

RESPONSIBLE DEVELOPMENT

YPF Sustainability Imbizo 2013

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WHAT IS RESPONSIBLE DEVELOPMENT?

- What is "responsible"??
 - Based on or characterized by good judgment or sound thinking
 - Involving personal accountability or ability
 - Able to make moral or rational decisions and be answerable for one's behaviour
- Responsible engineering needs to integrally assess impact on
 - Environment
 - Communities
 - Health
 - Well-being



WHAT IS RESPONSIBLE DEVELOPMENT?

- Responsible engineering results in sustainable development
- "development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs."
- "Sustainability is every one's business", but ...
- Civil Engineers play a critical role in delivering sustainable development



OUTLINE

- Introduction
- Background and framework
- Sustainable development
- Sustainability tools
- GreenroadsTM SA

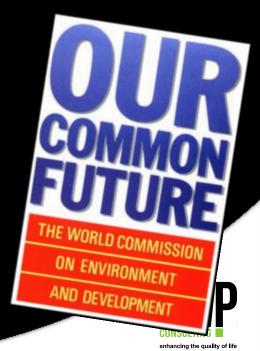


BACKGROUND

- **1**987
- United Nations World Commission on Environment and Development
- Our Common Future (Brundtland Report)
- Foundation for:
 - 1992 Earth Summit
 - Rio Declaration
 - Agenda 21

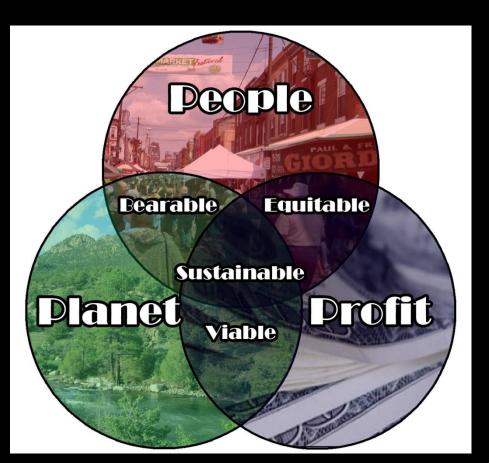






BACKGROUND

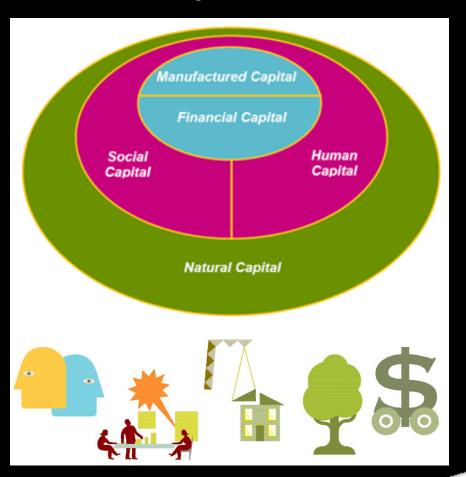
Triple Bottom Line





BACKGROUND

Five Capitals Model





FRAMEWORKS / GUIDANCE



Policy Framework for Sustainable Development

Preamble:

Consulting Engineers South Africa, CESA is a voluntary association of firms of Consulting Engineers and allied professionals. CESA is a member of the International Federation of Associations of Consulting Engineers, F.DIIC. The wide range of objectives of CESA and FIDIC are covered in the respective organisations' constitutions.

The Goal of Sustainable Development is to "meet the needs of the present without compromising the ability of future generations to meet their own needs". (World Commission on Environmental Development. Our Common Future. Oxford: Oxford University Press: 1987, P43). As key forces in Society, CESA and its member firms have an important role to play in achieving the goal of Sustainable Development. Accordingly CESA adopts the long standing commitment of FIDIC to Sustainable Development.

Statement of Commitment

The consulting engineering industry is largely responsible for designing, planning and managing the many elements of the built and natural environment that are needed to meet the world's ever increasing demand for water, sanitation, energy, food, shelter and economic security.

in the case of the built environment, facilities are generally supplied on a project basis. Our industry's unequivocal commitment to sustainable development thus aims to ensure that its approaches to all aspects of the project cycle which it influences are continuously updated to reflect the latest management practices and legislative requirements.

One of the key challenges of sustainable development is that it demands new and innovative choices and ways of thinking. While developments in knowledge and

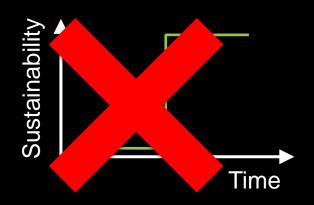


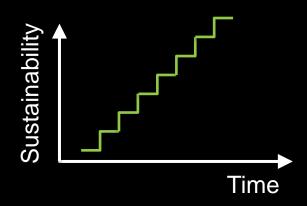






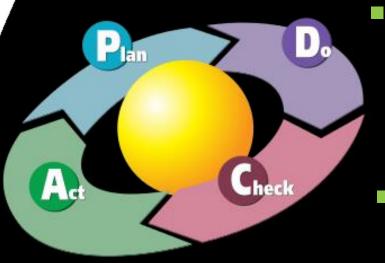
SUSTAINABLE DEVELOPMENT







PROJECT SUSTAINABILITY MANAGEMENT



Plan

Develop a set of goals and indicator for a sustainable project

Do

Start project with a plan

Check

Monitor and measure

Act

Record, adjust, share results







- Decision-Support Tools:
 - Typically developed by consulting engineers
 - Sustainability guidelines and methodology
 - Provide expert support
 - Multi-Criteria Analysis Methods







- Rating & Certification Tools:
 - Typically developed by governmental institutions or NGO's
 - Assess, rate and award
 - E.g. Green Star SA, Greenroads







Calculators:

- Providing quantitative and qualitative values
- Provide input for DS and R&C tools
- E.g. carbon emission, energy use, water efficiency
- Developed by public sector, private sector
- BE CAREFUL! Use reputable calculators







Guidelines:

- Informative and normative
- Sustainability quality, standards, indicators
- Sector guidelines also available





GREENROADSTM SOUTH AFRICA





- International tool adapted for use in SA
- Credits for projects:
 - Project requirements
 - Environment and water
 - Access and Equity
 - Construction activities
 - Job creation & skills development

- Materials & Resources
- Pavement technologies
- Custom credits





GREENROADSTM SOUTH AFRICA

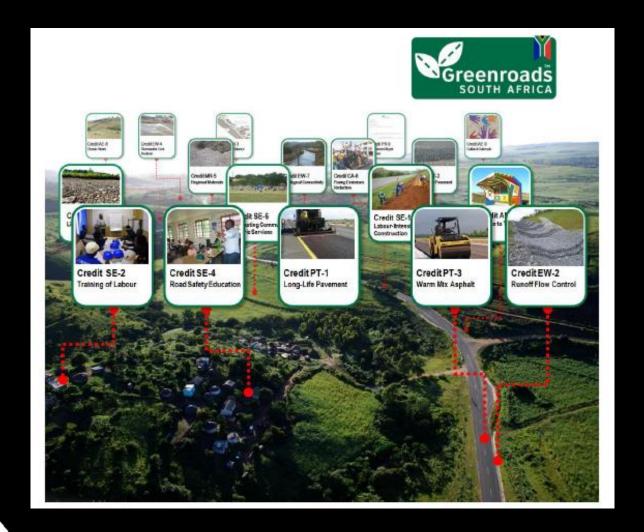
- Examples of credits:
 - Is there an environmental review process (PR-1)
 - Runoff flow control (EW-2)
 - Intelligent Transport Systems (AE-2)
 - Emerging contractors (SE-3)
 - Water use tracking (CA-7)
 - Contractor warranty (CA-8)



- Pavement reuse (MR-2)
- Cool / quiet / long-life pavement (PT-4/5/1)



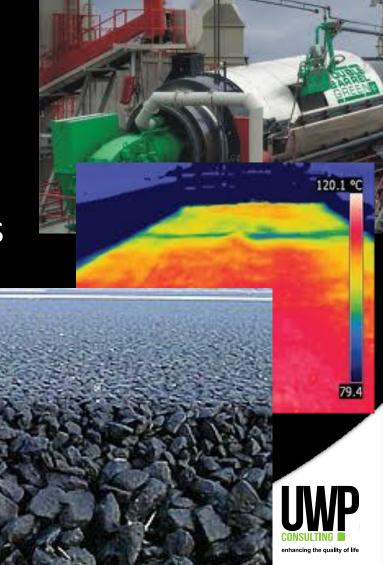
GREENROADSTM SOUTH AFRICA





PAVEMENT TECHNOLOGIES

- Recycling of asphalt
- Warm-mix asphalt
- Noise reduction
- Long-life pavements





RESPONSIBLE DEVELOPMENT

It is everyone's responsibility

Particularly for civil engineers

Balancing act between people, planet and profit





THANK YOU

