

**31<sup>st</sup> ROAD PAVEMENTS FORUM:**

**4 & 5 May 2016**

**Addo, Eastern Cape**

**Manfred Uken** – Chair of SuRF interim board

Jonah Ptak – Secretariat of SuRF interim board

## **Sustainable Roads Forum (SuRF): Overview of Recent Developments**

1. Draft Green Paper: Roads Policy for South Africa
2. Development of an Evaluation Tool

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**4 & 5 May 2016**

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## **RPF and CAPSA Resolutions**

### **29<sup>th</sup> RPF Resolution 2**

- “Minimum standards for sustainability be embedded in Volume 7: Standard Environmental Management Plan”
- “A section on sustainability be incorporated in the proposed Road Policy, including recommendations on self and third-party accreditation assessment schemes.”

### **CAPSA 2015 W1.4**

- “Industry supports development of a points-based project rating tool which speaks to existing policies, design standards and best-practices.”
- “Development of a SARF and DOT partnership to drive technical development and implementation/institutionalisation of tool, incorporating industry input.”

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**4 & 5 May 2016**

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~~Greenroads™ South Africa~~



**“Sustainable Roads Forum” (SuRF)**

- Same stakeholders
- More autonomy

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4 & 5 May 2016  
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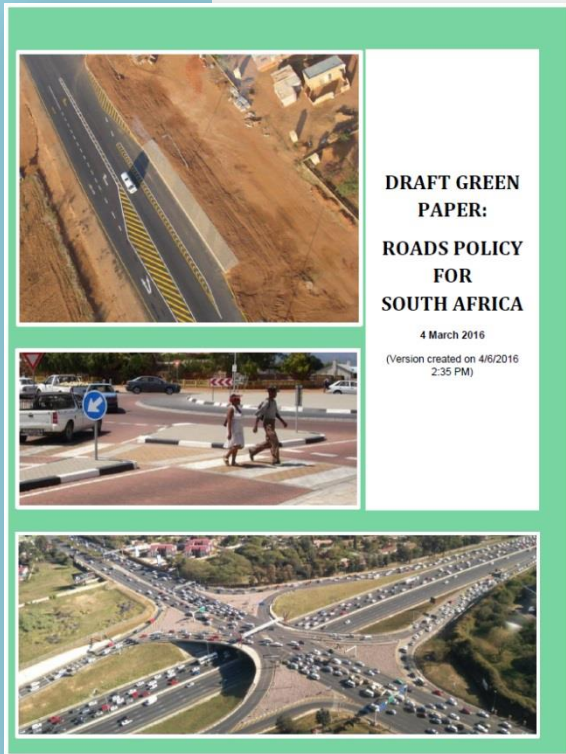
## **Roads Policy for South Africa**

Intro:

- **Role of Roads in SA Economy**  
(large role for sustainability)

SuRF's Goal:

- **Align industry and policy**  
(i.t.o. sustainability)  
SuRF aligned w/ CoTO



*100+ pages*

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4 & 5 May 2016

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The roads industry in South Africa consists of Road Authorities, road designers, material suppliers, and road builders, amongst others. While existing policies in South Africa mandate more sustainable approaches to road infrastructure, there is no formalised system in place to guide the industry at the project implementation level. For example, there are no localised green road norms and standards or a localised industry-accepted green road rating tool. This is causing challenges in implementation of best-practices for not only Road Authorities, but also road designers and builders<sup>44</sup>.

*All Road Authorities develop a 'green' road network which conforms to the principles of sustainability.*

- The DoT will develop a comprehensive set of minimum 'green road norms and standards', which are defined as planning, design, construction and maintenance best-practices, intended to develop road infrastructure that is more sustainable than current industry standards. Best practices in sustainability will include environmental, social and economic considerations, as described in detail in the 'Approach to Sustainability in Roads'.
- These norms and standards will be used to define the parameters of a green road rating tool for new and rehabilitated roads. Benchmarks will be developed, which clearly define the incremental improvements in sustainability of road infrastructure as well as guide project teams (e.g. owners, designers and builders) in the process of implementation and aligned reporting. These benchmarks will be developed so that both high volume and low volume roads can be evaluated in terms of sustainable best practices.

- Need for a clearly defined actions, benchmarks, language for implementation of sustainability in roads.
- Formalise the development of a rating system focused on
  - Incremental improvements
  - Aligned reporting
  - Flexibility
- Document contains references to CoTO.

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4 & 5 May 2016

Addo, Eastern Cape

- The DoT will prescribe the conditions for which a self-assessment or an independent external certification is to be undertaken.  
When undertaken, the level of sustainability will be reported per identified road, based on the clearly defined benchmarks.

- Requirements for implementation of rating system with DOT
  - What projects?
  - To what level?

- *En route to cabinet for approval to gazette for public consultation*
- *Internal DOT consultation meanwhile*

**31<sup>st</sup> ROAD PAVEMENTS FORUM:**

**4 & 5 May 2016**

**Addo, Eastern Cape**

## **A Sustainability Evaluation Tool**

- Developed from scratch in late 2015
- Trial use on SANRAL projects in KZN N3
- SAFCEC looking to test projects
- Built-in flexibility for use on wide range of projects

*\*Still a work-in-progress\**

# 31<sup>st</sup> ROAD PAVEMENTS FORUM: 4 & 5 May 2016 Addo, Eastern Cape

**Sustainable Roads Forum Self-Evaluation Tool**  
WELCOME  
Reporting and Evaluation Tool - 2016

**Welcome** to the draft of the Sustainable Roads (SuRF) Self-Evaluation Tool. The SuRF Tool has been developed in partnership with SANRAL, the Department of Transport, and the stakeholders represented on the Sustainable Roads Forum. For more information about the contributors, please click here.

The Tool is intended to guide project teams towards the successful planning and implementation of various sustainable best-practice tasks on road infrastructure projects. Because the industry's definition of 'best-practice' will always be a moving target, this tool should be understood as a living tool intended for future revisions. Revisions could include calibration of score weighting, removal and addition of credits to reflect growth in the industry, and continual feedback and comments to help streamline the implementation process.

The Self-Evaluation Tool is entirely contained within this spreadsheet file with the only exception being referenced documents which are accessible via hyperlinks where applicable. Tabs at the bottom of the screen serve as the various pages of the Tool. A brief overview of the Tool is provided below to assist users in getting started.

**Overview** of the Tool. Click on any of the descriptions to jump to those tabs.

- Welcome** - This is the page - It serves as the homepage / landing page for the tool.
- Intro and FAQ** - This tab provides basic "low to" information pertaining to the Tool so as well as a Frequently Asked Questions (FAQ) section where users can quickly find answers to the most commonly asked questions.
- General Project Data** - This tab is where the User inputs the most basic data for the road project. Information such as project name, client, length of road, etc. which is used as necessary throughout the rest of the tool to carry out calculations and provide project outputs. Standardised industry data is also provided on this sheet for use in the subsequent calculations. Values for standardised energy and typical industry costing are provided on this sheet to standardised reporting across multiple projects. Without uniform assumptions, uniform reporting cannot be expected.
- ECI** - This is the **Cover Page** for the "Ecological & Impact" category. This page provides two important purposes:
  - This is where the Project Team records their "Ecological & Impact" (ECI) score ("start") during the project kick-off.
  - As project data is compiled in the Credit Tabs, it is used to calculate the "end" form as this sheet providing an overview of targets set and targets met.
- NR, DI, MSH, HC, and EI** - Same as sheets for "ECI" but for their respective sections.
- SUMMARY** - Visit this tab for your project overview where the list of sections and credits are provided along with the weighting and score achieved. How is your project doing in terms of overall score and where are those points being earned? Are you focusing more on people, planet or profit?
- Credit Tabs ("ECI-1", "ECI-2", to "EI-6")** - These tabs serve as the building blocks of the Tool. Each tab represents its respective Credit and includes the following:
  - Description:** A summary of the Credit's intention and how it sets out to achieve it.
  - Motivation:** An overview of why the Credit is relevant to the South African context and how implementation of the Credit achieves best-practice in sustainability.
  - Interventions:** A list of the interventions to be undertaken on the project by which the sustainable best-practice are to be achieved. A Credit may have one or more interventions, each of which is scored independently and summed between 0 and 1 (1 being 100% achieved). A weighting / multiplier for each intervention is assigned on the Cover Page tab.
  - Feedback Form:** This is where project reporting, output, feedback and data checking takes place.
  - Background:** Additional information about the project and its role in a sustainable South Africa is provided here.
  - References:** Supporting documentation for the Credit is provided here to ensure that transparency of the tool exists. Documents, design codes, publications and links to websites containing guidelines, policy, standards, and background to the Credit are hyperlinked or

Navigation menu: Welcome | Intro & FAQ | General Project Data | ECI | NR | DI | MSH | HC | EI | SUMMARY | ECI-1 | ECI-2 | ECI-3 | +ECI-4 | +ECI-5 | +ECI-6

**Splash Page**

- Excel Spreadsheet (currently)  
Tabularised**
- Input
    - Straightforward
  - Output
    - Transparent
    - Client-facing
  - Supporting Docs (as need.)
    - To ensure Compliance



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## Sustainable Roads Forum Self-Evaluation Tool GENERAL PROJECT DATA

Reporting and Evaluation Tool - 2016

Version 0.92



## Sustainable Roads Forum Self-Evaluation Tool CREDIT Reporting and Evaluation Tool - 2016 Version 0.92



### NR-2 : Fossil Fuel Use Tracking

Design, Construction, Operation

#### Description:

Improve tracking of on site energy consumption and work towards reducing the amount of non-renewable energy consumed during the construction process by promoting the use of renewable energy and liquid fuels as alternative power sources.

#### Motivation:

Energy obtained from fossil fuels is the primary contributor to anthropogenic global warming which is leading to worldwide climate change. Climate change will affect livelihoods, economies, and human health especially in poor and marginalised areas. The contributions from fossil fuel consumption consequently need to be reduced as much as possible.

The construction sector needs to make its own contribution to the reduction of greenhouse gas emissions specifically in the form of reduced fossil fuel derived energy use. Interventions in this regard will be monitored in order to demonstrate industry commitment and compliance to national requirements. It is necessary to measure the potential economic benefits such as reduced tax implications or lower costs.

#### Actions:

NR-2.1 : Track the reductions in fossil fuel use and the use of alternative energy sources with reduced carbon intensity during construction.

NR-2.2 : Provide a site specific plan of construction site power from renewable and alternative energy sources (Site specific carbon footprint calculated).

#### FEEDBACK FORM NR-2 - Fossil Fuel Use Tracking

#### CHECK NR-2.1 – TRACKING OF ENERGY USE

Will energy use be monitored and reported on during construction?

Provide the information required below

	Site Camp				
	Grid Energy Use [kWh]	Off-grid Wind & Solar Use [kWh]	Total Energy Use [Gj]	Ren %	tonnes CO <sub>2</sub> e avoided
to Gj	277.8	277.8			
to t CO <sub>2</sub> e	0.00103	0			
Month 1			0.00	#####	0.00
Month 2			0.00	#####	0.00
Month 3			0.00	#####	0.00
Month 4			0.00	#####	0.00
Month 5			0.00	#####	0.00
Month 6			0.00	#####	0.00

Vehicles, Plant and Generators					
Petrol used [kL]	Diesel used [kL]	Liquid Fuel Alt (e.g. CNG) [tonne]	Liquid Fuel Alt (e.g. CNG) [Gj]	Total Energy Use [Gj]	t CO <sub>2</sub> e avoided [tCO <sub>2</sub> e]
33.9	41.6	53.6			
3.29684	3.20068				
			0.0	0.0	0.0
			0.0	0.0	0.0
			0.0	0.0	0.0
			0.0	0.0	0.0
			0.0	0.0	0.0

- Input basic project info once on Cover Page
- Industry standards provided for reference and clarity

- Yes, No, N/A?
- Input supporting data
- Attach supporting docs

- 6 Sections
- Credits & sub-credits
- Technical, socioeconomic, environmental, etc.

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Sustainable Roads Forum Self-Evaluation Tool  
OVERVIEW  
Reporting and Evaluation Tool - 2016  
Version 0.32



## SECTION SUMMARY SHEET

### ECOSYSTEM, CULTURE & IMPACT (ECI)

Required	Target Score	Score Achieved	Weighting	Total Score	Available Score	People	Planet	Profit	N/A?	Reviewer Approved?	Project Team Comments (If "n/a" is selected, a brief explanation should be provided)
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#### ECI-1 ENVIRONMENTAL & SOCIAL ASSESSMENT

- ECI-1.1 ENVIRONMENTAL IMPACT ASSESSMENT
- ECI-1.2 PERMITS OBTAINED
- ECI-1.3 CONSTRUCTION MONITORING PROCESSES

0%	2	0	2								Note: If suitable, this area can highlight if missing. See purple highlighted comment
0%	1	0	1								
0%	1	0	1								
<b>TOTAL</b>	<b>0</b>	<b>4</b>									

#### ECI-2 LANDSCAPING

- ECI-2.1 SOFT LANDSCAPING
- ECI-2.2 QUANTIFY VEGETATION COSTS & BENEFITS
- ECI-2.3 ALIEN & INVASIVE SPECIES

0%	1	0	1							
0%	2	0	2							
0%	1	0	1							
<b>TOTAL</b>	<b>0</b>	<b>4</b>								

#### ECI-3 CONSTRUCTION SITE RUNOFF

- ECI-3.1 RUNOFF CONTROL PLAN
- ECI-3.2 RESPONSE MEASURES IN PLACE
- ECI-3.3 LOCAL LABOUR INVOLVEMENT

0%	1	0	1							
0%	2	0	2							
0%	1	0	1							
<b>TOTAL</b>	<b>0</b>	<b>5</b>								

#### ECI-4 CONSTRUCTION SITE NOISE

- ECI-4.1 IDENTIFY NOISE-SENSITIVE AREAS
- ECI-4.2 NOISE LEVEL MONITORING
- ECI-4.3 MITIGATION & REPORTING

0%	1	0	1							
0%	2	0	2							
0%	1	0	1							
<b>TOTAL</b>	<b>0</b>	<b>4</b>								

#### ECI-5 HERITAGE & CULTURAL RESOURCES

- ECI-5.1 IDENTIFY AFFECTED CULTURE & HERITAGE RESOURCES
- ECI-5.2 IMPLEMENT AWARENESS CAMPAIGN

0%	1	0	1							
0%	2	0	2							
<b>TOTAL</b>	<b>0</b>	<b>3</b>								

#### ECI-6 TRAFFIC ACCIDENTS

- ECI-6.1 COST-BENEFIT ANALYSIS
- ECI-6.2 INNOVATIVE APPROACHES

0%	2	0	2							
0%	2	0	2							
<b>TOTAL</b>	<b>0</b>	<b>4</b>								

#### ECI-7 ENVIRONMENTAL MANAGEMENT PLAN

- ECI-7.1 COMPILATION OF EEMPL
- ECI-7.2 TRANSPARENCY
- ECI-7.3 REPORTING TO CLIENT

0%	1	0	1							
0%	1	0	1							
0%	1	0	1							
<b>TOTAL</b>	<b>0</b>	<b>3</b>								

#### ECI-8 HABITAT CONSERVATION

- ECI-8.1 PROTECTION OF SENSITIVE HABITATS
- ECI-8.2 EQUAL RESTORATION

0%	1	0	1							
0%	1	0	1							
<b>TOTAL</b>	<b>0</b>	<b>2</b>								

**SECTION Summary Page**

- Inputs auto summarised and tabularised
- % of target achieved
- Red flags highlighted
  - e.g. typical practice
  - poor reporting
- Also serves as a "menu" for project planning

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Sustainable Roads Forum Self-Evaluation Tool  
SUMMARY  
Reporting and Evaluation Tool - 2016  
Version 0.92



## SUMMARY PAGE

### ECOSYSTEM, CULTURE & IMPACT

Req'd	Score	Avail	%
NG	0	4	0%
	0	4	0%
	0	5	0%
	0	4	0%
	0	3	0%
	0	4	0%
NG	0	3	0%
	0	2	0%
	0	23	0%

### NATURAL RESOURCES

	0	6	0%
	0	4	0%
	0	5	0%
	0	4	0%
	0	7	0%
NG	0	2	0%
	0	28	0%

### DESIGN INNOVATIONS

	0	3	0%
	0	5	0%
	0	3	0%
	0	5	0%
	0	2	0%
	0	1	0%
	0	5	0%
	0	24	0%

### MOVEMENT, SAFETY & HEALTH

NG	0	3	0%
	0	2	0%
	0	2	0%
	0	3	0%
NG	0	3	0%
	0	2	0%
	0	2	0%
	0	18	0%

### HUMAN CAPITAL

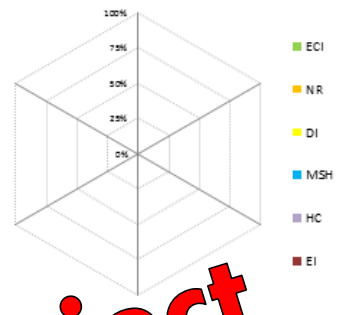
NG	0	6	0%
	0	1	0%
NG	0	4	0%
	0	1	0%
NG	0	13	0%
	0	4	0%
	0	2	0%
	0	1	0%
	0	32	0%

### ECONOMICS & INDUSTRY

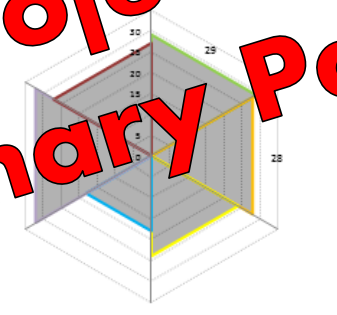
	0	3	0%
	0	6	0%
NG	0	4	0%
	0	2	0%
	0	2	0%
	0	4	0%
	0	27	0%

TOTAL 0 158 0%

### PERCENTAGE OF AVAILABLE ACHIEVED



### PERCENTAGE OF AVAILABLE ACHIEVED



### BREAKDOWN OF TOTAL SCORE BY SECTION



### SUMMARY OF SCORE I.T.O. THE THREE PILLARS



### SUMMARY OF AVAILABLE SCORE I.T.O. T



- Overall project visual summary
- Single page view for client
  - Section breakdown
  - Three pillar breakdown
  - Ambition versus reality

Not a "report card" ...  
...maybe a "stake in the ground".

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A Sustainability Evaluation Tool

## **Current Status**

- Internal consultation process started
  - (new credits, tweaks, etc.)
- Some credits need polishing
- All credits need scrutiny
- Sponsorship options being investigated
  
- MoU between SuRF and SANRAL being drawn up for shared use as necessary.

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**Questions?**

Comments?