Contaminated ground in the EU, working on common ground?

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ICCL / Common Forum networks

- Network of contaminated land policy experts and advisors dealing with contaminated land management:
  - International scale (since 1993), Europe (since 1994)

- Mission:
  - Being a platform for exchange of knowledge and experiences, for initiating and following-up of international projects among members,
  - Establishing a discussion platform on policy, research, technical and managerial concepts of contaminated land,

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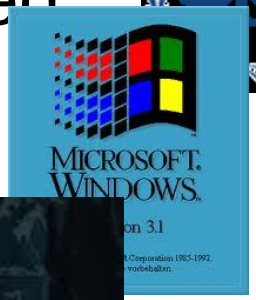
- **European Union becomes reality !!!**
  - Single Market created → “Maastrich Treaty” enforced
  - Finland, Sweden, Austria started accession procedure
- Haager Warcrime Tribunal established
- Windows 3.1 released
- Who died?

  Audrey Hepburn

  Rudolf Nureyev

  Frank Zappa



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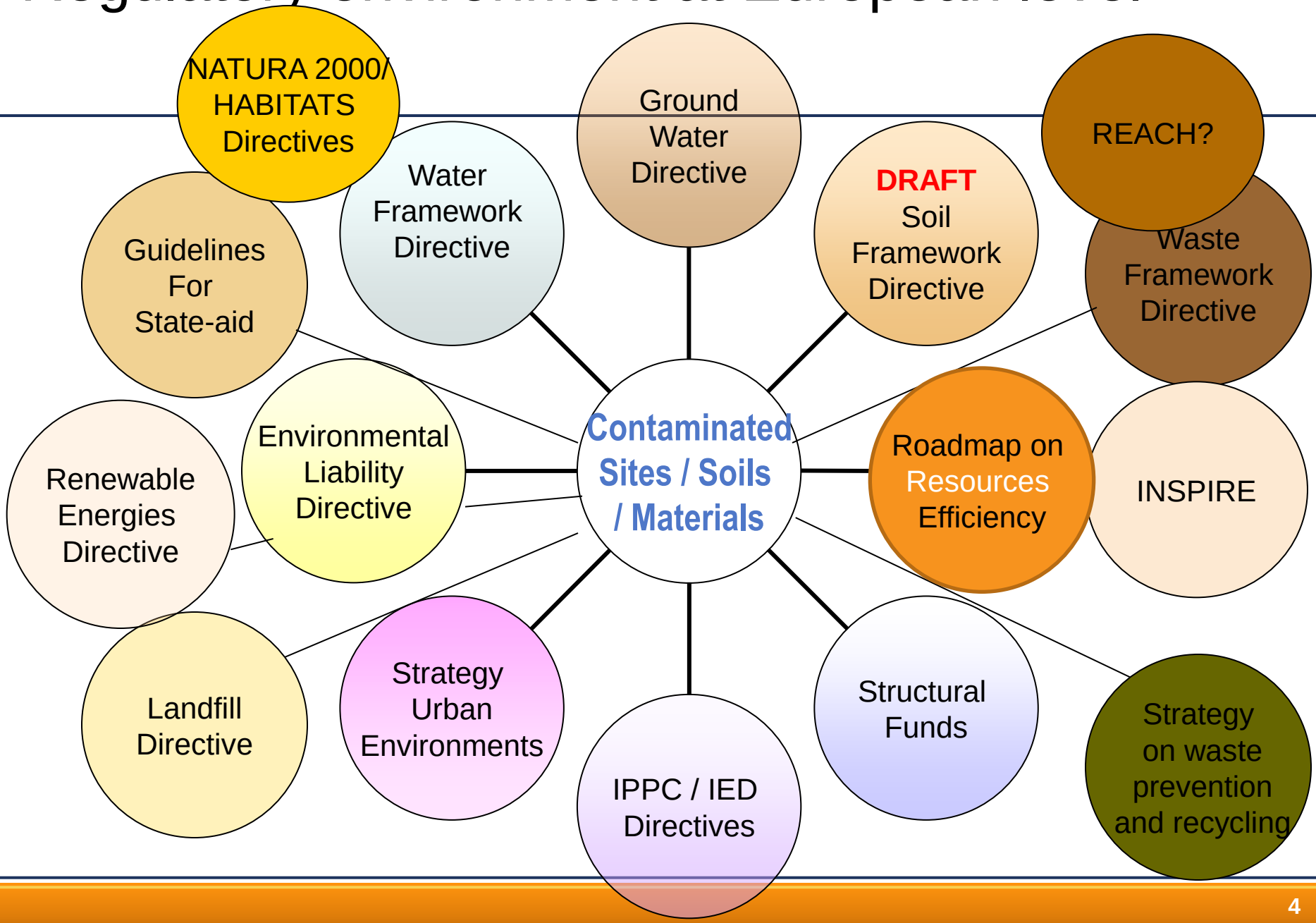
- N. Mandela and F. Wde Klerk jointly awarded the Nobel Price for Peace
- Olso I declaration for the resolution of the ongoing Israeli – Palestinian conflict
- AND IN **NORWAY**
- Rosemarie Køhn becomes Norway's first female bishop
- Dimmu Borgir Group formed

Miljøringen created

Regulatory environment at European level



the Soil Protection Strategy

- 4 pillars:
  - Framework legislation with protection and sustainable use of soil
    - Soil Protection Directive – Draft
  - Integration of soil protection into other policies
    - Environmental Liability Directive – Implementation phase
    - Revision of the Sewage Sludge Directive, the IPPC / IED Directive, the Waste Framework Directive
    - INSPIRE / format for environmental reporting
    - Soil Provisions in the Renewable Energies Directive
    - Roadmap on Resource Efficiency
    - Biodiversity, Climat Change, Rural development Plans, etc.
  - Closing the recognised knowledge gap by Community and national research programmes;
  - Increasing public awareness of the need to protect soil

Demand of IMPEL network

- Their questions of concern:
  - Application of the polluter pays principle
  - Complexity of the risk assessment procedure
  - Complexity of legislation (vs waste, water leg.)
  - Coexistence of different values (screening, threshold).
  - How to tackle uncertainties?
  - Widespread / Large scale area contamination
  - How to identify sources of pollution?

TYPES OF SITUATION FACED

- Suspected land: is it a problem? Is it risky?

- Are the operating site impacts acceptable?
- Is the future redevelopment project feasible on this particular site?
- Site closure: What should I do for regenerating the land?

Needs for Harmonisation or Common Ground for RA approach? (1/3)

- **JRC HERACLES project** on derivation of METHODS OF SOIL SCREENING VALUES IN EUROPE. A REVIEW AND EVALUATION OF NATIONAL PROCEDURES TOWARDS HARMONISATION

http://eusoils.jrc.ec.europa.eu/esdb_archive/eusoils_docs/other/EUR22805.pdf

Needs for Harmonisation or Common Ground? (2/3)

- **Geographical level: Impossible! Too different**
  - Soil / aquifer materials
  - Climate,
  - Vegetable, food and water consumptions
  - Land use scenarios (time scale options, …)

- One set of Soil Quality Standards? No!
- The same blueprint? No!

Harmonisation or Common Ground? (3/3)

- **Technical level:**
  - Tool box for Risk Assessment, with several models, different levels of details
  - Common protocol for choosing the appropriate models
  - Common set of exposure factors, reference doses?
  - Recommendations for i.e. use of safety factors? Taking into consideration background levels?
  - Smart combination of models and measurements needed!!!
- **Political level**:
  - Acceptable risk for different land uses?
  - Targets to be protected (Human Health, Ecosystems? Ground water, Surface waters, Others?)
  - Substances to be covered / excluded
  - Risk management tools (e.g. restriction of use)

Evolution of contaminated land policies at national level

- **First generation: the early days 1980**
  - Drastic risk control, focus on soil contamination
  - systematic approaches (protocols, national inventories)

- **Second generation: contaminated land risk assessment 1990**
  - Possibilities for tailor-made approaches with cost effective investigations
  - Landuse becomes very important in assessment and decision making

- **Third generation: Risk Based Land Management and solution design 2000**
  - Integration with spatial planning, water management, socio-economy
  - Economic development vs. protection of Environment & HH

Needs of evolution to meet new challenges 4th generation of policy framework

- Sustainable use of natural resources:
  - consumption of resources should not exceed the carrying capacity of the environment,
  - de-coupling of resource use and waste generation from economic growth.
- Verification of environmental technologies (eco-efficient, evaluated against ‘indicators)
- Life cycle thinking integrated to sector policies
- EU climate and energy targets (“20-20-20”-targets): highly energy-efficient, low carbon economy.

Contaminated Land Management
A new paradigm

- **Risk Assessment**: investigating and understanding environmental impacts and risks taking a tiered approach
- **Land Management:** designing and implementing actions to reduce negative consequences and ***balance benefits***

WATCH OUT:

- **not trading unacceptable risks against other management objectives & aspects**

What's common? What's different?

	Risk	Sustainability
origin / use	economy/science	ecology/policy
based on …	mental construct	ethical construct
objective	transparency	fairness
important	• single target • accountability • effectiveness	• multi-objective • interdependency • efficiency
question	Should we act?	How can we act?
support to	better decisions	better action
strategy	prevent or limit	synergy

What we need to Enhance

MANAGING "LAND" (soil & groundwater)

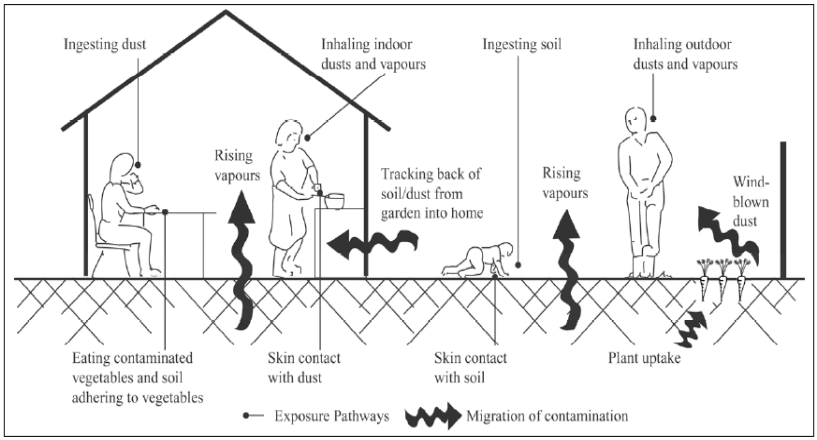
- matching human needs to natural resources and capacities
- crossing geographical and time scales (site to globe and back; short-, mid- and long-term)
- promoting synergies, avoiding irreversibility
- Balancing the three pillars of sustainable land management

Sustainability in Land Management

- **Environment protection**
  - No problem shifting
  - Protecting Environment and Health against risks on the long term
  - Reducing Emissions and footprints in land remediation and management (water, energy, soil & land, …)
- **Social**
  - Fostering local employment opportunities in communities where sites are reclaimed and reused.
  - Integrating reuse in land development needs
  - Ethics & Equity
- **Economics**
  - Decrease Direct costs & Increase benefits
  - Rising property values
  - Project lifespan & flexibility

Identified RTD needs

- Detection and fast & cost effective screening methods
- Risk Assessment :
  - Phase partitioning
  - Biodegradation / unsaturated zone
  - Bioavailability quantification
  - Vapor intrusion in buildings



- New innovative remediation techniques
  - Nanomaterials / Nanotechnologies
  - In situ technologies (Bio, Oxydation, …)
- Link between HH tools and RA & M
- Uncertainties quantification versus decision-making
- Sustainability criteria / how to balance the 3 pillars?

Conclusions

- Different pieces of EU legislation,
  - Recognise the efforts already done
  - Existing Common Ground for managing Contamination
  - RTD needs remaining
- Need of real integration for more sustainability
  - The Soil – Sediment – Water system and its services!
  - Need for sustainable land use and integrated management of the soil-sediment-water system
- Better common understanding/ building consensus

Thanks for your attention!

More information on:

www.commonforum.eu

www.iccl.ch