



# **Riding the green wave to Sustainable use of Soil & Groundwater!**

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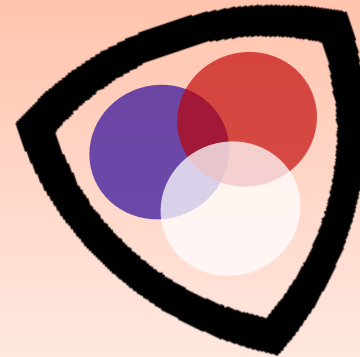
**Session:**

**SuRF Italy Day - Sustainability of remediation**

**Ferrara, 20 September 2013**

# Content

- Background of SuRF-NL
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# Background of SuRF-NL

- ‘How to express, embed and balance sustainability in the field of Soil Quality Management in NL => SUSQM!
- Case based versus Areal approach
- Interaction and communication with SURF-UK, SURF-US and NICOLE Sustainability WG
- Setting up decision support framework based on the Dutch ROSA (and REC) tool

# Drivers

Drivers for sustainable remediation in NL are:

- Policy:
  - Need for Soil Quality Management - soil as a common good, the use of soil functions
  - Sustainable sourcing and procurement at governmental organizations
  - CO<sub>2</sub> reduction, energy saving programs: e.g. Integrated Groundwater management for implementation of ATES systems
- Regulatory
  - EU WFD: Approach for large scale groundwater contamination
- Market Industry
  - Costs savings
  - Sourcing and procurement as driving forces for sustainable business for the industry (image building)

# Starting points

- Conflicting interests - Sectoral approaches and verification
- Re-evaluation of the holistic approach environmental benefits of soil remediation
  - Impact of soil remediation itself not considered
  - What is the balance between risk reduction and environmental benefits?
- Dilemmas in Soil Quality Management:
  - Exploitation versus protection
  - Individual versus common good
  - Short term versus long term
  - Fast versus slow
  - Set free versus secure
  - Centralized versus decentralized
  - Ratio versus heart
- Soil remediation business NL is fading out too soon

# The NL law and regulations offer possibilities

Soil Protection Act and Circulair:

“No unacceptable Risks”

“Fit for purpose”

“Stable end situation.... Minimize spreading”

EU Soil Thematic Strategy: *‘Remediation shall consist of actions on the soil...due consideration to social, economic and environmental impacts...’*

EU KRW: *achieve good status unless ..infeasible ..disproportionate cost ..and the preferred solution is considered best balance of social, economic and environmental costs*

But how to bring this in practice, and to how engage all stakeholders?

# Initiative SurF-NL

## Founding fathers:

- ✓ Tauw
- ✓ ARCADIS
- ✓ MWH
- ✓ Witteveen en Bos
- ✓ Bioclear
- ✓ SBNS (Dutch Railways, Remediation Managers)

## Participants in meetings:

- ✓ Shell
- ✓ Ministry I&M
- ✓ Technical Commission Soil Protection
- ✓ National Institute for Public Health and Environment
- ✓ Deltares
- ✓ Contractors association
- ✓ Municipality of Utrecht
- ✓ Municipality of Tilburg
- ✓ Wageningen University
- ✓ Agentschap NL
- ✓ RoyalHaskoningDHV
- ✓ ERM
- ✓ Interested: Province of North-Brabant, Dutch Standardization Institute, Port of Rotterdam



# Position paper: Vision

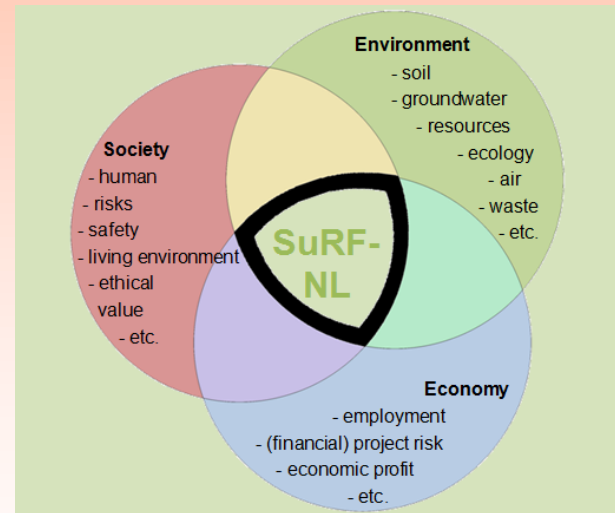
- More than Remediation; not only remediation but sustainable and professional soil quality management in the context of spatial development
- Transparent process in balancing different sustainability criteria against the soil functions (emissions, natural resources)
- Recognition of ecosystem services of the soil
- In future: including soil protection measures
- Green remediation is only a small part of sustainable soil quality management



# Definition

With “Sustainable interactions with Contaminant Soil and Groundwater” we mean:

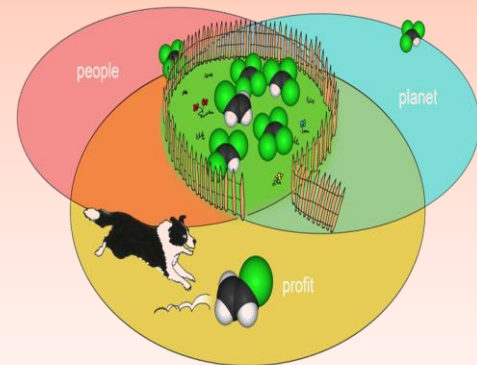
*That the advantages of an approach used, relating to environmental, economical and social aspects, outweigh the negative impacts, and a transparent process is employed from the selection phase till to performance phase*



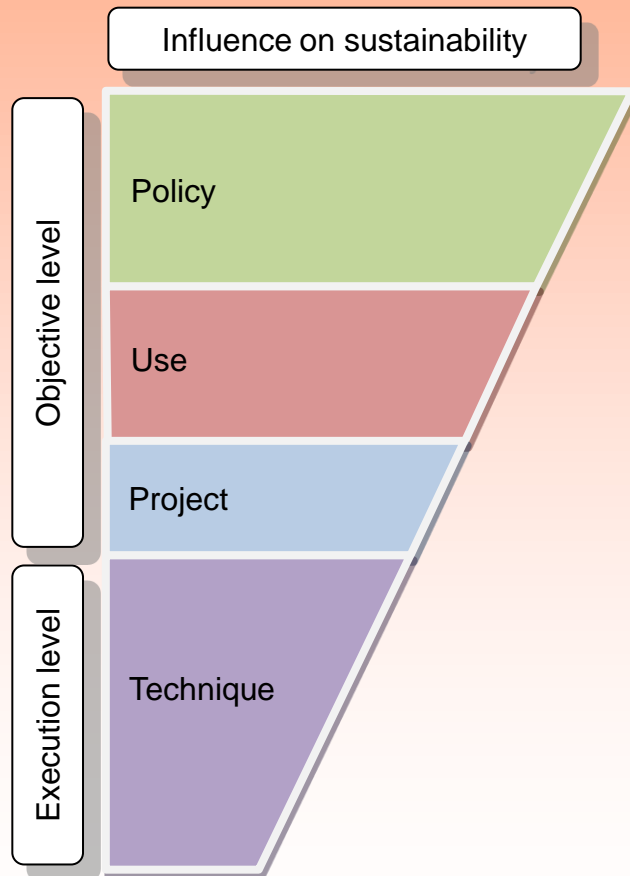
# Principles

These principles are the boundaries of our playing field:

- No impermissible risks (health and safety) for humans
- Soil and Groundwater suitable for planned use
- No impermissible effects to the surroundings, like nuisance and damages
- Transparent and reproducible decision making, based on sound knowledge
- Participation of relevant stakeholders

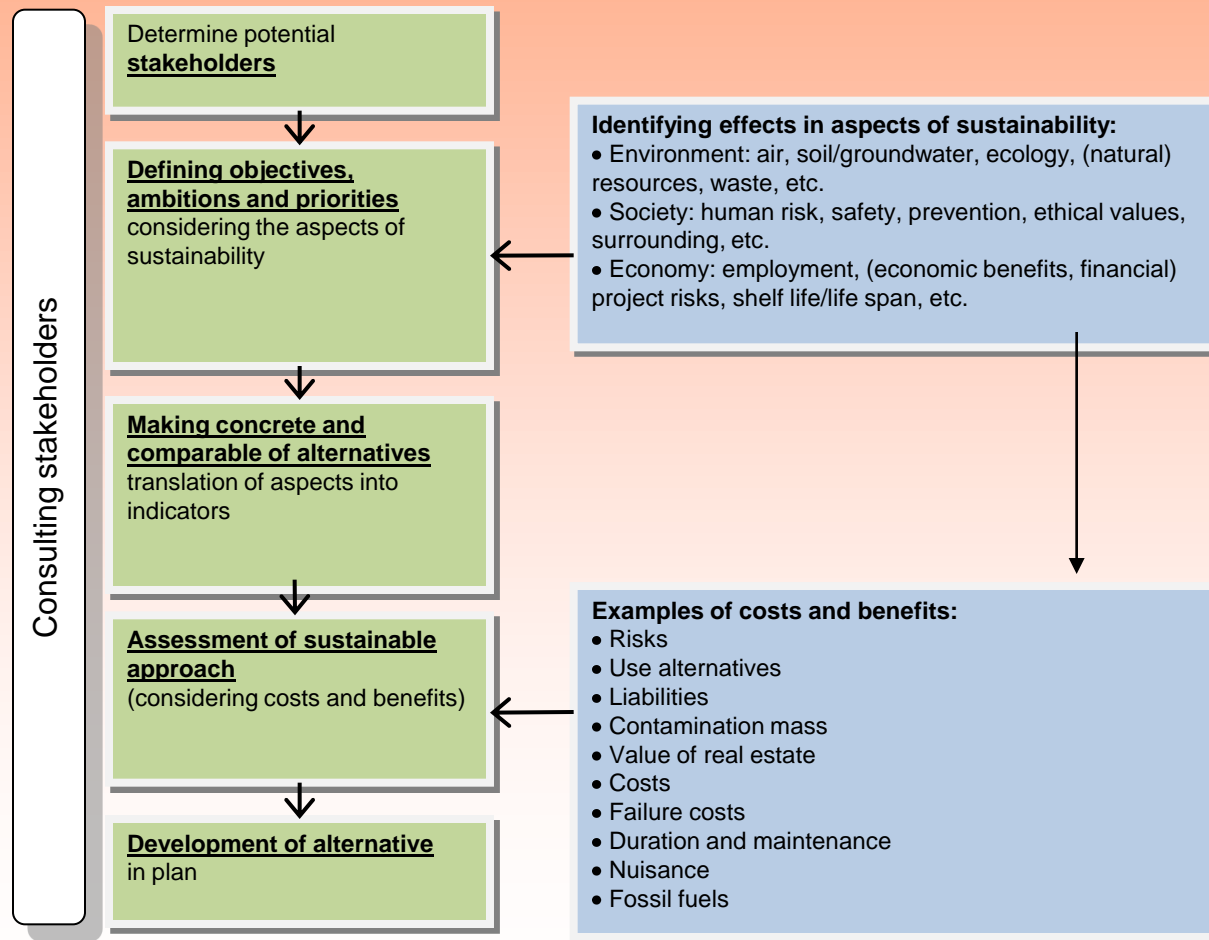


# Sustainability in different phases

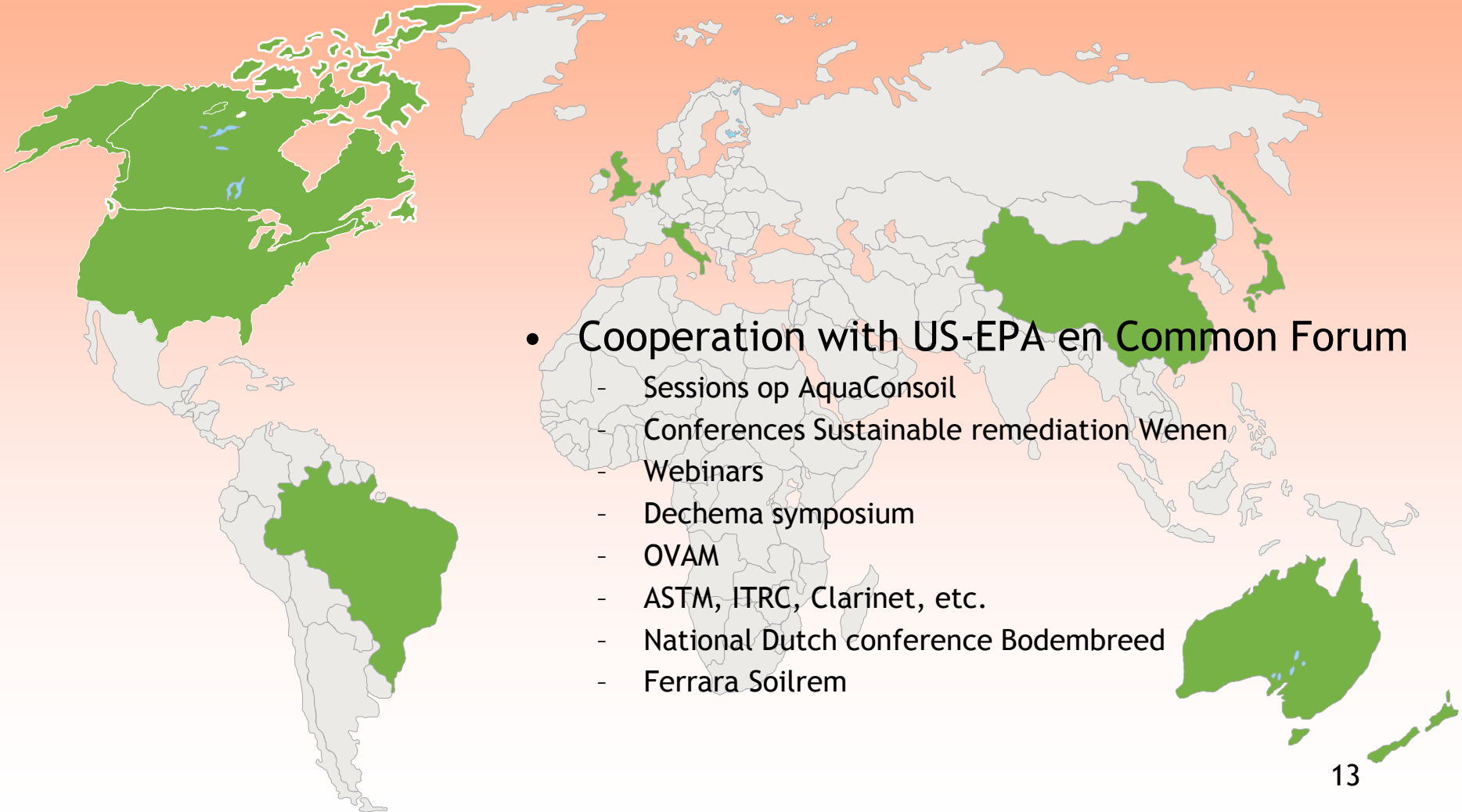


- Process scheme for establishing objectives/targets
- Tools on execution level (e.g. green remediation, CO<sub>2</sub> tools)

# Sustainability in the process



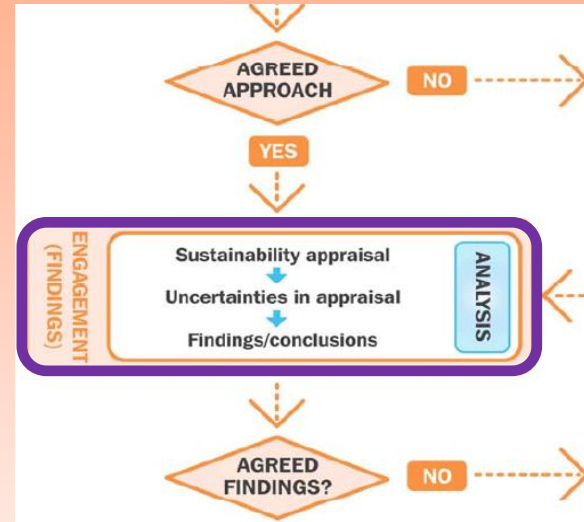
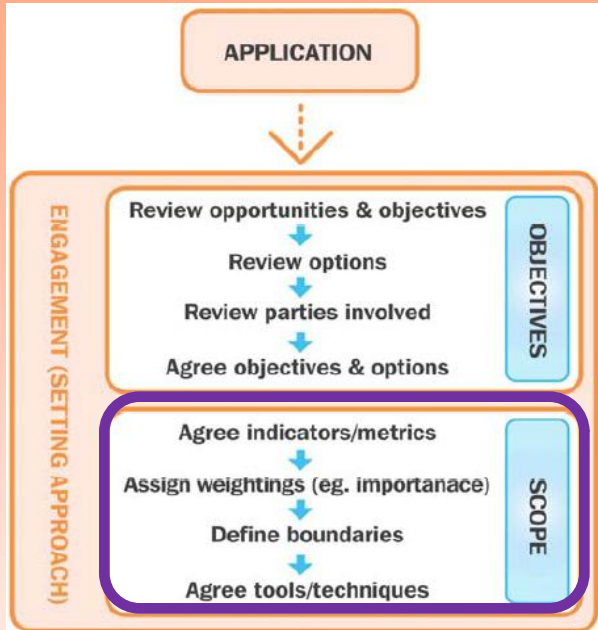
# International Network



- **Cooperation with US-EPA en Common Forum**
  - Sessions op AquaConsoil
  - Conferences Sustainable remediation Wenen
  - Webinars
  - Dechema symposium
  - OVAM
  - ASTM, ITRC, Clarinet, etc.
  - National Dutch conference Bodembreed
  - Ferrara Soilrem

# Methodology

## Balance Benefits and Burden



<b>Benefits</b>	Risk reduction	Increase of land use	Legal responsibilities	Load removal	Added value real estate	Employment
<b>Burden</b>	Costs	Risk of failure	Duration remediation and aftercare	CO <sub>2</sub> production	Production of waste, dust, sound and nuisance	Accident risk

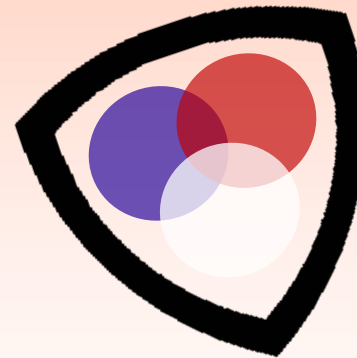
# Next Steps

- NL-Expert for ISO Sustainable Remediation
- Stakeholder Management
  - Input Dutch 'Environmental Law (Omgevingswet)'
- Update website: [www.surf-nl.com](http://www.surf-nl.com)
- Workshops
  - Case studies
- Conferences

Propagate integral sustainable solutions

# Thanks for your attention

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