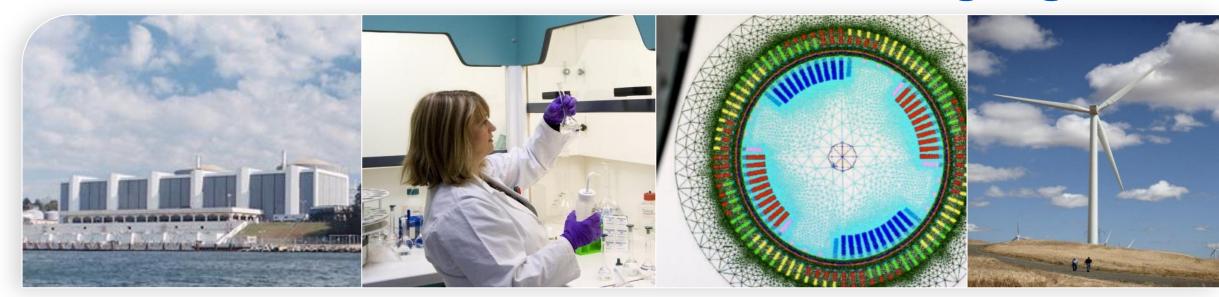
# 2011 First quarter Sales and highlights



12 May 2011

Appendices



#### **Disclaimer**

This presentation does not constitute an offer to sell marketable securities in the United States or any other jurisdiction.

No reliance should be placed on the accuracy, completeness or correctness of the information or opinions contained in this presentation. None of EDF or any of its affiliates, advisors or representatives, shall bear any liability (in negligence or otherwise) for any loss arising from any use of this presentation or its contents or otherwise arising in connection with this presentation.

The present document may contain forward-looking statements and targets concerning, but not limited to, those regarding the financial position, business strategy, management plans and objectives for future operations of the Group, which shall not constitute a guarantee of future performance of the company. These forwardlooking statements involve known and unknown risks, uncertainties and other factors, which may cause actual results, performance or achievements of the Group, or industry results, to be materially different from those expressed or implied by these forward-looking statements. These forward-looking statements are based on numerous assumptions regarding the Group's present and future business strategies and the environment in which the Group expects to operate in the future. Important factors that could cause actual results, performance or achievements of the Group to differ materially from those in the forward-looking statements include, among other factors: the effective implementation of the Group's strategy, including in gas and energy-related services; the competitive framework of the European energy markets, especially of the French electricity supply market, which is the Group's main market; prevailing governmental policies, administrative decisions or delays, and regulatory actions, in particular with respect to regulated prices and allowed rates of return, and public service missions; the climatic environment, the level and volatility of wholesale electricity and fuel prices and supplies; risks associated with operating nuclear and other power generating facilities, including operating and liability risks and costs, equipment failure, availability and output; regulatory changes affecting the industry, including environmental, health or safety regulations that could require additional expenditures or otherwise affect the cost and manner of doing business; changes in the Group's structure and holdings related to the opening up of the French market to competition; the adaptation of the Group's technology and workforce to developments in the markets in which the Group operates; changes in market demand and demographic patterns; expectations with respect to the Group's obligations related to pensions and other employee benefits; the ability of the Group to realize anticipated cost savings, synergies and operating efficiencies; effective implementation of any acquisitions or disposals; the effect of accounting pronouncements issued periodically by accounting standard-setting bodies; weather conditions and other natural phenomena affecting the Group's operations, and accidents or ill-intentioned acts; changes in the Group's relationship with its employees or labor disputes; general economic and political conditions in the countries where the Group has operations; unanticipated changes in interest rates, currency exchange rates or rates of inflation; widespread power outages in France or in an area served by a Group subsidiary; and consequences of the nuclear accident in Japan.

Detailed information regarding these assumptions and risk factors are available in the "Document de Référence" of EDF filed with the Autorité des Marchés Financiers on April 18, 2011 under number D.11-0320, which is available on the AMF's website at www.amf-france.org and on EDF's website at www.edf.com.

EDF does not commit to updating information contained in this presentation, nor is it obligated to do so.



# Incorporating feedback is part of our modus operandi in nuclear

#### Examples:

- Installation of hydrogen recombiners in reactor buildings (subsequent to Three Mile Island in the US)
  - A hundred hydrogen recombiners installed for each reactor
  - This equipment functions without electric power due to the accumulation of hydrogen in the reactor building prevents an explosion
- Projects to prevent flooding damage (after Blayais in 1999)
  - At Gravelines: construction of a dyke and additional barriers at sea level and civil engineering projects modified to protect the pumping station
  - At Dampierre: installation of dykes and protection for ventilator grills at the technical building for telecommunications and construction of an additional talus on the site periphery



## **EDF's first set of recommendations post Fukushima**

- Risk assessment of all sites to:
  - ensure the effectiveness of preventative measures and their design
  - Imit the consequences of an earthquake or a flood on the safety of reactors and spent fuel pools
- Evaluation of all our human resources and equipment currently in place for accident situations
- Determination of additional resources to be prepared
- In-depth reviews to strengthen our lines of defence
  - For dealing with events following:
    - earthquakes
    - floods
    - power failures or interruptions to cooling processes
  - For reactors and spent fuel pools

Work will be carried out under the French Nuclear Safety Authority's control and will be incorporated into the safety audits requested by the Prime Minister



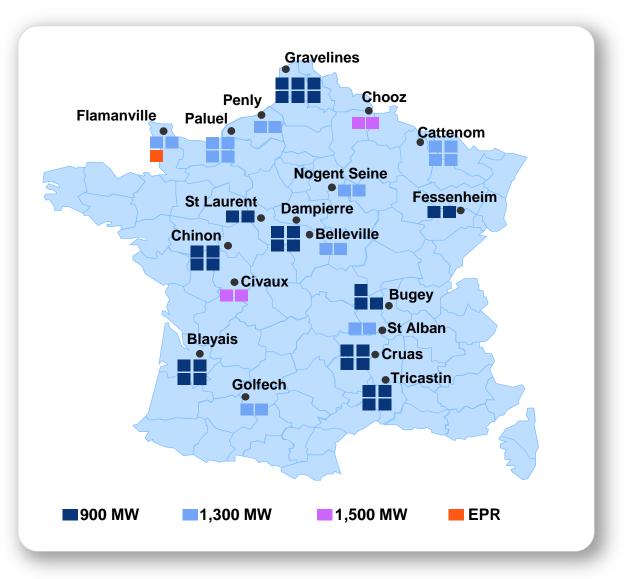
#### **EDF's initial recommendations post Fukushima**

Supporting both our on-site and national crisis response systems to address:

- power failures or interruptions to cooling processes
- serious accident scenarios in which fuel in the reactor or spent fuel rods are damaged
- Our recommendation
  - The creation of a national EDF emergency intervention task force:
    - equipment to provide additional electricity and backup water supply
    - with dedicated transport and human resources
    - all of which can be on-site within 24 to 48 hours



## **EDF French nuclear fleet**



- **74% of French output in 2010**
- 58 reactors in operation
- 19 locations
- 1 single technology (PWR), 3 series:
  - 900 MW 34 reactors 31 GW
  - **1**,300 MW **20 reactors 26 GW**
  - 1,500 MW 4 reactors 6 GW



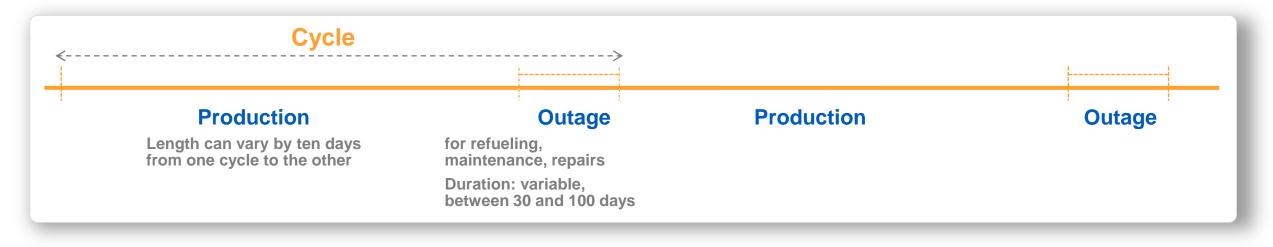
## **Advantages of the EDF nuclear fleet**

- A nuclear fleet with an average age of 26 years
  - 58 pressurised-water reactors
  - Total power generation of 63 GW, of which 44 GW were introduced between 1980 and 1990
  - Technical standardisation and continuous safety improvement
- Safety analysis every ten years to improve power station design
  - Incorporation of the latest technological advances, feedback on incidents and changes in the nature of external risks
  - Projects implemented and equipment modified at plants
  - Reinforcing the various lines of defence for reactors
- Rigorous crisis organisation
  - An internal emergency plan that immediately mobilises the necessary technical and human resources at the local and national level
  - Organisation tested several times a year through training
  - Close collaboration with public authorities and the French Nuclear Safety Authority (ASN)



## The French nuclear fleet: operating cycle

The cycle of a nuclear power plant:



The refueling cycle of nuclear reactors:

900 MW: 28 reactors in 12-month cycle

6 reactors in 15-month cycle

- 1,300 MW: 20 reactors in 18-month cycle
- 1,500 MW: 4 reactors in 16-month cycle



## The French nuclear fleet: 3 types of outages

- Ordinary shutdown for refueling only (ASR)
  - Refueling
  - Minimal maintenance
    Average duration: ~ 30 days
- Partial inspection for refueling and maintenance (PI)
  - Refueling
  - General maintenance and minor changes
    Average duration: ≈ 45 days
- 10-year inspections (DV)
  - Refueling
  - Regulatory obligations (safety tests and various controls)
  - Adapting safety to latest standards
  - Maintenance work and changes

#### Average duration: $\approx$ 100 days



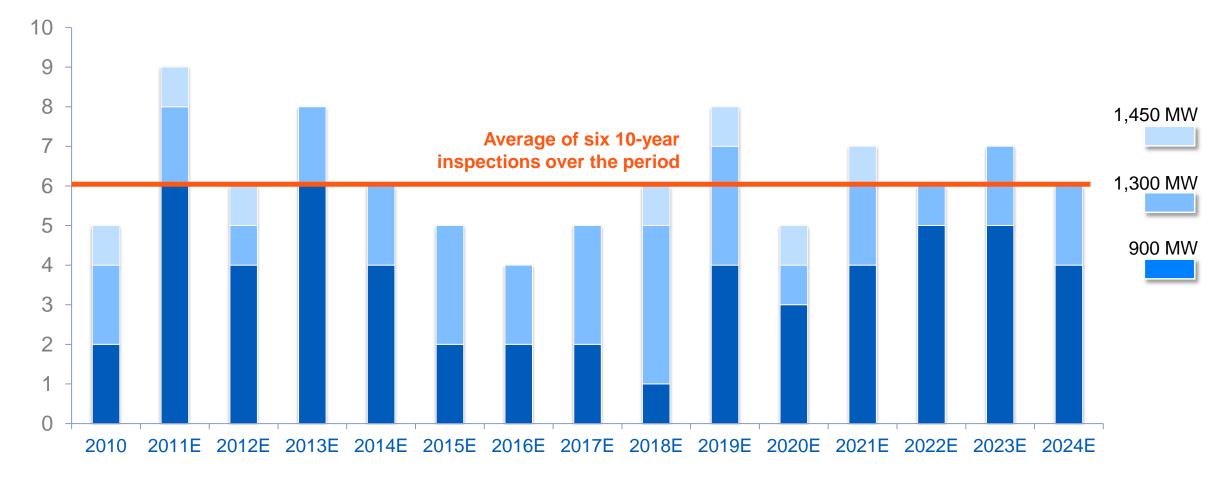


#### **10-year inspections in 2011**

- Nine 10-year inspections in 2011
  - 900 MW: 6 reactors (Bugey 4, Bugey 5, Tricastin 2, Gravelines 1, Fessenheim 2, Dampierre 1)
  - 1300 MW: 2 reactors (Penly 1, Catternom 3)
  - 1450 MW: 1 reactor (Civaux 1)
- Situation as of end of Q1 2011
  - 1 inspection completed: Cattenom 3
  - 3 reactors under review: Bugey 4, Fessenheim 2, Tricastin 2



## An average of six 10-year inspections annually

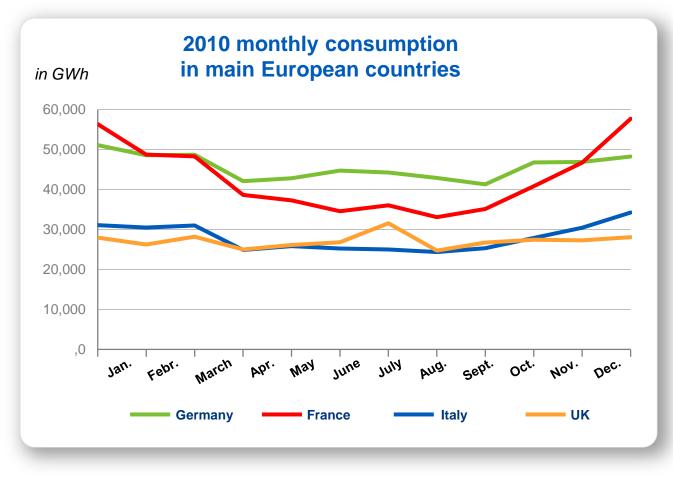


#### **One 10-year inspection = average of 100 days of outages**



# French consumption pattern is particularly seasonal and thermosensitive

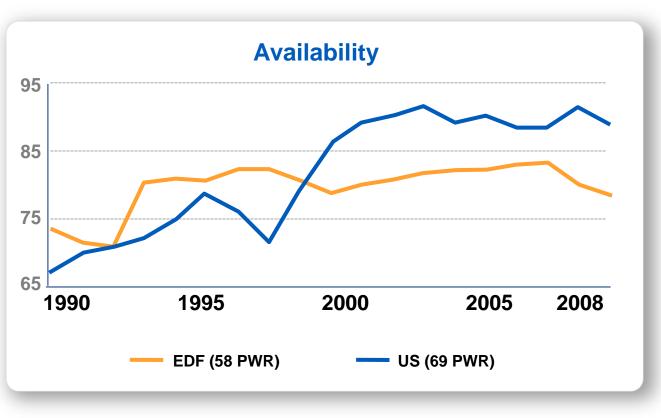
which generates a specific use of nuclear fleet



- Consumption pattern fluctuates greatly depending on the season
  - Between 30 to 35 TWh in summer
  - Sometimes over 50 TWh in December & January
- With stronger fluctuation for every 1°C change in temperature in France:
  - In winter ≈ 2,100 MW
  - in summer ≈ 450 MW



#### **Operating performance: Kd compared with PWR US fleet**



#### **US 91% = France 85%**

- Kd includes the impact of technical unavailability (planned and unplanned outages)
  - US PWR fleet operates under base-load generation
  - French fleet affected by seasonal outages
- US Kd increase from 75% to 91% is mainly due to:
  - Large component replacement programme
  - New outage management (outage control center OCC)
  - Replacement of small components the failure of which could create outages
- **E** Key structural differences  $\approx$  6 points
  - $\approx$  2 pts: fuel management method (fuel cycle)
  - $\approx$  2 pts: solicitation method (load monitoring in France)
  - ≈ 2 pts: regulation and safety specifications (e.g. 100 days for 10-year inspections)



# Replacement of large components and COPAT to continue

	Replaced	Replacement pending				
Steam generators (3 SG/900MW reactor)	Twenty 900 MW-reactors	6 priority reactors by 2014				
Alternator stators	23 reactors	8 reactors to be renovated in 2011 end to 2012				
Main transformers	Programme ramped up starting in 2012: 4 reactors/year The entire fleet will be replaced by 2024					
	Implemented	Implementation pending				
Centre opérationnel de pilotage des arrêts de tranche (COPAT)	13 sites	6 sites				
des arrêts de tranche (COPAT)						



### **Nuclear output depends mainly on availability**

- Nuclear generation is a baseload generation: output relies mainly on availability (Kd)
  - In 2011, the Kd target of 78.5% corresponds to an available output of 434 TWh (theoretical maximum output 553 TWh X 78.5% = 434 TWh)
- This target is reduced by utilization factor (Ku) reflecting:
  - Environmental and social constraints, supply of systems services (19.5 TWh in 2010)
  - Periods of low demand with no market for all the nuclear output (6.5 TWh in 2010, or circa 1.5% of Ku)
- Multiplying Kd by Ku gives load factor:
  - In 2010: 78.5% X 94% = 73.8% X 553 TWh = 408 TWh
  - In 2011 ouput target is 408-415 with a Kd of 78.5% at least

#### Ku / Kd / Kp

Availability factor, Kd: a percent of the maximum energy that could be generated if the installed capacity was operated all year long

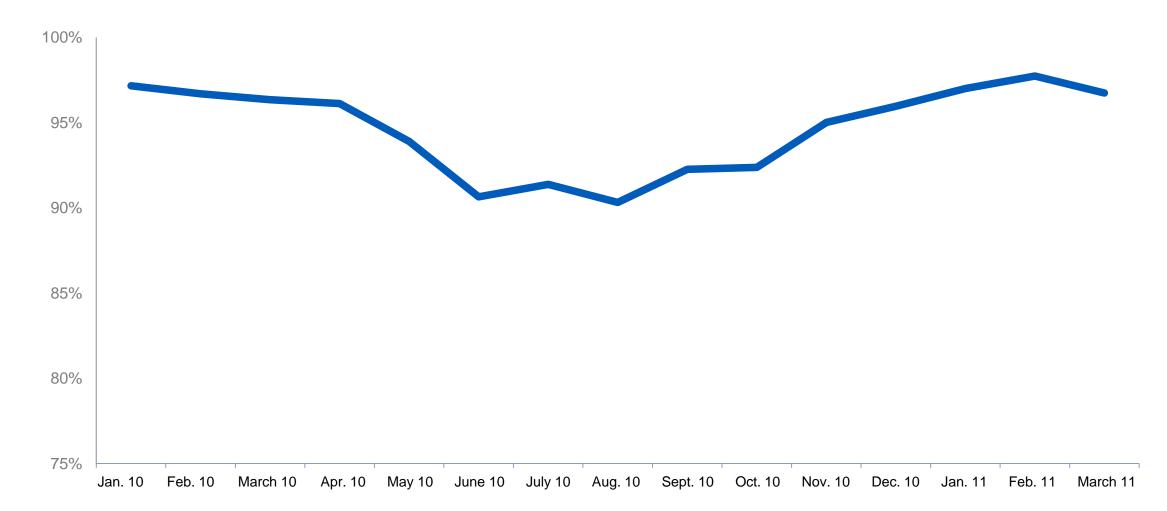
**Utilization factor, Ku:** the energy generated as a percent of the energy available

Load factor, Kp: Kp = Kd x Ku

The outages are programmed to maximize the Ku of the nuclear fleet depending on the estimated Kd

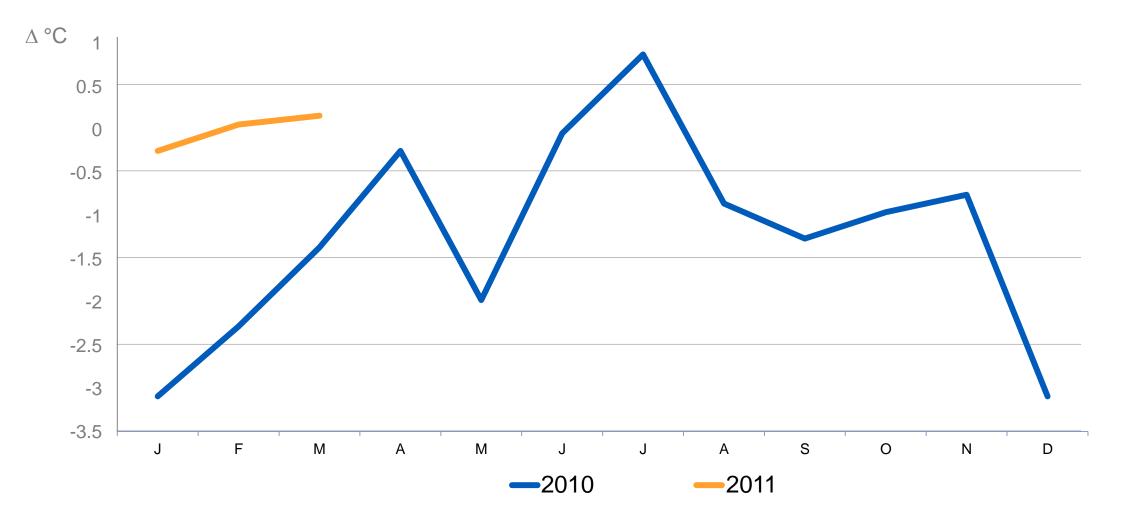


## **Historical monthly Ku (%)**



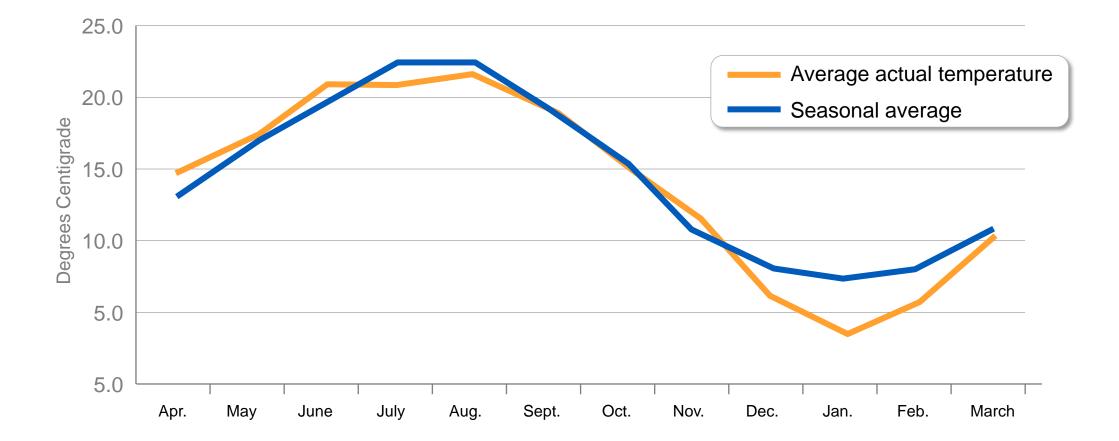


#### Difference between average actual temperatures and seasonal averages in France





#### Average actual temperature and seasonal average in UK





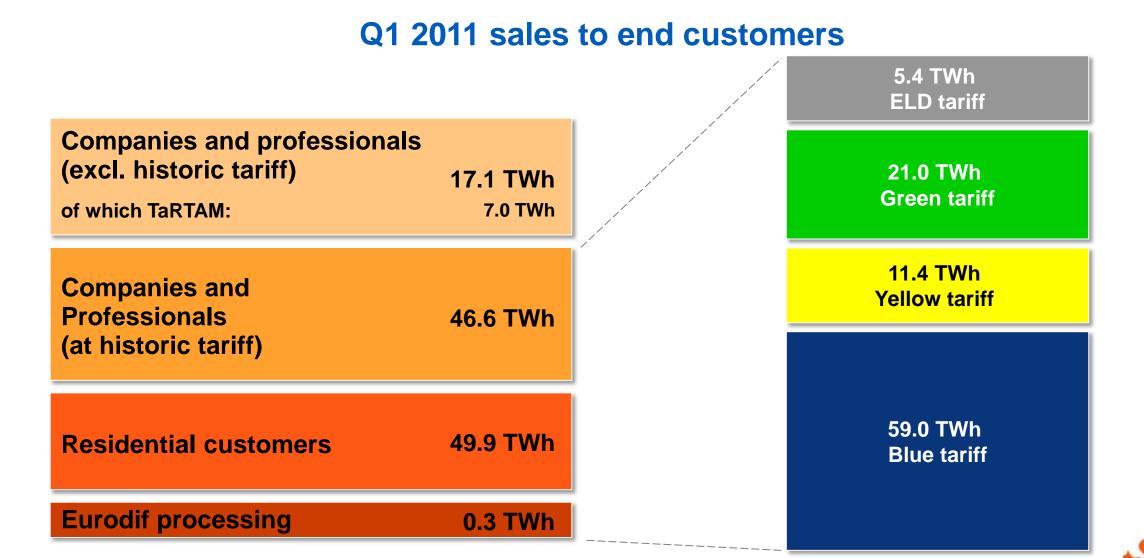
#### **EDF's Q1 2011 electricity business in France**

#### Sales to end-customers Q1 2011: 114 TWh

Companies and professionals (excl. historic tariff)	17.1 TWh
Companies and professionals (at historic tariff)	46.6 TWh
Residential customers	49.9 TWh
Eurodif processing	0.3 TWh

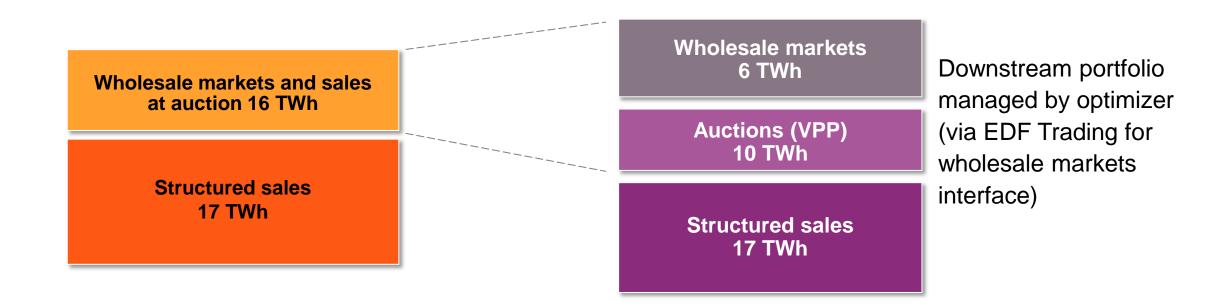


#### EDF's Q1 2011 electricity business in France



#### 20

#### EDF's downstream portfolio – Q1 2011





## **Change in tariffs and inflation in France**

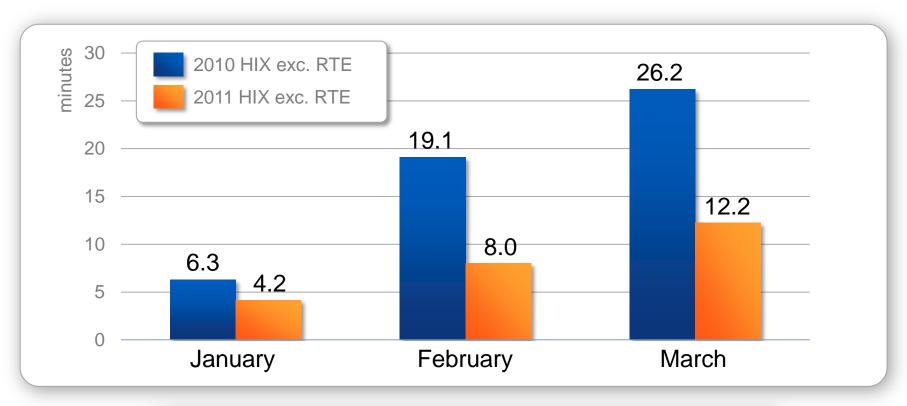
	2005	2006	2007	2008	2009	2010	2011
Inflation (July N/July N-1)	1.6%	2.0%	1.1%	3.6%	-0.7%	1.6%	1.8%-2.0%
Average	0%	1.7%	1.2%	3.6%	2.7%	3.8%	-
0/W:							
Blue	0%	1.7%	1.1%	2.0%	1.9%	3.2%	1.7%
Yellow	0%	1.7%	1.5%	6.0%	4.0%	4.5%	-
Green	0%	1.7%	1.5%	8.0%	5.0%	5.5%	-
TaRTAM			1.5%	8.0%	0%	0.6%	n/a
Increase including TaRTAM			1.3%	4.1%	2.3%	3.4%	-
Non-nationalised distributors		0%	0%	0%	0.8%	5.6%	<u>.</u>
		070	070	070	0.070	0.070	



## **Continuity of supply in France**

#### HIX criteria excluding RTE

Average outage duration for low voltage (BT) clients (E-RES R) Cumulated duration at end-of-month



Best quality results since 2006



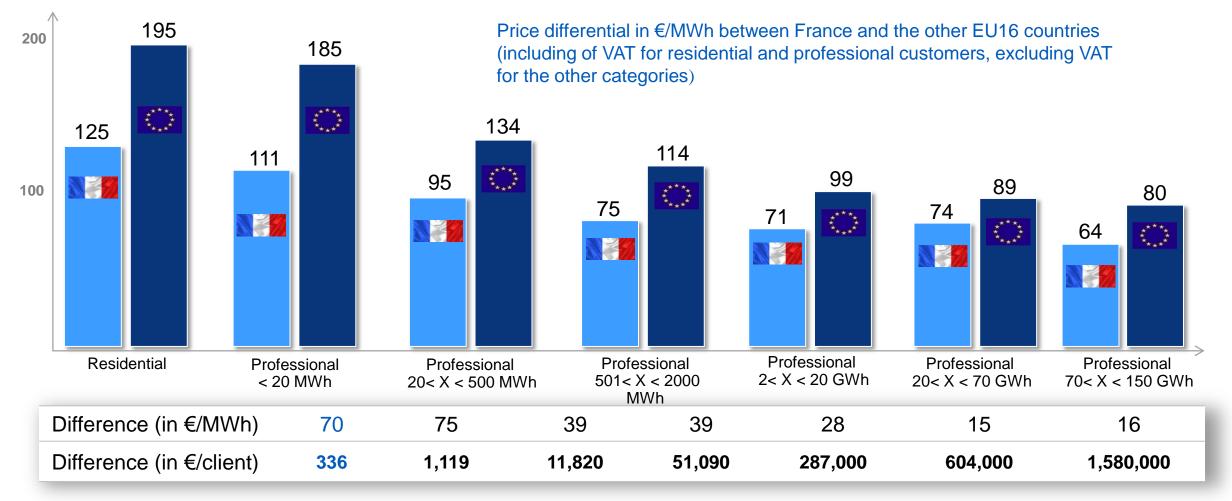
#### New electricity market configuration to 2025

- ARENH promotes competitors' access to baseload power produced by EDF nuclear power according to their final customers consumption (max. 100 TWh to be sold by EDF)
- TaRTAM will end as soon as the reform goes into effect
- Yellow and Green tariffs (I&C customers: 120 TWh<sup>(1)</sup>) to be terminated in 2015
- Blue tariffs (residential and small business customers: 186 TWh<sup>(1)</sup>) to continue
- 2015 target (at the latest) for bringing energy component of tariffs in line with ARENH
- Introduction of a market mechanism to ensure reliability of supply through appropriate incentives to build capacity or develop interruptibility



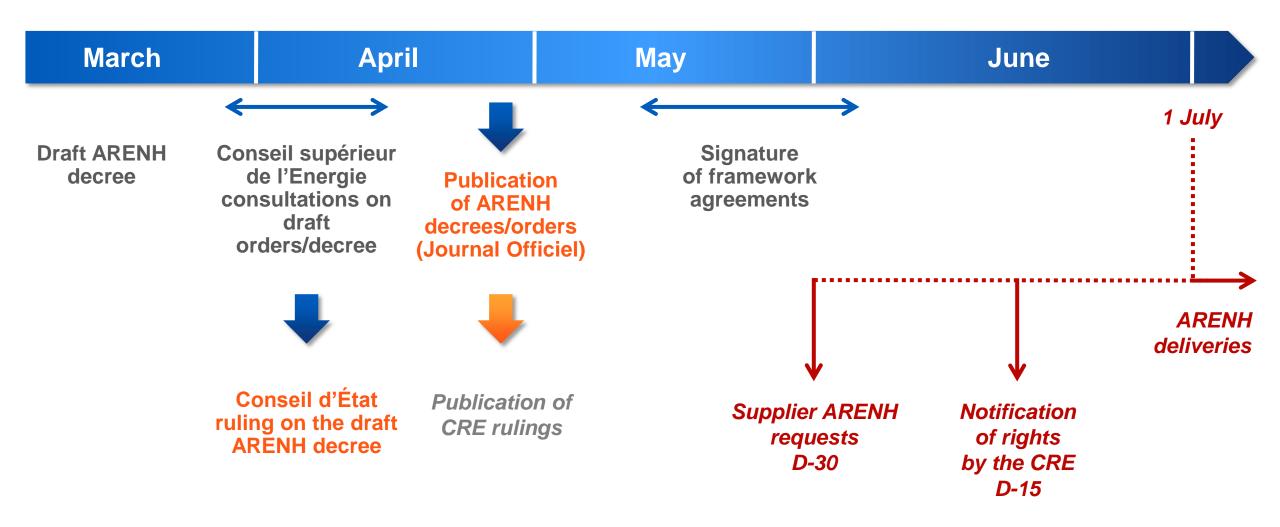
#### Impact of ARENH on tariffs in France: their competitiveness will not be undermined

€/MWh





## Timeline of the implementation of NOME (market reforms)





### **Implementation of texts**

Ministerial rulings ("Arrêtés ministériels") already in place:

- Generic contract on EDF annual power sales to competitors (29 April)
- Provisions of the generic contracts defining the conditions under which a supplier exercises its ARENH rights (29 April)
- Maximum total volume of EDF sales to competing suppliers (29 April)

- Ministerial rulings ("Arrêtés ministériels") to be drafted:
  - Timetable of inclusion of network losses into ARENH
  - Potential suspension of ARENH mechanism if conditions outlined in the law are fulfilled
  - Power prices set as advised by CRE during the first 3 years



## **Q1** sales by segment

In € million	TOTAL GROUP	France	UK	EnBW	Italy	Other international	Other activities
Q1 2010 sales (published)	21,930	11,381	3,150	2,271	1,493	1,968	1,667
IAS 39	(37)	17		(21)	(8)	(1)	(24)
IFRS 5 (EnBW)	(2,221)	22		(2,250)	7		
Optimisation SPE	86					86	
Q1 2010 sales (restated)	19,758	11,420	3,150	-	1,492	2,053	1,643
RTE EDF Transport	(16)	(16)					
UK disposals (networks, Eggborough)	(488)		(488)				
Q1 2010 sales (adjusted for end 2010 scope)	19,254	11,404	2,662	-	1,492	2,053	1,643
Forex	78		63		-	2	13
Scope	17				3	(4)	18
Organic growth	250	454	(170)		92	104	(230)
Q1 2011 sales	19,599	11,858	2,555	-	1,587	2,155	1,444



## H1 2010 sales & EBITDA by segment

In € million	TOTAL GROUP	France	UK	EnBW	Italy	Other international	Other activités		
H1 2010 sales (published)	37,513	18,915	5,640	4,111	2,753	3,457	2,637		
IFRS 5	(4,046)	50		(4,111)	13	2			
Optimisation SPE	71					71			
H1 2010 sales (restated)	33,538	18,965	5,640	-	2,766	3,530	2,637		
RTE EDF Transport	(119)	(119)							
UK disposals (networks, Eggborough)	(779)		(779)						
H1 2010 sales adjusted for 2011 scope	32,640	18,846	4,861	-	2,766	3,530	2,637		
In € million	TOTAL GROUP	France	UK	EnBW	Italy	Other international	Other activities		
H1 2010 EBITDA (published)	10,373	6,031	1,601	816	365	602	958		
IFRS 5	(816)			(816)					
H1 2010 EBITDA (restated)	9,557	6,031	1,601	-	365	602	958		
RTE EDF Transport	(791)	(791)							
UK disposals (networks, Eggborough)	(625)		(625)						
H1 2010 EBITDA (adjusted for 2011 scope)	8,141	5,240	976	-	365	602	958		

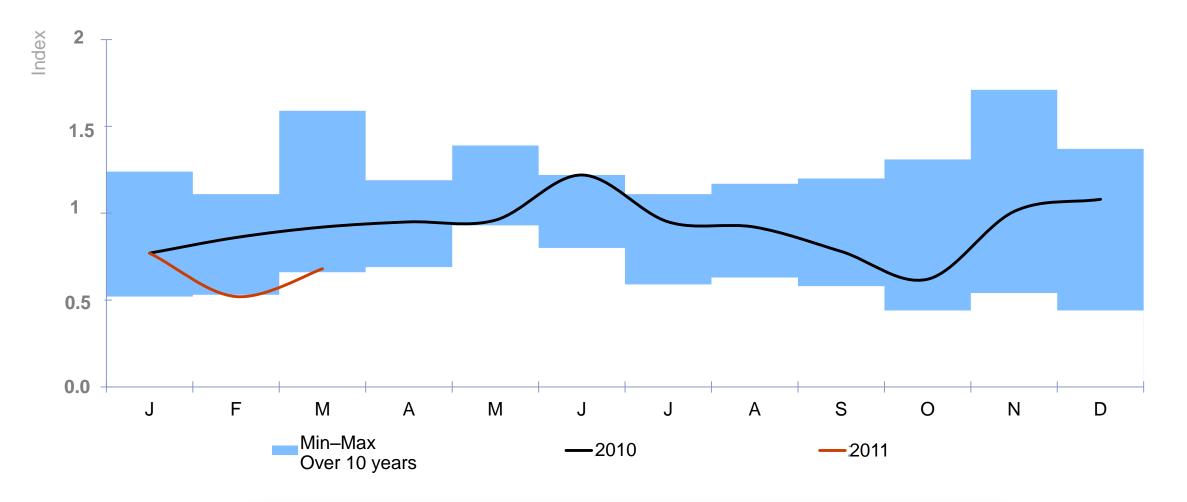


#### **2010 EBITDA by segment**

In € million	TOTAL GROUP	France	UK	Italy	Other international	Other activities
2010 EBITDA (published)	16,623	10,124	2,732	801	1,084	1,882
RTE EDF Transport	(1,525)	(1,525)				
UK disposals (networks, Eggborough)	(942)		(942)			
2010 EBITDA (adjusted for 2011 scope)	14,156	8,599	1,790	801	1,084	1,882



## Water availability end-March 2011



Index 1 is equal is normal water level



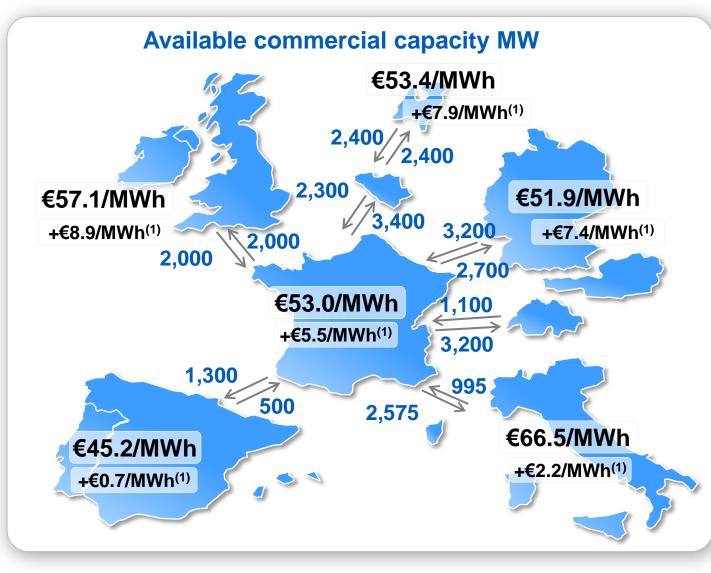
#### Management of "water" resources

EDF's response:

- Coordination of water management at Group level
  - Water monitoring committee
  - Spot arbitrage for mixed output on rivers (hydro, nuclear generation)
  - Meeting with environmental authorities (MEDEEM)
- Cautious management of the water in dams
- Close monitoring of weather, hydrometry and water level in the rivers
- Limitation of summer outages in seaside nuclear plants
- Modifications and actions linked to the experience return of the dry summers (2003 & 2006)
- Weekly stress tests based on historical temperature models



#### European energy market remains divided into "electric plates" - average price in Q1 2011



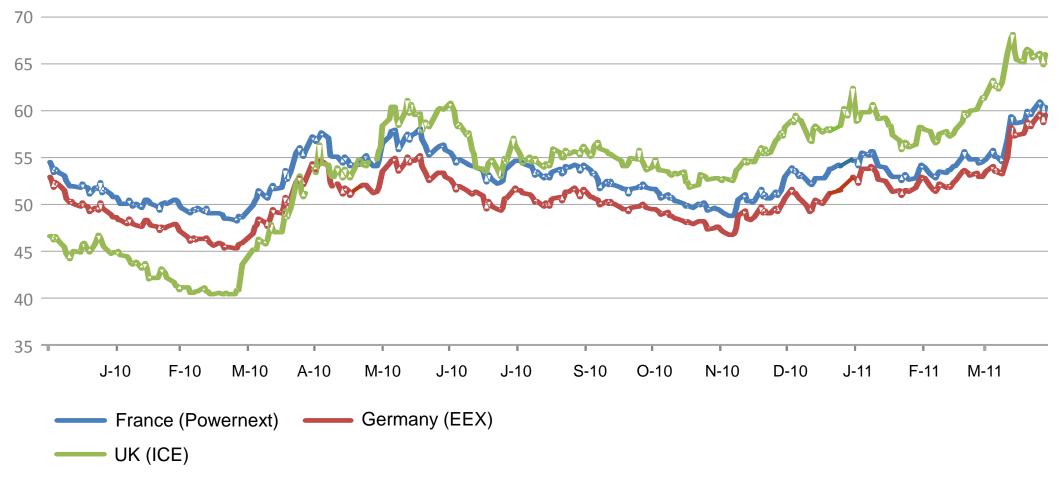
Interconnected but distinct market zones

 Interconnections: Commercial Capacity for winter 2010-11, estimated at 22/02/11 (in MW, source ENTSOe)

 Price: average spot price (base Q1 2011) for France (Epex), Germany (Epex), the UK (EDFT), Spain (OMEL), the Netherlands (APX) and Italy (Ipex)

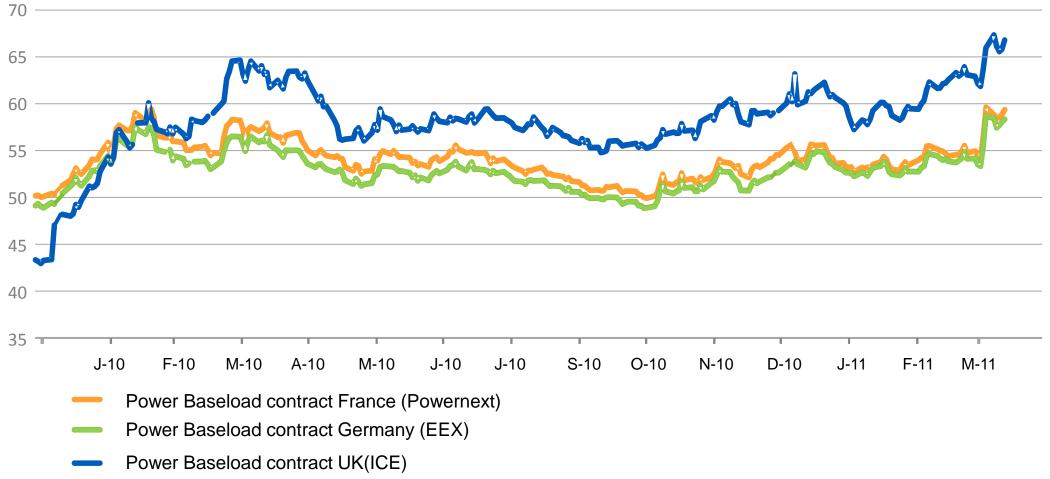


### 1-year forward price of baseload electricity in Europe





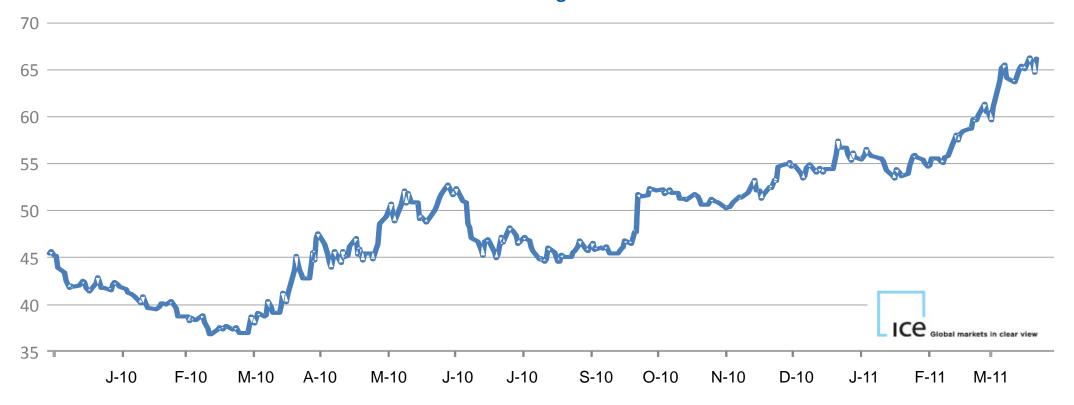
### 2-year forward price of baseload electricity in Europe





### **Natural gas prices**

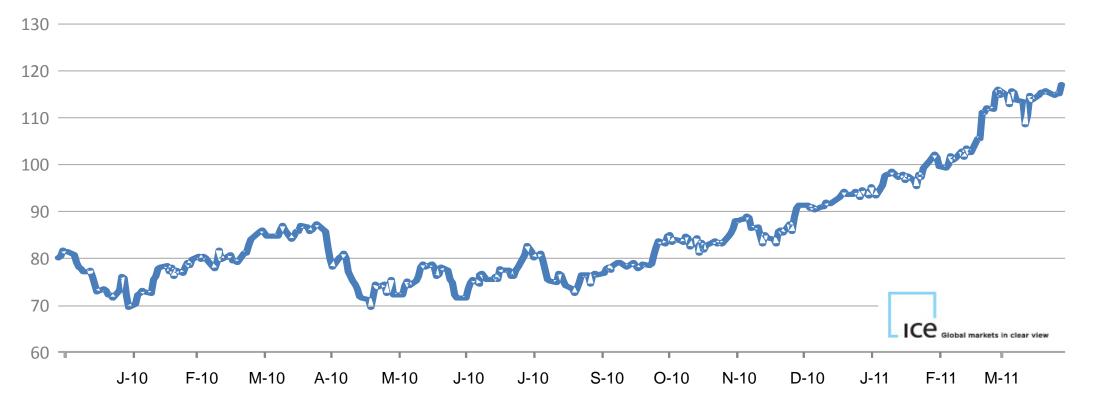
#### Natural gas NBP (Y<sub>gas</sub>+1) in p/th







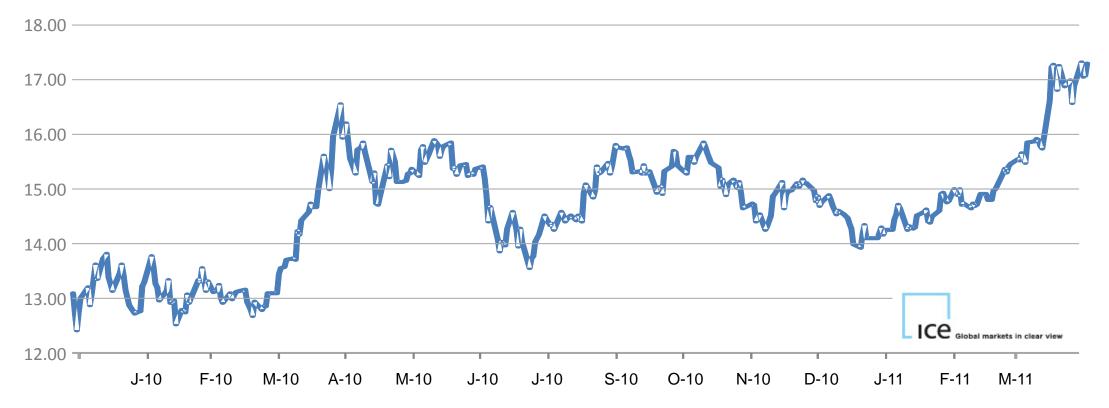
#### Brent (M+1) in \$/bl





#### **Prices of CO<sub>2</sub> emissions quotas**

#### CO<sub>2</sub> (Y+1) in €/t

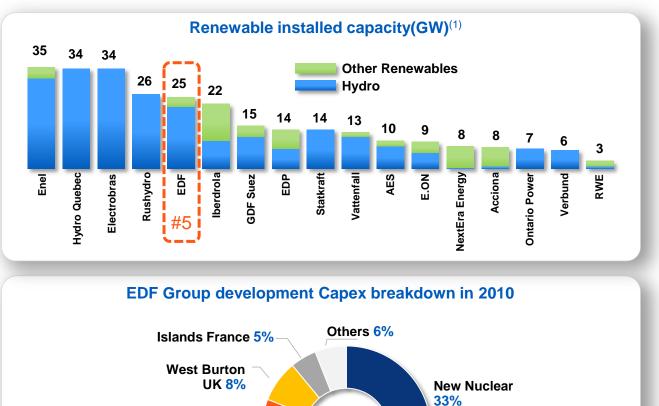




## EDF: a major player in renewable energies

- EDF: 5<sup>th</sup> global player in renewable energies in terms of installed capacity
- 40% of development Capex in renewable energies in 2010, of which 80% within EDF EN
- Continued Capex programme in renewable energies: €2.4bn<sup>(2)</sup> in 2013

The full consolidation of EDF EN strengthens the Group's economic exposure to future value creation of renewable energies



€3.3bn

EDF EN 33%

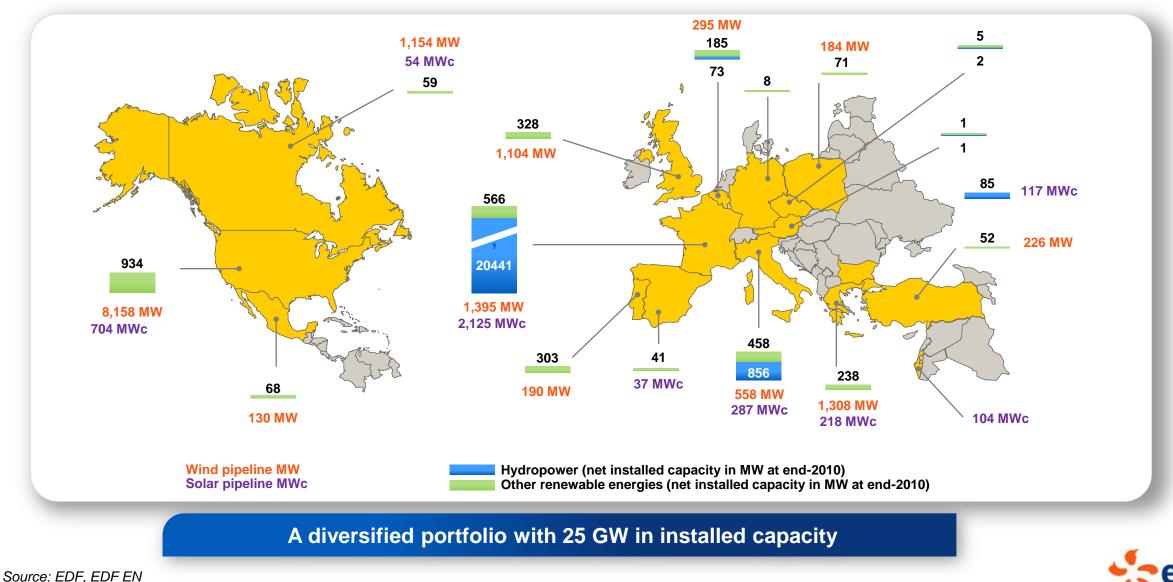
Source: EDF. The amount includes the Group's major projects

Hydro & Other renewables 6%

Thermal 9%



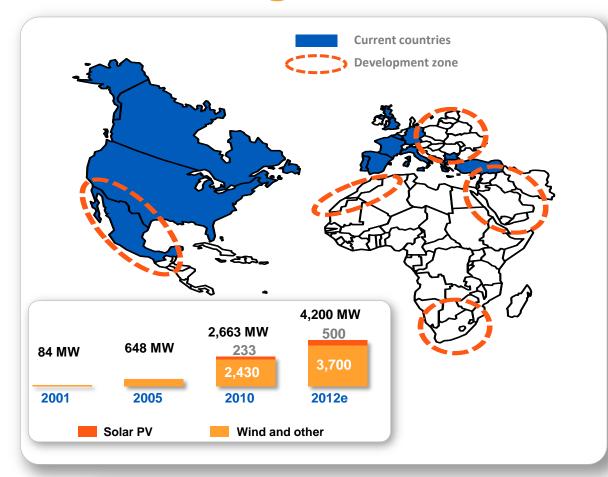
#### **EDF:** a major renewable energy operator



Note: The pipelines are indicated for EDF EN

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# Strengthening of EDF/EDF EN's competitiveness in a shifting environment



#### **New opportunities**

- Very large development potential in onshore wind power, notably in North America
- Stepping up offshore wind power development, especially in Europe
- Growth of utility scale solar technologies in sunny countries
- Development of decentralised solar technologies in every region

Better integration within EDF Group will enable EDF EN to continue its targeted growth strategy



# An attractive proposal for both EDF EN's and EDF's shareholders

#### Simplified alternative public offer in cash or in exchange for EDF shares

- Simplified public offer in cash at the price of €40 per share, ex dividend, representing:
  - a 10.4% premium on the last adjusted share price<sup>(1)</sup> on 7 April 2011
  - a 23.8% premium on the adjusted share price<sup>(1)</sup> over the last 6 months<sup>(2)</sup>
- Alternative public offer of 13 EDF shares, dividend rights starting January 1 2011, for 11 EDF EN shares, ex dividend
- Irrevocable commitment of Mouratoglou Group to contribute its equity interest, of which 50% to the exchange offer
- Share buy-back to optimise Group liquidity and prevent EDF shareholder dilution at current level
- This offer received the unanimous approval of EDF's Board of Directors

(1) EDF EN share price adjusted for the dividend of €0.42 for the 2010 financial year which will be paid on 15 June 2011, i.e. before the settlement/delivery of the offer



<sup>42 (2)</sup> Volume-weighted average price

#### **Offer characteristics**

Tender offer by EDF on EDF EN shares not currently held by EDF

- Cash offer: €40 per EDF EN share<sup>(1)</sup>
- Exchange offer: 13 EDF shares, dividend rights starting January 1 2011, for 11 EDF EN shares, ex dividend
- Irrevocable commitment by Mouratoglou Group to contribute its entire 25.1% interest in EDF EN
  - 50% exchange offer and 50% cash offer

Share buy-back programme of EDF shares for an amount between €0.3bn and €1bn<sup>(2)</sup>, in order to offset dilution



and at 30-day volume-weighted average of EDF share price

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## An offer that fully values EDF EN

#### **Cash offer**

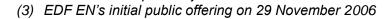
- Proposed price €40 (ex dividend)
- Implied premium<sup>(1)</sup>:
  - Share price 7 April: +10.4%
  - Average weighted share price over 6 months: +23.8%
- Resulting valuation multiples:
  - 2011 EBITDA: 12.4 x
  - 2011 P/E: 25.7 x

#### **Exchange offer**

- Proposed parity<sup>(2)</sup>: 1.18
  Average parity // Resulting promiume
- Average parity // Resulting premiums
  - Over last 6 months
    1.06x // +11.0%
  - Over past 1 year
    0.98x // +20.6%
  - Since the IPO<sup>(3)</sup> 0.75x // +58.1%
  - 2011 Dividends 0.38x // +209.2%
  - 2011 EPS 0.89x // +33.2%

(1) EDF EN share price adjusted for the dividend of €0.42 for the 2010 financial year, which will be paid on 15 June 2011, i.e. before the settlement/delivery of the offer

(2) EDF EN share price adjusted for the dividend of €0.42 for the 2010 financial year, which will be paid on 15 June 2011, i.e. before the settlement/delivery of the offer and EDF share price adjusted for the final dividend of €0.58 for 2010, which will be paid on 6 June 2011, i.e. before the settlement/delivery of the offer



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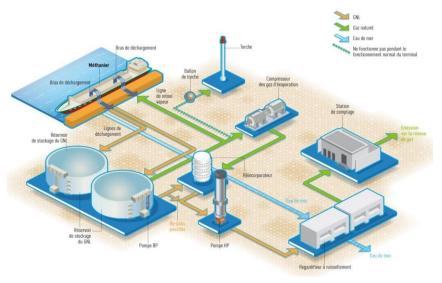
#### **Indicative transaction timetable**

- 8 April 2011: Announcement and filing of the public offer with the AMF
- 9 May 2011: EDF EN board meeting unanimously approved the offer
- 24 May 2011: Déclaration de conformité & AMF approval (visa)
- 27 May 16 June 2011: Offer period
- 23 June 2011: Publication of the offer result
- 29 June 2011: Settlement/delivery



## **Dunkirk methane terminal project**

- The Dunkirk methane terminal, in operation in 2015, would be made up of the following installations:
  - a liquified natural gas (LNG) unloading system,
  - a regasification unit,
  - a pipeline to the gas transport network.
  - an entry point for around 80 methane tankers a year, with capacity of up to 270 Km3,
  - three LNG storage tanks holding 190 Km3 each (each tank is around 50m high and 90m in diameter),
  - a sea water intake for heating the LNG. For this project, part of the cooling waters from the Gravelines nuclear plant will be used to reheat the LNG
- Three project managers would be involved in the €1.5bn project:
  - The Grand Port Maritime de Dunkerque would build the port infrastructure consisting of a dock, unloading platform and a platform for the industrial infrastructure covering around 50 hectares partly reclaimed from the sea (amounting €130m)
  - EDF would, via its subsidiary Dunkerque LNG, build the industrial infrastructure for unloading, storage and regasification of LNG as well as the roadways and facilities needed for the terminal's operations (totalling €1bn)
  - GRTgaz would lay the pipes that will carry the revaporised gas to the gas transport network (totalling €400m)







# 2011 First quarter Sales and highlights



12 May 2011

