

# What Do We Want From Our Electricity System?

Roy Hemmingway

Chair

New Zealand Electricity Commission



# The Electricity Commission

- Established September 2003 after failure of industry self-governance
- Full-time chair and four part-time commissioners
- 40 staff
- Oversees electricity markets, provides dry year reserves, conducts electricity efficiency programmes, and regulates Transpower



# What Do We Want From Our Electricity System?

- Reliable supply
  - Minute to minute
  - Seasonal variations
  - Assurance of supply in future
- Affordable, stable prices
- High environmental standards met

# How Are We Doing?

## Reliable Supply

- System delivers high levels of reliability today
- Dry sequence security much improved
- Concerns about future transmission capacity for Auckland and Christchurch

# What Are We Doing About Reliable Supply?

- Auckland likely to exceed available capacity (transmission & generation) by 2010
- Transpower's 400 kilovolt line proposal
  - Electricity Commission will make yes/no decision by mid-2006 based on Grid Investment Test
  - RMA process will take longer
  - EC investigating alternatives

# Transpower's 400 kv Proposal

- From Whakamaru to Otahuhu
- To serve Auckland peak loads
- Pylons up to 67 metres tall
- \$500 million cost, plus or minus
- First of major grid upgrades
- Designed for demand in 2010
- First line in NZ to seek exclusive corridor

# Alternatives

- Transmission alternatives
  - Other voltages, new conductor, other terminals, HVDC, undergrounding, use of existing pylons
- Generation alternatives
  - Peaking turbines, major new generators, small generators
- Demand-side alternatives
  - Gas conversion, insulation, CFLs, load shifting, major retrofits

# How Are We Doing?

## Future Supply

- Generation investment keeping pace with demand
- New generation likely to be ‘just in time’
- Continuing uncertainties about fuel
- Wind development underway
- Electricity efficiency lacking

# What Are We Doing About Future Supply?

- Creation of climate for investment
  - Efficient market
  - No price caps
- Fuel supply uncertainty moving to resolution
  - Carbon charges, LNG or domestic gas
- Wind integration study
- Electricity efficiency programmes

# How Are We Doing?

## Affordable, Stable Prices

- Prices for businesses have risen 22% to 24% in last 5 years
- Prices not stable in wholesale market
- Little trading outside of half-hourly market
- Regional retail markets have developed
- Competition for load (customers) is weak
- Customers bearing risk

# What Are We Doing About Affordable, Stable Prices?

- Diagnosis and treatment difficult
- Hedge Market Development Steering Group formed
- Study of market structure weakness completed
- Study of market structure solutions underway
- Joint study of market competition proposed
- Demand side efforts

# How Are We Doing?

## The Environment

- Carbon tax set
- Renewables (wind) coming on line
- Gas likely to be major fuel – whether domestic or LNG
- Efficiency levels poor
- Demand side programmes undeveloped

# What Are We Doing About The Environment?

- Market as efficient allocation tool
- Integrating wind
- Work needed on distributed generation
- Efficiency programmes underway
- Demand side programmes underway

# Conclusion

- Electricity system is sound
- Winter security not in jeopardy
- Transmission issues being addressed
- Future investment likely to be sufficient
- Markets not operating as they should
- Efficiency needs major focus