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The Opening of the Electricity Market and the Reorganisation of the Electrical Industry in Italy

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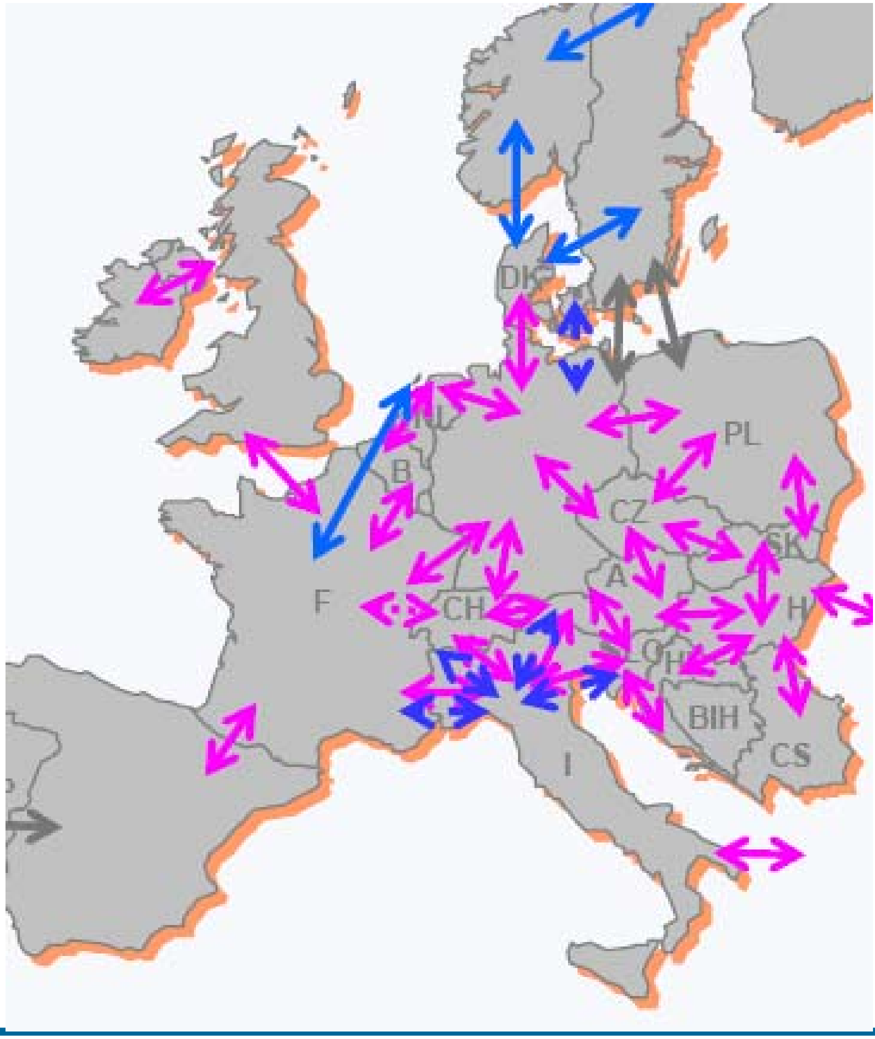
1. The Italian Electricity Sector



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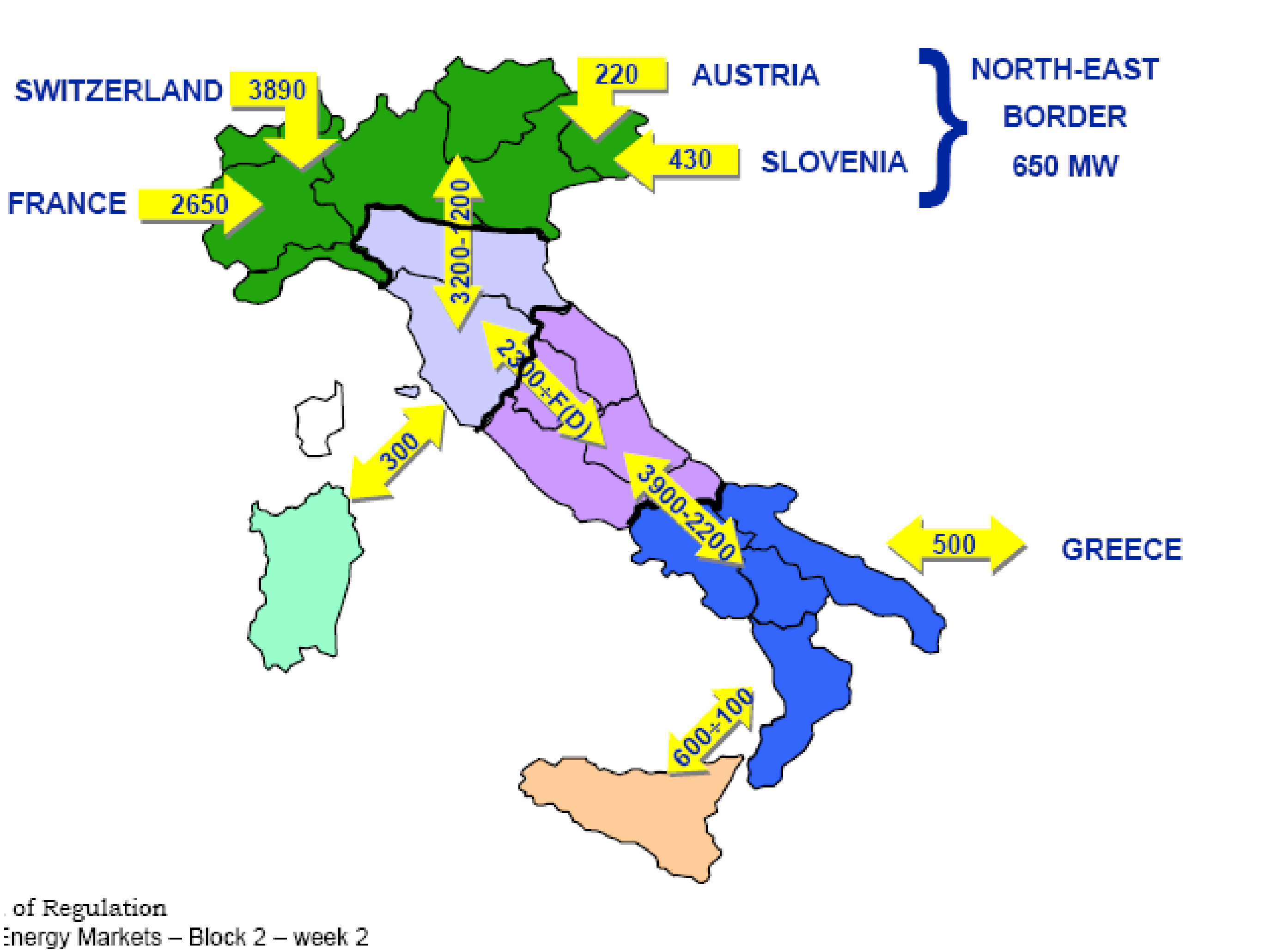
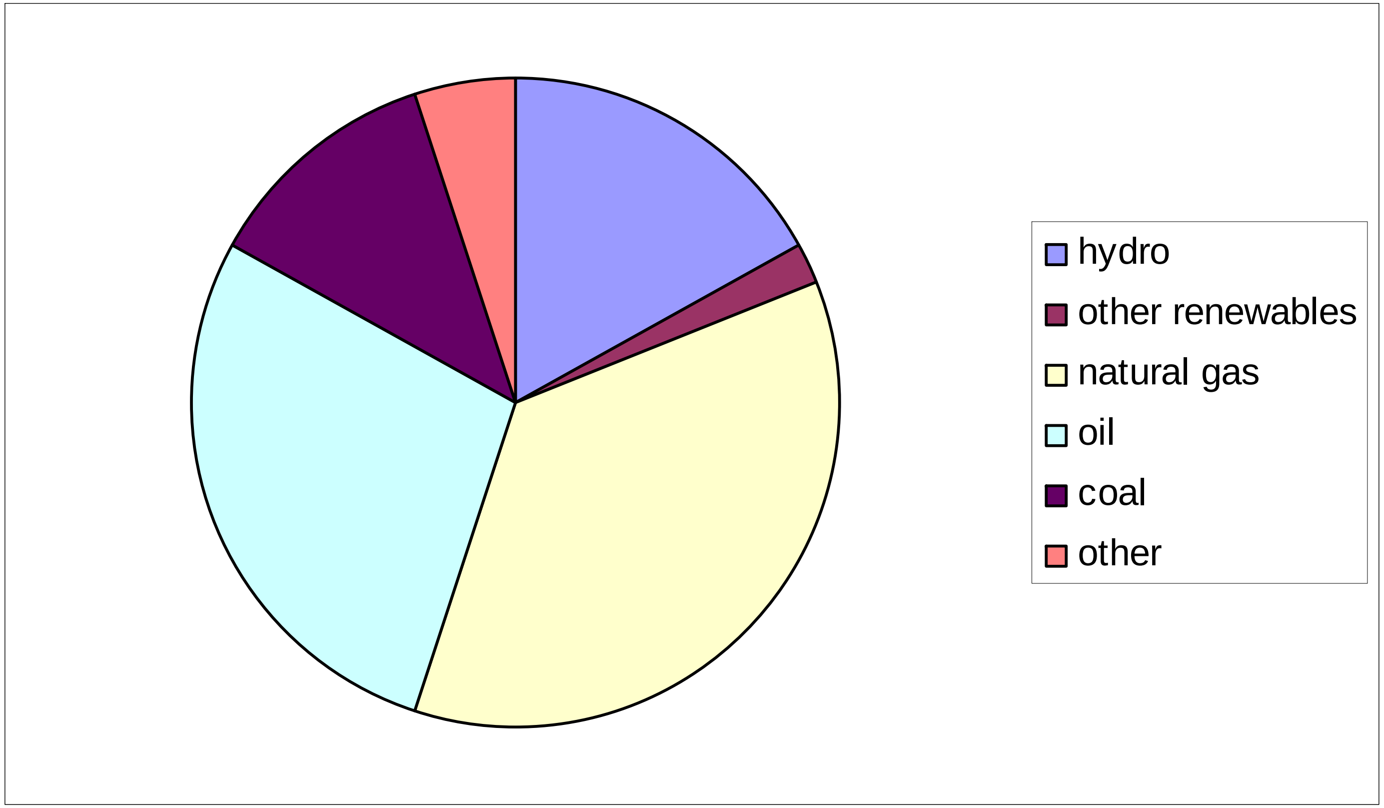


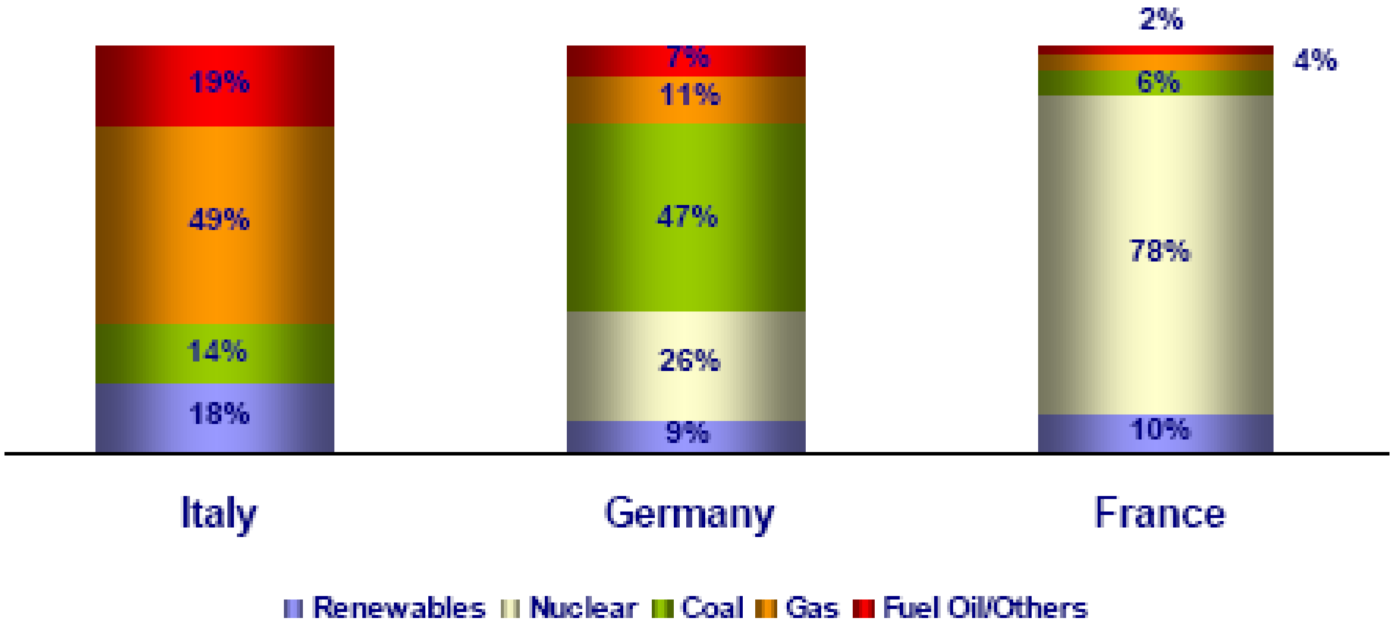
1. The Italian Electricity Sector

primary energy sources in Italian electricity generation



1. The Italian Electricity Sector

Electricity production by source, 2005



2. History

1961 nationalisation: state monopoly (ENEL) but municipal companies and self-production

1987 referendum against nuclear energy

1991 private investment in generation allowed, with subsidies for renewables

1992 privatisation process set in motion

1995: legislation setting up regulatory authorities approved

1996 European electricity directive

1997 Autorità per l'energia elettrica e il gas in operation

1999 European electricity directive transposed

1999 – 2004 Enel partially privatised, Govt. owns 40%

3. Reform decisions

Unbundling of the networks

In the European Union: accounting & managerial (1996 directive), legal (2003 directive), ownership decisive but unlikely
In Italy:
- **Legal unbundling for national and local networks**
- **The national electricity grid:**
  - **system operator (GRTN) separated from Enel and Govt owned**
  - **merged into the owner of the grid (Terna)**
  - **Enel's share reduced to 20%, voting rights 5%**

Restructuring

Enel forced to divest 15 GW generation capacity (about ¼)
Metropolitan distribution systems consolidated in the hands of municipal companies

3. Reform decisions

Market opening: Wholesale

Large consumers free to choose supplier

Power exchange set up

Market opening: Retail

Supply legally separated from distribution

All non household consumers free to choose supplier

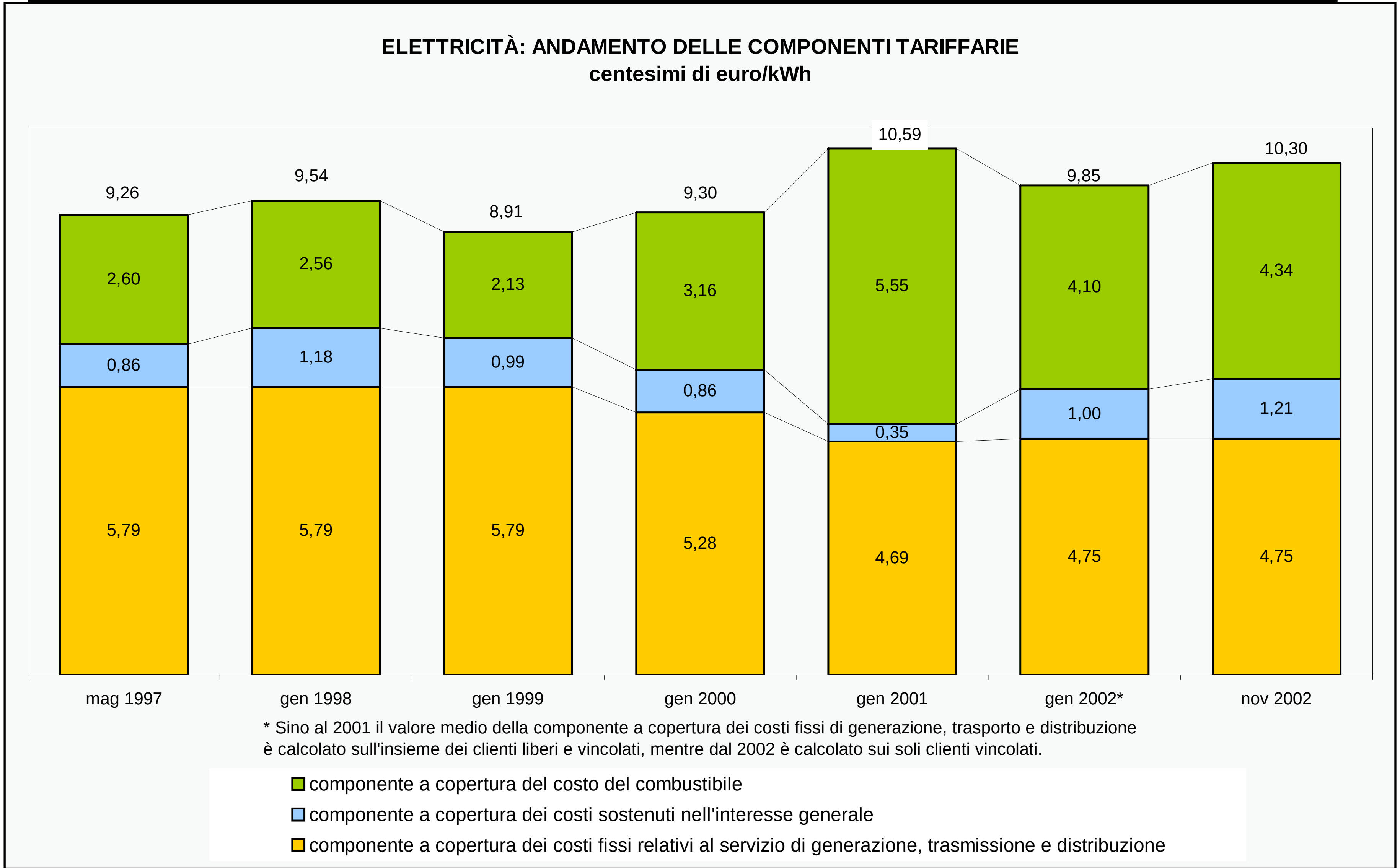
1 July 2007: hosehold consumers free to choose supplier

4. Regulation

a. Tariffs

- **Wholly re-designed by AEEG**
- **To be gradually replaced by market prices, except for networks**
- **Problems: accounting, unbundling**
- **Price cap for efficiency**
- **Cost-based: non discriminatory**
- **Energy-intensive sectors and industrial policy**
- **Social tariffs**

From monopoly to competition: a cost-based electricity tariff

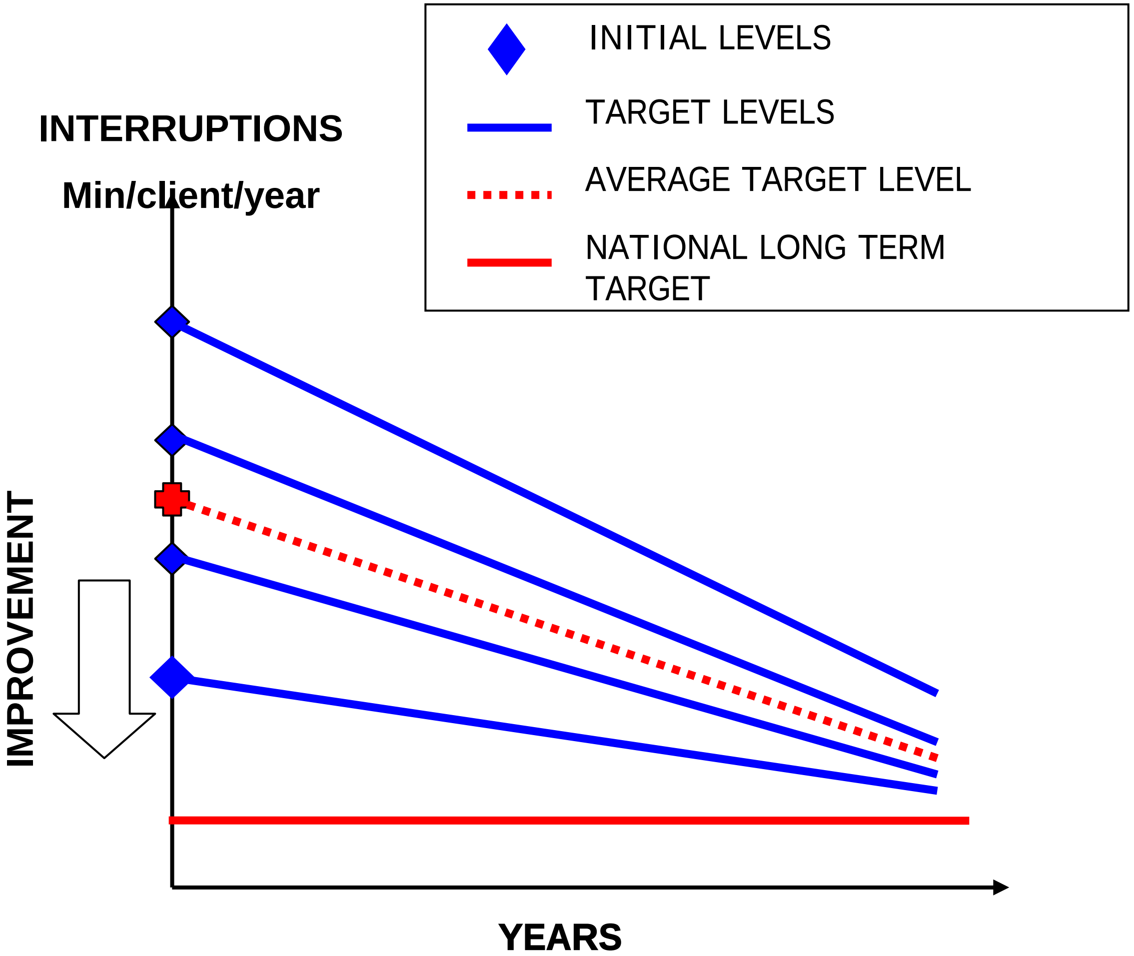


4. Regulation

Other functions by regulator

- **Regulation of access to networks**
- **Protection of consumers**
- **Regulation of quality of service**
- **Focus on results, with minimum interference: no control of investment but incentive – oriented regulation of continuity of electricity supply**

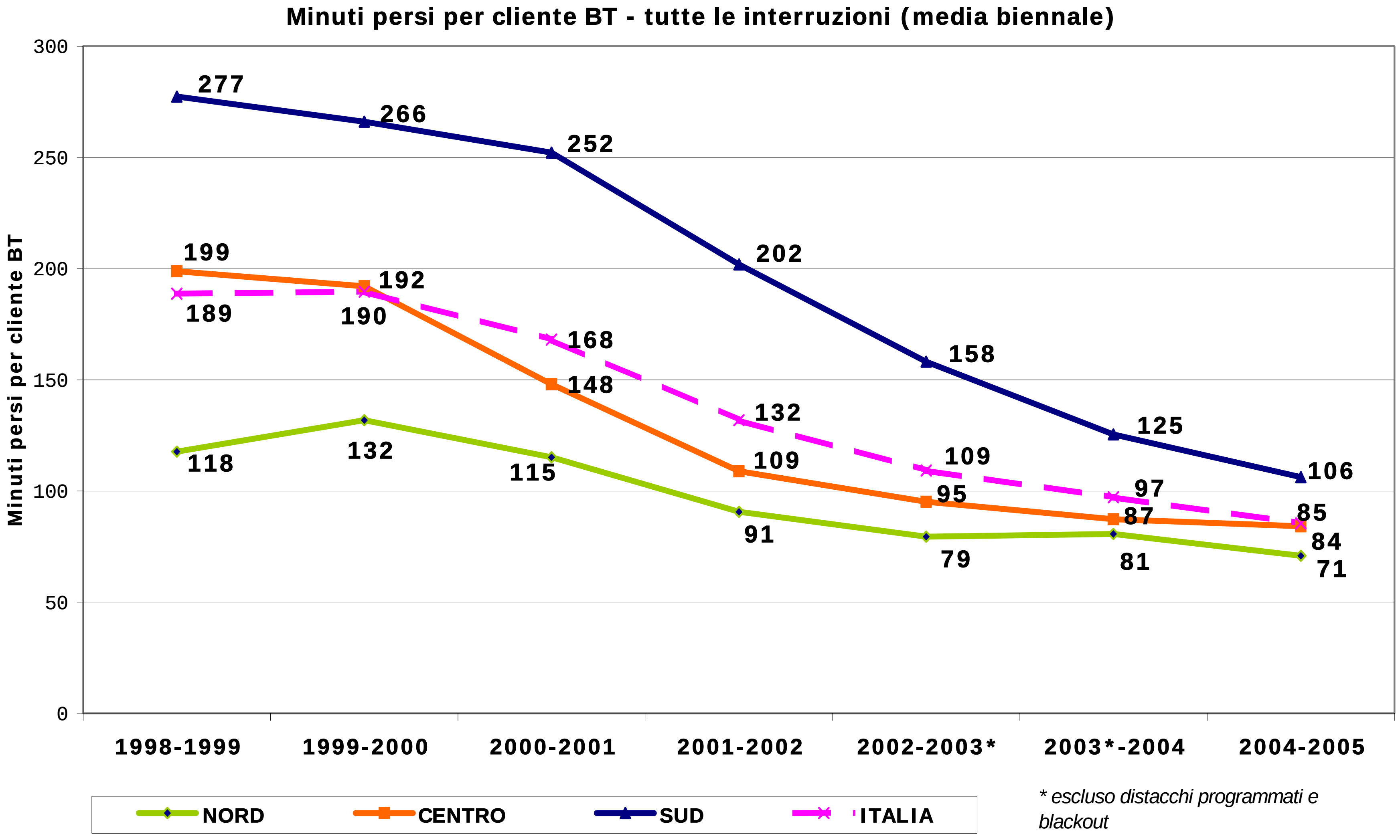
Regulating the continuity of electricity service: the mechanism



A distributor will

- Receive compensation if improvement greater than target
- Pay penalty if improvement smaller than target
- No effect if target is met (+/-5%)

Regulating the continuity of electricity service: results 2000-2005



** escluso distacchi programmati e blackout*

4. Regulation

Strong regulation: context

- good legislation: independence
- companies cooperated (but many appeals to court)
- Government had multiple objectives, sometimes conflicting
  - Treasury needs
  - National champion syndrome
  - Pressure from industrial groups
- some powers transferred back to government, and back again to regulator

4. Regulation

regulation: practices

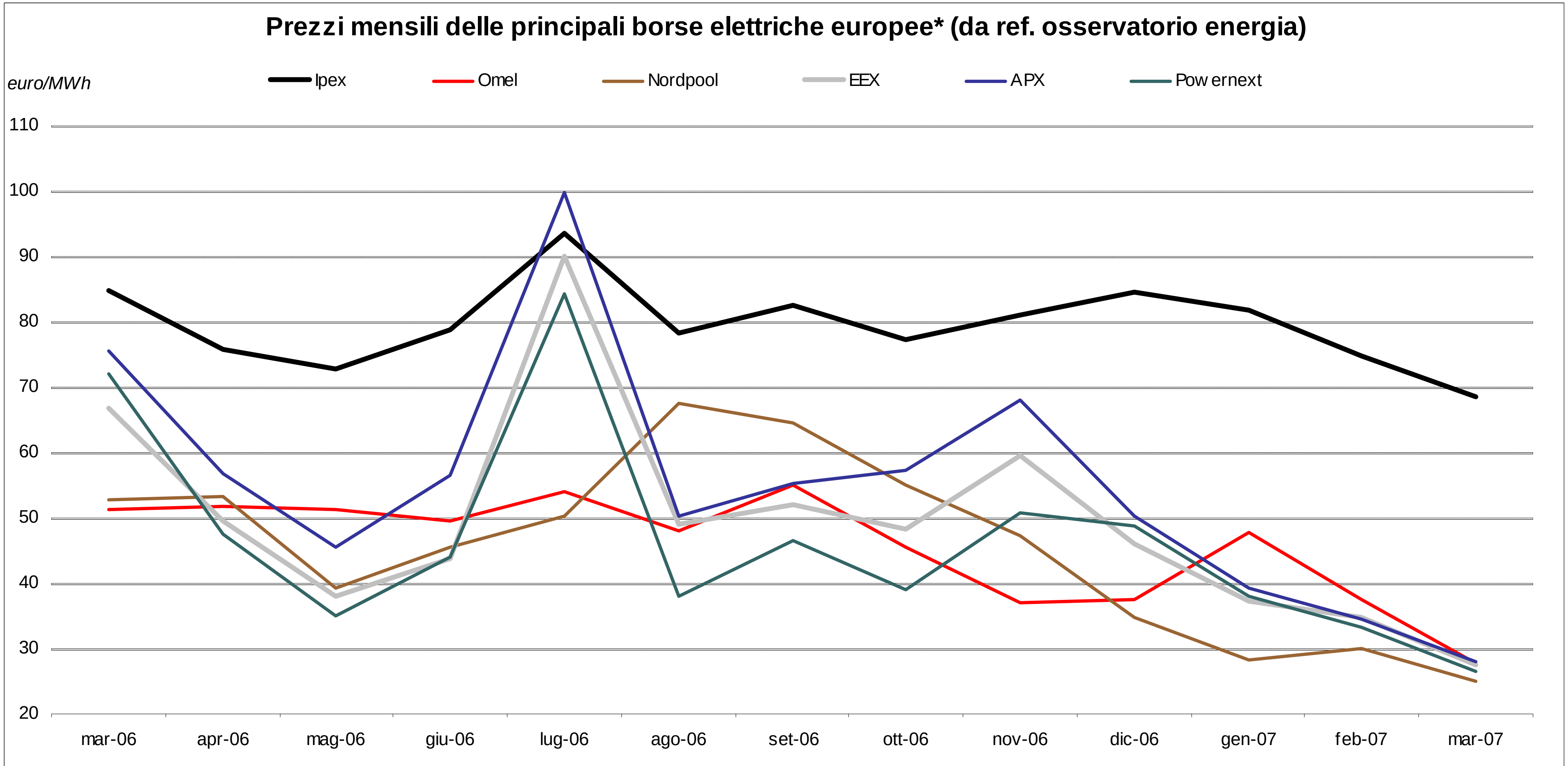
- transparency
- consultation
- arm's length from companies
- Cooperation with government but distance

Good practices provide support from consumers associations, public opinion

5. Implementation of reform

- Power exchange, not compulsory
- Single buyer to protect small consumers

Monthly prices in European power exchanges (March 2006 – March 2007)

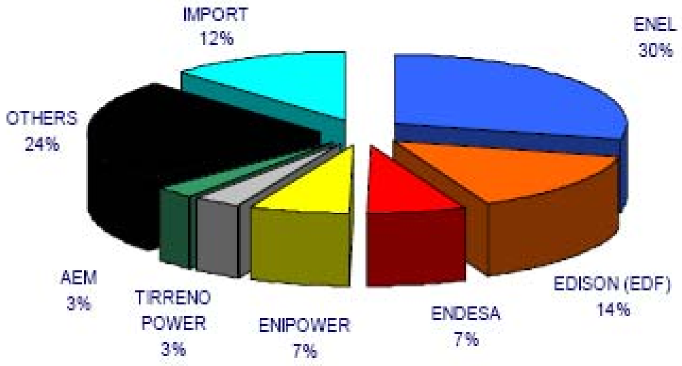


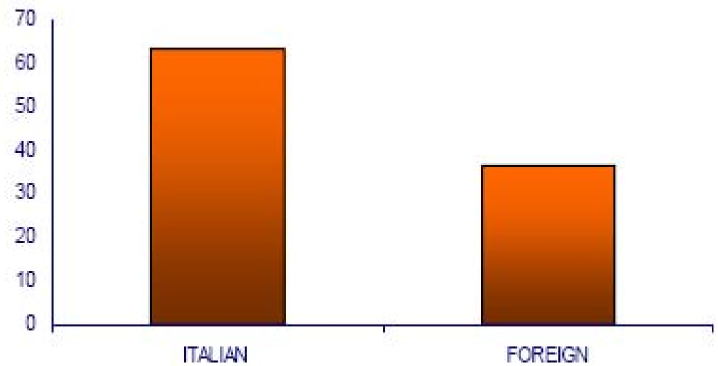
Fonte: El-da

** Medie aritmetiche da marzo 2006 a marzo 2007; i prezzi medi comprendono le ore dei giorni da lunedi a venerdi*

Industry restructuring in Italy: a view from Enel

Market share 2006





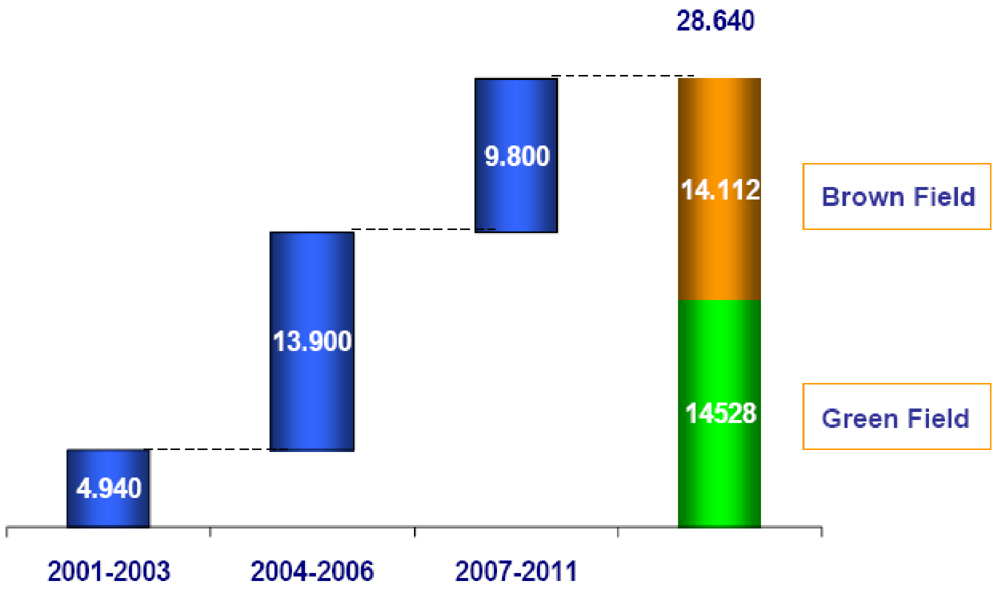
Source: UE Benchmarking Report, AEEG and Enel estimates on public data

More than 35% of the total production comes from foreign companies

Uncertainty in the transition created a standstill of investment in the 1990s and a lack of generation capacity in 2002-2003 Investment resumed when the new frame was clear

Investiment cycle in thermoelectric plants

Italy – MW



- Investiment cycle encouraged by clear regulation and start of the Pool
- Between 2001- 2011 almost 30.000 MW of new thermo capacity with € 15 billion investments

7. Open issues

Security of (gas) supply

Fuel mix: competitiveness vs. environment

Local opposition to infrastructure investment

Promotion of renewables

Insufficient competition

Insufficient interconnections

Retail competition to be introduced, switching to be made easy

Conclusions

- Liberalisation must be completed in Europe as well as in Italy, and the latter heavily depends on the former
- A European system of regulation, not a European regulator
- The present half-way situation can have very negative consequences both on competitiveness and on security
- A major political challenge, but also a cultural challenge: there is an insufficient understanding of liberalisation