Energy statistics in Australia

Drew Clarke
Secretary
Department of Resources, Energy and Tourism

4 May 2011
Energy in the Australian context

**Australian energy production**

**Australian energy exports**

*Source: ABARES, Australian energy statistics. (2011)*

*Source: ABARES, Australian commodities. (2011)*
Annual growth in primary energy consumption in Australia

Energy intensity trends

Sources: ABARES, Australian energy statistics; ABS, Australian National Accounts: State Accounts, cat. no. 5220.
Australia’s Emissions Trends, 1990 to 2020

Source: DCC & EE
Oil dependency is growing

World electricity prices, selected countries, 2009

- Industrial:
  - Italy
  - Slovak Republic
  - Ireland
  - Japan
  - Hungary
  - Czech Republic
  - Netherlands
  - Luxembourg
  - Slovenia
  - United Kingdom
  - Portugal
  - Poland
  - Greece
  - France
  - Denmark
  - Spain
  - Finland
  - Switzerland
  - Sweden
  - Mexico
  - Australia
  - Chinese Taipei
  - United States
  - New Zealand (2008)
  - Norway
  - Rep. of Korea

- Residential:
  - Denmark
  - Italy
  - Netherlands
  - Ireland
  - Austria
  - Luxembourg
  - Slovak Republic
  - Japan
  - Belgium
  - Portugal
  - United Kingdom
  - Spain
  - Hungary
  - Sweden
  - Czech Republic
  - Finland
  - Switzerland
  - France
  - New Zealand
  - Australia
  - Norway
  - United States
  - Chile
  - Chinese Taipei
  - Thailand (2008)
  - Rep. of Korea

Notes:
- Australian prices estimated using 2004 prices from IEA Energy Prices and Taxes, and ABS index of electricity prices for households and businesses.
- Sources: IEA, Energy Prices and Taxes 2010; ABS.
Australia’s electricity generation fleet is mostly coal-fired.

**Australian electricity generation by fuel, 2008-09**

- Biomass, Bags & solar: 1.2%
- Coal: 21.8%
- Wind: 1.5%
- Hydro: 4.7%
- Gas: 15.0%
- Brown coal: 75.7%
- Black coal: 84.9%

Source: ABARES

**Year of Installation of Current Generation Capacity**

Source: ESAA

**Capacity by State and Fuel**

Source: ABARES

**Ownership of Generation Assets**

Source: AER

1. NSW includes recent Gentrader arrangements.
Investment trends in electricity capacity

Capacity Installed, Committed or under Construction since 1999 (All Australia)¹

- At the end of October 2010 16 projects were either committed or under construction with a total capacity of 2297 megawatts.
- An additional 148 projects with a total potential capacity of 34,661 megawatts is at a less advanced stage.

¹ Year of commissioning or expected start-up year - as of October 2010.

Source: ESAA, ABARES
The technology cost challenge

Technology Cost Ranges - 2030

Source: RET
### Primary Energy Use Energy Efficiency Opportunities Program

#### Opportunities identified by corporations

<table>
<thead>
<tr>
<th>Opportunities identified by corporations</th>
<th>Energy savings per year (PJ)</th>
<th>Net financial benefits per year ($ million)</th>
<th>Emissions reductions (MtCO₂-e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunities to be adopted</td>
<td>61.5</td>
<td>714</td>
<td>6.4</td>
</tr>
<tr>
<td>Opportunities under investigation</td>
<td>36.3</td>
<td>362</td>
<td>3.8</td>
</tr>
<tr>
<td>Opportunities not to be implemented</td>
<td>1.9</td>
<td>174</td>
<td>1.3</td>
</tr>
<tr>
<td>Total identified opportunities</td>
<td>113.7</td>
<td>$1,250 million</td>
<td>11.5 MtCO₂-e</td>
</tr>
</tbody>
</table>

**EEO Corporations 1682PJ, 29%**

**Electricity Generation 1614PJ, 28%**

**Other Businesses 1431PJ, 25%**

**Households 1006PJ, 17%**

**Government 40PJ, 1%**

(RET 2010)
Energy statistics in Australia

Drew Clarke
Secretary
Department of Resources, Energy and Tourism

4 May 2011