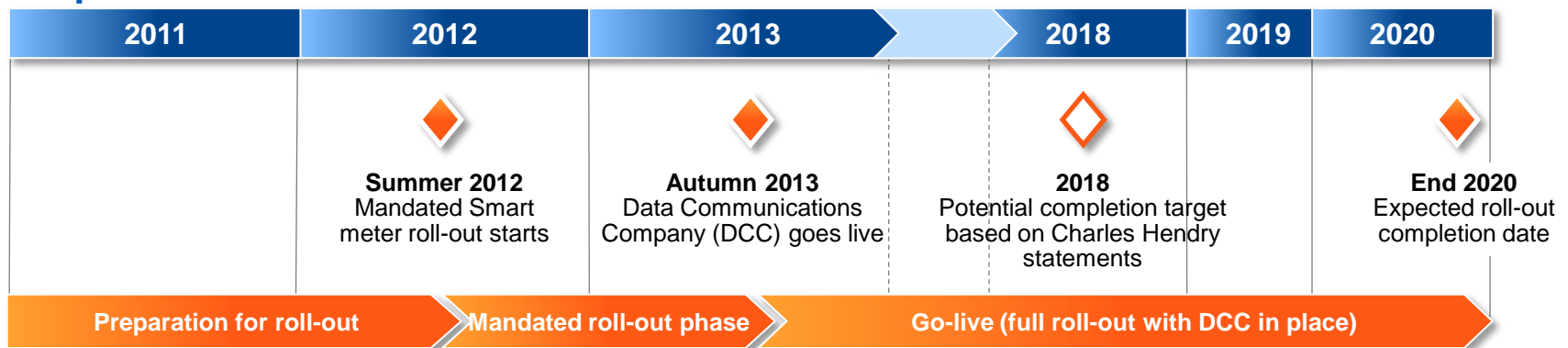


# Customer Supply

## Focus on smart metering opportunity

- In order to support carbon reduction target, the **UK government has mandated smart metering roll-out** by 2020 at the latest

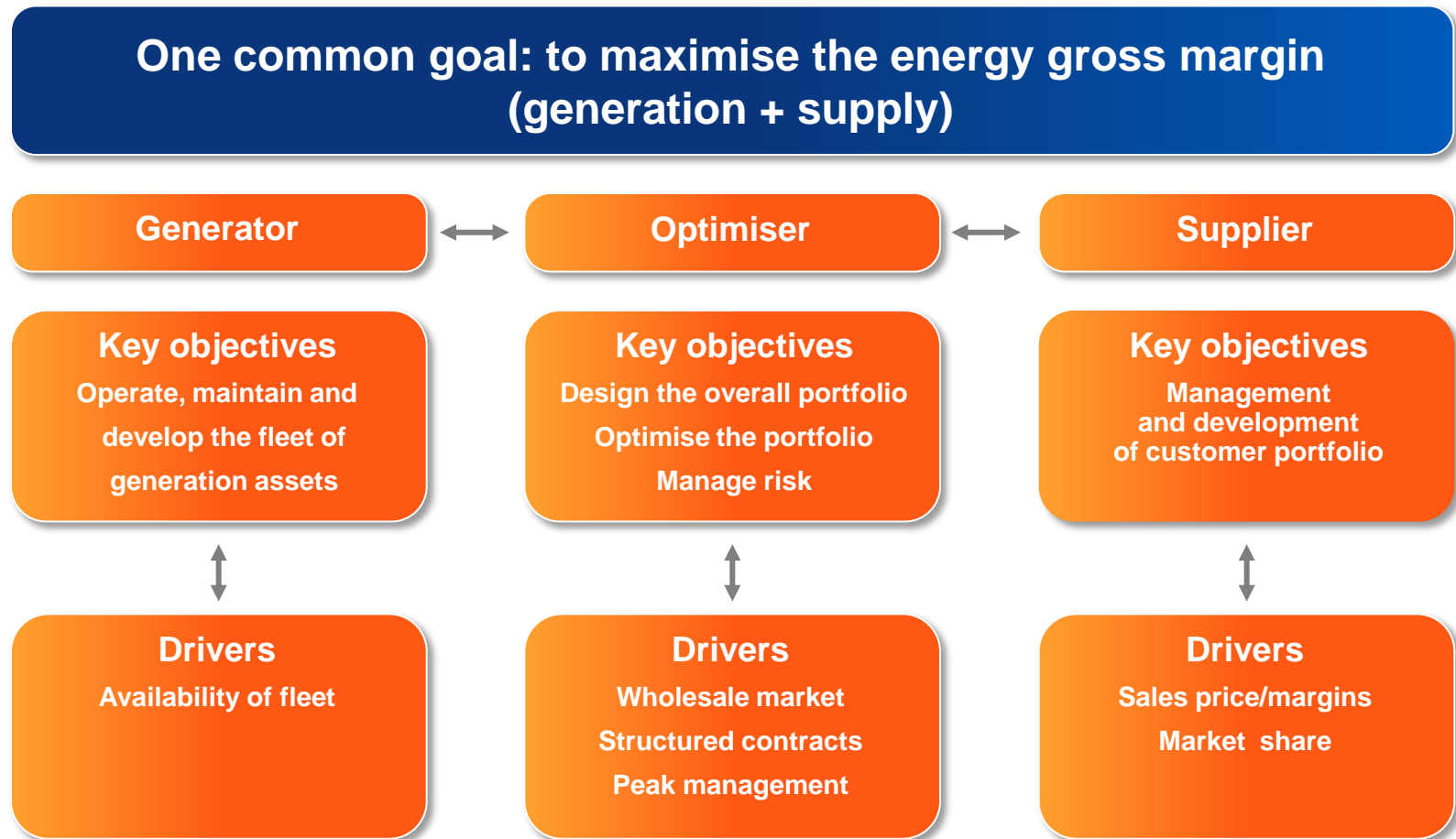
### Proposed Smart meter roll-out timeline



- Currently developing business case around key **value enhancing opportunities**:
  - Reduced metering and rental costs
  - Reduced bad debt charge
  - Improved hedging and volume forecasting capabilities
  - Energy related services cross selling opportunities
  - Increased customer satisfaction
- Any net costs are expected to be **passed-through** in tariff

# ESCS - Optimisation

## Integrated generation and supply management



# Our hedging strategy is asset driven but takes into account both market specificities and competitors expectations

## Market Drivers

Prices  
Volatilities  
Correlation  
Liquidity

## Portfolio Drivers

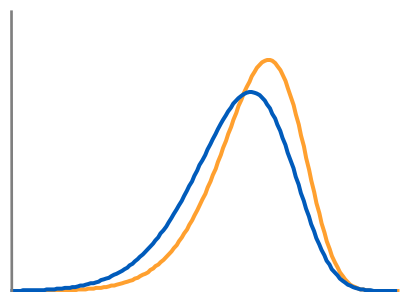
Open Positions  
Generation Uncertainty  
Demand Uncertainty

## Tariff Drivers

Competitors' EBIT  
Competitors' Retail Margin  
Competitors' Hedging Rate



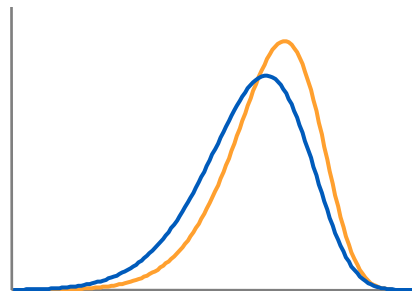
## Nuclear and Upstream



- Gradually reduce width of risk distribution for Nuclear and Upstream
- Hedging rate changes in response to market and portfolio drivers



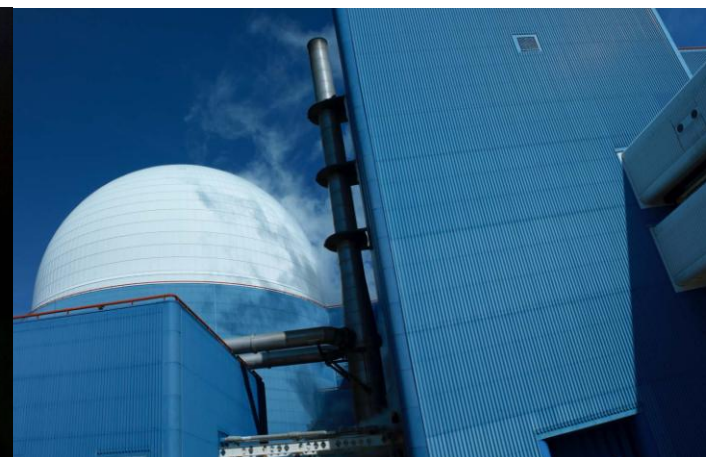
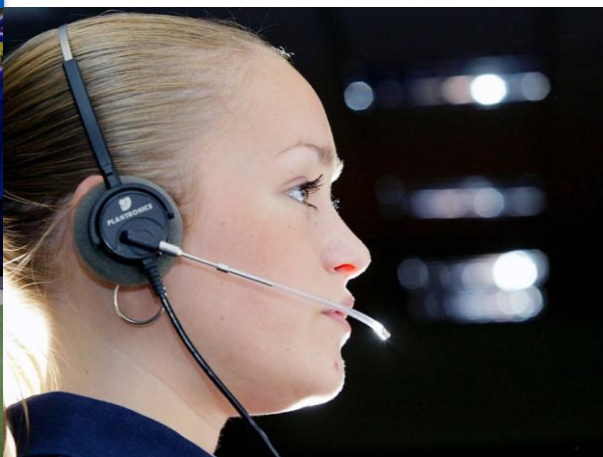
## B2C



- Gradually reduce width of risk distribution for B2C
- Hedging rate changes in response to market, portfolio and tariff drivers

# Key conclusions

- ESCS manages existing assets to **extract maximum value** whilst investing to address risks from exposure to such factors as market shape, volatility, ROCs, etc.
- In the electricity **B2B** market, EDF Energy aims to remain the market leader, consistently delivering **+3% EBITDA margin on sales** in 2015
- In the **B2C** market, EDF Energy wants to achieve a steady volume growth while progressively **reaching 5% EBITDA margin on sales** in 2015
- EDF Energy seeks dynamically to **review its optimisation/hedging strategy** in line with market movements



17 December  
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# EDF in the UK

## Investor workshop

### Existing Nuclear

Andy Spurr

*Managing Director, Existing Nuclear,  
EDF Energy*



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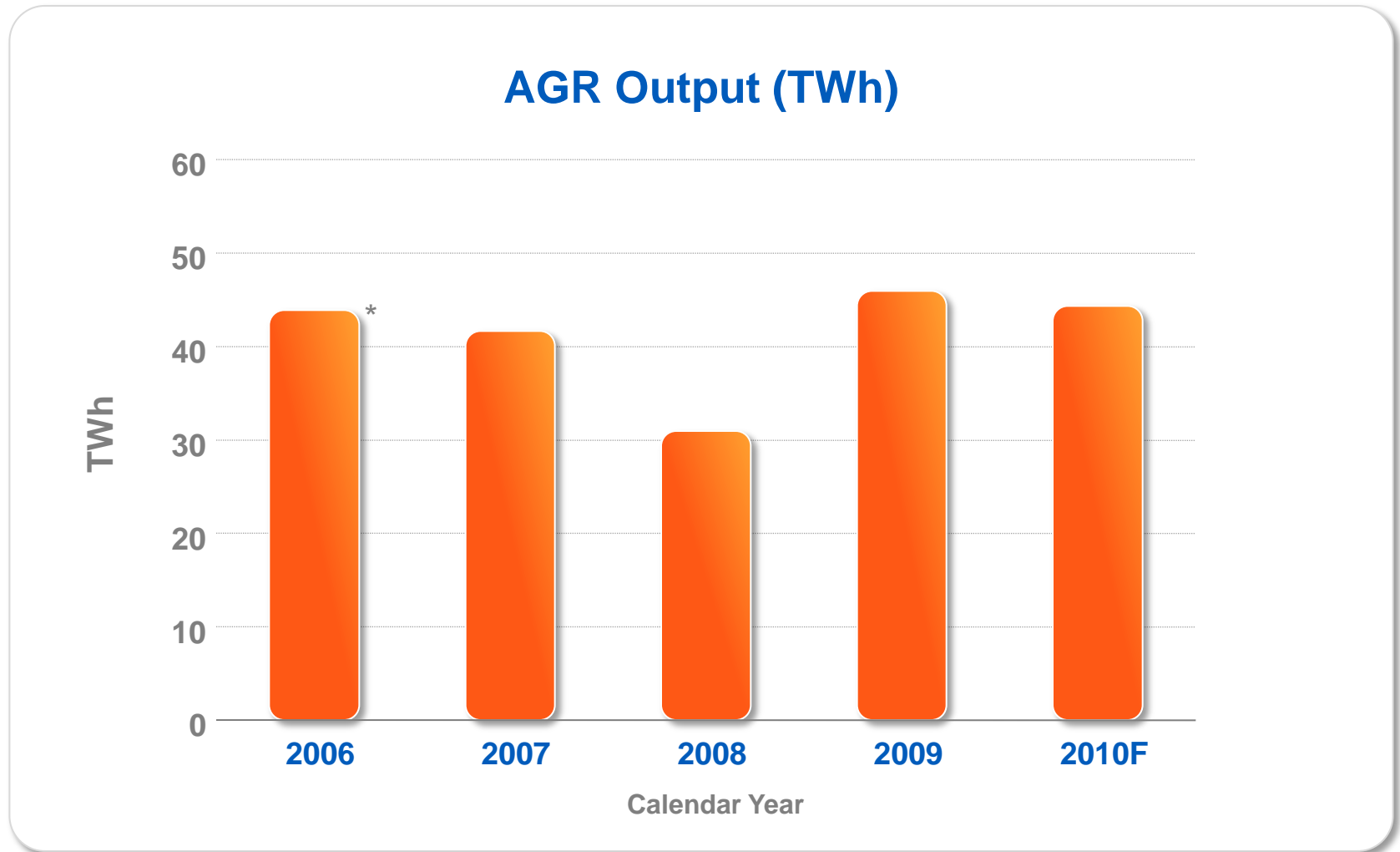
# Key topics

- Update on 2010 performance
- Medium term ambitions and expected performance
- Plant life extension strategy

# 2010: a challenging year with a good underlying AGR performance

- **2009 - a successful year** in terms of nuclear output with output at **55.1TWh** being 1.5TWh better than plan
- 2010 - a more challenging year in terms of nuclear output
- Significant losses have come from a handful of large loss events:
  - Sizewell B Pressuriser c.6TWh
  - Heysham 2 ISI Plug c.3TWh
  - Dungeness B R21 Header Inspections c.3TWh
- **Underlying AGR fleet output comparable to 2009** and better than recent years
- **Safety performance remains very strong** and improving
- **Heysham 1 and Hartlepool additional 5-year life extension** now announced

# 2010 AGR output is comparable to 2009



\* 2006 has been normalised for Hinkley Point B and Hunterston B boiler restrictions

# Sizewell pressuriser - a unique issue successfully resolved

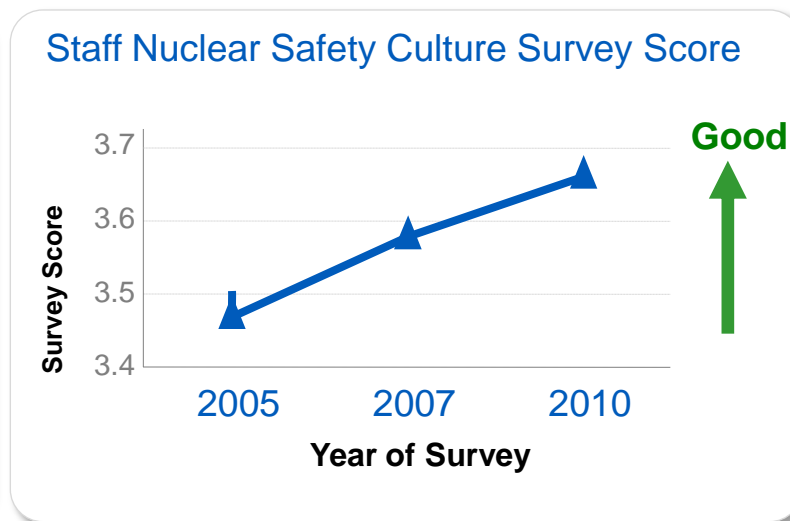
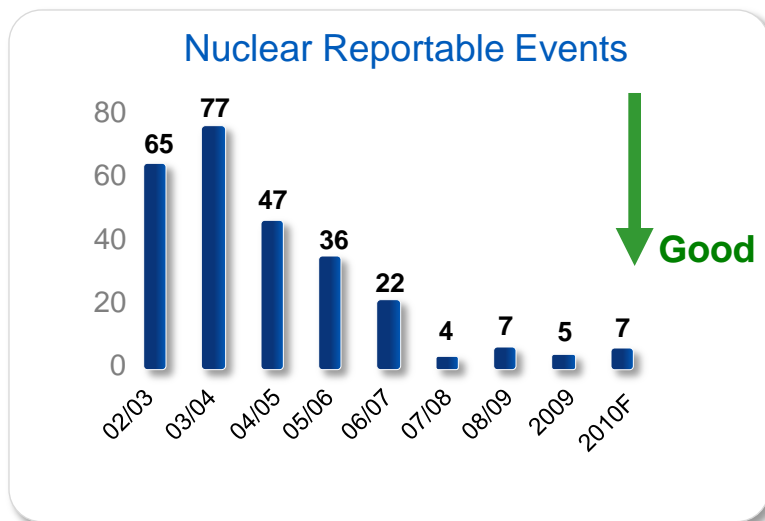
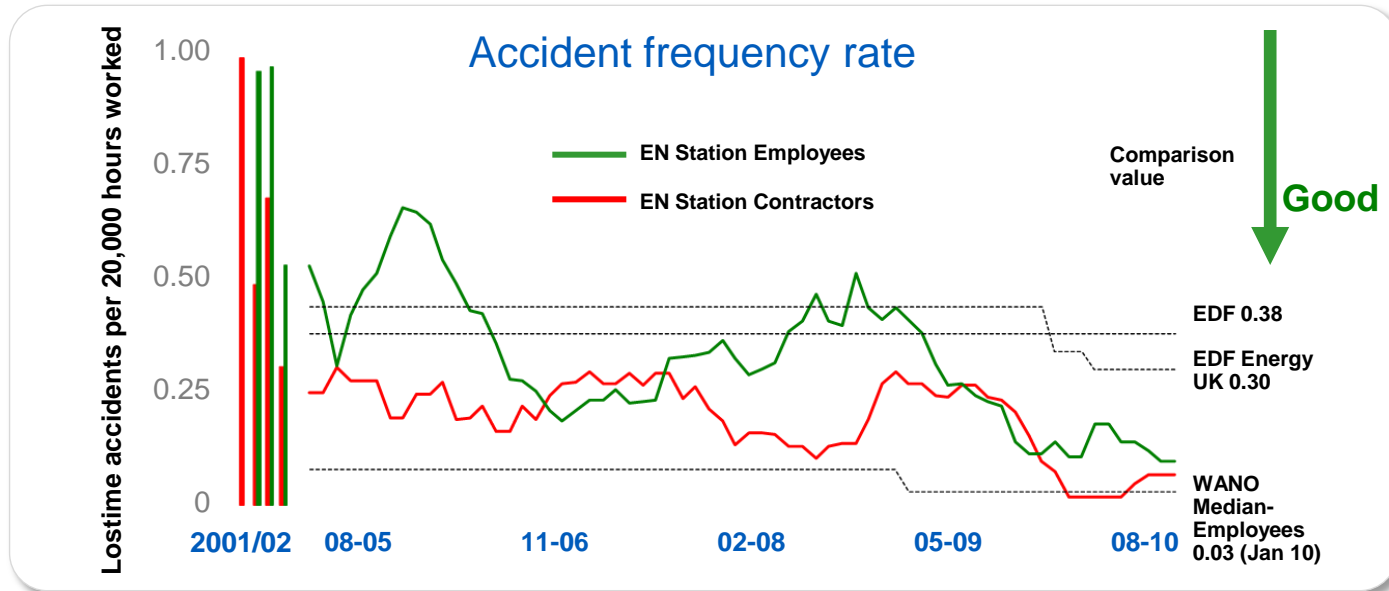
- Defects relate to **Pressuriser heater well inserts**
- There are **78 heater well** inserts which allow insertion of heater elements into the pressuriser
- The heater well inserts are the **Westinghouse** Type 3 design manufactured from a single piece stainless steel forging and are of unique design
- During the next outage in 2011 **these heaters are expected to be replaced** with a problem free design
- **We do not therefore expect further losses** due to this issue



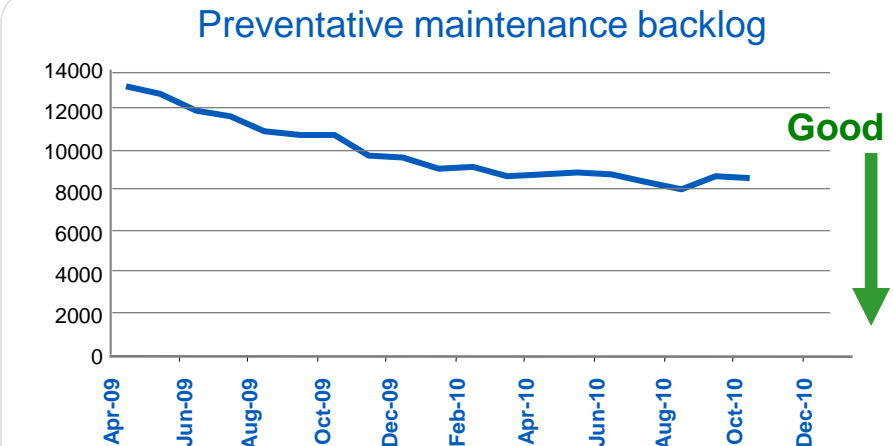
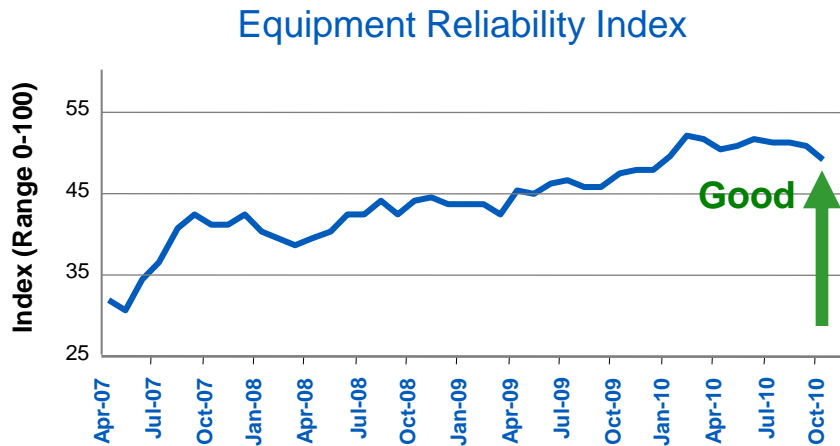
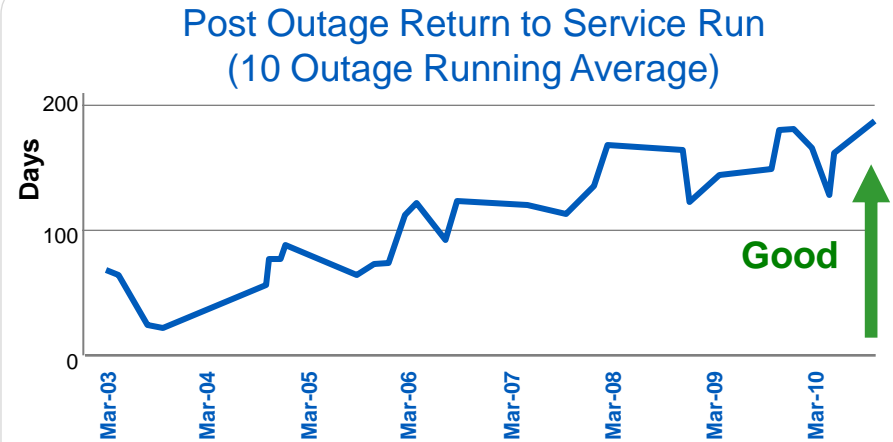
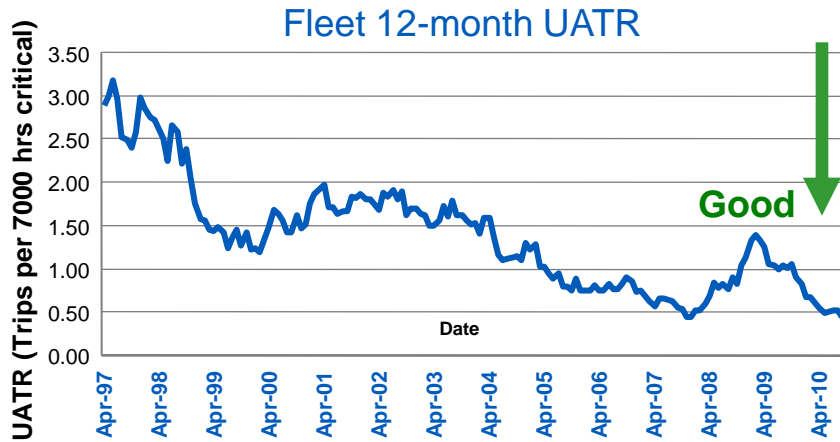
*2000-2009 Sizewell B output*

<i>TWh</i>	
High	<b>10.3</b>
Average	<b>9.1</b>
Low	<b>8.5</b>

# Safety indicators have improved significantly



# Underlying nuclear output indicators continue to improve



# Existing Nuclear has a clear plan to maximise performance and long term value

## Performance Objectives

- Existing Nuclear's key objectives
    - Improve operational excellence
    - Maintain adequate nuclear investment (around £300m in 2010)
    - Train and prepare people to support new build program
    - Deliver integration synergies
    - Consistently achieve nuclear output above 55TWh
- 

## Strategic target

- Main strategic aim: secure plant life extension
  - Extend the lives of our AGR fleet by an average of five years and Sizewell B by 20 years
  - Further life extensions could help avoid c.4GW of new fossil generation required in the UK before 2018
  - It may also provide flexibility in the crucial objective of retaining skilled operational workforce

# Three strategic levers for delivering our ambitions

- **PEOPLE** - Nuclear professionals doing the right things
  - Sufficiently qualified/experienced staff to support Existing Nuclear and NNB
  - Strong leaders driving the business
  - Building sustainability and diversity
- **PLANT** - Safe and reliable plant
  - Optimise deployment of engineering services
  - Drive efficiency improvements
- **PROCESS** - Fit for purpose systems and processes
  - Examine core processes, ensure internal control, monitor risks
  - Deliver synergies

# Nuclear output target for future years

- Focusing on People, Plant and Process is delivering results
- Future investment will continue at around £300m per annum
- The objective is to eliminate small losses and prevent large losses
- Delivery of further life extensions is expected

**We are targeting nuclear output  
of more than 55TWh in future years**

# On track to deliver integration synergies

- **Total synergies** announced at the time of the British Energy acquisition, €200m over three years to 2011
- We expect to have delivered across EDF Energy **over £150m (c.€180m) by year end**
- Synergies specifically within Existing Nuclear are being delivered in the following areas:
  - Lower **nuclear insurance** costs
  - **Nuclear fuel** synergy from bringing together favourable contractual positions of British Energy and EDF Group
  - **EDF Group technical input** into the resolution of the Hot Box Dome issue at Heysham 1 and Hartlepool
  - **IT synergies**
  - Costs avoidance (e.g. engineer recruitment costs, training centre set up costs, cash collateral costs,...)
- **Other areas of synergies:** outage management, training and Human Performance, engineering

**We are on track to deliver and even exceed acquisition synergy targets**

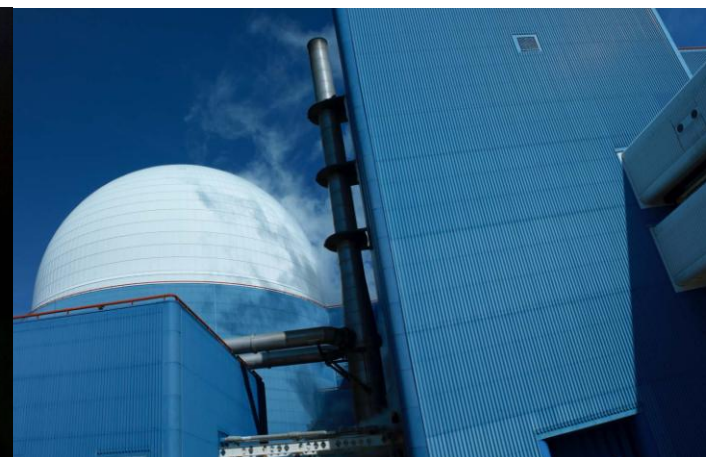
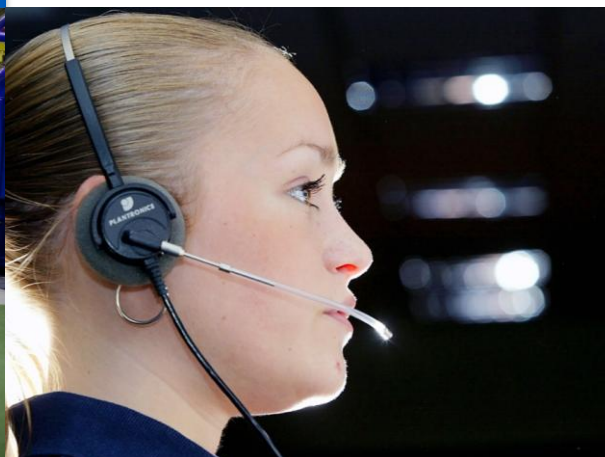
# Aim to achieve 5-year extension for AGR on average

Power Station	Start of Generation	Scheduled Closure Date	Accounting Lifetime	Scheduled Periodic Safety Review
Hinkley Point B	Feb 1976	2016	40 years	2017
Hunterston B	Feb 1976	2016	40 years	2017
Dungeness B	Apr 1983	2018	35 years	2018
Heysham 1	Jul 1983	<del>2014</del> 2019	<del>30 years</del> 35 years	2019
Hartlepool	Aug 1983	<del>2014</del> 2019	<del>30 years</del> 35 years	2019
Torness	May 1988	2023	35 years	2020
Heysham 2	Jul 1988	2023	35 years	2020
Sizewell B	Feb 1995	2035	40 years	2015

- Consistent with British Energy acquisition target
- Life extension will require minimal incremental capex (c.£50m per plant (c.£25m/reactor) on average)
- 20-year extension will be targeted for Sizewell B

# Key conclusions

- 2010 has been a challenging year but mostly because of a one-off issue at Sizewell B. Allowing for that impact, 2010 would be as good a year as 2009
- Existing Nuclear have clear ambitions and a plan to consistently achieve a nuclear output above 55TWh
- Existing Nuclear is on track to deliver an average of five year Plant Life Extension across the AGR fleet



17 December  
**2010**

# EDF in the UK

## Investor workshop

### Nuclear New Build EDF Group strategy

Hervé Machenaud

*Group Executive Vice President  
Generation and Engineering  
and Asia Pacific President*



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# EDF's leader position in nuclear generation



Source: companies' internet websites - EDF's 2009 Document de Référence

(\*) EDF SA and affiliates (pro-rata values), restated for EnBW

# EDF's strategy in nuclear

- EDF's strategy is :
  - ➔ to leverage operational experience from the French fleet (more than 1,400 years-reactors)
  - ➔ and to benefit from the feedback from the construction/operation of new nuclear power plants (NPPs) worldwide
- EDF wishes to accompany countries/players who are launching new civil nuclear power programmes, acting as an architect/engineer, and also as an investor in targeted countries

## EDF strongly believes:

- One's ability to efficiently operate a nuclear plant is enhanced when one has actually built it
- Building a new nuclear plant is easier if one has already operated one

# EDF's business model in nuclear



- Project Management (schedule, cost, quality, interface management, risk analysis...)



- Licensing process
- Definition of general technical codes and specifications



- Definition of contract allotment, contract specification technical contract management



- Manufacturing surveillance
- Construction on site and commissioning test management
- Optimisation between construction and future operation

# Conditions precedent for EDF to accompany a country wishing to launch a new nuclear programme

- Positive government support and public acceptance
- Stable and transparent regulatory framework
- Available local partners
- Availability of sites
- Manageable market risk and profitability prospects
- Suitable grid connection conditions
- Available local industry and human resource skills

# EDF's nuclear projects

France  
**Flamanville 3**  
2014

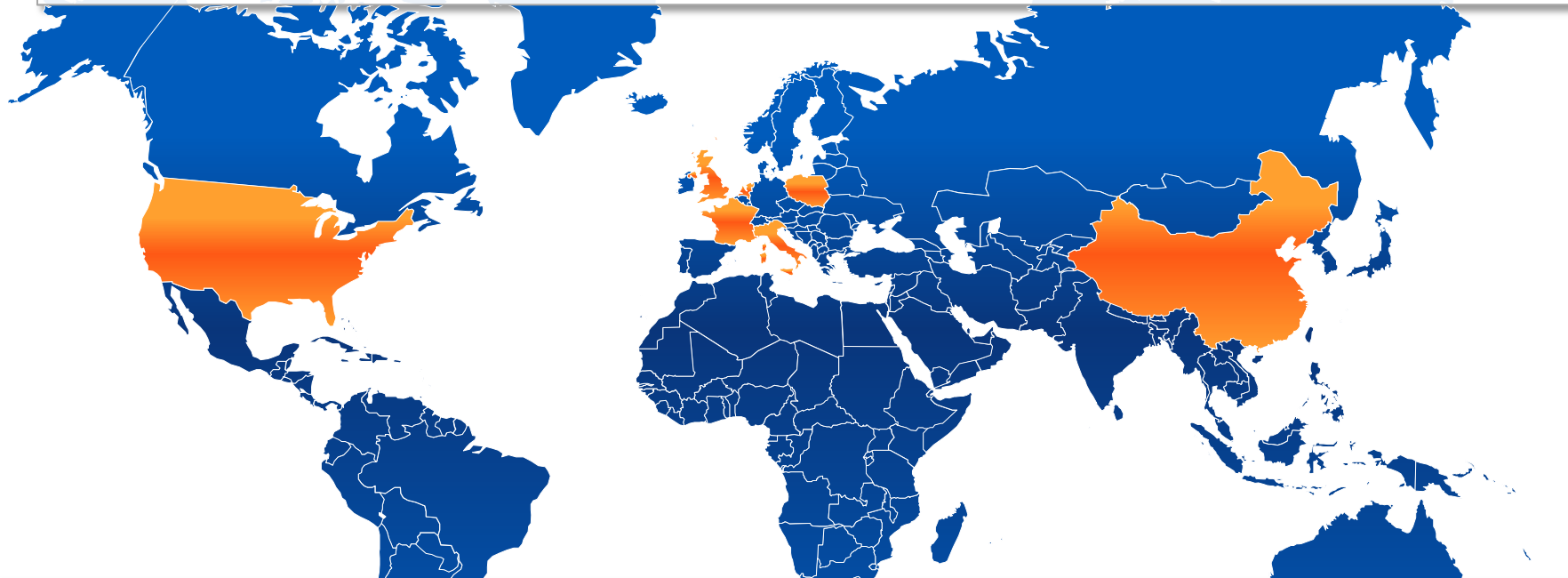
**Under construction**

China  
**2 EPR in Taishan with CGNPC**  
1<sup>st</sup> unit in 2014

France  
**Penly 3**

**Under development**

United Kingdom  
**Up to 4 EPR (Hinkley Point & Sizewell)**



**Under "pre-development"**

USA  
**Calvert**  
**Cliffs 3**

Italy  
**Development agreement with ENEL**  
**for the construction of 4 EPR**

Netherlands  
**Feasibility study**  
**agreement with Delta**

Poland  
**Feasibility study**  
**agreement with PGE**

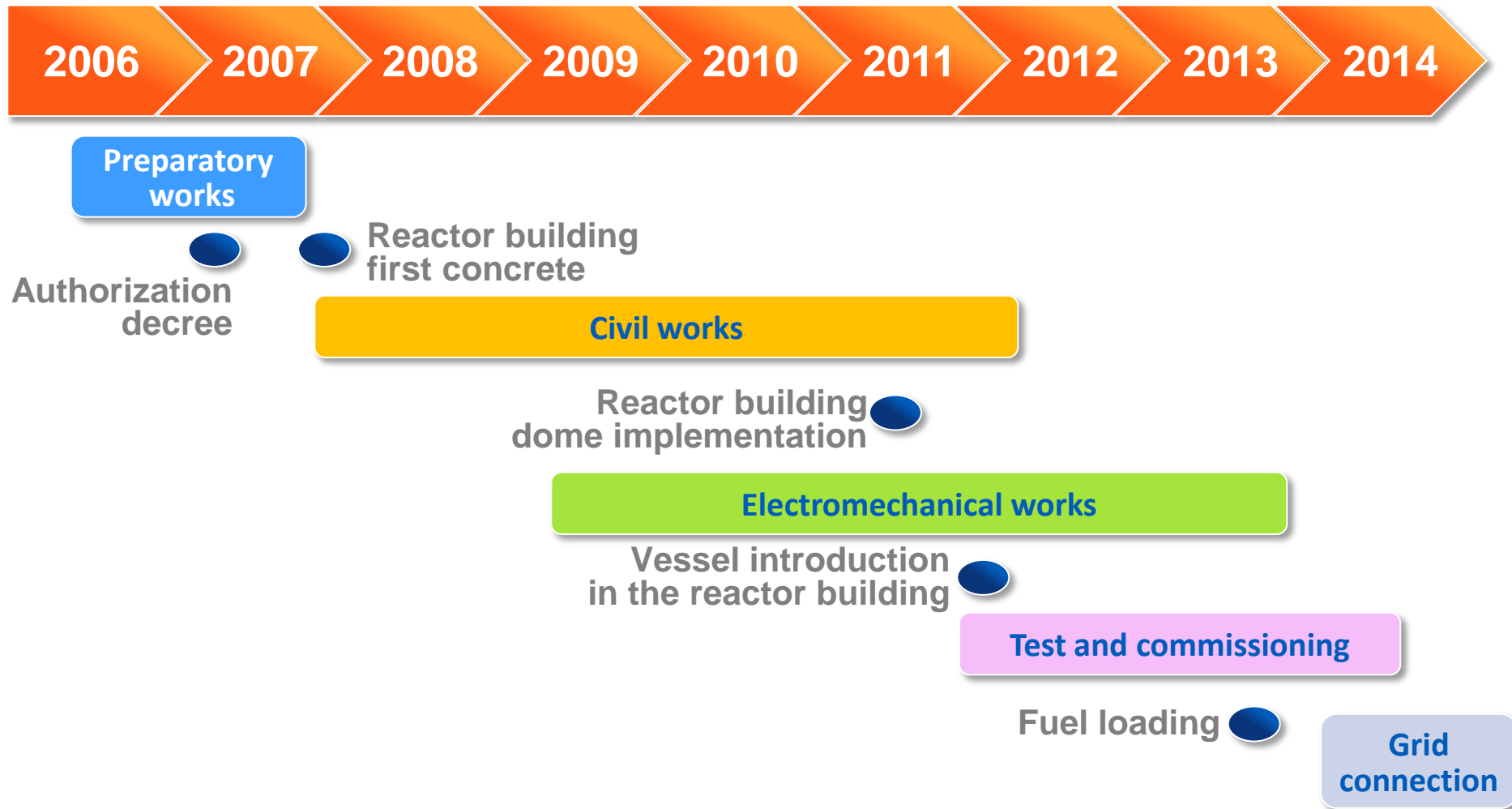
# France : Flamanville 3

## The first EPR reactor of a series of several projects

- Start of marketable operations targeted for 2014
- Construction costs c.€ 5 billion
- Significant progress made in the construction
  - Discharge tunnel completed
  - Issues related to steel rebars and liner solved
  - Last step of Main Civil Works in progress
  - Beginning of electromechanical assembly

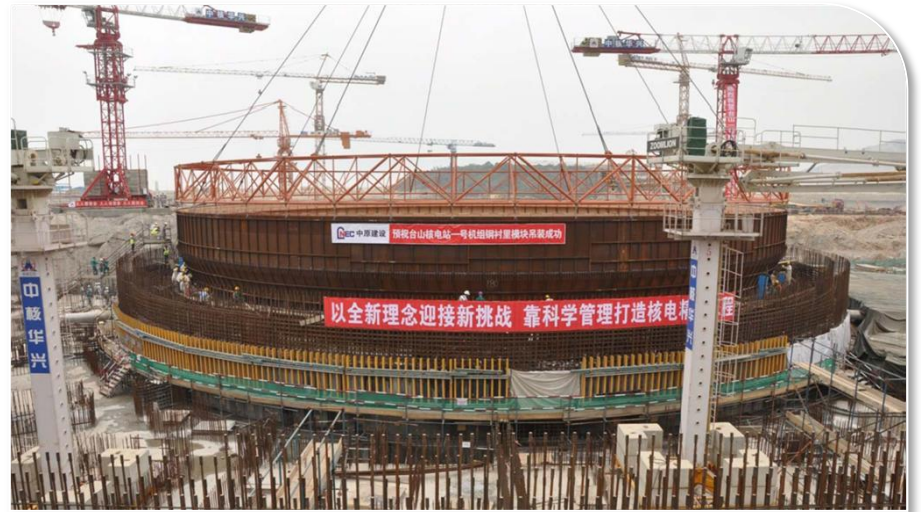


# Flamanville EPR milestones



# China : Taishan 1 & 2

- EDF is co-investor/operator with CGNPC for 2 EPR in Taishan
- The Taishan project uses Flamanville 3 as a reference model after taking into account the initial feedback  
Concrete pouring methods and liner welding procedures took advantage from Flamanville's feedback
- The Taishan project is on time:
  - First concrete poured in October 2009 for unit 1 and April 2010 for unit 2
  - Lifting of the module 1 of the liner of the reactor building of unit 1 in March 2010
  - Commissioning date expected in 2014

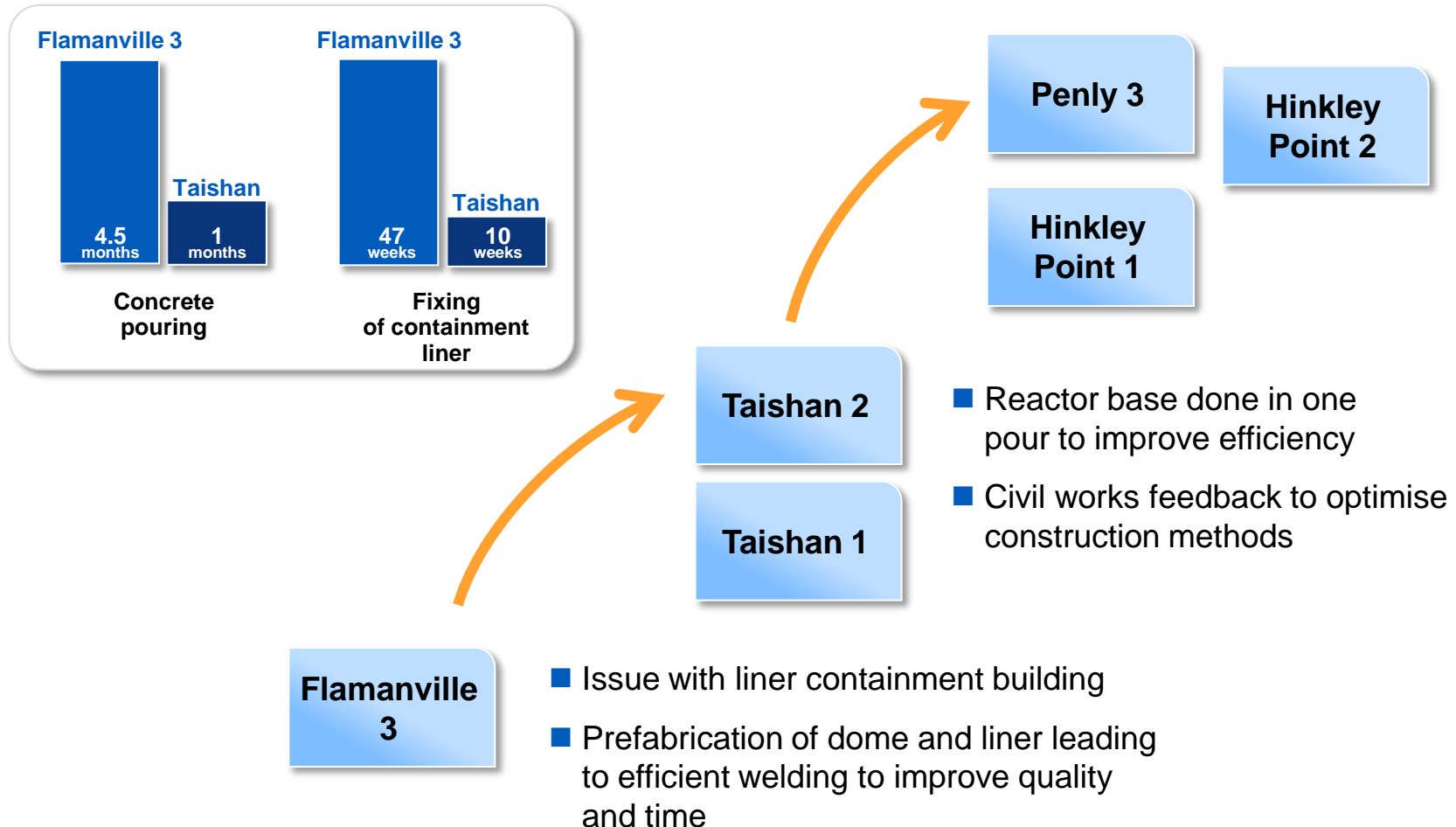


Taishan 1 : Liner module 1 lifting March 2010

# A positive series effect

- **Building twin units on a same site** results in savings
  - **Cost sharing of all the licensing and the "First Of A Kind" engineering**
  - **Learning curve effect** on design, procurement and construction
  - **Common site works** and buildings (including land preparatory works)
  - **Sharing of equipment and services for operations**
- **Launching a programme of several standardized units in the same country enables additional cost reductions**
  - **Enhanced use of learning curve**
  - **Development and optimisation of industrial capacities** (procurement and supply of the equipment)
  - **Further economies of scale** on operational, maintenance and spare parts resources

# EPR: a series of several projects that will benefit from the feedback from one project to another

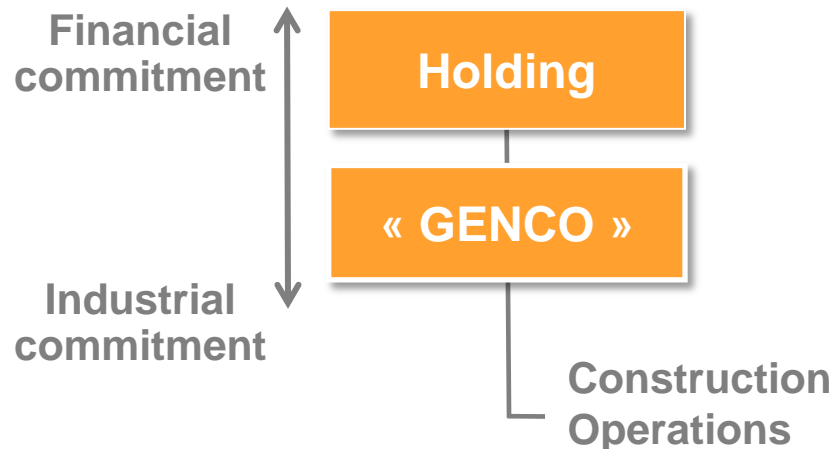


# Several reactors and business models

## ■ Reactors

- **EPR**, using Flamanville 3 and Taishan feedback as well as further optimization  
An international workshop “EPR Family” has been set up to share construction feedback and operating preparation
- **Other PWR reactors** to be developed to meet diverse requirements in the world, including a 1,000 MW reactor

## ■ Business model example

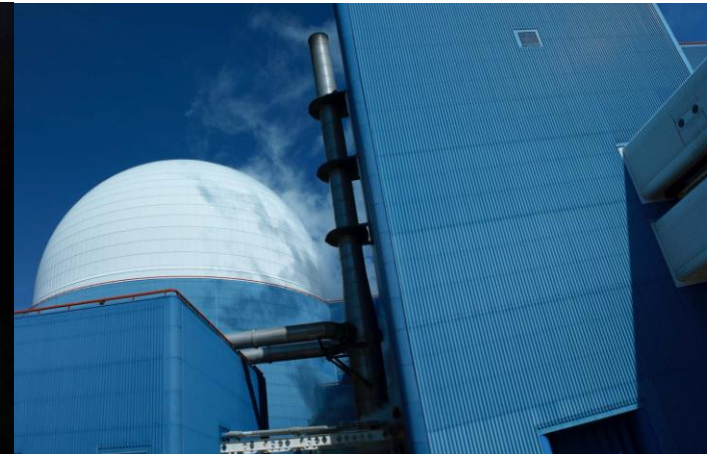
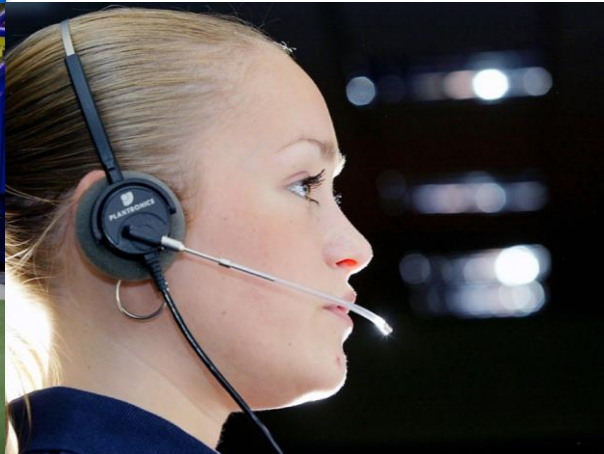


# A key issue for the success of nuclear projects: global HR management

- More than 1,000 people within EDF Nuclear Engineering Division dedicated to EPR activities for France, UK, China and other new build projects (30 French engineers in the UK, 43 in China)
  - Cooperation on nuclear staffing, specially between France and the UK for workforce plans, recruitments and training
  - Exchanges of people between countries
  - Common EPR training programs
- More than 2000 recruitments per year in 2010-2013 to anticipate skills needs in nuclear area
  - Promotion of nuclear jobs towards young people
  - Development of partnerships with universities in France, the UK, the USA, Italy
  - Nuclear Power Academies in France and the UK

# UK: a strong strategic fit for EDF new nuclear strategy

- Strong commitment to Nuclear New Build in the UK demonstrated by the Government
- Leverage of EDF Energy's presence in the UK as well as sites and expertise following British Energy's acquisition
- Significant progress with Generic Design Assessment of EPR technology that will enable UK EPR plants to be built as part of a fleet of EPR reactors



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# EDF in the UK

## Investor workshop

### UK Nuclear New Build

Humphrey Cadoux-Hudson

*Managing Director, Nuclear New Build,  
EDF Energy*



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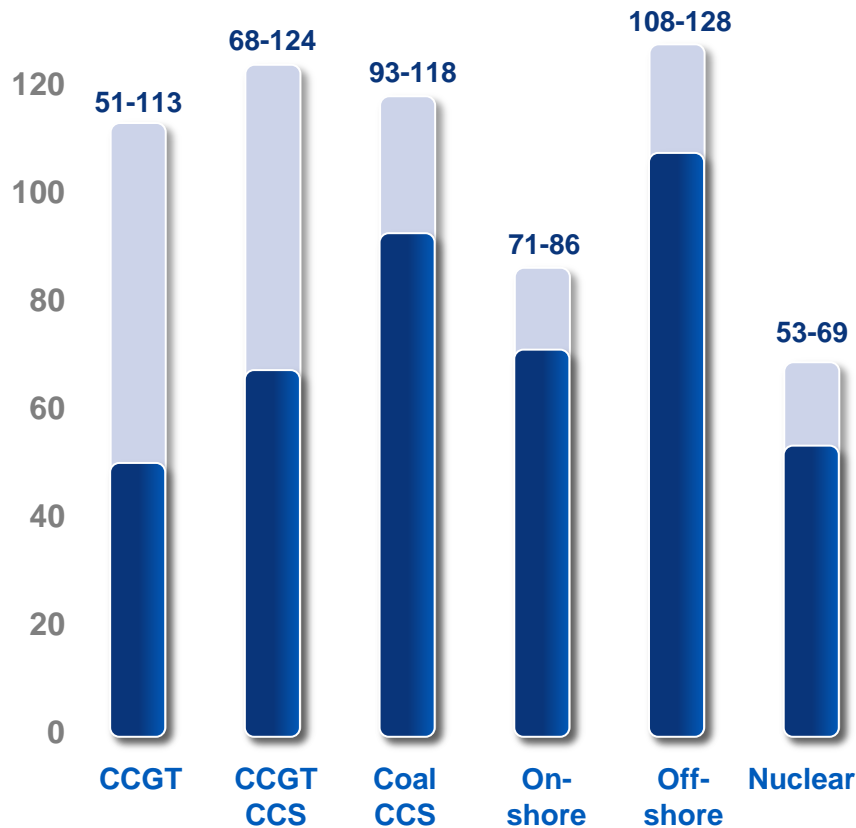
# New Nuclear is needed to address all three main energy challenges in the UK

- **Security of supply:** Nuclear New Build (NNB) provides reliable baseload generation
- **Climate change:** NNB is mostly carbon free
- **Affordability:** NNB is the lowest cost proven low carbon technology

**UK Government is setting a strong framework  
for new investment in the UK**

# New nuclear is the lowest-cost low-carbon technology

Range of Levelised Costs of Production (£/MWh) in 2009 real terms  
Projects starting from 2017 and 2023 - 'Nth of a Kind'



- Source: independent study commissioned by DECC
- Nuclear is projected to be the lowest-cost low-carbon technology
- Under a low commodity price/ low carbon price, CCGT is likely to be the most competitive technology
- Build-out of CCGT will lead to missing decarbonisation targets

Source: DECC (based on Mott Macdonald Report – June 2010)

Note: These ranges include costs of projects with start dates of 2017 and 2023 with a discount factor of 7.5% or 10%;

includes both low and high commodity price scenarios from DECC

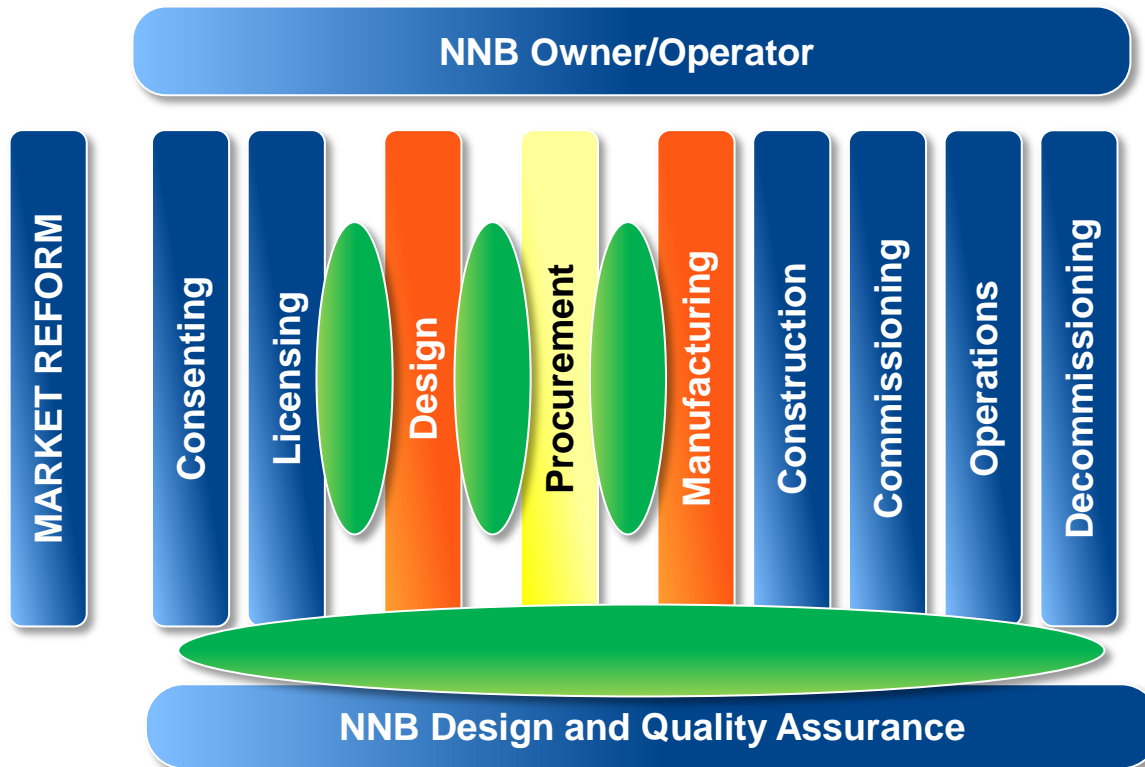
Coal with CCS includes pulverised coal plant with post combustion only

Offshore wind includes Round 3 projects only

# We aim to build up to four nuclear power stations in the UK

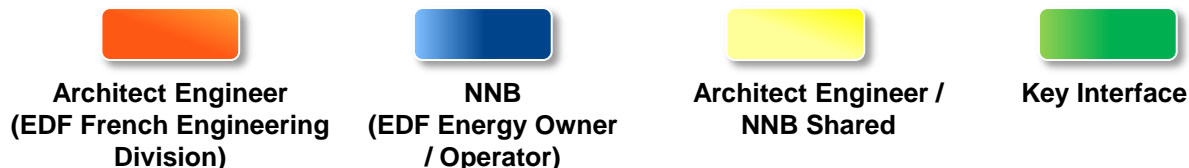
- **Our plan: up to four nuclear power stations subject to receiving the necessary **consents** and to a robust **investment framework** being in place**
- Targeted locations:
  - Twin at **Hinkley Point** (first unit commissioned by 2018)
  - Twin at **Sizewell** (subject to ongoing studies)
- Build on EDF Group's fleet effect and feedback: **Flamanville 3** and **Taishan 1&2**
- **Centrica 20% partner** with a potential for further partnership

# Our project organisation is up and running



- Organisation up and running and working as one team
- EDF Energy and the Architect Engineer<sup>(1)</sup> working to incorporate lessons learnt from earlier EPR projects
- Clear responsibility and accountability

*(1) EDF French Engineering Division*



# Setting up the ground work for a successful project

- Creating a strong relationship with Nuclear Installations Inspectorate (NII)
  - NII GDA (Generic Design Assessment) team and process established
  - Draft Nuclear Site Licence (NSL) submitted in April 2010 to NII
- Preparing development at Hinkley Point
  - Stage 1 and 2 consultation process completed
- Assessing Sizewell
  - Testing the site and confirming potential development

# Significant progress has been made with Government, regulators and suppliers

## ■ Government Policy

- Draft National Policy Statement (NPS) includes new nuclear requirement
- Carbon floor price and market reform on agenda

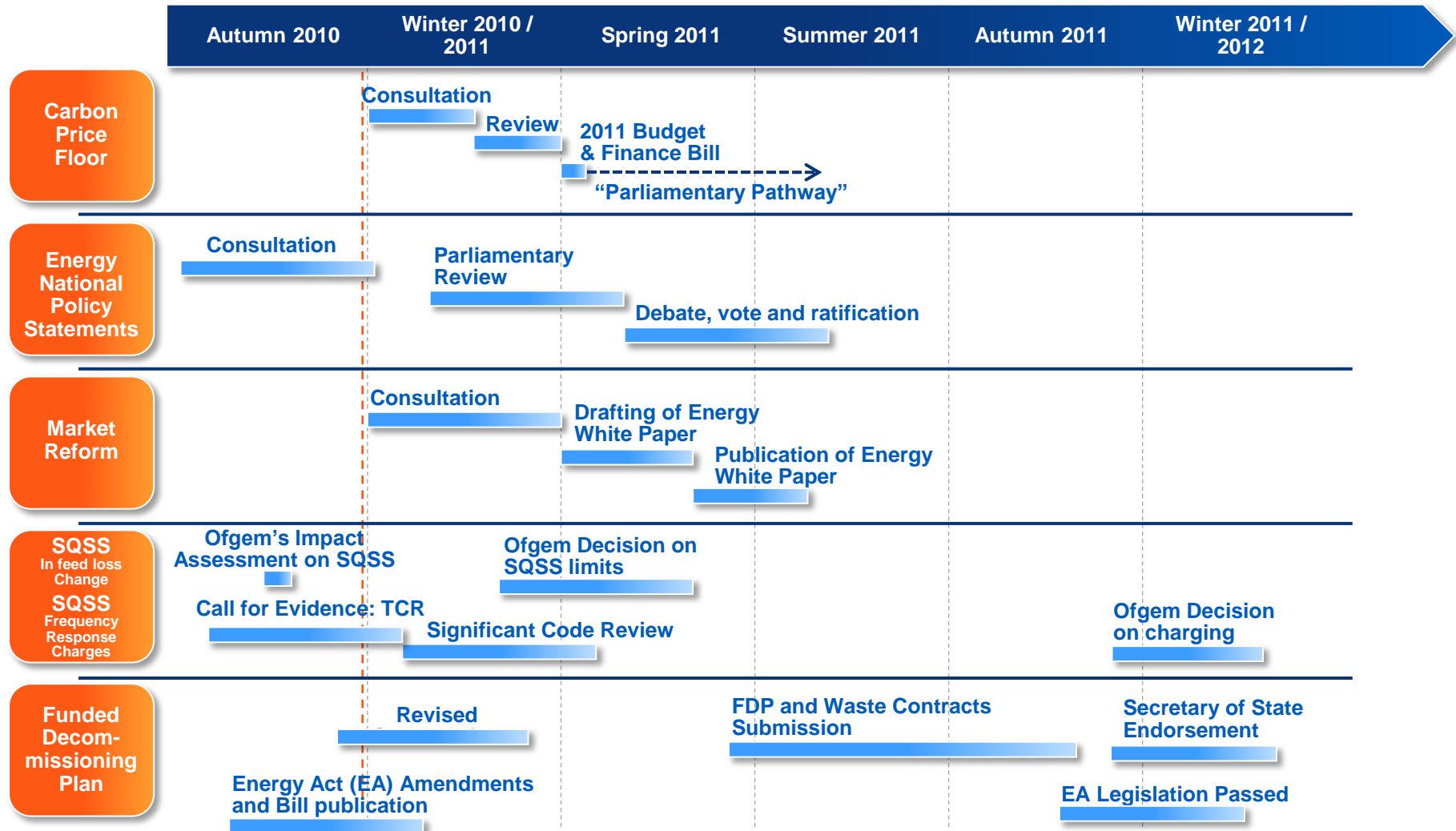
## ■ Generic Design Assessment (GDA)

- Report issued to Health and Safety Executive (HSE) in October 2009 (Step 3 of 4 in process)
- Resolution on Instrumentation and Control (I&C) design
- Regulators believe all known issues can be resolved (August 2010)

## ■ Supply Chain

- High profile supply chain events held through 2010
- Site works, grid connections and reservation of forgings commenced

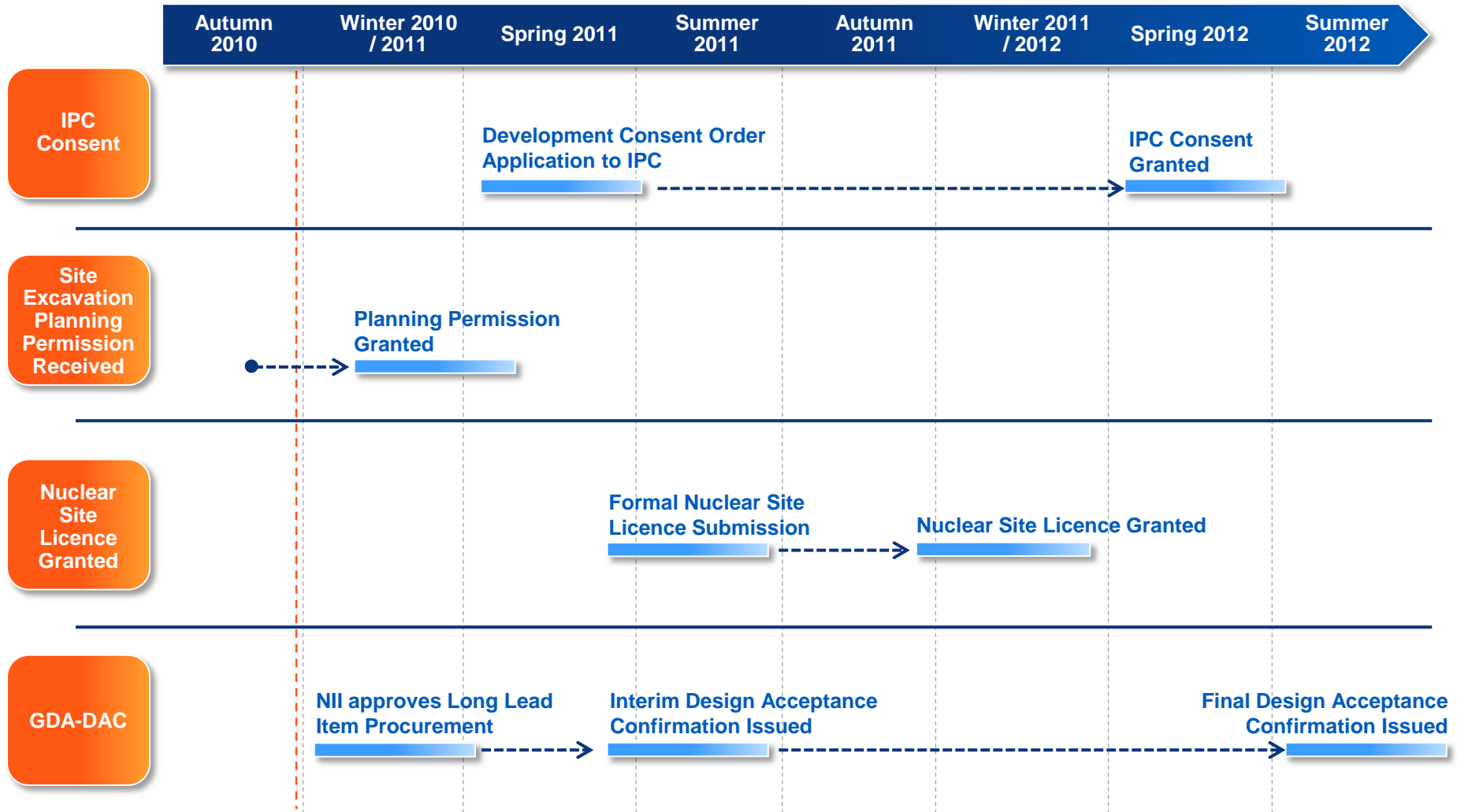
# Key Risk Milestones to be met before Final Investment Decision: traffic lights (1/2)



SQSS: Security and Quality of Supply Standard

Note: December 17th 2010 is denoted by - - - - -

# Key Risk Milestones to be met before Final Investment Decision: traffic lights (2/2)

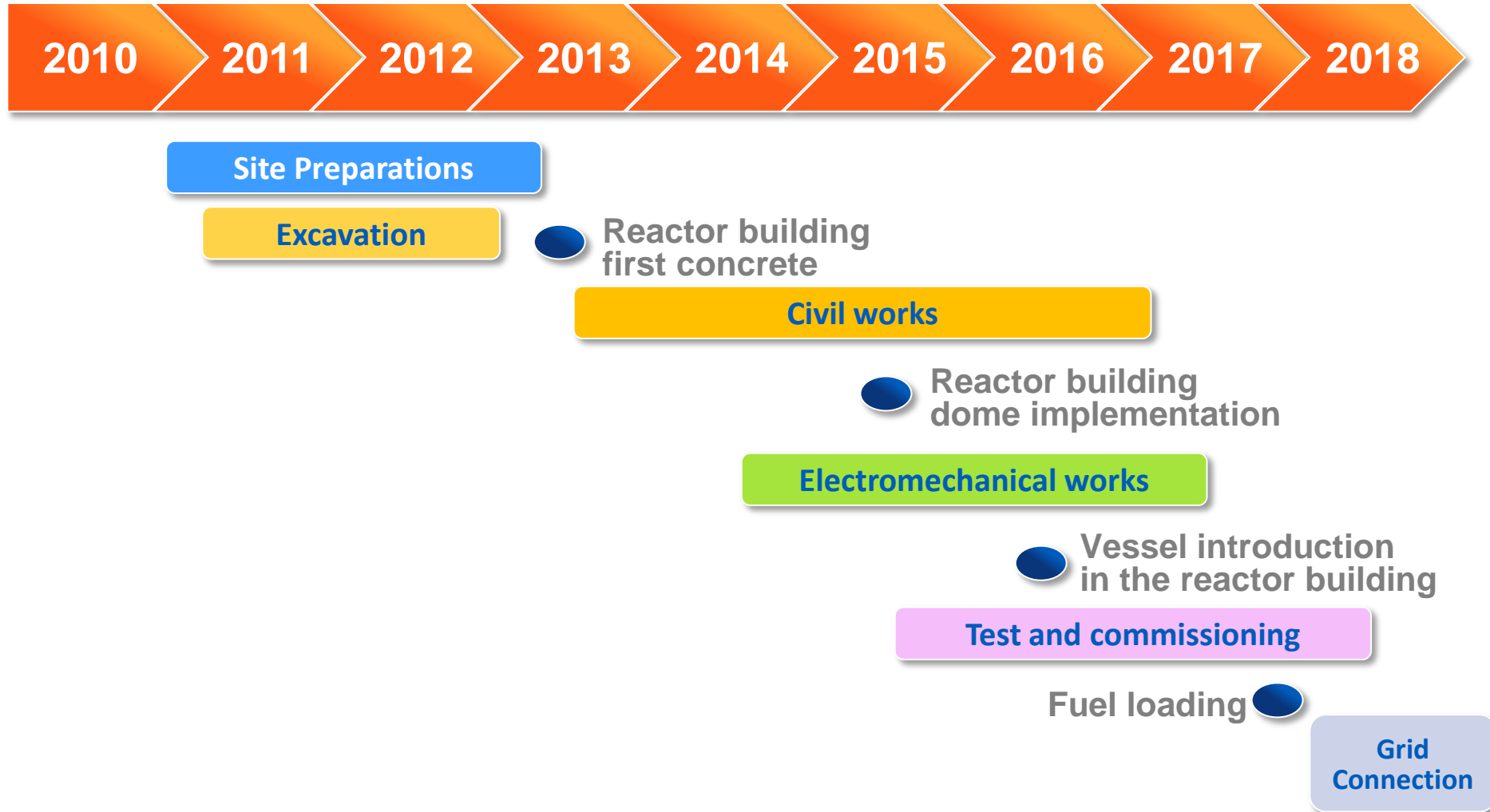


IPC : Infrastructure and Planning Commission

GDA-DAC: Generic Design Assessment

Note: December 17th 2010 is denoted by - - - - -

# Hinkley Point EPR Unit 1 Milestones



# Key Assumptions which will form part of our Investment Case

## ■ Operational:

- Operational start - EPR 1, 2018; EPR 2, 18 months after
- Operating Life - 60 years

## ■ Construction:

- Based on Flamanville 3 design, updated for UK specifications
- Reflects UK tendered contracts (e.g. Nuclear Steam Supply System and turbine generator)

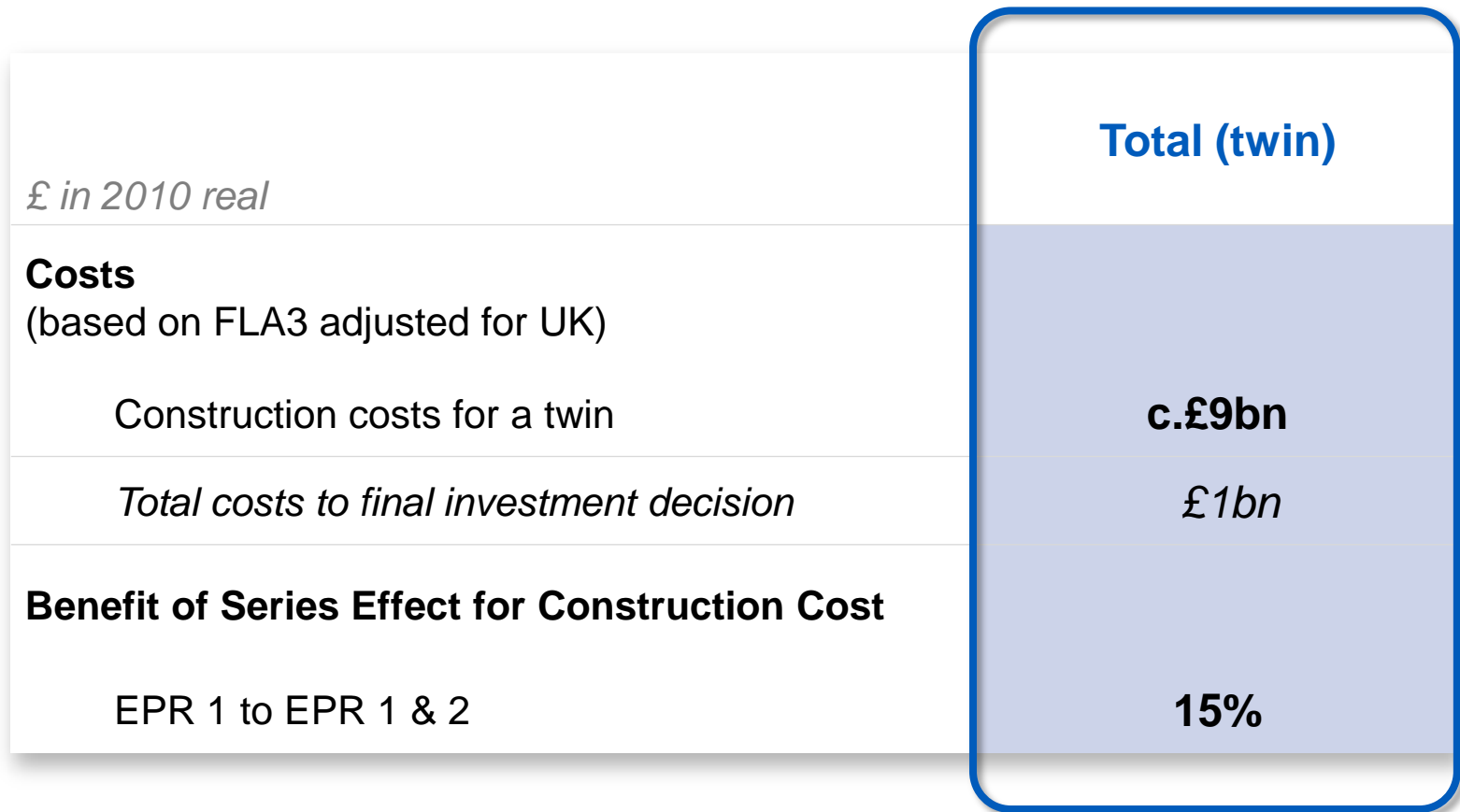
## ■ O&M:

- Based on experience of French fleet, updated for UK specifications
- Include fuel, ongoing O&M, transmission costs, insurance and business rates

## ■ Waste and Decommissioning:

- Based on Funded Decommissioning Plan being negotiated with UK Government

# Series effect significantly brings down construction costs for the first twin at Hinkley Point



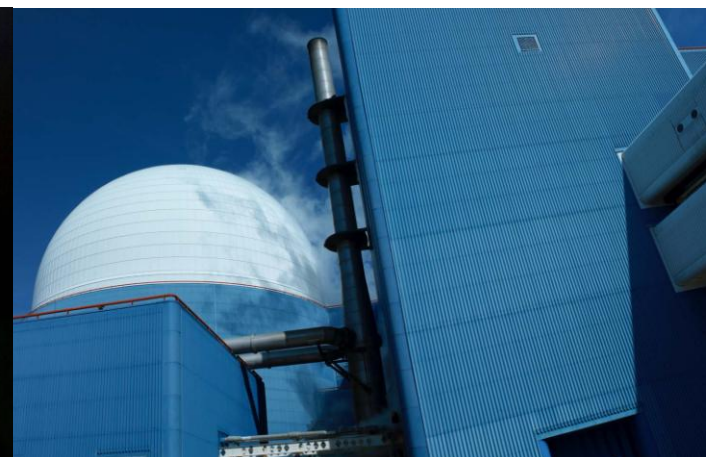
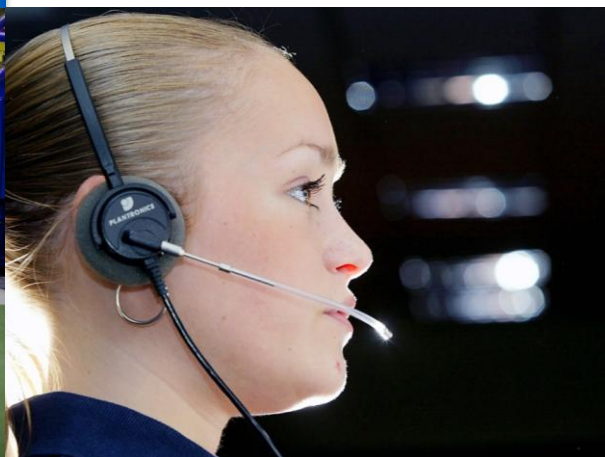
# Market reform impact is a positive step towards a final investment decision

- Carbon price floor would limit revenue risk in low commodity price scenarios
- Capacity payment would set an absolute profitability floor protecting the recovery of sunk costs
- De-risking of the investment decision

**Targeted minimum IRR > 10%**

# Summary

- UK needs NNB in order to tackle its three energy challenges
- There is strong social and political support for NNB
- EDF Energy is ahead of the game with its NNB programme and on track for commissioning of the first power station in 2018
- Market reform is a first positive step towards securing a minimum IRR
- EDF Energy has developed a traffic light approach to control risk exposure associated with this project



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# EDF in the UK

## Investor workshop

### EDF Energy key financials

Thomas Kusterer

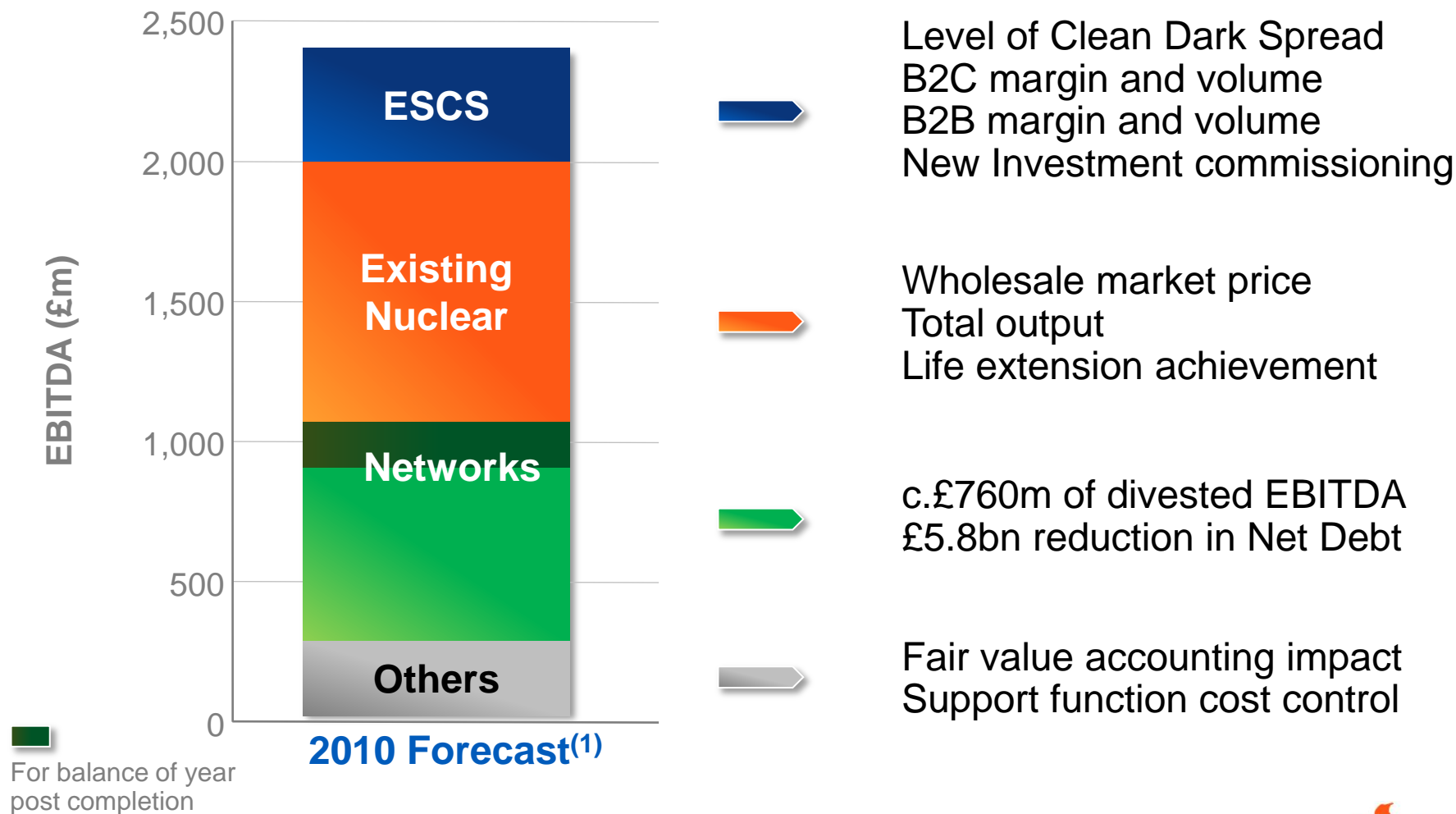
*Chief Financial Officer, EDF Energy*



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# EDF Energy's EBITDA structure and key performance drivers

## Key medium term drivers



(1) Based on 12-month ownership of the Networks

# Networks sale

- On 29 October 2010, EDF Energy completed the sale of its Distribution business to Cheung Kong Infrastructure (CKI)
- **Sale proceeds: £5.8bn** (including debt of £2.6bn)
- The proceeds represent a **27% premium to RAV<sup>(1)</sup>** and an **IRR of 11.2%** since acquisition
- Post sale, EDF Energy will not be impacted by IFRIC 18 accounting as this was solely related to Customer Connections within Regulated Networks

*(1) Based on official RAV on regulated networks as at 31/03/2010*

# Summary of main investment plans\*

- Business as usual capital expenditure includes:
  - ESCS **c.£150m p.a.** fossil plant maintenance and supply IT systems
  - Existing Nuclear **c.£300m p.a.** nuclear plant maintenance
  - Shared Service Centre **c.£20m p.a.** support to various IT projects
- EDF Energy also expects to spend **£50m per plant** for AGR plant **life extension**
- In addition, EDF Energy will continue to invest c.£600m in a wide range of other **Strategic Projects** over the next 5 years

New Projects*	2010	2011-2015
West Burton B (new CCGT)	£260m	£190m
Renewables	£35m	£215m
Gas Storage	£50m	£130m
Customer Relationship Management - B2C	£40m	£15m
Customer Relationship Management - B2B	£6m	£40m
<b>Total</b>	<b>£391m</b>	<b>£590m</b>

\*Excludes smart metering and Nuclear New Build

# British Energy value in use is greater than book value

**£5.2bn**  
Goodwill



**£7.2bn**  
Net assets  
purchased



- Synergy delivery on track with acquisition business case
- Life extension assumptions confirmed as a result of today's announcement on Heysham and Hartlepool
- Plan for up to four new nuclear power stations in the UK currently being developed in partnership with Centrica
- 2009 output above assumed business plan
- 2010 impacted by a one off PWR issue; AGRs output in line with business plan
- Slight downward trend in wholesale prices

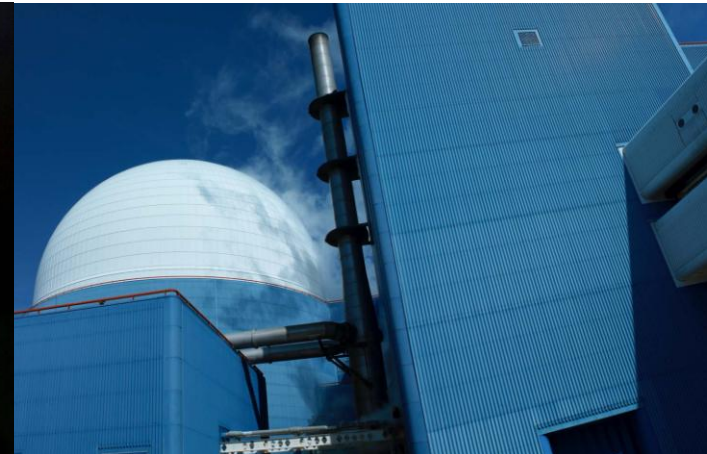
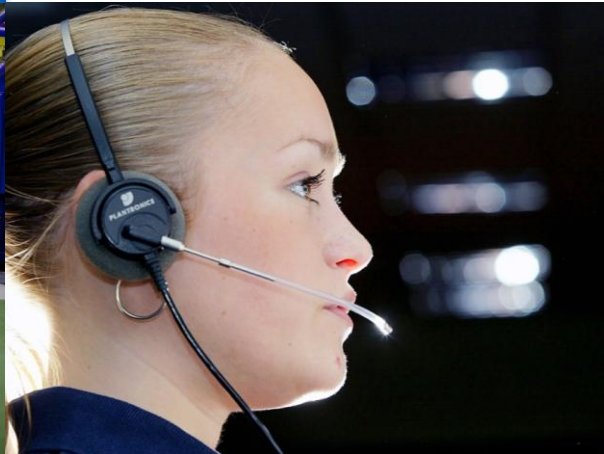
# Fair value accounting

- The fair value adjustments arising on the acquisition of British Energy are broadly broken down into 2 key areas:
  - Unwind of nuclear fuel stock fair value uplift and the fuel contract asset
  - Provision for the mark to market of trading contracts
- A forecast of fair value adjustments to EBITDA for the next five years is as follows:

	2010F	2011F	2012F	2013F	2014F
<b>EBITDA FV Adjustments (£m)</b>	267	150	(71)	(76)	(54)

# Key conclusions

- Underlying EDF Energy EBITDA in excess of £1.5bn
- Maintenance capex of c.£470m p.a. backed by cashflow
- Investment capex plans for growth backed by disciplined analysis and return hurdles
- Ambitious but achievable performance targets



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# EDF in the UK

## Investor workshop

Summary of key UK management priorities

Vincent de Rivaz

*Chief Executive, EDF Energy*



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# Our mission: to bring affordable, low-carbon energy solutions home to everyone

- A robust upstream/downstream equilibrium
  - Largest UK electricity supplier (c.65TWh - c.23%)
  - Largest UK electricity generator (c.15GW - c.21%)
- Major nuclear operator in the UK leading the way in Nuclear New Build
  - 9 GW of capacity with a clear aim for life extension
  - Up to 4 EPR in the UK
- Profitable growth opportunities downstream
  - Dual fuel and energy efficiency services
  - Boost profitability and reduce risks
- Operational Excellence and Synergies at the heart of our model
  - Delivering €200m of integration synergies
  - Significant pipeline of new build projects and major change programs being delivered

# Our Key management priorities

## ■ Market environment and regulation

- Support the UK Government in defining a robust regulatory framework conducive to low carbon investments

## ■ Existing Nuclear

- Achieve a sustainable nuclear output of over 55TWh
- Prepare for 5-year life extension on average for all AGR

## ■ Energy Sourcing and Customer Supply

- Deliver a sustainable 3% B2B EBITDA margin on sales
- Deliver a sustainable 5% B2C EBITDA margin on sales
- Optimize hedging strategy to better cope with market movements

## ■ Nuclear New Build

- First Commercial Operations Date by 2018
- Ensure the success of EPR in the UK
- Control risks and deliver IRR

**Safety is our first priority**

# Synergies are embedded in the way we do business

## Key Group Synergy Topics

### Existing Nuclear

- Nuclear O&M best practices
- Nuclear Fuel Procurement
- Hot Box Dome modelling
- ...

### ESCS

- EDF Trading
- EDF Energies Nouvelles JV
- Smart Meters/ Grid
- European B2B Sales Network
- ...

### NNB

- Architect Engineer
- Procurement
- Fla3 / Taishan
- ...

### Corporate Service

- R&D
- IT infrastructure
- Shared Service operations
- ...

# A focused strategic positioning

## Vision


Leading the energy change

## Mission

*We bring affordable, low-carbon energy solutions home to everyone*

## Ambitions

 To achieve a zero harm safety record

To deliver strong financial performance 

To be a leader in sustainability 

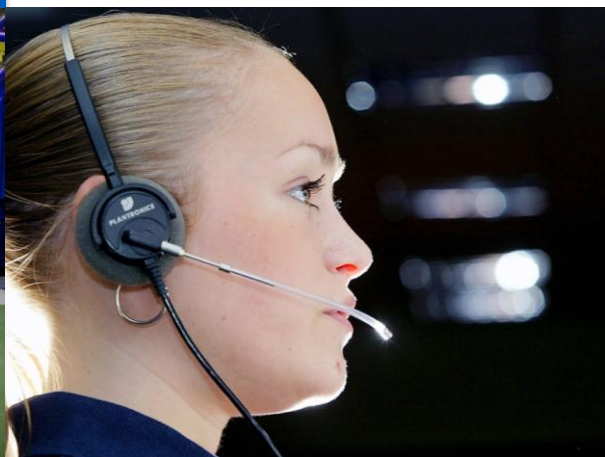
 To be first choice for customers

 To lead the way in nuclear power generation

 To have high-performing people

## Values

- We care for each other, making safety our priority
- We strive for excellent performance
- We put social and environmental responsibility at the heart of everything we do
- We act with integrity
- We work as one team, one company – valuing the diversity of our people



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# EDF in the UK

## Investor workshop

### Conclusions

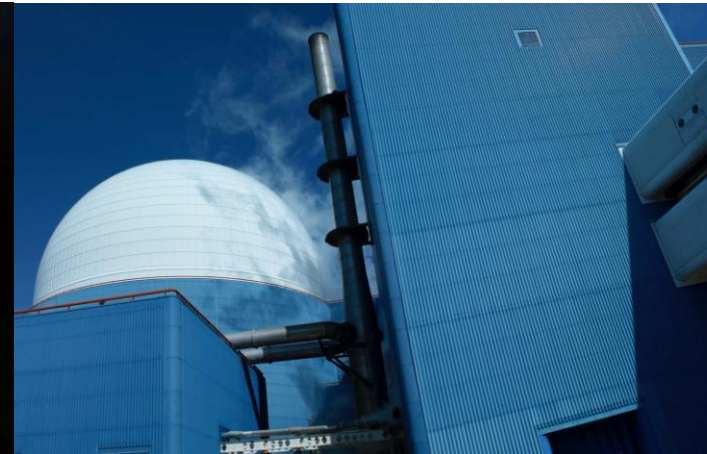
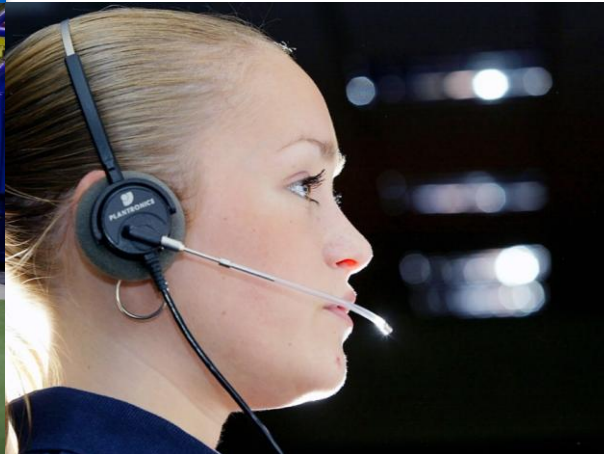
Thomas Piquemal  
*Group Senior Executive Vice President  
Finance*



LEADING THE ENERGY CHANGE

# Conclusions

- Implementation of Group industrial policy
  - Focus on core businesses, organic growth and internal project pipeline
  - Sustained organic growth potential
- Deployment of capital consistent with:
  - Industrial strategy
  - New investment criteria
  - Asset liabilities management
  - Strong debt rating
- Continued dialogue with investment community
  - Feedback on today's workshop
  - Next events (FY 2010 results, medium-term financial guidance in spring 2011)



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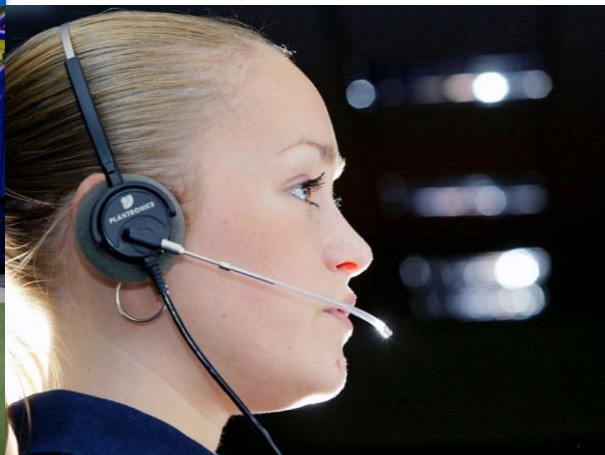
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### Appendix



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An Introduction to the UK  
Renewables Obligation (RO)

John Cockin

*Head of Commercial Delivery*



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# Agenda

- 1 - Historical background of the Renewable Obligation (RO)
- 2 - Overview of how the RO works
- 3 - Cost of the RO to UK utilities
- 4 - Impact of the Energy Market Reform on the RO

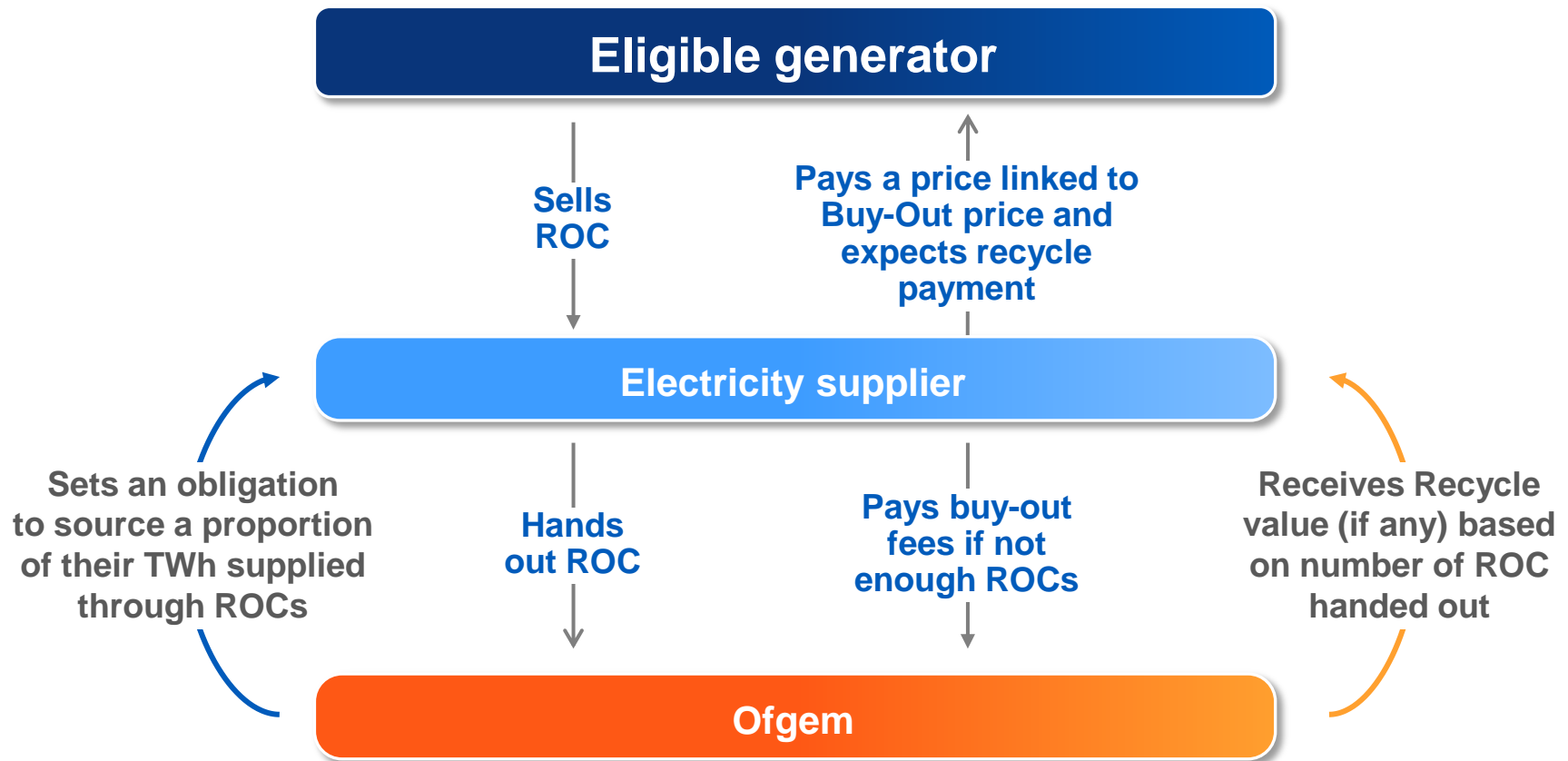
# RO History: 2002- present day

- The Renewables Obligation (RO) is the current main **mechanism for supporting large scale generation of renewable** electricity in the UK
- Introduced in 2002 and **allowed to triple the renewable capacity** in the UK from 1.8% to 6.6%
- Currently **worth around £1.42 billion/year** of support to the industry
- The RO has been subject to various reforms and improvements:
  - Introduction of banding by technologies (April 2009)
  - Extended from its current end date of 2027 to 2037 for new projects (April 2010)
- The scheme is **administered by OFGEM**

# How the RO works

- **Electricity suppliers have an obligation** to source an annually increasing proportion of their electricity sales from renewable sources. The scheme is administered by OFGEM
- Initially the obligation was set at c3% of the total supplied electricity. It **has now risen to 11%** and will reach 15% by 2015/16
- The sourcing is evidenced through presentation of a Renewable Obligation Certificate (ROC), or by paying a penalty, "**the buyout price**"
- The buyout price was initially set at £30 per MWh in 2002 but is indexed to the Retail Price Index so its **current value is c.£37 per MWh** for 2010/11
- Previously, 1 ROC was issued for each MWh of eligible renewable generation however this was changed with the introduction of banding for different technologies

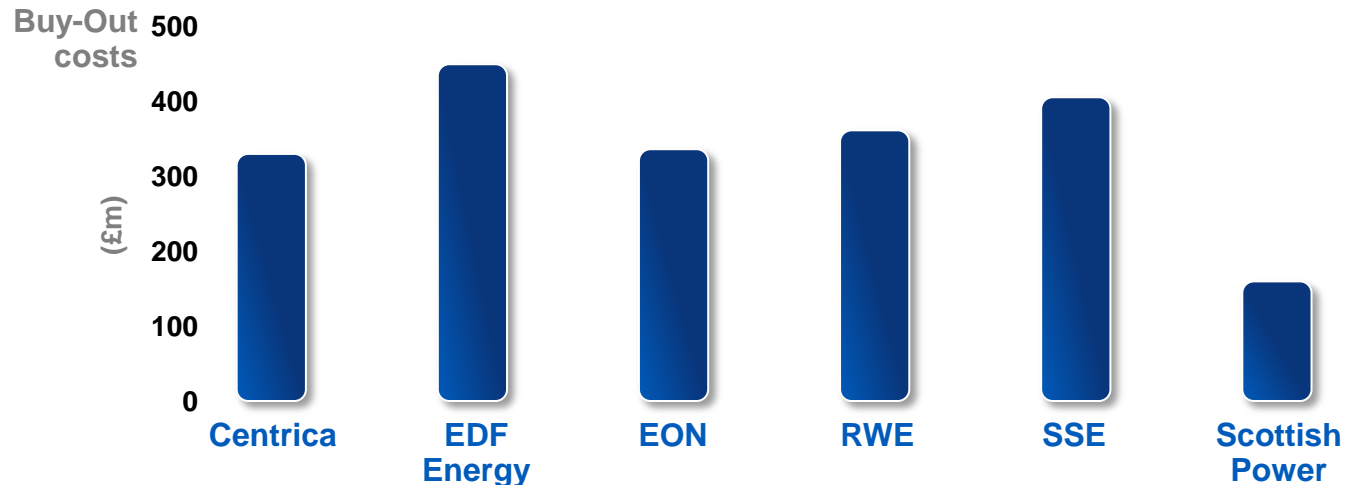
# How the RO works: simplified schematic



# The cost of the Renewable Obligation for the major Utilities

- The total value of ROC + Buy Out fund is estimated at £1.4bn for 2010
- The cost of the renewable obligations to suppliers in 2016 will be c.2.2bn
- Today, the RO is only c.3% of typical consumer bills, but will continue to increase with the rising obligation

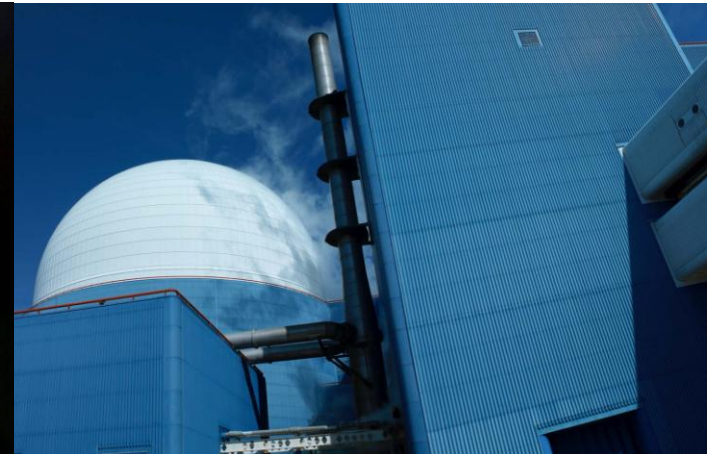
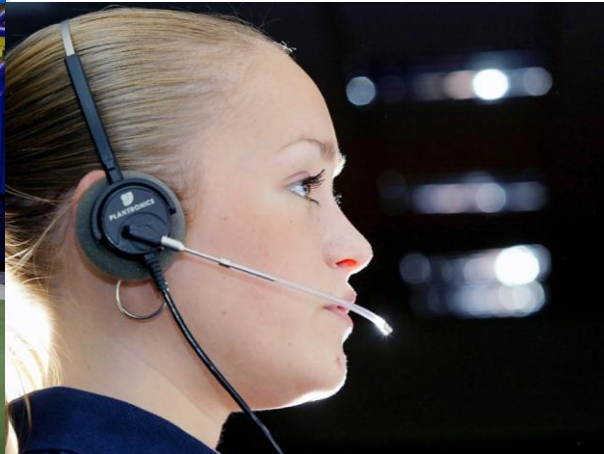
**Comparative Buy-Out costs per major Supplier in the UK in 2016**



Source: EDF Energy

# The Energy Market Reform and Impact on the Renewable Obligations

- The Government plan to **replace the RO with a Contract For Difference (CFD)** which will be providing a fixed all in price of renewable electricity
- The CFD will be funded through a supplier levy managed by a government agency
- The **existing RO projects will continue under a closed scheme**, until the 20 years are up and the RO will remain open to new projects from 2013 to Q1 2017
- Issues that will need to be considered are:
  - whether renewable projects being built before 2017 should have the choice of taking the CFD or the RO during 2013 to 2017 or be RO only
  - ROC price setting mechanism after 2017
  - Whether projects will be able to exit the RO and move to the CFD
  - At what point will CFD prices be made available
  - The process for entering into a CFD and the validity / termination provisions for the CFD



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