Victoria's Energy Outlook

CEDA Energy Forum
10 April 2006

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VENCorp Chief Executive Officer

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VENCorp roles

- Energy Planner (Gas and Electricity)
- Market Developer
- Gas Operator
- FRC Facilitator
- Gas/Electricity Emergency Manager

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VENCorp's Mission / Vision

Mission

VENCorp ensures the efficient and effective delivery of energy for the benefit of the Victorian community

Vision

Victoria will achieve the most reliable and cost effective energy supply through competitive national markets

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Victoria's gas network

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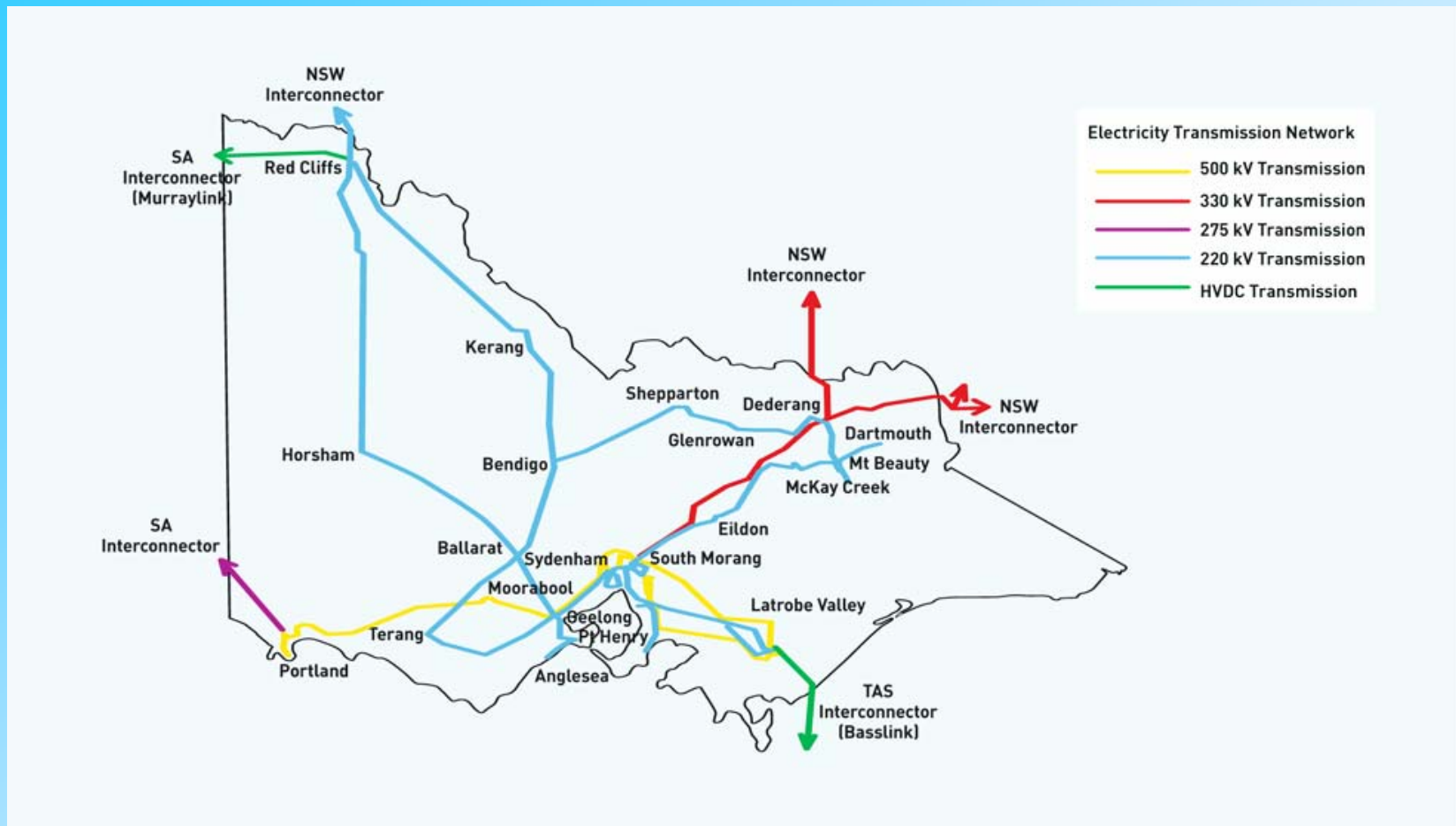
Victoria's electricity network



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VENCorp's Energy Planning Roles

- VENCorp:
- Assesses the adequacy of the transmission networks to support demand/supply
- Seeks to economically remove electricity constraints to support demand/supply: Increase network capacity Or contract generation Or demand side management.
- Applies specific planning criteria (Regulatory Test, Value of Customer Reliability, Security)
- Optimises Network, Monitors Performance

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VENCorp's Energy Planning Roles (2)

- VENCorp:
  - Produces medium-term planning documents (10-year Electricity and Gas Planning Reports, produced annually)
  - Produces a long-term planning report (Vision 2030)

- These reports aim to provide energy sector businesses with lengthy investment signals to assist with future planning
- Today's focus is on VENCorp's 25-year vision for the sector - Vision 2030

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Summary of Vision 2030

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Vision 2030

- Vision 2030 is a 25-year vision for Victoria's electricity and natural gas transmission networks.
- Report identifies potential investment in new transmission capacity required over the next two and a half decades.
- It is the first document of its kind in Australia, providing a vision for both gas and electricity in one document.
- The report highlights the growing links and interactive nature of the electricity and gas markets.

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Four Key Scenarios

- Carbon response
  - Move to natural gas and renewables eg wind
- National superhighways
  - Single region NEM, Vic Gas reserves depleted
- Strong economic growth
- Extreme peaking (Electricity due to A/C)

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Victoria's Energy Needs - Gas

- Victoria has:
  - Around 1.6 million gas customers
  - Heavy reliance on gas amongst business and residential users
  - Largest gas market in Australia
  - Consumption growing by around 1.6% a year
  - Peak demand gas day 10 August 2005 – 1234TJ

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Victoria's Energy Needs - Electricity

- Victoria has:
  - Around 2.5 million electricity customers
  - Equally heavy reliance on electricity amongst business and residential users
  - All-time electricity peak recorded on 24 February this year – 8730 MW
  - Electricity consumption growing by around 2.6% p.a.

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Infrastructure Investment - Current

- Victoria's energy transmission (gas and electricity) infrastructure currently valued at around $2 billion.
- The total retail value of Victoria's stationary energy market (reticulated natural gas and electricity) is around $8 billion.

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Infrastructure Investment - Future

- Potential requirements for investment in new transmission capacity to meet the State's needs range from $1 to $2 billion.
- Much of this growth will occur across Melbourne and the greater Geelong area.
- A further $2 to $6 billion is possibly required for major long haul electricity links and gas pipelines should Victoria become a major importer of energy from remote sources.

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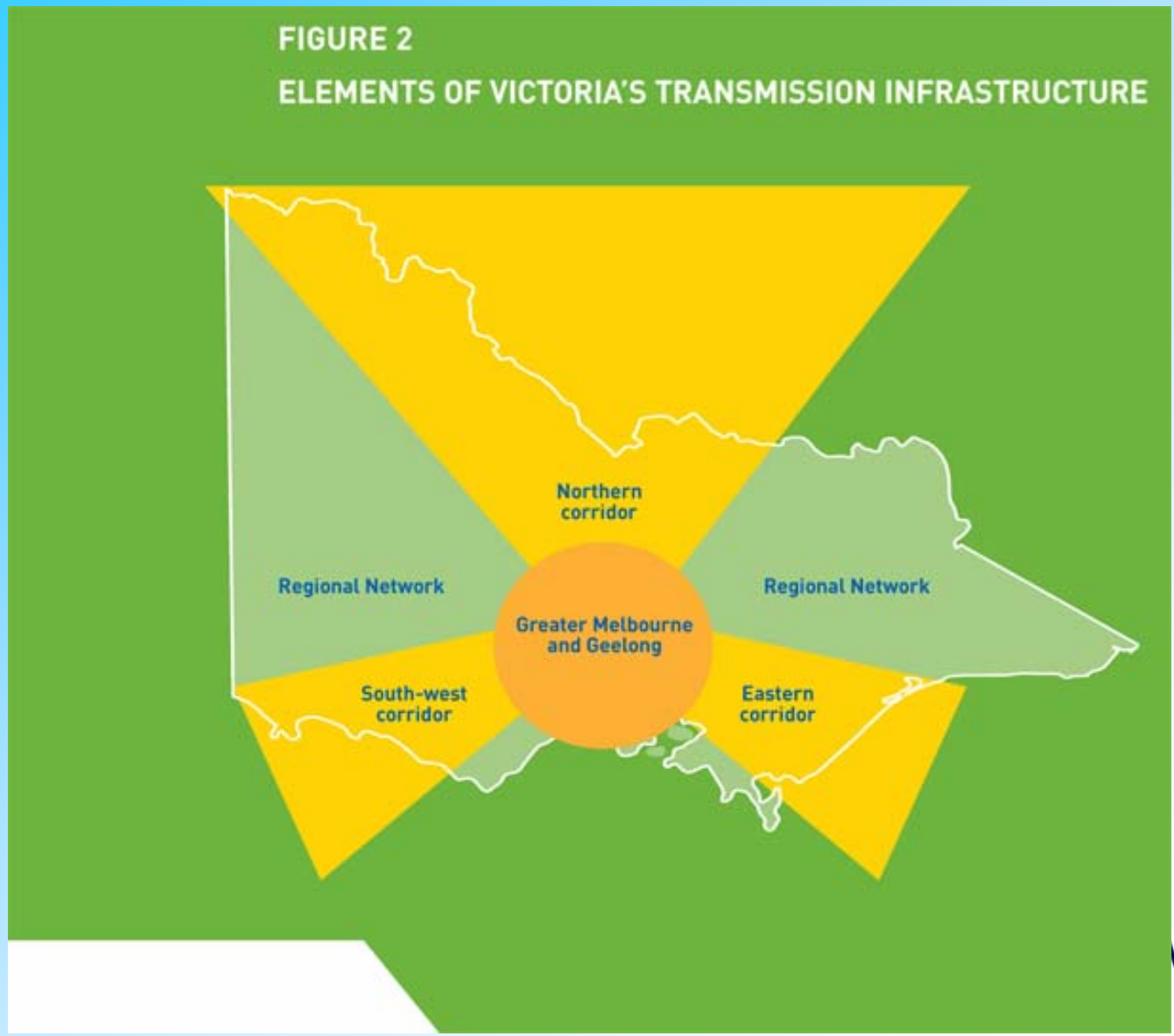
Corridors of Growth



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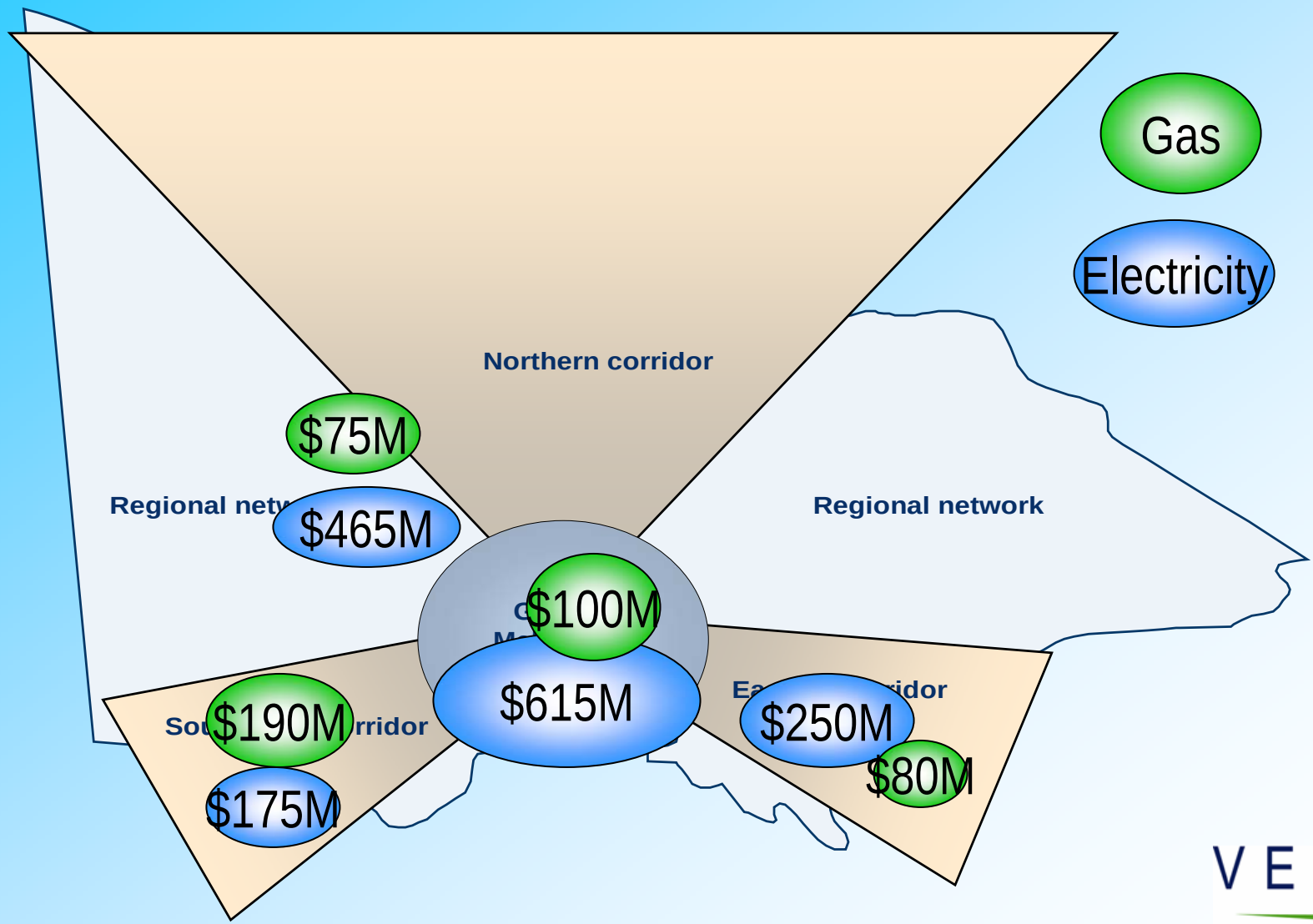
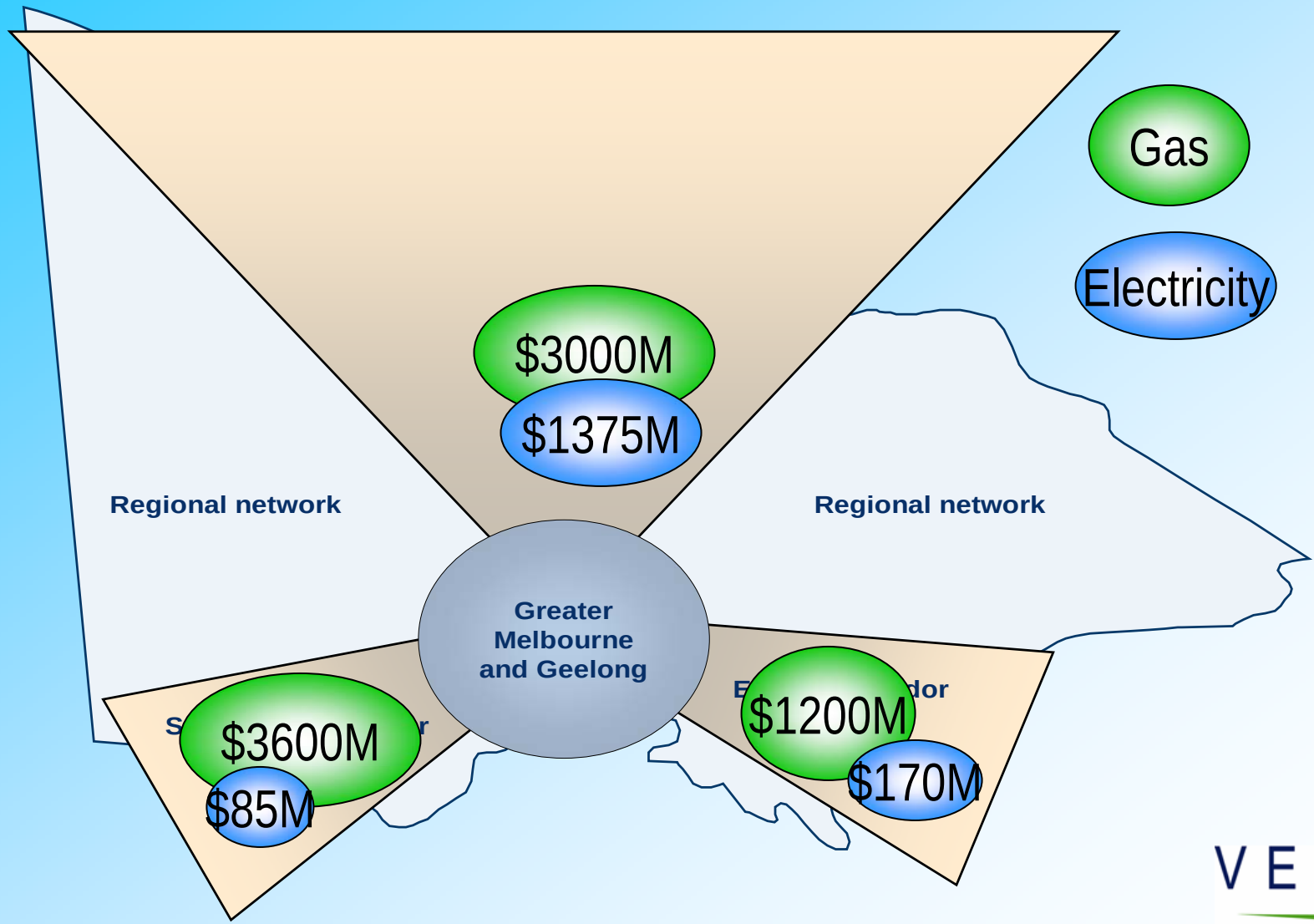
Potential Investment – Within Victoria



Potential Long Haul Investment



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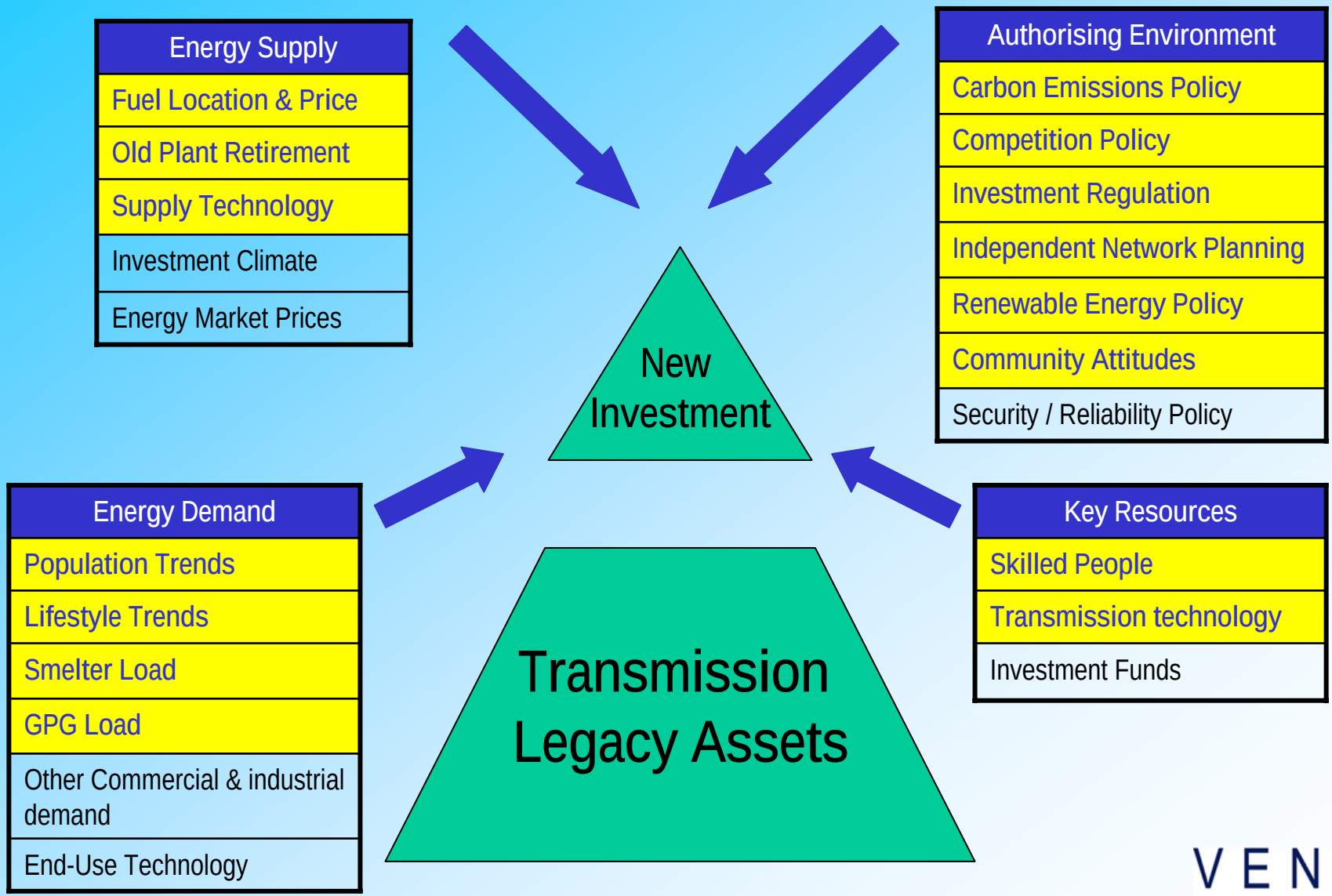
Factors Shaping Investment



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Energy Demand - Investment Drivers

- **Population Growth:** Currently 5 million people in Victoria, in 2030 more than 6 million people.
- **Lifestyle Changes:** E.g. Air Conditioner Growth - current air cond. penetration 55% of households, in 2015, 70% of households.
- **Climate Change**: In 2004/05 summer, 8 days over 35 deg. In 2030, there will be up to 10 days over 35 deg.; in 2070, up to 24 days (CSIRO data).

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Energy Demand – Investment Drivers (2)

- **Geographic Change:** Growth in Melbourne's corridors, regional centres.
- **Ageing Population:** Most Victorians now aged 25-40, in 2031 will be 30-50 – as shown in graph.

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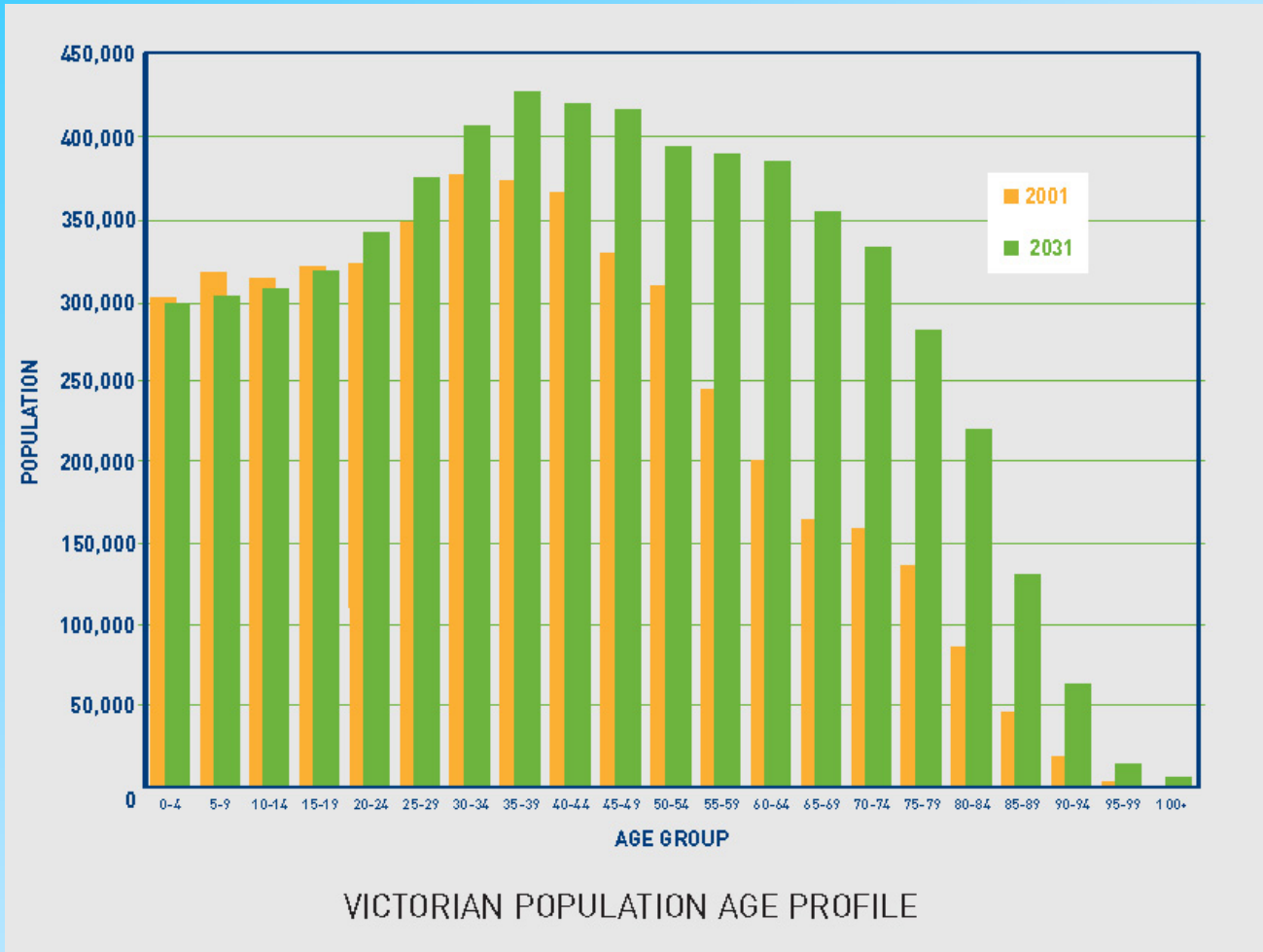
Investment Driver: Population Age Profile



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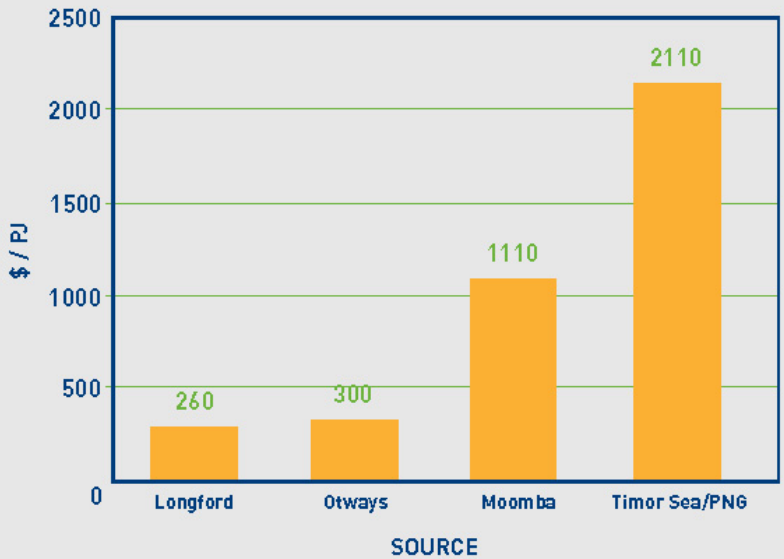
Comparative cost of gas

- Up to $8 billion (further $2-$6 billion) if gas from remote sources required
- High cost of gas from remote sources:

FIGURE 18
COST OF GAS TRANSMISSION FROM REMOTE SOURCES



Source: NIEIR Energy Working Party Conference August 2003
(costs shown are in 2001 dollars)

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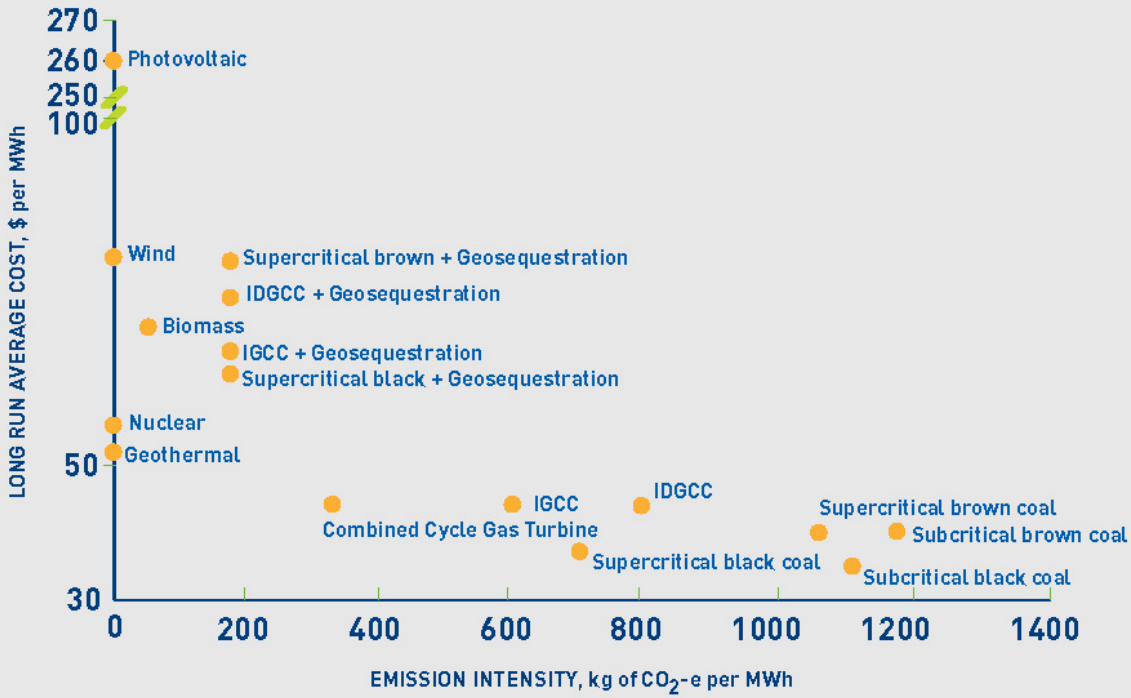
Comparative cost of electricity (generation)

FIGURE 34
ELECTRICITY GENERATION - INDICATIVE COSTS AND EMISSION INTENSITY BY FUEL AND TECHNOLOGY[16]



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Future Supply Security: Major Projects

- **Electricity:**
  - Basslink
  - Laverton Gas Powered Generator
  - Transformers (x2)
  - Other upgrades
- **Gas:**
  - Corio Loop
  - Other upgrades

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Minister for Energy Industries:

"Vision 2030 provides a 25-year energy sector outlook for Victoria"

And

"It is a blueprint … which will deliver a secure supply of energy across the state."

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VENCorp website:

www.vencorp.com.au