



FONDO  
DE SUSTENTABILIDAD  
ENERGÉTICA



**Smart Grids in Distribution Networks:**

**Expert workshop in support of deployment and  
integration in Mexico**

**29 May 2015**

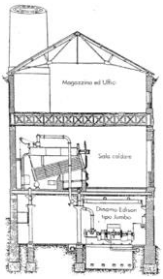
**Session 3: Addressing the  
challenge of smart grid  
deployment through policy and  
targeted investment**

**Experience from the Italian electricity  
system privatisation process**

**Michele de Nigris**

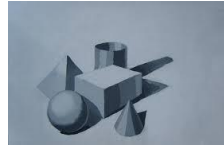


# A LONG STORY MADE SHORT



## Santa Radegonda

The first power plant in Europe. Piazza Duomo.



## Rationalisation

Setting up of CESI.



## System development

Building and development.



## Privatisation

Enel becomes a private holding.



## Global player

Active in 22 countries.



1882

1955

1958

1962

'70-'80

1995

1999

2001

2014

## National company

Vertically integrated electricity operator.



ENEL

**ENEL**  
Società per azioni

**Enel**  
L'ENERGIA CHE TI ASCOLTA.



## Many electricity operators

Different frequencies, voltages, schemes



## Start unbundling

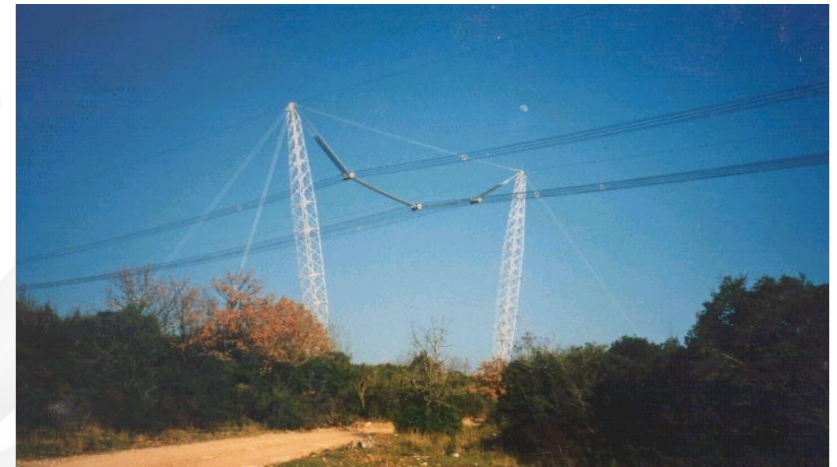
Sell 50% of power assets.



## Start Electronic meter

Beginning of smart grids activities.

# FOUR DECADES OF TECHNICAL EXCELLENCE



THE FIRST 1000 KV EXPERIMENTAL LINE IN OPERATION  
AND THE RELATED R&D ACTIVITIES

*Ricerca sul Sistema Energetico - RSE S.p.A.*



# COUNTERACTING THE RISKS OF PRIVATIZATION



OBSERVING THE  
CONSEQUENCES OF  
PRIVATIZATION IN U.K -  
1990

NEED TO PRESERVE THE  
COMPETENCES OF THE  
RESEARCH CENTRES FOR  
NATIONAL STRATEGIC ISSUES

- FOCUS ON INTERNAL BUSINESS
- NO ACCOMPANYING MEASURE
- PROGRESSIVE REDUCTION OF COMPETENCES AND R&D CAPABILITIES
- LACK OF A SYSTEM VISION
- INCREASED RISK OF BLACKOUT

- PRESERVE COMPETENCES AND JOBS
- FOCUS ON RETURN FOR THE CITIZEN AND REGULATED OPERATORS
- LEVERAGE POTENTIAL FOR POLICY ASSISTANCE
- ATTENTION TO EFFICIENCY
- GLOBAL PARTICIPATION TO THE RESEARCH EFFORT

# THE MECHANISM FOR R&D FINANCING



**DEFINE RdS:** activity finalised at the technical and technological innovation of the electricity sector

**FOCUS:** increase economy, security, environmental compatibility of electrical system

**BENEFICIARIES:** final users of the electricity system and operators

**COSTS:** included in general system costs according to levy defined by National regulator

**AMOUNTS:** levy of 0.015 c€/kWh for users 1700-2700 kWh/year: around 50 M€/year. Meaning around 50 c€/year

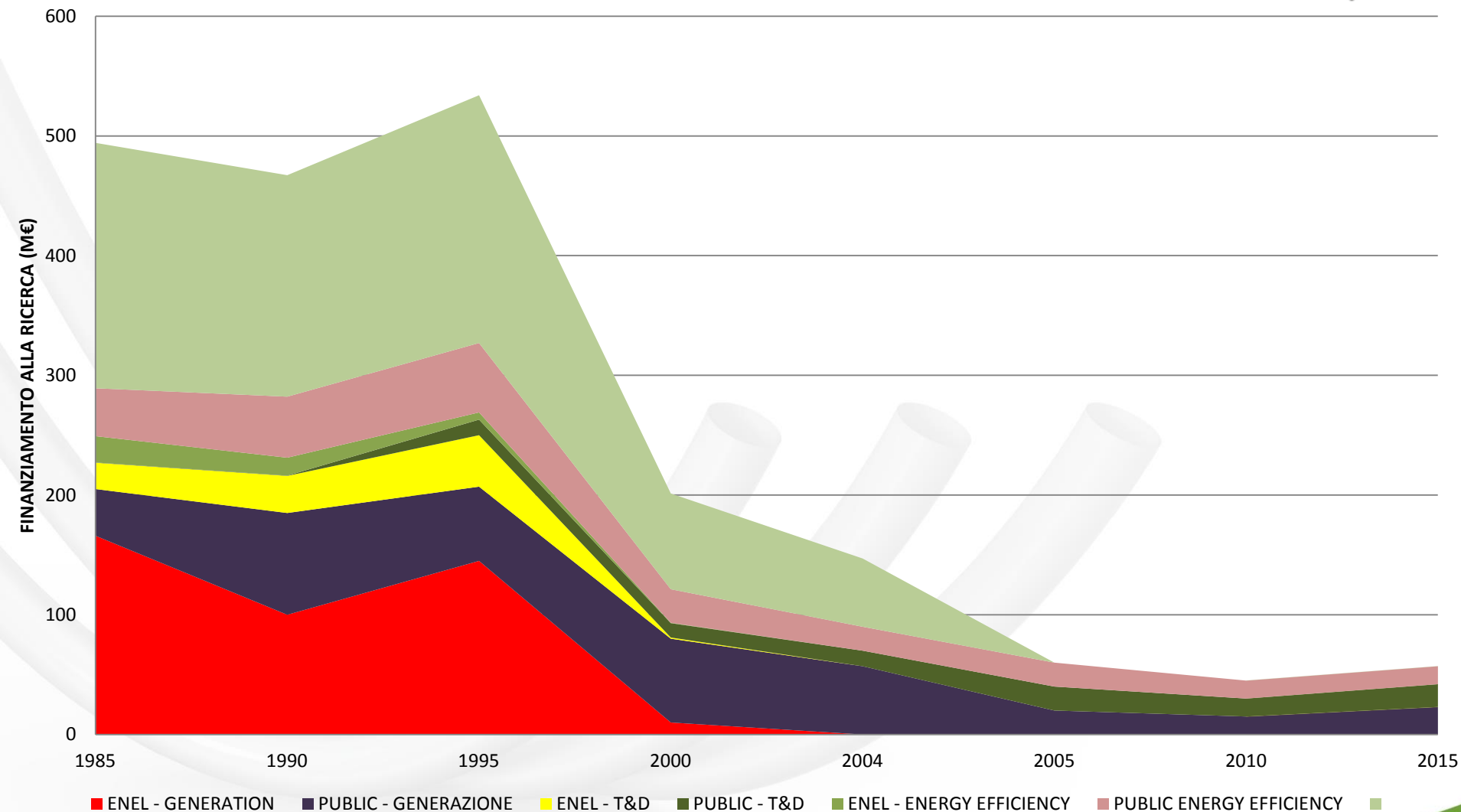
**PROGRAM:** a group of experts sets 3y priorities and allocates funds

**CONTRACTS:** awarded to public research centres based on the reimbursement of actual sustained costs

**COMPETITION:** in addition to these activities, competitive proposals involving industries are organised: 50% cost eligib.

# TREND OF THE FINANCING FOR GENERAL PURPOSE R&D IN THE ELECTRICITY FIELD - EXCLUDING NUCLEAR RESEARCH

(value Euro 2004)





Grazie

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