



Liberalization of the Electricity sector in Moldova

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May 2013

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Gas Natural Fenosa

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Gas Natural Fenosa in Moldova

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Liberalization Process in Spain

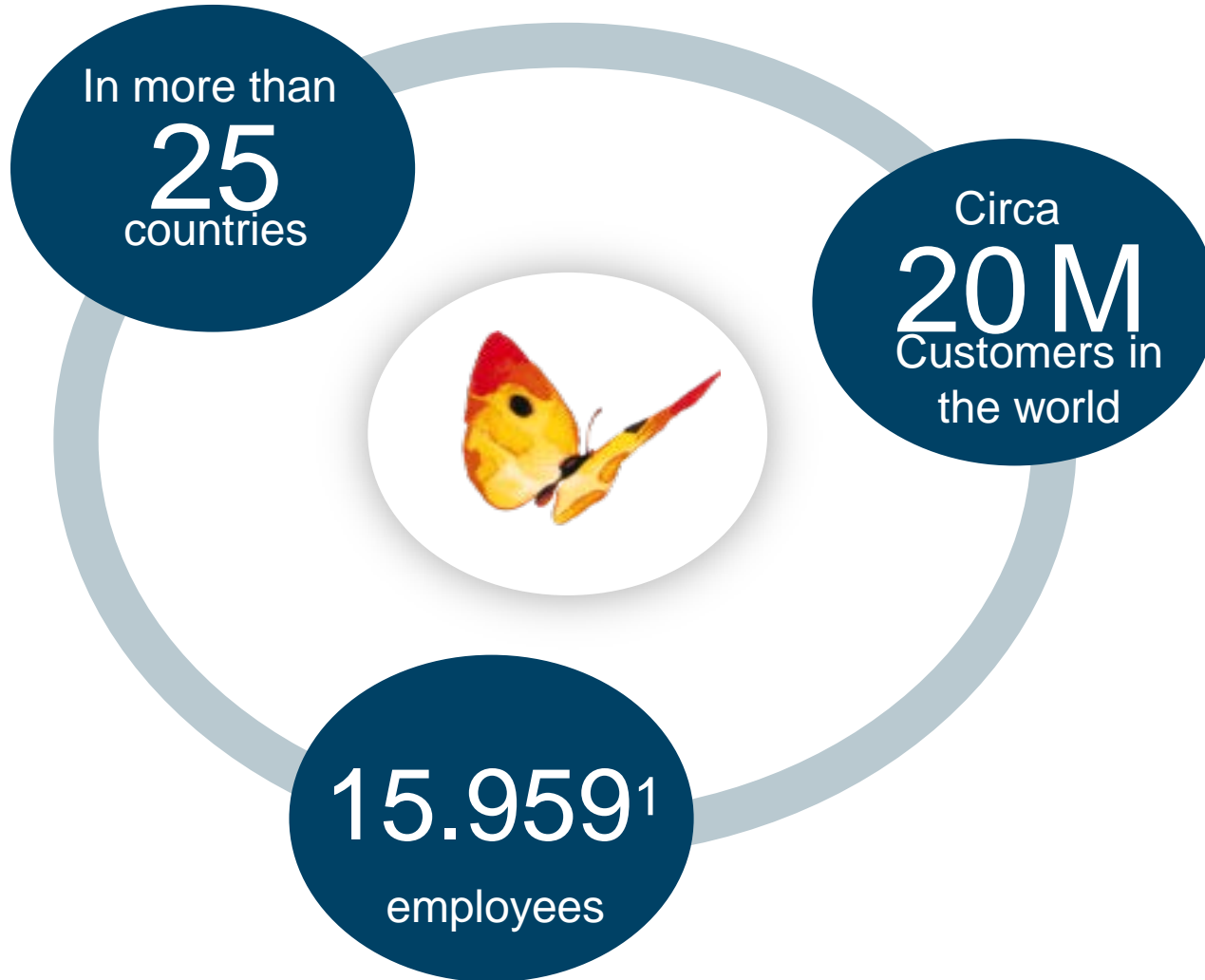
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Liberalization Process in Moldova

1

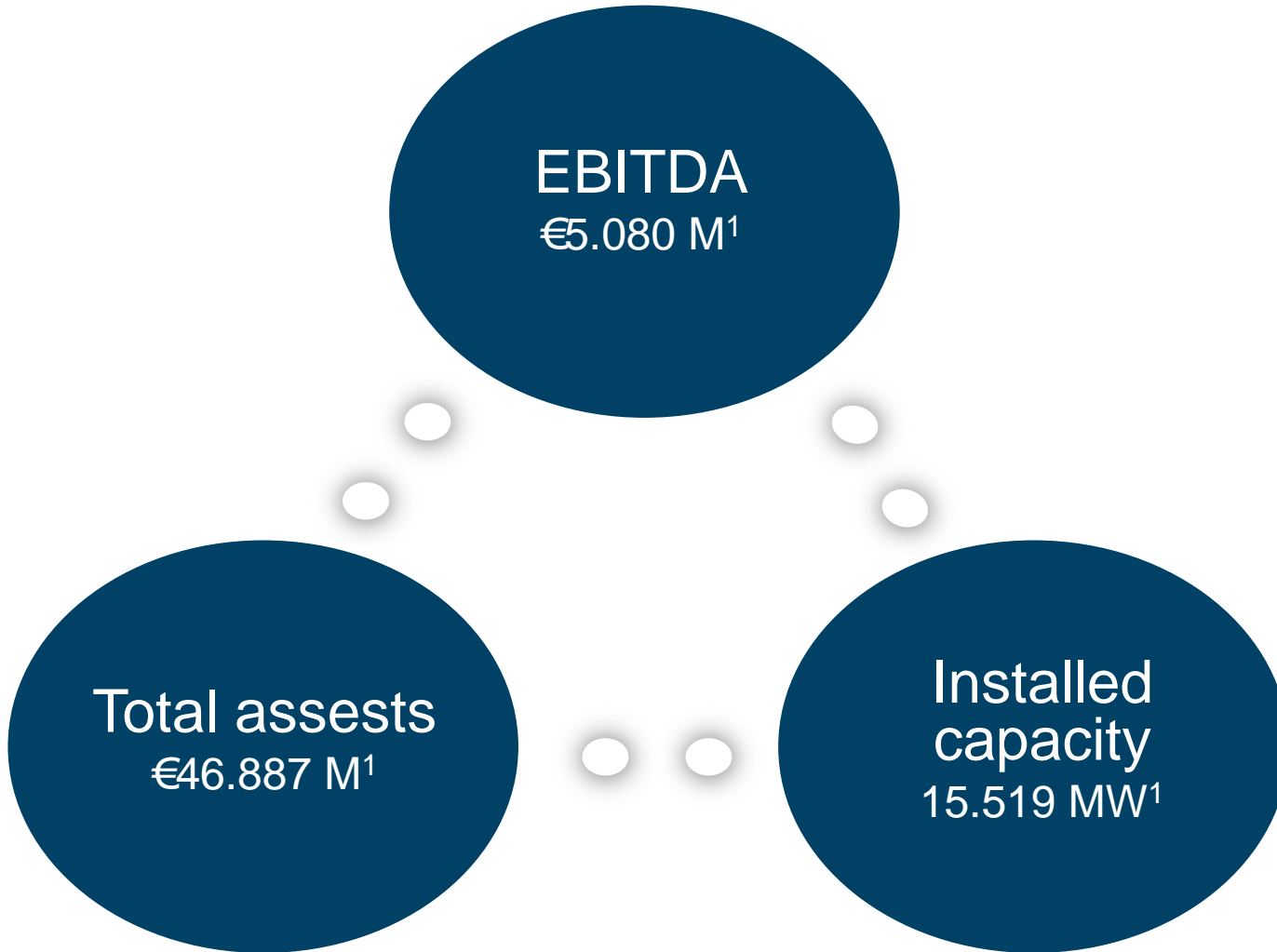
Gas Natural Fenosa

Who We are



The Biggest
**gas and
electricity**
Integrated company in Spain
and Latinamerica

Who We are



International group
Leader in
**gas and
electricity**

Around the World



Awards



For 7 years in a row, Leader in the *DJSI Europe* in the gas distribution industry



For 6 years in a row, included in the Annual Sustainability Gold Class award



For 11 consecutive years, included in this index

CARBON DISCLOSURE PROJECT

Occupies the Third position worldwide and the First position for Utilities, according to the Report *Carbon Disclosure Project Global 500 2012*



First company worldwide in the gas sector



Second most admired energy company worldwide



Award to Financial Excellence



Awarded the “Excellence in Diversify” recognition, for assistance to disabled people



Awarded the “efr” recognition for the Human and Society development

2

Gas Natural Fenosa in Moldova

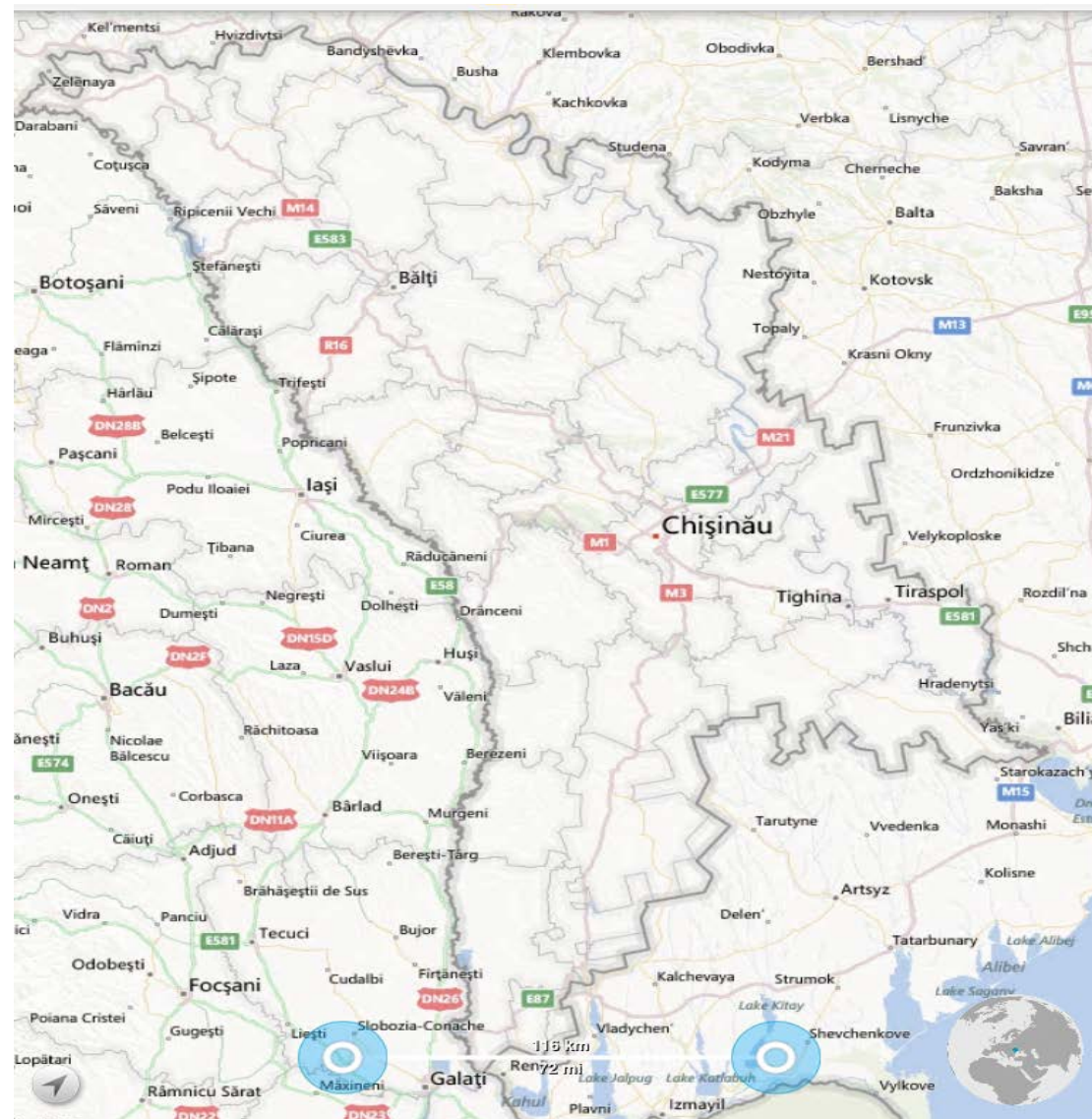
Country Moldova



Country Moldova



Country Moldova

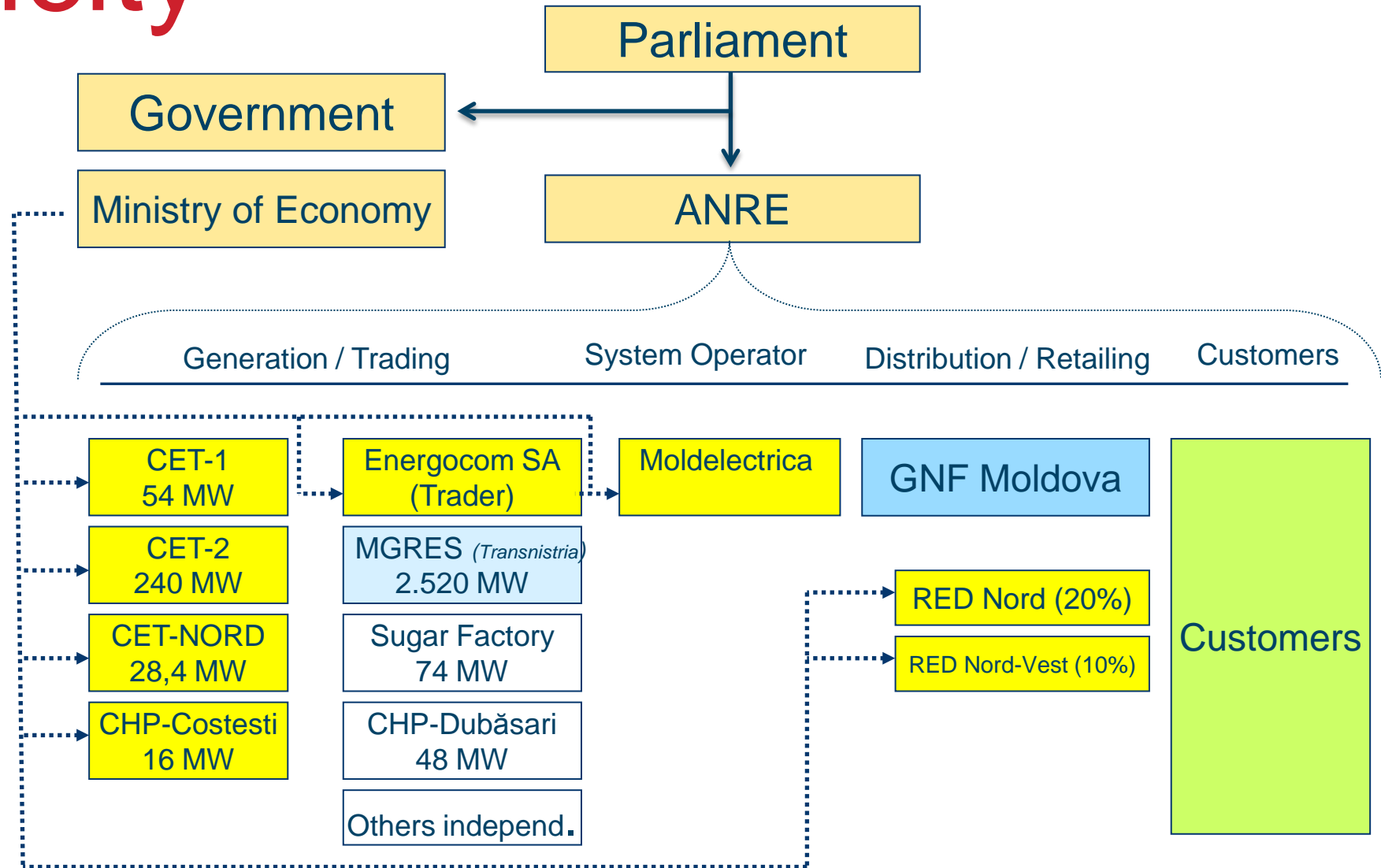


Country Moldova

- *Population*¹: 4.3 million (with Transnistria and emigrants)
- *Surface*: 33.851 km²
- *Ethnical groups*: 78% Moldavians-Rumanians, 9% Ukrainians, 6% Russians, 4% Gagauzians, 2% Bulgarians, others 1%
- *Languages*: Moldovan (~Rumanian), Russian, Gagauz
- *Religion*: No state-official religion. More than 70% of the population is Eastern Orthodox
- *Literacy*: 99% *Life Expectancy*: 70 years *Urban*: 47%
- *GNP per capita (nominal)*¹: US\$ 3.400
- *Unemployment*¹: 5%
- *Currency*: Leu (aprox. 12 Lei/USD¹)
- *Labor Force*: 28% Agriculture, 12% Industry, 60% Services
- *The Transnistria conflict*: Transnistria (350.000 citizens), is “*de jure*” part of Moldova, but it declared its independence in 1990, supported by the Russian Federation, and has, “*de facto*”, its own government, currency, army and frontiers



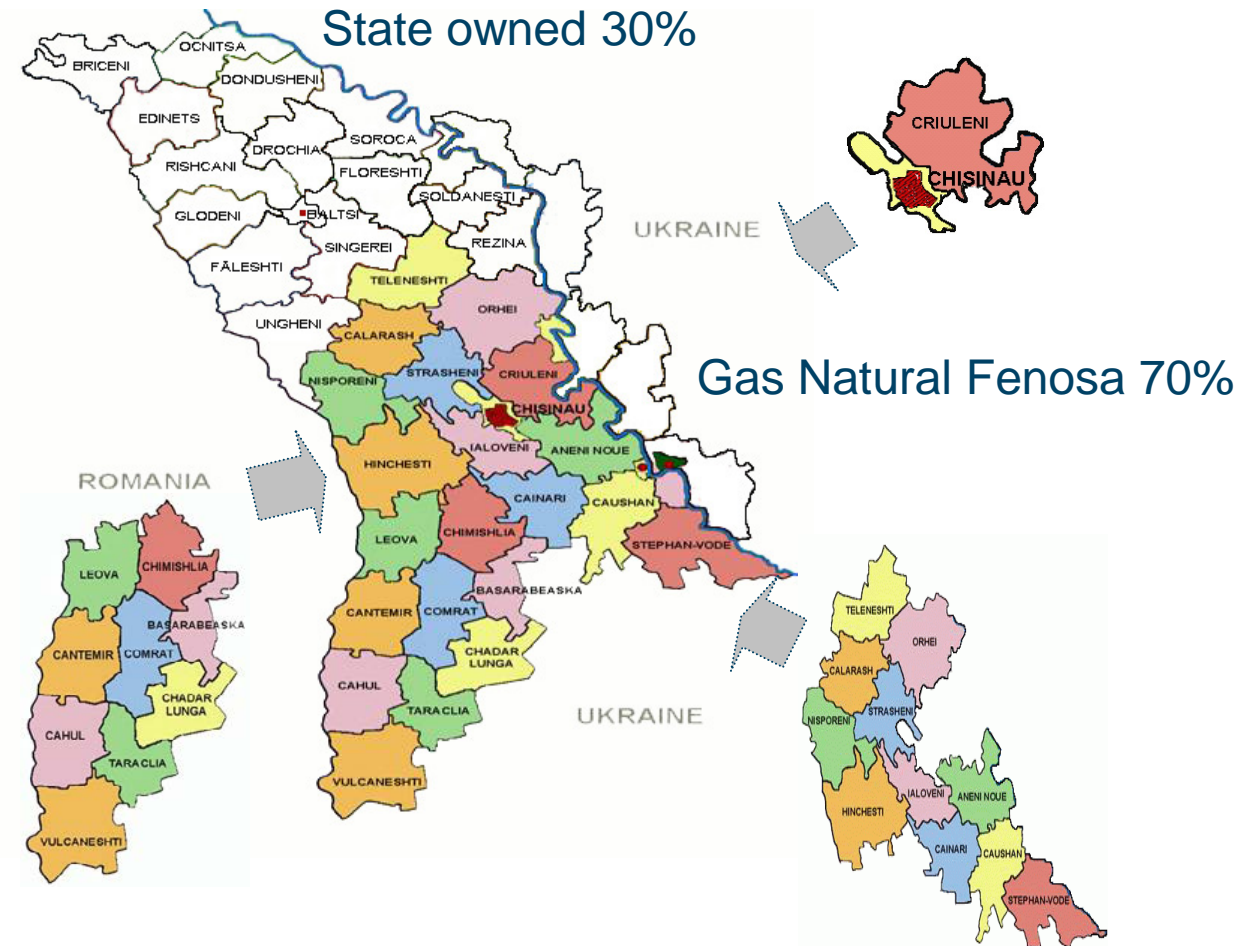
Sector Electricity



Gas Natural Fenosa

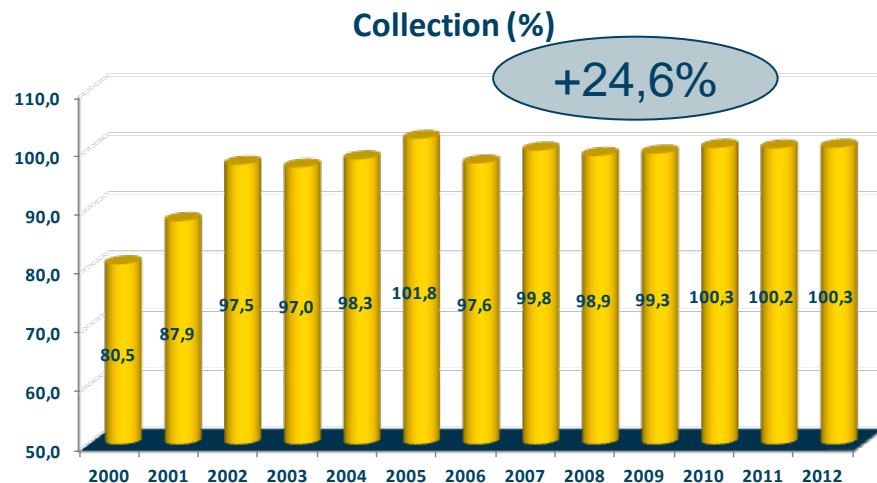


Number of Customers ¹ :	835.970
Energy Sales ¹ :	2.510 GWh
Voltage level:	0,4-110 kV
Population covered by GNF:	2,3 millions
Overhead Lines:	31.495 km
Underground Lines:	3.069 km
Transformer Stations:	7.565
Transformer Station:	1.940 MVA



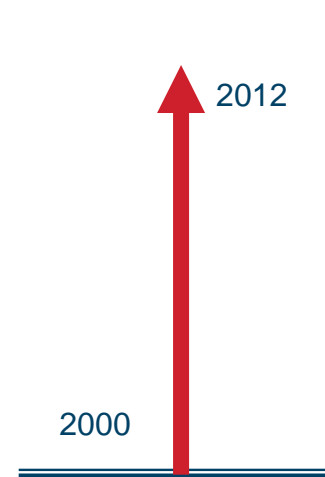
1. At 31/12/2012

Key Performance Indicators



Relevant increase of Collection %, considering that cash collection was at the level of 26% in 2000 and the remaining 54% was barter

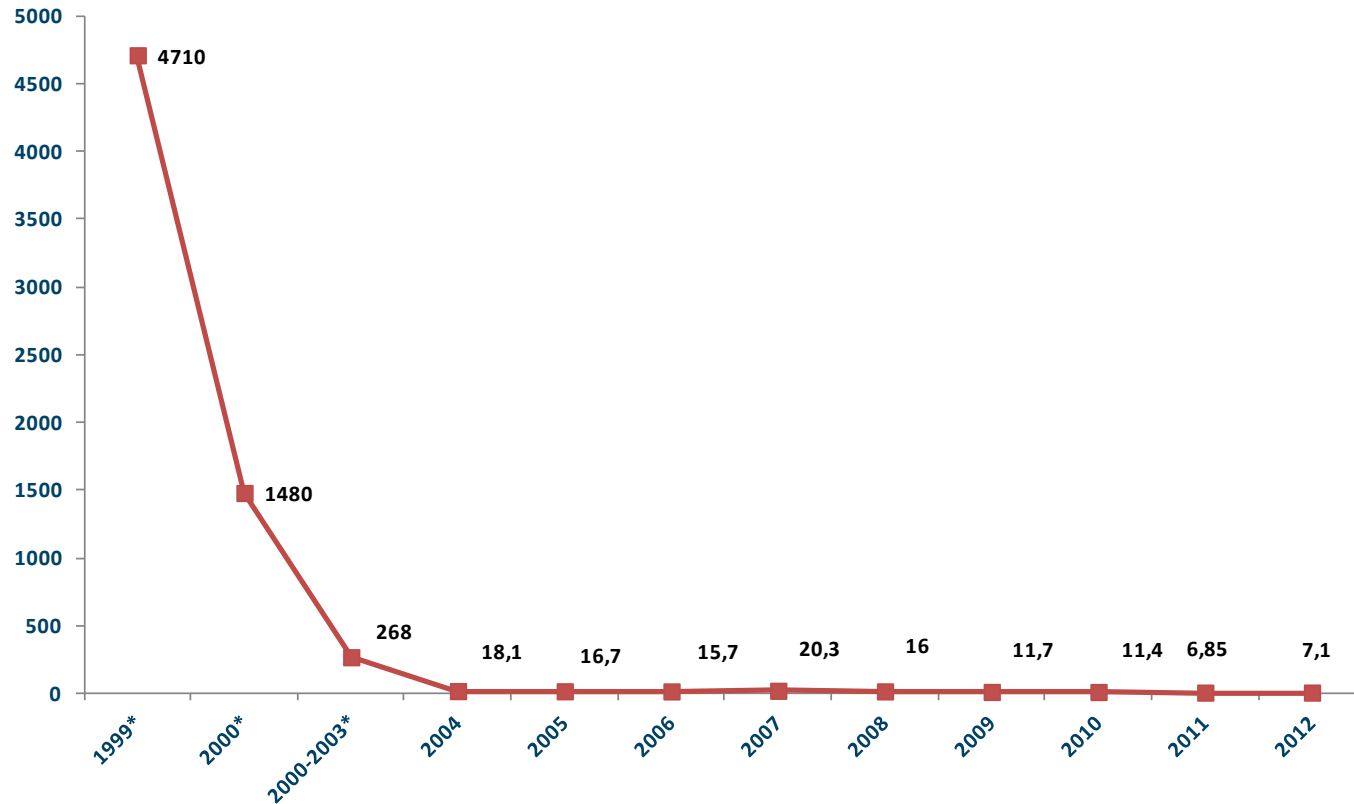
customers /employee



Energy Management, Grid Control and Automation, New Metering Technology, Information Systems, Personnel qualification, Management Techniques

Key Performance Indicators

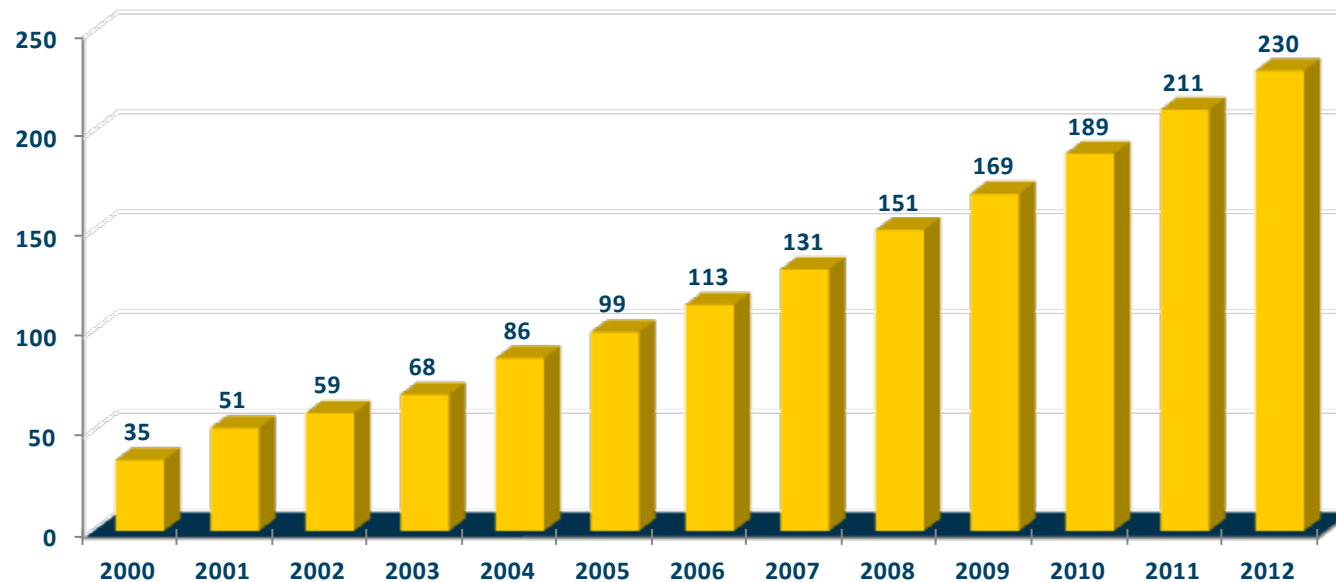
SAIDI(h)



In 1999, the average annual disconnection time per customer was 196 days.

Network Investments

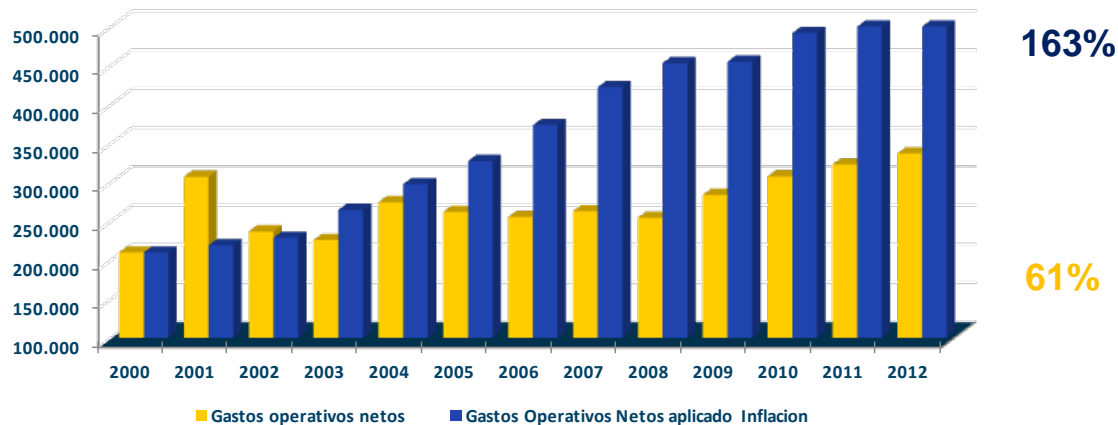
Investments(Mln. USD)



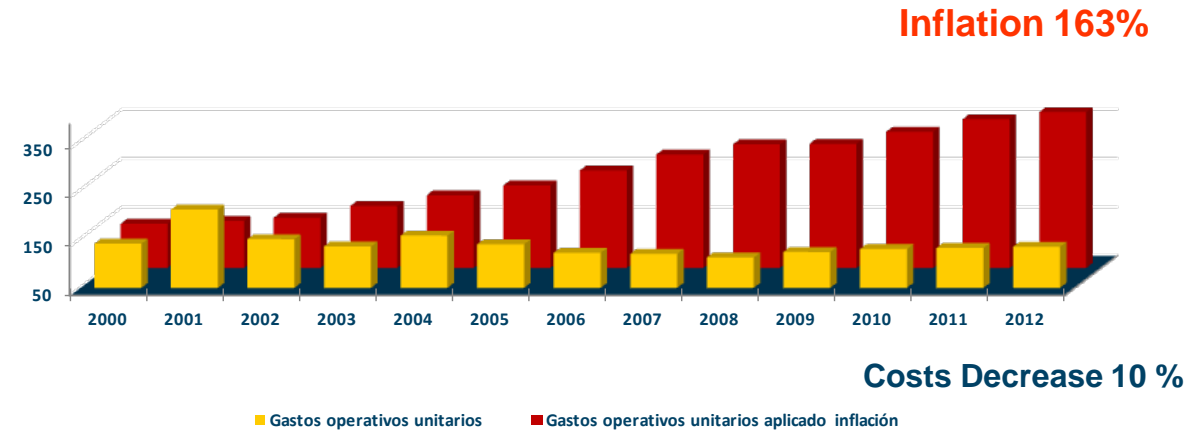
Capital Expenditure since the privatization sums up to more than US\$ 230 millions.
75% of this investments has been devoted to electrical grid and Energy measurement and control

Key Performance Indicators

Operation Expenses(Thousands Lei)



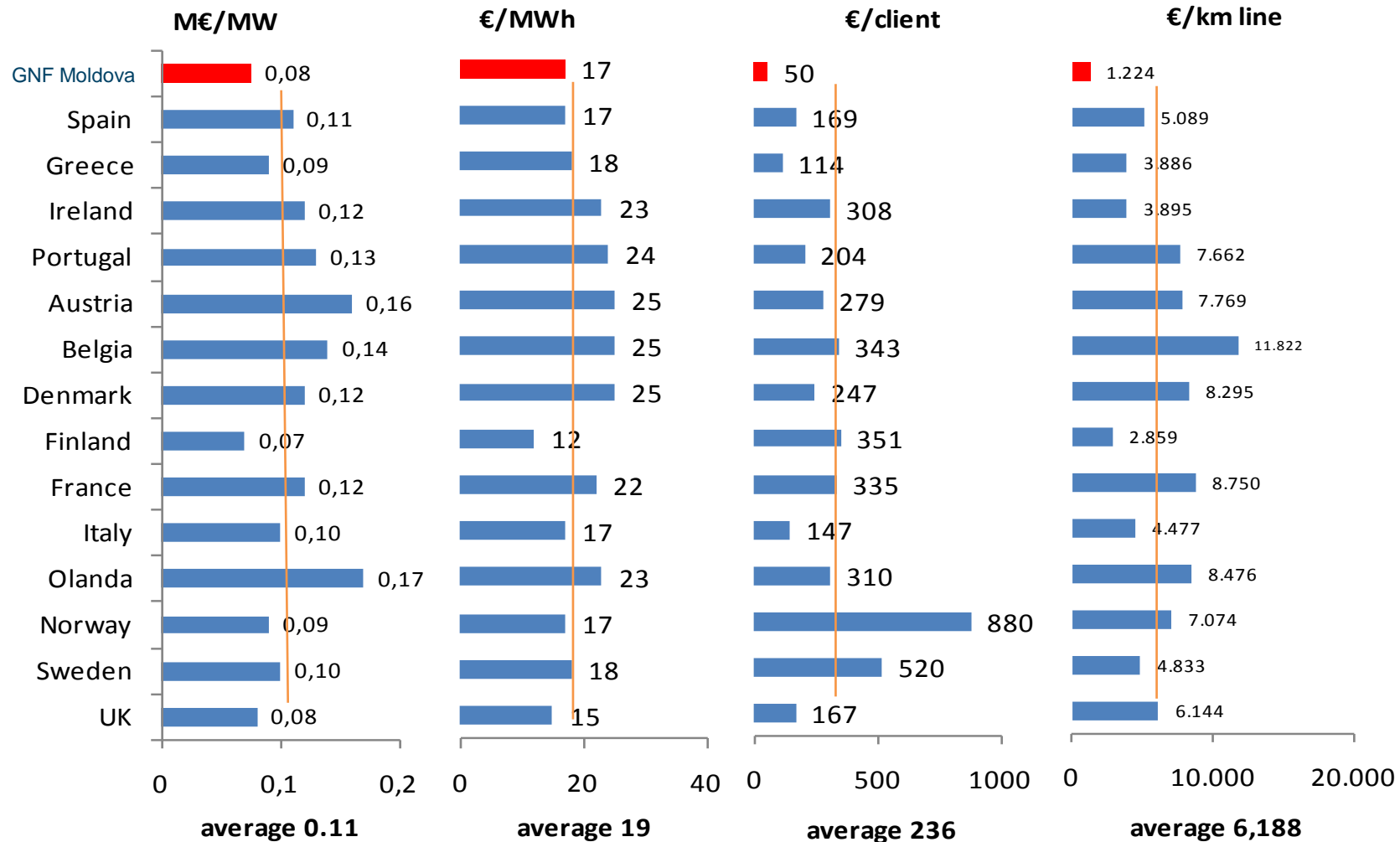
Operation Net Unitary Expenses(Lei/MWh)



The proper management of total operational costs allowed to absorb the effect of inflation (61% vs 163%), equivalent to savings of 215 MM Lei (17,5 MM USD)

The control of O&M costs, together with the reduction of energy losses made it possible a decrease in operational costs per kWh billed of 10% (while the inflation was 163%).

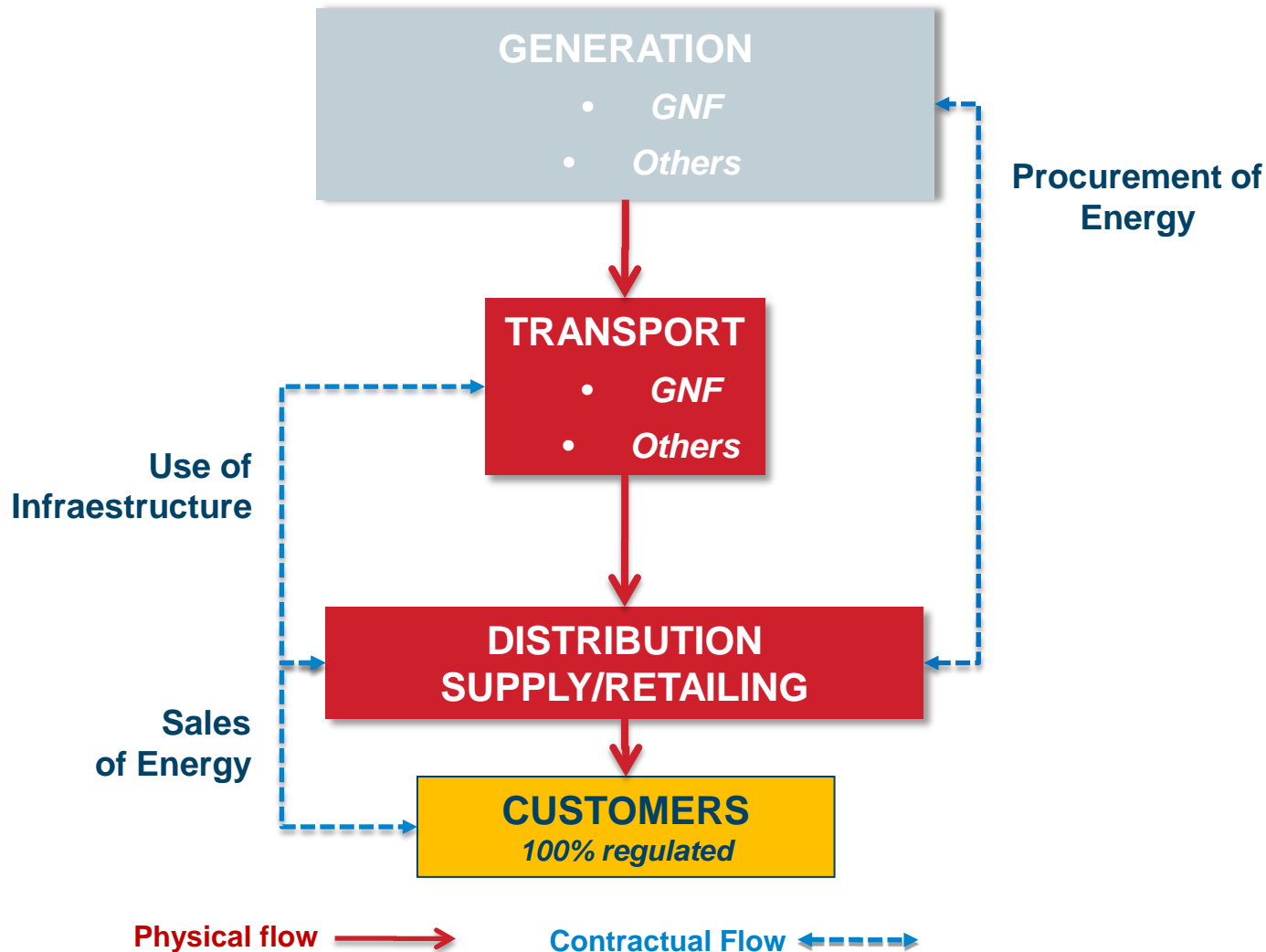
Benchmark of Distribution Cost



3

Liberalization Process in Spain

Set-up Initial



- All the activities were regulated
 - 100% regulated customers
- Retailing AND Supply of Energy performed by the Distributor
 - Vertical Integration
- Centralized operation of Generation and Transport
 - Single energy Tariff for end-customers

Set-up Initial

INSTALLED CAPACITY (MW)	
Hydro	16.500
Nuclear	7.400
Coal	11.300
Fuel	8.300
Gas Combined-Cycle	---
Renewable	---

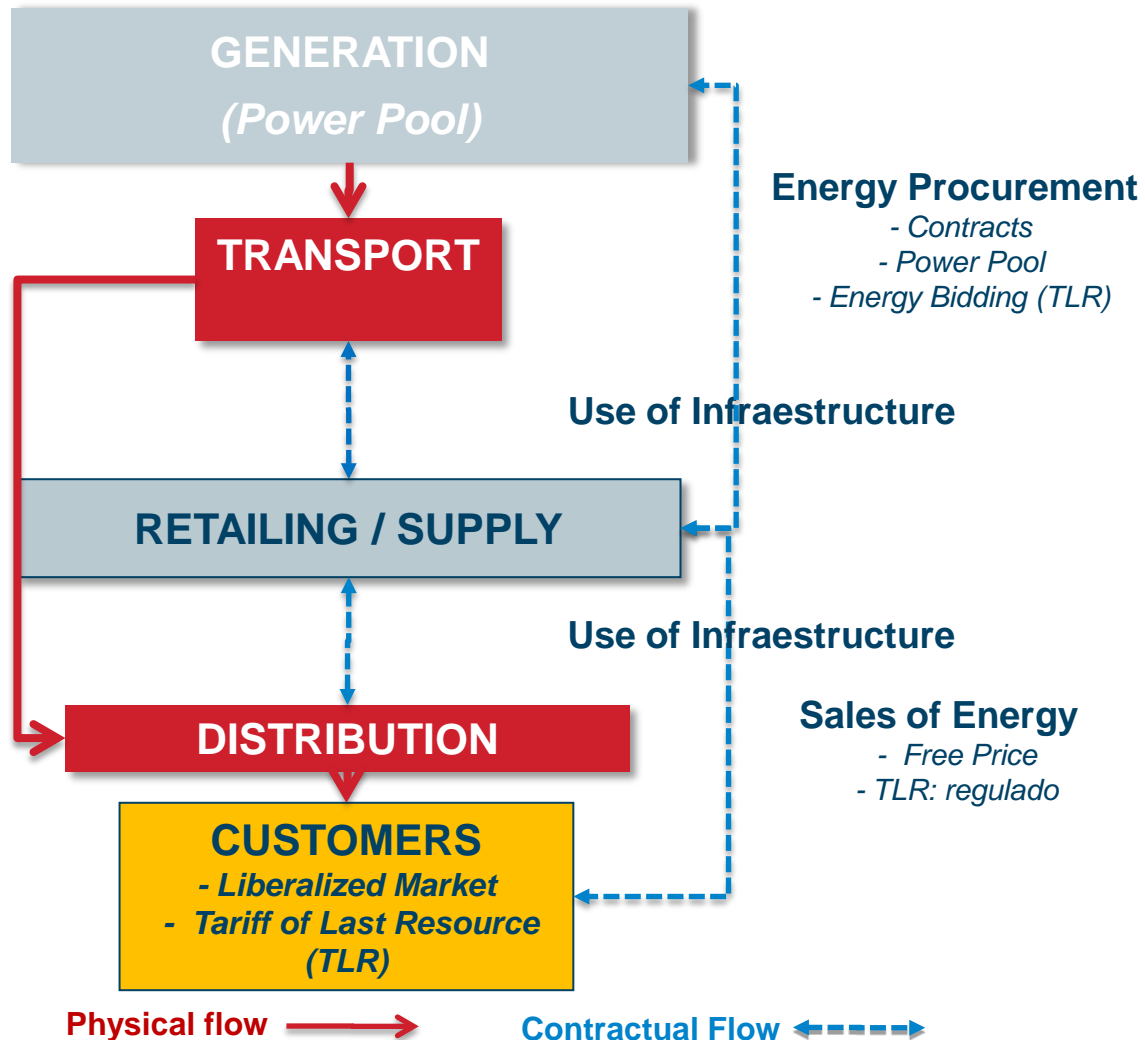
Generation companies

Endesa
Iberdrola
Gas Natural Fenosa
Hidrocantábrico
Viesgo

Distribution and Supply companies

Endesa
Iberdrola
Gas Natural Fenosa
Hidrocantábrico
Viesgo
Small Distributors (<10% customers)

Set-up Current



- **Transport and Distribution: Regulated**
- **Generation and Supply: liberalized**
 - **Competition in generation**
- **100% customers non-regulated or in TLR**
- **Supply to End-Customers by Retailing companies**
- **Centralized operation of Generation and transport**

Set-up Current

INSTALLED CAPACITY (MW)

Hydro	16.700
Nuclear	7.700
Coal	12.000
Fuel	6.000
Gas Combined-Cycle	27.000
Renewable	28.000

Generation companies

Endesa
Iberdrola
Gas Natural Fenosa
Hidrocantábrico
EOn (Viesgo)
Other Gas Combined-Cycle (2.700 MW)
Other Renewable (24.000 MW)

Distribution companies

Endesa
Iberdrola
Gas Natural Fenosa
Hidrocantábrico
EOn (Viesgo)
Small Distributors (<10% customers)

Retail – Supply companies

Endesa	Fortia (<i>Large customers: 6% of demand</i>)
Iberdrola	EOn (Viesgo)
Gas Natural Fenosa	Small Distributors
Hidrocantábrico	Otros: 12,6 % energía

Liberalization Schedule

LIBERALIZACION PROCESS TIME TABLE

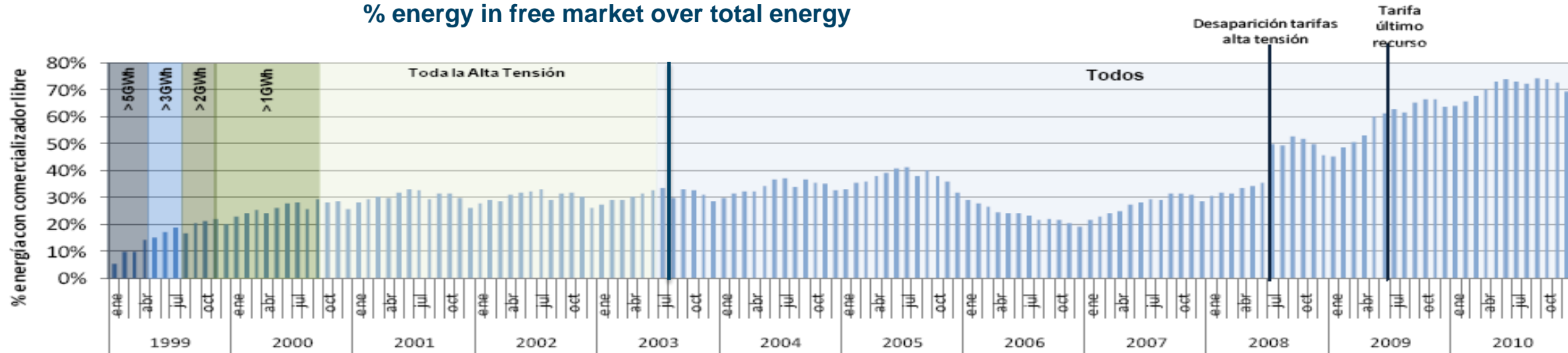
Law 54/1997

1998 - 15 GWh
2000 - 9 GWh
2002 - 5 GWh
2004 - 1 GWh
2007 - All

Actual Process

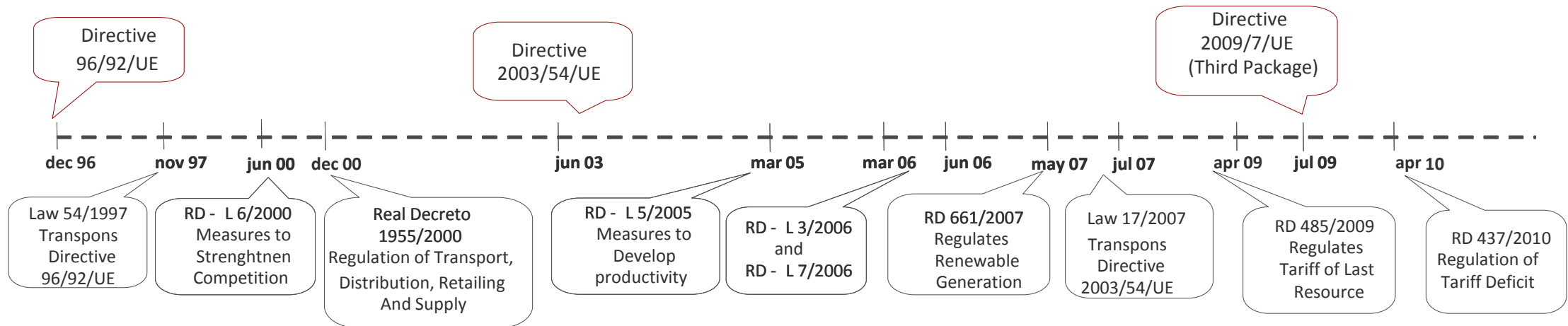
1998 - 15 GWh
01/99 - 5 GWh
04/99 - 3 GWh
07/99 - 2 GWh
10/99 - 1 GWh
07/00 - 1 kV
2003 - All

% energy in free market over total energy



Legal and Regulatory Framework

EUROPEAN LEGISLATION



SPANISH LEGISLATION

Spanish experience Lessons

- 1 Market Liberalization is an unavoidable world trend. It is recommended to advance gradually, and to plan for a medium term coexistence of regulated and liberalized customers.
- 2 Transport and Distribution should remain as regulated activities, being natural monopolies. Quality of service depends on keeping the appropriate remuneration for the Transmission and Distribution companies.
- 3 At the beginning, leverage on the Distributor experience in customer management and supply of energy.
- 4 Meter reading should be as transparent as possible (preserving the confidentiality of customer consumption).
- 5 In the short term, more regulation is required. Prices to end-Customer prices do not decrease. On the contrary, they increase due to the duplication of some fix costs, derived from the legal separation of activities.
- 6 In the long term, competition will get lower prices to final customers. In the electricity industry, competition exists in generation, which represents 70-80% of the electricity invoice. The remaining activities (transmission, Distribution and retailing) can hardly contribute to lower prices.

4

Liberalization Process in Moldova

Legal and Regulatory Framework

➤ Existing Electricity Law

✓ From 2013:

- Market is opened for all non-households segments
- Distributors should be split into two independent companies for Distribution and for Supply at regulated tariffs

✓ From 2015: power market is opened for all kind of customers

➤ Proposed New Electricity Bill

The Ministry of Economy is drafting a new Law that postpones to 2015 the legal separation of activities and establishes accounting and functional unbundling for 2013

➤ Tariff Methodology: Two Distribution and regulated Supply Methodologies have been approved

➤ Regulatory framework: is being updated to reflect the new power market conditions

Real Power Market Competition

- Availability of a competitive power market in Moldova (in the short term)
 - ✓ Only one power plant is left to sell electricity independently: Cuciurgan (MGRES). The other ones are regulated (CET-1, CET-2, CET-Nord, Costesti). MGRES could theoretically compete with Ukrainian and Romanian suppliers
 - ✓ Several obstacles that interfere with the creation of a competitive power market:
 - Ukrainian grid is operating in parallel with the Moldavian network, but the capacity of the interconnection lines is limited and depends on the level of MGRES loading
 - Romanian power system is not connected to Moldova, because of different frequency standards. Romania-Moldova Interconnection lines capacity is limited and isle-based.
 - According to the Ukrainian regulation, only one trader is entitled to export electricity to Moldova

Thank you

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