

Development of a fourth generation of policy concept for remediating contaminated land in Europe

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“COMMON FORUM”

- Network of contaminated land policy experts and advisors (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,
 - Offering an exchange of expertise to the European Commission and to European networks.



The European and International Networks on contaminated land management

- NATO CCMS
- **Common forum on contaminated land in Europe**
 - CARACAS
 - CLARINET
- International Committee on Contaminated Land (ICCL)
- NICOLE
- Sednet
- Cabernet
- Eurodemo / Eurodemo+

- SNOWMAN



Situation in European Member States

European Country	Potentially contaminated sites	Contaminated sites	References
Austria	58,000 – identified 80,000 - estimated	2,500 – identified 10,000 - estimated	Kasamas, Common Forum 2010
Belgium / Flanders		30,660 - identified	Van Dyck, 2011
France	245,000 – identified (past) 300,000 - estimated (past) 548,000 – identified (operating)	4,596 - identified	BASIAS & BASOL databases, 2011
The Netherlands	1,700,000 - estimated	2,500 – identified 56,000 - estimated	Harmsma, 2010
United Kingdom / England & Wales	325,000 - estimated	33,500 - estimated	England & Wales Environment Agency 2005

Evolution of contaminated land policies at national level

- **First generation: the early days 1980**
 - Drastic risk control,
 - systematic approaches (protocols, national inventories),
 - priorities focussed on soil contamination
- Some EU countries still focused on this type of policy



Evolution of contaminated land policies at national level

- **Second generation: contaminated land risk assessment 1990**
 - Possibilities for tailor-made approaches
 - Cost effective investigations
 - “Fitness for use”: to insure safe use or reuse of contaminated sites by preventing unacceptable risks for citizens and the environment ;
 - “Stand still”: no more degradation, if possible improvement of the environmental quality of soil and groundwater).

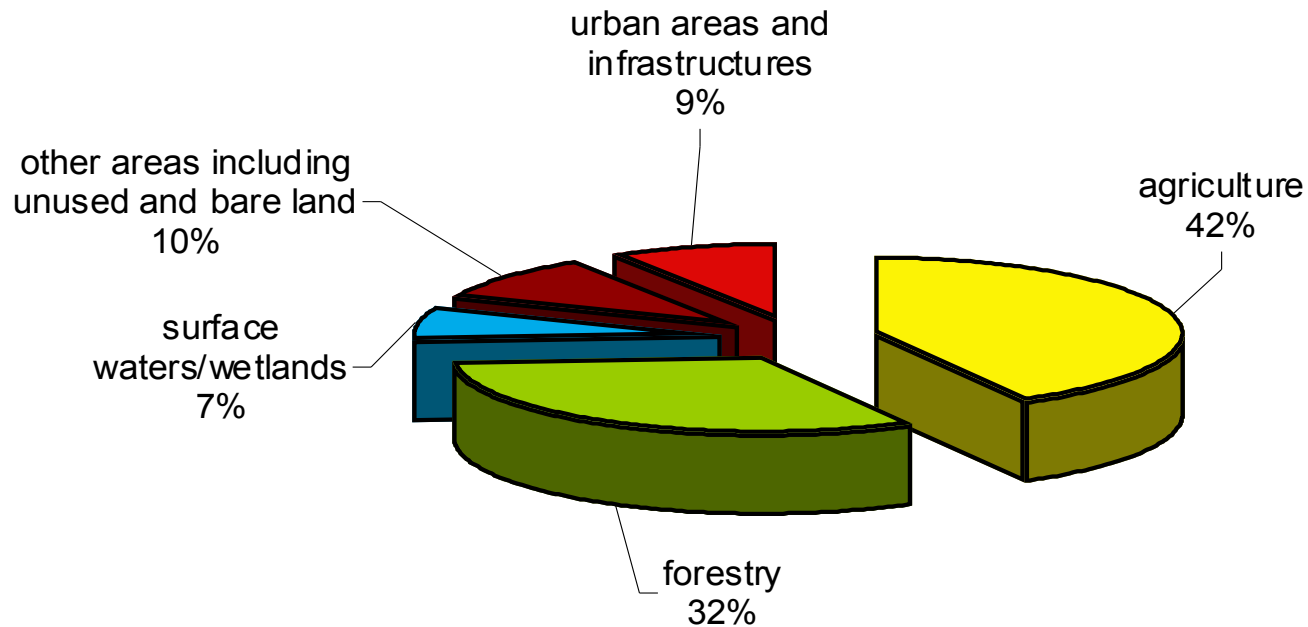


Evolution of contaminated land policies at national level

- **Third generation: Risk Based Land Management and solution design 2000**
 - Integration with spatial planning, water management, socio-economy
 - Economic development vs protection of the Environment
 - Land use becomes even more important



Land Use in EU



The strategy: link to land use and users

- Source-oriented soil protection
 - Local sources
 - Agriculture
 - Contaminated land
-

Mixture of private and public interest

- Large scale diffuse water and air pollution

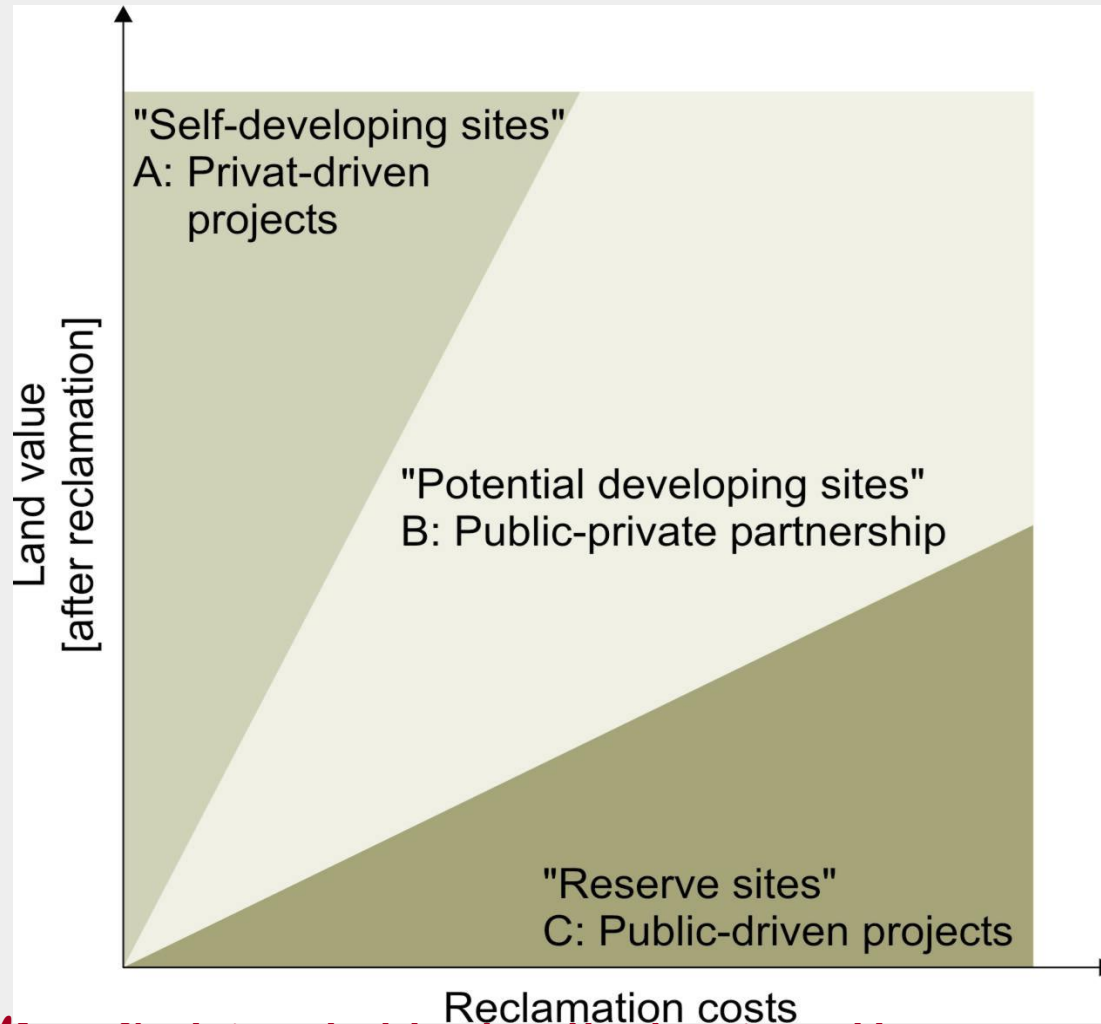
**No owners
No private interest
Public interest needs stronger policy**



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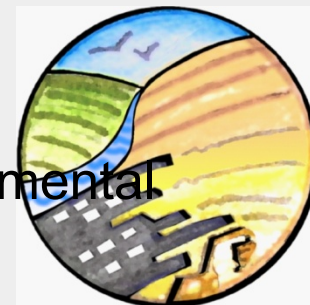
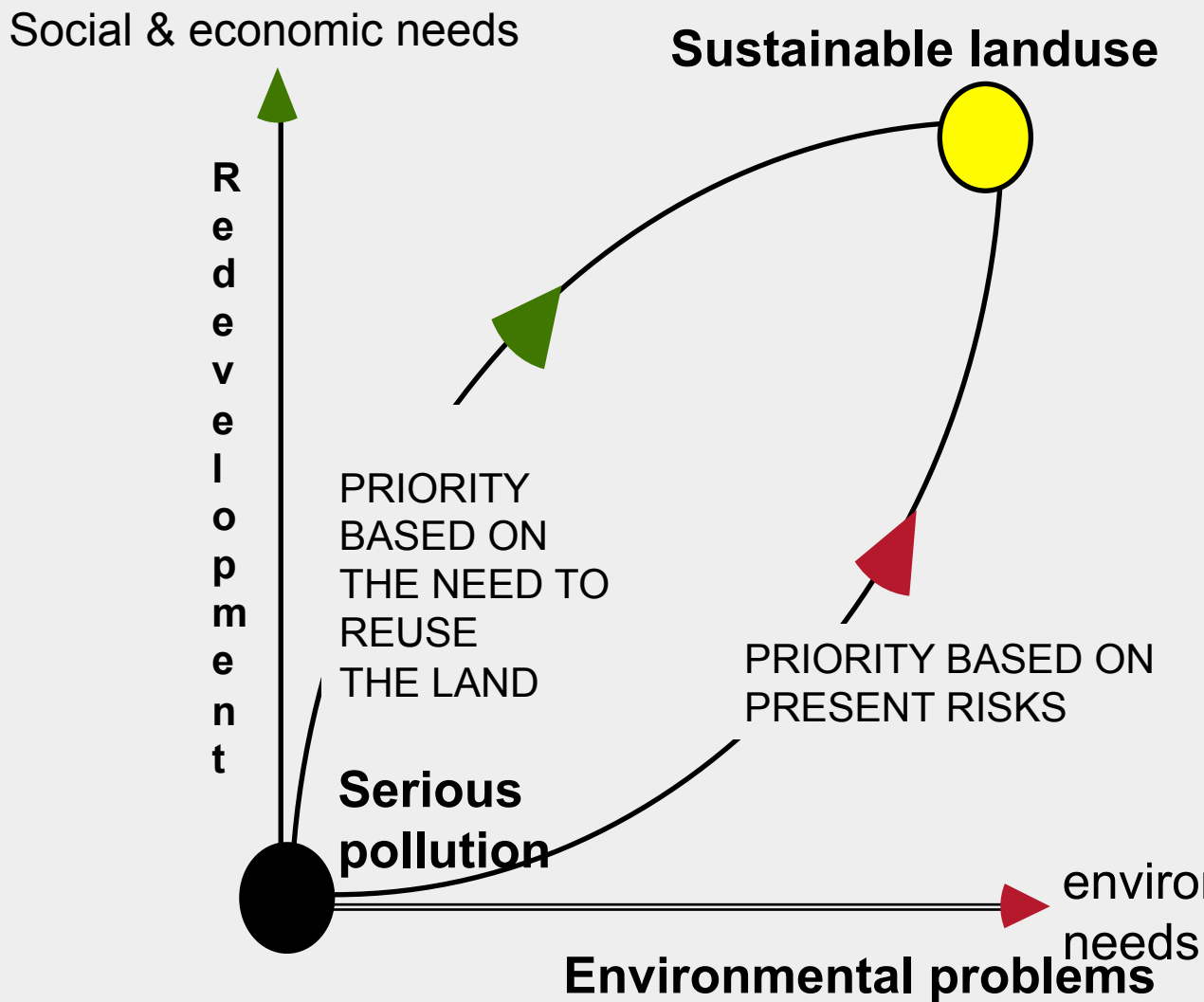
Socio-economic dimensions

(ABC model, CABERNET)



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The needs



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CLARINET proposed a new policy concept

- **Scope**
 - Pan -European , allowing for regional and site specific solutions
 - Targeted at legacies from the past when preventive regulations were not in force
- **Aims**
 - Integration of soil and water protection, spatial planning, engineering
 - Ensure protection of health and environment
 - Environmental social and economic sustainability
- **Key dimensions**
 - Fitness for use
 - Protection of the environment
 - Long term care



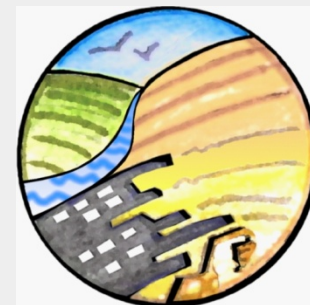
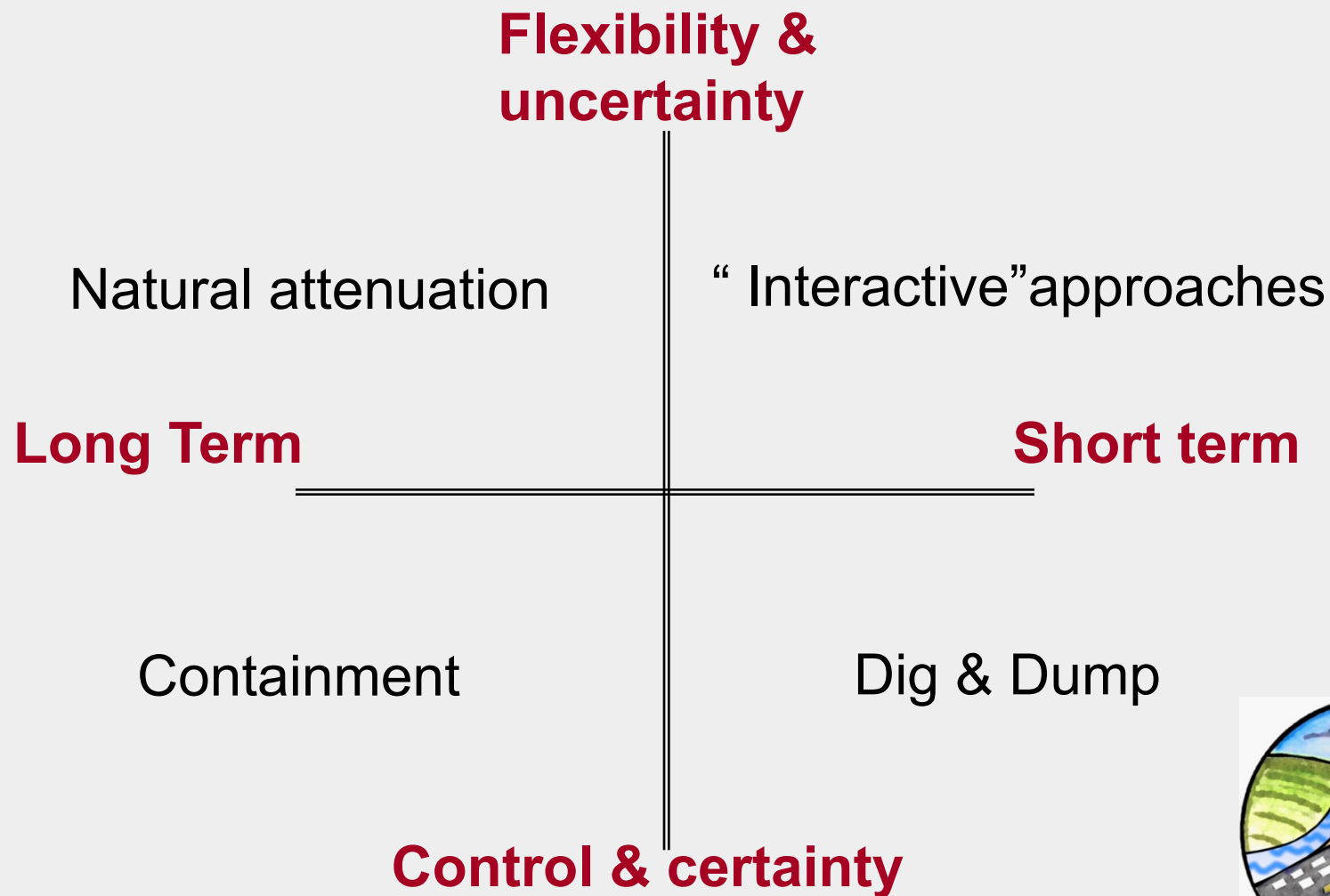
The solution landscape

- **Risk reduction requirements**
 - Source, Pathway or Target ?
 - Slow (bio) remediation or fast civil engineering approaches?
 - Certainty versus uncertainty?
- **Landuse related requirements**
 - Landuse may prohibit capping
 - Soil removal is necessary for construction
- **Spatial planning requirements**
 - Is landuse likely to change in future
- **Management requirements**
 - funding
 - communication
 - legal constraints



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Solutions for contaminated land problems



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Decision making styles

**Stringent
precautionary**

**Targets set
on an
arbitrary
basis**

RBLM

**Targets set
by complex
systems**

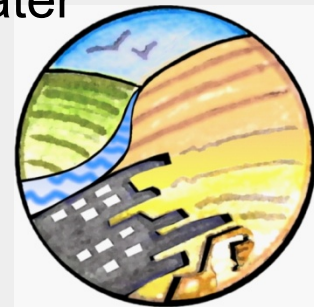
“Laissez faire”



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Optimised Solutions

- **Short term:**
 - Reducing exposure of human beings and use related ecological endpoints in the contact zone
 - Human health,
 - Plant growth, (domestic) animals
 - Soil processes (soil microbiology)
 - Quality of food products
 - Clean up of important sources of groundwater contamination in the contact zone and deeper layers
- **Longer term**
 - Preventing further dispersion of polluted groundwater
 - Achieving a stable controlled situation beneath the contact zone

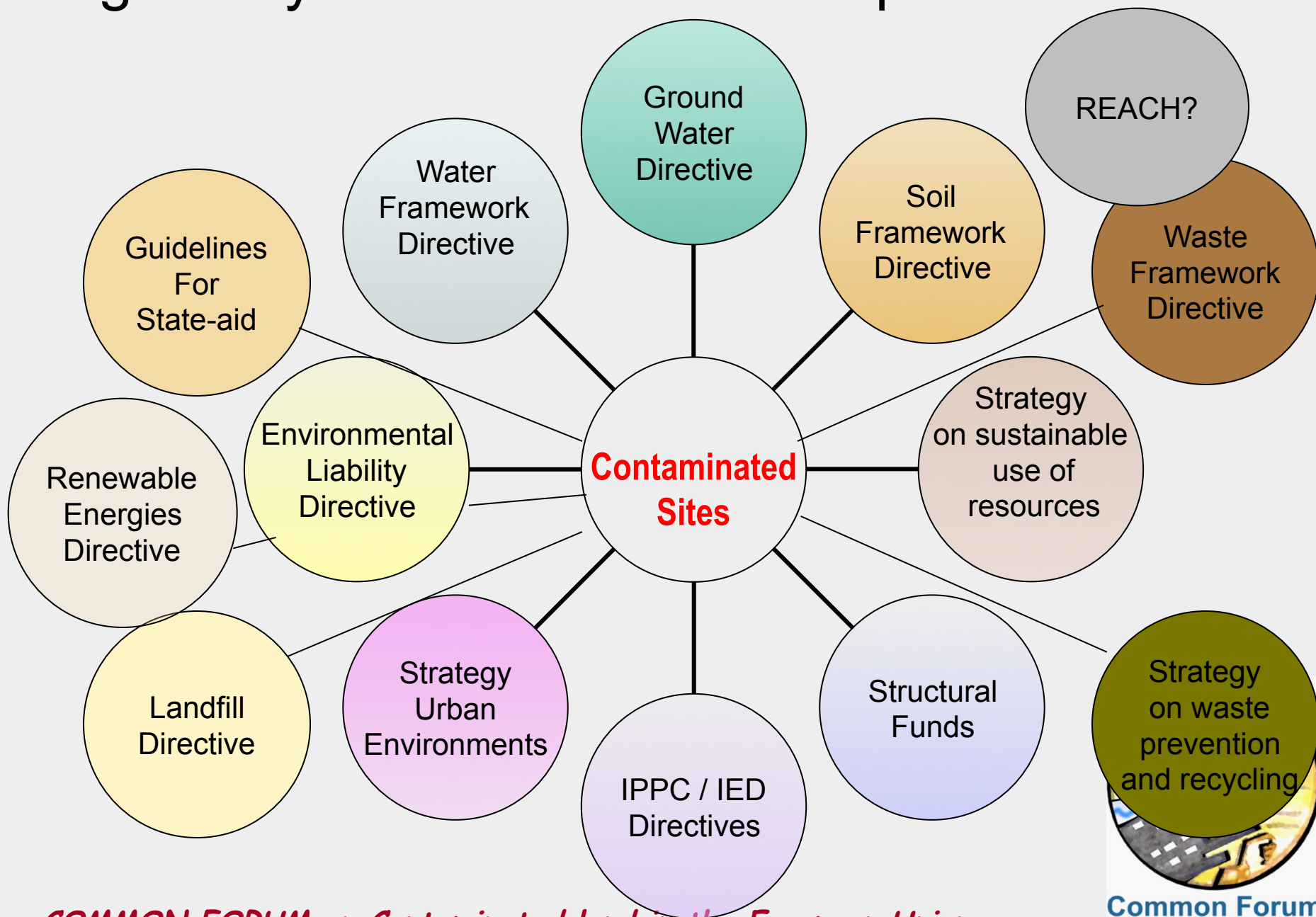


Balancing costs and benefits in a sustainable way

- Long term versus short term
- Protection of the environment
- Investment of money, space and time
- Aftercare
- No problem shifting

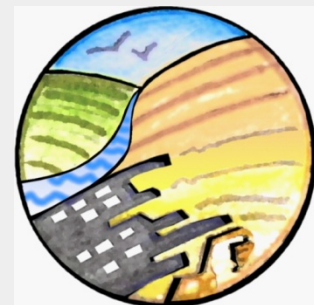


Regulatory environment at European level



Needs of evolution to meet new challenges

- 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.



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How to make RBLM more sustainable

Key questions for policy-makers

- At ***which scale*** should we consider the design of solution for optimising the efficiency of the remediation?
 - The site, in case of isolated impact
 - Impacted area (depending on the site emissions)
 - Redevelopment project area, in relation with the land use change
 - Water catchment / river basin
 - Different system boundaries!



How to make RBLM more sustainable

Key questions for policy-makers

- How to make ***Remediation more sustainable?***

	Greening remediation	Sustainable Remediation
At the Area / reference unit level		
Land	Conserve and protect current uses	Restore land (short & medium term) Redevelop land (longer term)
Protected area (water catchment, river basin)	Conserve and protect current uses	Restore media quality (short, medium, long term) which needs to act on several sites impacting the same resources if any
Area	Improve quality of the different environmental media	Combine energy production / efficiency measures with soil / groundwater treatment Optimize reuse of materials at the area scale

How to make RBLM more sustainable

Key questions for policy-makers

- How to make ***Remediation more sustainable?***

At the site level

Air	Treat contaminants of concern / relevance	Reduce risk exposures for all targets of concern and reduce GHGs produced by treatment
Water	Improve quality of media	Decrease quantity of water used Reuse contaminated water that has been treated (if accepted locally)
Eco-systems	Avoid disturbance to sensitive ecosystems	Use wildlife species (minimize labor efforts) for regenerated brownfield landscaping
Energy	<ul style="list-style-type: none"> - Use more efficient techniques - produce renewable energy on site 	Reduce use of new materials for saving energy at processing level
Materials & Waste	Minimize final residues, save natural resources	Maximize reuse / recycling of materials (mainly at a local level) which will need pre-preparation of the materials

How to make RBLM more sustainable

Key questions

- The necessary involvement ***of local stakeholders*** for setting the type and the time scale of solution
 - Participative and integrative approach
 - Open and transparent choice of solution for the site / reference unit
 - Recorded discussion for tracking decisions in the future



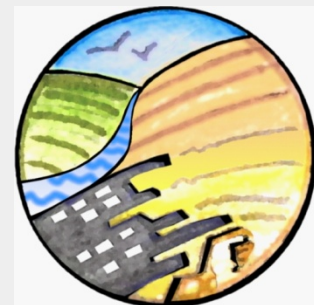
CONCLUSIONS (1/2)

Discussion within Common Forum on wider issues:

- Financial issues:

- Polluted Pays Principle / Limits
- Best driver: Land Market
- Use of Private – Public Partnerships

- Liability issues: discussion with industry representatives for liability transfer or Share (NICOLE report)



CONCLUSIONS (2/2)

- better common understanding and building consensus within Europe / Current options
 - to develop of a joint position paper, which might be published by existing networks and initiatives like, national SuRFs, as well as NICOLE, COMMON FORUM, EURODEMO+
 - drafting a guidance issued via a voluntary European standard (or within the International Standards Organisation (ISO/TC190 “Soil quality”).



- Thanks for your attention!



- More information on
www.commonforum.eu

