

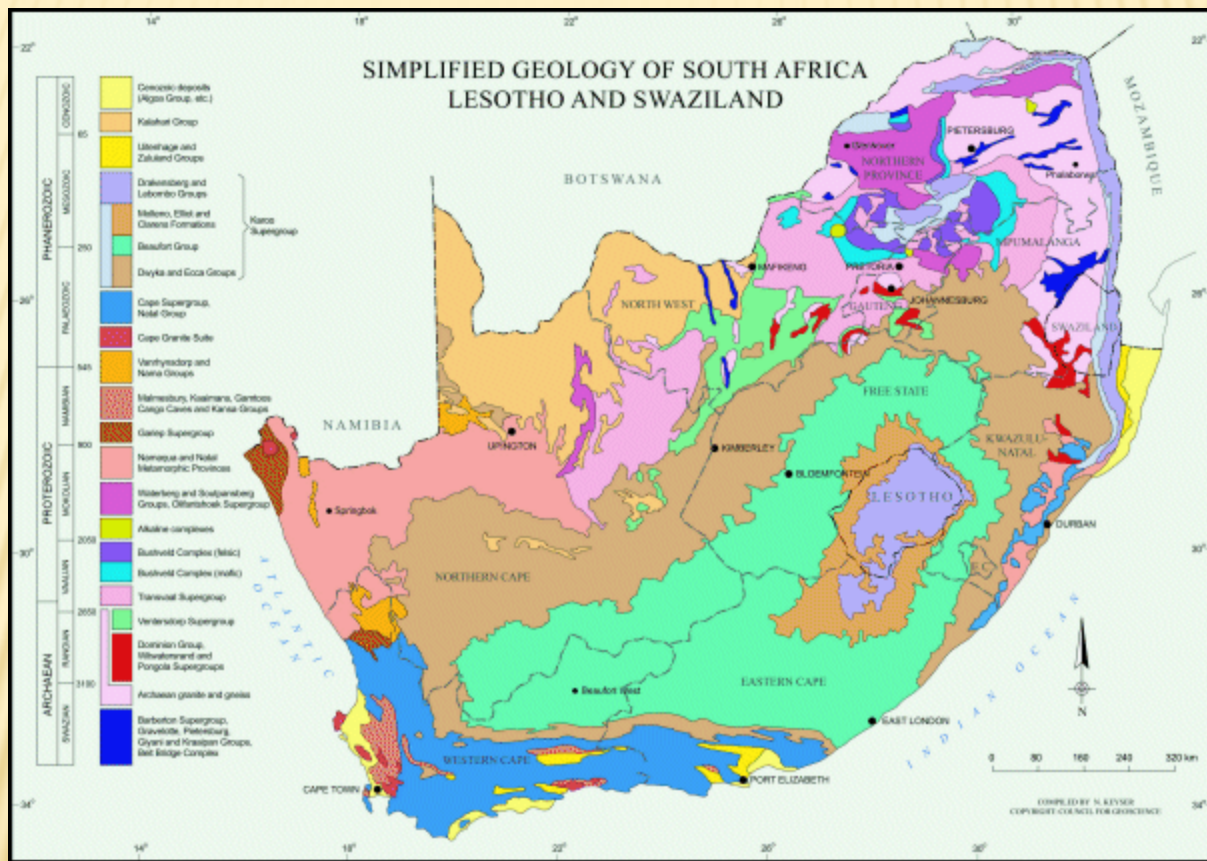


*Presented to the Mpumalanga Economic Summit
October 2009*

MINING IN MPUMALANGA

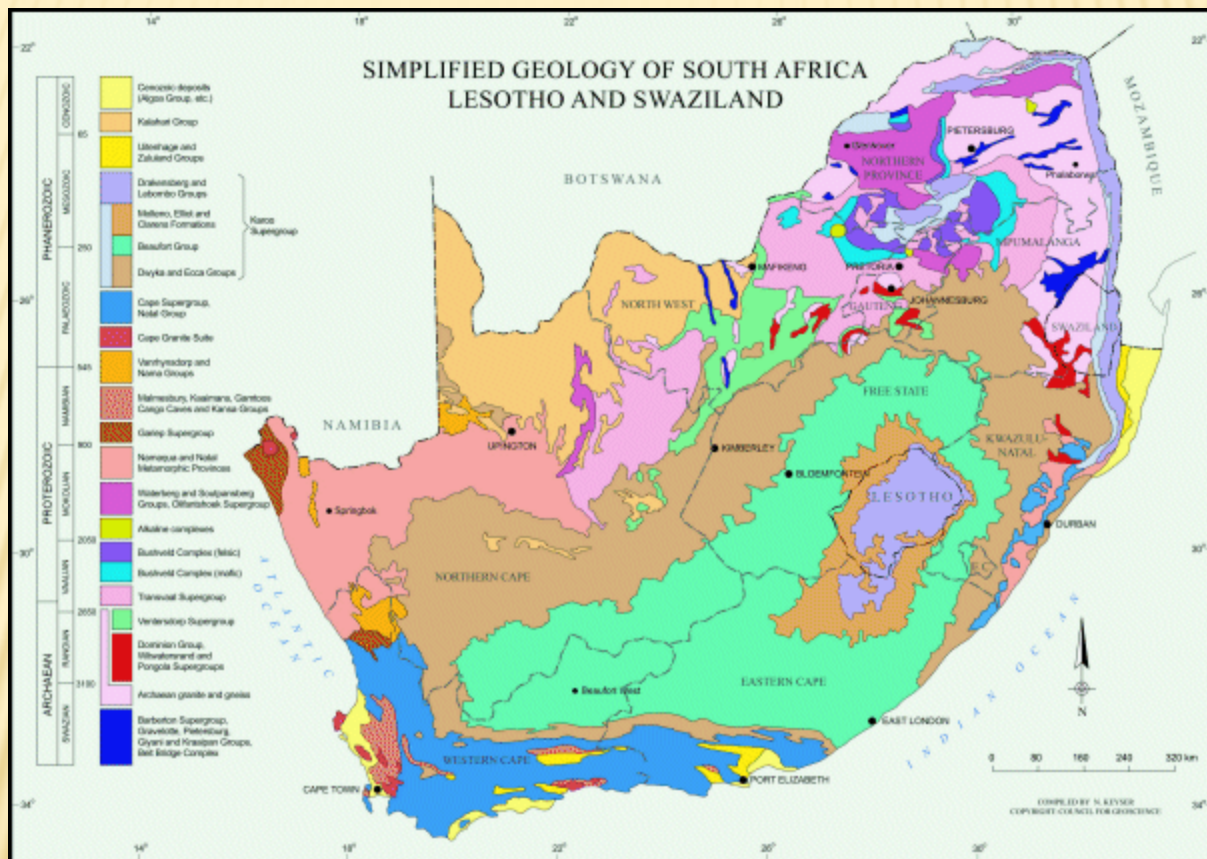
DICK KRUGER
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GEOLOGY OF MPUMALANGA

- × KAROO SUPER GROUP – COAL**
- × BARBERTON SUPERGROUP – GOLD / NICKEL**
- × WITWATERSRAND SUPERGROUP – GOLD**
- × BUSHVELD COMPLEX – PLATINUM / CHROMITE / VANADIUM / MAGNETITE**
- × TRANSVAAL SUPERGROUP - GOLD**



GOLD

× BARBERTON

× EVANDER

× PILGRIMSREST

× BALFOUR

× 12 TON / 4,5% OF SA PRODUCTION

MAGNETITE

× IRON ORE - HIGHVELD

× VANADIUM

NICKEL

- × ONE MINE
- × ONLY PRIMARY PRODUCER IN S A
- × INCREASING PRODUCTION

CHROMITE

- × MINING GROWING
- × FERROCHROME SMELTERS – EMALAHLENI /
MIDDELBURG / LYDENBURG / MACHADODORP
- × STAINLESS STEEL – MIDDEBURG (COLUMBUS)

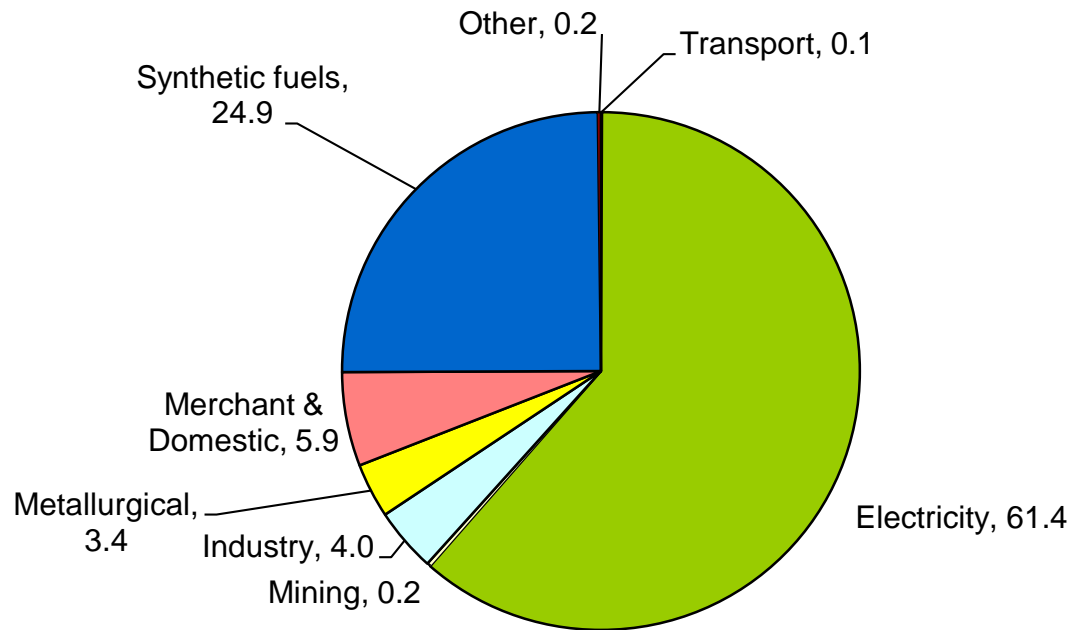
OUTLOOK FOR METALS

- ✘ BUSHVELD COMPLEX EXTENDS INTO MPUMALANGA
- ✘ RESOURCE – PGM, CHROMITE, VANADIUM, MAGNETITE
- ✘ DEPENDENT ON MARKET / PRICE
- ✘ INFRASTRUCTURE REQUIRED FOR DEVELOPMENT

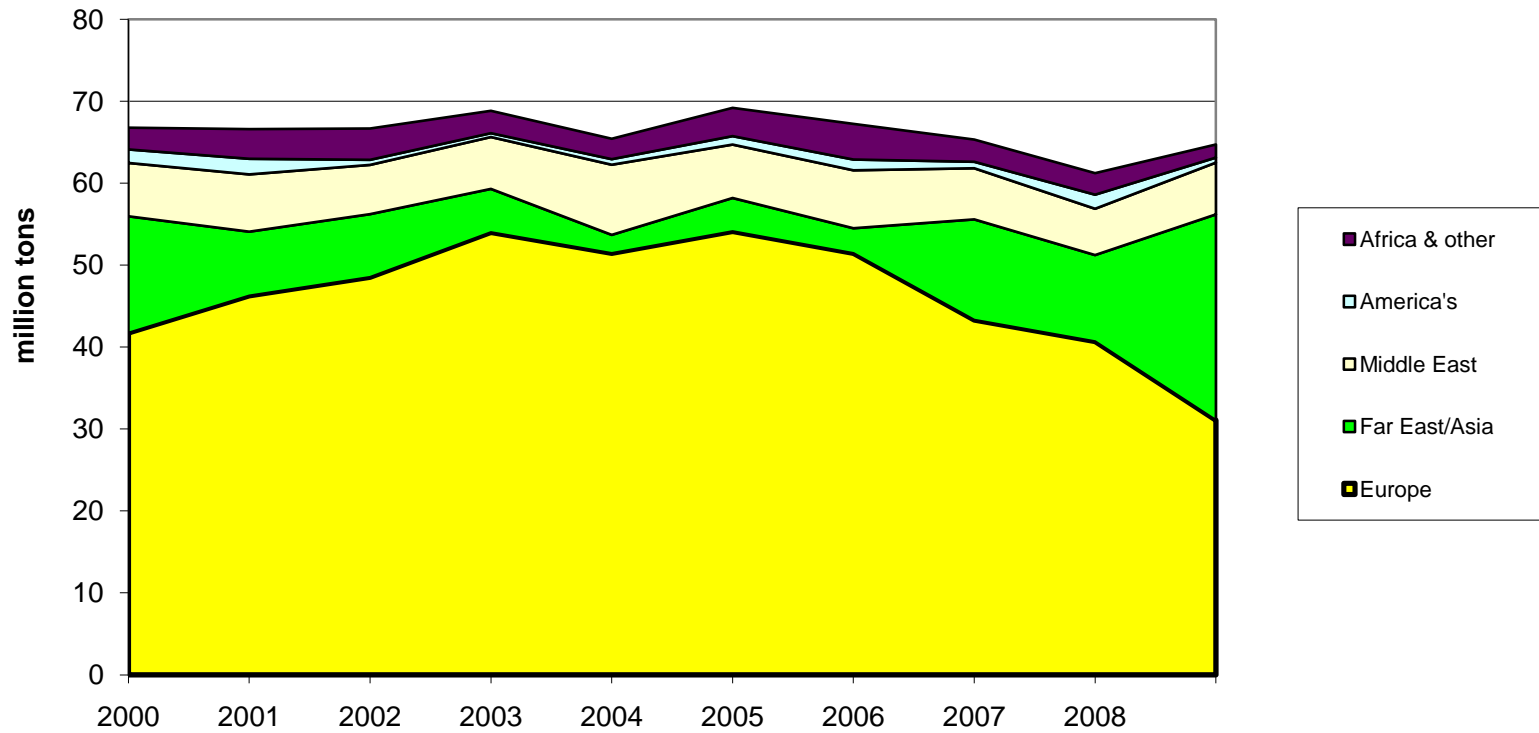
COAL

- × **MPUMALANGA HIGHVELD**
- × **PRODUCTION - 220 MILLION TON (SA = 251)**
- × **EXPORTS - 63.7 million tons**
- × **EMPLOYMENT - +/- 55 000 (SA = 65 210)**

South African Domestic Coal market split by volume, 2008
(source: DMR)



South African thermal coal exports by destination
(source: SACR, 2009 data is 1H09 annualised)



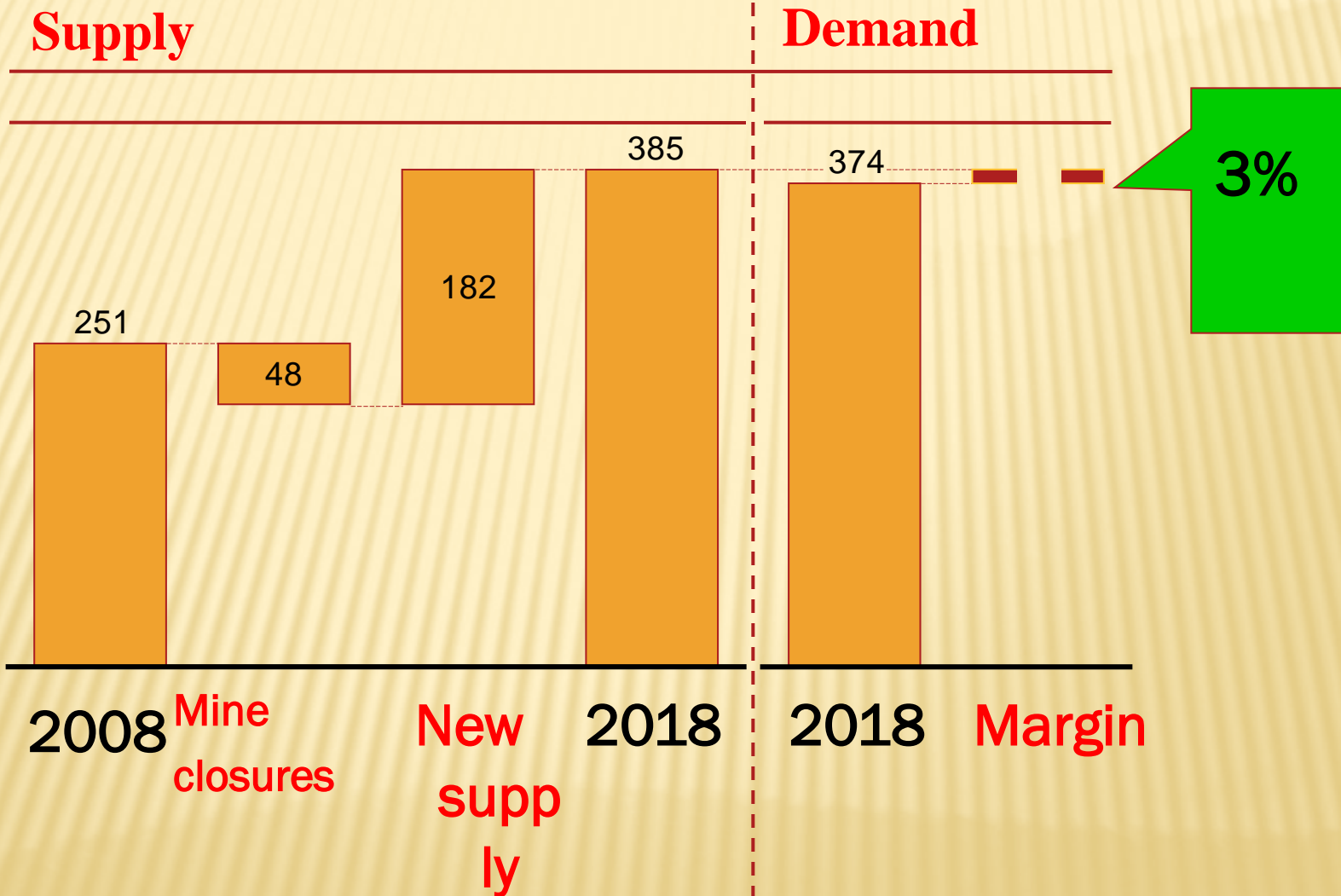
OUTLOOK

- ✘ **ESKOM IS INCREASING GENERATION CAPACITY**
 - **KUSILE IN MPUMALANGA**

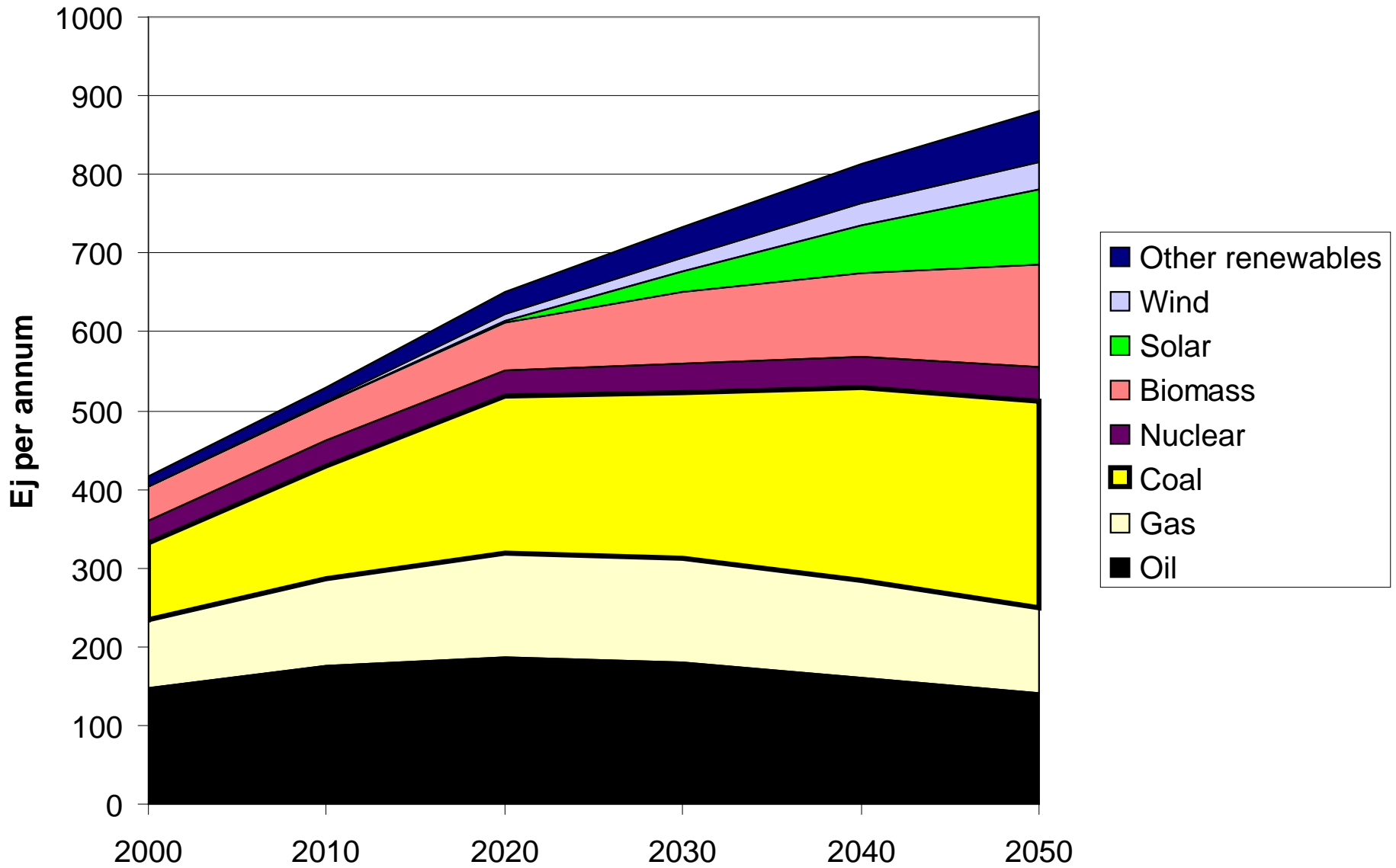
- ✘ **SASOL EXPANSION**

- ✘ **RBCT INCREASED FROM 75 MT TO 92 MT**

COAL SUPPLY / DEMAND 2018



Shell energy scenario "scramble" to 2050, primary energy by source



OUTLOOK FOR MPUMALANGA

- × LARGE RESOURCE
- × COAL PRODUCTION TO PEAK BY +/- 2015
- × GRADUAL DECLINE
- × LIFE EXTENDED BY NEW TECHNOLOGY

ISSUES

- × **DISTURBED LAND**
- × **WATER POLLUTION**
- × **ROADS**
- × **STRANDED COMMUNITIES**

INDUSTRY RESPONSE

- ✘ COALTECH RESEARCH ASSOCIATION
- ✘ RESEARCH TO ADDRESS ALL COAL MINING MATTERS
- ✘ COAL PRODUCERS / ESKOM / CSIR / CHAMBER OF MINES

RESEARCH PROJECTS

- ✘ SOCIO-ECONOMIC ASPECTS OF MINE CLOSURE
- ✘ LAND REHABILITATION AND USE OF SUCH LAND
- ✘ WATER TREATMENT / WATER USE
- ✘ ALTERNATIVE TRANSPORT

CONCLUSION

- ✘ **MPUMALANGA HAS A WORLD CLASS COAL MINING INDUSTRY**
- ✘ **ADVANCED MINERAL BENEFICIATION**
- ✘ **SUPPORTING INSTITUTIONS / INDUSTRIES**
- ✘ **GOOD MEDIUM TERM MINING PROSPECTS**

THANK YOU !