



ERSE – GESEL Workshop

Integração de Mercados de Energia Eléctrica e Formação de Preços

# **The Iberian Power Derivatives Market**

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**Jorge Simão**

**Lisboa, 04.Mar.2011**

[www.omip.eu](http://www.omip.eu) / [www.omiclear.eu](http://www.omiclear.eu)

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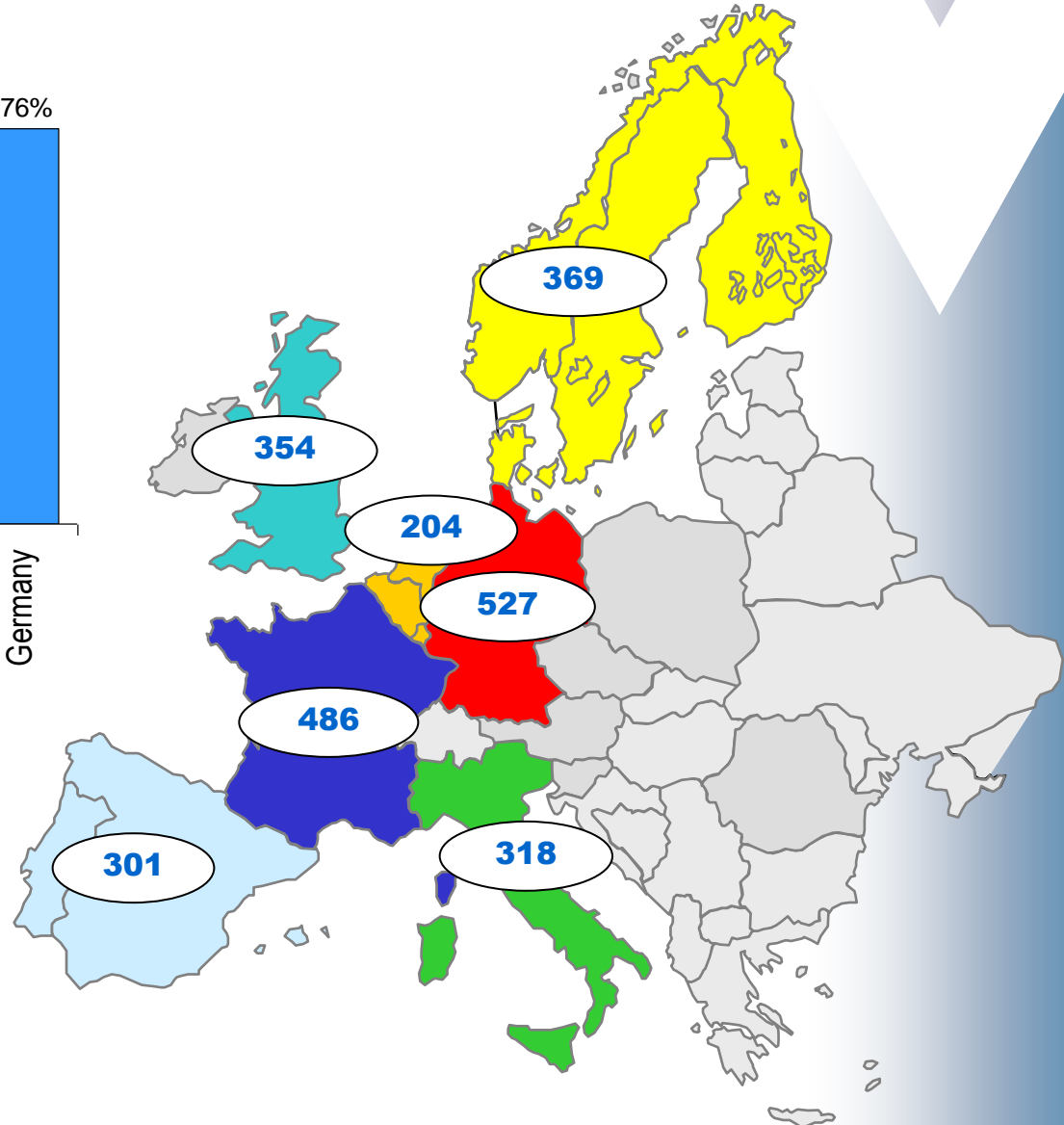
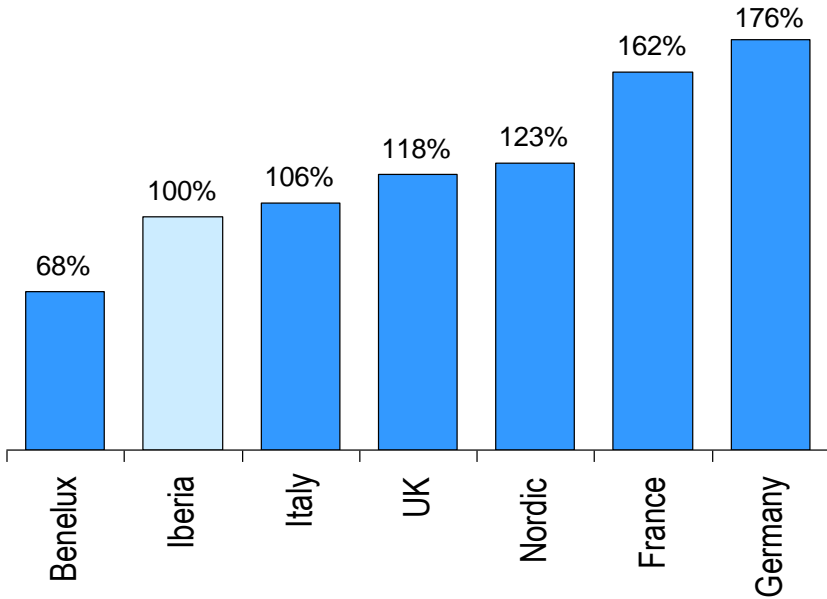


**1**

# **European Power market Landscape**

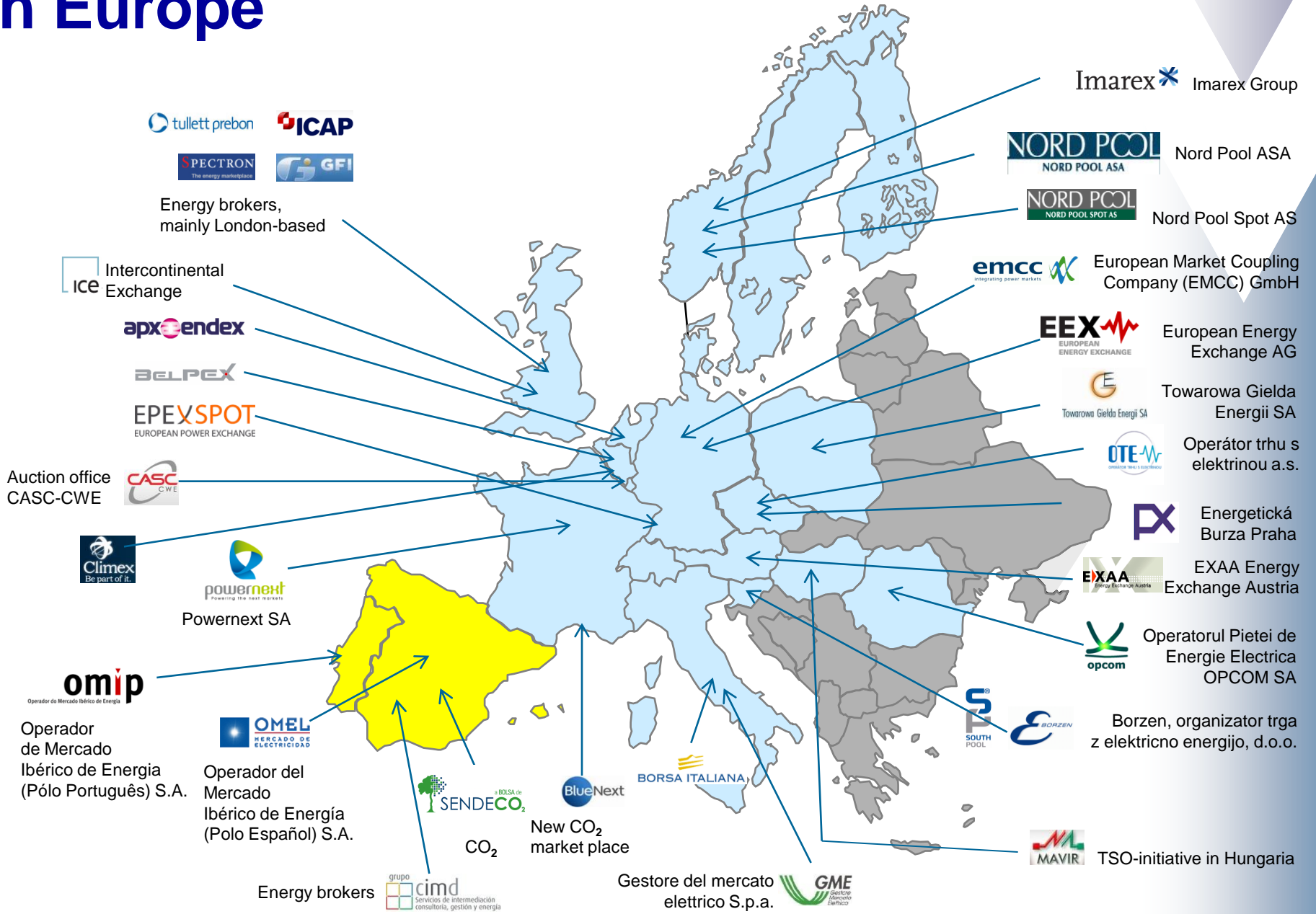
# Electricity Consumption in Europe

(TWh, 2009)



•Source: EIA, UCTE

# Power exchanges and other marketplaces in Europe

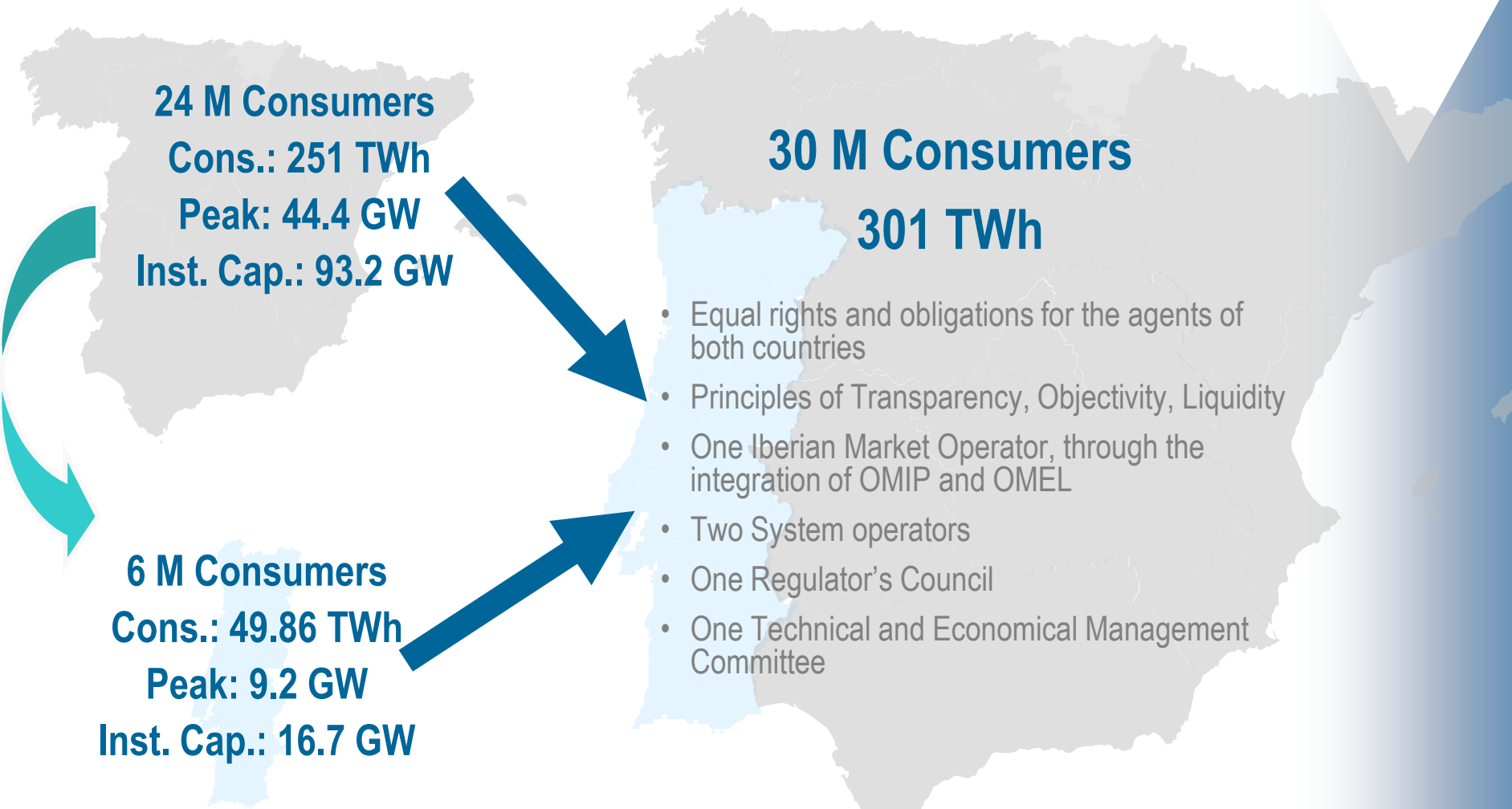


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**OMIP and the  
MIBEL  
Framework**

# Underlying\*

## MIBEL - One Single Integrated Market



24 M Consumers  
Cons.: 251 TWh  
Peak: 44.4 GW  
Inst. Cap.: 93.2 GW

30 M Consumers  
301 TWh

- Equal rights and obligations for the agents of both countries
- Principles of Transparency, Objectivity, Liquidity
- One Iberian Market Operator, through the integration of OMIP and OMEL
- Two System operators
- One Regulator's Council
- One Technical and Economical Management Committee

6 M Consumers  
Cons.: 49.86 TWh  
Peak: 9.2 GW  
Inst. Cap.: 16.7 GW



# MIBEL Exchanges



**omip**

**Single Forward Market Operator**

Madrid

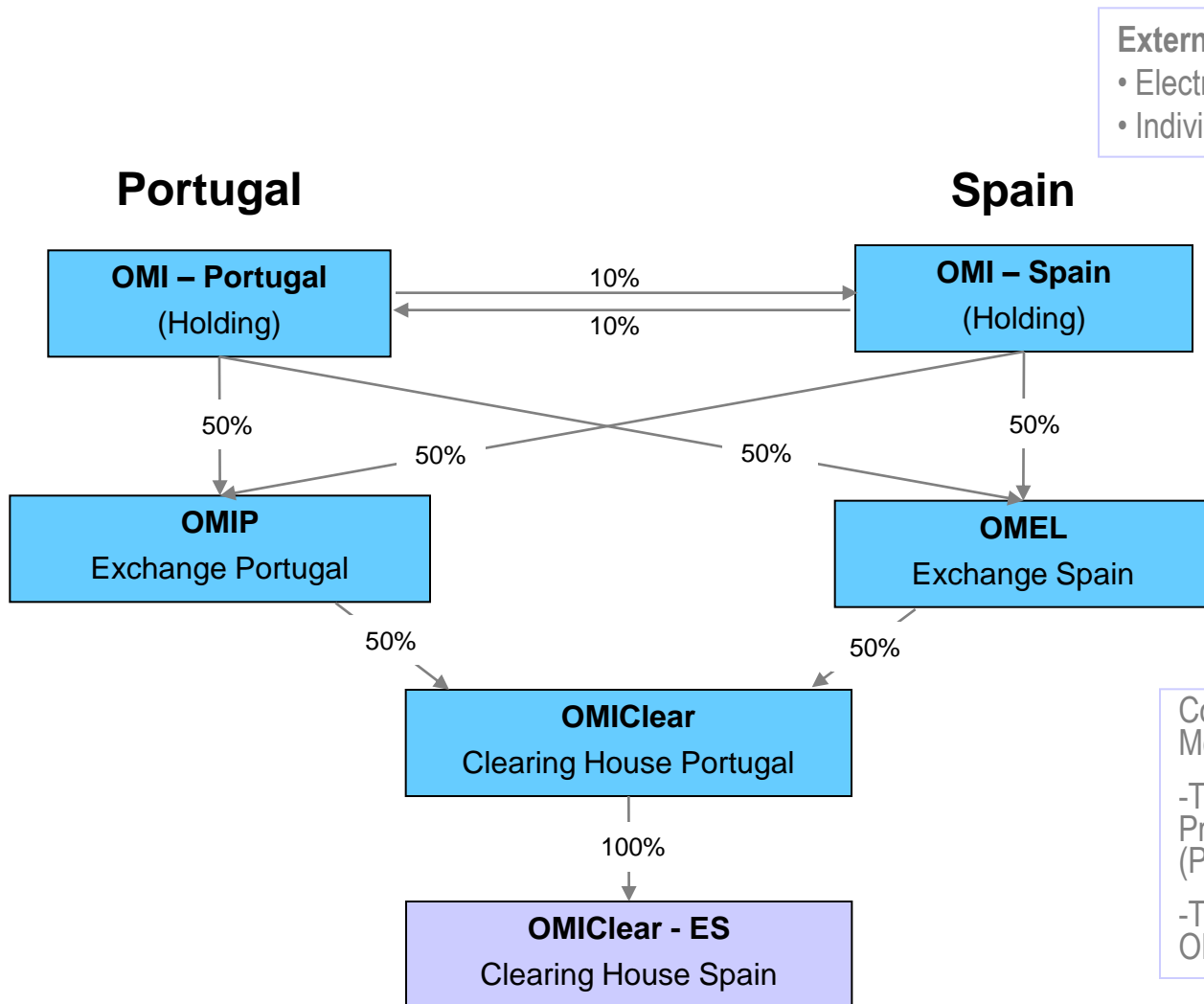
Lisbon



**Single Spot Market Operator**



# OMI – Operador do Mercado Ibérico Model



## External Shareholders

- Electric and natural gas sectors with max of 40%<sup>1</sup>
- Individual Shareholder with max of 5%

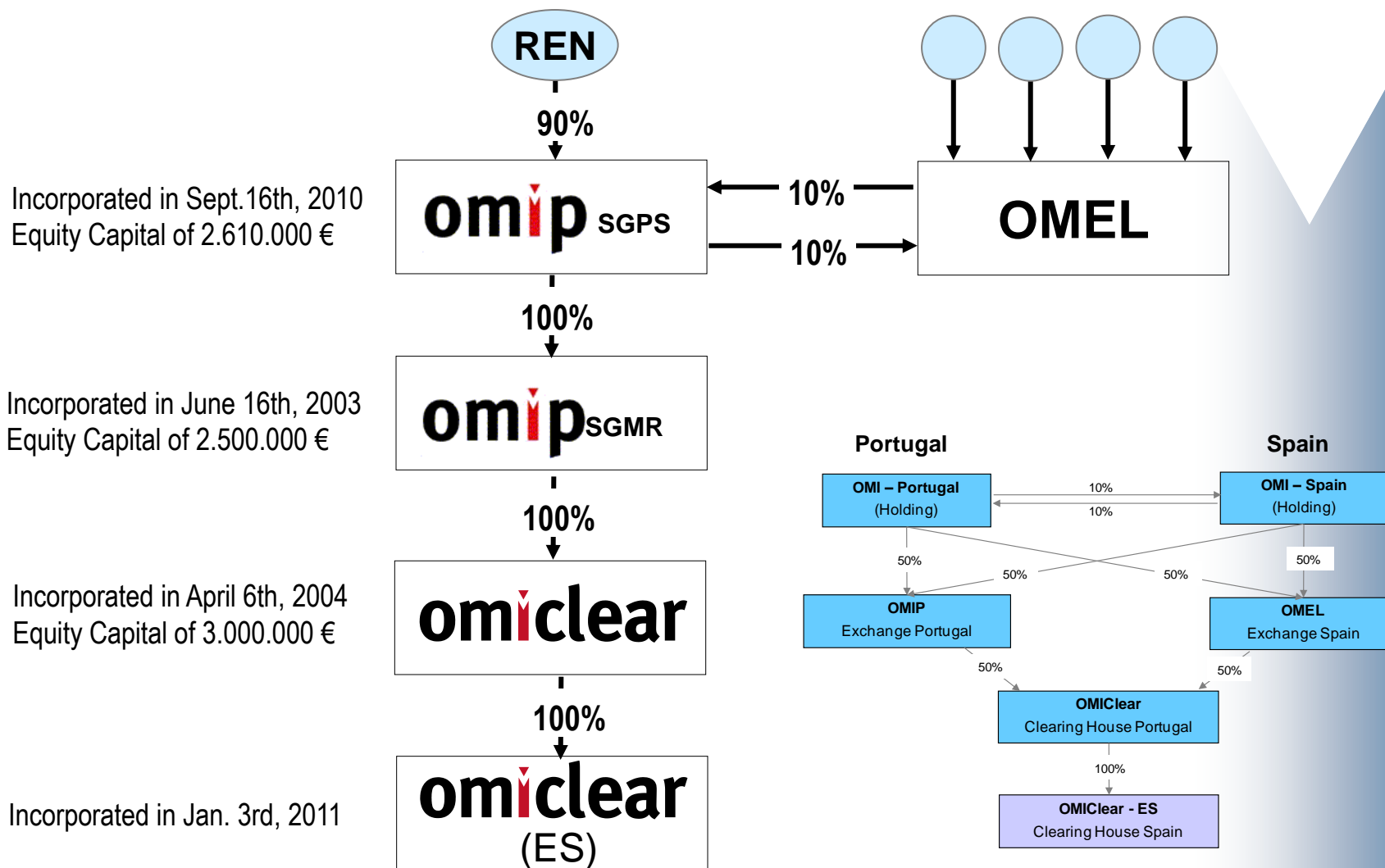
Common President, Vice President and Members of the 2 Board of Directors

-The positions of President and Vice-President will have alternate nationalities (Portuguese and Spanish)

-The nomination is made jointly by OMIP and OMEL, for 2 equal periods of 3 years

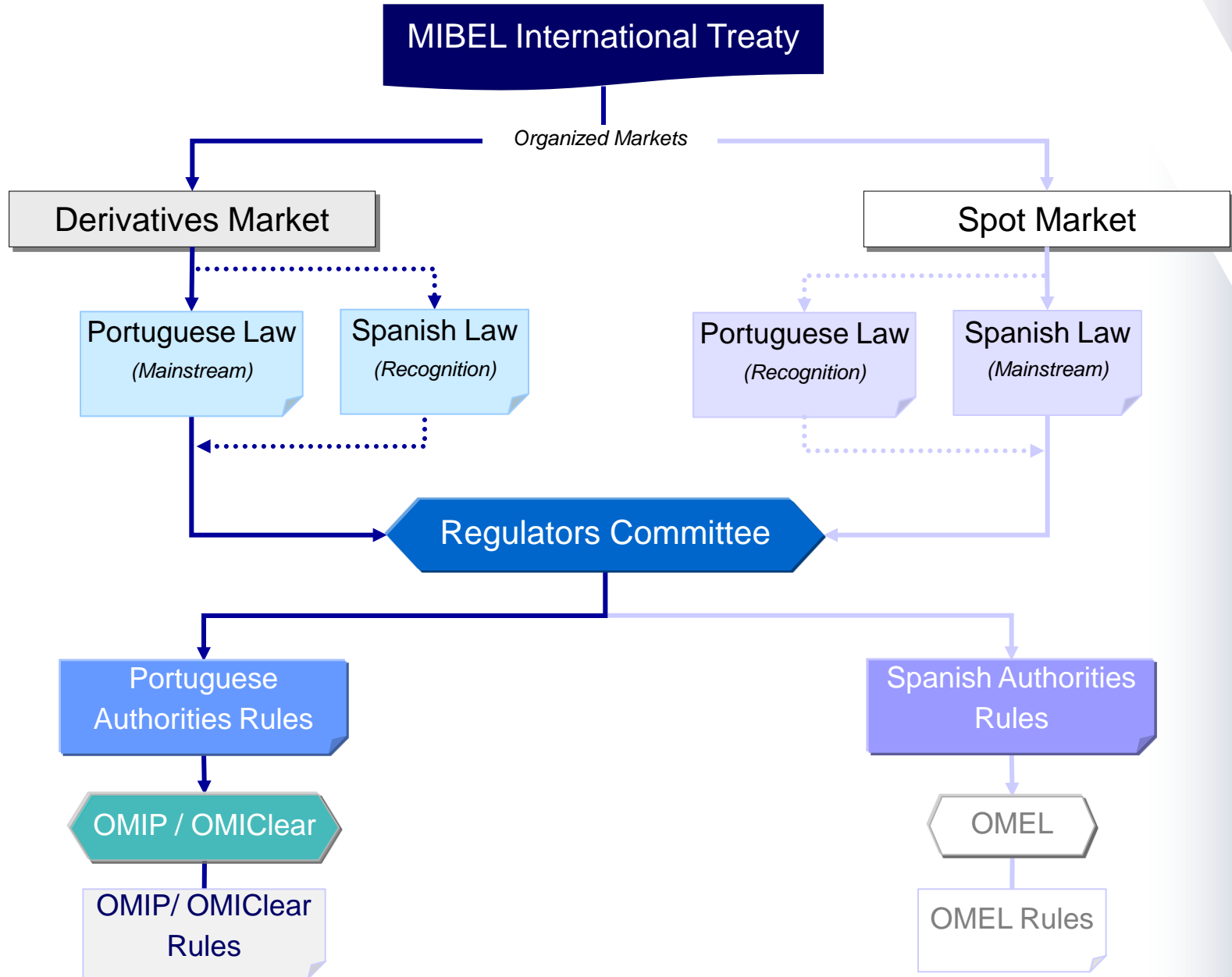
<sup>1</sup> The sum of the direct and indirect participations of entities from the electricity and natural gas markets can not be higher than 40%

# Corporate Model - Present Status



# **Legal Framework & Market Design**

# MIBEL Legal Framework



# Market Legal Framework

## MIBEL International Treaty

October 1<sup>st</sup>, 2004

January 18<sup>th</sup>, 2008 (amendment)

Portuguese financial  
market legal framework

Portuguese Law and  
LD no. 29/2006, 172/2006 and 357-C/2007

Ministerial Orders  
no. 927/2004 and 945/2004

Market Regulation

Portuguese Securities  
Market Commission

CMVM

CNMV

Spanish Securities  
Commission

Portuguese Energy  
Services Regulatory  
Authority

ERSE

CNE

Spanish Energy  
Commission

omip

omiclear

- Rulebooks
- Instructions
- Notices

Authorization given to:

- OMIP to create and manage the MIBEL Derivatives Market
- OMIClear to act as Clearing House and Central Counterparty on MIBEL.

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**OMIP Market  
Model**

# MIBEL Derivatives Exchange Business Design

**omip**

**Exchange**

**Trading**

**omiclear**

**Clearing House**

**Registration  
Risk management  
Settlement**

Derivatives Flow

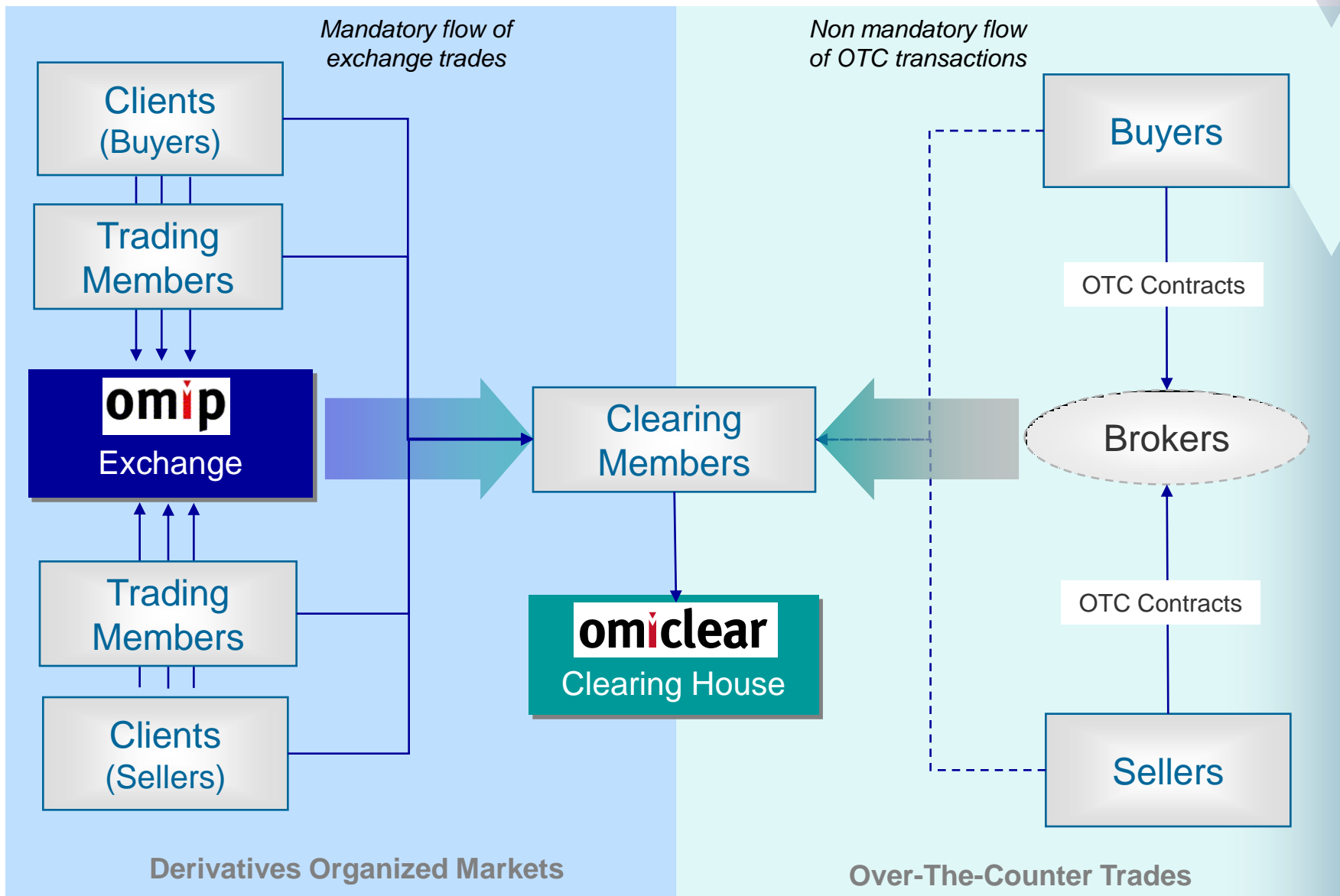
Trading

Clearing

Settlement



# Global Business Model



# Derivatives Main Functions

1. Risk management
2. Price discovery and information dissemination
3. Transactional efficiency



**Efficient allocation of  
resources in the economy**

# Common Energy Derivatives

- Futures
  - Exchange traded
  - Essentially financial
- Swaps
  - Over the counter (OTC)
  - Financials
- Forwards
  - OTC
  - Physicals
- Options
  - Exchange traded or OTC
  - Physical or financial

# MIBEL Futures vs. OTC Swaps

## MIBEL Futures

## OTC Forwards

**Multilateral** trading (Level Playing Field)

Bilateral trading

Transparent **anonymous** pricing

Bilateral pricing - disclosed ctp's

**Transparency/integrity** requirements

N/A

**Regulated** environment

Self-regulated environment

Liquidity aggregation

Liquidity splitting

Standardisation

Customization

**Fungible positions**

**Non fungible** positions

**One common** (central) counterparty

**Several** counterparties

Multilateral netting

Bilateral netting\*

Operations risk mitigation

Operations bilateral risks

Global credit analysis

Bilateral credit lines

**Daily** Mark-to-Market (MtM)

**Periodic** (monthly) MtM

\* Depending on the relevant applicable law

# **Futures Contracts**

# Futures Definition

- A legal agreement between a buyer or seller, and the clearinghouse of a futures exchange
- Futures contracts generally have the following characteristics:
  - They obligate the purchaser (seller) to accept (make) delivery of a **standardized quantity** of a commodity or financial instrument at a **specified date** or **during a specified period**, at a **specified price**, or they provide for cash settlement rather than delivery
  - They are defined by **standard delivery points, quality** and **volumes**
  - They effectively can be canceled before the delivery date by entering into an offsetting contract
  - All changes in value of open contracts are settled on a regular basis, usually daily (Mark to Market)
  - They carry no credit risk (Clearinghouse)

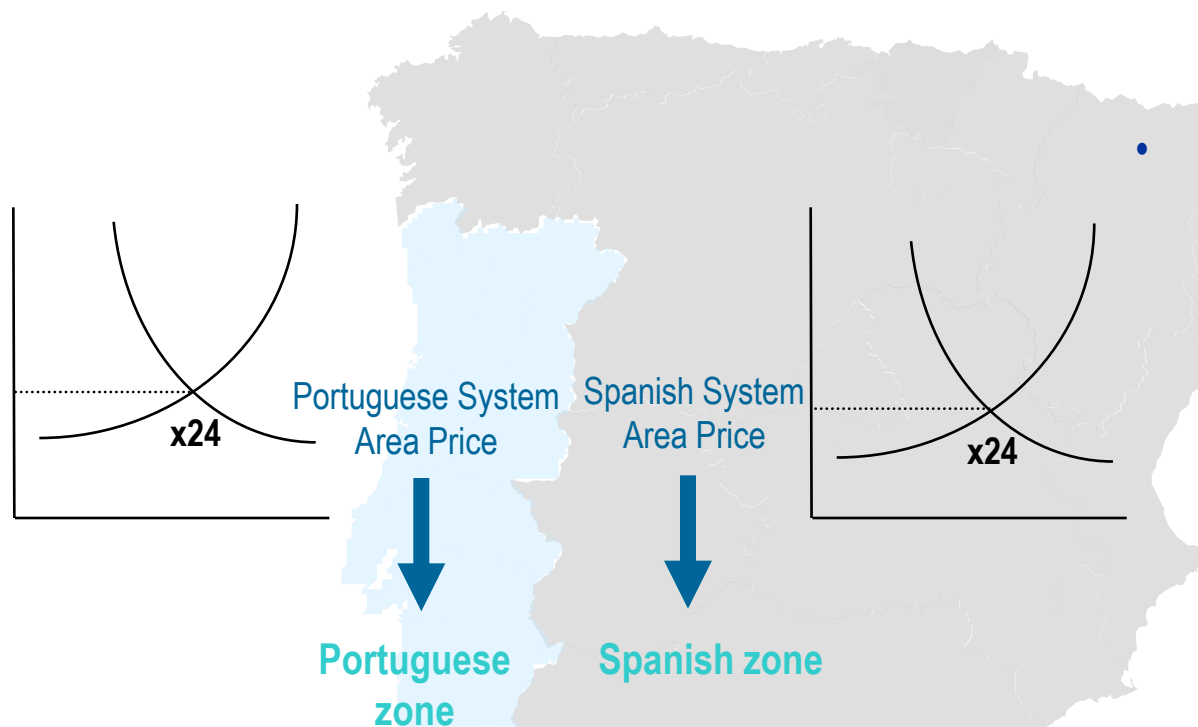
# MIBEL Futures Definitions

Futures Spec	MIBEL Futures
Standard Delivery Point	Portuguese or Spanish Grid
Standard Quality	Responsibility of TSO and DSO
Standard Volume	1 MW x Number of Hours of Period <ul style="list-style-type: none"> <li>• 30 days Base Month: <math>1 \times 24 \times 30 = 720</math> MWh</li> <li>• Base Year: <math>1 \times 24 \times 365 = 8760</math> MWh</li> </ul>
Standardized Quantity	Standad Volume x Number of Contracts <ul style="list-style-type: none"> <li>• 5 Yr Contracts: <math>5 \times 8760 = 43.800</math> MWh</li> </ul>
Specified date (period)	Time Period of delivery, typically <ul style="list-style-type: none"> <li>• Week</li> <li>• Month</li> <li>• Quarter</li> <li>• Year</li> </ul>
Specified Price	Minimum price change is also called the <u>tick</u> size: typically 0.01 €/MWh



# MIBEL Derivative Contracts References

## Indexes






- A market splitting process is in place to manage restrictions between Portugal and Spain.
- Based on different area hourly marginal prices (*Precio Marginal Zonal Horario del Mercado Diario*) for Spain and Portugal published by OMEL, OMIP defines Base Load and Peak Load indices, for the Spanish zone and for the Portuguese.

Base Load	PTEL Base Index	SPEL Base Index
Peak Load	PTEL Peak Index	SPEL Peak Index

MIBEL Financial Derivatives  
MIBEL Physical Derivatives

# Derivatives' Portfolio 2011

Contract Specification	Futures 				Swaps 	Forwards 	Futures 
<b>Load Shape</b>	Base Load	Base Load	Peak Load	Peak Load	Base Load	Base Load	Base Load
<b>Delivery</b>	Financial	Physical	Financial	Physical	Financial	Physical	Financial
<b>External Index</b>	SPEL Base	SPEL Base	SPEL Peak	SPEL Peak	SPEL Base	SPEL Base	PTEL Base
<b>Exchange Trading</b>	Yes	Yes	Yes	Yes	No	No	Yes
<b>OTC Clearing</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Contracts</b>	W, M, Q, Y	W, M, Q, Y	W, M, Q, Y	W, M, Q, Y	W, M, Q, Y	W, M, Q, Y	W, M, Q, Y
<b>Max. Maturity</b>	Y+2	Y+2	Y+2	Y+2	Y+2	Y+2	Y+2
<b>Cash Payments</b>	Daily	Daily	Daily	Daily	Monthly	Monthly	Daily
<b>Cascading</b>	Yes	Yes	Yes	Yes	No	No	Yes
<b>VAT</b>	No	No	No	No	No	Yes	No



24h



24h



12h



12h



24h



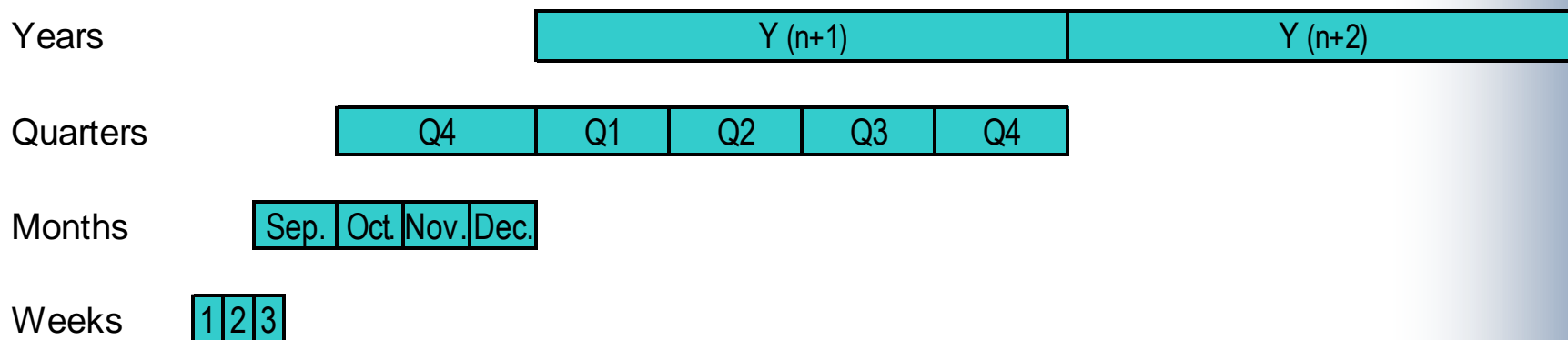
24h



24h

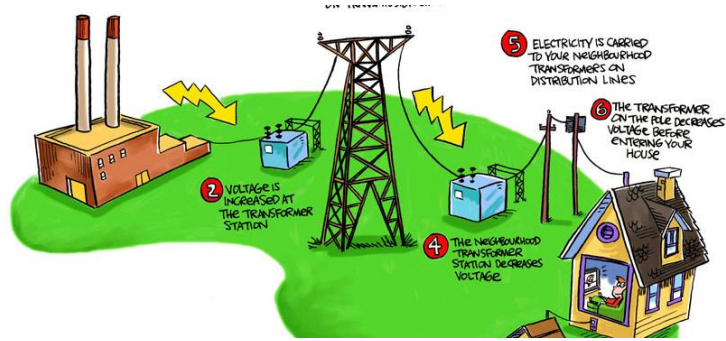
# Tradable Futures contracts

Example: traded Futures contracts during the 2<sup>nd</sup>. week of August



- At end of September (when Q1 becomes the front month), new M1, M2 and M3 contracts will be launched
- One weekly contract is launched every week

# Trade Flow



Derivatives Market

Spot Market (D-1 and D)



omip

omiclear



Financial Contracts

Physical Contracts



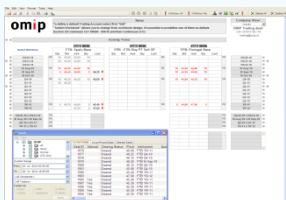
# Market Cycle

## STP - Straight Through Processing

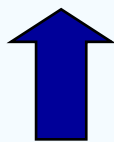
### The Marketplace



#### Central Order Book



The order is matched (deal)



An order is entered into the system



### The Clearing House



The deal is sent to Clearing



Accounts are updated



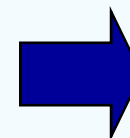
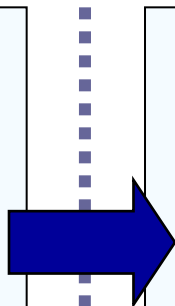
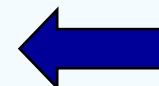
Settlement Amounts and Margining Requirements are computed



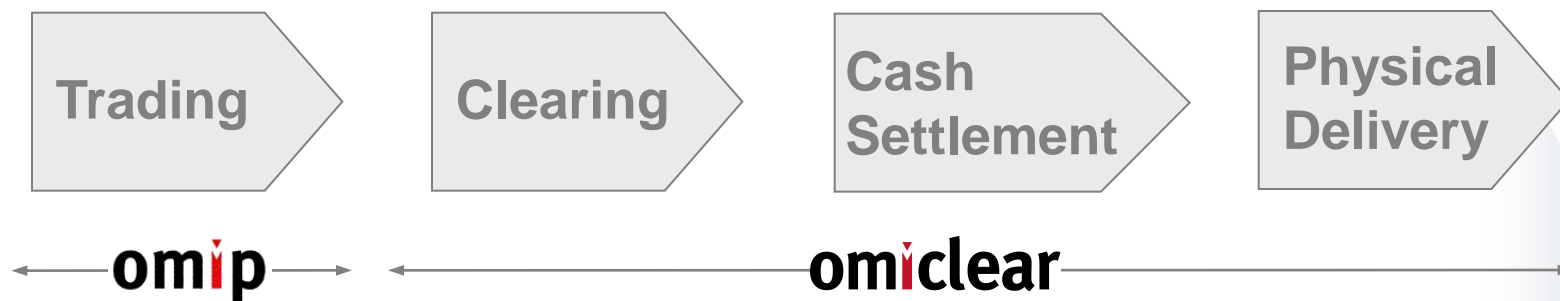
Administration, Settlement and Delivery



Reports



# State-of-the-Art Value Chain



The energy trading platform standard throughout Europe

**Auctions**  
**Continuous Trading**  
**Bilateral Registration**



Brand new proprietary clearing platform  
Customer designed, open, flexible  
real time link with Trayport

**Already structurally compliant with EMIR**  
**2012 EC Regulation**

**TARGET2**

ECB Payment System

**Direct participant**  
**Ancillary system**



**4**

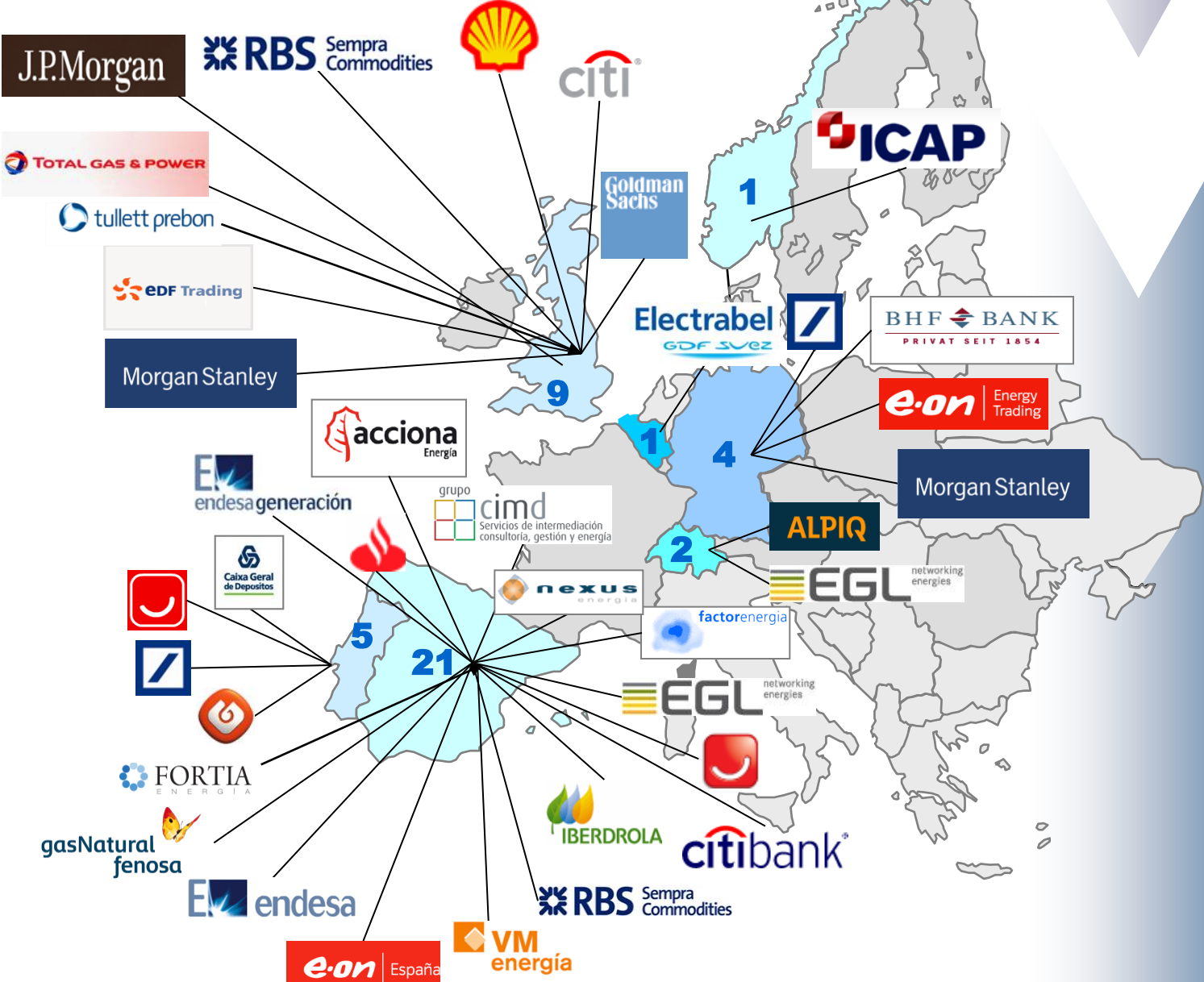
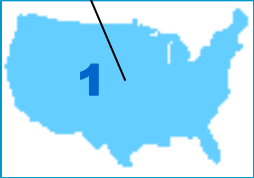
**OMIP**  
**Market Figures**



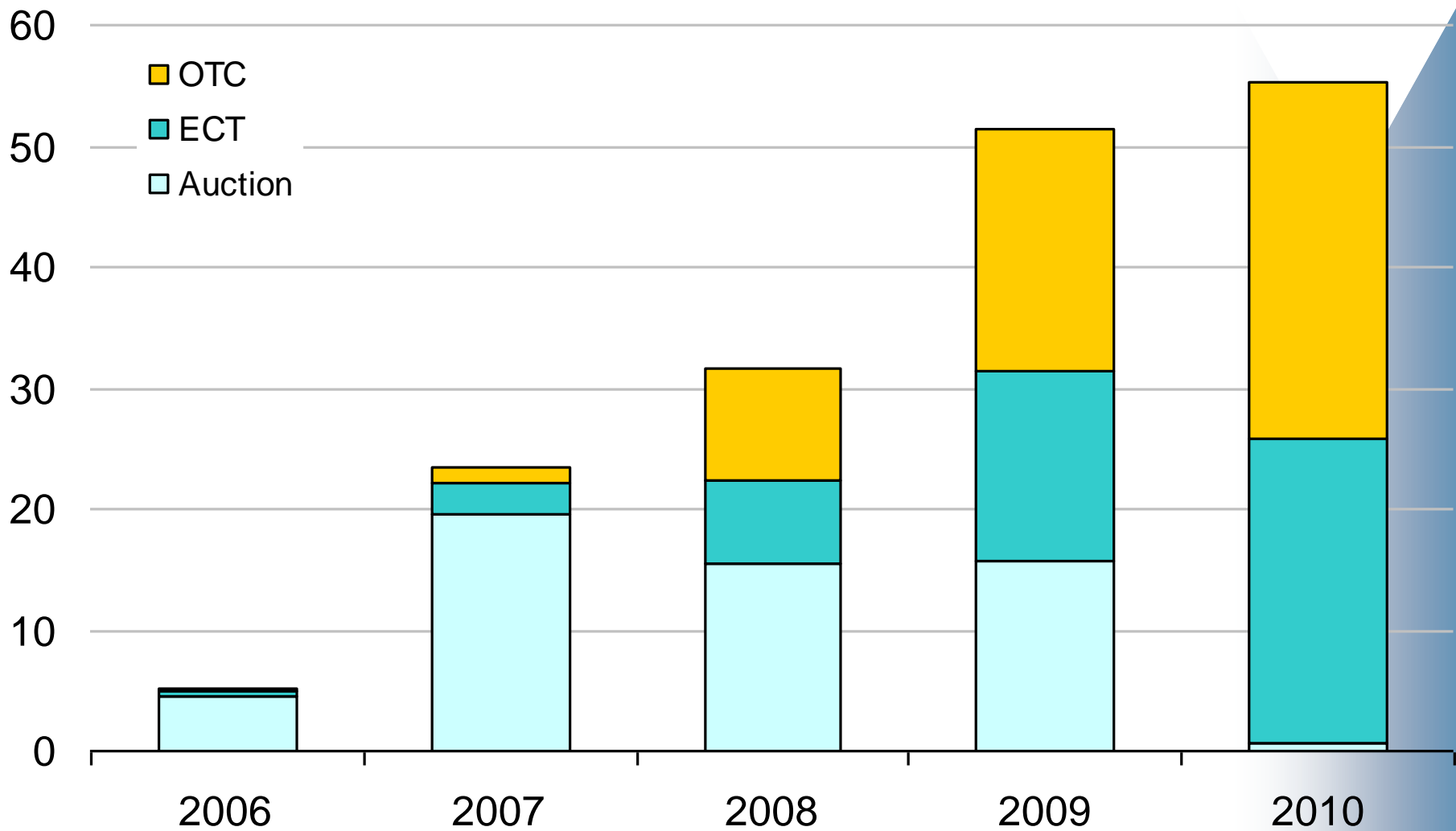
# Market Activity

# Participants Location

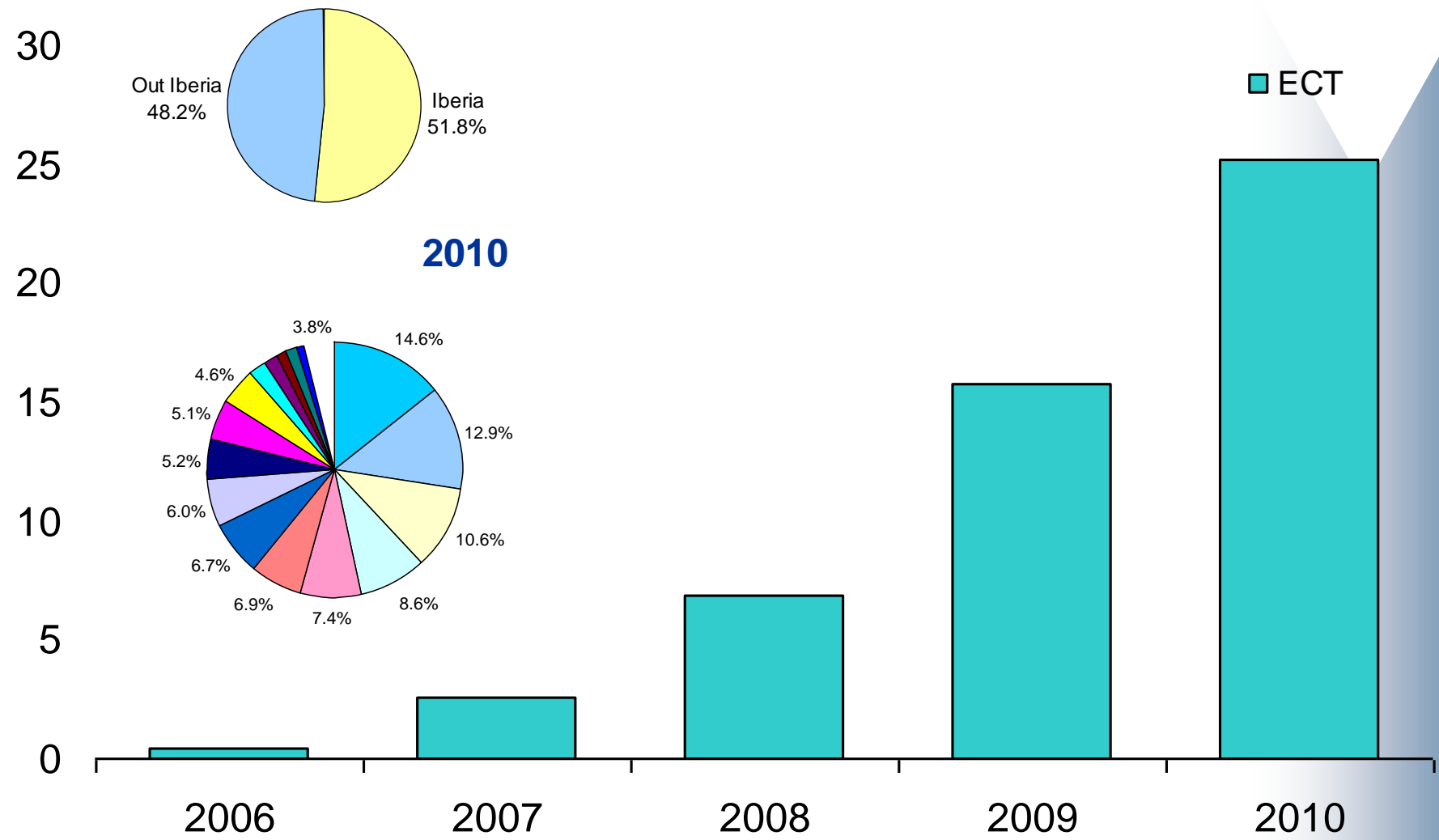
J.Aron  
a subsidiary  
company of  
Goldman  
Sachs



# Cleared Volume (MWh)

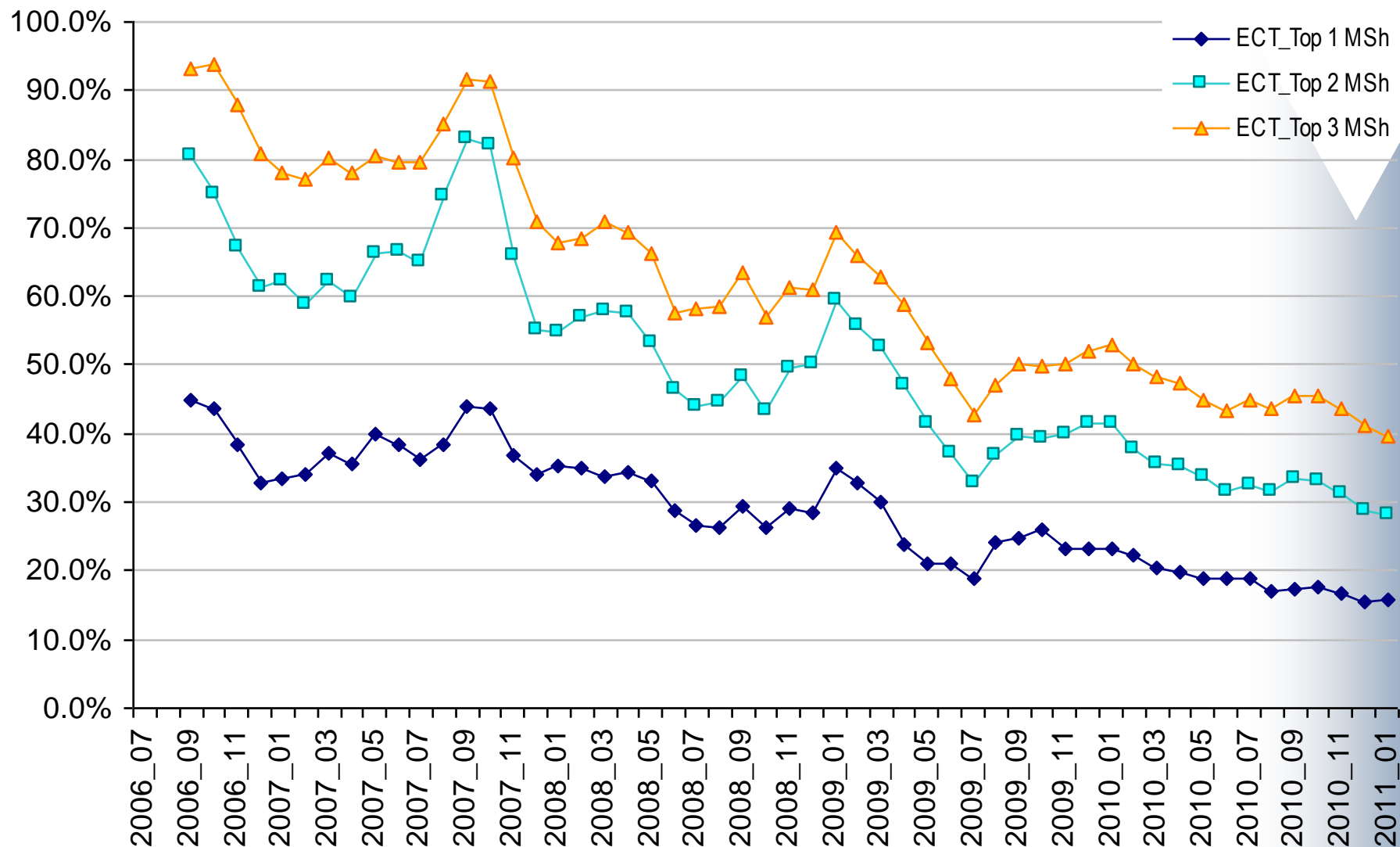


# Exchange Continuous Trading Volume (MWh)



# ECT – TOP3 Market Shares (%)

## 3 months moving average



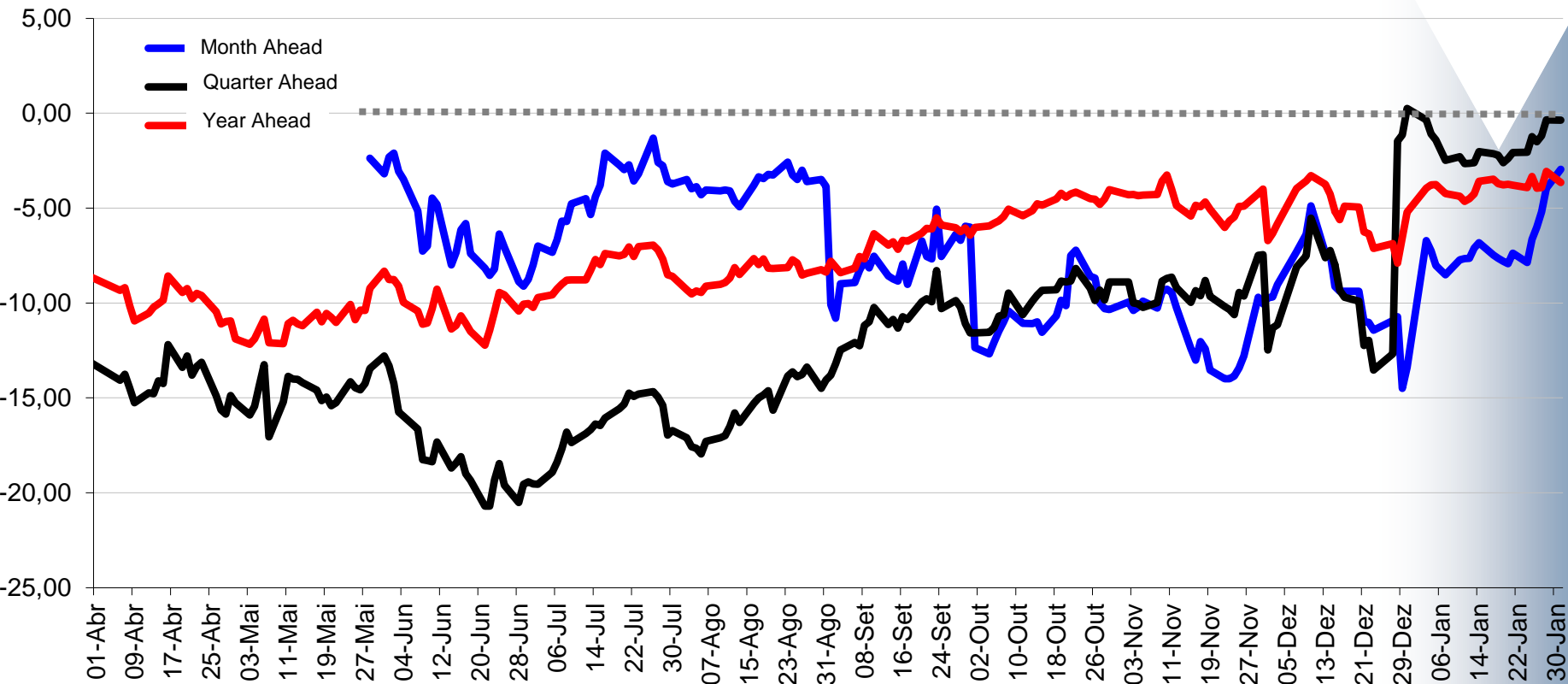
# Futures Prices

# OMIP – Price Evolution (Front Year Future - €/MWh)





# [Spain – France] Futures\* BL Spreads (€/MWh)



# Year Futures vs. Delivery Price Spreads\* (€/MWh)

