



# Mondi and Climate Change

A business overview

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Date 24 June 2009

# Climate of Climate Change



Globally Climate Change and Greenhouse Gas reduction is snowballing with key decisions to be taken within the next 12 months:

- Kyoto Protocol
  - Targets aggressive (10-25% by 2020; 50-90% by 2050)
  - China, India, Brazil and South Africa seen as key participants to make commitments
  - CDM has got many holes that need plugging
- European Union and first world
  - EU 2020: at least 20% Renewable Energy; RECs have value
  - Cap and Trade expanded (*one global market?*)
  - Climate change prevention vs climate change adaptation (50:50!)
  - Renewable Energy and Energy Efficiency
- SA high on greenhouse gas inventory list
  - SA energy carbon / coal based
  - SA a high energy reliability risk
  - Energy Efficiency Accord
  - REFIT; RECs starting to realise
  - Previous Department of Environmental Affairs and Tourism (*Minister Van Schalkwyk*) pushing Kyoto and willing to contribute with targets
  - UK's Carbon Disclosure Project (CDP) launched in SA (2007)

# Mondi SA and Climate Change



In South Africa Energy = GHG = \$. Climate change risks can be opportunities if realised and developed up front:

- Green Energy is the major drive-force
- Risk/Opportunity profile can change rapidly after “defining moments” (2009; 2012; 2020)

| <b>Risk</b>                                   | <b>Opportunity</b>                          |
|---|---|
| <b>Legal changes national / international</b> | <b>Feed-in tariffs; CDM; RECs</b>           |
| <b>Green taxes / levies</b>                   | <b>Tax incentives / DTI funding</b>         |
| <b>Marketing local / international</b>        | <b>Eco-labeling; RECs</b>                   |
| <b>Access to reliable electricity</b>         | <b>RE provider from biomass</b>             |
| <b>Climate change mitigation</b>              | <b>Energy Efficiency</b>                    |
| <b>Access to water</b>                        | <b>Carbon Disclosure Project; JSE; FTSE</b> |

- Mondi’s proactive participation – starting to reap the benefits in a competitive market

# Successful Improvement Projects



## RB720 Pulp Mill upgrade

|                     |                 |
|---------------------|-----------------|
| Start-up            | Feb 2005        |
| Capacity            | 720 000 tpa     |
| Additional Capacity | 145 000 tpa     |
| Investment          | EUR 258 Million |

- Increased bleached eucalyptus market pulp output by 40%
- Improved operational efficiencies
- Improved environmental performance through use of best available technology, including improvements in emissions, water consumption and waste water quality
- Ensures long term sustainability of mill
- Upgrade of PM 31 in Durban followed



# Successful Improvement Projects



## Biomass Fuel Replacement

Start-up

2005

- Increased the use of biomass from the forest has led to coal savings
- Reduced methane emissions of decaying biomass
- 50,000 tons CO<sub>2</sub> equivalent per year saving
- Project registered for CDM, with first CER issuance in process



***“Our own generating capacity enables us to run independent from the national grid if required, either at slightly reduced rates or by shedding some of our chemicals production temporarily”***

# Successful Improvement Projects



## Gas Turbine Project

|            |                  |
|------------|------------------|
| Start-up   | August 2006      |
| Capacity   | 29MW             |
| Investment | EUR 17,7 Million |

- Gas turbine installed to improve the mills own power generation capacity; supplementing on-site electricity and steam production
- Combined heat and gas turn the turbines producing power and steam
- Reduced CO<sub>2</sub> emissions
- SO<sub>2</sub> per ton product reduced



***“Our own generating capacity enables us to run independent from the national grid if required, either at slightly reduced rates or by shedding some of our chemicals production temporarily”***

# Successful Improvement Projects



## Energy Savings Project

Start-up

July 2008

Investment

EUR 7,3 Million

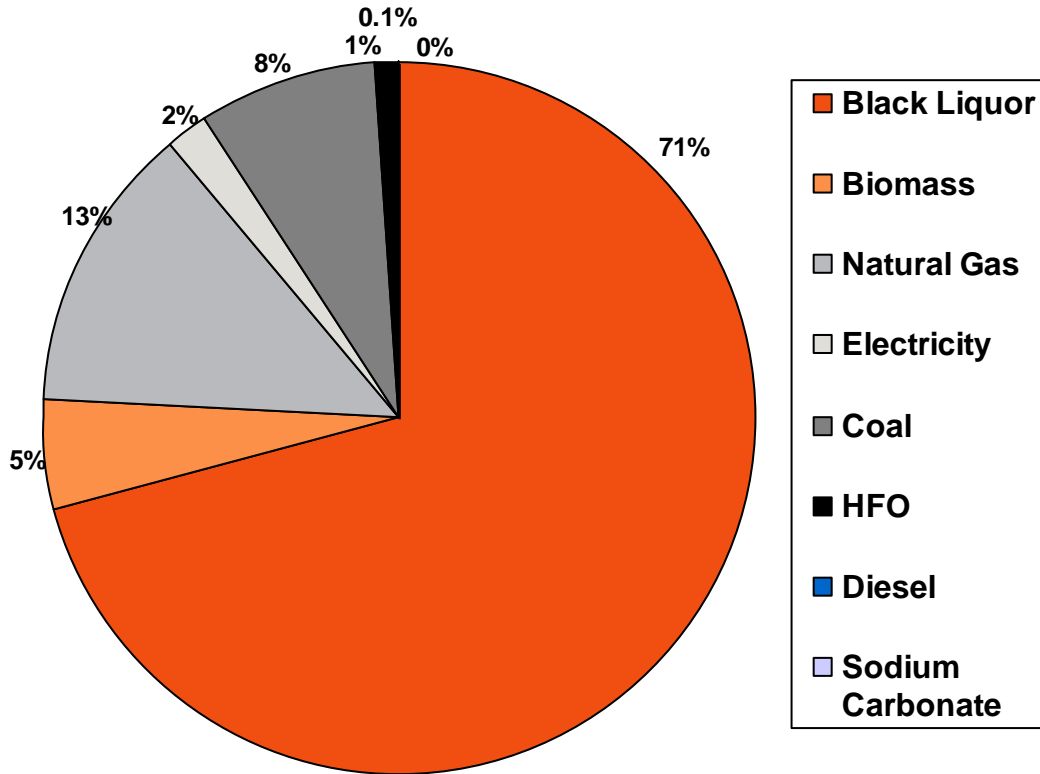
- Heat Recovery and improved Warm Water circuit design
- System of 8 heat exchangers for heat recovery
- Reduction of 50,000 tons of coal per year (15% of all steam)
- Many direct and indirect environmental benefits



# Energy and Carbon contribution



## Energy Contribution



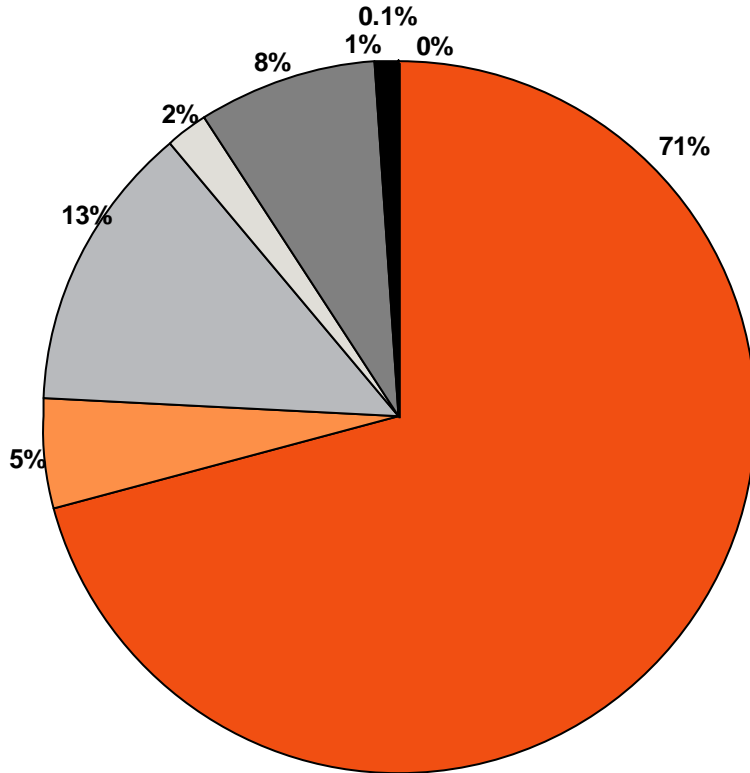
● Only 2% of energy needs supplied by Eskom

● 76% Renewable Energy

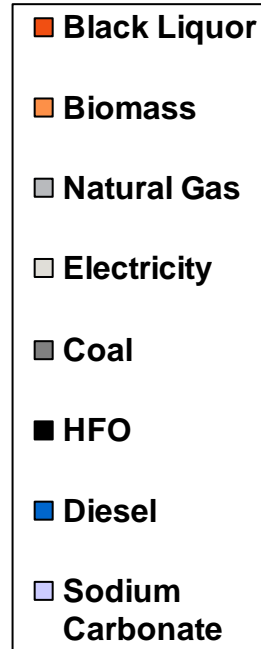
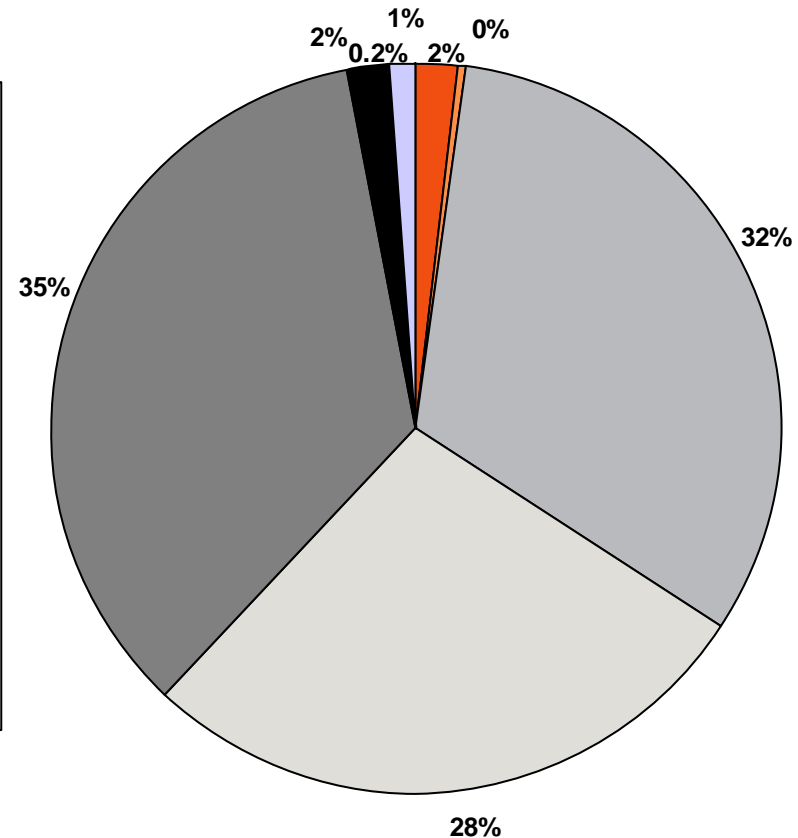
# Energy and Carbon contribution



## Energy Contribution

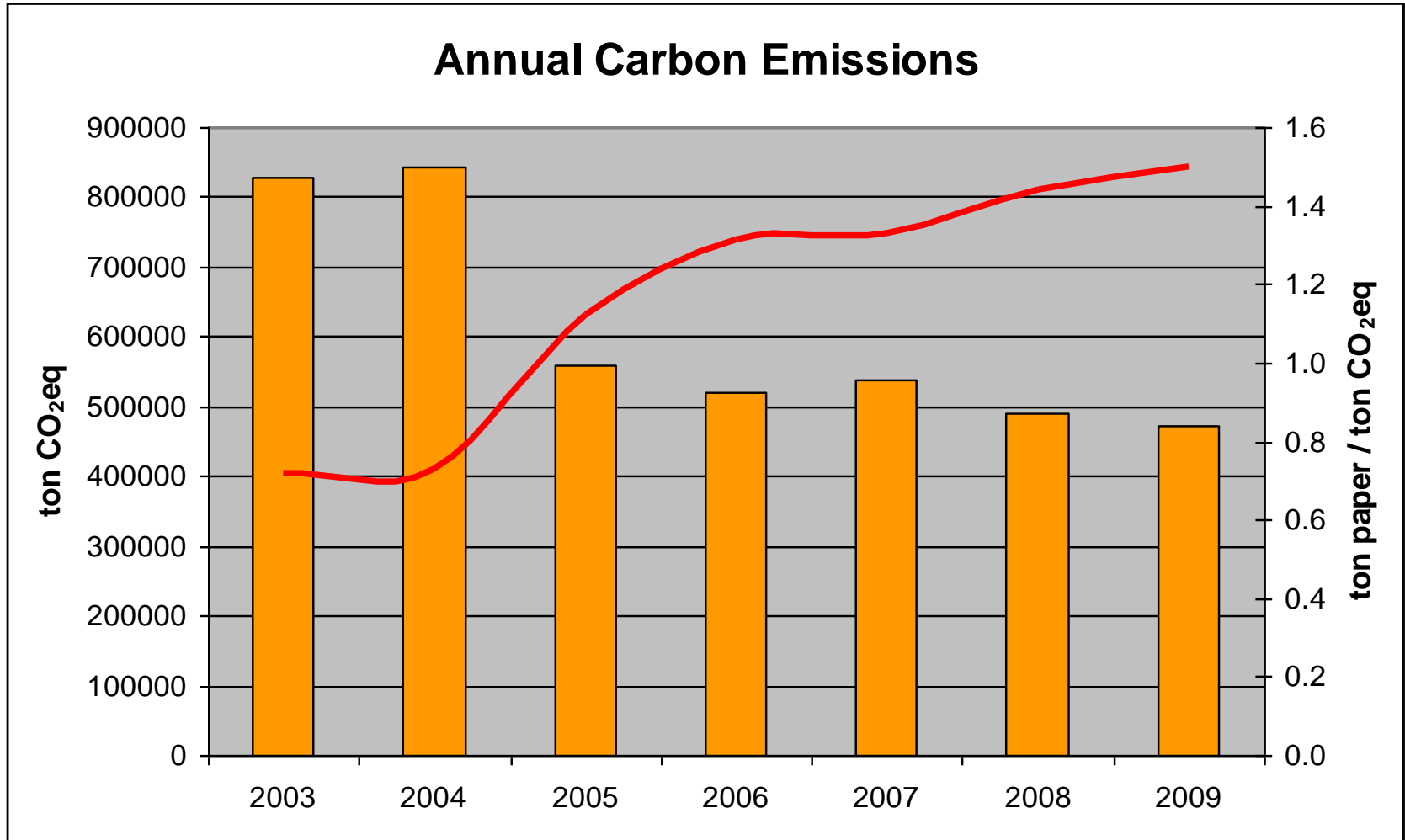


## Carbon Contribution



- Only 2% of energy needs supplied by Eskom
- 76% Renewable Energy, contributing 2% of carbon emissions

# Richards Bay Annual Carbon Emissions



# Lessons and Investment



In order to promote Climate Change and Greenhouse Gas Reduction, it must be incentivised:

- Not “business unusual”
- Environmental Management Accounting: put value to CO<sub>2</sub> risks / opportunities
  - R100 / t CO<sub>2</sub> ?
- Link climate change to other risks / opportunities
- Best Available Technology (BAT)
  - Environmental Management not an add-on



## Questions & Answers

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