17 December 2010
EDF in the UK
Investor workshop
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Henri Proglio
Chairman and CEO
An industrial strategy based upon EDF Group core business and know-how

- 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

1.9 GW of nuclear capacity

1.1 GW of hydro capacity

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

1.1 GW of hydro capacity

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

5.6 M customers
12.8 GW installed

26.2 M customers
96.8 GW installed

540,000 customers
12.3 GW installed

1.6 M customers
2.0 GW installed

2.0 GW installed

6.3 GW installed

Trading activities

1.9 GW of nuclear capacity

Nam Theun

1.1 GW of hydro capacity

Central Europe

ALPIQ

EDISON

EDF Energy

Luminus
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 7th, 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
Today's objectives and programme

Thomas Piquemal
Group Senior Executive Vice President Finance
Rationale for a workshop on EDF in the UK

- Capital employed: €18Bn\(^{(1)}\)
  - Solid upstream/downstream business model
  - 2009 EBITDA\(^{(2)}\): €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

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\(^{(1)}\) 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
  - Henri Proglio
- Today's objectives and programme
  - Thomas Piquemal
- EDF Energy compelling story
  - Vincent de Rivaz
- UK market
  - Paul Spence
- Q&A session
- 10:45-11:00 Coffee break
- Energy Sourcing and Customer Supply
  - Martin Lawrence
- Existing Nuclear
  - Andy Spurr
- Q&A session
- 12:15-13:25 Lunch (optional sessions on ROCs and Sizewell B)
- Nuclear New Build EDF Group strategy
  - Hervé Machenaud
- Nuclear New Build in the UK
  - Humphrey Cadoux-Hudson
- Q&A session
- EDF Energy key financials
  - Thomas Kusterer
- Summary of key UK management priorities
  - Vincent de Rivaz
- Conclusions
  - Thomas Piquemal
- Q&A session
- 15:30 End of workshop
17 December

EDF in the UK
Investor workshop

EDF Energy compelling story

Vincent de Rivaz
Chief Executive, EDF Energy
Building a leader in the UK

**Key Financials**

- **1998**: Sales: £2.0bn, EBITDA: £278m, EBITDAx3.4
- **2000**: Sales: £4.6bn, EBITDA: £935m, EBITDAx2.7
- **2002**: Sales: £9.8bn, EBITDA: £2.5bn

**Scale building through acquisitions**

- London Electricity
- Sutton Bridge Power Station
- West Burton Power Station
- SEEBoard

**Operations integration**

- SWEB Supply Business
- Cottam Power Station
- EPN Distribution

**Organic growth**

- British Energy

**Upstream-downstream integration**

- Sale of Networks

**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

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

- 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

Existing Nuclear
Andy Spurr

Nuclear New Build
Humphrey Cadoux-Hudson

Energy Sourcing and Customer Supply
Martin Lawrence

Director of Strategy & Regulation
Paul Spence

Director of Company Shared Services & Integration
Peter Hofman

Today’s speakers
Price volatility

Front year gas, power and carbon price
£/MWh, p/th, €/tCO₂

Rolling front year clean spreads by trade date
£/MWh

Source: Spectron
Rising demand and retiring plants

Capacity (GW) vs. Capacity margin(1) (%)

- Capacity (includes life extension for 2 AGR)
- Peak demand (NG central case)
- Capacity margin

(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$_2$e

- Other: 202
- Industry: 168
- Transport: 123
- Heat: 79
- Electricity: 205

1990 emissions: ~780
2050 target: ~160

Opportunities:
- Efficiency
- Decarbonised generation
- Electric heat and transport

Source: DECC 2050 target, 2010 Energy Act: press clippings
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

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

- **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

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**Illustrative contract strike price**

- **Power price**
- **Power price + carbon price support**
- **Difference paid to generator**
- **Generator pays difference**
Illustrative impact of premium feed-in tariff on revenues for low carbon generators - £/MWh

**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

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Domestic Value</th>
<th>Electricity</th>
<th>Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>352TWh - £12.7 bn</td>
<td>110TWh - £13.4 bn</td>
<td>24%</td>
</tr>
<tr>
<td>2020</td>
<td>275TWh - £13.5 bn</td>
<td>105TWh - £16.8 bn</td>
<td>14%</td>
</tr>
</tbody>
</table>

Additional burden on energy users from climate change policies:
- Supplier obligations
- Smart meters
- Renewable obligation
- Feed-in tariffs

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.
ESCS: a cornerstone of EDF Energy’s business model

**Energy Sourcing**
- Cottam power station: 2GW coal-fired plant
- West Burton power station: 2.1GW coal-fired plant
- Sutton Bridge power station: 0.8GW CCGT plant
- Other sources: 4x10MW gas plants, 365MW wind farms
- Offtake agreement with Existing Nuclear fleet: 7GW nuclear fleet
- Market power purchases

**Customer Supply**
- EDF Trading
- Business to Business segment: B2B (c.50TWh)
- Business to Customer segment: B2C (c.15TWh)

**Upstream**:
- c.60 TWh/year

**Downstream**:
- c.65 TWh/year
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

  - 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

B2C Market Churn (Gas & Elec)

% Total Accounts
30-Apr-10 (outer) vs 30-Apr-09 (inner)

(source: DECC)  
(source: CEA)
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

<table>
<thead>
<tr>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation for roll-out</td>
<td>Summer 2012 Mandated Smart meter roll-out starts</td>
<td>Autumn 2013 Data Communications Company (DCC) goes live</td>
<td>2018 Potential completion target based on Charles Hendry statements</td>
<td>End 2020 Expected roll-out completion date</td>
<td></td>
</tr>
</tbody>
</table>

- 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

One common goal: to maximise the energy gross margin (generation + supply)

Generator
Key objectives
Operate, maintain and develop the fleet of generation assets
Drivers
Availability of fleet

Optimiser
Key objectives
Design the overall portfolio
Optimise the portfolio
Manage risk
Drivers
Wholesale market
Structured contracts
Peak management

Supplier
Key objectives
Management and development of customer portfolio
Drivers
Sales price/margins
Market share
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.
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Existing Nuclear

Andy Spurr
Managing Director, Existing Nuclear, EDF Energy
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 **55.1 TWh** being 1.5 TWh 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.6 TWh
  - Heysham 2 ISI Plug c.3 TWh
  - Dungeness B R21 Header Inspections c.3 TWh

- **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

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### 2000-2009 Sizewell B output

<table>
<thead>
<tr>
<th></th>
<th>TWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>10.3</td>
</tr>
<tr>
<td>Average</td>
<td>9.1</td>
</tr>
<tr>
<td>Low</td>
<td>8.5</td>
</tr>
</tbody>
</table>
Safety indicators have improved significantly

Accident frequency rate

- EN Station Employees
- EN Station Contractors

Comparison value:
- EDF 0.38
- EDF Energy UK 0.30
- WANO Median Employees 0.03 (Jan 10)

Nuclear Reportable Events

Staff Nuclear Safety Culture Survey Score

Survey Score:
- Good

Year of Survey:
- 2005
- 2007
- 2010
Underlying nuclear output indicators continue to improve

Fleet 12-month UATR

Post Outage Return to Service Run
(10 Outage Running Average)

Equipment Reliability Index

Preventative maintenance backlog

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

**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

**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

- 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

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Nuclear New Build EDF Group strategy

Hervé Machenaud
Group Executive Vice President
Generation and Engineering
and Asia Pacific President
EDF’s leader position in nuclear generation

This is the reason why EDF is a valued partner worldwide

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
  - Under construction
  - 2014

- **China**
  - 2 EPR in Taishan with CGNPC
  - 1st unit in 2014

- **France**
  - Penly 3
  - Under development

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

- **USA**
  - Calvert Cliffs 3
  - Under "pre-development"

- **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

2006
- Preparatory works
- Authorization decree

2007
- Reactor building first concrete

2008
- Reactor building dome implementation

2009
- Civil works
- Reactor building dome implementation
- Vessel introduction in the reactor building

2010
- Electromechanical works

2011
- Test and commissioning
- Fuel loading

2012

2013

2014
- Grid connection
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

- Flamanville 3
  - Concrete pouring: 4.5 months
- Flamanville 3
  - Fixing of containment liner: 47 weeks
- Taishan 1
  - Reactor base done in one pour to improve efficiency
  - Civil works feedback to optimise construction methods
- Taishan 2
  - Issue with liner containment building
  - Prefabrication of dome and liner leading to efficient welding to improve quality and time
- Taishan 3
- Hinkley Point 1
- Hinkley Point 2
- Penly 3
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

![Diagram showing financial and industrial commitments between Holding and GENCO](image-url)
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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UK Nuclear New Build

Humphrey Cadoux-Hudson
Managing Director, Nuclear New Build, EDF Energy
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

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\(^{(1)}\) working to incorporate lessons learnt from earlier EPR projects
- Clear responsibility and accountability

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(1) EDF French Engineering Division
Setting up the groundwork 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)

- Autumn 2010: Consultation
- Winter 2010 / 2011: Consultation
- Spring 2011: Drafting of Energy White Paper
- Summer 2011: Ofgem Decision on SQSS limits
- Autumn 2011: Ofgem’s Impact Assessment on SQSS
- Winter 2011 / 2012: Revised

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 IPC Consent

IPC Consent
Development Consent Order Application to IPC
IPC Consent Granted

Site Excavation Planning Permission Received
Planning Permission Granted

Nuclear Site Licence Granted
Formal Nuclear Site Licence Submission
Nuclear Site Licence Granted

GDA-DAC
NII approves Long Lead Item Procurement
Interim Design Acceptance Confirmation Issued
Final Design Acceptance Confirmation Issued
Hinkley Point EPR Unit 1 Milestones

2010
- Site Preparations

2011
- Excavation

2012
- Reactor building first concrete

2013
- Civil works
- Reactor building dome implementation

2014
- Electromechanical works
- Vessel introduction in the reactor building

2015
- Test and commissioning

2016
- Fuel loading

2017

2018

Grid Connection
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

<table>
<thead>
<tr>
<th>£ in 2010 real</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs (based on FLA3 adjusted for UK)</td>
</tr>
<tr>
<td>Construction costs for a twin</td>
</tr>
<tr>
<td>Total costs to final investment decision</td>
</tr>
<tr>
<td>Benefit of Series Effect for Construction Cost</td>
</tr>
</tbody>
</table>
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 Energy key financials

Thomas Kusterer
Chief Financial Officer, EDF Energy
EDF Energy’s EBITDA structure and key performance drivers

Key medium term drivers

- Level of Clean Dark Spread
- B2C margin and volume
- B2B margin and volume
- New Investment commissioning
- Wholesale market price
- Total output
- Life extension achievement
- c.£760m of divested EBITDA
- £5.8bn reduction in Net Debt
- Fair value accounting impact
- Support function cost control

For balance of year post completion

(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**\(^{(1)}\) 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

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\(^{(1)}\) Based on official RAV on regulated networks as at 31/03/2010
Summary of main investment plans*

- Business as usual capital expenditure includes:
  - ESCS £150m p.a. fossil plant maintenance and supply IT systems
  - Existing Nuclear £300m p.a. nuclear plant maintenance
  - Shared Service Centre £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

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

*Excludes smart metering and Nuclear New Build
British Energy value in use is greater than book value

- 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

£5.2bn
Goodwill

£7.2bn
Net assets purchased
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:

<table>
<thead>
<tr>
<th>EBITDA FV Adjustments (£m)</th>
<th>2010F</th>
<th>2011F</th>
<th>2012F</th>
<th>2013F</th>
<th>2014F</th>
</tr>
</thead>
<tbody>
<tr>
<td>267</td>
<td>150</td>
<td>(71)</td>
<td>(76)</td>
<td>(54)</td>
<td></td>
</tr>
</tbody>
</table>
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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Summary of key UK management priorities

Vincent de Rivaz
Chief Executive, EDF Energy
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
- ...

EDF
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 be a leader in sustainability
- To lead the way in nuclear power generation
- To deliver strong financial performance
- To be first choice for customers
- 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
Conclusions

Thomas Piquemal
*Group Senior Executive Vice President Finance*
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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An Introduction to the UK Renewables Obligation (RO)

John Cockin
Head of Commercial Delivery
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
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

Eligible generator

- Sells ROC
- Pays a price linked to Buy-Out price and expects recycle payment

Electricity supplier

- Hands out ROC
- Pays buy-out fees if not enough ROCs

Ofgem

- Sets an obligation to source a proportion of their TWh supplied through ROCs
- Receives Recycle value (if any) based on number of ROC handed out
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 But-Out costs per major Supplier in the UK in 2016

- Centrica
- EDF Energy
- EON
- RWE
- SSE
- Scottish Power

Source: EDF Energy

Based on current RO price escalated at 2.5% p.a. and current supplier volumes increased at 2.5% volume increase p.a.
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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