

Debunking myths about Sustainable Remediation

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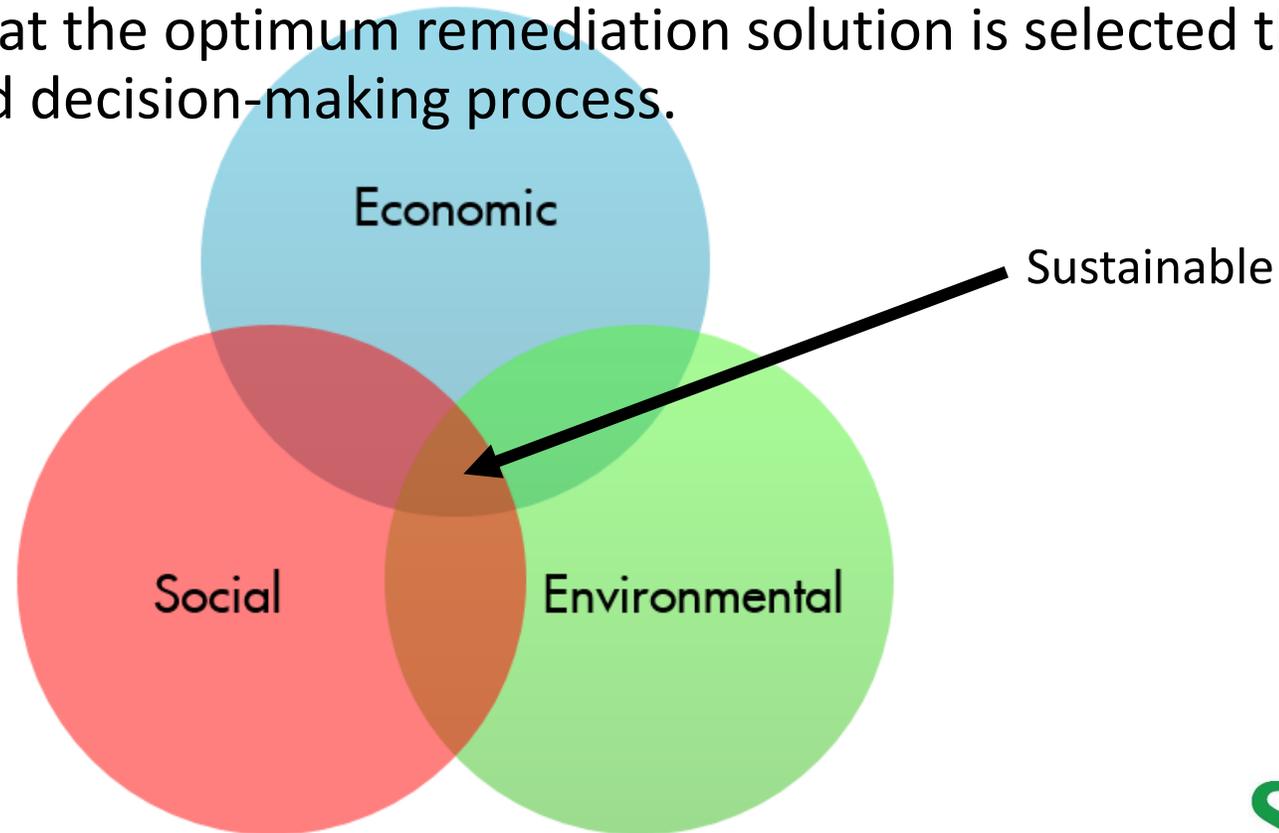
SustRem 2018, Brazil

Introduction

- The application of sustainable remediation has spread around the world rapidly, and guidance has been prepared in numerous geographies largely instigated by the various national sustainable remediation fora (the SuRFs), as well as collaborative contaminated land-practitioner organizations (ITRC, NICOLE, EU Common Forum).
- The alignment in thinking necessary to develop an ISO standard also allowed joint statements of intent from practitioner and policy maker groups regarding sustainable remediation (NICOLE & Common Forum, 2013).
- Despite the consistent standards and guidance/frameworks, there continues to be occasional misunderstanding of the goals of sustainable remediation.
- This presentation collates some of the common misconceptions, inaccurate claims and statements about sustainable remediation, and presents a view of the reality.

What is Sustainable Remediation?

- The practice of demonstrating, in terms of environmental, economic and social indicators, that the benefit of undertaking remediation is greater than its impact and that the optimum remediation solution is selected through the use of a balanced decision-making process.



Why adopt Sustainable Remediation?

- Remediation has the potential to cause environmental, economic and social impacts.
- If poorly selected, designed and implemented remediation activities may cause greater impact than the contamination that they seek to address.
- The best solution is sustainable remediation: manages unacceptable risks and maximises the overall environmental, social and economic benefits.
- Benefits include:
 - Effective management of unacceptable risks and improved robustness of remediation decision making;
 - Maximising the value delivered by remediation works and delivering cost savings through avoidance of unnecessary or unsustainable remediation;
 - Minimising the impact of remediation works on the environment and surrounding communities;
 - Demonstrable commitment to sustainable development in remediation works;
 - Positive impact on reputation and public relations, by demonstrating corporate environmental and social responsibility;

1. Sustainability means you can do less remediation and leave unacceptable risks in place

- Globally most contaminated land frameworks are risk based.
- There have been suggestions that if sustainability assessment demonstrates that there is no remedial solution which can be shown to be 'sustainable', then it is

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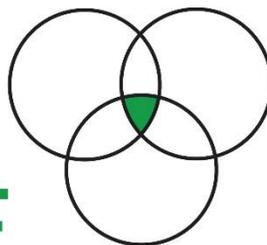
Risk surpasses sustainability as the criteria to trigger remedial action.

Sustainability assessment informs us of the best way to manage unacceptable risks.

- The Remediation frameworks, and in the recently published ISO standard (18504:2017).
- Sustainability should not be used as a reason to fail to manage unacceptable risks.
- Sustainability assessment is used to identify the best way to manage unacceptable risks and to identify and avoid unintentional consequences to maximise the benefits.

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2. Just saying a project is 'sustainable' makes it so

- Over the last decade Sustainable Remediation has become a globally accepted best practice concept. However claims regarding the sustainability

KEY MESSAGE:

- Unsupported claims bring the reputation of sustainable remediation into question. Claims of 'Sustainable remediation' should be demonstrated by compliance with relevant best practice documents.

(SURF-UK, CL:AIRE 2010).

- Sustainable Remediation frameworks ensure the assessment is robust and meets a suitably high standard. This ensures **environmental**, **social** and **economic** aspects are considered when identifying the optimum remedial solution.

3. It is only about saving money

- Sustainable remediation seeks to compare the economic impacts and benefits of different remediation options alongside both the social and environmental impacts and benefits.

KEY MESSAGE:

- Sustainability assessment can lead to significant value creation across all three pillars of sustainability economic, social and environmental

the UN 'Brundtland report' (UN, 1987), into contaminated land management decisions.

- The efficient use of capital and resources is a key component to consider in sustainable remediation and sustainability assessment may identify project efficiencies that will result in potential cost savings which deliver the same risk management benefit.

4. Green Remediation and Sustainable Remediation are the same thing

- The evolution of Sustainable Remediation has been mirrored by the development of a similar concept called Green Remediation.
- The core elements are similar to the environmental criteria given by SuRF-UK (CL:AIRE 2011) and include energy, air, water, land & ecosystems, materials & waste, and stewardship.
- Social and economic elements are not included in USEPA's Green Remediation framework but

KEY MESSAGE:

Sustainable Remediation and Green Remediation are not synonymous with one another.
Assessors should be clear about which framework they are adopting and why.

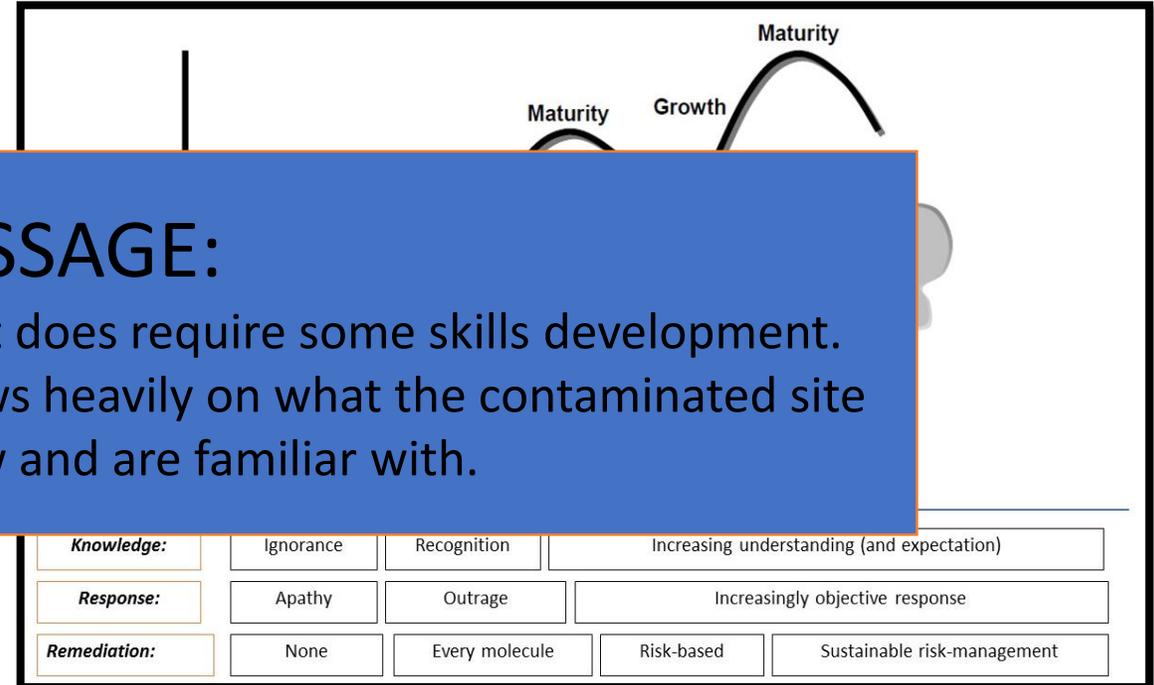
- The term 'Green and Sustainable Remediation' has been used widely. However SR and GR are different concepts.
- The GR approach has been exported to other countries that do not have the same robust economic and social considerations present in the USA. It is potentially being adopted without a full understanding of the context of its use in the USA.

5. It is a new paradigm that requires much expertise, time and consequently cost

- Sustainable remediation is a development of the risk based approach.
- The way in which contaminated sites are managed must match the scale/complexity of the site and the political and social context.
- The SURF approach is a development of the simple qualitative assessment to more complex quantitative assessment. The effort, time and cost of an assessment should be commensurate to the scale/complexity of the remediation project.

KEY MESSAGE:

Sustainable (and risk-based) management does require some skills development. However it is not a new paradigm and draws heavily on what the contaminated site community already know and are familiar with.



6. Sustainability assessment is the same as conducting a CO₂ footprint analysis

- Sustainable remediation should involve a broad, holistic assessment of the relative performance of remediation options against relevant sustainability criteria.
- Rather than adopt a holistic approach, some assessments have been led by

KEY MESSAGE:

Sustainability assessment requires an assessor to think broadly to ensure a valid and balanced assessment

- listed in the SuRF-UK indicator categories, however some assessors have presented this narrow assessment as a full sustainability assessment.
- Decisions made using a single criterion in isolation may result in a decision that is not 'sustainable' when a full, holistic assessment is undertaken.

7. The assessment of social performance requires complex input from social scientists

- Sustainable remediation includes social issues as one of its three pillars. Consideration of the social criteria are a new element to consider.
- The SuRF-UK social indicators are not complex concepts. It is straight forward to assess whether an activity would likely be beneficial, neutral or

KEY MESSAGE:

The use of existing governance structures, and fair and proper consideration of the effects of different remediation options on the range of stakeholders present is possible within existing structures and systems.

indicators is therefore often straight-forward, although quantification is more challenging.

8. Sustainability can be directly and precisely measured

- Sustainability assessment relies on the comparison of the *relative* performance of various remediation options against a set of relevant sustainability indicators.
- This has resulted in concerns about a lack of robustness, and a desire to

KEY MESSAGE:

It is the relative performance of the remediation options, and the selection of one, after appropriate stakeholder input, as the best or most sustainable option.

Conclusions

- Sustainable remediation assessment shows us how to manage unacceptable risks to human health and the environment in the best, most sustainable, way.
- Sustainable Remediation provides a framework to incorporate sustainable development principles into remediation projects and deliver significant value for affected parties and society more broadly.
- In debunking some myths about Sustainable Remediation, it is hoped that consistent application of ISO 18504:2017/SuRF-UK framework (or equivalently robust guidance) will facilitate even wider use of Sustainable Remediation around the world.

Thank you for Listening

Any Questions?

Thank you to Jonathan Smith (former SuRF-UK chair) and Hayley Thomas of Shell Global Solutions (current co-chair of SuRF-UK) for assisting the preparation of this presentation. This presentation is based on a paper that is currently under review for Remediation Journal. If accepted it will be open access.

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