

SuRF-UK: Sustainable Remediation

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- Drivers to consider Sustainable Remediation
- SuRF-UK so far
- SuRK-UK Definition, Key Principals, and Framework
- Indicators
- Using SuRF-UK (possible wider applicability)



- Cross-sector backing in the UK
 - Need something aligned to current regimes and not expensive to use
- Industry (SAGTA)
 - Good practice, business ethics, sustainable procurement, CSR
 - A way to enable communication and facilitate transparency with all parties
- Regulatory
 - Appropriate and reasonable solutions
 - Soil Framework Directive (draft); Water Framework Directive
- Planning
 - Sustainability tests in planning applications
- Also response to worldwide interest:
 - EU (NICOLE, SuRF-UK, SuRF-NL, EURODEMO+)

www.claire.bls.Asu(leug. SuRF, US EPA "green remediation", ASTM)



SuRF-UK so far

Life before SuRF-UK

Phase 1

SuRF-UK

SuRF-UK Phase 2

SuRF-UK Phase 3

- 1999/2000: EA R&D on land and GW costbenefit assessment
- 2004: CLR11 talks about sustainable remedial actions
- 2006: SURF established in USA
- Concepts recognised, but not widely applied

- 2007: SuRF-UK established
- 2009: Review of SD indicators for CL projects use published
- 2010: SuRF-UK framework published
- 2011: Annex 1
 SuRF-UK
 sustainable
 remediation
 indicator
 categories
 refined
- 2011: Bardos et al. paper on sustainable remediation
- Case study development
- >50 conference presentations

 2013: Deliver Phase 3 'Briefcase' and 'Best Management Practices'

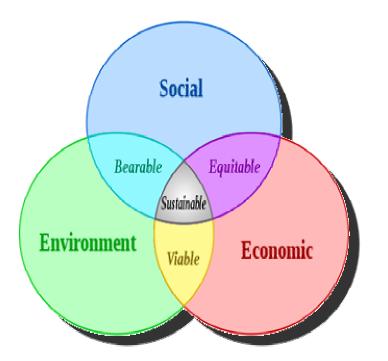
Wider world changes:

Part 2A Stat Guidance; EA Guiding Principles; EA GP3; NPPF; ASTM Standard; ISO Standard



SuRF-UK Definition

 '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 <u>optimum</u> <u>remediation solution</u> is selected through the use of a balanced decision-making process'

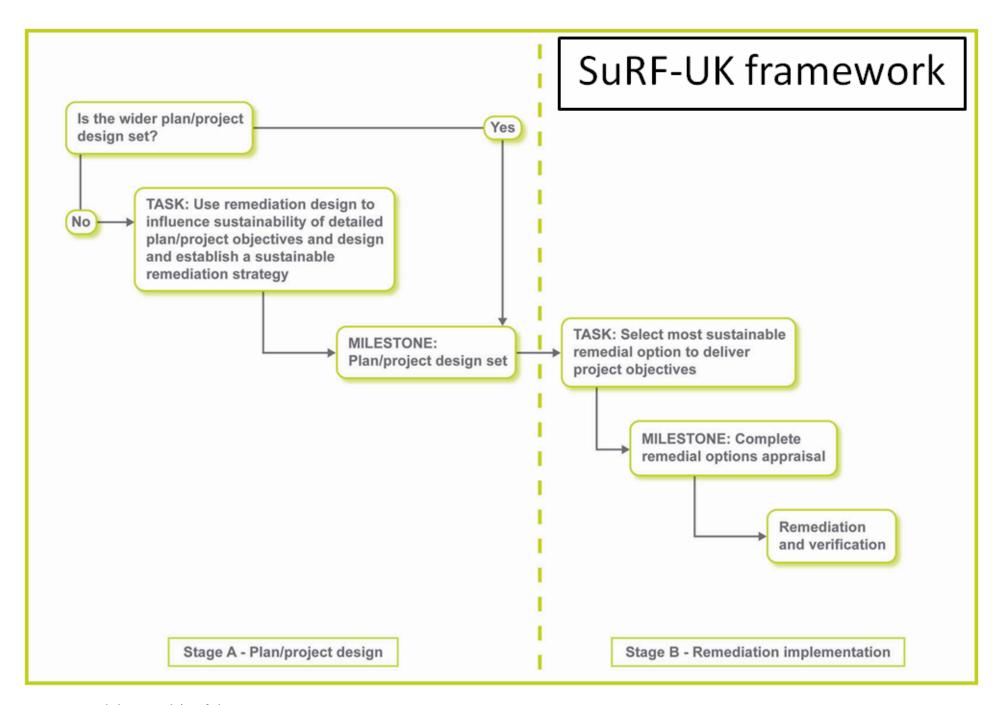


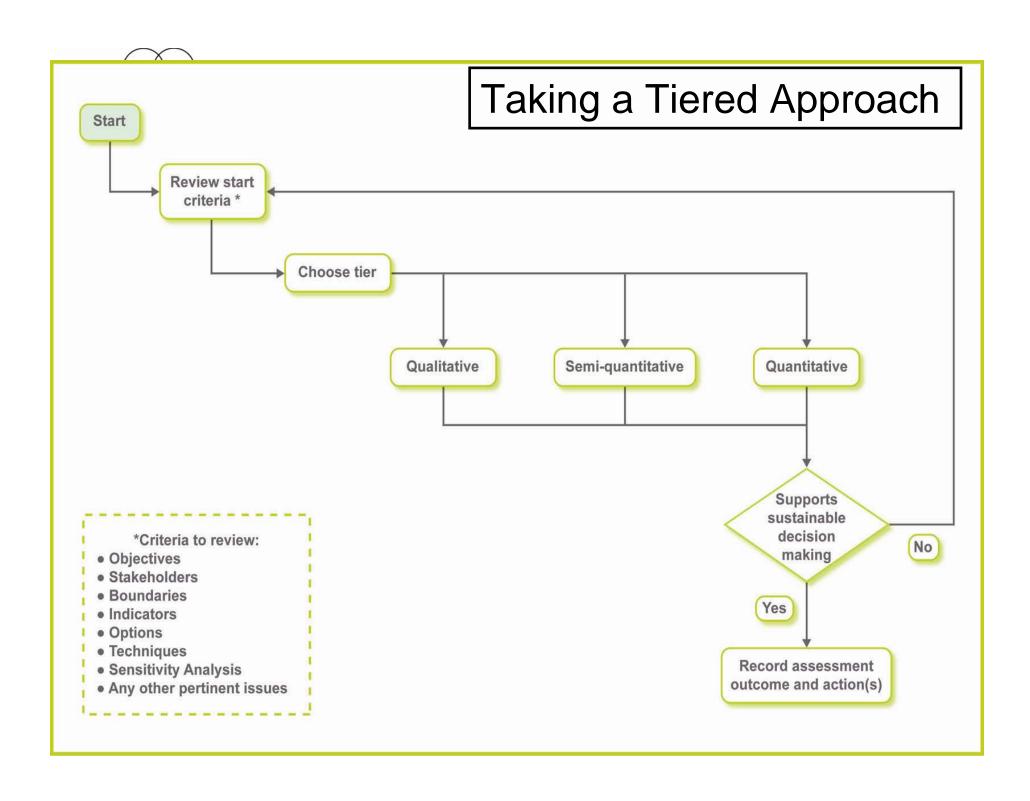
'Development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (1987, Brundtland)



SuRF-UK: Key principles

- Optimise risk-management based on consideration of social, environmental and economic factors, but always ensure:
 - Principle 1: Protection of human health and the wider environment
 - Principle 2: Safe working practices
 - Principle 3: Consistent, clear and reproducible evidence-based decisionmaking
 - Principle 4: Record keeping and transparent reporting.
 - Principle 5: Good governance and stakeholder involvement
 - Principle 6: Sound science







Environment	Social	Economic
ENV 1: Air	SOC 1: Human health and safety	ECON 1: Direct economic costs and benefits
ENV 2: Soil and ground conditions	SOC 2: Ethics and equality	ECON 2: Indirect economic costs and benefits
ENV 3: Groundwater and surface water	SOC 3: Neighbourhoods and locality	ECON 3: Employment and employment capital
ENV 4: Ecology	SOC 4: Communities and community involvement	ECON 4: Induced economic costs and benefits
ENV 5: Natural resources and waste	SOC 5: Uncertainty and evidence	ECON 5: Project lifespan and flexibility



Using the SuRF-UK Framework

