

# SURE

by

RAMBOLL

**An Innovative Digital Tool For Embedding Sustainability in Remedial Options Appraisal**

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# What is SURE by Ramboll?

- ✓ SURE by Ramboll is a cloud based, on-line tool for sustainable remediation assessment, communication and reporting
  - ✓ Designed for landowners, consultants, contractors and regulators working with contaminated land
  - ✓ Reduces the complexity of reviewing and communicating environmental, social and economic impacts in projects
  - ✓ Records the overall sustainable remedial decision-making process, and supports communication of key decision-making factors
  - ✓ Advances efficient, acceptable and sustainable solutions
  - ✓ Based on the SURF-UK assessment methodology and sustainable remediation indicators
- ✓ ISO 18504:2017, ASTM E2893-16 and SURF compliant
- ✓ Also compares relative contribution to UN SDGs
- ✓ Available on-line, for everyone, and free of charge

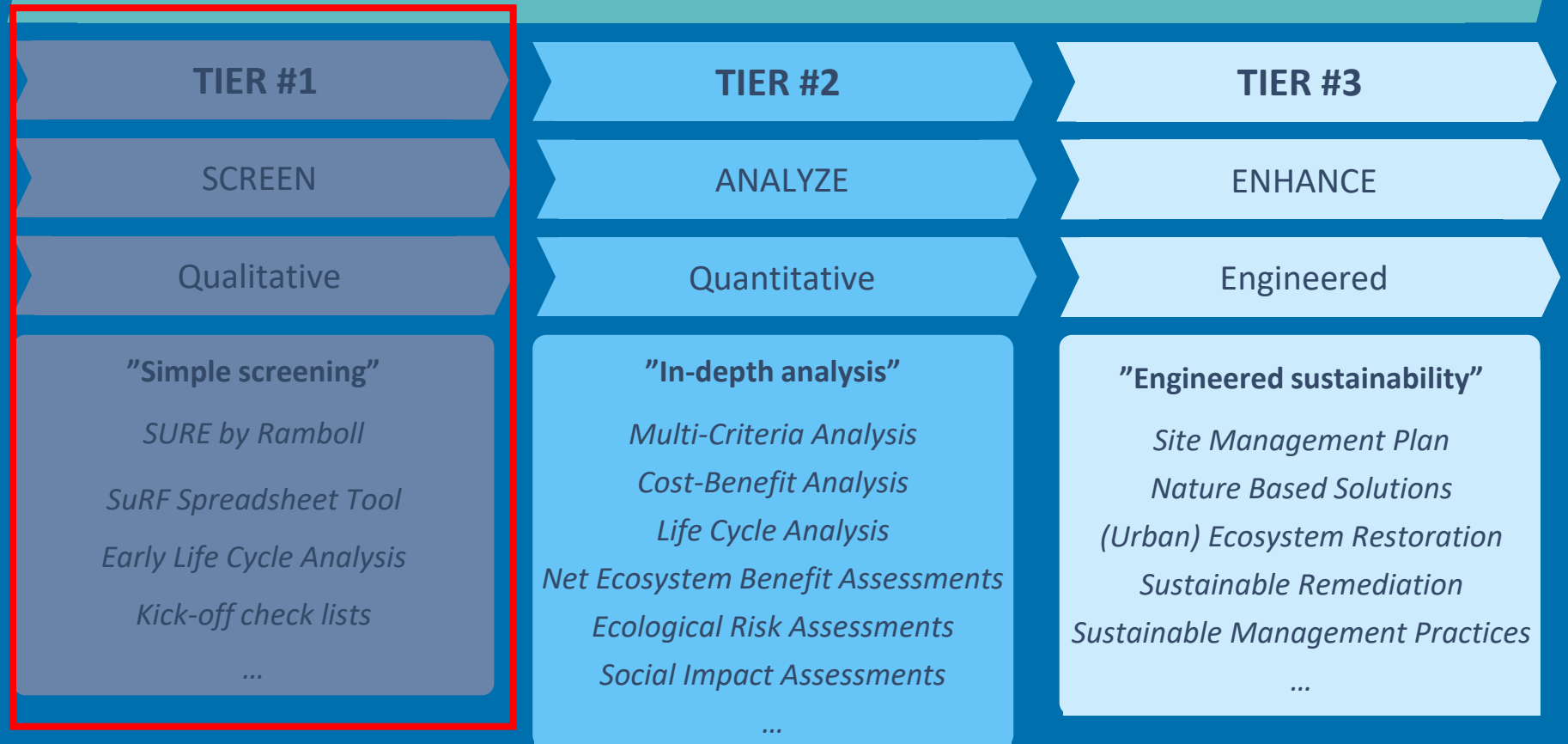
**SURE**  
by **RAMBOLL**



# Sustainable Remediation Planning



## Sustainable Remediation and Redevelopment



# How Does SURE Work?

## Assess



## Engage



## Report

### CREATE A SUSTAINABILITY ASSESSMENT

Create a project specific sustainability assessment by selecting relevant indicators from pre-populated alternatives. Evaluate the impacts to rank your options and generate your assessment.

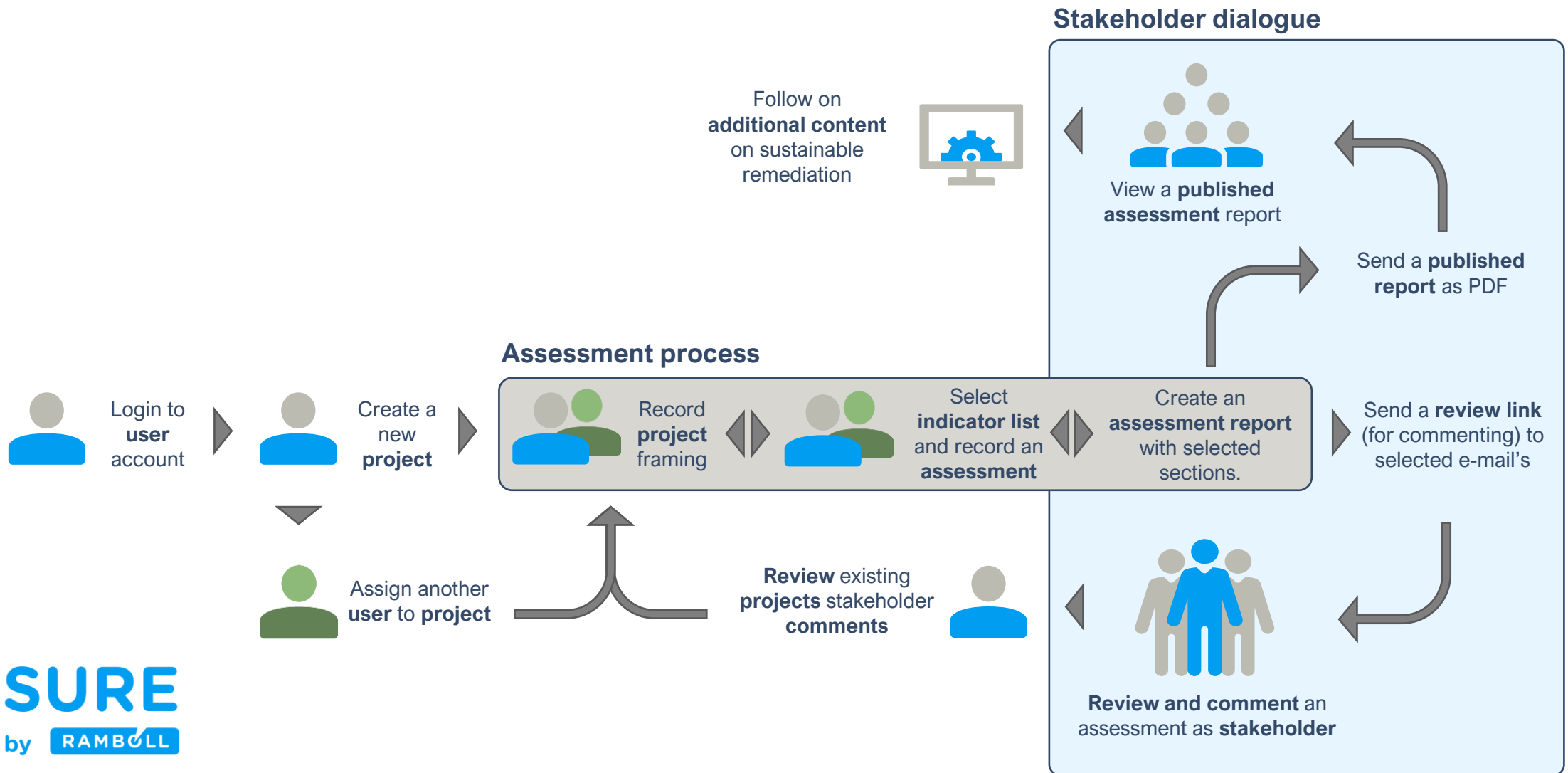
### REVIEW RESULTS WITH STAKEHOLDERS

After completing your assessment, share the results with relevant shareholders to request their review and comments. Include and address comments to create a more resilient assessment.

### CHOOSE THE SUSTAINABLE OPTION

Create a custom-made report of the assessment process and results. Highlight potential areas for improvement and identify contribution to fulfilling UN SDG's.

# How Does SURE Work?



# Demonstration Case Study: Background

- The Client wishes to develop a site formerly occupied by a vehicle showroom, for mixed residential and educational use, with a focus on sustainability – previous remedial work on adjacent site attracted unfavorable publicity.
- One area of contamination with heavily impacted soil in smear zone. Minimal LNAPL present but elevated TPH/BTEX in groundwater. Main receptor is a stream located a short distance from the site.
- Three Remedial Options were selected for the sustainability assessment:
  1. **Excavation and disposal ('Excavation')**: Excavation of the smear zone, pumping out of the contaminated groundwater, and backfilling with oxygen release compound for polishing.
    - *£350K – remedial targets easily achievable.*
  2. **In Situ Chemical Oxidation ('ISCO')**: 3 campaigns of sodium persulfate injection with biostimulation for polishing.
    - *£200K – remedial targets reasonably achievable, though localized fine-grained material may present issues.*
  3. **Monitored Natural Attenuation ('MNA')**: long term monitoring from network of wells.
    - *£100K – achievability of targets less certain.*

# Demonstration Case Study: Stakeholders Priorities

- Client:
  - Cost important, but also keen to see the issue fully dealt with, verified and out of the way. Corporate image important on sustainability (especially greenhouse gases). Have previously experienced issues with residents, and want to do things right, preferably quickly.
- Local Residents (neighbours):
  - Previously aware of remediation of adjacent site with noise and odour issues being a concern. Despite risk assessment indicating no significant human health risk (i.e., water-based issue), they are not entirely convinced. They want to see the problem sorted and documentation signing off the site as clean.
- Regulator:
  - Less interested in choice of specific option, but want a commitment to achieving remedial objectives, backed up by appropriate verification protocol and underpinned by robust data.

# SURE ASSESSMENT TOOL



Welcome Back!

Enter User Id...

Password

Remember Me | [Forgot Password?](#)

Login

[Don't have an account? Sign Up](#)  
[Read our Disclaimers, Terms of Use and Privacy Policy](#)

## SURE BY RAMBOLL

### Home Page

#### Quick Start Guide

**SURE BY RAMBOLL IS A PLATFORM FOR ASSESSING, COMMUNICATING, AND REPORTING YOUR STRATEGY FOR ACHIEVING SUSTAINABLE REMEDIATION.**

**SURE**  
by Ramboll

The following Quick Start Guide will walk you through SURE by Ramboll.

#### 1. CREATE A SUSTAINABILITY ASSESSMENT

- Select Create Project (Step 1) from the menu to start a new sustainability assessment process
- Enter the required information in the Project Framing (Step 2) and Assessment (Step 3) steps
- View the results of the assessment (Step 4)



#### 2. REVIEW RESULTS WITH OTHER USERS






- After completing the assessment, select Send for Review (Step 5) to assign other users as Stakeholder Reviewers
- Stakeholder Reviewers can access projects assigned to them by selecting Review Projects from menu

Menu ...




# Create the Project


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 StandardUser    

MOLD


 Home

ASSESSMENT

 Manage Projects

 Create project

ASSESSMENT

 Review Projects

- 1 Create project
- 2 Project Framing
- 3 Assessment
- 4 View Result
- 5 Send for Review
- 6 Revise Check
- 7 Final Approval
- 8 Publish report

### Project Details

**Project Title \***

**Reference Number**

**Site Address \***

Select Country

**Project Owner Company**

**Project Owner Address \***

Select Country



**Project Owner Representative**

**Lead Assessor**

Email	User Name
<input type="text"/>	<input type="text"/>

**Other Assessors**

Email	User Name
<input type="text"/>	<input type="text"/>

# Frame the Project

## Project Framing

Briefly describe the project and present stage of the site assessment \*

Development of former tank farm for retail. Phase II delineation & DQRA completed.

Briefly describe the project's remediation objectives, risk management goals, and other important goals

Mitigate impact of dissolved phase hydrocarbons in smear zone in soil and in nearby stream.

Briefly describe the decisions and actions that the sustainability assessment is intended to support \*

Determine most sustainable option to enable planning permission for development.

Briefly describe any constraints or opportunities, that might limit achieving remediation goals or create additional benefits

Local residents very sensitive to noise and nuisance.

List and briefly describe the options to be compared in the assessment \*

Excavation

Excavate smear zone, dewater and backfill with

ISCO

In-situ chemical oxidation with biostimulation

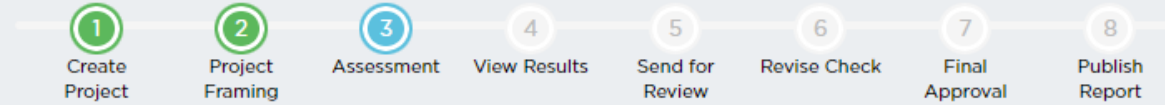
MNA

Monitored natural attenuation

# Select and Score your Indicators



JMP1



Select Template Clear Assessment

Weight Excavation ISCO MNA

Environment 5     + v

Society 5

Economy 5

- Over 70 indicators are available for assessing the selected remedial options, grouped into 5 categories within each of the sustainability topics of Environment, Society and Economy.
- Indicators of relevance for the project are selected and weighted according to their relative importance on a scale of 1 to 5. (1 = less important; 5 = more important)
- Remedial options are then scored against each indicator, according to their relative performance for this particular indicator, on a scale of 1 to 5. (1 = worse; 5 = better)
- For each indicator, SURE provides a description of the issues covered and some guidance on how to compare the remedial options.

# Select the Indicators You Want to Use

## Environment

### 1 Emissions to air

Greenhouse gases

Acid rain

Ground Air Quality

Ozone depleting substances

### 2 Soil and Ground Conditions

Soil functionality

Water properties

Soil erosion

Soil structure

Subsurface structures

Geotechnical properties

Sites of special geological interest

### 3 Groundwater and Surface Water

Water uses

Legally binding objectives

Biological and chemical function

Mobilisation of substances

Coastal waters

Water abstraction

Water movement

Water management synergies

Coastal management

### 4 Ecology

Flora, fauna and food chains

Ecosystem changes

Disturbance

Equipment effects

### 5 Natural Resources and Waste

Impacts/benefits for land re-use

Energy & fuels use/generation

Primary resources & waste

Water use and disposal

# Select the Indicators You Want to Use

## Society

### 1 Emissions to air

Greenhouse gases

Acid rain

Ground Air Quality

Ozone depleting substances

### 2 Soil and Ground Conditions

Soil functionality

Water properties

Soil erosion

Soil structure

Subsurface structures

Geotechnical properties

Sites of special geological interest

### 3 Groundwater and Surface Water

Water uses

Legally binding objectives

Biological and chemical function

Mobilisation of substances

Coastal waters

Water abstraction

Water movement

Water management synergies

Coastal management

### 4 Ecology

Flora, fauna and food chains

Ecosystem changes

Disturbance

Equipment effects

### 5 Natural Resources and Waste

Impacts/benefits for land re-use

Energy & fuels use/generation

Primary resources & waste

Water use and disposal

# Select the Indicators You Want to Use

## Economy

### 1 Emissions to air

Greenhouse gases

Acid rain

Ground Air Quality

Ozone depleting substances

### 2 Soil and Ground Conditions

Soil functionality

Water properties

Soil erosion

Soil structure

Subsurface structures

Geotechnical properties

Sites of special geological interest

### 3 Groundwater and Surface Water

Water uses

Legally binding objectives

Biological and chemical function

Mobilisation of substances

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### 4 Ecology

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### 5 Natural Resources and Waste

Impacts/benefits for land re-use

Energy & fuels use/generation

Primary resources & waste

Water use and disposal

# Score Indicators for Each Remedial Option: example for greenhouse gases

	Weight	Excavation	ISCO	MNA
<b>Environment</b> <span>3</span>	3.7	2.3	2.7	3.7
<b>Emissions to air</b> <span>1</span>	5.0	1.0	2.0	5.0
<div style="border: 1px solid red; padding: 2px;">1. Greenhouse gases</div> ...	5	1	2	5
<b>Groundwater and Surface Water</b> <span>1</span>	5.0	5.0	3.0	1.0
1. Legally binding objectives	5	5	3	1
<b>Natural Resources and Waste</b> <span>1</span>	1.0	1.0	3.0	5.0
1. Primary resources & waste	1	1	3	5

## Indicator Description And Guidance

Indicator : Greenhouse gases

Description : Consider emissions of greenhouse gases (e.g., carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O) and certain synthetic chemicals) associated with each remedial option.



How to Compare : Compare remedial options in terms of relative energy intensity and/or likely carbon footprint, potential for carbon sequestration and/or production of renewable energy, potential avoidance of current and/or future GHG emissions. Depending on the boundary conditions designated in the project framing, consider also GHG emissions associated with the manufacture and use of materials for each remedial option. Generally, remedial options which result in higher levels of emissions should receive a lower score.

### Links to SDG's




# Completed Assessment is sent to Stakeholders for Review

Assessment Information

	Weight	Excavation	ISCO	MNA	
Environment <sup>3</sup>	3.7	2.3	2.7	3.7	⤴
Emissions to air <sup>1</sup>	5	1	2	5	⤴
1. Greenhouse gases...	5 	1	2	5 	
Groundwater and Surface Water <sup>1</sup>	5	5	3	1	⤵
Natural Resources and Waste <sup>1</sup>	1	1	3	5	⤵
Society <sup>3</sup>	3.7	2.3	2.7	3.7	⤵
Economy <sup>3</sup>	3.7	3	4.3	1.7	⤵

Comment (Assessment Information)



For greenhouse gas emissions, should ISCO perhaps have a higher score relative to excavation?

Please provide justification for weighting risks to human health as 3 not 5.

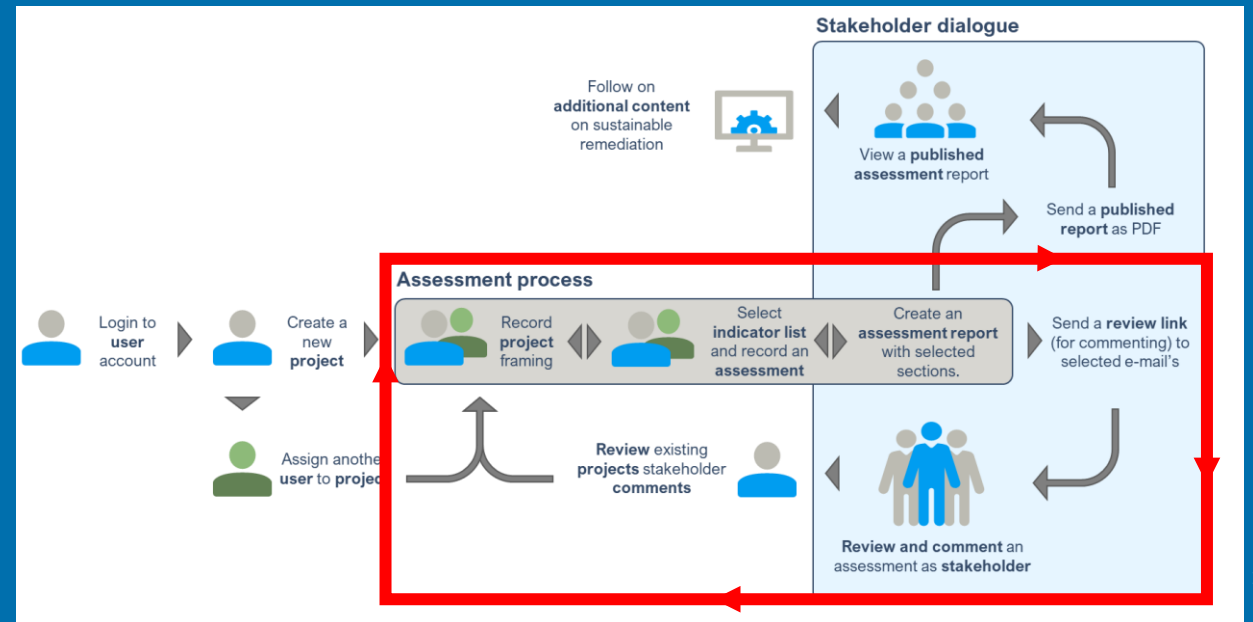
Please justify your score of 5 for Direct Economic Costs & Benefits for ISCO.

- The completed assessment is sent electronically to Stakeholders for review.
- The Stakeholders comments are saved and recorded in the assessment.
- Stakeholders can only add comments- no change to weighting, scoring, or the assessment is allowed.

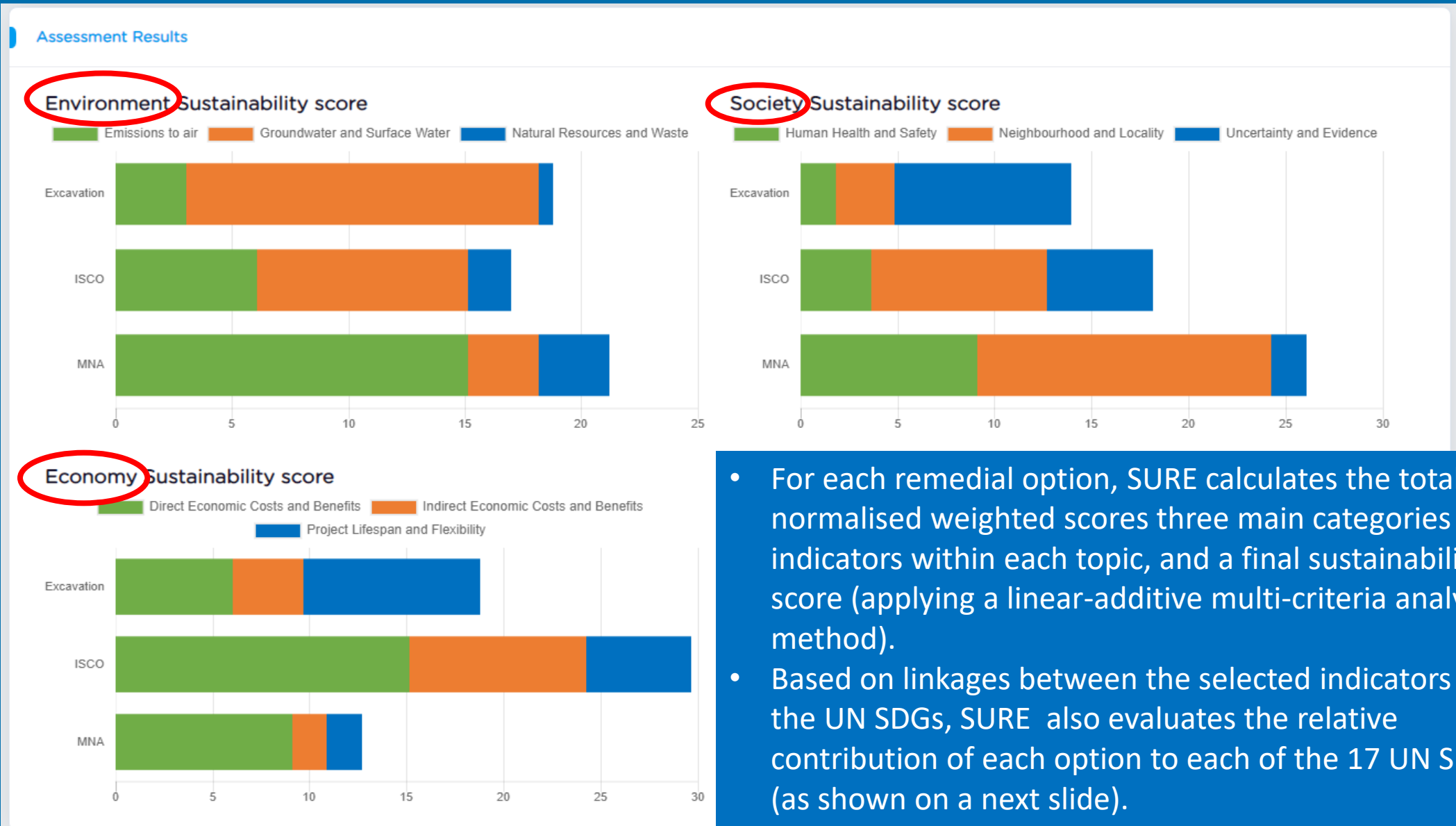


# Review Process

- If no changes are required: the Reviewer **approves** the assessment and a message is sent to the Assessor.
- If changes required: the Reviewer **rejects** the assessment, and a message is sent to the Assessor. The Assessor can then review the comments, discuss with the Reviewer, and amend the assessment if required (weight, score, criteria etc).
- Each step is recorded and documented, providing a full audit trail and transparency to the assessment.
- This process can be repeated until the assessment is approved.
- Once the assessment is approved, the report can be published.



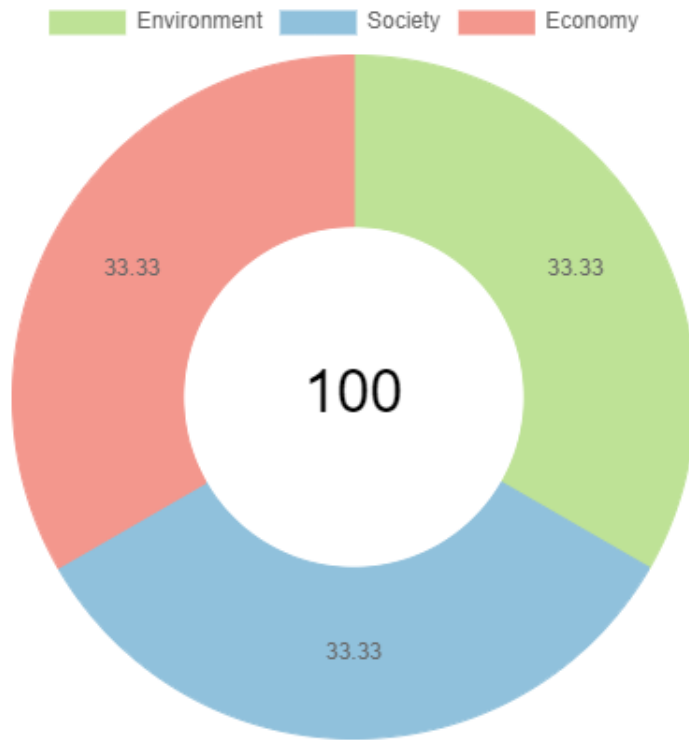
# Extracts from Assessment Report: Scores by Indicator Categories



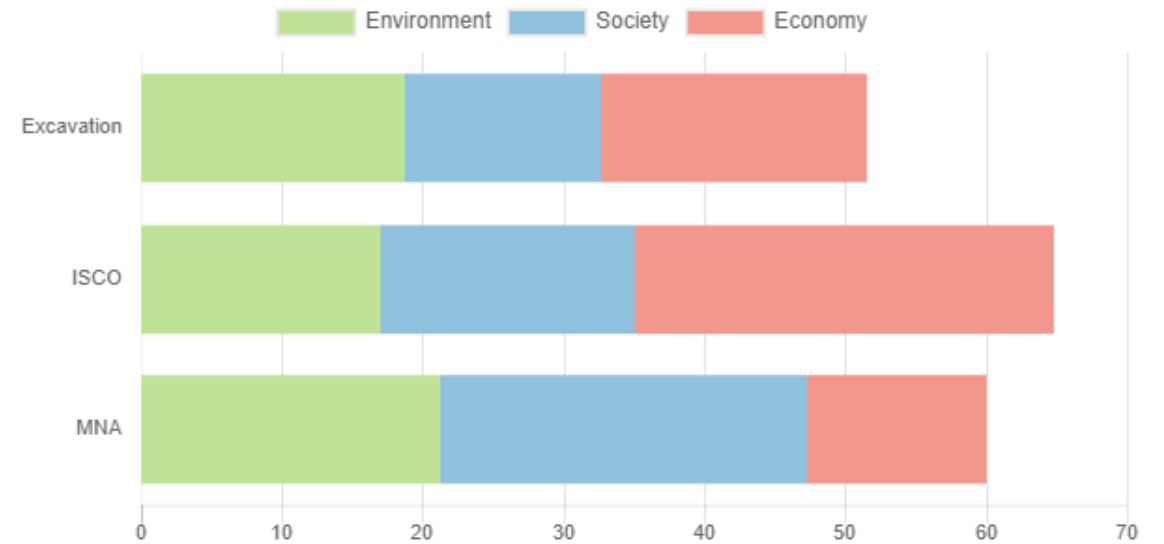
# Extracts from Assessment Report: Overall Results

## Distribution of Weights

### Distribution of Weights



### Total Assessment Sustainability Score



# Extracts from Assessment Report: Alternative visualisation of Scores

## RESULTS FOR OPTION : Excavation

### Total Sustainability Score



### Distribution of Scores



### Impact on UN SDGs



### Description of option

Excavate smear zone, dewater and dispose of contaminated soil & groundwater include oxygen release compound

## RESULTS FOR OPTION : ISCO

### Total Sustainability Score



### Distribution of Scores



### Impact on UN SDGs

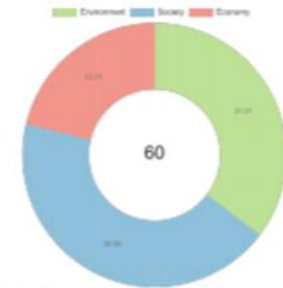


### Description of option

In Situ Chemical Oxidation: Inject sodium persulphate into groundwater, allow with enhanced bioremediation as final 'polishing' phase

## RESULTS FOR OPTION : MNA

### Total Sustainability Score



### Distribution of Scores



### Impact on UN SDGs



### Description of option

Monitored natural attenuation: Establish monitoring well network and monitor years to demonstrate no impact on stream

# Summary of the SURE Tool Benefits



## Supports global standards

ISO 18504:2017 and ASTM E2893-16 compliant, incorporating SuRF-UK indicator set & guidance (SR2).



## Customizable

Allows users to modify assessment criteria to better suit their assessment



## Provides education

Learn how to implement sustainable development principles at your project



## Compliance support

Records the overall remedial decision-making process.



## Increases communication

Supports collaboration and stakeholder communication throughout the process.



## Free for basic use

Sustainability belongs to all. You are free to use the tool for any types of projects.

