



GOBIERNO
DE ESPAÑA

MINISTERIO
DE INDUSTRIA, ENERGÍA
Y TURISMO



LATIN AMERICAN NUCLEAR ENERGY STAKEHOLDERS' CONFERENCE

COST AND FINANCING OF THE BACK- END OF THE NUCLEAR FUEL CYCLE : SPANISH NATIONAL SYSTEM

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2. Introduction to the financing system
3. The three pillars: responsibility, security and control & transparency
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GENERAL CONSIDERATIONS

Cost and related funding should be responsibility of the generation who benefits from nuclear power

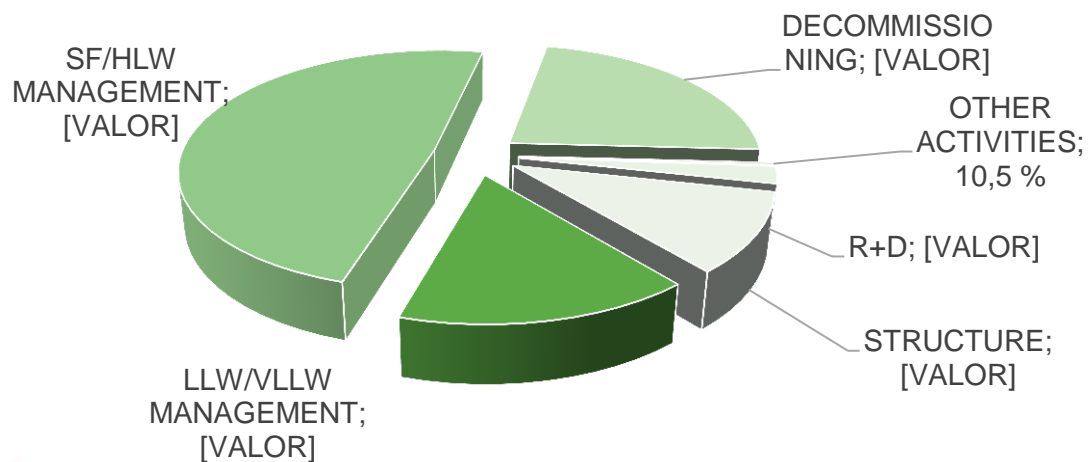
- **Cost estimate is a necessary but challenging exercise:**
 - Consolidated international experience for LLW disposal, SNF storage, SNF reprocessing:
 - **However, regarding SNF disposal and NPPs decommissioning:**
 - **First of its kind projects**
 - **Timeframe:** generally, **projects to be implemented in decades from today**
 - **Strong limitations for benchmarking**
 - **Cost drivers** can be identified
- **Financing systems are in place for most of the nuclear programmes**

COST ESTIMATION

COST SUMMARY	ACTUAL TO 31/12/2009	ACTUAL 2010-2015	BUDGET 2016	ESTIMATION 2017-2020	ESTIMATION FROM 2021	TOTAL
LLW/VLLW MANAGEMENT	571.015	227.872	44.379	178.306	1.879.048	2.900.622
SF/HLW MANAGEMENT	1.213.660	561.406	157.586	976.140	6.076.137	8.984.929
DECOMMISSIONING	315.852	200.939	34.370	81.411	3.560.771	4.193.344
OTHER ACTIVITIES	33.844	3.675	452	1.822	16.315	56.108
R+D	136.179	21.459	5.572	24.609	224.900	412.720
STRUCTURE	430.463	159.284	28.571	101.223	1.225.000	1.944.541
TOTAL	2.701.013	1.174.635	270.932	1.363.512	12.982.172	18.492.264

INCURRED **21%**

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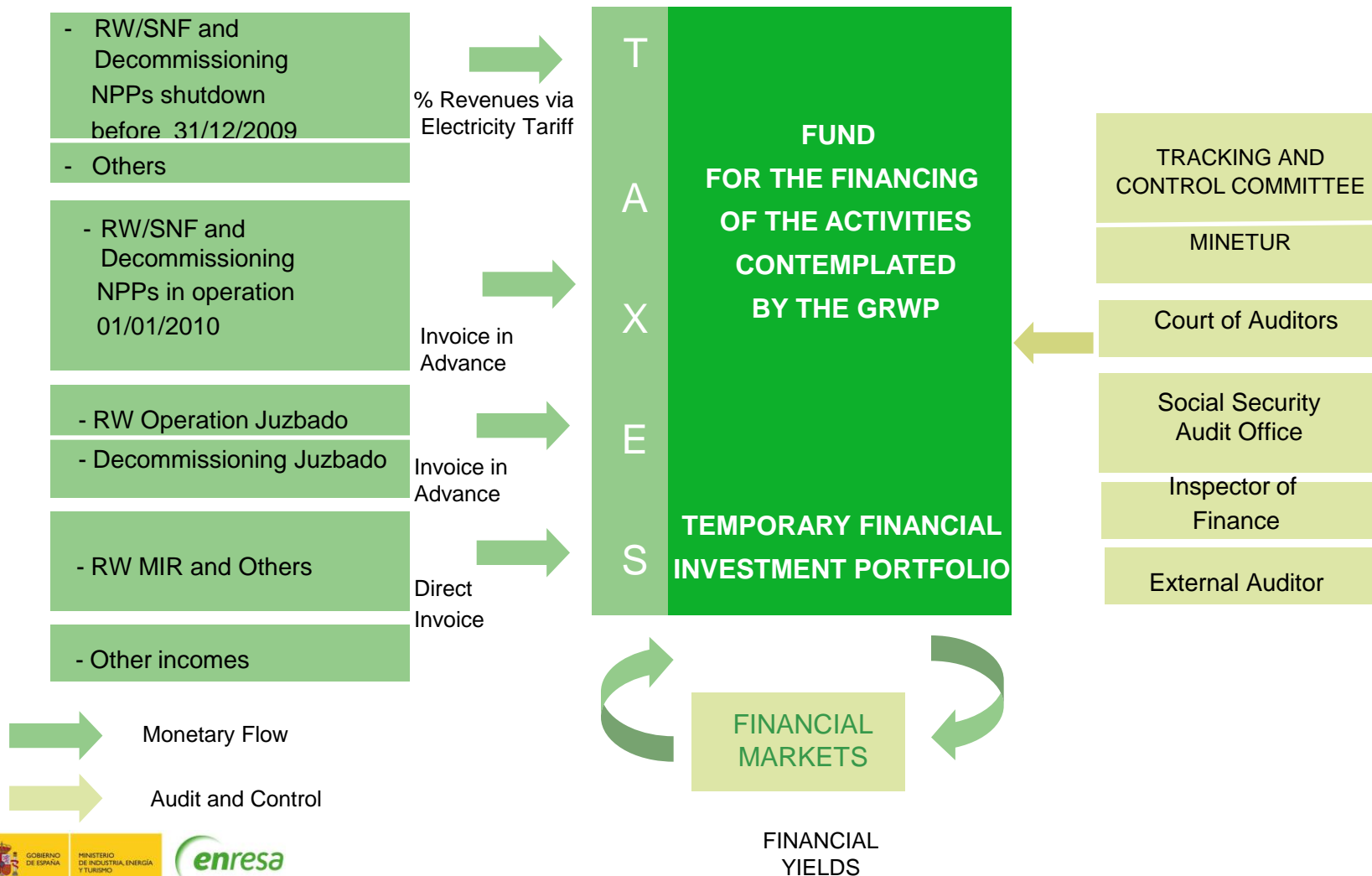
GENERAL CONSIDERATIONS

- **Medium size** nuclear programme:
 - Currently, seven NPPs in operation, one stopped and two being decommissioned / **7,864.7 MW** installed capacity
 - 20.34 % electricity generation 2015
- Stable institutional framework with **well defined assignment of responsibilities** among actors: **authorities, operators and ENRESA**
- **ENRESA** was set up in **1984** as the **State Owned-company** that under the tutelage of the MINETUR renders the **public service** for RWM and decommissioning in Spain.
- Among his responsibilities it is included :
 - *“ Carry out any technical, economic and financial studies necessary to take into account the deferred costs arising out of its duties so as to establish its financial needs.*
 - *Management of the Fund for the financing of activities included in the General*

INTRODUCTION TO THE FINANCING SYSTEM

- **National Funding system** is in place **since 1985**
- The **Fund covers** the activities contemplated by the **General Radioactive Waste Plan**.
*This Government's document defines the **National policy for RWM & decommissioning***
- **Up-front external Fund** under ENRESA's management and Government's control
- **"Polluter pays principle" in practice**, through several revisions along these years:
 - 1983- 2005 *Fee on electricity billing*
 - 2005-2008 *Partial internalisation*
 - 2008-2009 *Full internalisation through prices*
 - 2010 - to date *Full internalisation through **taxes***

FINANCING



THE THREE PILLARS: RESPONSIBILITY, SECURITY AND CONTROL & TRANSPARENCY

(1/3) RESPONSIBILITY:

ENRESA is the **Fund manager**, responsible to the Government of his performance
Producers have no further responsibility

FINANCIAL SECURITY:

ENRESA makes **Fund investments** in compliance with **the principles of:**

“Security, profitability and liquidity ”

and may be only carried out using assets or investment instruments compliant with principles governing financial management of the Fund

THE THREE PILLARS: RESPONSIBILITY, SECURITY AND CONTROL & TRANSPARENCY

(2/3) CONTROL

The **Tracking and Control Committee**, reporting to the Minister of Industry, Tourism and Trade, the Minister of Economy and the Parliament, is **responsible for the supervision, control and rating of interim investment**, having the following functions:

- **Development of the criteria** regarding the **composition of the assets** included in the Fund.
- **Tracking of the financial investments**, verifying application of the principles established in section 1 of article 10 (R.D. 1349/003)
- Drawing up of **six-monthly reports** describing the **situation of the Fund** and the investments corresponding to its financial management, along with the qualification issued by the committee, including whatever observations might be considered appropriate.

THE THREE PILLARS: RESPONSIBILITY, SECURITY AND CONTROL & TRANSPARENCY (3/3)

TRANSPARENCY:

- The **amounts** being paid by producers are according to a taxes system **approved by the Government** by Law 11/2009, and subject to revision by Royal Decree
- **Amounts** constitute an element of corresponding “**Type contracts**” for the services rendered by ENRESA to RW producers

CHALLENGES / COURSES OF ACTION

- **Accuracy:** continued improvement of the **quantity and quality of the information and data to support cost estimates** -update studies for DGR concept designs and carry out dedicated cost estimates per NPP unit-
- **Sufficiency:** regular update of cost estimate and related fees
- **Adequacy:** to guarantee that financing will be available when needed
- **Sustainability:** consideration given to the potential impact of scenarios different to the basic considered
- **Methodologies:** attention paid to international recommendations and practises to minimise risks and uncertainties
- **Transparency:** increasing stakeholders' interest
- **International collaboration** with interested parties

SUMMARY

- Spain possesses a financing system for the financing of liabilities associated to the RWM and decommissioning of nuclear and radioactive installations
- An external up-front Fund was chosen as preferred option
- ENRESA, an State-owned company, is the Fund manager
- There is a legislative framework governing his management which considers :
 - Responsibilities among actors
 - Financial means for operators
 - Investment rules
 - Control & supervision
- Continued effort to update and upgrade existing mechanisms



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