Euratom and Nuclear Waste

Antony Froggatt

Outline

- Impossible to address this issue in short presentation, therefore few examples put forward
  - Research and development
  - New legislation on radioactive waste
  - Decommissioning funding activities
  - Use of Euratom to subvert market rules

What is the Euratom Treaty?

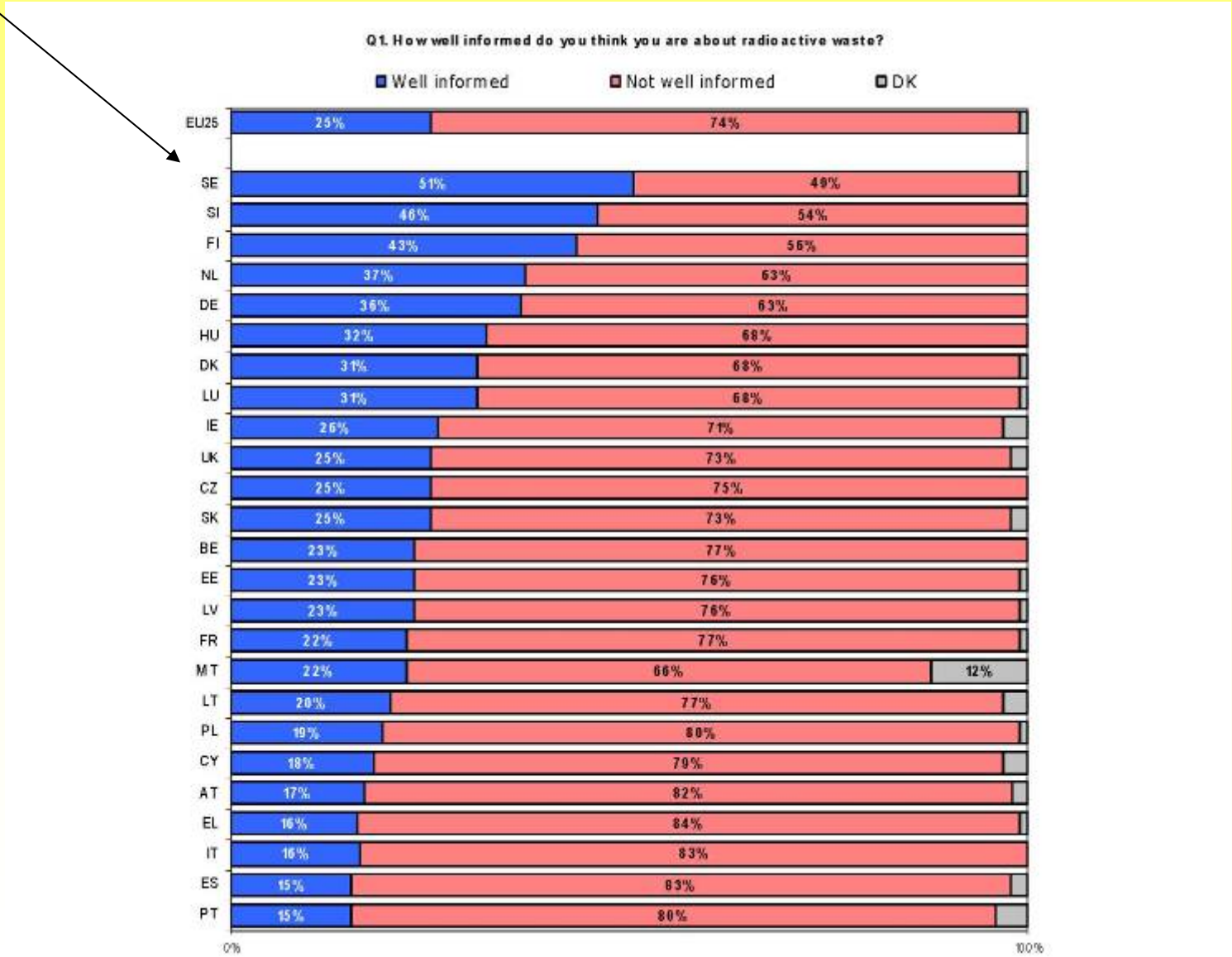
- A founding Treaty of the EU (1957)
- Designed to support a specific technology
  - *Recognising that nuclear energy represents an essential resource for the development and invigoration of industry.*
  - *Resolved to create the conditions necessary for the development of a powerful nuclear industry.*

Chapters of Euratom Treaty

- Chapter 1: Promotion of research
- Chapter 2: Dissemination of information
- Chapter 3: Health and Safety
- Chapter 4: Investment
- Chapter 5: Joint Undertakings
- Chapter 6: Supplies
- Chapter 7: Safeguards
- Chapter 8: Property Ownership
- Chapter 9: The nuclear common market
- Chapter 10: External relations.

Sweden: 51%

Eurobarometer



Separation of Research Programmes

Proposal for a

DECISION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

concerning the seventh framework programme of the European Community for research, technological development and demonstration activities (2007 to 2013)

Proposal for a

COUNCIL DECISION

Concerning the seventh framework programme of the European Atomic Energy Community (Euratom) for nuclear research and training activities (2007 to 2011)

BUILDING THE EUROPE OF KNOWLEDGE

Democratic Implications

- Euratom FP is not under the joint control of the Parliament. The Parliament only has one reading on the issue (to give its opinion).
- Therefore is insufficient discussion on prioritisation within the energy sector as a whole.

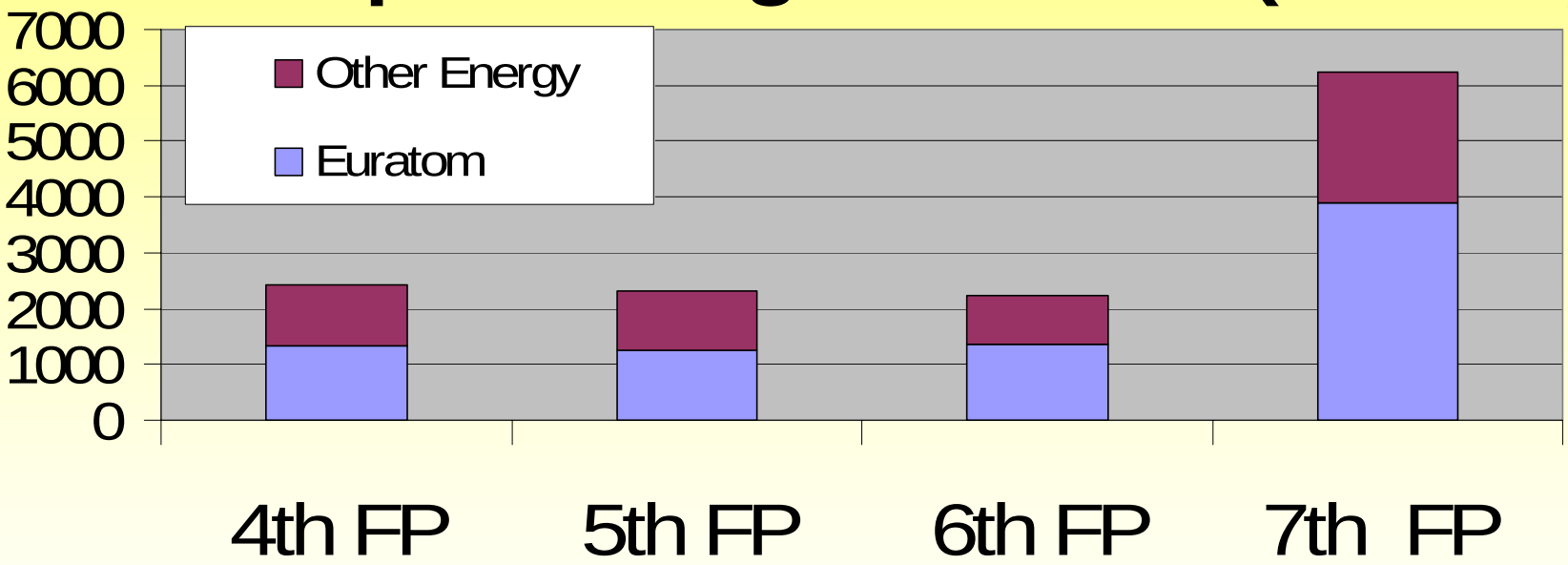
7th Euratom Framework Programme Budget

(a)Fusion energy research	€3000 million
(a)Nuclear Fission and radiation protection	€350 million
(a)Nuclear Activities of the Joint Research Centre	€650 million

EU Nuclear Waste R&D

- Geological disposal
  - improvement of fundamental knowledge, developing and testing technologies
  - new and improved tools (models for performance and safety assessment)
- Partitioning and transmutation and other concepts
  - Partitioning and transmutation
  - Concepts to produce less waste

Energy and Nuclear Research and Development Budgets in the EU (€ million)



Nuclear Package

- 2002 Commission proposed new legislation; Nuclear Safety Standards (and decommissioning funds) and Nuclear Waste
- Draft significantly altered by EU council
- Ultimately however, rejected by Council in 2004

Nuclear Waste

- Original draft called for strict timetables for operation of nuclear disposal facilities
- Final draft retained support for geological disposal for HLW
- Removed reference to environmental protection

Decommissioning Funds

- European Parliament original proposed legislation under EC Treaty (Electricity Market Directive)
- Rejected and proposed action under Euratom Treaty as part of the now defunct nuclear package
- Commission produced recommendation on decommissioning in October 2004

Decommissioning Recommendation

- Non-binding legislation
- Segregated funds are the preferred method of accounting for future decommissioning funds and new installations should set up such funds.
- Collected revenues should be only used for the purpose which they have been established.
- Calls on Member States to report annually on their fund management.

State Aid Rulings

- British Energy
- British Nuclear Decommissioning Authority

British Energy

- Following decline in retail electricity price Gov. gave BE £650 (€1 billion) credit facility.
- This was approved by Commission on condition that a restructuring plan was introduced
- This approved by the Commission, includes transfer of BE waste liabilities to Gov. package worth around €6 billion.
- *The Commission concludes that, insofar as they fulfil the Guidelines in respect of restructuring aid* ***and are in line with the objectives of the Euratom Treaty,*** *the aids in questionnaire compatible with the common market'*

Nuclear Decommissioning Authority

- December 2004 Commission launched an investigation into the establishment of UK NDA.
- The NDA taken over the assets of British Nuclear fuels, including Sellafield and Magnox reactors – both of which will have huge decommissioning costs.
- The Commission approved the proposal in April 2006 and stated that '*The Commission used several computation methods to determine whether BNFL completely fulfilled these obligations. All of them came to the conclusion that BNFL had complied with the polluter-pays principle. The Commission concluded therefore that the measure did not involve state aid to BNFL …**and that the measures were in line with the objectives of the Euratom Treaty**'.*

What Next ?

- Nuclear waste and decommissioning are key issues both for the existing nuclear power plants and for the potential construction of new facilities.
- The growing number of reactors being closed highlight this issue and the scale of the need for **state funding** to cover the shortfalls in the existing schemes.
- In 2007/8 a revised ‘nuclear package’ will be put forward.
- In 2007 revised electricity market directive offers another opportunity for action on decommissioning funds.

And Finally

- EU in Spring summit adopted targets for
  - By 2020 20% of energy from Renewable energy sources
  - By 2020 20% increase in energy efficiency, leading to a 13% decrease in energy consumption
  - By 2020, 20% decrease in GHG (CO2) emissions
- To achieve these targets will be significant shift in the structure and functioning of energy sector

Table 1.4-1: Primary Energy Demand in EU-25 in the "Combined high renewables and efficiency" case

	Mtoe				% change from baseline		
	2000	2010	2020	2030	2010	2020	2030
Solid Fuels	306.5	246.0	156.9	124.5	-14.2	-39.5	-57.5
Liquid Fuels	634.7	637.7	574.9	529.8	-4.6	-14.2	-17.3
Natural Gas	376.3	417.8	413.7	394.3	-9.6	-21.9	-23.9
Nuclear	237.7	248.8	161.5	73.5	0.0	-29.4	-65.1
Renewable En. Sources	96.5	209.2	324.9	393.7	45.5	66.2	70.5
Total	**1653.8**	**1761.6**	**1633.4**	**1517.5**	**-2.8**	**-13.4**	**-19.9**
EU-15	1456.9	1543.0	1411.1	1293.1	-2.8	-13.1	-19.6
NMS	196.9	218.6	222.4	224.4	-3.1	-15.0	-21.7
Mt CO_2 emitted	**3674.1**	**3524.1**	**2968.8**	**2669.5**	**-9.2**	**-24.4**	**-32.5**
EU-15	3127.0	2990.7	2543.3	2300.1	-9.1	-23.0	-30.5
NMS	547.1	533.4	425.5	369.4	-9.8	-32.2	-42.6

Source: PRIMES.