

Progressive Views on Sustainability from a Metropolitan Road Authority Perspective

Road Pavement Forum
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Durban's vision

To be

“Africa's most caring and livable city by 2020” (IDP)

 To achieve this there must be:

- Ease of movement in the city
- A safe environment
- A clean and green city
- Access to economic opportunities
- Homely neighbours
- Access to services

And so the green brilliance commenced.....

- We wrote on both sides of a page
- Switched of lights before leaving the office
- Fixed leaking toilet cisterns
- Viewed as opposed to printing
- And so.....

- But is this progressive or just common sense

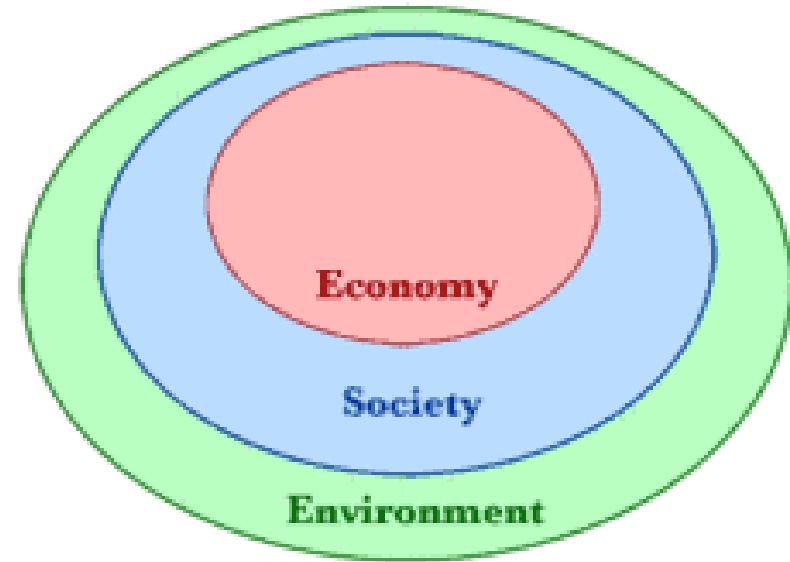
What is sustainability

Wiki definition

Just plain common sense

Living within the carrying capacity of our planet

Brand differentiation



Or is it

🏰 Changing your life and not the our world



Local government

- Multi-disciplinary - roads, power, health, waste, water, economy, etc
- Coal-face of service delivery
- Coal face of steward-ship of environment
- Flat operational structure?



Roads

Specialist functional areas

- New roads
- Road rehab
- Routine road maintenance

Obligatory
marketing blurb?

Sustainability is not an add-on but part of our brand and process DNA

- How is it catching on in our organisation?
- The boss is not easily swayed:

What I heard.....

You cannot even do HMA properly and you want to waltz off with WMA!

Give me a #\$\$^%^*g break!

You sort your guys, consultants and contractors to do HMA properly, then come talk to me about WMA. #\$\$^%^*g

Same as most companies – we naturally gravitated towards improving efficiencies

- Obvious inefficiencies
- Externally observed inefficiencies
- Internal investigation to find inefficiencies
- Externally led investigation to find in-efficiencies bench-marked against external reference.





- But this could still result in us doing bad things very efficiently.

Initiated Change

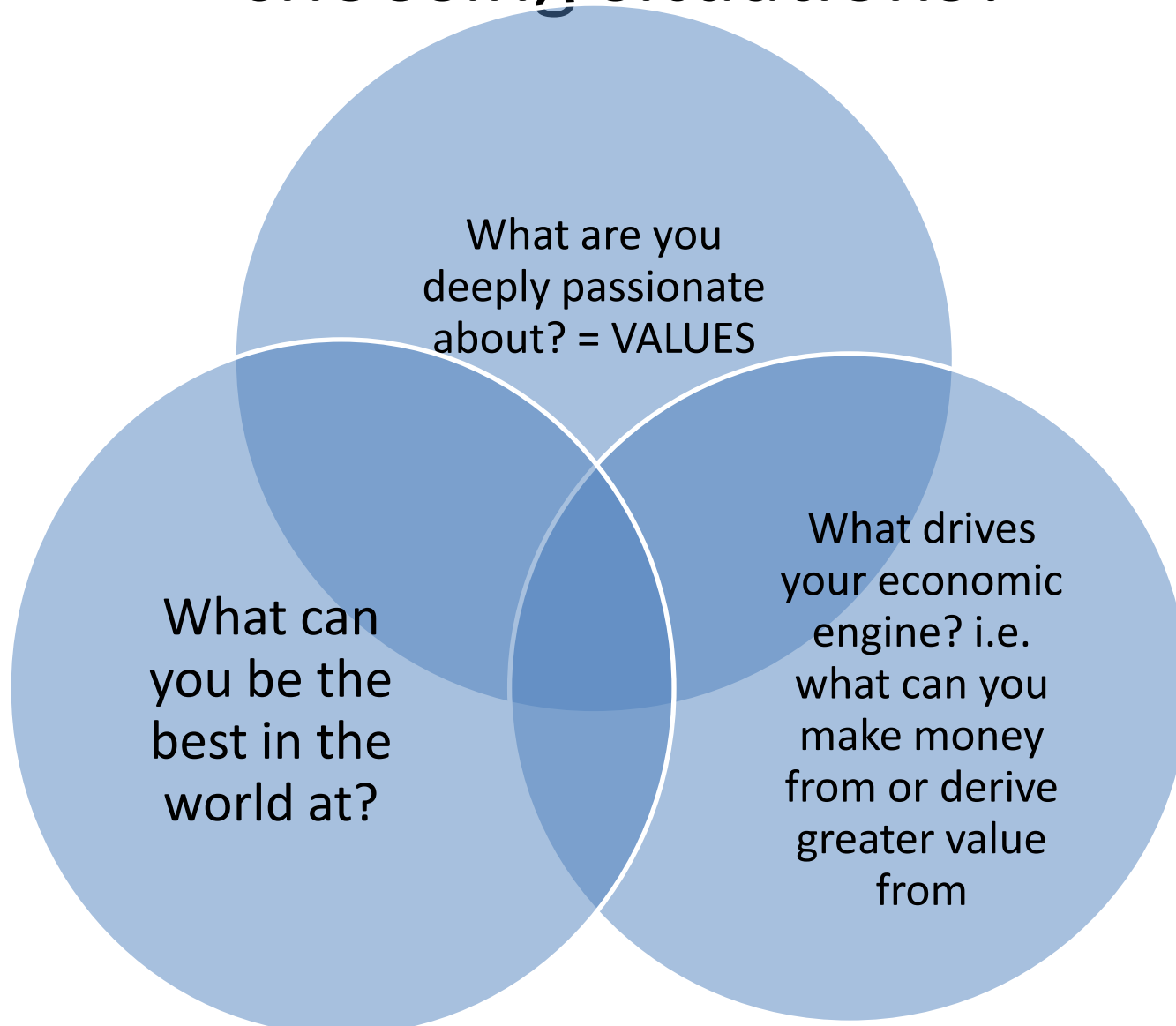
Understanding the true value of the natural resources on which we undoubtedly rely and working to reduce these input costs, will mean that when the cost of these resources soars in response to rising demand and declining availability, the business has in-built resilience.





Change - engineers

-  This opened the flood-gates.
-  Change management is an unspoken skill.
-  Nothing is sacred.
-  Dialogue and debate is encouraged both vertically and across.





Are situations choosing us or are we choosing situations?



Catalyst, facilitator or/& agitator

-  We cannot do it alone, we need partners
-  We therefore play different roles at different times

How's that working out for you?




-  Are we really implementing best practice:
Training: Doing the right things better
-  Direct Innovation: Reclaimed concrete & masonry
-  Innovation incubator: WMA & HiMA
-  Facilitator: WMA conversion

Our in-efficiencies





Better skills = better quality = longer life

- NQF 1 – 4 – people who really carry our industry.
- AsAc gap analysis and training for large scale road works

Doing it right first time: Impact of NQF 1-4

-  Immediate improvement of quality, understanding and morale.
-  Aqua have done the same and have same findings.
-  Policy: Will be a requirement for contractors for future contracts

NQF 4 up





-  Significant need for improvement of knowledge of recycling irrelevant of age or qualification.
-  Complained to “that” German company.
-  Initiated SARF BSM course.
-  Policy: Will be a requirement for future contractors and consultant appointments.

Engineering for Change

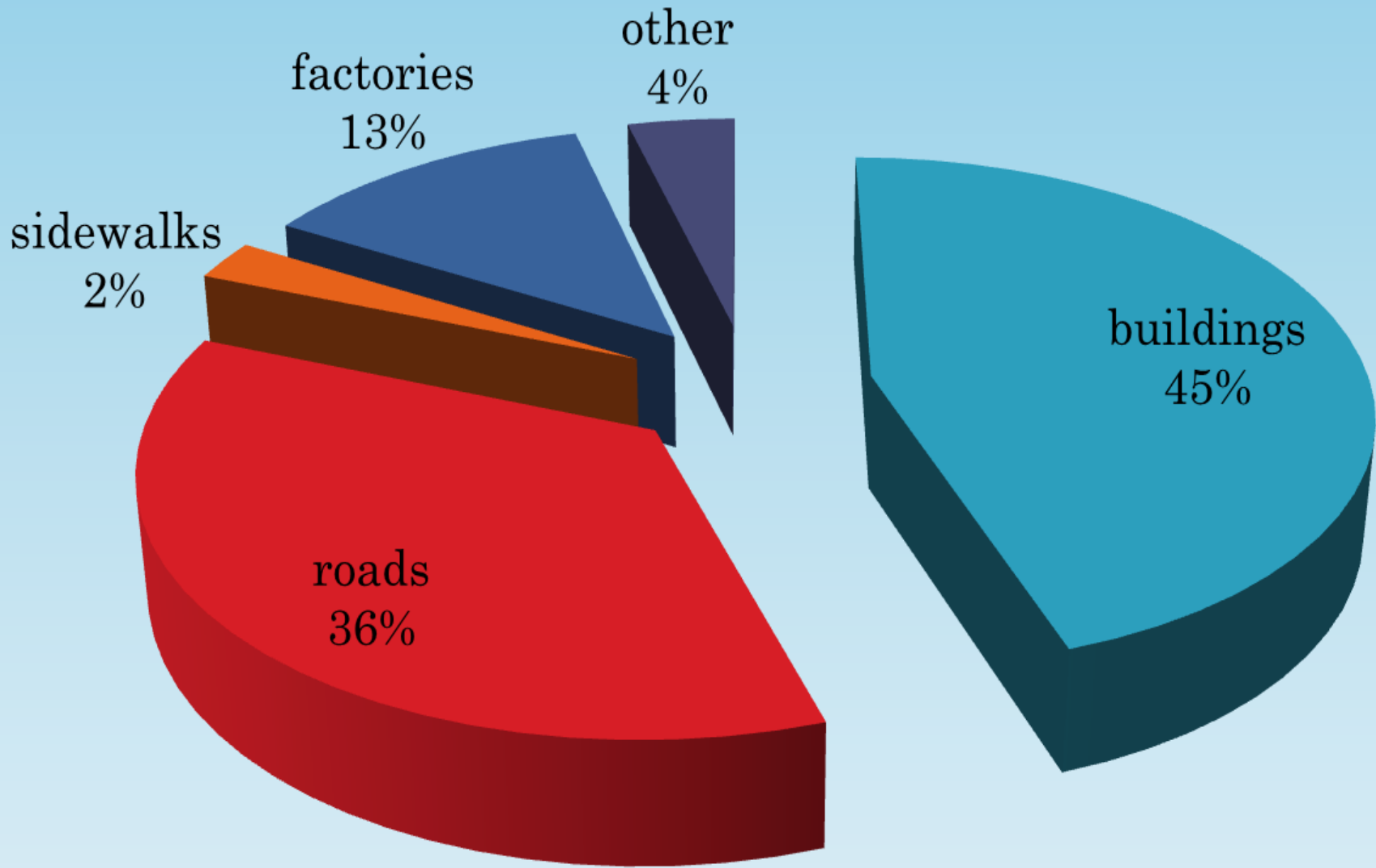
Reclaimed materials

- All materials will be selectively reclaimed.
- Materials reclamation shall be a designed process.
- All reclaimed materials shall be selectively stockpiled.
- All reclaimed materials shall be re-processed to extract maximum value from them.

Unloading our landfill sites





-  All construction and demolition concrete & masonry was considered as waste & sent to landfill sites.
-  Major problem is finite space in landfill sites.
-  Negative affect on decomposition of organic material in landfill sites.
-  Initiated reclaimed concrete & masonry research with UKZN & international partners.

C&D Waste origin



Courtesy: Valentia Zedda

Wearing our hearts on our sleeves

-  Roadspan is giving all material extracted from freeway maintenance projects to eThekweni.
-  Concrete pavement.
-  Reclaimed asphalt.
-  Rotating material within a geographical area

RA was also going to landfill sites




 BSMs

 WMA

 HiMA



HiMA + RA synergy




-  Very heavy , slow moving traffic on perhaps country's most strategic road – South Coast Rd.
-  High frequency of layer replacement – new materials (bitumen & aggregate) & traffic disruptions.
-  Needed a longer life pavement.

HiMA + RA synergy

- Hosted the first public road trials in SA.
 - Agitating
- Proposed combining HiMA with BSM/in-place recycling – Come on VKE
 - Agitating
- Tabling HiMA as a pavement option for IRPTN
- Proposing that HiMA come standard with high % of RA
 - . Agitating
- Hush-hush talks about alternatives to HiMA.

WMA + RA synergy



-  Chair of WMAIG
-  Helped with compilation of WMA Manual 32
-  Facilitating more companies converting to WMA.



Facilitating companies converting to WMA



 Had meetings with Cape Town guys

 Aqua

 Grinaker-LTA + Ammann

 N3TC

 Roadspan



innovation in Durban region?



- National Asphalt
 - Econat Rejuvenator
 - Econat WMA Technology
 - Econat Release Agent

- Will be brought to market using WMAIG & Template.

- Research phase into bitumen pen reducers.



Aqua's conversion to WMA

- Excellent support from WMAIG & National & Much – asphalt industry's commitment to improve itself.
- Aqua invested close to R500m to refurb its plant & plant lab
- Professional support from Naidu Consulting & SRT.
- Catalyst for lab ISO accreditation
- UTFC WMA

Aqua's NQF 1 to 4





- Aqua is following eThekweni's example of improving efficiency by skills recognition and development.
- AsAc have been employed to undertake gap analysis and training.



Grinaker-LTA conversion to WMA

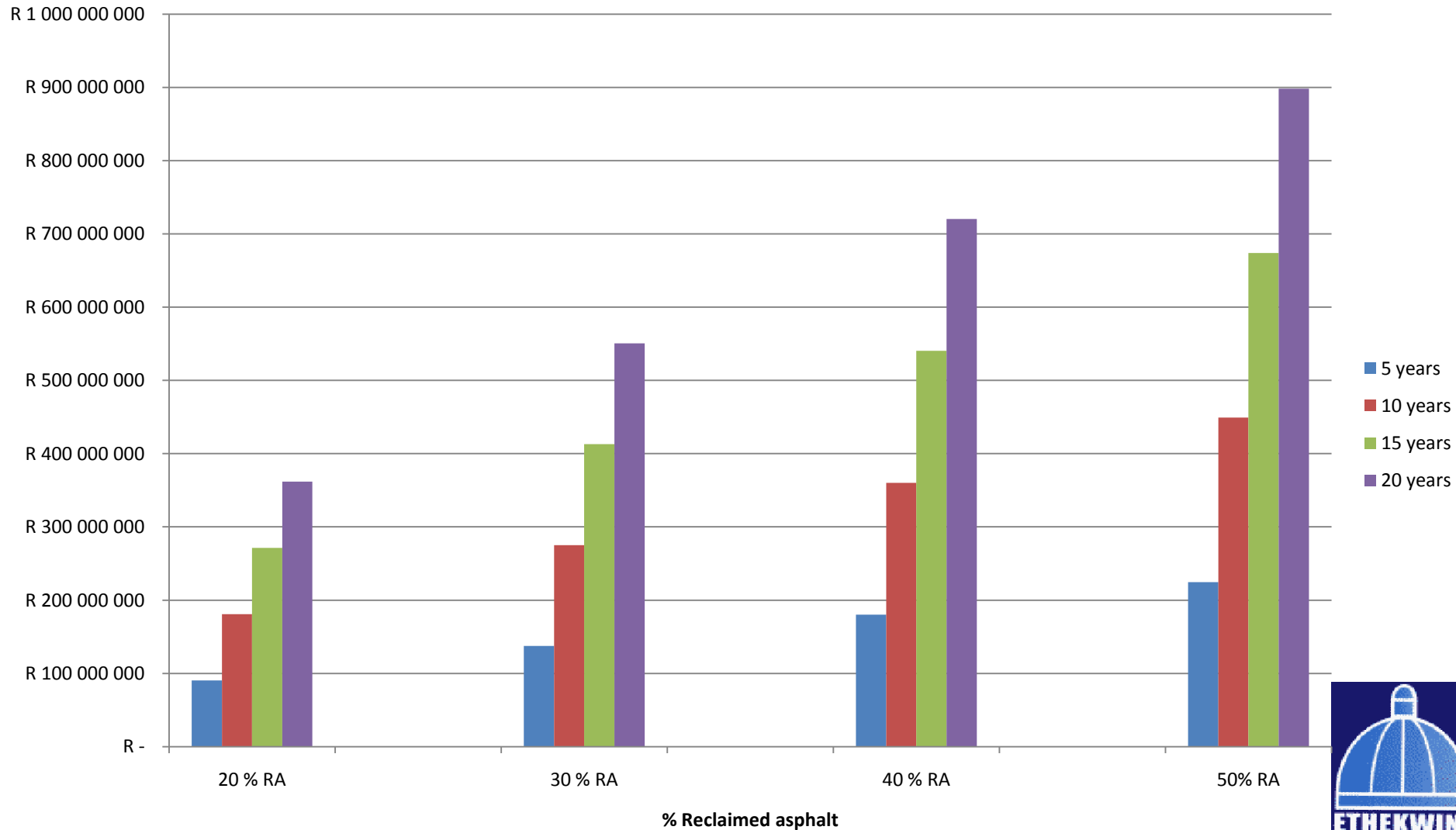
- Driven by Douglas Judd (N3TC)
- Successful lab trials, mix being paved this month.
- Grinaker-LTA now also partnering with Ammann.
- Supported by WMAIG
- Attending Aqua WMA conversion meetings to see the “how”.
- Supported by WMAIG

Green procurement: Reclaimed concrete

-  Concrete is also from private sector
-  Create value and value chain for material
-  Create crushing and screening skills for private sector
-  Create specification for reprocessing and reuse.

Green procurement: reclaimed asphalt





Savings realised by using RA





Bright spark or green shoots

- Green shoots coming out of the woodwork and growing at different rates.
 - Recycling
 - RA
 - WMA
 - Materials Management Plan
 - Traffic accommodation Plan
 - Rotating Reclaimed Material over the network
- This is bringing change to our organisation and the way we do business.

Sustainability

-  No formal policy
-  No definition
-  No formal specification
-  Response has therefore been mixed from Consultants, contractors and staff.

-  Do we specify sustainability?
-  Perhaps it will offer us a standardised minimum and point of departure for managing all the green-shoots.

Is GreenRoadsSA the answer?



- We do not have a policy or definition for sustainability in roads
- However our contractors have responded positively. Why – they see that they can achieve a better bottom line through sustainable practices and also there is legislation that must comply with.
- Consultants – at best their response has been mixed. Why – they think that it will affect their bottom line negatively – ie they will have to spend time and money getting up to speed with new and better ways of doing things – they have the grocery list approach which they know. There is no legislation that they need to comply with, BUT what about ECSA code of conduct. Slowly some consultants are realising that sustainability has some brand value, particularly those with an international foot-print are needing to comply with stating issues of sustainability forming part of good corporate governance and this needs to be declared – so there is some light.
- What we have done is look to GreenRoadsSA to offer us a point of departure for policy, specification and monitoring mechanism for meeting of specification for all parties.