

Electricity markets in Europe :

EDF's experience

A BIT OF HISTORY

Electricity market was liberalized in the U.K during the eighties.

Then a wide discussion was launched at European level.

Finally, a first Directive “concerning common rules for the internal market in electricity” was adopted by end 1996.

Liberalisation was partial (large and medium customers).

A second Directive, involving eligibility ⁽¹⁾ of all customers from 1 July 2007, was adopted in June 2003.

(1) “eligible customers” means customers who are free to purchase electricity from the supplier of their choice”

Second Directive : main features

All non-household customers are eligible from 1 July 2004 (all customers from 1 July 2007).

From 1 July 2004, TSOs (transmission system operators) which are part of a vertically integrated undertaking shall be independent at least in terms of their legal form, organisation and decision making from other activities not relating to transmission.

From 1 July 2007, this will also apply to DSOs (distribution system operators).

Regulatory authorities shall be wholly independent from the interests of the electricity industry.

Grid-use shall be based on published tariffs.

Second Directive : public service obligations

- 1/2 -

Member States may impose public service obligations which may relate to security (including security of supply), regularity, quality and price of supplies and environmental protection, including energy efficiency and climate protection.

Member States shall ensure that all household customers (and, optionally, small businesses) enjoy universal service (that means, essentially electricity at reasonable price). They may appoint a supplier of last resort.

Second Directive : public service obligations

- 2/2 -

Member States shall protect vulnerable final customers and customers in remote areas.

Authorisation procedures for new capacities may include criteria based on public service obligations.

Member States shall ensure the possibility of calls for tenders, if needed to ensure security of supply. They may also do that to enhance environmental protection or promote infant new technologies.

Some questions (1)

Did the Directive create a competitive internal market ?

Not yet :

there are still not enough interconnections between Member States (for instance, between France and Spain, or between Great-Britain and the Continent) so that we can talk, about regional submarkets. Cooperation between TSOs should also be improved.

€/MWh

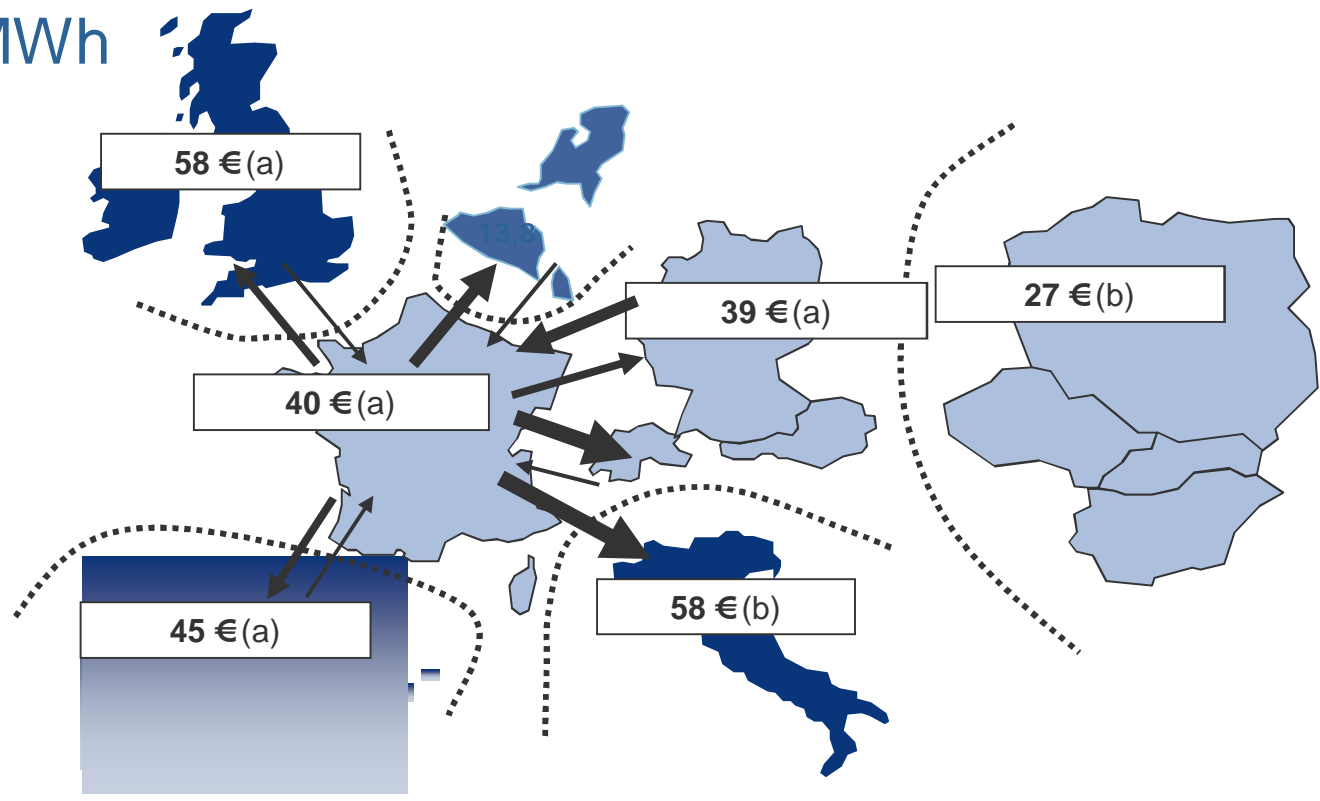
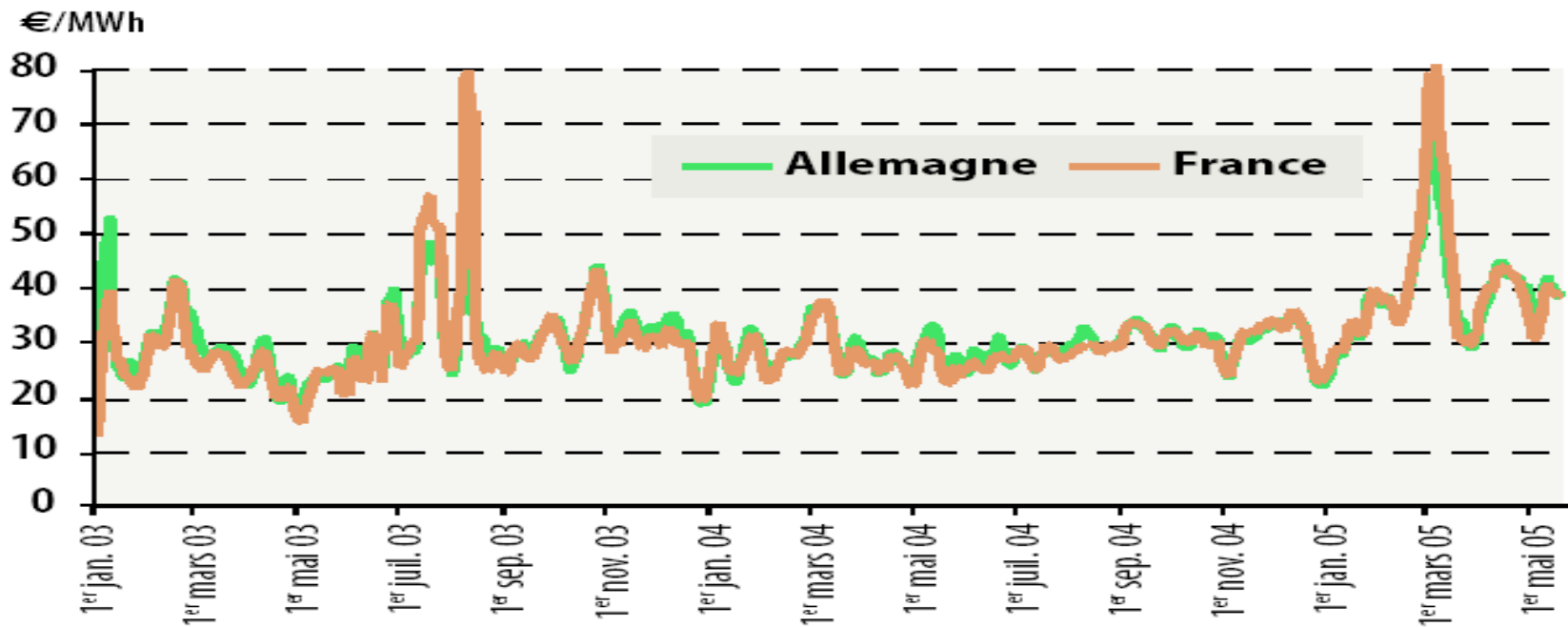


Figure 34

Figure 34 : Evolution des prix *spot* base sur Powernext et EEX (moyenne glissante sur 7 jours)



Source : CRE d'après Powernext, EEX

Some questions (2)

- 1/1 -

How are security of supply issues addressed ?

These issues are very important and very difficult.

Some facts to show how investor's choices have become difficult :

These issues are linked to the tightening of environmental regulations, which are stricter and stricter (but still unknown on the long run).

Some questions (2)

- 2/2 -

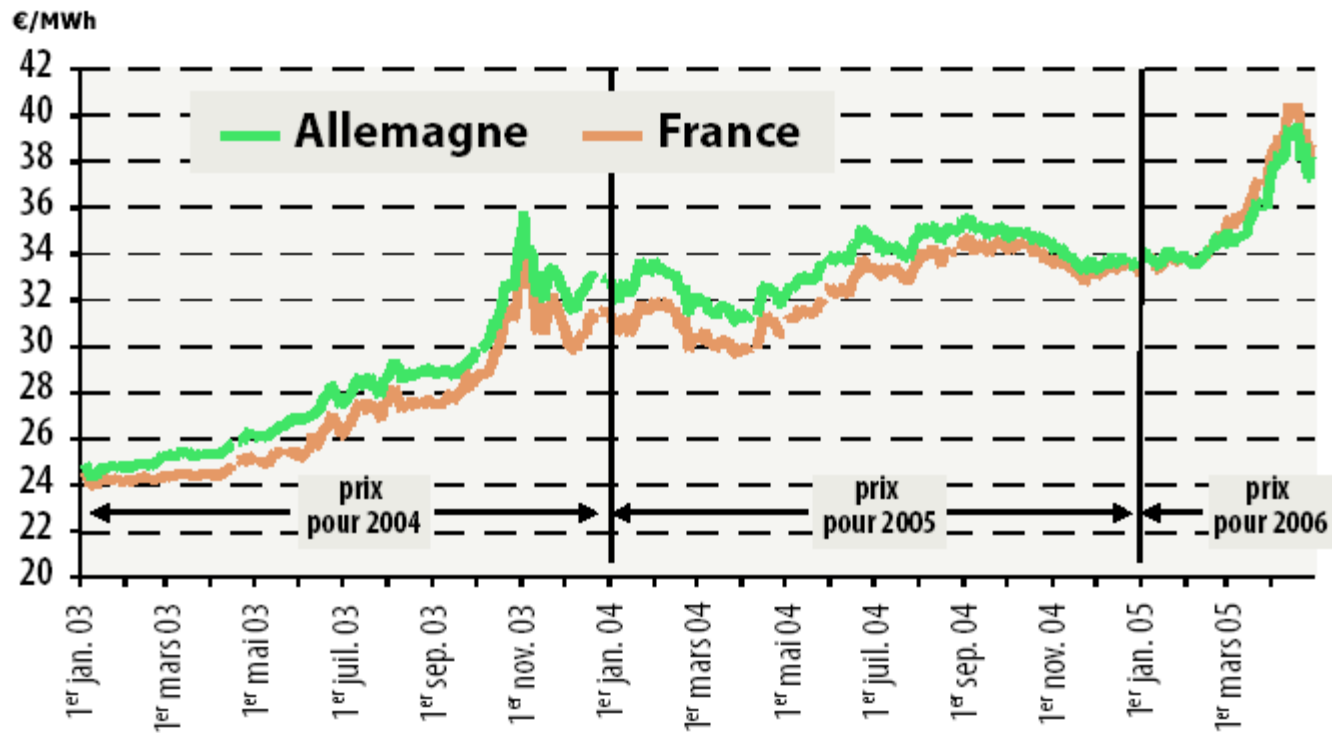
CCGTs are no longer the “miracle technology” (increasing foreign dependency, higher prices).

CO2 emissions constraints for the electricity sector are largely unknown beyond 2007 (even more after 2012).

New investment needs are enormous (more than 700 GW in the 25 years to come, half replacement, half to cope with demand growth).

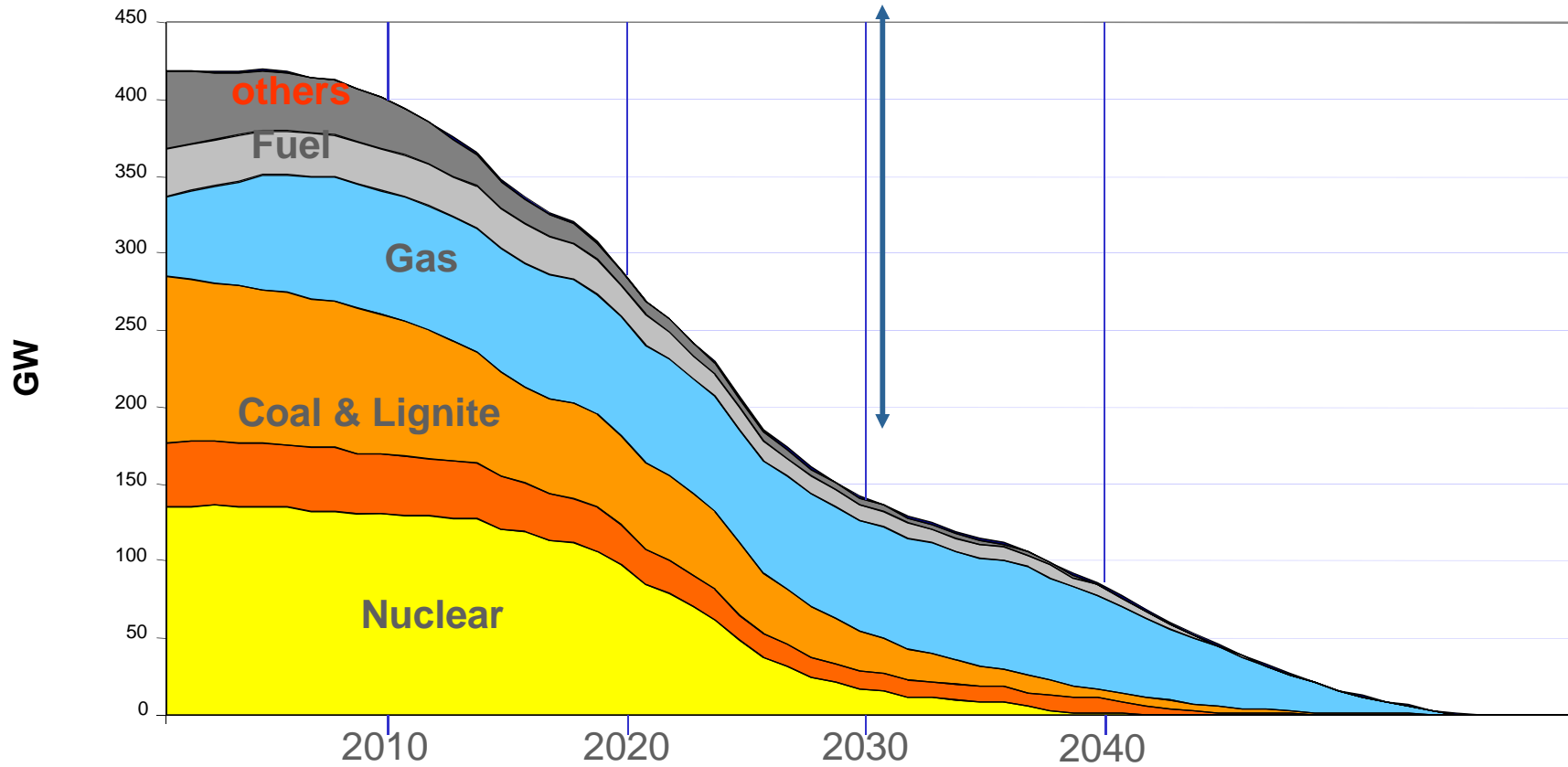
Figure 36

Figure 36 : Prix du *forward* base annuel Y+1



Source : CRE d'après Powernext, EEX

DECOMMISSIONINGS IN EUROPE





FRENCH ELECTRICITY MARKET

French Electricity market : how large is it ?

Global electricity consumption (2004) : 477 TWh.

Market opening started in 1999; now all non-residential customers are eligible.

That makes 69% of French electricity consumption, and 2.5 millions clients.

EDF's market share is 87%.

By July 200, all customers will be eligible : 26.6 millions clients.

French Electricity market : who are EDF's main competitors ?

Companies which generate significant amounts of electricity in France :

Electrabel/Suez - Endesa/SNET - Gaz de France - Total

Companies without any significant generation capacity (for the time being) :

Direct Energie, Poweo...

Large generators outside France :

RWE, E.On, ENEL, ATEL...

VPPs : an original mechanism

Asked by the European Commission when EDF became a shareholder of EnBW (in Germany).

EDF has to sell each year around 40 TWh to its competitors, via auctions.

There are two products : “baseload” (proportional price:8 Euros/MWh) and “peakload” (proportional price:50 Euros/kWh).

The fixed premium is auctioned in each case.

This allows to the French market to be more opened, even though these kWhs are still generated by EDF (hence the name : VPPs=virtual power plants).

EDF's offers to eligible clients : main characteristics

- ✓ Differentiated offers (market segmentation).
- ✓ Dual offers (electricity and gas).
- ✓ Services.
- ✓ Energy consumption optimisation (using EDF's R and D, if needed).

CRE : an independent regulation authority

CRE means “Commission de Régulation de l’Energie” (i.e Electricity and Gas).

Seven members ; only two are chosen by the government.

CRE : Main tasks

It monitors competition ;

It regulates the TSOs and monitors a transparent and equal access to electricity and gas networks ;

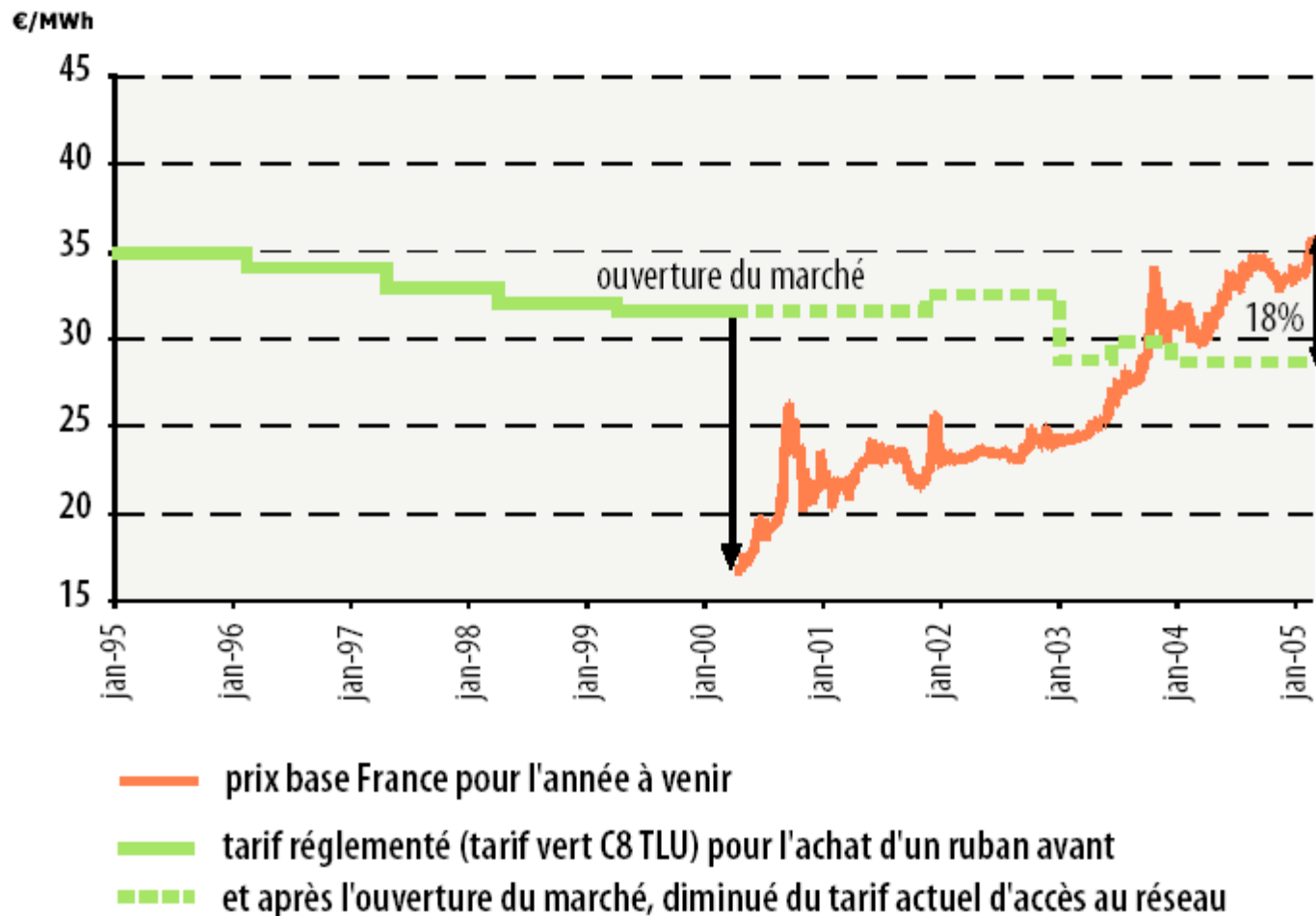
It proposes grid-use tariffs to the government ;

It computes compensations of public service obligations ;

It implements calls for tenders.

Figure

Figure 44 : Grand site industriel-type au tarif vert, prix hors taxes en € constants au 1^{er} janvier 2005, hors acheminement, hors CSPE





Thank you for your attention.

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