

Appendix A: SuRF-UK Social Indicator Set for Sustainable Remediation Assessment

| Category | | Issues that you may need to consider | Cross-reference to other Indicators |
|--------------|--|--|---|
| SOC 1 | Human Health & Safety | <ul style="list-style-type: none"> Risk management performance of the project (long term) in terms of delivery of mitigation of unacceptable human health risks Risk management performance of project (short term) in terms of duration of remediation works, incl. consideration of: <ul style="list-style-type: none"> Site workers, site neighbours and the public Remediation works and ancillary operations (incl. process emissions such as bioaerosols, allergens, PM10, impacts from operating machinery/traffic movements, excavations, etc) Consider both chronic and acute risks | ENV 1 for issues related to e.g. dust which do not relate to effect on humans SOC 3 for issues affecting humans (not related to health concerns e.g. amenity) |
| SOC 2 | Ethics & Equality | <ul style="list-style-type: none"> How is social justice and/or equality addressed? Is spirit of 'polluter pays principle' upheld with regard to distribution of impacts/benefits? Are the impacts/benefits of works unreasonably disproportionate to particular groups? What is the duration of remedial works and are there issues of intergenerational equity (e.g. avoidable transfer of contamination impacts to future generations)? Are the businesses involved operating ethically (e.g. sustainability of supply chains for inputs to remediation work, lack of transparency in procurement processes)? Does the treatment approach raise any ethical concerns for stakeholders (e.g. use of genetically modified organisms, illegal labour, bribery or corruption issues)? | None |
| SOC 3 | Neighbourhood & Locality | <ul style="list-style-type: none"> Impacts/benefits to local areas (tangible amenity changes), including: <ul style="list-style-type: none"> Effects from dust, light, noise, odour and vibrations during works and associated with traffic, including both working-day and night-time/weekend operations Wider effects of changes in site usage by local communities (e.g. reduction in antisocial activities on a derelict site) Changes in the built environment, architectural conservation, conservation of archaeological resources | ENV 1 for issues related to e.g. dust which do not relate to humans ENV 4 for impacts of light, noise & vibration on ecology SOC 1 for anything related to human health considerations SOC 4 for changes to way community functions & services they can access |
| SOC 4 | Communities & Community Involvement | <ul style="list-style-type: none"> Changes in the way the community functions and the services they can access (all sectors – commercial, residential, educational, leisure, amenity) Quality of communications plan Effect of the project on local culture and vitality Inclusivity and engagement in decision making process Transparency & involvement of community, directly or through representative bodies Compliance with local policies/spatial planning objectives | SOC 3 for tangible changes to neighbourhoods & regions ECON 2 for compliance with national policies, legislation, regulatory standards, best practice |
| SOC 5 | Uncertainty & Evidence | <ul style="list-style-type: none"> Robustness of sustainability appraisal for each option considered Quality of investigations, assessments (incl. sustainability) and plans, and their ability to cope with variation. Accuracy of record taking and storage Requirements for validation/verification Degree to which robust site-specific risk-based remedial criteria are established (<i>justified</i> & realistic CSM versus <i>unnecessarily</i> conservative and/or precautionary assumptions/data) | None |

Appendix B: SuRF-UK Economic Indicator Set for Sustainable Remediation Assessment

| Category | | Issues that you may need to consider | Cross-reference to other Indicators |
|---------------|---|---|---|
| ECON 1 | Direct Economic Costs & Benefits | <ul style="list-style-type: none"> • Direct financial costs and benefits of remediation for organisation • Consequences of capital and operation costs, and sensitivity to alteration e.g.: <ul style="list-style-type: none"> ◦ Costs associated with the works (incl. operation and any ongoing monitoring, regulator costs, planning, permits licences) ◦ Uplift in site value to facilitate future development or divestment ◦ Liability discharge | None |
| ECON 2 | Indirect Economic Costs & Benefits | <ul style="list-style-type: none"> • Long term or indirect costs and benefits, e.g.: <ul style="list-style-type: none"> ◦ Financing debt ◦ Allocation of financial resources internally ◦ Changes in site/local land/property values ◦ Fines and punitive damages (e.g. following legal action, so includes solicitor and technical costs during defence) ◦ Financial consequences of impact on corporate reputation ◦ Consequences of an area's economic performance ◦ Tax implications | SOC 4 for compliance with local policies/spatial planning objectives |
| ECON 3 | Employment & Employment Capital | <ul style="list-style-type: none"> • Job creation • Employment levels (short and long term) • Skill levels before and after • Opportunities for education and training • Innovation and new skills | None |
| ECON 4 | Induced Economic Costs & Benefits | <ul style="list-style-type: none"> • Creating opportunities for inward investment • Use of funding schemes, ability to affect other projects in the area/by client (e.g. Cluster) to enhance economic value | None |
| ECON 5 | Project Lifespan & Flexibility | <ul style="list-style-type: none"> • Duration of the risk management (remediation) benefit, e.g. fixed in time for a containment system) • Factors affecting chances of success of the remediation works and issues that may affect works, incl. community, contractual, environmental, procurement and technological risks • Ability of project to respond to changing circumstances, including discovery of additional contamination, different soil materials, or timescales • Ability to respond to changing regulation or its implementation • Robustness of solution to climate change effects • Robustness of solution to altering economic circumstances • Requirements for ongoing institutional controls | None |

Appendix C: SuRF-UK Environmental Indicator Set for Sustainable Remediation Assessment

| Category | | Issues that you may need to consider | Cross-reference to other Indicators |
|----------|-----------------------------|---|---|
| ENV 1 | Air | <ul style="list-style-type: none"> Emissions that may affect climate change or air quality, or considerations that may allow overall reduction in impact on climate change, e.g.: <ul style="list-style-type: none"> Greenhouse gases (e.g. CO₂, CH₄, N₂O, O₃, VOCs, ozone depleting substances, etc.) NO_x, SO_x Particulates (especially PM5 and PM10) | SOC 1 for issues associated with human health SOC 3 for issues affecting humans (not related to health concerns) |
| ENV 2 | Soil & Ground Conditions | <ul style="list-style-type: none"> Changes in physical, chemical, biological soil condition that affects the ecosystem function, goods or services provided by soils (these may be improvements OR deteriorations). May include: <ul style="list-style-type: none"> Soil quality (chemistry) Water filtration and purification processes (incl. sediment generation or reduction) Soil structure and/or organic matter content or quality Erosion and soil stability (incl. drainage) Geotechnical properties (incl. compaction) Impact/benefits to sites of special geological interest e.g. SSSIs and geoparks | ENV 4 for Ecology within this ecosystem |
| ENV 3 | Groundwater & Surface Water | <ul style="list-style-type: none"> Changes in the release of contaminants (including nutrients), dissolved organic carbon and/or silt/particulates (these may be improvements OR deteriorations), affecting: <ul style="list-style-type: none"> Suitability of water for potable or other uses (based on long-term protection of available water resources) Legally binding environmental objectives e.g. Water Framework Directive Biological function (aquatic ecosystems) and chemical function Mobilisation of dissolved substances Marine, brackish/transitional, freshwater waters Effects/benefits of water abstraction resulting from the remediation process or its outcome, e.g. Changing river levels or water tables Issues associated with flooding (e.g. increase risk of, or protection from, flooding) | ENV 4 for Ecology within this ecosystem ENV 5 for any water abstraction use or disposal issues |
| ENV 4 | Ecology | <ul style="list-style-type: none"> Effects on ecology (excluding ecological impacts considered in ENV 2 and 3), including effects on the following (these may be benefits OR impacts): <ul style="list-style-type: none"> Flora, fauna and food chains (esp. protected species, biodiversity, SSSIs, alien species) Significant changes in ecological community structure or function Effects of disturbance (e.g., light, noise and vibration) on ecology Use of equipment that affects/protects fauna (e.g. bird/bat flight, or animal migration) | ENV 2 & ENV 3 for soil and aquatic ecosystems SOC 3 for impacts of light, noise & vibration on humans |
| ENV 5 | Natural Resources & Waste | <ul style="list-style-type: none"> Impacts/benefits for: <ul style="list-style-type: none"> Land and waste resources Use of primary resources and substitution of primary resources within the project or external to it (including raw and recycled aggregates) Use of energy/fuels taking into account their type/origin and the possibility of generating renewable energy by the project Handling of materials on-site, off-site and waste disposal resources Water abstraction, use and disposal | ENV 3 for issues associated with Groundwater and Surface Water not linked to abstraction use or disposal |