



Radioactive Waste

The European Dimension

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Topseal 2006 - Olkiluoto

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The Green Paper "Energy"

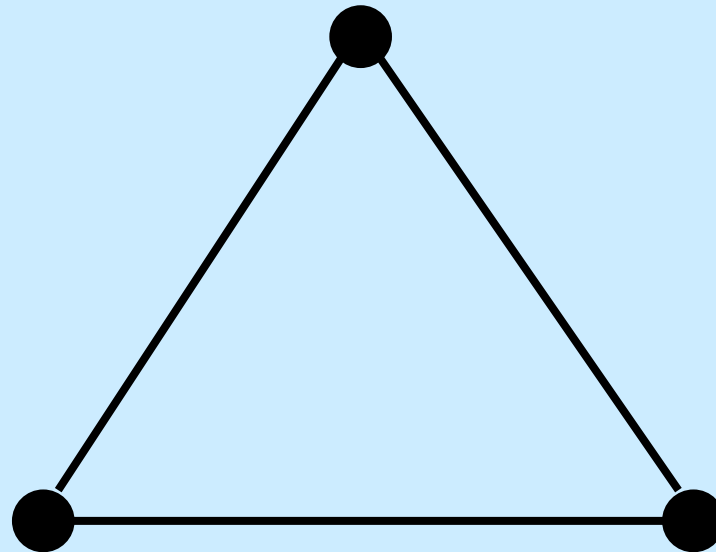


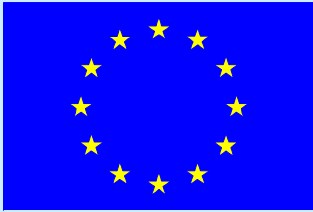
- **A European Strategy for Sustainable, Competitive and Secure Energy**

1. Security of supply

3. Climate change
(Kyoto)

2. Competitiveness
(Lisbon)



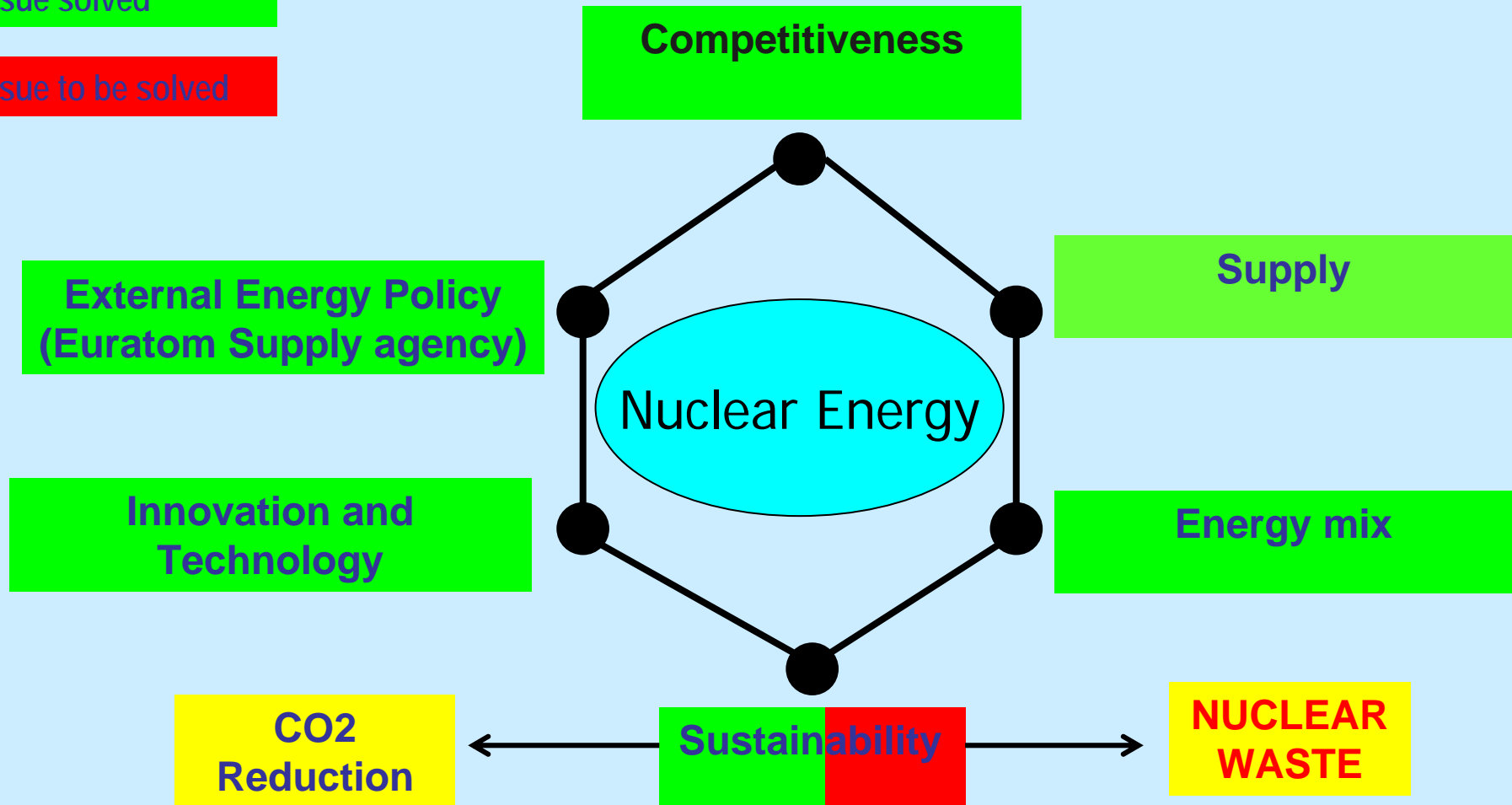


The Green Paper "Energy"



Issue solved

Issue to be solved





HLW / Spent Fuel



- The most pressing issue
 - Deep disposal – only solution available at present

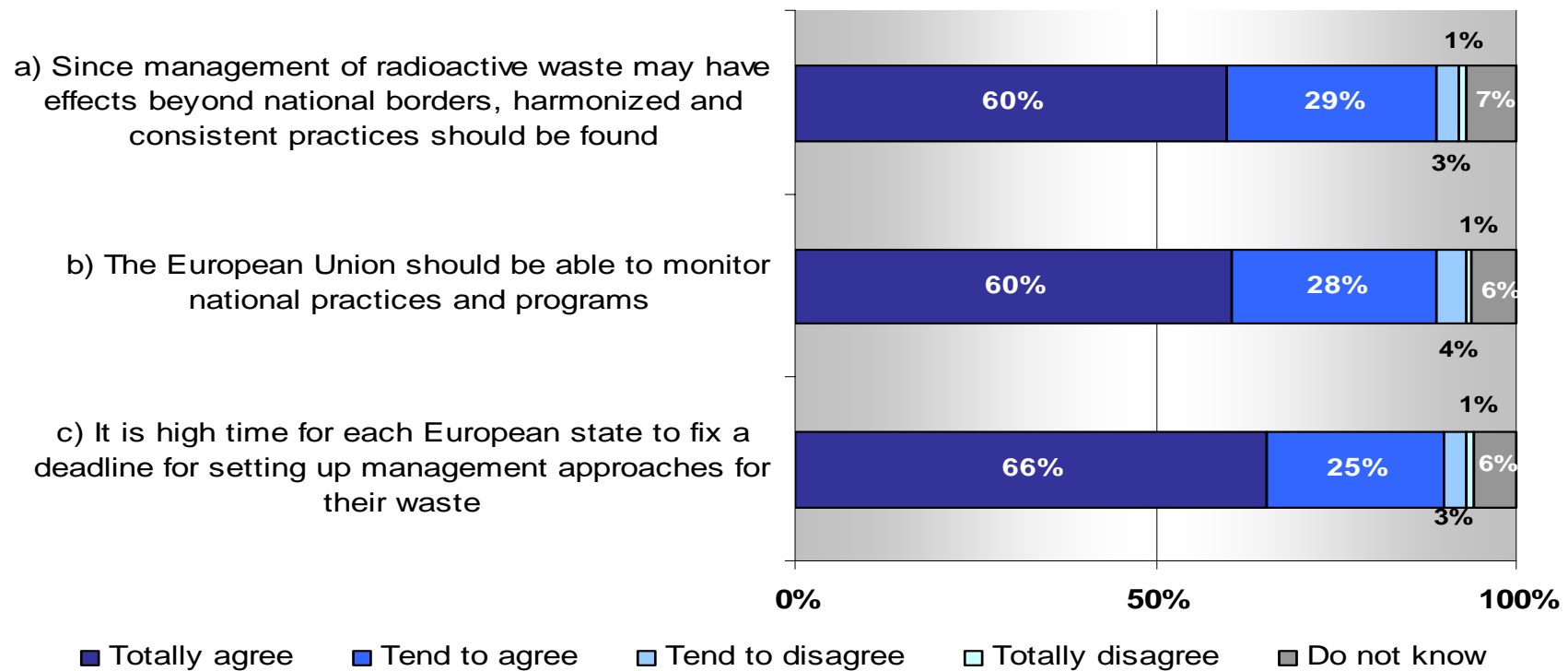
- Important Messages
 - Solution is available
 - Can be implemented now
 - Necessary for public acceptance



Eurobarometer (2004)



Each member state remains fully responsible for the management of its own radioactive waste but:





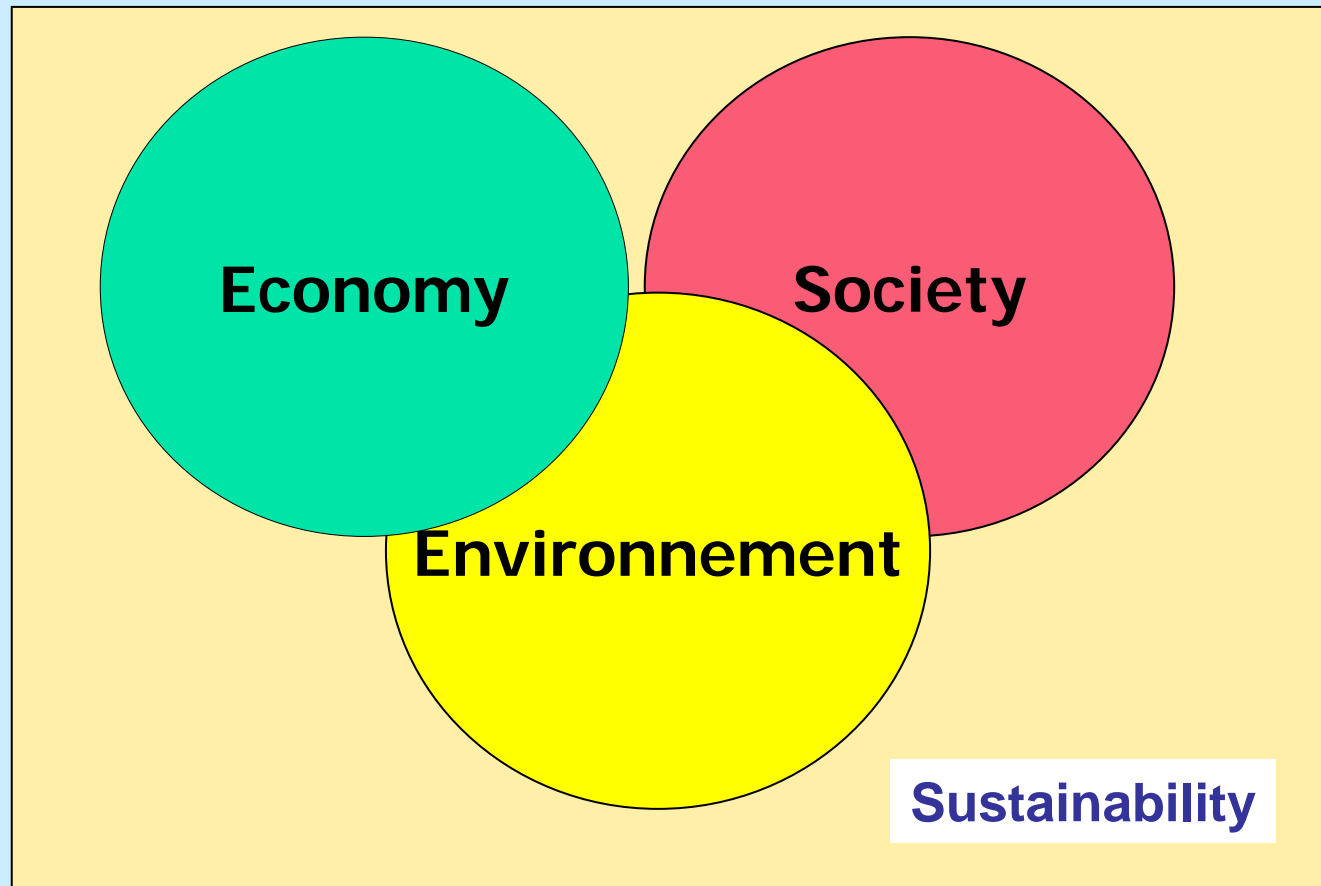
Eurobarometer (2004)



| Agree with (%) | EU25 |
|---|-------------|
| Harmonized Practices | 89 |
| Monitoring of National Programmes by EU | 89 |
| Deadline for setting up management approach | 91 |



Stakeholder confidence





Community Approach



- Nuclear Package incl. Waste Directive (Commission Proposal)
- Working Party on Nuclear Safety (WPNS) (Council Response)
- Soft measures: financial support to GMF (Group of Municipalities with Nuclear Facilities) => enhance public acceptance
- White Book of Governance
 - Openness. Accountability.
 - Participation. Coherence
 - Effectiveness.



WPNS



Working Party on Nuclear Safety

- SG2 – Waste
- Council Response to Waste Directive
- Report End 2006 - basis for future action
- No conclusions/recommendation yet
- Consensus on more co-operation before and after Joint Convention review meeting on European level



Joint Convention



- 2nd Review Meeting May 2006 Vienna
- Conclusions
 - Challenges continue in a number of areas including the implementation of national policies for the long-term management of spent fuel, disposal of high level wastes, management of historic wastes.....
 - The increasing importance of public consultation and the need for public acceptance to implement strategic waste plans



Joint Convention (2)



- Value of the Joint Convention?
 - Need to report regularly and openly
 - Open to questions (often very critical)
- As yet little influence on national policy
- Hope to see future review meetings reporting progress in implementation rather than compliance with Convention articles



Responsibility: National Waste Strategies



- Each MS needs a National Waste Management Strategy
 - Cover all wastes
 - Timetables
 - Milestones
 - Definitive endpoint (DISPOSAL)



National Waste Strategies (2)



➤ Problem of small Nuclear Programmes

- Joint solutions would be best, but
- Who will host the repository?
- Ultimately each MS responsible for its own waste
- Export for Storage / Disposal not desirable without strong guarantees of safety standards (Membership of JC does not provide this)



National Waste Strategies (3)



➤ Finland, Sweden

- Endpoint deep geological disposal of spent fuel

➤ France

- Deep geological disposal of HLW
- Other solutions covered and their relationship



Available Solutions



3 options

- Deep Geological Disposal of Spent Fuel
 - Long-term storage (with associated end-point)
 - Reprocessing followed by Deep Geological Disposal of HLW
- ↑
- ↓



Geological Disposal



- Good progress in D, Fin, F, S,
- Other MS mixed results
- Some encouraging signs (e.g. CoRWM in UK)



Long term storage



- NOT a final solution - associated with an end point project
- Purpose :
 - Increase storage capacities
 - Temperature decrease prior to disposal
 - SF storage before final decision (reprocessing or direct disposal)
- Storage must not become a de facto repository



Outlook



- Partitioning and Transmutation (P&T)
 - P – Advanced Reprocessing
 - T – Fast Neutron Spectrum
(Fast Reactor or Accelerator)



P&T (1)



➤ Potential Advantages

- Improved use of resources (extending life of uranium reserves) through 'first burn then bury'
- Accelerated reduction in both heat output and radioactivity of final wastes



P&T (2)



➤ Open Questions

- Choice and demonstration of processes
- Transmutation of long-lived Fission Products (currently seen as unlikely)
- No experience of handling and storing large quantities of minor actinides



P&T (3)



- Commission has supported research through Euratom Framework Programmes
- Industrial feasibility needs to be demonstrated (Pilot Plant)
- FP7 – roadmap to take technical decision on pilot plant by 2011 (SNF-TP)
- COM prepared to support an industry financed initiative



Conclusions



- 1) Each MS needs a national waste management policy
 - Roadmap starting as of today
 - Milestones
 - Clear Endpoint
- 2) “Wait and See” is not acceptable
- 3) Policy & stakeholder confidence (Good governance)
- 2) Future: “First burn then bury” desirable from overall security of supply and sustainability (Green Paper) point of view



Thank you for your attention