



**Workshop on Limestone
Calcined Clay Cements (LC³)
A South African Perspective**

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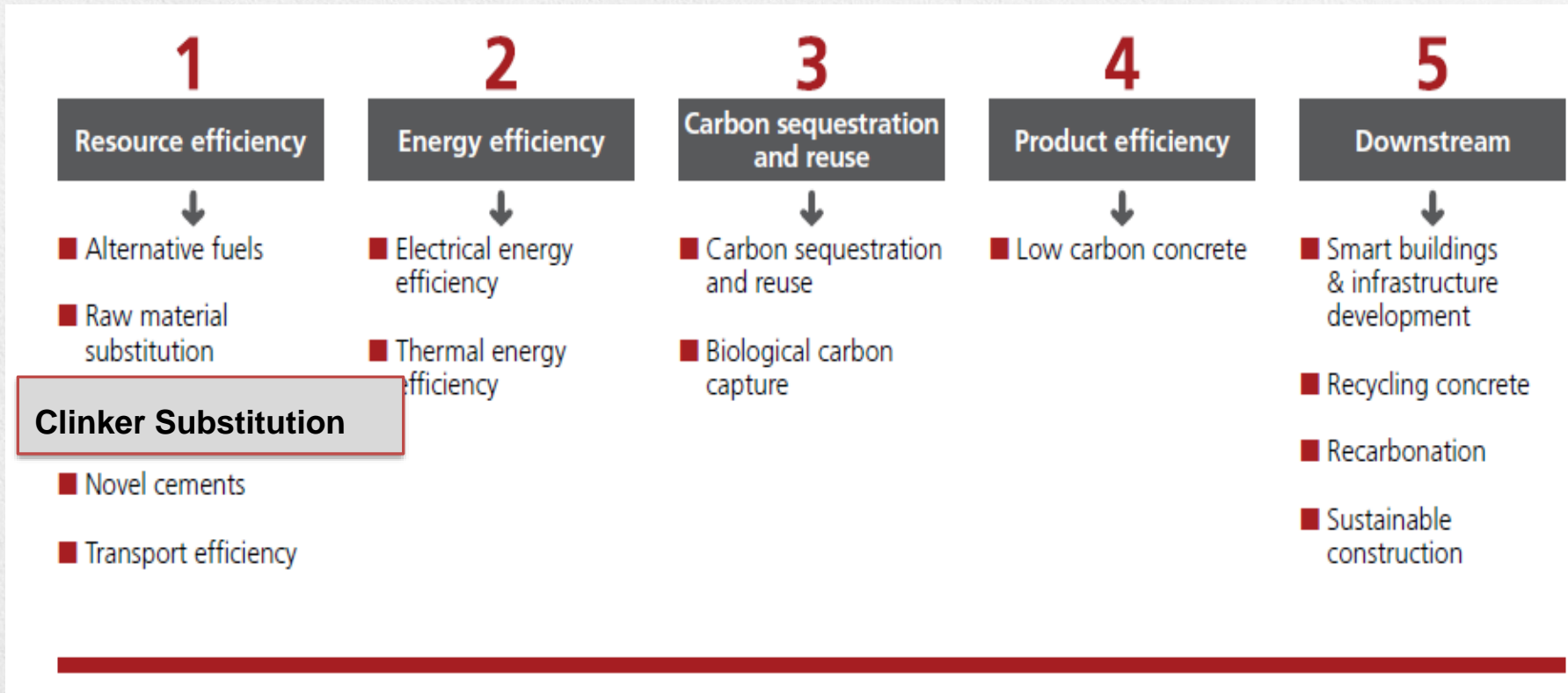
Cape Town - November 2019

LC3 A South African Perspective

South African cement volumes in world perspective

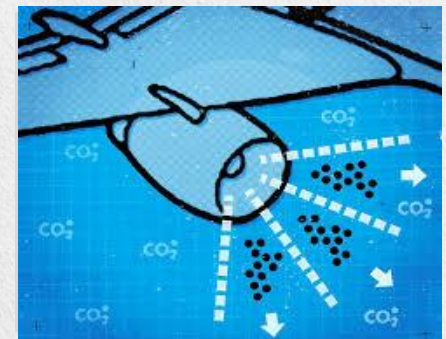
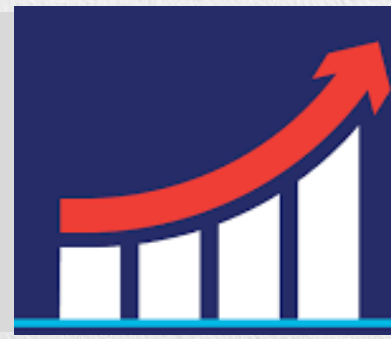


CEMBUREAU 2050 roadmap 5 parallel routes



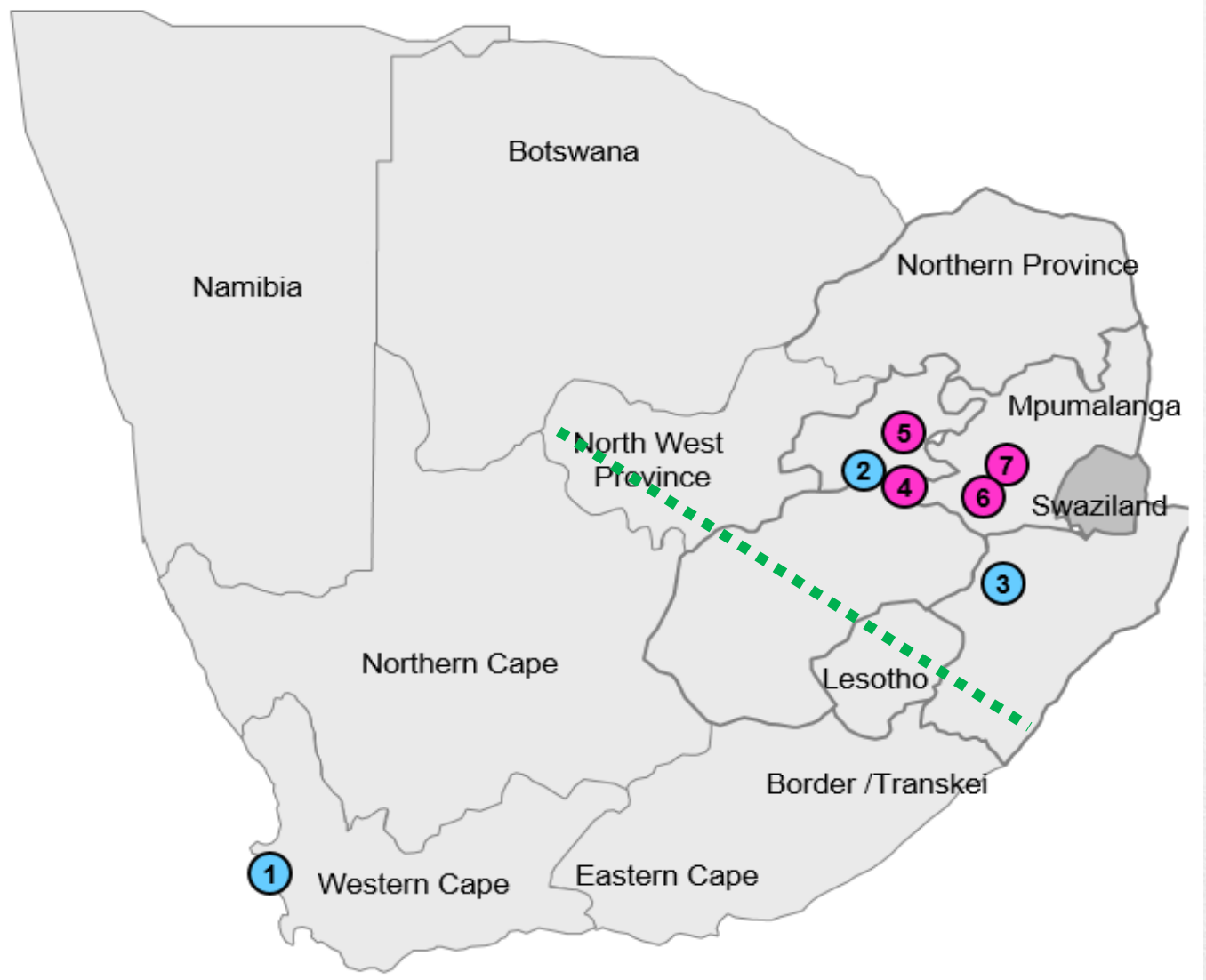
Impact of SA Carbon Tax on Cement Industry

- ❑ Carbon Tax as promulgated: R 120/ton of CO₂
- ❑ International Clinker FOB price estimated to be \$40/t - R590/t
- ❑ CO₂ tax ± 20% of clinker FOB price
- ❑ Currently Sephaku impact R40 mio/a PPC R100 mio/a
- ❑ Next 3 years escalating at CPI + 2% annually
- ❑ No indication yet of what will happen from year 4/5 onwards



SA SCM Landscape: Clinker Substitutes

Slag Plants ●
1. Saldanha (Corex)
2. Vanderbijl
3. Newcastle
Fly Ash Sources ●
4. Lethabo
5. Kelvin
6. Matla
7. Kriel / Kendal

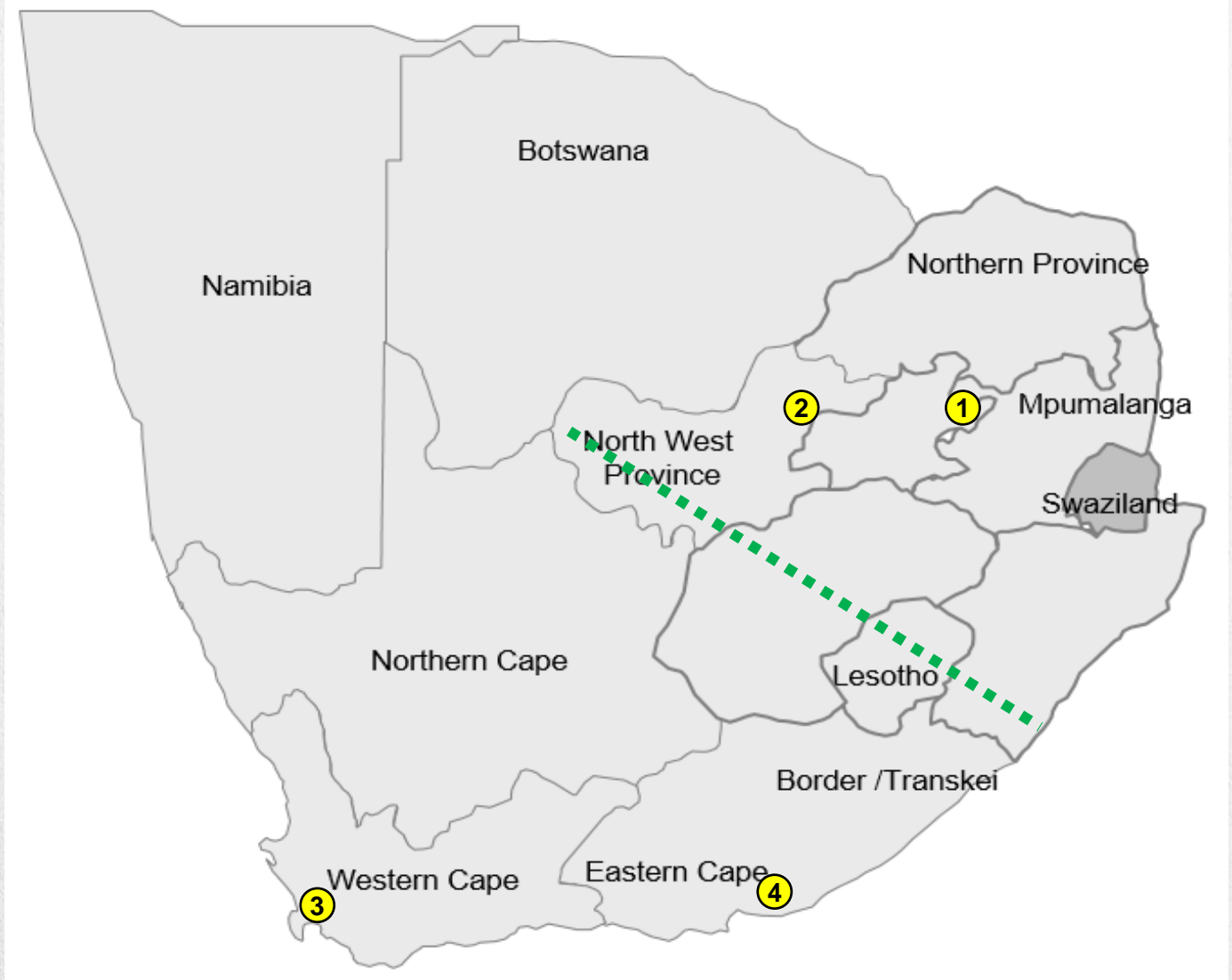


SA SCM Landscape: Clinker Substitutes



SA SCM Landscape: Kaolin

Kaolin sources 
1. Bronkhorstspuit
2. Ottosdal
3. Western Cape
4. Eastern Cape

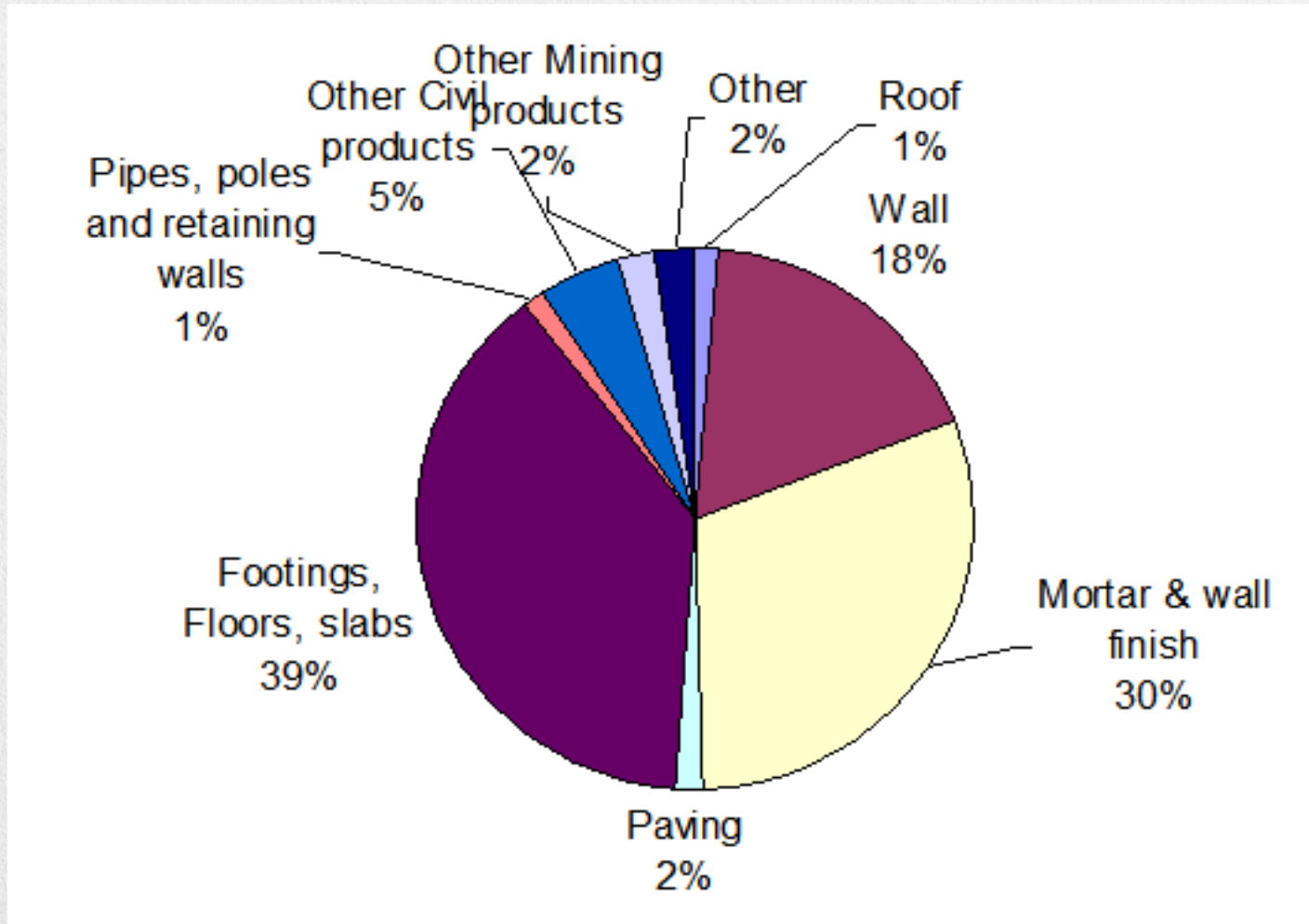


Cement strength classes in South Africa

Strength Class	Application	Est Clinker Content	Potential to reduce CF
52,5 N & R 42,5 R	CPM's Readymix Blenders Construction	95% 80%	Low, High early performance High, Use of SCM's in concrete Low, Extend further to the max High, Conservative engineering frat
42,5 N	Residential Construction Unsophisticated CPM's	50 - 85%	Med, SCM availability and cost
32,5 N & R	Small builders Civil Construction	30 - 65%	Low, North mostly CEM III, IV & V Med, South mostly CEM II
12,5 & 22,5 Masonry Cement	Mortar and Plaster	45% - 65%	High, mismatch between strength requirements and specifications



Cement product application in South Africa (est)



Conclusion

- ❑ Cement Carbon reduction is a reality for SA Cement producers
- ❑ Carbon Tax has the potential to further change consumer behaviour
- ❑ Clinker substitution is an attractive option in SA based on SCM availability and cost
- ❑ Low early strength of available SCM's in high substitution levels hinders customer acceptance
- ❑ There is a place for LC³ technology in SA
- ❑ How does LC³ technology interact with already available SCM's to further reduce Clinker Factor?
- ❑ How will it fit with Compulsory EN 197 (SANS 50197)?



THANK YOU

