



UNIVERSITY
OF
JOHANNESBURG

EnerKey Joburg Cities and Energy Issues

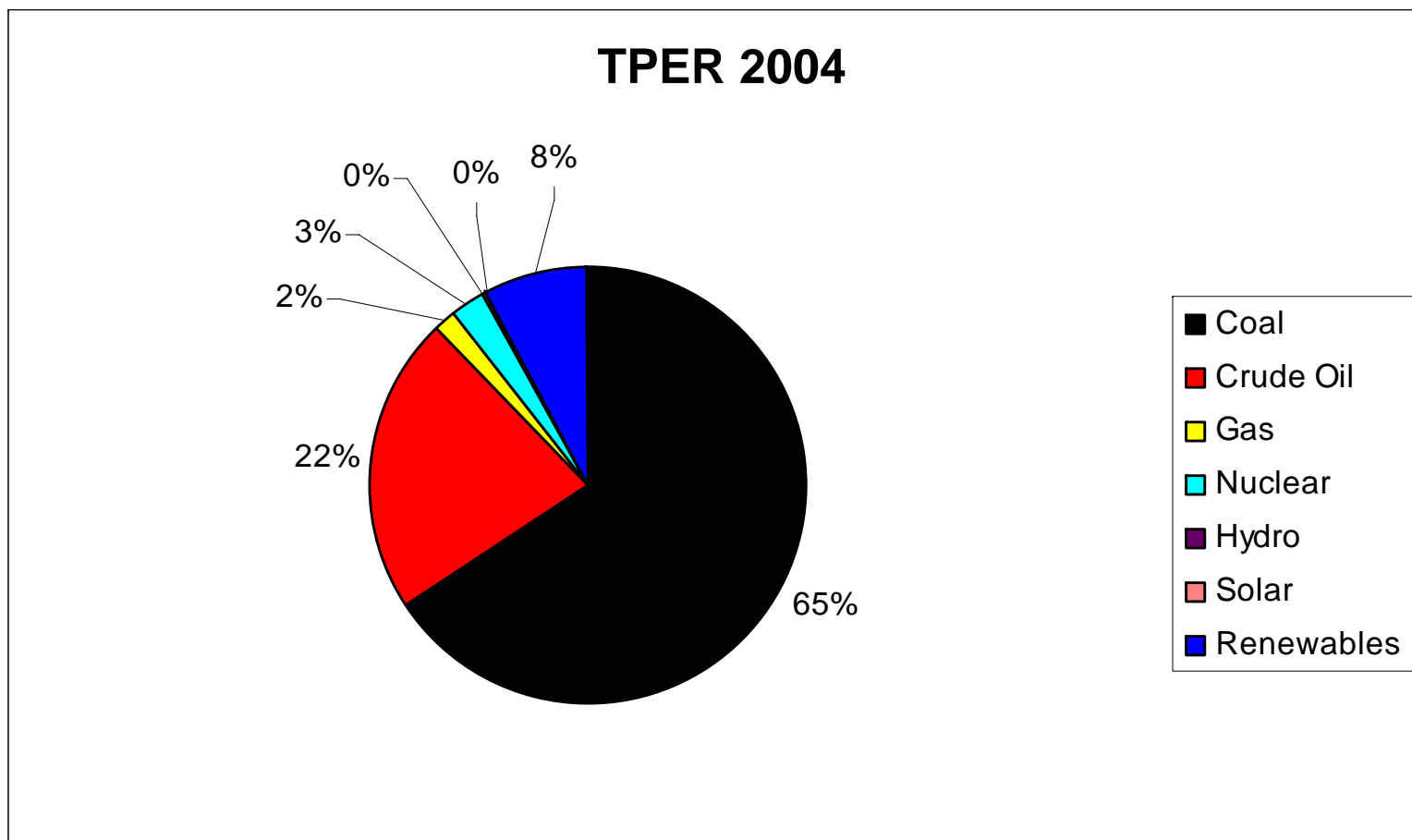
Dr CJ Cooper, Stuttgart
13 July 2006

Overview

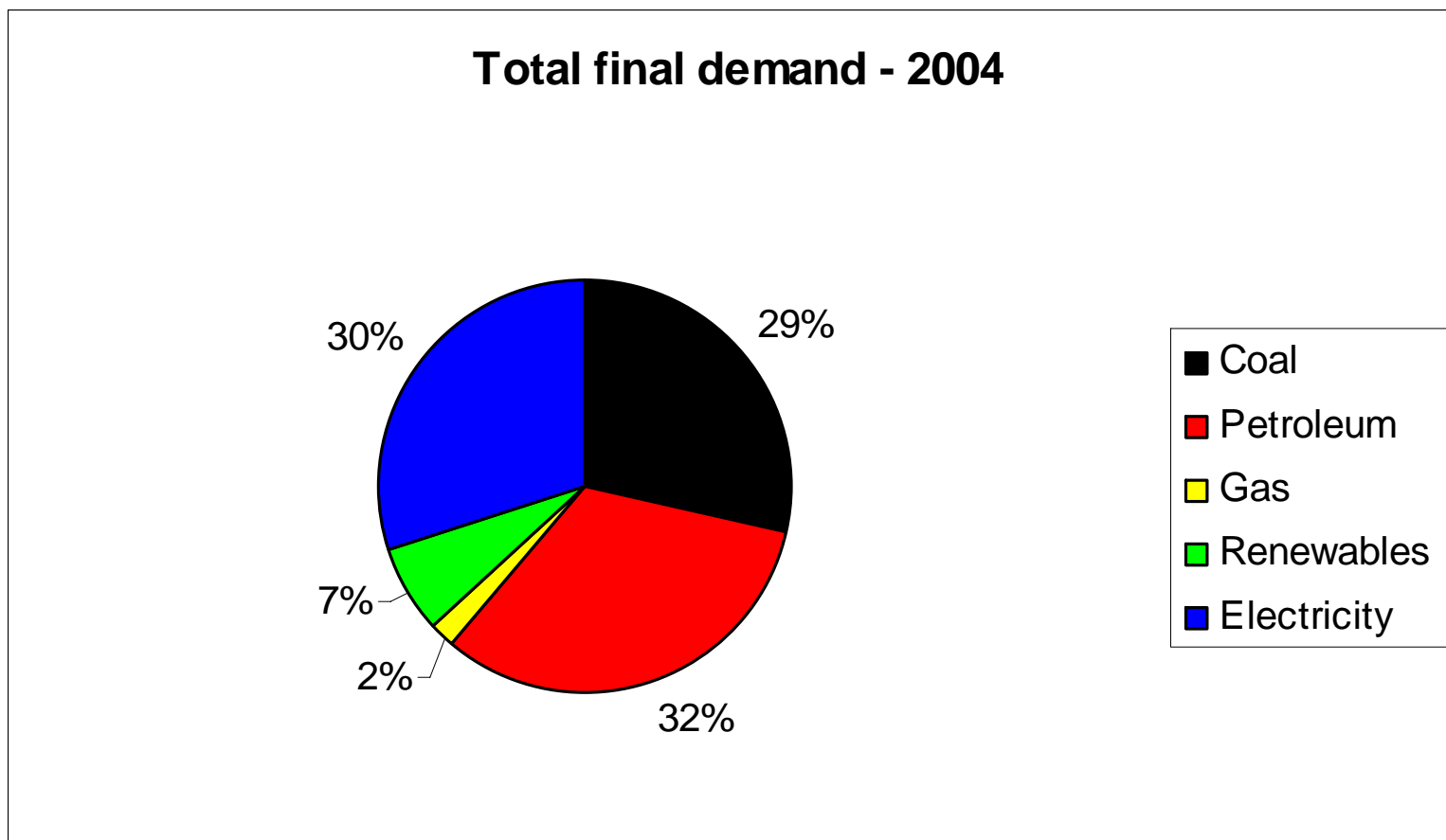


- SA Energy situation
- City energy challenges
- Philosophical

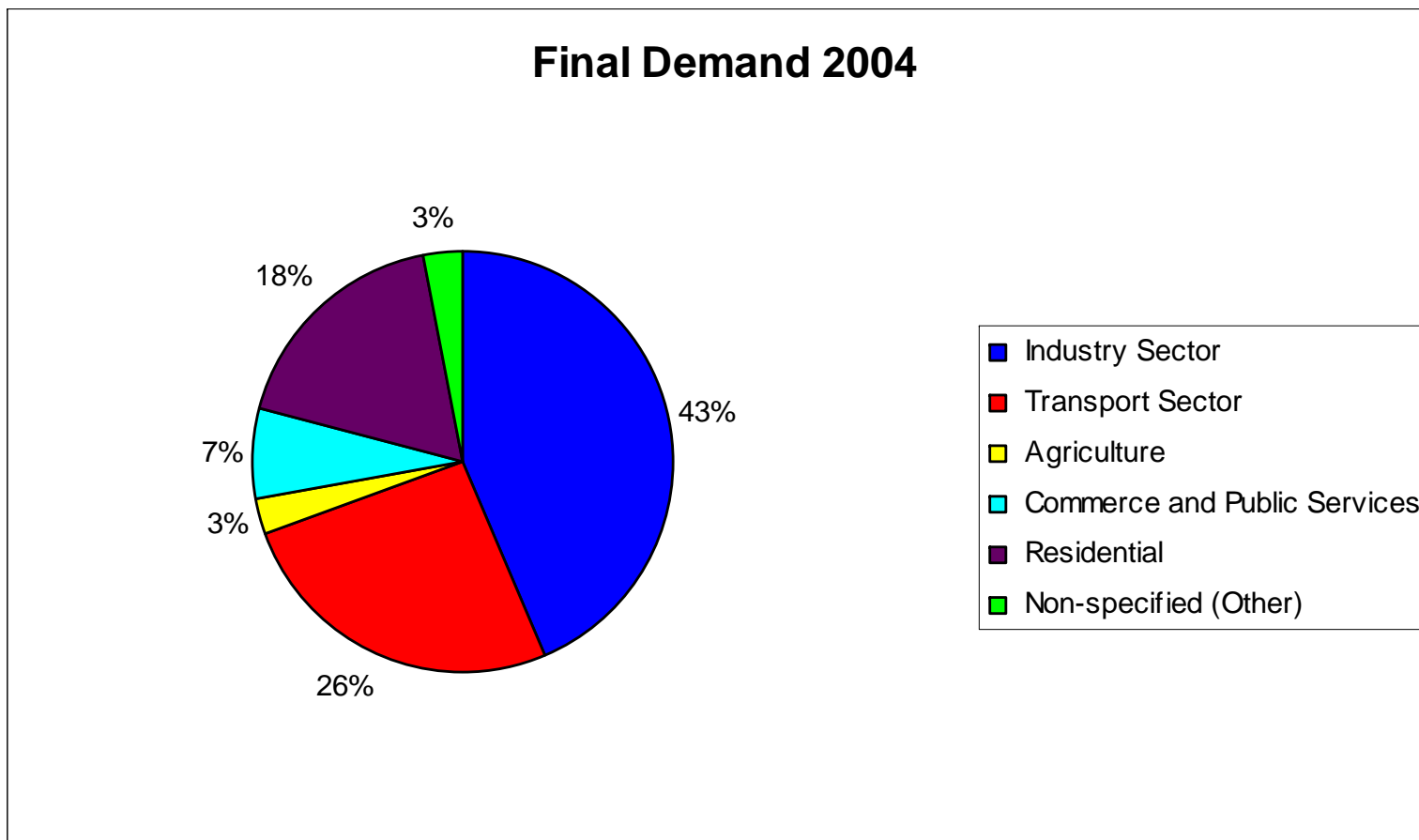
SA Energy situation



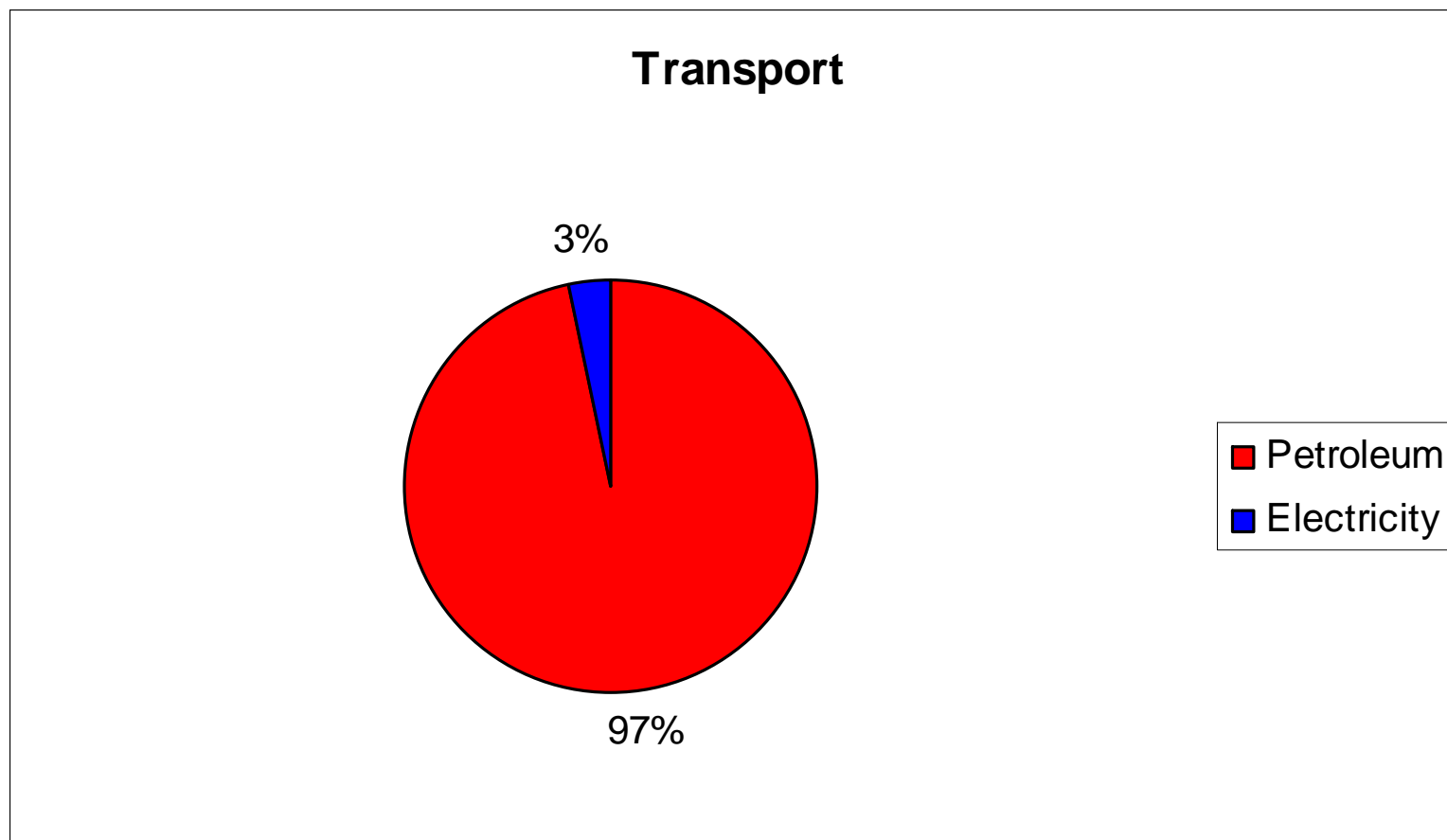
SA Energy situation



SA Energy situation



SA Energy situation



City energy challenges



- Energy
- Envelope
- Process
- Transport

Energy



- Sources
- Reserves
- Uses
- Environment

Envelope



- Thermal
- Mechanical
- Light
- Electronic
- Stand-by power

Process

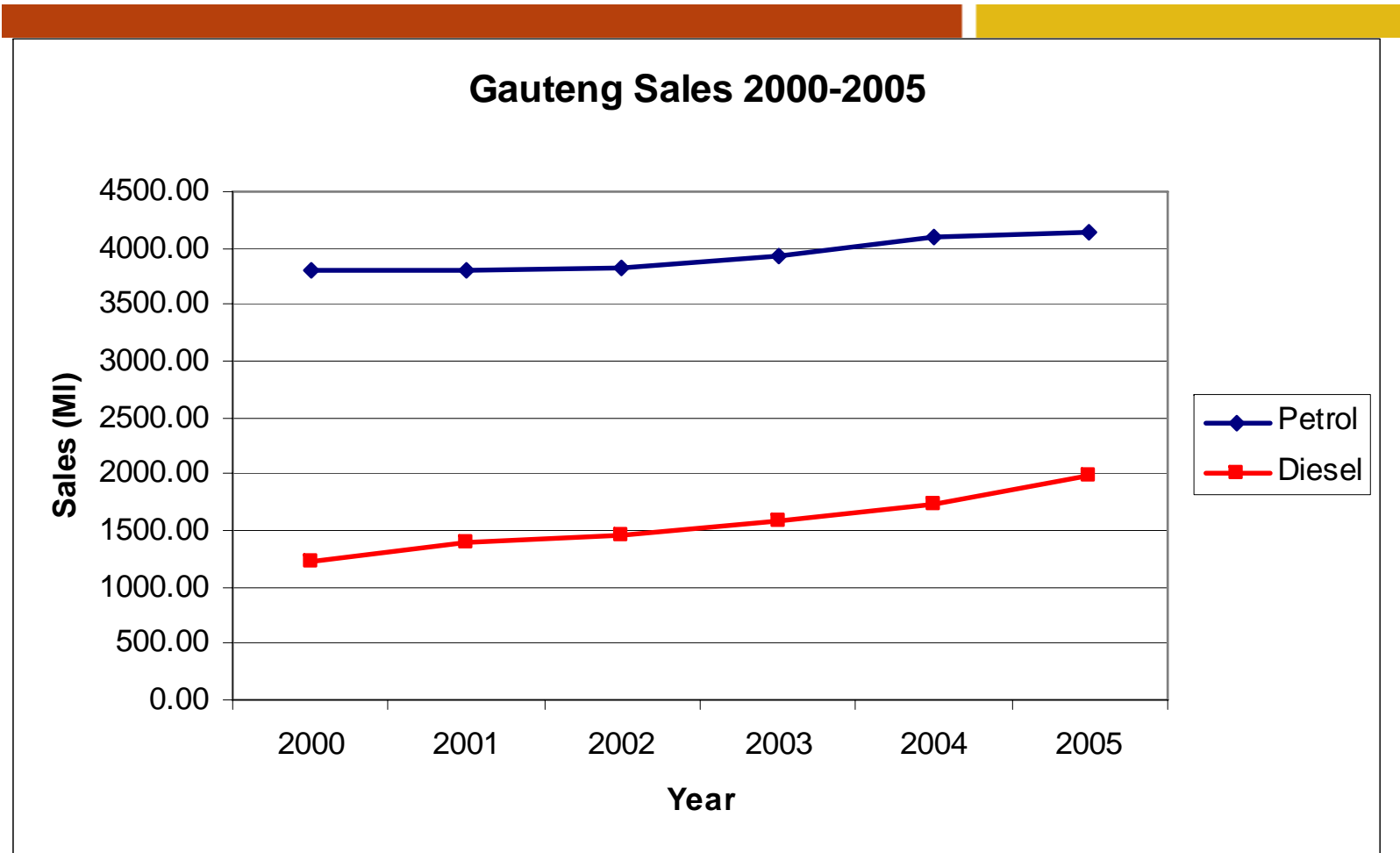


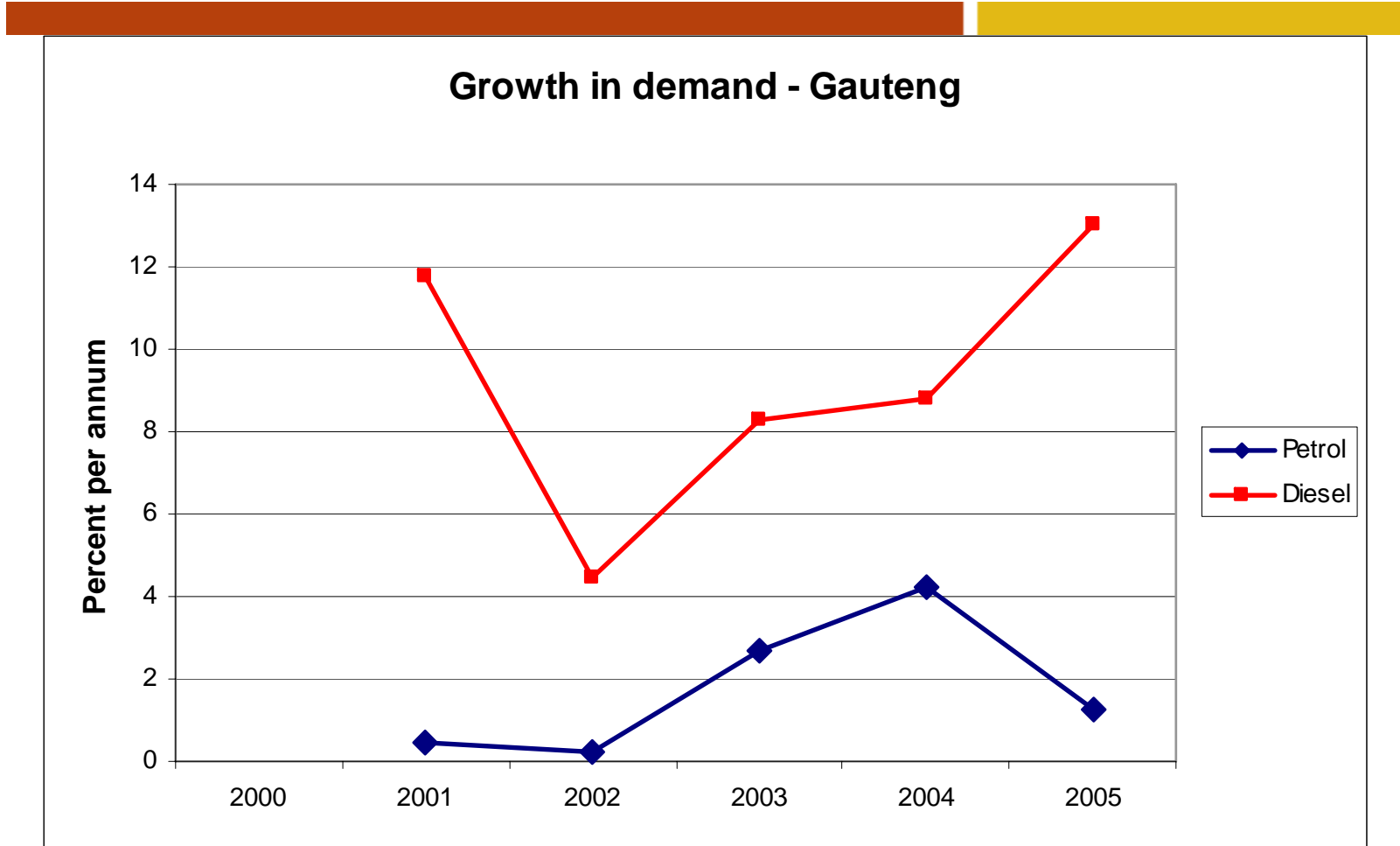
- Energy intensive Industrial
- OR
- Less intensive Service?
- Thermal
- Mechanical

Transport



- People
- Goods
- Agricultural products





Philosophical



- Energy evolution
- The future for Carbon man
- Three paths
- The transport challenge
- The planning challenge

Philosophical - Energy Evolution



- Cave Man
- Hunter-gatherer Man
- Farmer Man
- Carbon Man

Philosophical – Carbon Man's Future



- Constrained Carbon
- Environmental pressures
- Economic decline?
- War over resources?
- Ghetto Gauteng?

Philosophical – Three Paths



- Nuclear Man?
- Green Man?
- Symbiotic Man?
- What do these mean for Cities?

Philosophical – the Transport Challenge



- What systems?
- What fuels?
- What resource cost?
- What environmental cost?
- Can we still move food?

Philosophical – the Planning Challenge



- Do we have a developmental plan?
- Does it take into account the philosophical challenges mentioned?
- How long-term is it?
- Will the energy industry be able to provide the required energy?
- Environmental concerns?

Conclusion



- *Quo vadis* Gauteng?
- How can the EnerKey project help?



Thank you