Taranaki Regional Energy Development

Basil Sharp
Taranaki region
Background

• Population of 119,600, June 2018, 2.4 % of NZ.
• Relies on natural & physical resources for social & economic well being
• Land: 7,200 km², 10% original cover remains, 39% forest cover
• Air quality: have never exceeded AQ standards
• Water: demand from ag. Increased by 28% since 2003; blanket regional restrictions summer 2016/17; consented groundwater increased sevenfold; 4 hydro stations; water quality poorest in lowland urban catchments.
• Produces ~ 10% NZ milk solids
• 4 Hydro stations: ~ 40 MW
• Thermal: ~ 1,200MW + 50MW under construction
Summary stats

**Economy**
- GDP (2010 prices): $7,712m, growth in 2018: 2.7%

**Employment**
- Filled Jobs: 58,134, growth in 2018: 1.1%

**Productivity**
- GDP per filled job: $132,655, growth in 2018: 1.7%

**Population**
- Usually resident persons: 119,600, growth in 2018: 1.4%

**Businesses**
- Business units: 15,264, growth in 2018: -0.5%

**Standard of living**
- Mean earnings: $59,783, growth in 2018: 3.7%

**Skills**
- Highly-skilled Jobs: 16,486, share of total 2018: 28.4%

**Tourism**
- Contribution to GDP: $204m, share of total 2018: 2.6%
Regional GDP
Regional Employment

**Employment, 2018**

<table>
<thead>
<tr>
<th>Level</th>
<th>Regional Growth</th>
<th>National Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>58,134</td>
<td>1.1%</td>
<td>3.0%</td>
</tr>
</tbody>
</table>

Filled jobs

- Taranaki Region
- New Zealand

**Employment growth, 2001 - 2018**

Proportion of filled jobs by ANZSIC 1-digit industries, 2018

- Manufacturing: 22.7%
- Energy, Water, and Waste Services: 15.1%
- Health and Community Services: 10.2%
- Professional, Scientific, and Technical Services: 9.8%
- Transport, Postal, and Warehousing: 9.8%
- Accommodation and Food Services: 8.9%
- Education: 8.2%
- Other Services: 6.8%
- Construction: 5.5%
- Retail Trade: 4.5%
- Manufacturing: 2.2%

**Industries which created most jobs, 2008-2018**

- Administrative and Support Services: 651
- Health Care and Social Assistance: 617
- Other Services: 456
- Construction: 438
- Professional, Scientific and Technical Services: 406
- All other industries: 951
- Total increase in employment: 3,519
GDP per job

Productivity, 2018

<table>
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<tr>
<th>LEVEL</th>
<th>REGIONAL GROWTH</th>
<th>NATIONAL GROWTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>$132,655</td>
<td>1.7%</td>
<td>0.2%</td>
</tr>
</tbody>
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GDP per filled job

Taranaki Region
New Zealand

Productivity growth, 2001-2018
Labour market skills

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**Workforce Skills at a Glance**

- **Knowledge intensive employment in 2018**
  - Level: 13,555
  - Share of Total: 21%
  - Share of Total: 32%
  - Employment: Taranaki Region
  - New Zealand

**Top 10 qualifications in demand, 2018**

<table>
<thead>
<tr>
<th>Field of study</th>
<th>Level</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management and Commerce</td>
<td>Certificate (level 1-3)</td>
<td>4,070</td>
</tr>
<tr>
<td>Engineering and Related Technologies</td>
<td>Certificate (level 1-3)</td>
<td>4,445</td>
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<tr>
<td>Engineering and Related Technologies</td>
<td>Certificate (level 4)</td>
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<tr>
<td>Management and Commerce</td>
<td>Degree (level 7+)</td>
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<tr>
<td>Society and Culture</td>
<td>Certificate (level 1-3)</td>
<td>1,215</td>
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<tr>
<td>Health</td>
<td>Degree (level 7+)</td>
<td>2,551</td>
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<tr>
<td>Education</td>
<td>Degree (level 7+)</td>
<td>2,447</td>
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<tr>
<td>Society and Culture</td>
<td>Degree (level 7+)</td>
<td>2,245</td>
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<tr>
<td>Architecture and Building</td>
<td>Certificate (level 4)</td>
<td>2,944</td>
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<tr>
<td>Engineering and Related Technologies</td>
<td>Degree (level 7+)</td>
<td>2,152</td>
</tr>
</tbody>
</table>

**Employment in Taranaki Region and New Zealand (2018)**

- Managers
- Professionals
- Technicians and trades workers
- Community, personal service workers
- Clerical and administrative workers
- Sales workers
- Machinery operators and drivers
- Labourers

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Comparative Stats
Changes in GDP

Oil and dairy have long been the region’s flotation device but the economic downturn signalled a warning call for an industry shake-up.

"We have been bolstered by our high value industries in agriculture and petroleum but let's also apply fresh thinking and unrelenting enthusiasm into new opportunities," Young said.
Oil & Gas exploration

• NZ has run annual Block Offers since 2012. MBIE selects the release areas based on their prospectivity and commercial interest

• Consult with iwi and hapū in the proposed areas,

• Block Offer “bidding” opens, usually in April each year.

• Once bidding closes - usually around six months later - MBIE assess the bids based on their proposed work programme, and criteria including the applicant’s technical and financial capability and likely capability to meet expected health, safety and environmental requirements.
Minister Simon Bridges announced 15 new petroleum exploration permits granted for Block Offer 2014:

- **Westside New Zealand Limited**, 12-year offshore permit in the Taranaki Basin.
  - PEP 60402 has an area of 547km².

2017:
Westside New Zealand Limited, 12-year offshore permit in the Taranaki Basin.
PEP 60402 has an area of 547km².
End to off-shore exploration

November 2018, Parliament passed the Crown Minerals Amendment Bill, putting an end to new offshore oil and gas exploration. The bill passed by 63 votes to 55.

There are 27 fields in NZ currently producing oil and gas. The last of the permits ends in 2030, but if a discovery is made, production could continue for decades. All existing permits will be protected under the Government's plans.
Computable general equilibrium (CGE) models

models that use economic data to estimate how the economy might react to policy shocks (banning off-shore exploration), technology changes (demand side conservation), or external shocks (oil embargo)

Static models (snap shot) or dynamic models (trace impacts over time)
Macroeconomic impact

• The Government's ban on oil and gas exploration could cost up to $30b by 2050, NZIER say (19th Feb 2019)

• Reduce real GDP by between $15 billion (3%) and $38 billion (7.4%). The medium scenario is a reduction of $28 billion (5.4%)

• Households: fall in consumption spending by $4,800 to $14,200 on average for each year between 2020 and 2050, with a $9,400 drop in the medium scenario.

• Investment reduction between $4 billion (5.4%) and $7 billion (8.4%).

• Export revenue reduction by between $3 billion (1.6%) and $10 billion (5.2%).
Regional impacts

• Drop in Taranaki’s real GDP > national. Other regions benefit from capital and labour shifting away from the oil and gas industry. These shifts offset a small part of the decline in overall real GDP.

• Reduce real GDP by between 35% and 53%, or $16 billion and $40 billion. The impacts on regional consumption, investment and export revenue are strongly negative.

• Households: substantial reduction in their standard of living. From 2020 to 2050, real GDP per household. Equivalent to a $20,774 fall in household incomes each year for the next 30 years.

• Appreciable reduction in employment by 37%.

• Spill-over effects on other sectors are negative.
Pathways for Taranaki Regional Development: which path would you take?

• You manage a commercial entity linked to oil & gas in Taranaki
  • Your capital & labour force is directly connected with the oil & gas sector
  • Government is not offering further off-shore exploration permits
  • Existing rights to off-shore run out in 2030

• Options?
  • What will you invest in & what support would you require?