

Sustainability for National Road Administrations - SUNRA

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Overview of SUNRA



- SUNRA has worked to develop a common understanding and means of measuring, benchmarking and improving sustainability performance of NRAs in Europe
- Delivered by a partnership between TRL, VTI, CH2M HILL, TNO and DTU
- Three primary objectives:
 - To provide a common way of defining sustainability within the context of European NRAs
 - To identify how to measure sustainable development at a strategic level and integrate sustainable decision making into key intervention points
 - To develop a sustainability rating system framework that will enable NRAs to improve performance within the context of building and managing roads

Three interconnected frameworks



Framework 1: helps NRAs define sustainability considerations at a strategic level, considering the level of influence they have; defining a commitment; and an implementation approach

Framework 2: is used to identify strategic sustainability metrics and performance levels applicable to organisational, programme and project level

Framework 3: provides a project level tool for scoping sustainability topics, selecting indicators, setting appropriate targets and recording results

Defining sustainability



- Numerous definitions of sustainability, sustainable development and sustainable transport have been proposed in policy and academic literature
- However there is ongoing debate on how valid any of the existing definitions actually are and how helpful it is to try to define 'sustainable transport' in the first place
- NRAs are not identical across countries in terms of their responsibilities, organisational structures or available delivery methods, not to mention their goals and objectives
- Hence NRAs need guidance on how to define sustainability that is helpful in their national context

NRA approaches to sustainability



- Methodology: Survey of 22 European NRAs, via a questionnaire
- Purpose: To assess current practice in sustainability
- Result: 17 NRAs responded, with a reasonable representation of European countries in terms of geography, size and road network maturity
- Key findings: almost all have specific ambitions with respect to sustainability though differ greatly in the extent to which sustainability is implemented and how this is done

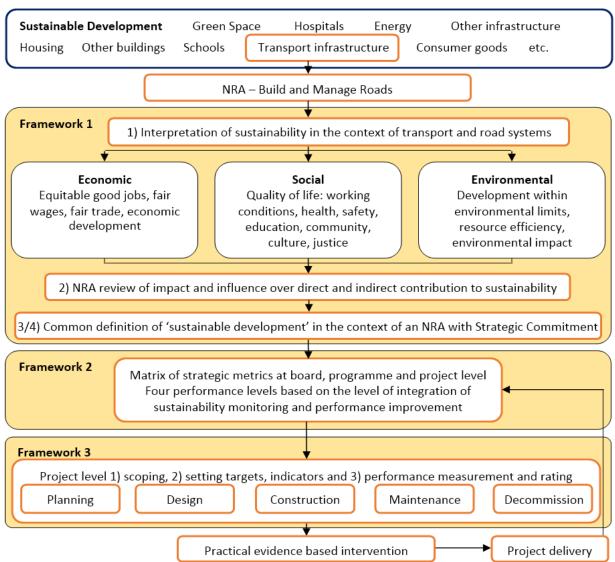
NRA approaches to sustainability



- Methodology: Literature review and stakeholder workshop
- Purpose: To identify sustainability metrics
- Result: 270 metrics currently being measured by NRAs, 52 by more than one NRA, combination of quantitative and qualitative measures
- Outcome: 14 key sustainability topic areas identified, and set of priority metrics defined

A systemised framework





Framework 1: Defining sustainability



- Provides a practical four-step approach to help NRAs create and apply an appropriate definition of sustainability which can then frame its subsequent activities
- Not appropriate to have a single definition of sustainability that all NRAs are expected to adopt
- It suggests key elements to consider and proposes specific outputs to be delivered from each step

Framework 1: Defining sustainability



Step 1: Interpretation of sustainability in the context of transport and road systems

Step 2: Review of impact, influence and responsibility

Step 3: Crafting a strategic commitment

Step 4: Implementing the commitment

Framework 2: Sustainability metrics



- Matrix of sustainability performance levels for managing and monitoring requirements at project, programme and board level
- Supported by example metrics at each performance and management level for 24 sustainability topics
- Contains four levels of sustainable development, with one being the lowest and four being the highest

Framework 2: Sustainability metrics



Level 1

Commitment by the board to sustainability.

Measuring and monitoring performance based on the NRAs current priority topics.

Level 2

Developing a

sustainability strategy and relevant policies.
Undertaking wider ranging measuring and monitoring covering additional sustainability topics and are starting to see improvements in performance, in relation to the NRAs priority topics.

Level 3

Has a sustainability

strategy and policies in place.
Undertaking wider ranging measurement and monitoring, including topics that demonstrate the NRAs wider contribution to sustainable transport.

Seeing improvements in performance, in

improvements in performance, in relation to the NRAs priority topics and other topics introduced at level 2.

Level 4

Has a well embedded sustainability strategy and policies.

Undertaking comprehensive measurement and monitoring of wide range of topics, to include those that demonstrate the NRAs wider contribution to sustainable development.

Improving performance year on year for a wide range of topics, including those introduced at both level 3 and 4.

Framework 2: Sustainability metrics



- Accessibility
- Air quality
- Climate change adaptation
- CO2 emissions
- Cultural heritage
- Economic viability
- Ecosystems
- Equity/equal mobility
- Global partnership
- Good governance

- Innovation
- Job creation and training
- Modal split
- Noise
- Prosperity
- Public health
- Renewable energy
- Resource consumption and waste
- Road condition

- Safety
- Security
- System efficiency
- User satisfaction
- Water quality

Framework 3: the SUNRA Project Framework



- Enables an NRA to define and record sustainability performance of a road project, drawing on existing processes and records rather than adding additional administrative burden
- Provides a single record of sustainability performance
- Provides a comprehensive range of sustainability issues, potential indicators and target considerations with the flexibility to include or exclude from the framework
- Allows tailored and scalable sustainability assessment appropriate to NRA and project specific needs
- NRAs can use the Framework to set the performance standard they wish projects to be targeted and measured by

What is the SUNRA Project Framework?



 The SUNRA Project Framework is a Microsoft Excel based tool that provides a flexible framework for NRAs to assess the sustainability performance of their projects

 It contains 26 sustainability topics which aid the NRA in scoping relevant sustainability aspects to assess their projects against

 It allows NRAs to set targets and indicators against the scoped sustainability aspects

• It provides a common framework for recording performance

The SUNRA project framework scope



Scop	Scope of the SUNRA framework						
\checkmark	Common flexible framework – allows users to set scope						
√	Suggested considerations for setting targets and possible indicators						
\checkmark	Scalable to NRA or project requirements						
√	Project focused tool covering whole life impacts considering how they are managed during design, construction and maintenance						
×	Scoring system (many others exist)						
×	Pre-defined mandatory indicators and targets						
×	Verification standard or award						

Not another rating system...



- Many tools provide scoring based assessment frameworks with fixed questions and targets
- Existing rating systems:
 - Australia IS Rating System
 - BE2ST-in-Highways
 - BREEAM Infrastructure
 - CEEQUAL
 - Envision
 - FHWA INVEST
 - Green Guide for Roads
 - GreenLITES

- GreenPave
- GreenRoads
- I-LAST
- Ireland NRA System
- SHMT
- STARS
- VicRoads INVEST

 SUNRA Project Framework: a flexible framework to help identify relevant sustainability topics and appropriate targets/ indicators

Who is the tool intended for?



 The SUNRA Project Framework is intended to be used by the client organisation and their delivery partners – designers and contractors

 Scoping is undertaken by the NRA based on its priorities and policies (identified using Framework 1)

 For each of the sustainability topic aspects scoped into the Framework, targets and indicators need to be identified

 To help ensure that targets are met, a responsible 'actor' must be assigned for each target/ indicator

When is the tool intended to be used?



 The scoping process should be completed early in the project planning phase to allow all relevant issues to be properly considered

 The framework considers indicators relevant throughout the asset lifecycle from on-site construction and maintenance activities (including end-of-life for materials) to operating and using the road

The SUNRA framework process



Scoping

 Users follow a series of scoping questions to consider whether the key aspects of each of the 26 sustainability topics included in the framework should be assessed

Setting targets

- Users define performance targets for each key issue
- To help ensure that targets are met, a responsible 'actor' is assigned for each target/ indicator

Identifying indicators

- For each aspect scoped into the framework, a suitable indicator is suggested
- Users are free to use suggested indicators or other relevant NRA/project specific indicator

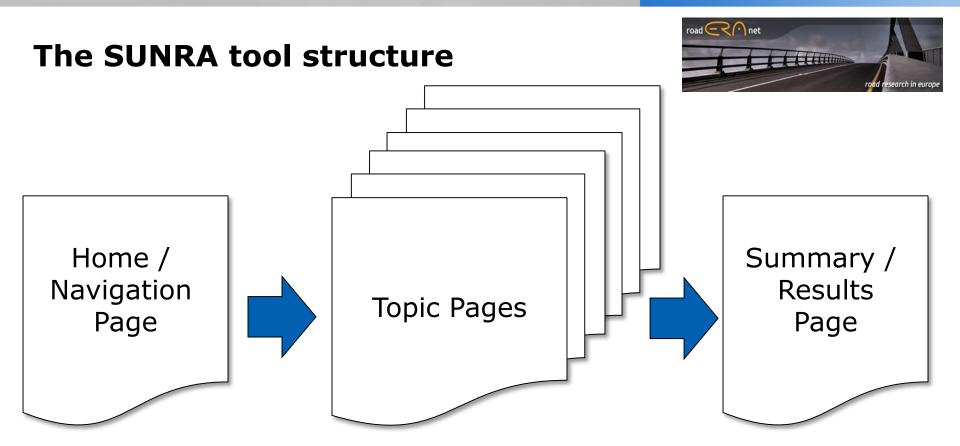
Recording performance

• Performance is recorded against each target

The SUNRA tool



- The following section provides a 'walk through' guide to the SUNRA tool
 - Overview of tool structure
 - Home page
 - Sustainability topic pages
 - Topic description
 - Scoping questions
 - Setting targets and choosing indicators
 - Recording performance
 - Tool summary page



- Home page used to navigate through topic pages and track progress on completing inputs
- Inbuilt User Guide accessed from Home Page.
- Topic pages used to answer scoping questions, record indicators, targets and performance
- Summary page provides overview of input completion, % of scoping, and performance summary as % achieved

SUNRA Project Framework

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HOME Summary User Guide

To

About

The <u>Sustainability</u> - <u>National Road Administrations</u> (SUNRA) Project Framework provides a project level tool for scoping project level sustainability topics, setting appropriate targets, selecting indicators and recording results. The purpose of SUNRA is to drive change and an improvement in sustainability performance of national road development and management across Europe.

The tool can be used to set sustainability objectives, targets and indicators and assign responsibility to the client, designer or contractor organisations throughout the project lifecycle; during pre-design, design, construction.

The tool should be used to consider sustainability impacts that occur over the whole life of an asset, including: construction, operation, maintenance and decommissioning/replacement.

Project details and user details							
Project name:							
Tool version:		User reference, e.g. if multiple versions of the Framework are completed					
Project start date:							
Date of last update:							

Tool users:

Name	Initials	Organisation name	Organisation type

Sustainability topics

The Framework contains 26 sustainability topics. 20 of these are impact based and can be accessed from the matrix of blue boxes below. For each of these topics scoping questions should be answered, targets set for aspects scoped into the Framework with appropriate indicators and performance recorded.

Six of the 26 topics differ from the others in not being attributable to specific sustainability topics but instead to planning procedures or organisational issues. These six topic are grouped together in the Framework under the heading 'Procedural topics' and can be accessed from the bottom right of the matrix below. Only the scoping stage is completed for these topics.

Accessibility (to workplaces and other local services)	<u>Air quality</u>	Climate change adaptation	Climate change mitigation	<u>Cultural heritage</u>	Economy (local/ regional)	Energy efficiency
Equality (generation, gender and other social)	Landscape and ecosystem health	<u>Light pollution</u>	<u>Livability of residential areas</u>	Noise and vibration	Resource efficiency	<u>Safety</u> and security
Soil quality	Stakeholder involvement	Sustainability awareness of staff	Sustainable transport modes (facilitating use of)	<u>Waste</u>	Water resources and quality	<u>Procedural topics</u>

Outputs

Page ■

The Framework will provide summary tables for all aspects scoped in where targets and indicators have been set. Click on the links below to access the summary tables for each 'responsible actor'.

Use the update buttons on each page to refresh the tables (tables are not automatically updated).

Client	Designer	Contractor
Cilent	Designer	Contractor



SUNRA Project Framework



USER GUIDE Home Summary

The SUNRA Project Framework is a three stage process for NRAs (or other clients), their designers and contractors to follow to consider sustainability, measure and record performance on road projects.

This basic user guide provides information on how to use this framework. This is supported by screenshots to the right of the page (click to expand - note to close click away from the screenshot then click back on the image). Please refer to the Implementation Guide for advice to NRAs on how to implement the SUNRA Framework within their organisations.

Step 1: Scoping

It is intended that the scoping stage is undertaken by the NRA based on its priorities and policies. This could be done once and applied to all projects and be subject to periodic review.

The Project Framework includes 26 topics, jointly intended to represent a variety of aspects of sustainability, for which a number of key aspects have been described. Scoping is based on sustainability considerations that cover all lifecycle stages, including construction and maintenance, as well as operating the road. For all topics, three standard scoping questions are included covering EU and national policy or legislation, NRA policy, and site-specific issues. Each topic aspect is equipped with a scoping question which will guide the user whether to include the aspect in the assessment or not. Within a specific topic, different aspects may thus be either scoped in or out.

The scoping step enables NRAs to set the overall scope of sustainability topics to be considered to the specific needs of their project, organisation or national context in a systemised way through considering a standard and comprehensive set of scoping questions. To the right of the table is a comments section to allow justification to be given where certain topic aspects are scoped out from consideration.

The Framework has two types of topics - 20 impact based topics and 6 procedural topics. Impact topics are illustrated with the screenshots to the right of the page. Procedural topics are only completed as far as the scoping stage. The scoping questions for these topics are designed to establish whether the 'procedure' in question is relevant and applied to the project, e.g. an EIA. Procedural topics are all contained on a single page accessed from the bottom right of the homepage matrix of topics.

Fig 1. Use the light blue matrix of hyperlinks on the homepage to access each topic page. Topic pages can be accessed from the homepage or summary page.

Fig 2. Use the Yes/No dropdown boxes to answer each scoping section (it is recommended the NRA does this).

Step 2: Setting targets and identifying indicators

For each of the sustainability topic aspect scoped into the Framework, targets should be set and indicators identified. Whilst the Project Framework suggests considerations for setting targets and relevant indicators, it is up to the user to decide on these. The Project Framework is designed to encourage users to set targets and appropriate methods to record performance against those targets, including the means of collecting performance data.

For each target and indicator row a responsible 'actor' should be assigned (either the Client, Designer or Contractor, or a combination

Click on thumbnails to expand...



Figure 1: Homepage

Mo.	Scoping question	Scoping	Considerations for setting targets, taggested indicators	C)
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Figure 2: Topic page scoping questions

AC	ACCESSIBILITY (TO WORKPLACES AND OTHER LOCAL SERVICES) Home Summary User Golde										
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each to	arget as responsible	'aeter' should be iden	stiffed, indicating	g the organisation responsit	ple for incorporating the tar	get into the project.		- 1			
	Add indicators	Amenin		Select which aspect to add an	indicator to. Add			ı			
	Remove Indicator:		Select the indicat	for number to remove. Rem	nove			Į			
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Tool example topic page





ENERGY EFFICIENCY

Home Summary User Guide

Energy Efficiency is a goal to reduce the amount of energy required to provide a product or service. Energy Efficiency describes energy options at the top of the energy hierarchy to either eliminate the need for energy or

Energy reduction – where possible eliminating the need for energy consumption

. Energy efficiency - delivering the various services of the road network with a reduced energy intensity. o For renewable or low-carbon energy and energy/fuel efficiency of road users see the Climate Change Mitigation topic.

Design: The designer should consider the energy use in lighting and communications equipment to be used on the network fincluding challenging the need for lighting and other equipment) and also consider the energy intensity of required maintenance (both for hard engineering and the soft estate).

Construction and maintenance: During construction, the contractor should consider the energy efficiency of plant, vehicles and processes (for all site activities) and take measures to improve efficiency and reduce overall energy consumption through decisions taken over the equipment and vehicles used as well as training operatives in best practices operating techniques to reduce energy consumption Operation and maintenance: During maintenance activities, the contractor should consider the energy efficiency of plant, vehicles and processes [for all site activities] and take measures to improve efficiency and reduce overall energy consumption through decisions taken over the equipment and vehicles used as well as training operatives in best practices operating techniques to reduce energy consumption. Decommissioning: Not relevant.

Energy efficiency is in itself a best practice approach to reducing energy demand and where carbon intensive sources of energy are consumed mitigating climate change through eliminating energy demand for

SCOPING KEY TOPIC ASPECTS

The NRA should complete the scoping section below to determine the key aspects for consideration within the SUNRA Project Framework. Based on the scoping response, topic aspects are scoped in or out for performance measurement on the project. Where aspects are scoped in, the framework provides suggestions for targets and indicators. Alternatively, users can set targets and indicators of their own.

No.	Scoping question	Scoping response	Considerations for setting targets. Suggested indicators	Comments
7.1	EU/ NATIONAL POLICY & LEGISLATION: Does European or national policy or legislation set objectives, minimum standards or targets for energy efficiency on road projects?	Yes	Pre-design: Not relevant. Design, construction, operation and maintenance: Use specific legislative or policy targets to set relevant targets and indicators for the project. Decommissioning: Not relevant.	
7.2	NRA POLICY: Does client (NRA) policy set specific objectives, standards or targets for energy efficiency on road projects?	Yes	Pre-design: Not relevant. Design, contraction, operation and maintenance: Use NRA specific objectives to set relevant targets and indicators for the project. Procommissioning: Not relevant.	
7.3	SITE SPECIFIC ISSUES: Are there site specific, issues - opportunities or constraints - relevant to energy efficiency which the project should consider?	No		
7.4	EMERGY REDUCTION: Does the project include equipment/ lighting requiring energy in the design?	Yes	Pre-Design: Not relevant. Design: Target preformance considerations: Designing-out energy demand through the removal of equipment or lighting/ change in the operating regime. Indicators: Armaul With energy demand for the project in operation, NWh reduction in demand. Construction: Target/ performance considerations: Measures to reduce onsite energy consumption and improve efficiency of equipment, vehicles and construction techniques. Salf Training in improve performance. Indicators: Energy efficiency of construction equipment, vehicles and techniques. Number of staff trained in the energy efficient operation of equipment, vehicles and techniques. Number of staff trained in the energy consumption and improve efficiency of equipment, vehicles and maintenance considerations: Measures to reduce onside energy consumption and improve efficiency of equipment, vehicles and maintenance techniques. Salf training to improve performance, indicators: Energy efficiency of equipment, vehicles and techniques. Number of staff trained in the energy efficient operation of equipment.	
7.5	OPERATIONAL ENERGY EFFICIENCY: Does the project include equipment/ lighting requiring energy in the design? Or do site activities require energy consumption?	Yes	Pre-Design: Not relevant. Design, operation: Trapelly enformance considerations: Measures to reduce improve the efficiency of equipment installed or imaintained as part of the project. Indicators: Reducing in energy demand compared to the baseline (WMh). Construction: Target/ performance considerations: Measures to reduce on-site energy consumption and improve efficiency of equipment, wholes and constructions techniques. Saft trained in ginerous performance. Indicators: Energy efficiency of the plant, vehicles and techniques. Number of staft trained in the energy efficient operation of equipment.	

SUSTAINABILITY TARGETS AND INDICATORS

The NRA (or other client), working with the project team, should set targets and indicators for each topic aspect that has been scoped into the SUNRA Project Framework. For each aspect (and subsequent target) as responsible 'actor' should be identified, indicating the organisation responsible for incorporating the target into the project. The project stage at which the impact can be expected to occur should also be identified. This may not be the same as the stage at which the impact has to be considered and managed (avoided, mitigated, compensated for, or addressed in another way) by the identified responsible 'actor'. Multiple targets can be set per topic aspect to account for multiple elements of an aspect. Assign seperate targets to different 'actors', assign different targets for different project stages or assign different targets for different asset lifecycle stages.



No.	Aspect	Responsible 'actor' (Client, <u>D</u> esigner or <u>Co</u> ntractor)	Project stage (when impact occurs)	Target	Indicator	Outcome record (include date; initials; outcome)	Performance	Comments
1	EU/ national policy & legislation	Client (CI)	Operation					
2	NRA policy	CI-D	Maintenance					
3	Site specific issues							
4	Energy reduction	CI-D-Co	Construction	Measures implemented to improve site plant energy	Overall fuel consumption	Training implemented, some improvements implemented.	Target at least 50% achieved	
5	Operational energy efficiency	Designer (D)	Operation		kWh energy consumption over design life	50% achieved	Target achieved	

ENERGY EFFICIENCY

Home

User Guide

Comments

Summarv

TOPIC DESCRIPTION

Energy Efficiency is a goal to reduce the amount of energy required to provide a product or service. Energy Efficiency describes energy options at the top of the energy hierarchy to either

eliminate the need for energy or reduce the energy intensity per unit of product or service.

Topic aspects:

Best practice:

7.1

7.3

consider?

design?

. Energy efficiency - delivering the various services of the road network with a reduced energy intensity. o For renewable or low-carbon energy and energy/fuel efficiency of road users see the Climate Change Mitigation topic.

practices operating techniques to reduce energy consumption.

. Energy reduction - where possible eliminating the need for energy consumption.

Relevance at different asset lifecycle stages:

Pre-Design: Not relevant.

Design: The designer should consider the energy use in lighting and communications equipment to be used on the network (including challenging the need for lighting and other

equipment) and also consider the energy intensity of required maintenance (both for hard engineering and the soft estate). Construction and maintenance: During construction, the contractor should consider the energy efficiency of plant, vehicles and processes (for all site activities) and take measures to improve efficiency and reduce overall energy consumption through decisions taken over the equipment and vehicles used as well as training operatives in best practices operating techniques to reduce energy consumption. Operation and maintenance: During maintenance activities, the contractor should consider the energy efficiency of plant, vehicles and processes (for all site activities) and take

Yes

Yes

No

Yes

eliminating energy demand for reducing the intensity of energy use. SCOPING KEY TOPIC ASPECTS

Decommissioning: Not relevant.

The NRA should complete the scoping section below to determine the key aspects for consideration within the SUNRA Project Framework. Based on the scoping

response, tonic aspects are scoped in or out for performance measurement on the project. Where aspects are scoped in the framework provides suggestions

targets and indicators for the project.

Decommissioning: Not relevant. Pre-desian: Not relevant.

Decommissioning: Not relevant.

or lighting/change in the operating regime.

energy efficient operation of equipment.

indicators for the project.

Pre-Design: Not relevant.

measures to improve efficiency and reduce overall energy consumption through decisions taken over the equipment and vehicles used as well as training operatives in best

Energy efficiency is in itself a best practice approach to reducing energy demand and where carbon intensive sources of energy are consumed mitigating climate change through

gets and indicators. Alternatively, users o	•	d indicators of their own.	
 	Scoping		

European or national policy or legislation set

objectives, minimum standards or targets for

energy efficiency on road projects?

energy efficiency on road projects?

NRA POLICY: Does client (NRA) policy set

specific objectives, standards or targets for

SITE SPECIFIC ISSUES: Are there site specific, issues - opportunities or constraints - relevant

to energy efficiency which the project should

ENERGY REDUCTION: Does the project include

equipment/lighting requiring energy in the

or tar	targets and indicators. Afternatively, users can set targets and indicators of their own.									
No.	Scoping question	Scoping response	Considerations for setting targets. Suggested indicators							

Design, construction, operation and maintenance: Use specific legislative or policy targets to set relevant

Design, construction, operation and maintenance: Use NRA specific objectives to set relevant targets and

Design: Target/performance considerations: Designing-out energy demand through the removal of equipment

improve efficiency of equipment, vehicles and construction techniques. Staff training to improve performance.

Indicators: Energy efficiency of construction equipment, vehicles and techniques. Number of staff trained in the

Operation and maintenance: Target/performance considerations: Measures to reduce onsite energy consumption and improve efficiency of equipment, vehicles and maintenance techniques. Staff training to Indicators: Energy efficiency of maintenance equipment, vehicles and techniques. Number of staff trained in the

Indicators: Annual kWh energy demand for the project in operation, kWh reduction in demand. Construction: Target/performance considerations: Measures to reduce onsite energy consumption and

EU/ NATIONAL POLICY & LEGISLATION: Does Pre-design: Not relevant.

7.4	ENERGY REDUCTION: Does the project include equipment/ lighting requiring energy in the design?	Yes	Pre-Design: Not relevant. Design: Target/ performance considerations: Designing-out energy demand through the removal of equipment or lighting/ change in the operating regime. Indicators: Annual kWh energy demand for the project in operation, kWh reduction in demand. Construction: Target/ performance considerations: Measures to reduce onsite energy consumption and improve efficiency of equipment, vehicles and construction techniques. Staff training to improve performance. Indicators: Energy efficiency of construction equipment, vehicles and techniques. Number of staff trained in the energy efficient operation of equipment. Operation and maintenance: Target/ performance considerations: Measures to reduce onsite energy consumption and improve efficiency of equipment, vehicles and maintenance techniques. Staff training to improve performance. Indicators: Energy efficiency of maintenance equipment, vehicles and techniques. Number of staff trained in the energy efficient operation of equipment.	
7.5	OPERATIONAL ENERGY EFFICIENCY: Does the project include equipment/ lighting requiring energy in the design? Or do site activities require energy consumption?	Yes	Pre-Design: Not relevant. Design, operation: Target/ performance considerations: Measures to reduce improve the efficiency of equipment installed or maintained as part of the project. Indicators: Reducing in energy demand compared to the baseline (kWh). Construction: Target/ performance considerations: Measures to reduce on-site energy consumption and improve efficiency of equipment, vehicles and construction techniques. Staff training to improve performance. Indicators: Energy efficiency of the plant, vehicles and techniques. Number of staff trained in the energy efficient operation of equipment. Maintenance, decommissioning: Not relevant.	
1				

SUSTAINABILITY TARGETS AND INDICATORS

Comments

The NRA (or other client), working with the project team, should set targets and indicators for each topic aspect that has been scoped into the SUNRA Project Framework.

For each aspect (and subsequent target) as responsible 'actor' should be identified, indicating the organisation responsible for incorporating the target into the project.

The project stage at which the impact can be expected to occur should also be identified. This may not be the same as the stage at which the impact has to be considered and managed (avoided, mitigated, compensated for, or addressed in another way) by the identified responsible 'actor'.

Multiple targets can be set per topic aspect to account for multiple elements of an aspect. Assign seperate targets to different 'actors', assign different targets for different project stages or assign different targets for different asset lifecycle stages.

Add aspect row to:	EU/ national policy & legislation Select which aspect to add a new	target/ indica	ator rov Add
Remove row:	Select the target/ indicator row number to remov	Remove	

No.	Aspect	Responsible 'actor' (<u>Cl</u> ient, <u>D</u> esigner or <u>Co</u> ntractor)	Project stage (when impact occurs)	Target	Indicator	Outcome record (include date; initials; outcome)	Performance	Comments
1	EU/ national policy & legislation	Client (CI)	Operation					
2	NRA policy	CI-D	Maintenance					
*	Site specific issues							
4	Energy reduction	CI-D-Co	Construction	Measures implemented to improve site plant energy		Training implemented, some improvements implemented.	Target at least 50% achieved	
5	Operational energy efficiency	Designer (D)	Operation	50% reduction in energy demand compared to baseline	kWh energy consumption over design life	50% achieved	Target achieved	

SUNRA Project Framework



SUMMARY Home User Guide

Project details

Project name:	
Tool version:	
Project start date:	
Date of last update:	

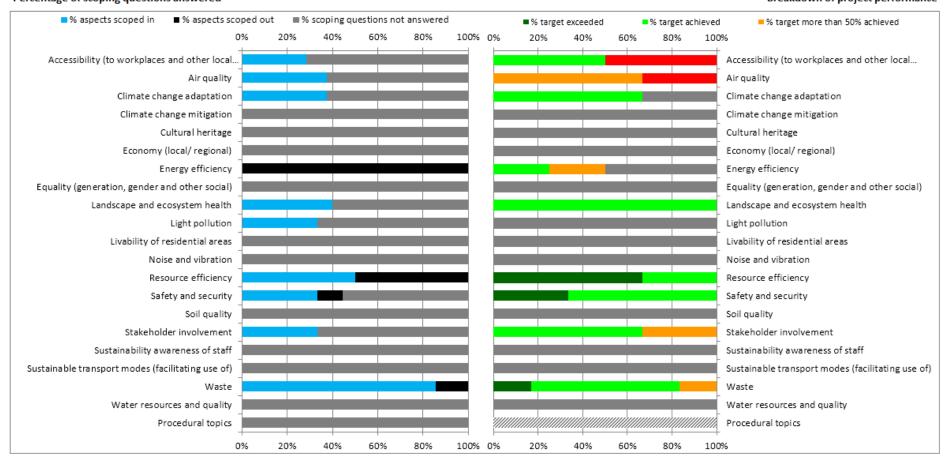
Summary of aspects, targets and indicators by 'responsible actor':

Client Designer C	ontractor
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Scoping progress summary and performance summary

Percentage of scoping questions answered

Breakdown of project performance



Dissemination



- The final versions of the tool will be uploaded onto the SUNRA website and sent around to all contacts made through the project
- 'SUNRA a sustainability rating system framework for National Road Administrations' has been accepted for TRA 2014 in April

Contact details



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Thank you!

On behalf of all of the SUNRA project team