



NICOLE

Network for Industrially Contaminated Land in Europe

NICOLE's Shared vision on Sustainable Remediation

Green Remediation conference

09 November 2009

Copenhagen

www.nicole.org

1



Agenda

- Methodology followed
- Work completed since Oct 2008
- Main lessons learned

www.nicole.org

2



Where it all came from

- NICOLE = unique Network of site remediation professionals
 - Industry + Consultants + Academics + Regulators
- Research on sustainability and remediation
 - Barcelona 2003, Akersloot 2007, London 2008 (with SAGTA), Leuven 2009
- Steering Group decision to launch a dedicated Workgroup on SR in summer 2008
 - Guidance document by the end of 2009
- Kickoff during Madrid workshop on Decision tools, October 2008
 - 20 participants in the first meeting

www.nicole.org

3




WG Charter

- Provide a working definition of sustainability applied to remediation
- Describe how sustainability thinking can be applied to remediation projects
- Leverage other Think Tanks
- Come up with proper communication material by year end

www.nicole.org

4




Proposed definition of SR

“Framework in order to embed balanced decision making in the selection of the strategy to address land (and/or water) contamination as an integral part of sustainable land use”

SuRF UK and NICOLE/ SAGTA London meeting 3-5 March 2008

www.nicole.org



Madrid Brainstorming, Oct 2008

<p>High level objectives</p> <ol style="list-style-type: none"> Communication, obtaining buy-in from stakeholders, convincing arguments, need for a definition for SR (by far, 19) Cost Benefit, NBA, Economics (9) Risk Based, decision making, balanced risks and sustainability (8) Time, realistic timeframe, preserve future generations (5) Technical, Best Available Techniques (3) <p>Also noted: leverage other workgroups</p>	<p>Drivers of SR</p> <ol style="list-style-type: none"> Societal shift, future generation, society challenges (e.g.; Energy) (10) Liability management, long term, legal (8) Regulation, local, regional, national (7) Cost/Benefit, Economics (5) Public relation – Image, Win-Win, arguments for best solution (4) Land value, Urban pressure (4)
<p>Barriers to SR</p> <ol style="list-style-type: none"> Communication, politics, irrational thinking, lack of understanding, arrogance of scientists, public buy-in (10) Liability management and time, long-term (8) Regulation, regulators (6) Costs, efficiency, “why not spending more?” (5) Complexity, technology (2) <p>“Bottom-Up” approach is considered as the best to promote SR.</p>	<p>Limits, definition; and key words related to SR</p> <ol style="list-style-type: none"> Efficiency : BAT, ecological, resources, costs, risk, value, NBA, Life cycle, decision making Social: Maximize, quality, opportunity, protective, life Time: now and in future, next generations, future development Key Performance Indicators (KPI): Indicators, key performance, semi-quantitative, qualitative, buy-in Project Level: Project site before next level, applicable in all countries Case studies: use in-country examples

In parenthesis, number of responses

www.nicole.org



Brainstorming main results

- Not a technical issue
- Communication is Number one barrier and enabler
 - building trust with non technical experts
- Conflicting interests between Liability Management, or Risk Assessment, and Sustainable Remediation
 - need to assess how much room is available in existing legislation
- Efficiency: how can we measure and demonstrate sustainability?
 - Metrics = economic tools, indicators...
- “Bottom-up” approach

www.nicole.org

7



SRWG five subgroups

Subgroups	Leaders
• Communication	O. Maurer & J. De Fraye
• Risk management	J. Waters & A. Thomas
• Economics	R. Clayton & S. MacKay
• Indicators	P. Bardos & L. Wiltshire
• Case studies	L. Wiltshire & M. Ackermann

+ WG members

Started November 2008

www.nicole.org

8



Communication subgroup

Promote Sustainable Remediation and NICOLE's work

- Leadership of SRWG
- Leverage NICOLE's network and work groups
- SR workshop in Leuven, June 2009
- Collaboration with other think tanks, participate in conferences (Green Remediation conference Copenhagen...)
- Final guidance document



www.nicole.org

9



Risk Management subgroup



Sustainable Remediation
vs
Precautionary Principle

Can they be aligned?

- Explore EU legislations and practices
- Develop recommendations to align RA & sustainability
- Agree common view on the way forward
- Consider how to engage with policy makers

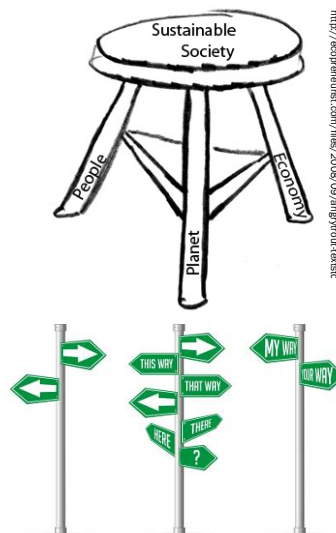
www.nicole.org

10



Economics subgroup

- Address triple bottom-line of sustainability
- Signpost what tools are available and could be used and at what point during a remediation project
- Recognise limitations and benefits of each tool
- Identify what is missing from the toolbox moving forward



<http://ecopreneurist.com/files/2008/09/jangmoud-tenstic>

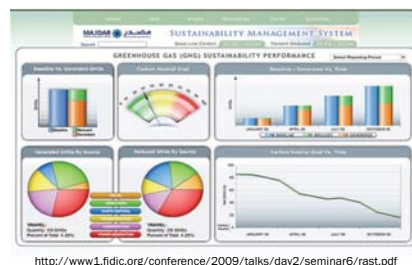
www.nicole.org

11



Indicators subgroup

- Creation of a databank of information resources
- Development of a NICOLE guidance on the use of indicators:
 - Accessible and useful to any site remediation professional
 - Applicable to any project
 - Provide support in decision making on what indicators / metrics to use in sustainability appraisal



<http://www1.fidic.org/conference/2009/talks/day2/seminar6/rast.pdf>

www.nicole.org

12



Case studies subgroup

- Illustrate with project examples
- Can be industrial facility or other (e.g.; mine restoration)
- Active or completed projects
- Welcome “good” and “bad” stories
- Incomplete cases are welcome
- Template distributed

www.nicole.org

13



SRWG Questionnaire

- Research sustainability practice differences across EU
 - legislation, tools...
- Distributed 19 May 2009 to NICOLE's network
- Interactive session at end of Leuven SR workshop

To support the completion of this task the subgroup has identified the requirement to gather information across the EU member state resources on the status, availability and use of risk assessment, tools and key performance indicators in measuring sustainability in remediation.

Your answers will be used to benchmark the use of sustainable remediation tools across the EU at present. The data will be used to provide an indicator of the state of the work that may be required to facilitate its introduction across the EU.

The format of this section of the questionnaire is based on a rating system:

Rating	Meaning / Description
1	It is widely accepted and recognised in regulation and practice across the country
2	It is included / allowed for in the country's legislation / regulation but is not applied by practitioners, organisations or regulators
3	It is recognised by regulators and practitioners but only used / applied for internal decision making and is therefore only of use for developing a qualitative discussion with regulatory bodies
4	It is not used and not applied in country's regulations / legislation or by practitioners

There is a free comment box supporting each response: please respond with short answers only. Finally there is a free response section at the end of the questionnaire should you wish to provide any other relevant information.

The working group aim is to use this information to create a matrix of current practices used in quantifying sustainable remediation across the EU member states.

Section E1 Location

1. Location	Please provide the name of the country / region for which subsequent answers apply.
2a. Country	France
2b. Regional Differences	Please comment on whether your responses apply to regions within a country and whether there is a substantive difference between regions
	National

Section E2 Policy and Guidance - Site Assessment

Question 2a	Sustainability in environmental protection, planning and / or remediation of contaminated land in Legislation/ Policy / Guidance: Is the concept accepted, or at least allowed for in the country's guidance / legislation for remediation?
Rating	
1	Comprehensive
2	Partial
3	Not applicable
4	Not applicable

Comments: Costs & benefits. Social / societal aspects in the side. Methodology / Tools and not regulatory (in France results are a must but tools are left to choice.)

www.nicole.org

Sustainable Remediation Working Group Questionnaire May 2009
Revision 1.2


Page 2 of 7

14

Questionnaire from Leuven workshop													
Country	Legislation (SR referred to)	Risk Assessment	and BAT (Best available technology not exceeding)	ALARP (As Low As Reasonably Practicable)	MCA (Multi-Criteria Analysis)	CBA (Cost benefit analysis)	Environmental Cost	NEBA (Net environmental benefit analysis)	Sustainability Analysis and Decision Tools	Sustainability Accreditation (e.g., LEED or BREEAM)	Economic Cost	Social Cost	Average
Belgium	1	1	1	1	1	4	1	4	na	4	4	4	2.36
Germany	2	1	1	2	2	1	3	2	4	4	2	3	2.25
UK	1	1	2	1	1	2	4	2	3	1	4	4	2.50
France	2	1	1	3	1	1	3	1	4	4	4	4	2.75
Netherlands	2	1	2	1	1	4	4	4	1	1	3	4	2.83
Sweden	1	1	3	1	3	1	4	4	3	4	4	4	2.92
Italy	4	2	4	4	3	3	4	4	4	2	4	4	3.50

Rating	Meaning / Description	
1	It is widely accepted and recognised in regulation and practiced across the country	<1.5
2	It is included /allowed for in the country's legislation / regulation but is not applied by practitioners, organisations or regulators.	1.5-2.5
3	It is recognised by regulators and practitioners but only used / adopted occasionally as it has no official / legal support and is therefore only of use for internal decision making and in developing a qualitative discussion with regulatory bodies.	2.5-3.5
4	It is not used and not applied in country's regulations / legislation or by practitioners.	>3.5

www.nicole.org 15



NICOLE
 Network for Industrially Contaminated Land in Europe

Sustainable remediation workgroup

Main results

www.nicole.org

16



Questionnaire outcome

- Confirms SR is a new concept
- SR principles are currently referred to and used across Europe in very different ways
- E.g.; legislation refers to sustainable principles to varying degrees across the European countries
- Risk assessment is widely used and referred to in Europe
- Cost benefit analysis (or equivalent) is an accepted tool only in some countries
- Economic and social impacts are not widely considered in remediation projects

www.nicole.org

17



Outcome from Leuven SR Conference

- SR needs “sustainable legislation”
 - not only the content of the legislation, but the way it relates to other relevant legislation (e.g.; combination of Directives), as well as principles and practices of working
- Offering a prescriptive and dogmatic view on tools and indicators is not likely to drive a consensus
- SR is different from green remediation, confirmed not a technical issue
- Confirmed remedial practitioners are poor communicators and poorly trained to deal with social aspects

www.nicole.org

18



Risk Assessment vs Sustainability

- Relationship between the practice of QRA and SR is going to be very different according to the QRA framework in place in any country
- Site specific QRA coupled with remedial options appraisal offers the opportunity to integrate sustainable decision making in parallel with risk process
- Incorporation of sustainability may lead to questioning of fundamental QRA assumptions & hence to difficult choices, but also will encourage more holistic decision making
- However, this may be seen as selling out / do nothing / risking away – which is our main challenge

www.nicole.org

19




Indicators - draft approach

- Not prescriptive!
- Aim for clear cut sustainably based decisions from the start of a project
- Sustainability criteria include site and project specific, corporate or public policy factors
- KPIs = “most important factors driving sustainability based decision making *for a particular project*”
- Qualitative and quantitative tools can be combined to provide a “pathway” to sustainability appraisal
- Collaboration with SuRF UK

www.nicole.org

20



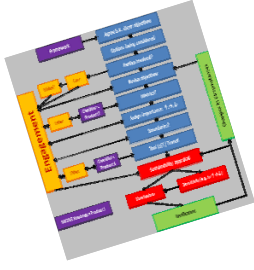
Guidance document

1. Booklet

- Road Map
- links to full documentation

2. “Full” document

- Introduction, NICOLE’s objectives, identification of main stakeholders, description of the SRWG
- Definition of SR, boundaries, drivers, enablers...
- Separate Chapters (with attachments)
 - Economics, check list of tools, guidance, references
 - KPIs, check list, guidance, references
 - Risk assessment
 - Communication
 - Illustrations with case studies




Stay

- Factual
- Neutral
- Practical
- Simple

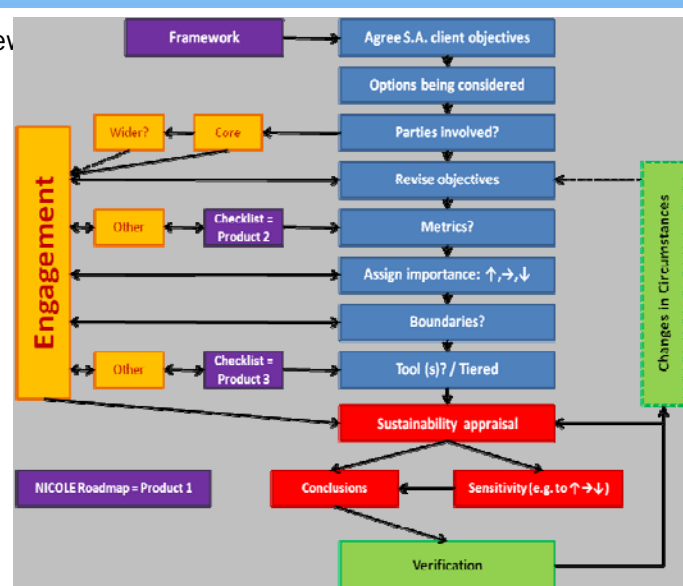
21

www.nicole.org




Draft Road Map

Under review



22


www.nicole.org



Collaboration

- SuRF UK
 - Review Road map, share work on Indicator, and more...
- ASTM (US)
 - Paul Bardos invited to committee to develop standards for sustainable remediation
- SOLENV (FR)
 - Environmental assessment of contaminated soil and groundwater cleanup technologies
- CONSOIL 2010?
 - Special SR session jointly with SuRF UK?
- Common Forum?
 - Joint workshop, SR theme?

www.nicole.org 23



Conclusions

- Consensus building
- Conflict with Precautionary principle
- Lack of “sustainable” legislation
- Guidance document in preparation
- Test the Road Map

www.nicole.org 24





COMMON SENSE
Just because you can, doesn't mean you should.

<http://media.photobucket.com/image/%252522common%20sense%252522%2Fkerok19%2Fforum%20pics%2FCommonSense.jpg>




From <http://www.medium4you.be/Lahore-au-Pakistan.html>

www.nicole.org

25



Thank you



www.nicole.org

26