

O QUE É A LIBERALIZAÇÃO DO MERCADO ELÉCTRICO ?

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NEWES, New Energy Solutions

Mercado Liberalizado de Energia: Que Visões?

Lisboa e-nova

Lisboa, 30 de Maio de 2012

O QUE É A LIBERALIZAÇÃO DO MERCADO ELÉCTRICO ?

1. LIBERALIZAÇÃO DE MERCADOS DE ENERGIA

2. O MERCADO DA ELECTRICIDADE NA UNIÃO EUROPEIA

3. O MERCADO DA ELECTRICIDADE EM PORTUGAL

4. ALÉM DA LIBERALIZAÇÃO - NOVOS DESAFIOS E OPORTUNIDADES

LIBERALIZAÇÃO DE MERCADOS DE ENERGIA

ENERGY MARKETS

COMPETITION IS POSSIBLE BETWEEN

ENERGY PRODUCTS

ENERGY SUPPLIERS

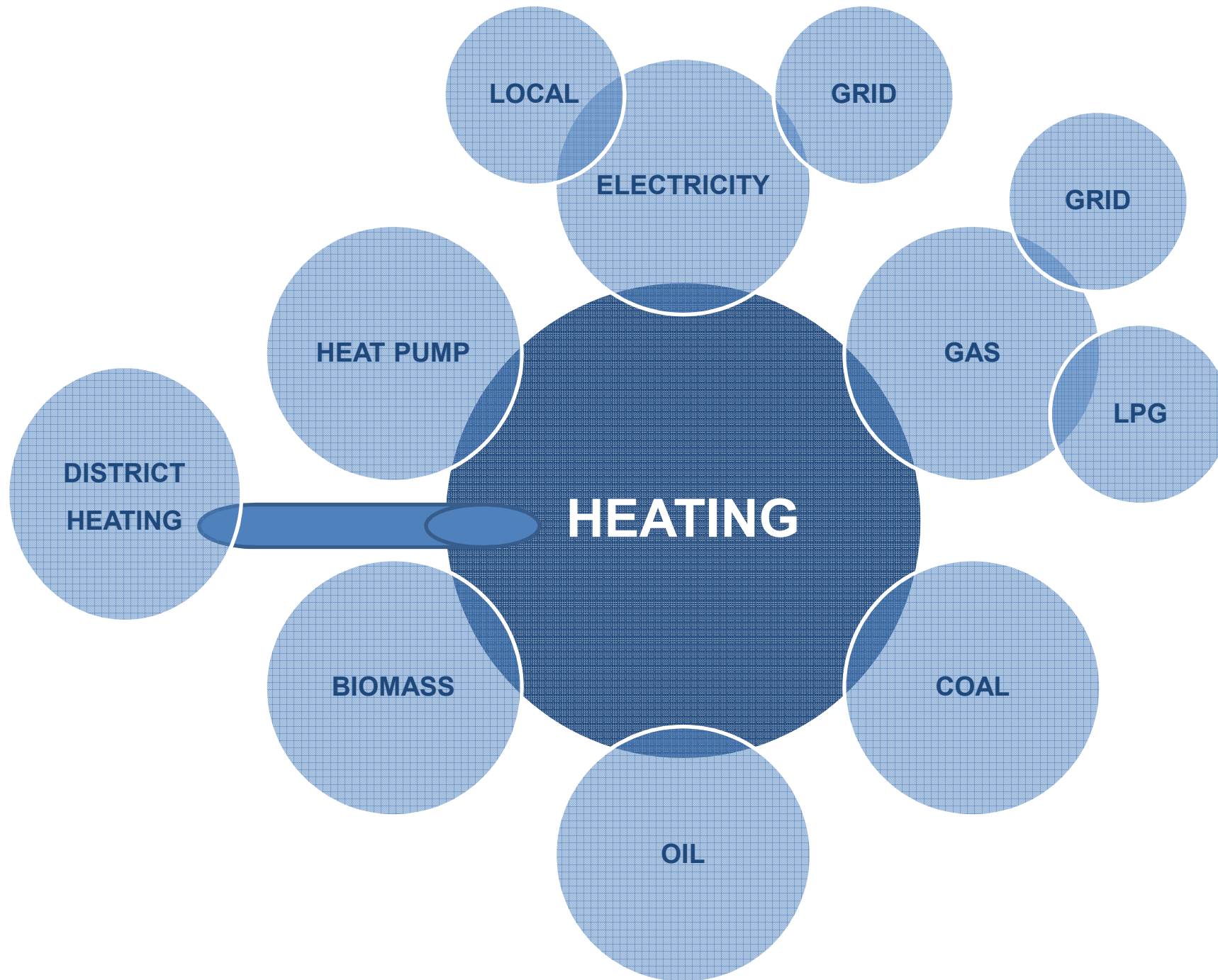
ENERGY MARKETS

COMPETITION BETWEEN ENERGY PRODUCTS

INCLUDES NOT ONLY FUEL-TO-FUEL

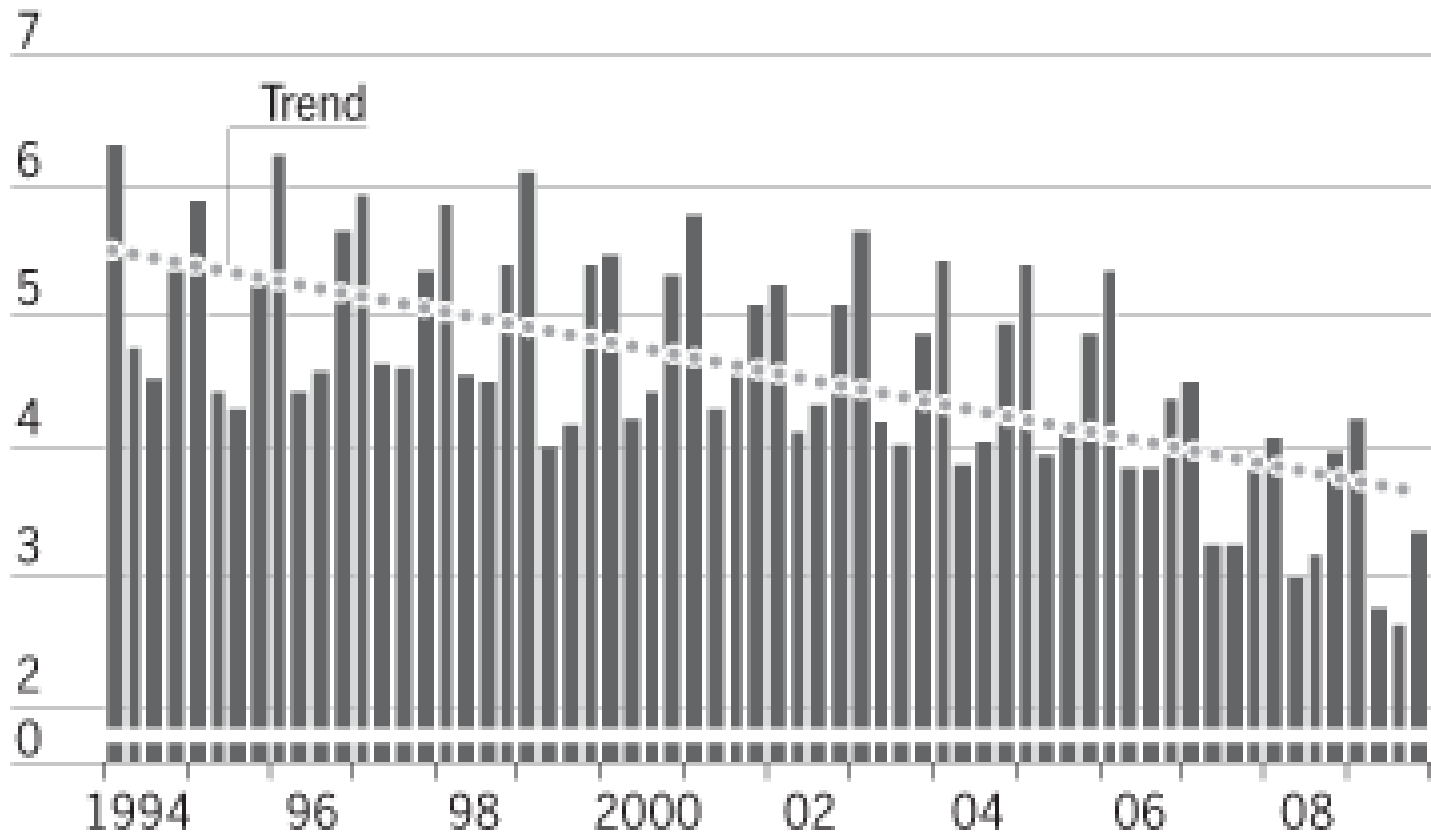
BUT ALSO WITHIN THE SAME FUEL – e.g.:

- **DIESEL vs. GASOLINE**
- **PIPELINE NATURAL GAS vs. LNG**
- **BASELOAD vs. PEAK ELECTRICITY**



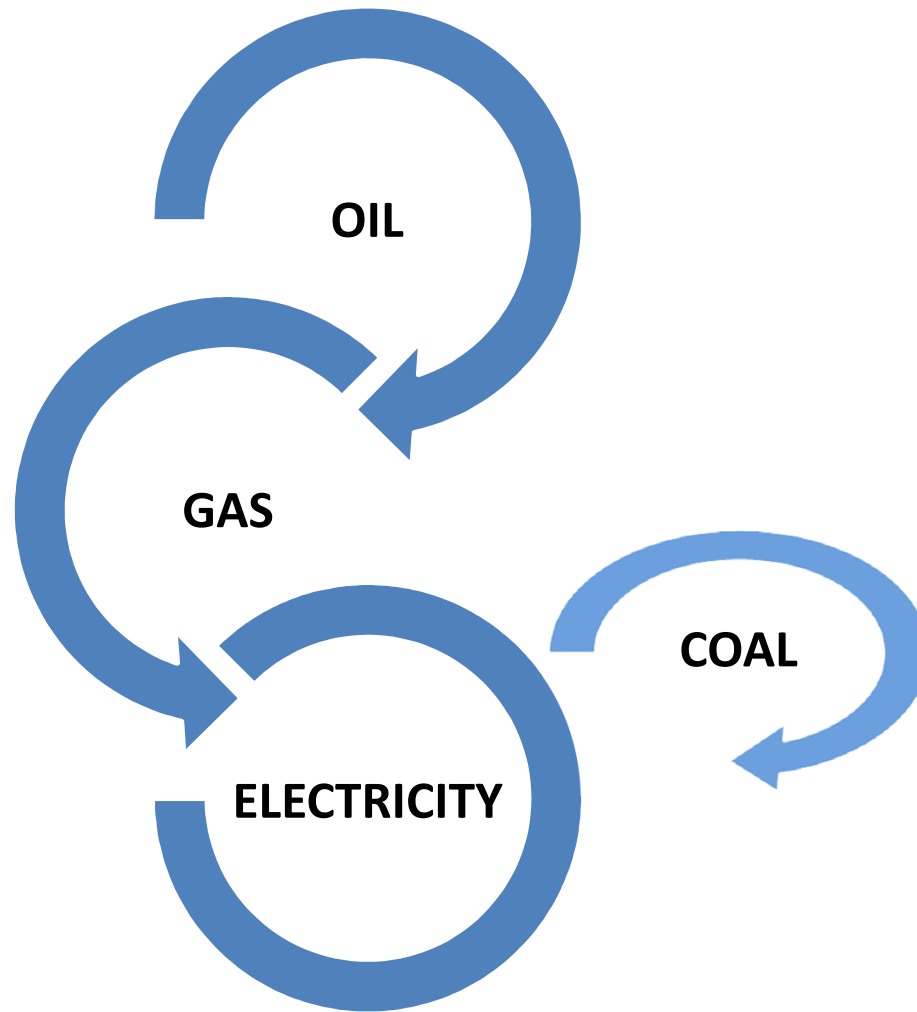
THE IMPACT OF FUEL-TO-FUEL COMPETITION

Heating oil demand slumps by a third in 15 years OECD demand (million barrels per day)

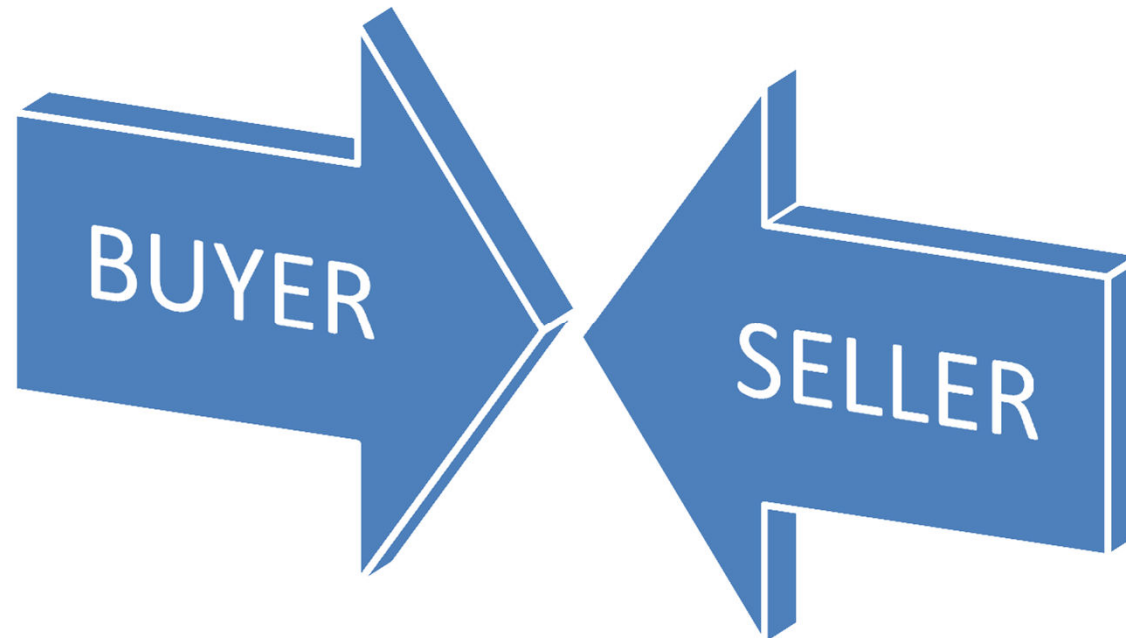


Source: International Energy Agency

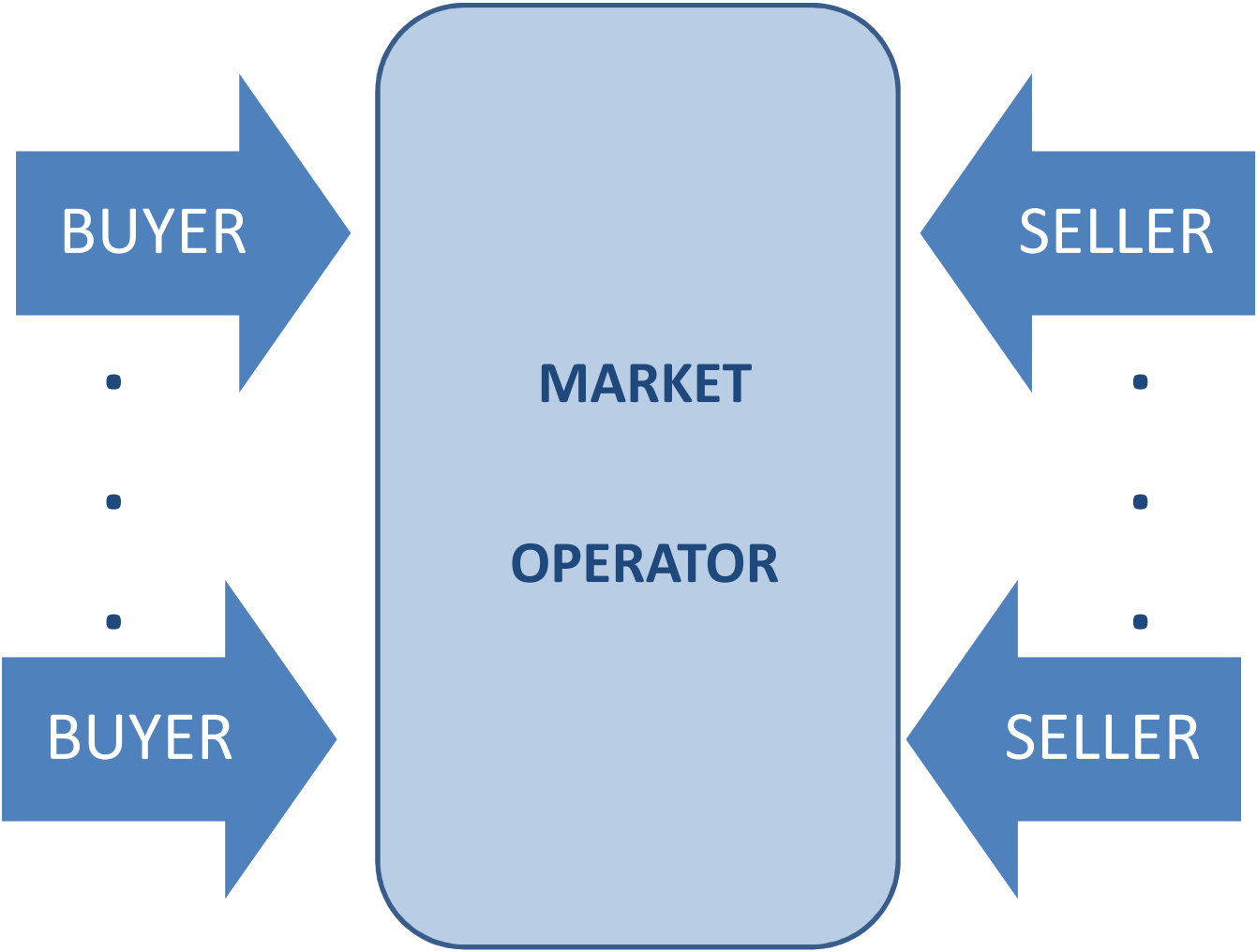
ENERGY PRICE LINKAGE



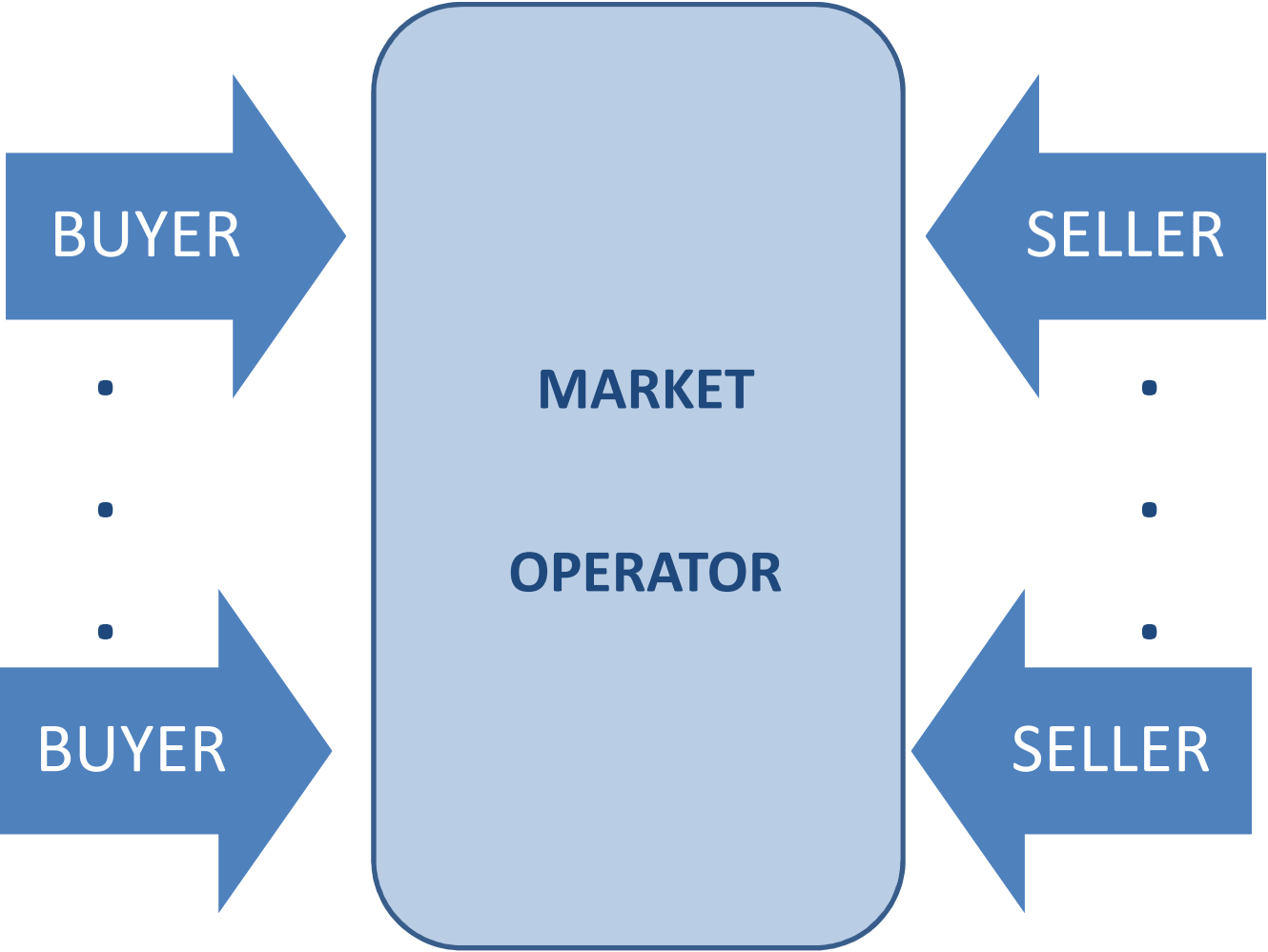
MARKETS



MARKETS



MARKETS



OIL MARKETS - JANUARY 2008 UNTIL MAY 2009

	OIL PRODUCTION	PHYSICAL TRANSACTIONS	FINANCIAL TRANSACTIONS	RATIO FINANCIAL / PHYSICAL
VOLUME billion barrels	41.6	10.4	261.1	25.1
VALUE billion USD	3 693.0	923.4	22 977.0	24.9

Source: Salvatore Carollo "Il prezzo del petrolio" Libri Scheiwiller, Milano, 2009

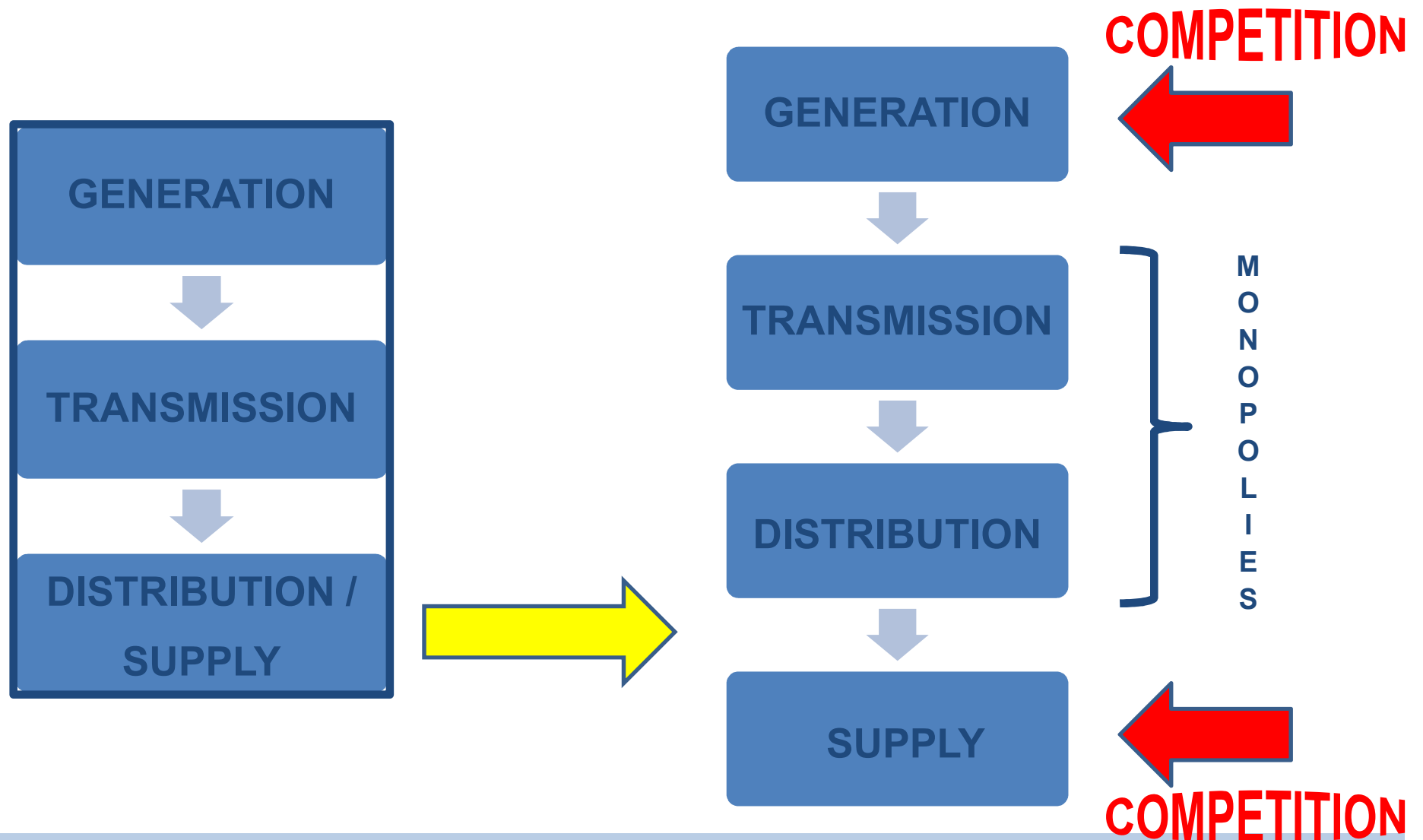
“The creation of new markets is frequently complicated and sometimes even thwarted by ideological enmity, political resistance, fear of uncertainty, or mere ignorance.

(...) the creation of markets is always a social enterprise. It requires the collective actions of many individuals, organizations, and government agents. As in all collective efforts, human relations matter. The market does not and cannot reduce flesh and blood people with distinct identities into machine-like atomistic agents. Market participants certainly calculate and reason; but they remain social animals. The operation of the market also requires complicated rules and structures, which in turn requires concerted efforts and planning. Rules and norms are frequently needed. Many such rules and norms are self-enforced. But the state is often involved in enacting and providing credible third-party enforcement.”

Ronald Coase

In Foreword to Richard L. Sandor “Good Derivatives”, John Wiley and Sons, 2012

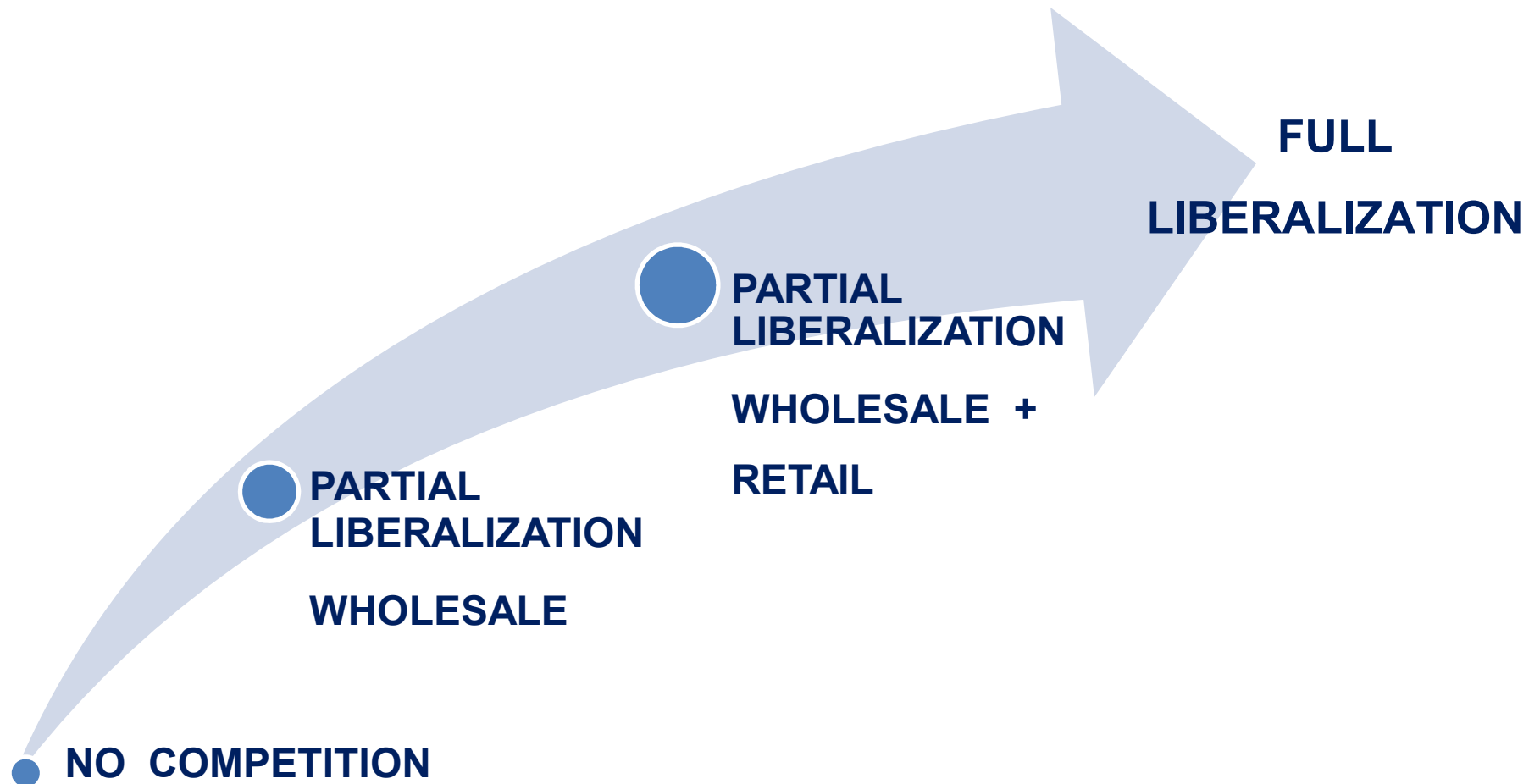
LIBERALIZATION OF ELECTRICITY MARKETS



LIBERALIZATION OF ELECTRICITY MARKETS

ENERGY LIBERALIZATION STARTED IN THE 1980s

ORGANIZED ELECTRICITY MARKETS STARTED IN THE 1990s



O MERCADO DA ELECTRICIDADE NA UNIÃO EUROPEIA

MAIN DEVELOPMENT PHASES OF THE IEM

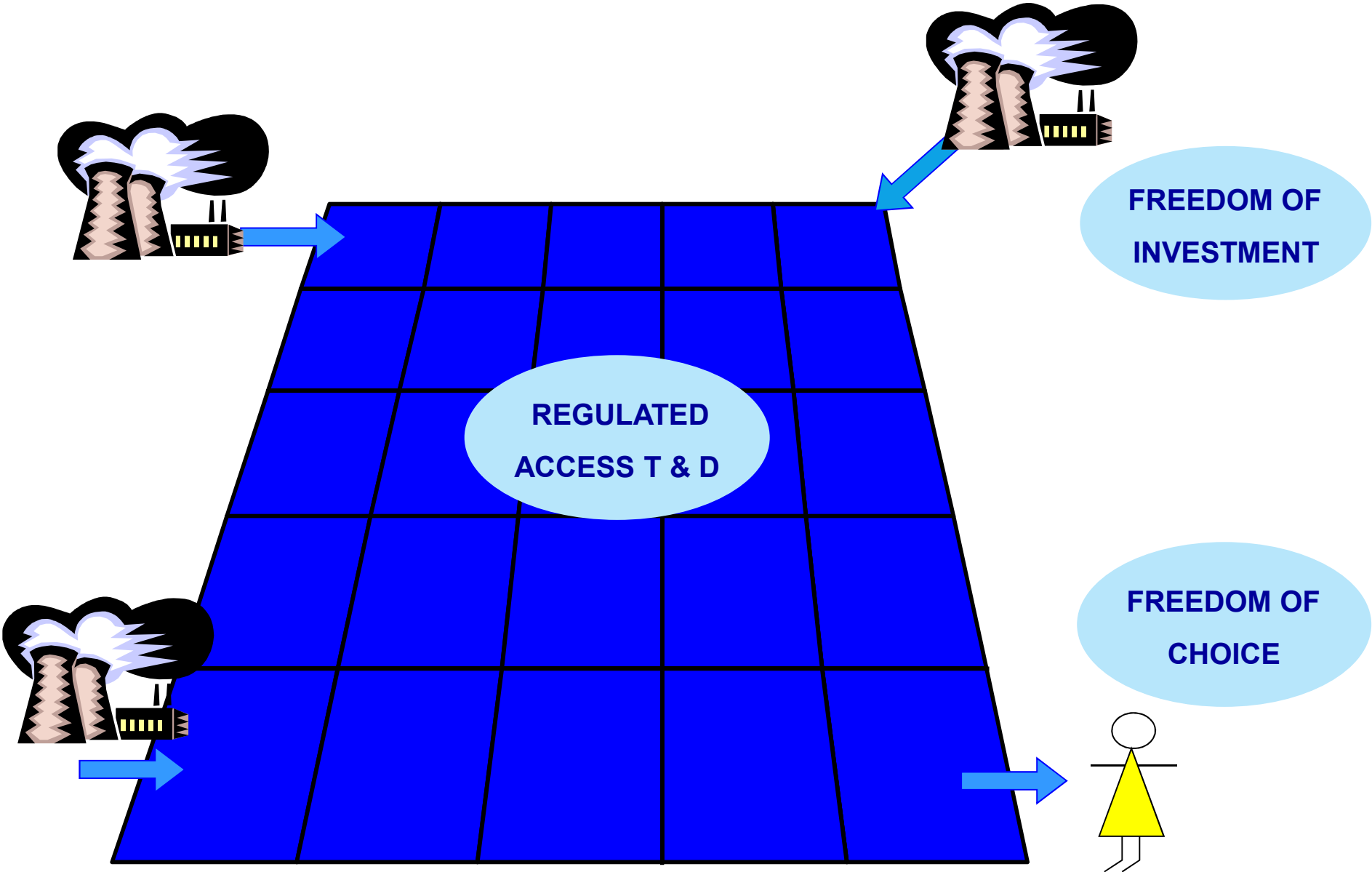
1988 - 1990

1996 - 1998 **1st package**

2003 **2nd package**

2009 **3rd package**

THE EUROPEAN MODEL



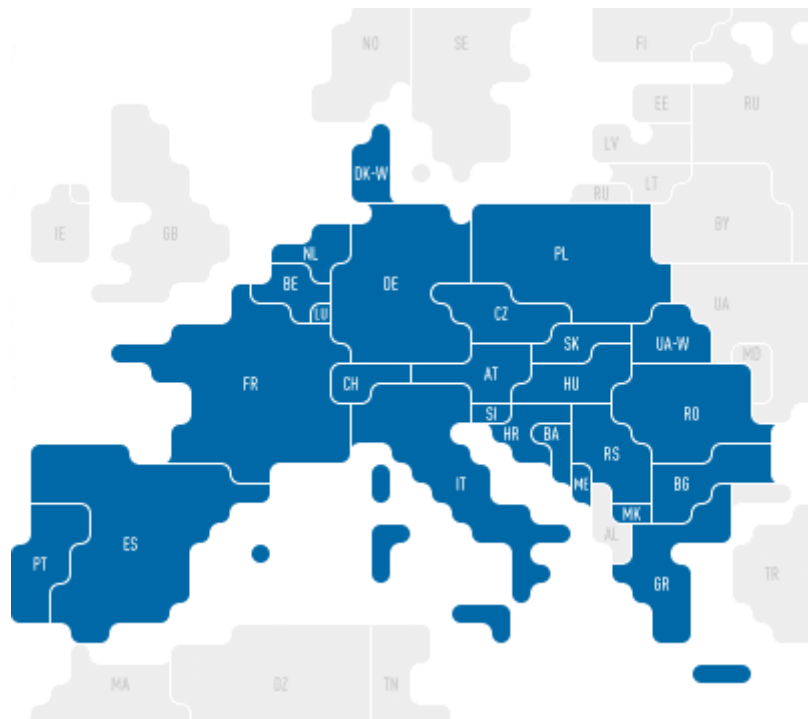
THE INTERNAL ENERGY MARKET

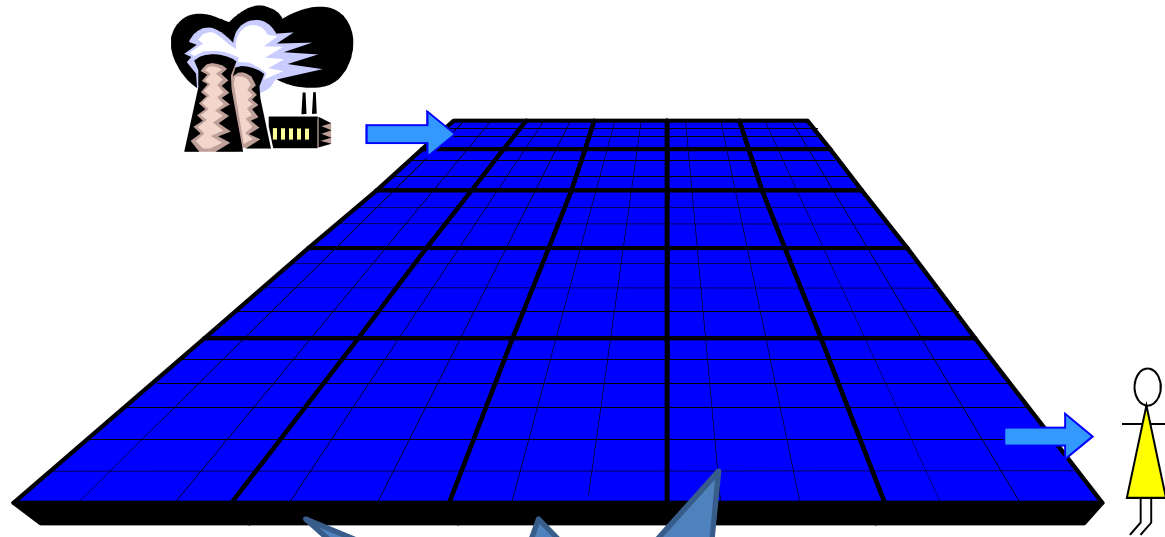
**SINCE THE 1st
OF JULY 2007
ALL
ELECTRICITY
AND GAS
CONSUMERS
ARE FREE TO
CHOOSE
SUPPLIER
FROM ANY
MEMBER STATE**



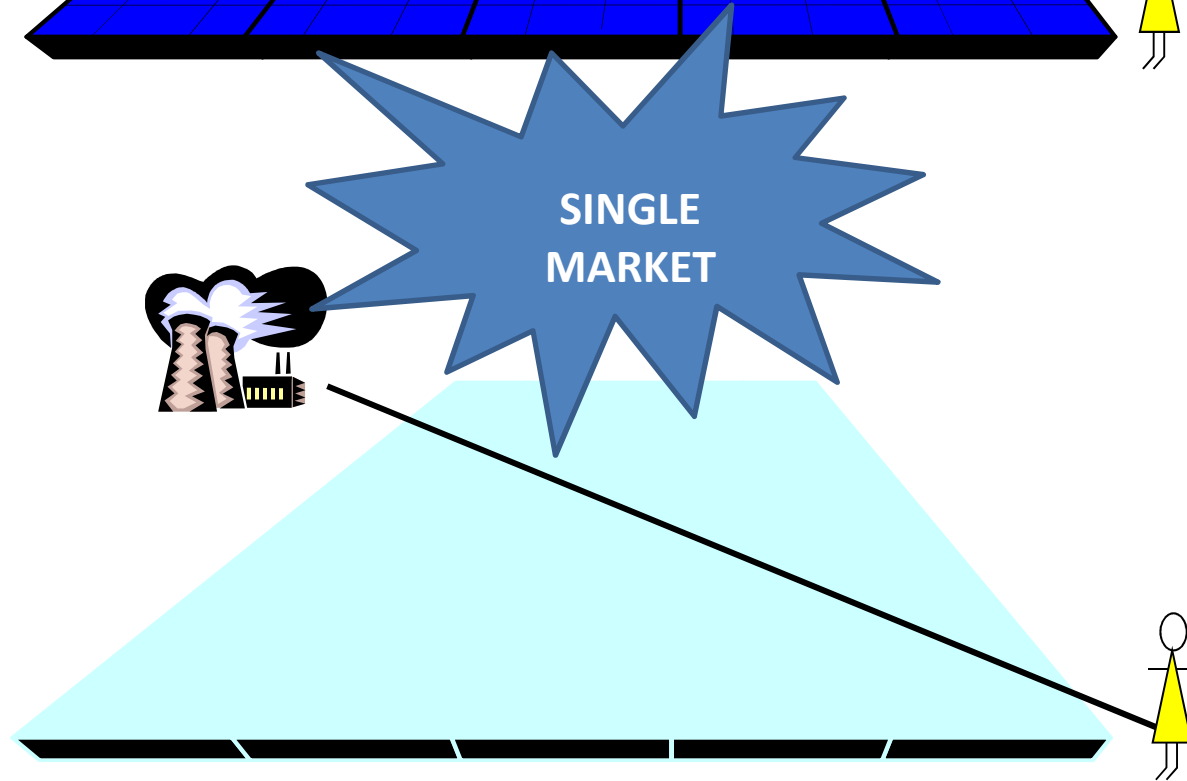
EU ENERGY NETWORKS

ELECTRICITY AND GAS





1
EUROPEAN
NETWORK



1
EUROPEAN
MARKET

O MERCADO DA ELECTRICIDADE EM PORTUGAL

O MERCADO ELÉCTRICO PORTUGUÊS INTEGRA-SE JURIDICAMENTE NO MERCADO EUROPEU MAS APRESENTA 3 ANOMALIAS :

- 1. FISICA E COMERCIALMENTE SÓ INTERAGE COM O MERCADO DE UM OUTRO ESTADO-MEMBRO (ESPANHA) – A PENÍNSULA IBÉRICA É UMA ILHA ELÉCTRICA.**
- 2. NÃO HÁ CONCORRÊNCIA EFECTIVA NA PRODUÇÃO.**
- 3. NÃO HÁ CONCORRÊNCIA EFECTIVA NO RETALHO DOMÉSTICO.**

PORTUGAL

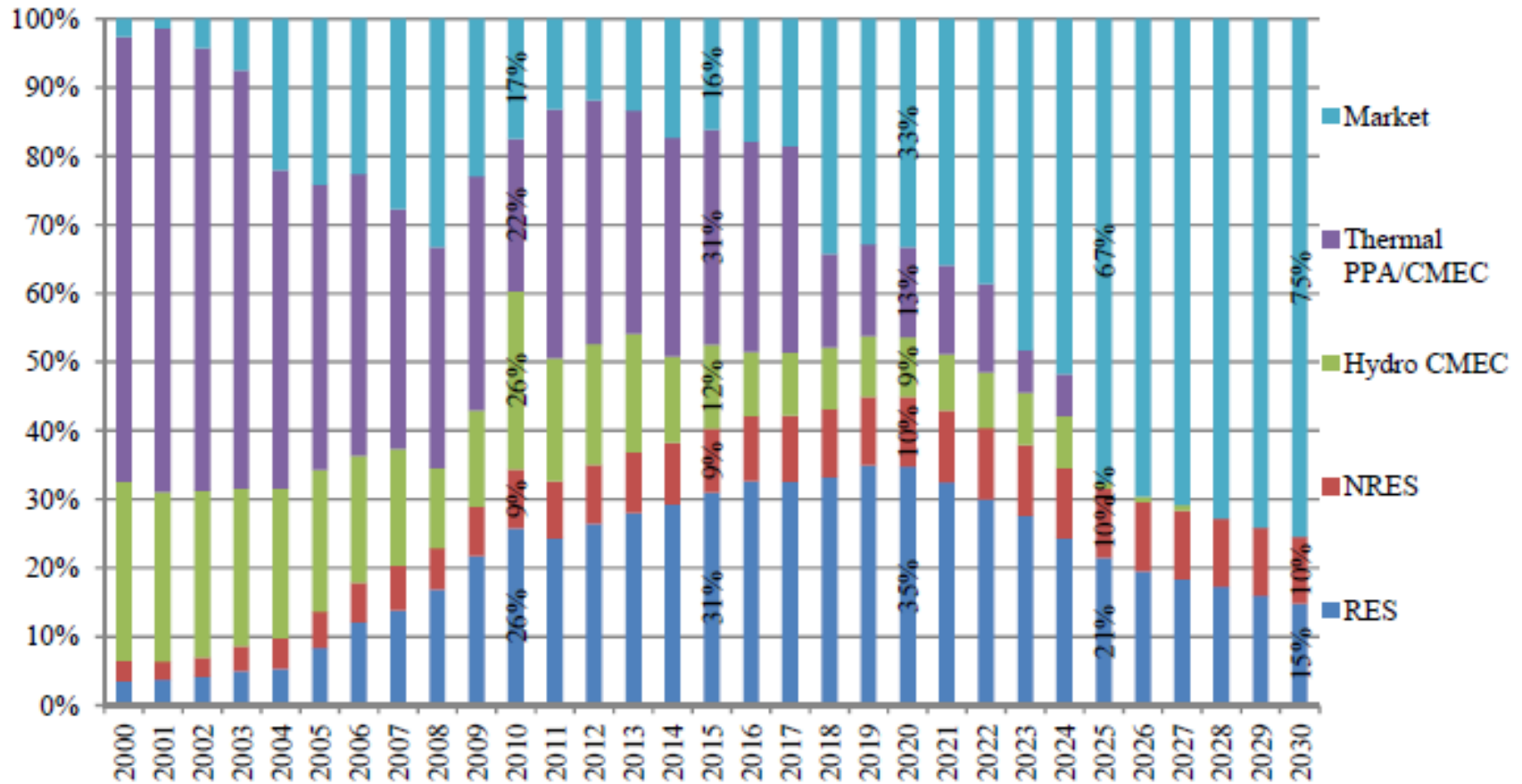


Fig. 2. Electricity generation mix relative to demand

PORTUGAL

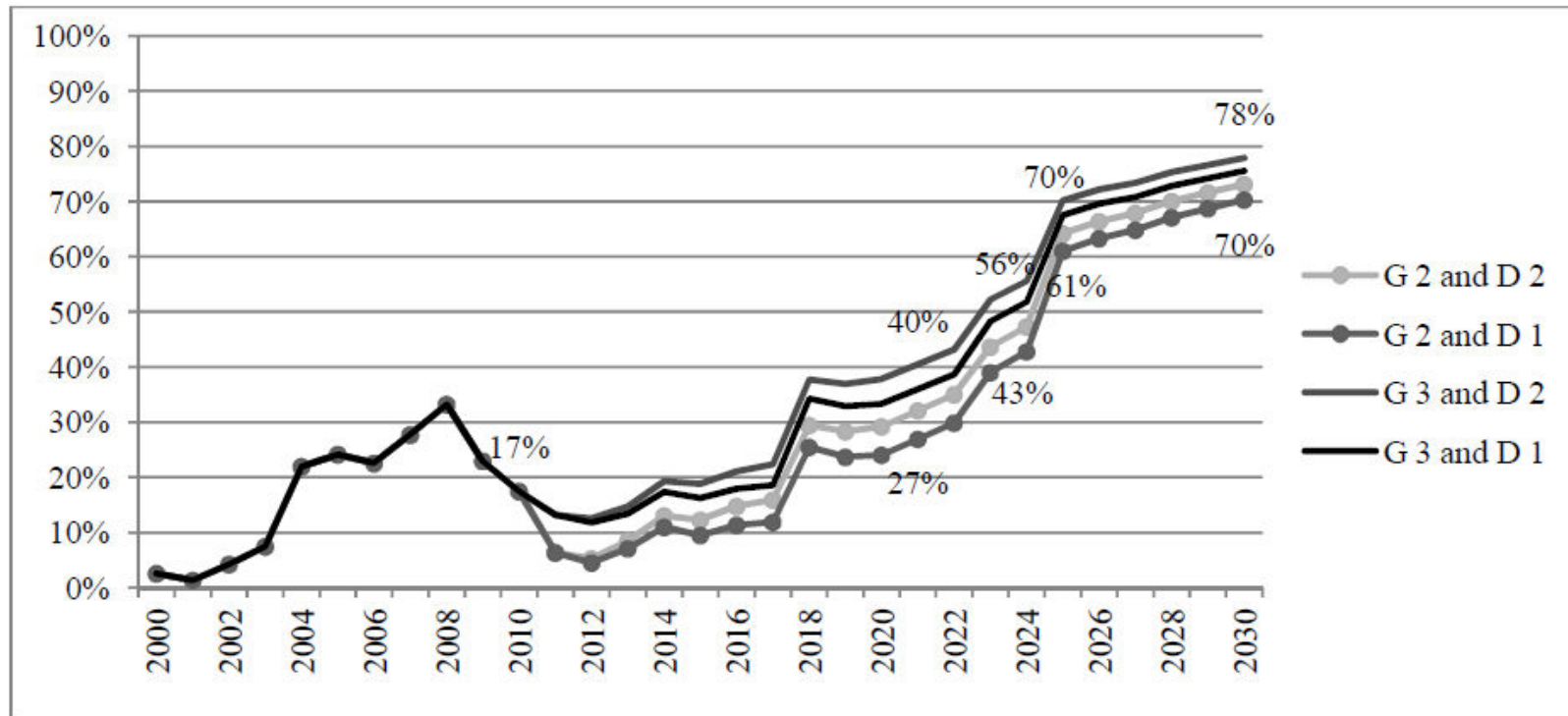
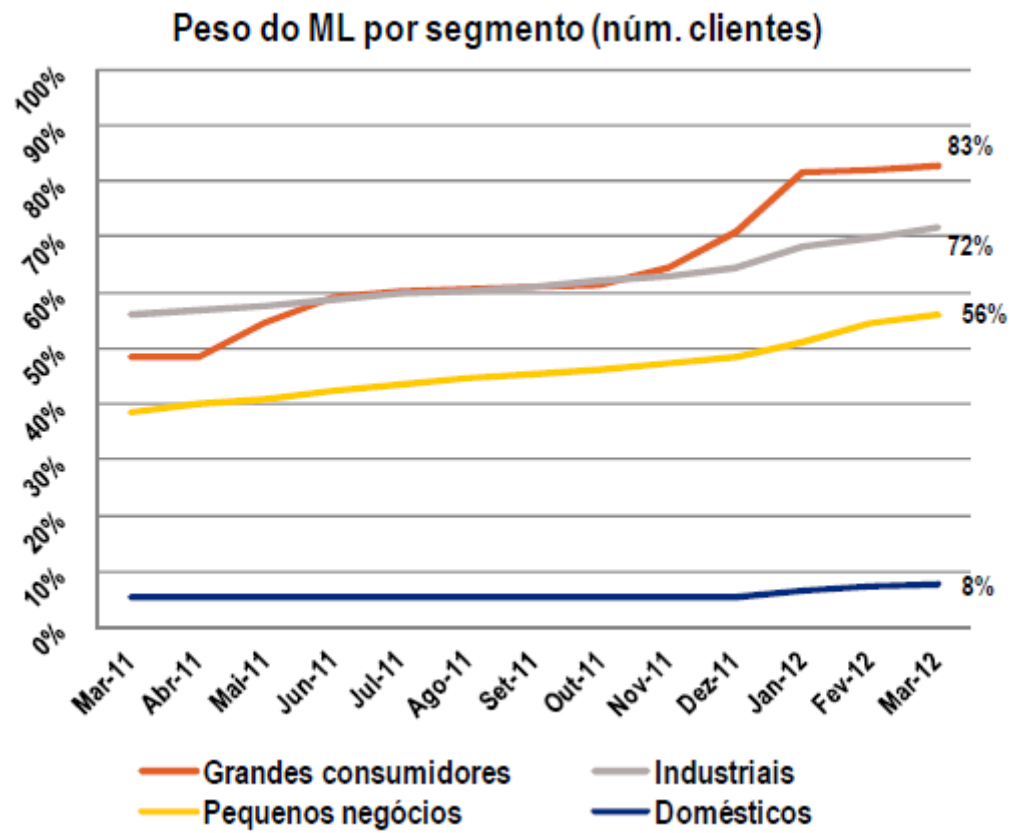


Figure 14: Market potential in Generation Scenarios 2 and 3, Demand Scenarios 1 and 2.



ALÉM DA LIBERALIZAÇÃO :

NOVOS DESAFIOS E OPORTUNIDADES

- 1** 30% (20%) REDUCTION IN GREENHOUSE GAS EMISSIONS
- 2** SAVING 20% OF THE EU'S ENERGY CONSUMPTION COMPARED TO PROJECTIONS
- 3** 20% SHARE OF RENEWABLE ENERGIES IN OVERALL EU ENERGY CONSUMPTION

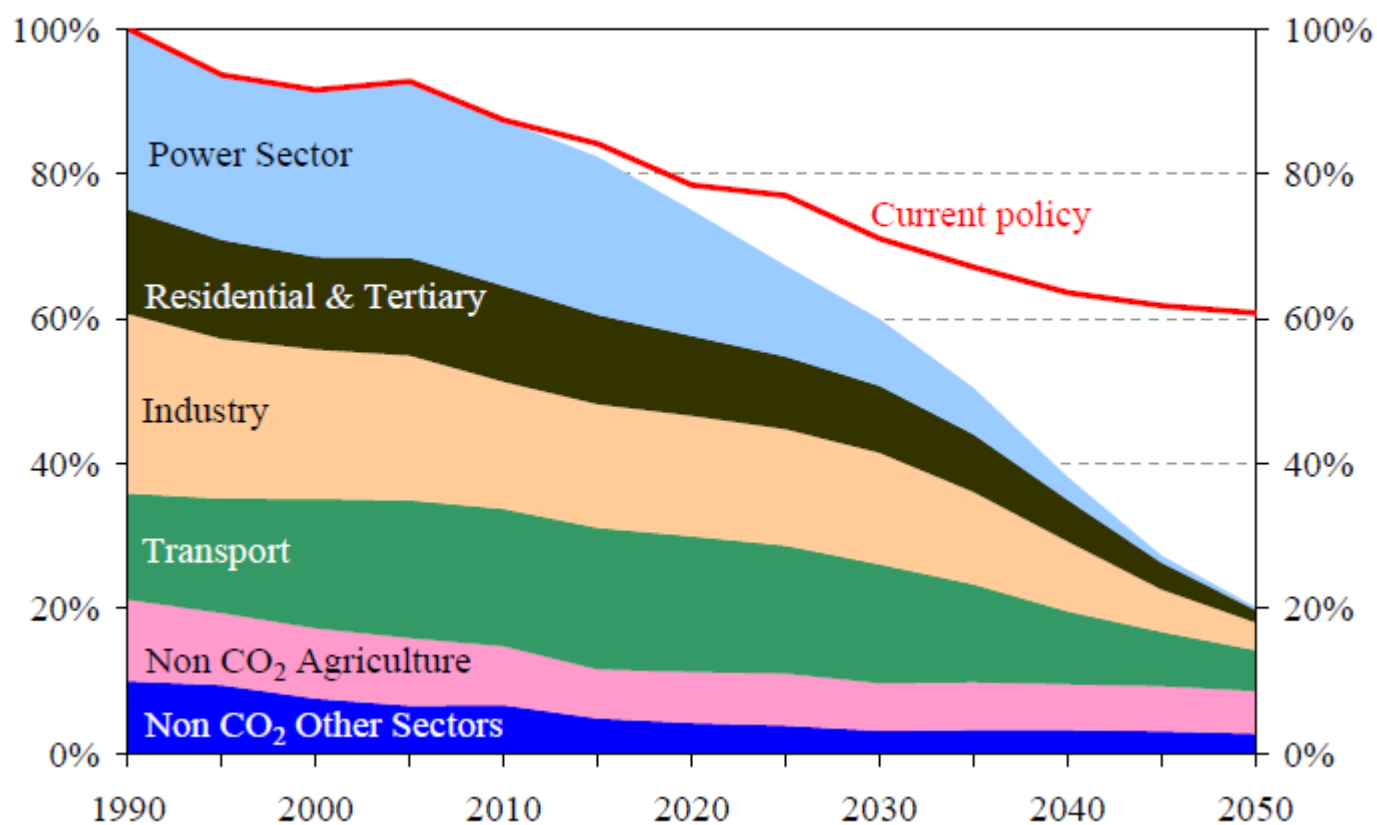


<http://belenensesilustrado.blogspot.com/2011/05/sai-um-tres-vintes-pro-vicente.html>

2050

The transition towards a competitive low carbon economy means that the EU should prepare for reductions in its *domestic* emissions by 80% by 2050 compared to 1990⁴. The Commission has carried out an extensive modelling analysis with several possible scenarios showing how this could be done, as explained in the box below.

Figure 1: EU GHG emissions towards an 80% domestic reduction (100% =1990)



LIBERALIZATION OF ELECTRICITY MARKETS

TRADITIONAL LIBERALIZATION ISSUES :

- NON-DISCRIMINATORY NETWORK ACCESS
- WHOLESALE MARKET DESIGN
- RETAIL MARKET DESIGN
- MARKET POWER, COMPETITION

NEW POST-LIBERALIZATION ISSUES :

- DEMAND PARTICIPATION
- HIGH PENETRATION OF
RENEWABLE / CHP GENERATION



**MARKET
REDESIGN**

THE Sun

Thursday, January 8, 2009 €2.00 PRINTED TODAY IN SPAIN

STILL TIME TO JOIN IN

MISSING BLADE RIDDLE

**UFO
HITS
WIND
TURBINE**

4am prang at 300ft





BUSINESS- NEWS | [International](#) | [EU](#) | [IWR-Pressedienst](#) |

Photovoltaik - Energiewende - Strom - Rekord

Weltrekord: Deutsche Solaranlagen produzieren erstmals Strom mit über 20.000 MW Leistung

Münster - Der Ausbau der Photovoltaik und das fröhsummerliche Wetter haben Deutschland am Freitagmittag einen neuen Weltrekord bei der Stromerzeugung aus Sonnenenergie beschert. [Weiter...](#)

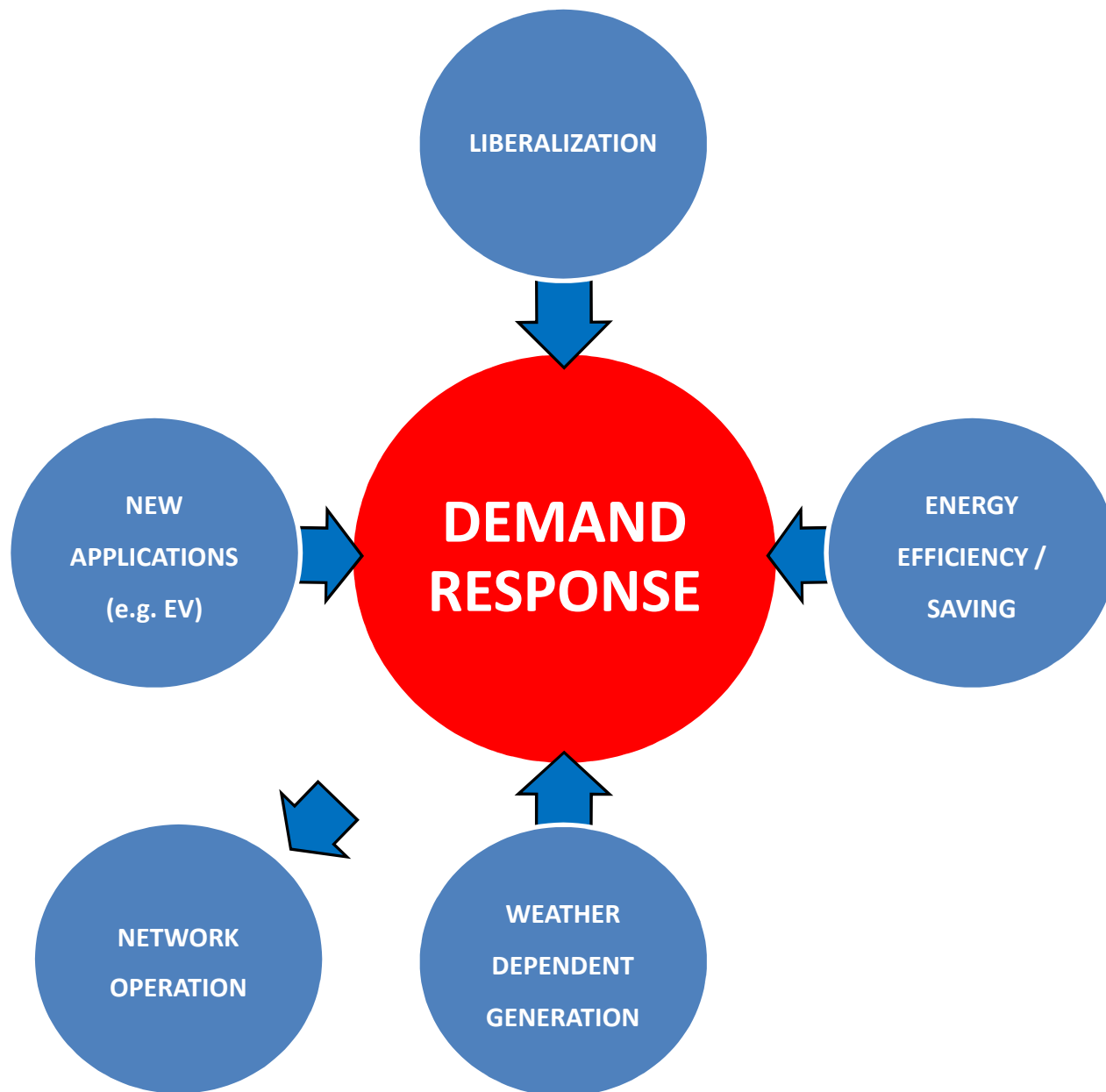
<http://www.iwr.de/>

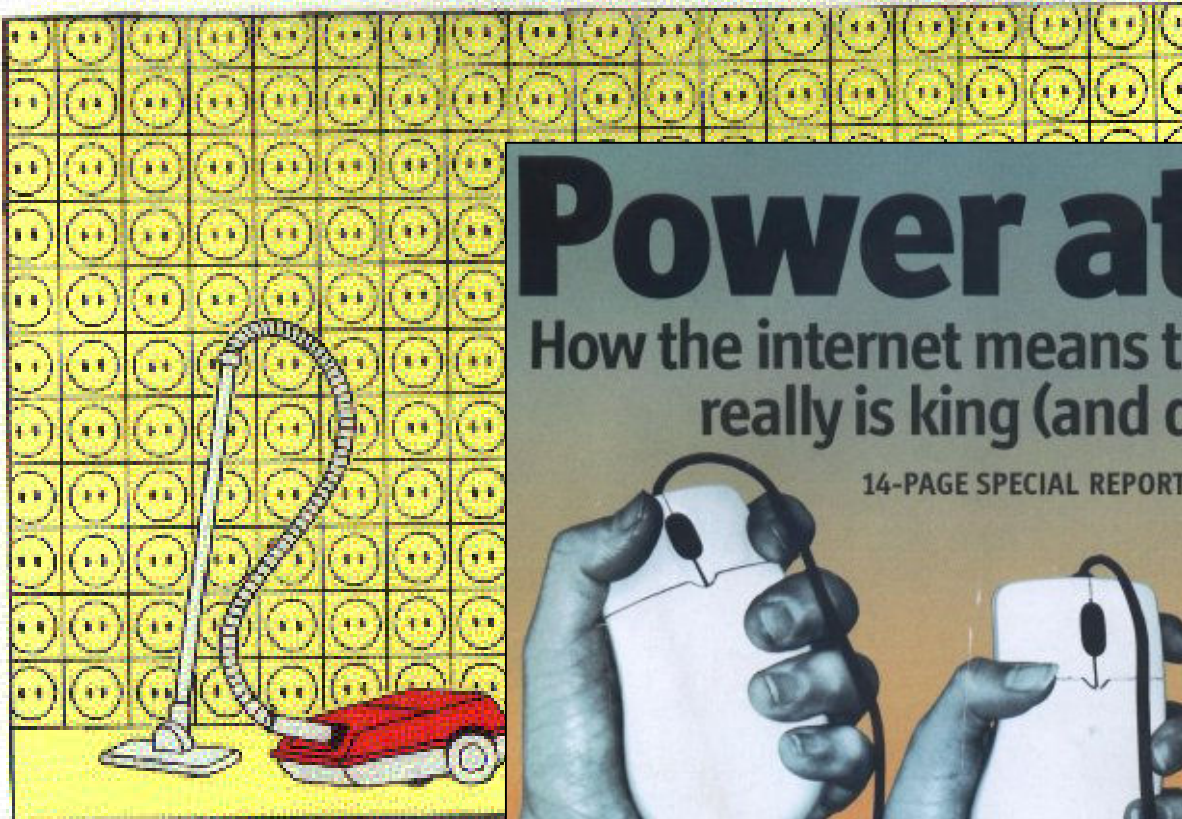
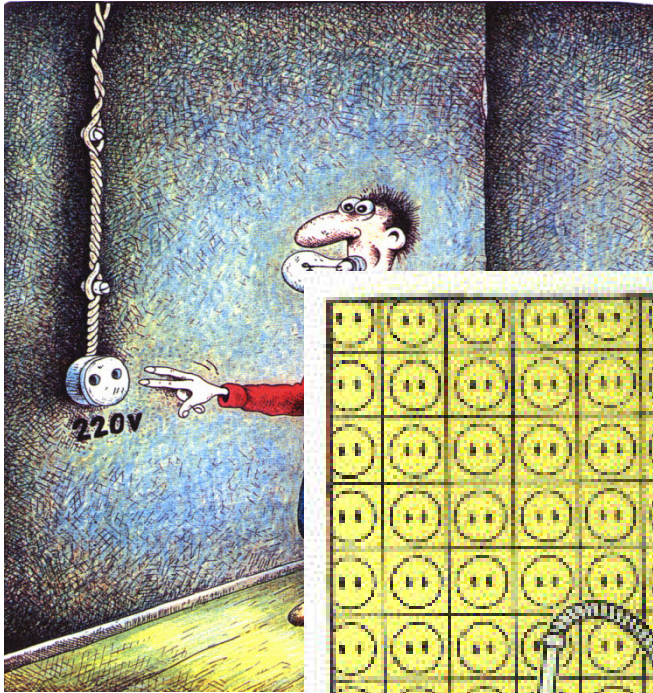
«... Y CUANDO
LA OFERTA
DESPERTÓ,
LA DEMANDA
CONTINUABA
ALLÍ.»

AHORA
CUENTAME
UNO DE
DESREGULACIÓN



berlich@gmail.com





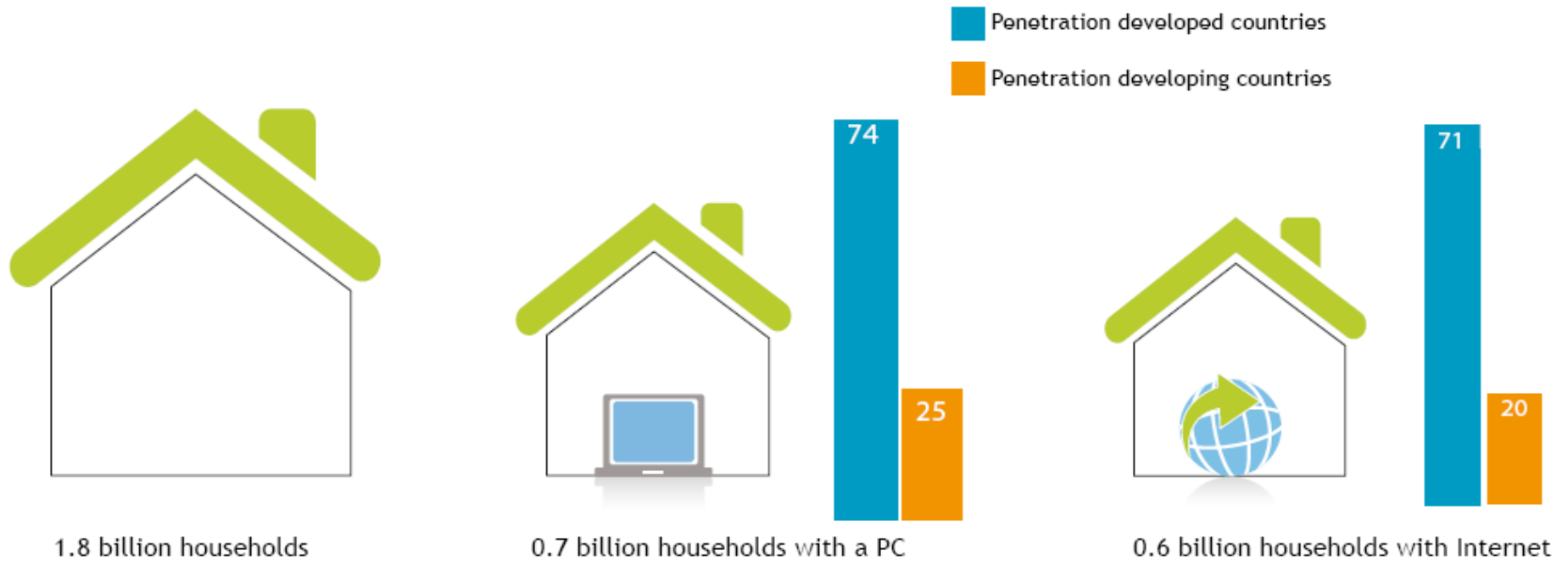
Power at last

How the internet means the consumer really is king (and queen)

14-PAGE SPECIAL REPORT



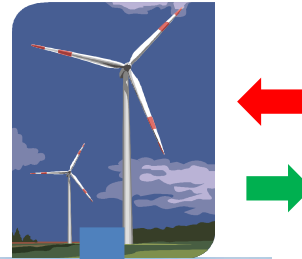
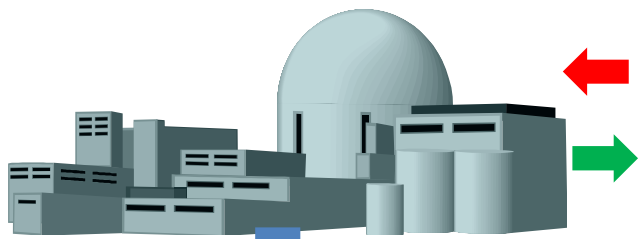
SMART GRID AND DEMAND RESPONSE



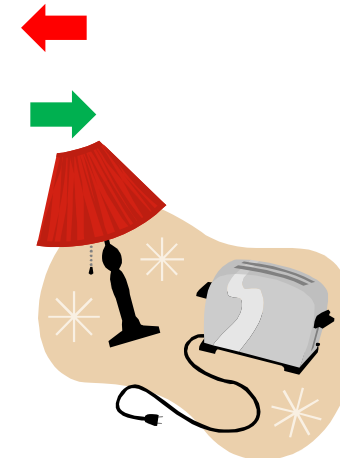
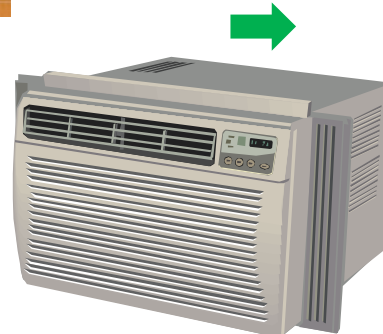
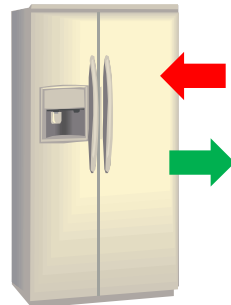
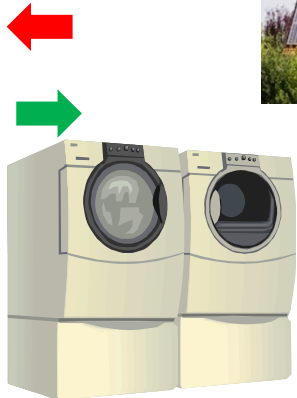
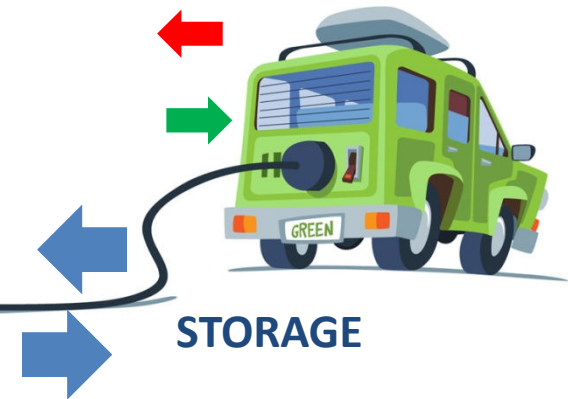
Note: * Estimate

Source: ITU World Telecommunication/ICT Indicators database

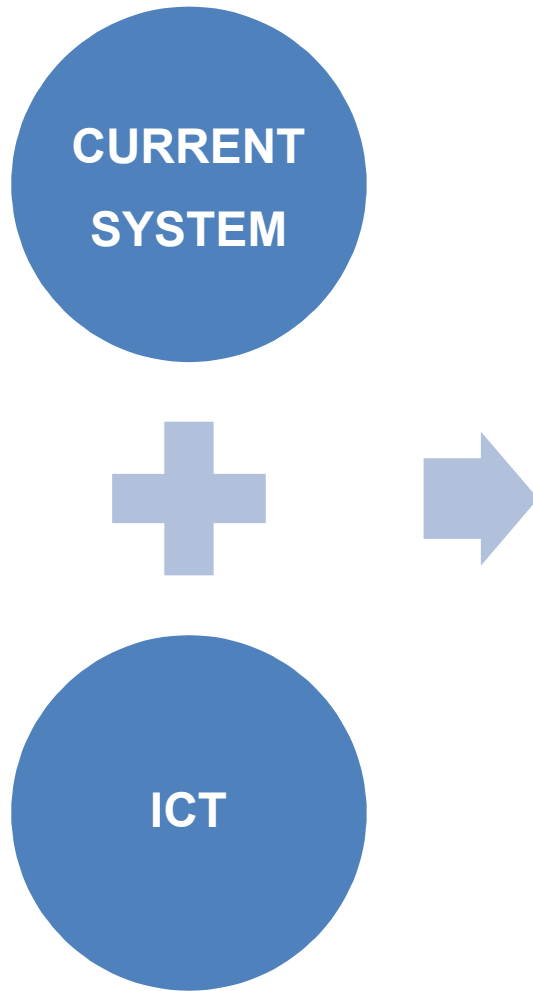
<http://www.itu.int/ITU-D/ict/facts/2011/material/ICTFactsFigures2011.pdf>

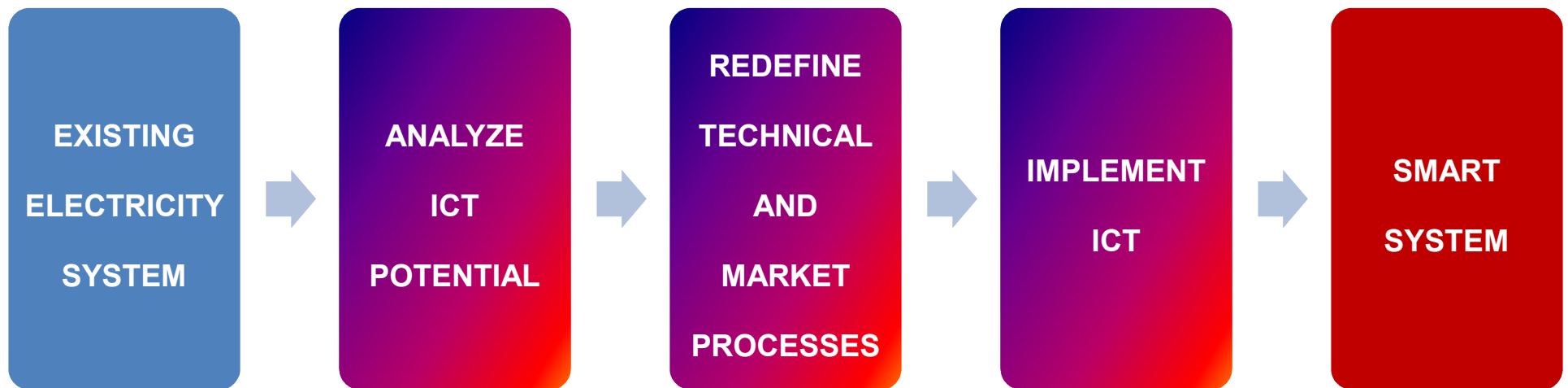


**THE FUTURE
POWER SYSTEM :
MEASURABLE &
CONTROLLABLE**



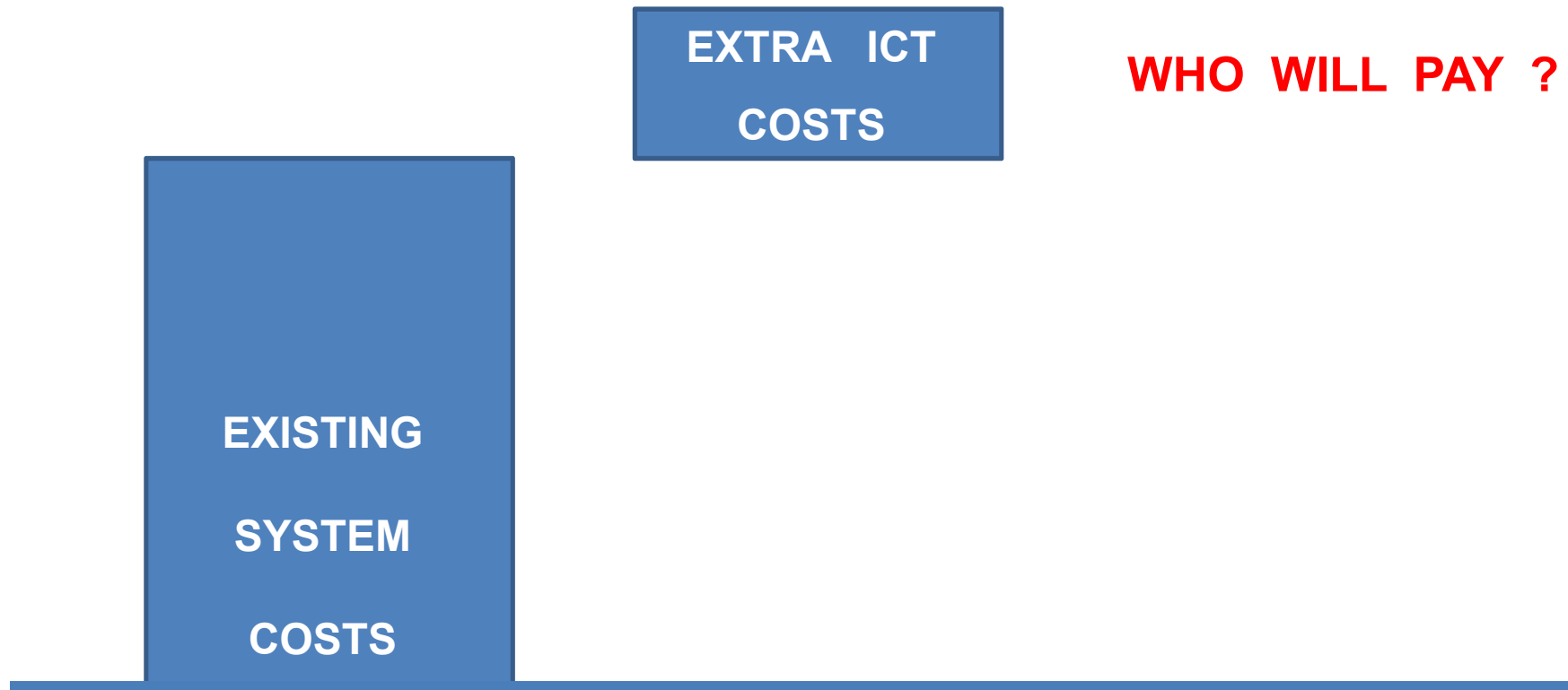
SMART GRID AND DEMAND RESPONSE





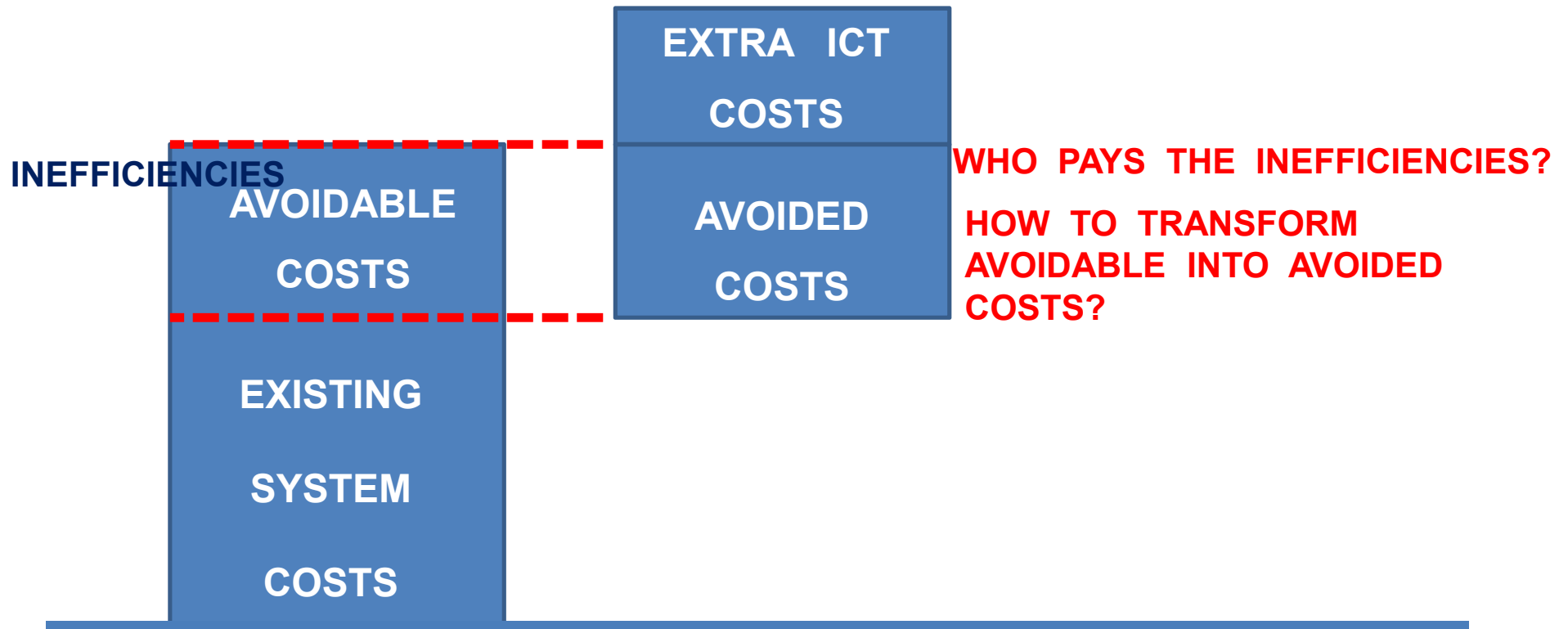
CREATING A SMART SYSTEM REQUIRES CREATIVE THINKING AND REENGINEERING OF SYSTEM OPERATION AND ENERGY MARKETS

THE “WHO PAYS” (COST / BENEFIT) PROBLEM
REACTIVE APPROACH

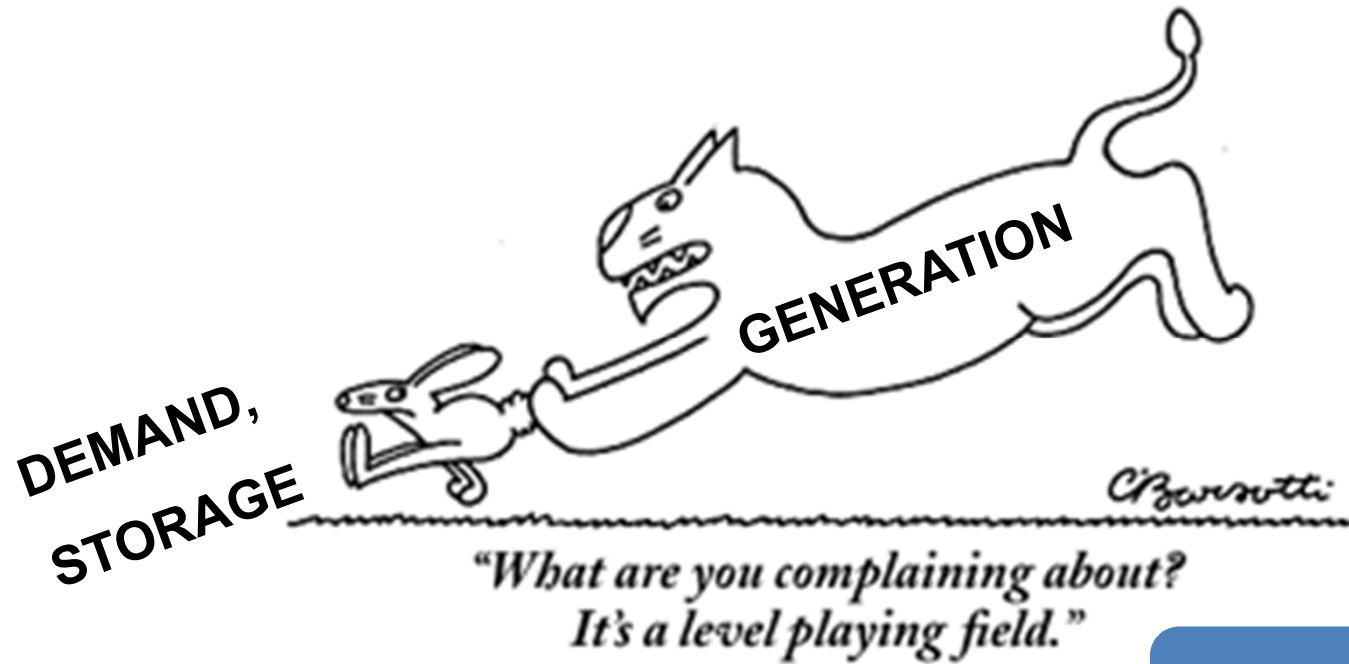


THE “WHO PAYS” (COST / BENEFIT) PROBLEM

PRO-ACTIVE APPROACH



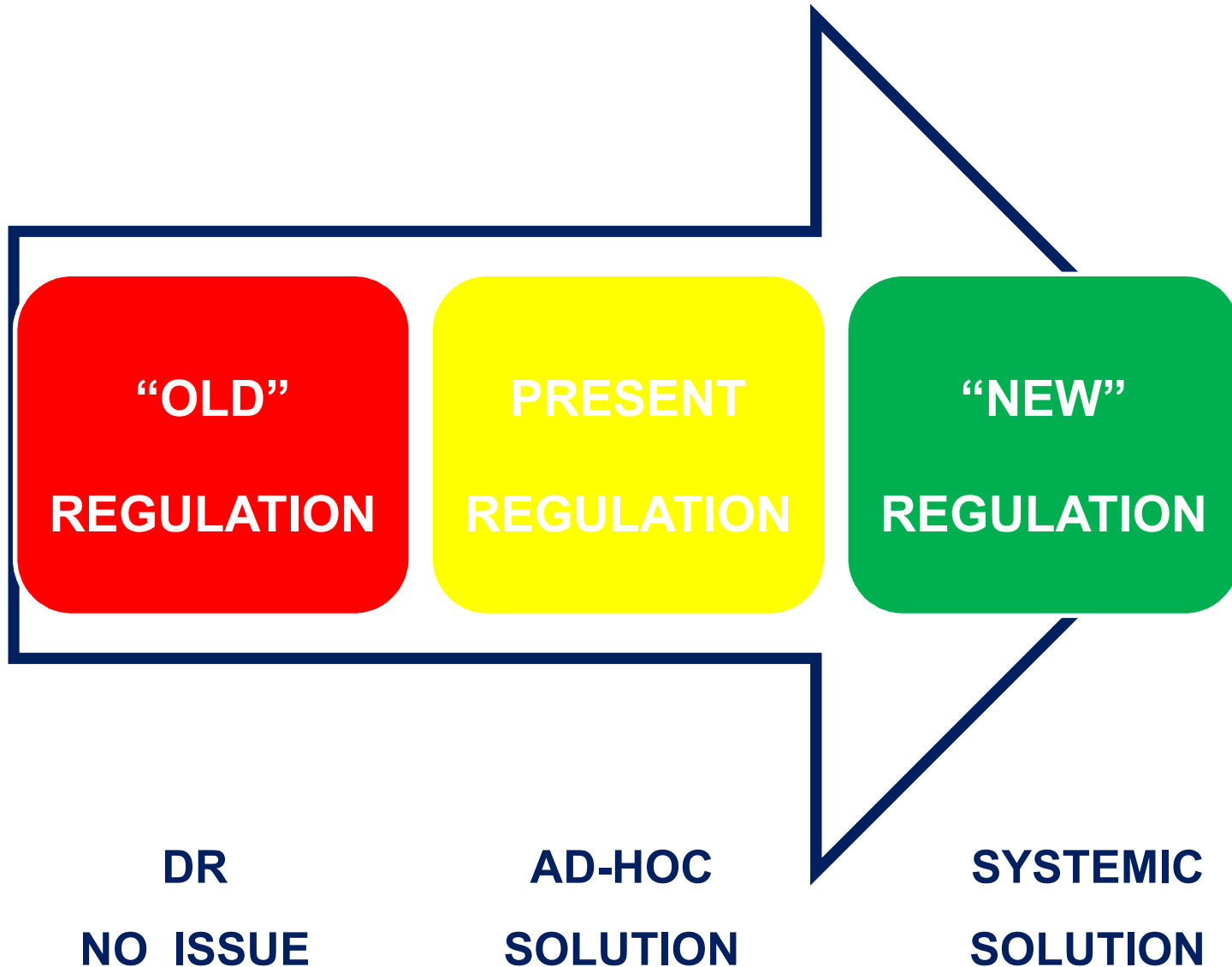
© Cartoonbank.com



**EPISTEMOLOGICAL
BARRIER**

://www.google.pt/search?q=regulation+images&hl=pt-
rlz=1T4HPND_en___PT228&prmd=ivns&tbn=isch&tbo=1u&source=univ&sa=X&ei=08bKTZOHA4ODhQfX5uioAg&ved=0CBsQsAQ&biw=1323&bih=650

DEMAND RESPONSE IN (REGULATORY) CONTEXT

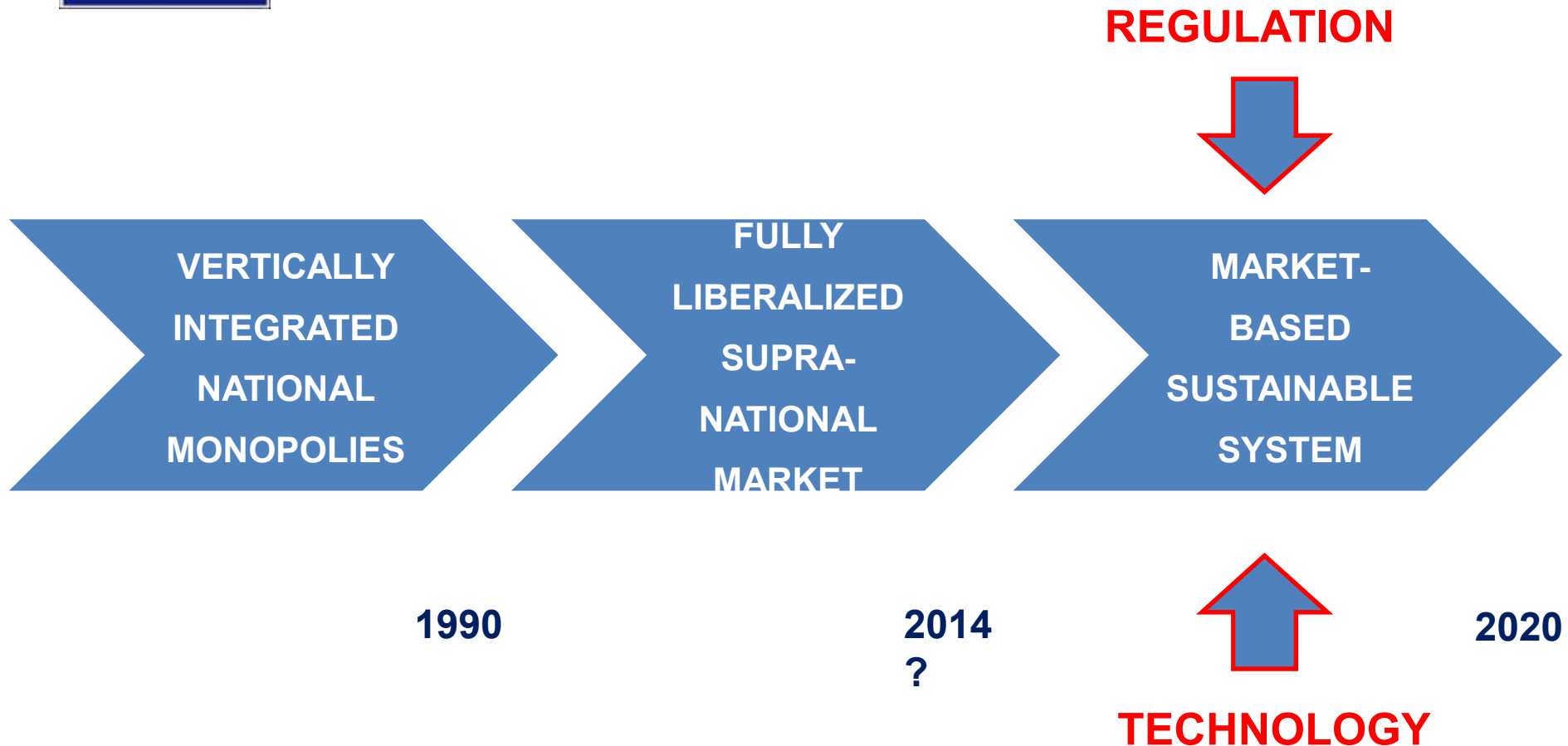


CHALLENGING REGULATORY ISSUES

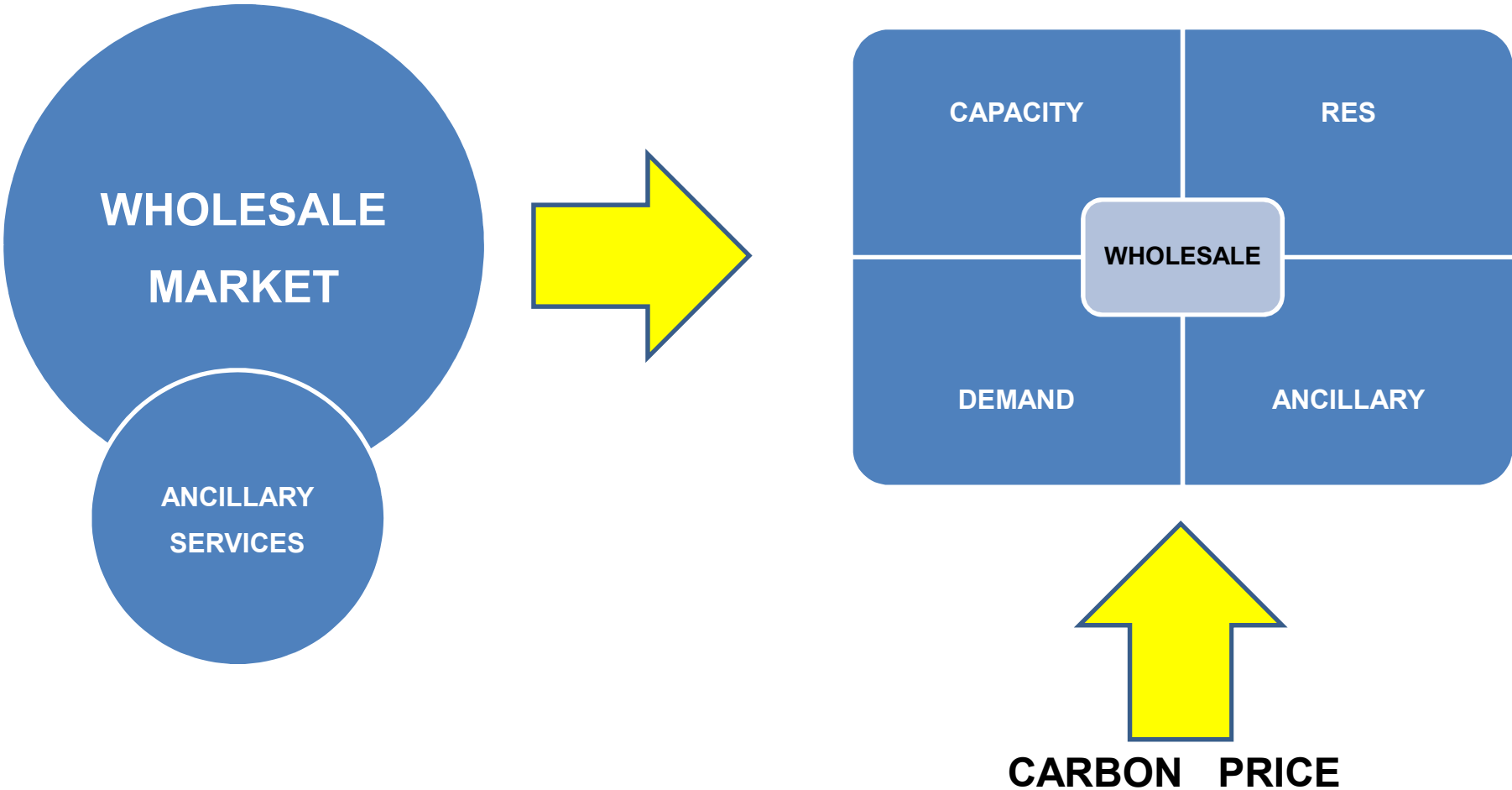
REGULATION HAS TO CHOOSE BETWEEN 2 DIFFERENT APPROACHES:

- ❑ THE “STANDARD MARKET MODEL” IS THE CORNERSTONE, INNOVATIONS (eg renewable, demand response) MUST BE COMPATIBLE WITH THE MODEL – OR REJECTED.
- ❑ LET THE DISRUPTIVE FORCE OF INNOVATION (INTERNET) PRODUCE THE CREATIVE DESTRUCTION OF THE STANDARD MODEL - AND INVENT NEW MODELS.

EUROPEAN GREEN ELECTRICITY MARKET



FUTURE ENERGY MARKETS



OPORTUNIDADES PORTUGAL



1. EFICIÊNCIA ENERGÉTICA

2. PRODUÇÃO COMBINA EL./CALOR/FRIO

3. GESTÃO DA PROCURA

4. RENOVÁVEIS

5. REDES INTELIGENTES

6. TRANSPORTE ELÉCTRICO