

Transmission Network Ownership, Market Efficiency and Success or Collapse of Reforms in the Electricity Sector

by Nathalie Collin-Sisteron

Ph. D. candidate

University Paris Dauphine France

CGEMP

(Center of Geopolitics of Energy and Raw Materials)

- **Reforms in the network industries** and opening of the market in most of the countries.
- **Grid access** : key point for liberalization
- **What kind of organization** for transmission network operator best allows market efficiency and success of the reforms ?

- **The organization of the transmission network operator in the European reform**
 - In the directive 96/92/CE of 1996
 - In the directive 2003/54/CE of 2003
- **The transposition at the French level**
 - French law 2000/108 of 2000
 - The French translation of « unbundling »

IMPLEMENTATION OF THE ELECTRICITY DIRECTIVE

	Declared market opening (%)	Unbundling : transmission system operator/owner	Unbundling : Distribution system operator	Regulator	Overall network tariffs	Balancing conditions favourable to entry	Biggest three generators' share of capacity
Austria	100	Legal	Accounting	ex-ante	above average	moderate	45
Belgium	52	Legal	Legal	ex-ante	average	unfavourable	96
Denmark	100	Legal	Legal	ex-post	average	favourable	78
Finland	100	Ownership	Management	ex-post	average	favourable	45
France	34	Management	Accounting	ex-ante	average	moderate	92
Germany	100	Legal	Accounting	NTPA ¹	above average	moderate	64
Greece	34	Legal/Mgmt	Accounting	ex-ante	average	moderate	97
Ireland	56	Legal/Mgmt	Management	ex-ante	average	moderate	97
Italy	70	Own/Legal	Legal	ex-ante	average	moderate	69
Lux	57	Management	Accounts	ex-ante	above average	unfavourable	n.a.
Neth	63	Ownership	Management	ex-ante	average	moderate	59
Portugal	45	Legal	Accounting	ex-ante	average	moderate	82
Spain	100	Ownership	Legal	ex-ante	average	favourable	83
Sweden	100	Ownership	Legal	ex-post	average	favourable	90
UK	100	Ownership	Legal	ex-ante	average	favourable	36

¹NTPA = Negotiated third party access

Source : Commission of the European Communities, SEC (2003) 448

UNBUNDLING OF NETWORK OPERATORS : ELECTRICITY

	Basic Unbundling Model		Published accounts		Compliance officer		Separate corporate identity		Separate locations		Total Yes
	TSO	DSO	TSO	DSO	TSO	DSO	TSO	DSO	TSO	DSO	
Austria	Legal	Account	Y	Y (large)	N	N	Y	N	Y(1)	N	4
Belgium	Legal	Legal	Y	Not yet	N	N	Y	Y	Y	some	5
Denmark	Legal	Legal	Y	Y	Y	Y	Y	N	Y	N	6
Finland	Own	Manage	Y	Y	Y	Y	Y	N	Y	large	6,5
France	Manage	Account	Y	N	Y	N	Y	N	Y	N	4
Germany	Legal	Account	Y	Y (some)	N	N	Y	N	Y	N	3,5
Greece	Legal/M	Account	not yet	not yet	N	N	Y	N	Y	N	3
Ireland	Legal/M	Manage	Y	in part	Y	Y	Y	N	N	N	4,5
Italy	Own/Leg	Legal	Y	Y	N	N	Y	Y	Y	Y	6
Lux	Manage	Account	Y	N	N	N	N	N	N	N	1
Neth	Own	Manage	Y	Y	Y	N	Y	N	Y	N	5
Portugal	Legal	Account	Y	Y	N	N	Y	N	Y	N	4
Spain	Own	Legal	Y	Y	Y	N	Y	Y	Y	N	6
Sweden	Own	Legal	Y	Y	Y	N	Y	Y	Y	N	6
UK	Own	Legal	Y	Y	Y	Y	Y	often	Y	often	7

Source : Commission of the European Communities, SEC (2003) 448

Transmission Unbundling in the UE directive 2003/54/CE

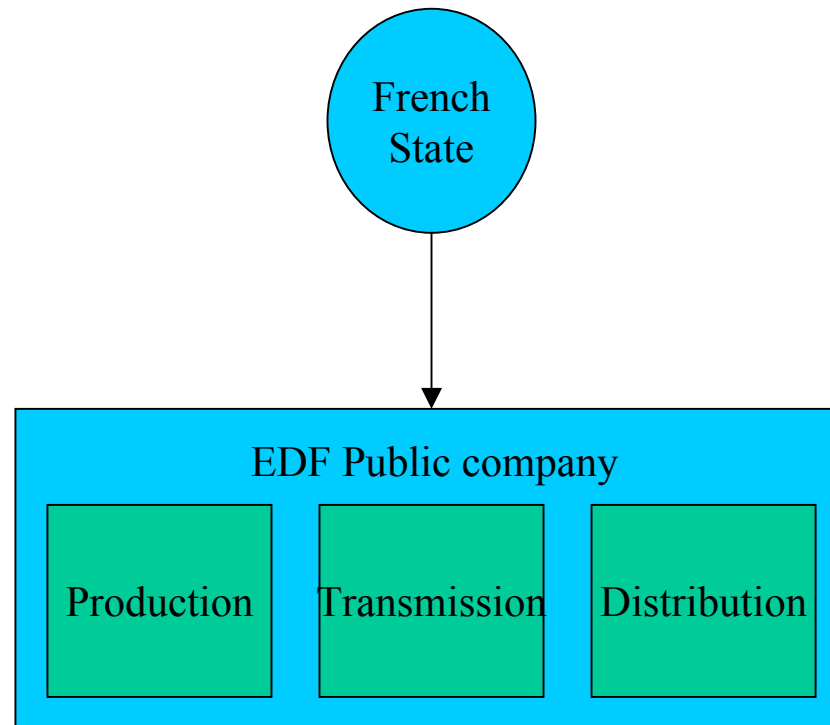
- **Legal unbundling**
- **Management unbundling**
- **Accounting unbundling**

UNBUNDLING OF NETWORK OPERATORS ELECTRICITY

	Legal unbundling	Managerial unbundling	Account Unbundling
GRT	+	+	+
GRD More than 100.000 clients	Possible derogation until July 1 st 2007	+	+
GRD Less than 100.000 clients	Possible derogation	Possible derogation	+

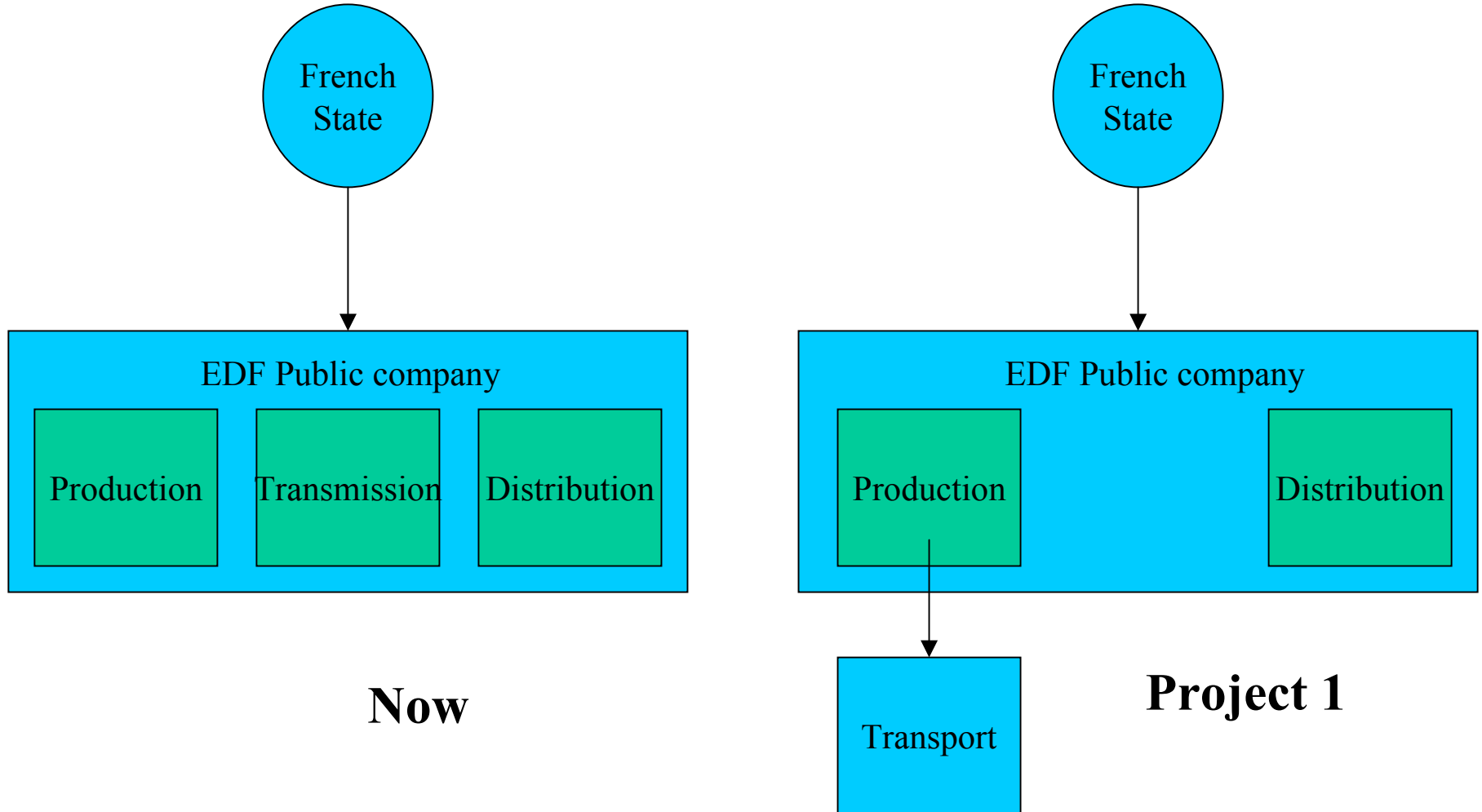
Rules from Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003

French transmission organization

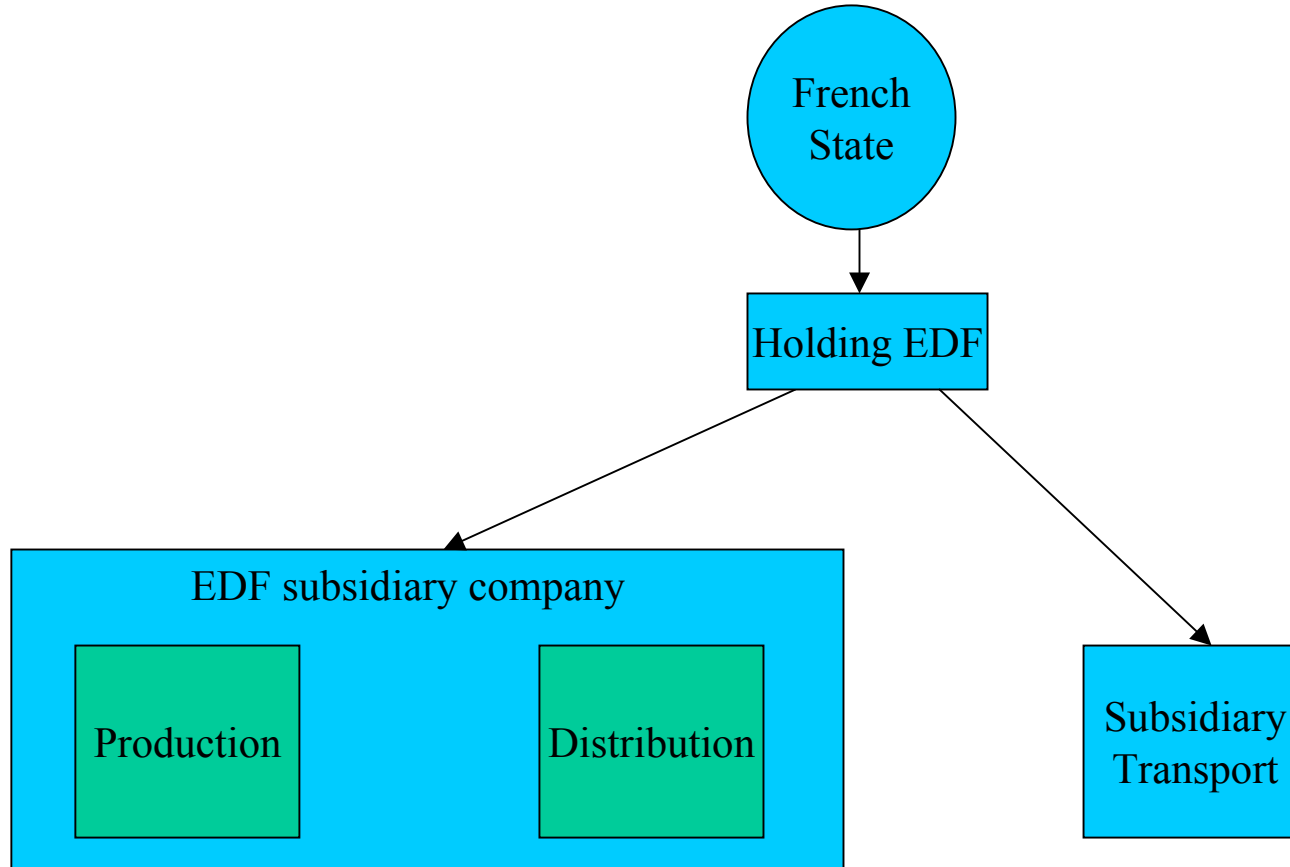


Now

French transmission organization (1/2)



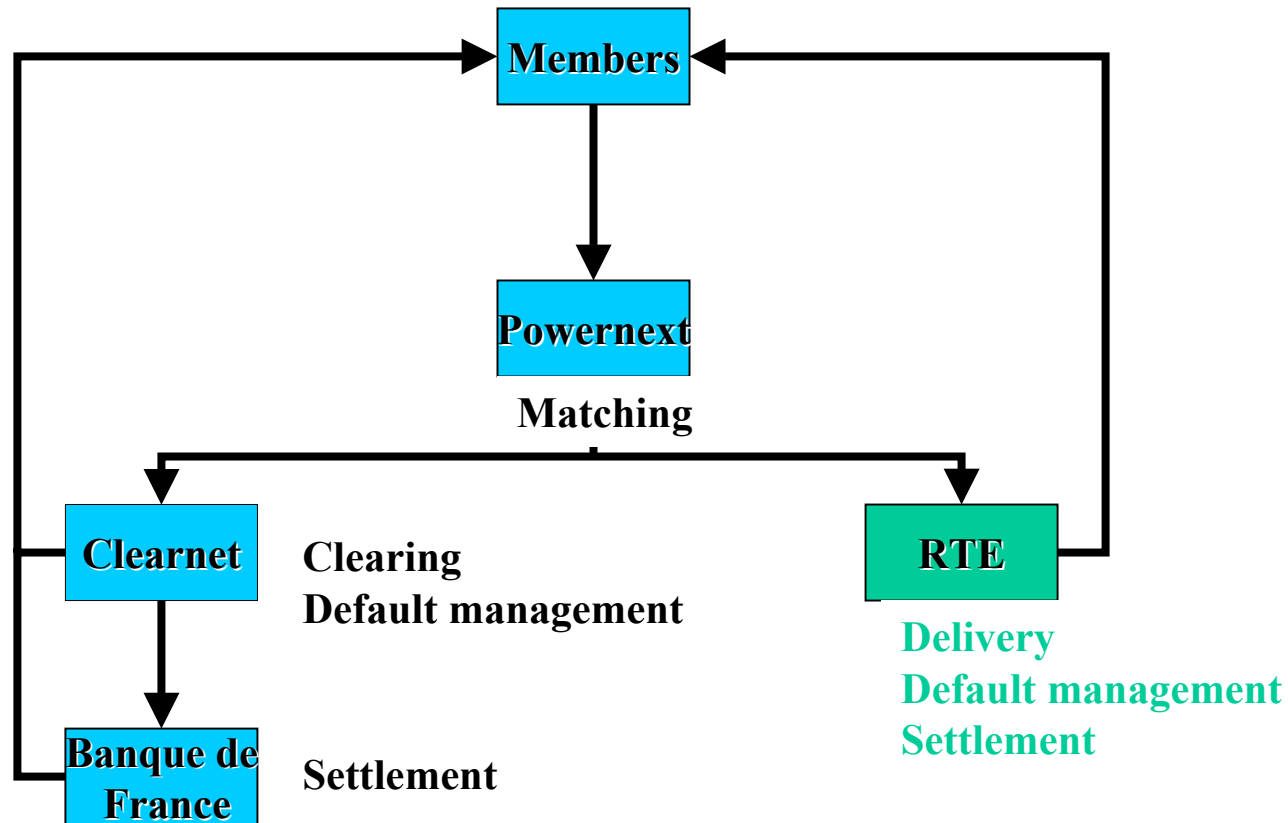
French transmission organization (2/2)



Project 2

with EDF Holding

Spot Market organization



Source : Powernext products and market organisation

Guaranteed delivery by RTE

Powernext

Trading



Nomination



RTE

Delivery

Balancing equation

$$\text{Injection} - \text{Withdrawal} = \text{Import} - \text{Export} + \text{Purchases} - \text{Sales} = 0$$

Source : Powernext products and market organisation

Conclusions

- **Transmission network assets ownership** is not considered as an essential element for transmission issues from the European point of view
- **Independence** must be reached from legal, accounting and management ways
- Legal unbundling does not necessarily lead to change in the **assets ownership**