The Lower Mainland Economy: Diversified...But Resources Still Matter

Vancouver Real Estate Forum
February 20, 2014
Basic Messages

- The Metro Vancouver economy has become more diversified over time – a good news story

- But resource-based industries, and associated Gateway activities, are still major and growing economic drivers

- Vancouver is Canada’s #1 gateway and transhipment point for Western Canadian products bound for Pacific Rim markets – a critical piece of national economic infrastructure

- Potential for LNG development and for other energy and resource exports to Asia will increase the importance of the natural resources sector, with spin-off benefits for Metro Vancouver
What Is the BC ‘Resource Sector?’

- Forestry & related processing: wood products & pulp and paper
- Mining & related processing, including Vancouver-based junior exploration sector
- Petroleum and coal products manufacturing
- Natural gas (and some oil)
- Fishing and other seafood products (and processing)
- Agriculture and related processing
- Hydro power generation
- Pipelines and other infrastructure to connect domestic resource producers to end use markets
Resources’ Direct Share of GDP Has Fallen

Source: BC Stats and Statistics Canada Provincial Economic Accounts.
But…Resources Dominate BC’s Export Sector

Source: BC Stats.
BC’s Resource Industries Carry Disproportionate Economic Weight

- Strong export-orientation
- Relatively high wages and benefits
- Most ‘business inputs’ used in resource extraction, processing and shipment are sourced domestically rather than imported (raw materials, energy, labour, transportation, business services, some machinery and equipment)
- Resource-related businesses comprise a large share of the ‘head offices’ for the top 200 BC-based companies
- Significant contributions to government revenues
Resource Industries Matter to Vancouver

Head offices

- of the top 100 BC-based companies, **24 are resource firms** – almost all based in Metro Vancouver

Indirect impacts also benefit the Lower Mainland

- resource companies purchase several billion dollars per year in ‘business inputs’ from Metro suppliers -- machinery & equipment, engineering, legal, accounting, finance, advertising, environmental services, investor and public relations services, executive search, training, etc.

- resources drive demand for local gateway/transportation services

- funding and other support to universities, colleges, hospitals, culture

- provincial government revenues to pay for health, education etc.
Resources Typically Generate $3-$4 Billion of Direct Revenues for the Provincial Gov’t

BC Resource Revenues, millions $

Integrated Forestry Still the Largest Export Sector

- Forestry and related processing still BC’s largest export industry
- Forestry and logging output up 35% since 2009 but still below pre-recession peak; lumber mfg. up 30% and almost back to pre-recession levels
- Outlook mixed: strong pricing environment as US housing recovery continues and demand grows in Asia; but BC industry is constrained due to pine beetle
- Directly and indirectly, accounts for a notable amount of office space in Metro Vancouver
Global Mining Cluster in Vancouver

- Global mining cluster in Vancouver
- 750-800 mining companies, plus engineering, financing, geotechnical and other services
- Most are small/mid-sized exploration
- Output for BC’s mining industry up 18% since 2009, surpassed pre-recession level
- Near-term outlook mixed, but medium term should see strong growth
Traditional Natural Gas

- BC has world class upstream natural gas reserves
- Industry was hit by steep drop in North American gas prices (tight gas/shale revolution in US) – pricing environment gradually improving
- Corporate offices and related services traditionally centred in Calgary, but more services are now originating in Vancouver
- Industry GDP has jumped 16% over past three years
LNG: New Industry and Major Opportunity

- LNG represents a significant opportunity for BC
-! Tens of billions of dollars of investment (plants, pipelines, upstream drilling activity)
-! Sizable impact in Metro Vancouver
  »! all major proponents already have office space
  »! environmental and engineering services, plus legal... etc.
  »! a natural gas / LNG services-related cluster will emerge in the region
- Some challenges and hurdles remain but LNG plants will likely be built
- New government estimates: BC has enough gas reserves to support LNG industry for 150 years
## British Columbia LNG Project Proposals

<table>
<thead>
<tr>
<th>BC LNG Plant Proposals</th>
<th>Proponents</th>
<th>Capacity (million tonnes per year)</th>
<th>Capacity (billion cubic feet per day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurora LNG</td>
<td>Nexen, INPEX &amp; JGC Exploration Canada</td>
<td>24</td>
<td>3.12</td>
</tr>
<tr>
<td>BC LNG</td>
<td>LNG Partners and Haisla Nation</td>
<td>1.8</td>
<td>0.24</td>
</tr>
<tr>
<td>Kitimat LNG</td>
<td>Chevron and Apache</td>
<td>10</td>
<td>1.28</td>
</tr>
<tr>
<td>Kitsault</td>
<td>Kitsault Energy</td>
<td>20</td>
<td>2.63</td>
</tr>
<tr>
<td>LNG Canada</td>
<td>Shell, KOGAS, Mitsubishi and PetroChina</td>
<td>24</td>
<td>3.23</td>
</tr>
<tr>
<td>Pacific Northwest</td>
<td>Petronas and JAPEX</td>
<td>19.7</td>
<td>2.74</td>
</tr>
<tr>
<td>Prince Rupert LNG</td>
<td>BG Group</td>
<td>21.6</td>
<td>2.91</td>
</tr>
<tr>
<td>Triton LNG</td>
<td>AltaGas and Idemitsu</td>
<td>2.3</td>
<td>0.31</td>
</tr>
<tr>
<td>WCC LNG</td>
<td>ExxonMobil and Imperial Oil</td>
<td>30</td>
<td>4.00</td>
</tr>
<tr>
<td>Woodfibre LNG</td>
<td>Woodfibre Natural Gas</td>
<td>2.1</td>
<td>0.29</td>
</tr>
</tbody>
</table>
Energy Plays a Huge Role in Canada’s Economy

Source: Statistics Canada. * of which 85% is oil and gas
Oil and Natural Gas Industry a Driving Force

- Industry invested $63 billion in Canada in 2013 (largest private sector investor)
- Payments to gov’t average about $18 billion annually
- Oil and gas accounts for 20% of value on TSX
- Oil and gas produces 18-20% of Canada’s exports
- Industry employs more than 550,000 people (directly and indirectly)
The Imperative of Connecting Canadian Energy to Global Markets

- Limits on access to the US market costing Canada’s economy $50 million per day
- Failure to develop new pipeline capacity to US and the west coast would cost Canada’s economy up to $1.3 trillion in lost GDP and $275 billion in forgone tax revenue by 2035
- Today, 100% of Canada’s oil exports and 98% of natural gas exports are shipped to the United States
- By 2020, US may become a next exporter of natural gas. And US Energy Department predicts the volume of American crude oil imports will decline or stay flat in the coming decades

Source: CIBC World Markets; Canadian Energy Research Institute.
## Pipelines Bring Sizable Economic Benefits

### Pipelines and Western Canada Oil Sands Development: Cumulative Economic Impact on BC ($billions; to 2035)

<table>
<thead>
<tr>
<th></th>
<th>Real GDP</th>
<th>Employment (person years)</th>
<th>Worker Pay</th>
<th>Tax Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td>$19.4</td>
<td>290,000</td>
<td>$10.8</td>
<td>$5.2</td>
</tr>
<tr>
<td>Keystone</td>
<td>$27.7</td>
<td>413,000</td>
<td>$15.4</td>
<td>$7.4</td>
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<tr>
<td>TMX Expansion</td>
<td>$31.7</td>
<td>472,000</td>
<td>$17.6</td>
<td>$8.4</td>
</tr>
<tr>
<td>Northern Gateway</td>
<td>$36.8</td>
<td>548,000</td>
<td>$20.4</td>
<td>$9.8</td>
</tr>
</tbody>
</table>

Sources: Canadian Energy Research Institute, July 2012.
Energy Consumption Rising in Asia

Energy Consumption by Region, millions tonnes oil equivalent

- Africa
- Asia Pacific
- Middle East
- Europe & Eurasia
- S & C America
- North America

Source: BP Energy Outlook 2030, shares are for 2011 consumption.
Gateway a Major Economic Engine

- Resource industries support Lower Mainland’s gateway sector
- Billions in infrastructure invested to make Port Metro more competitive
- Strong growth (cargo up almost 8% last year, container TEUs up 4%)
- A key economic engine for the region and province
  - 38,200 direct jobs in BC
  - 76,800, including indirect jobs
Gateway Jobs Across the Lower Mainland

- Port related employment right across the region
- City of Vancouver has the highest concentration of port-related jobs (nearly 14,000)
- Next largest employment impact is Richmond (5,200)
- District of North Van (3,500)

Source: 2012 Port Metro Vancouver Economic Impact Study.
35 Stories of BC’s Natural Resource Industries

**Teck**
$11.5B Revenue (2011)

**GEOLOGIX EXPLORATIONS INC.**
Nevada, Mexico, Peru Mineral Exploration

**WOLVERINE MINERALS CORP**
Gold exploration in BC and Yukon

**MARSH**
Insurance & Risk Advisors – Mining/Energy/Forest

**B2GOLD**
BIV Top 3 Fastest Growing Company 2012 (Int’l Mining)

**FASKEN MARTINEAU**
Vancouver’s largest law firm, energy, enviro

**acciona Infrastructure**
$308m P3 in Ft. St. John

**Thompson Creek Metals Company Inc.**
$670m Revenue (2011) $1.5B capital inv. in Mt. Milligan

**Cisco**
Provides tech solutions to energy, oil/gas

**TEEEKAY CORPORATION**
Global energy shipping, 220+ employees in Vancouver

**Zena Mining Corp**
$3B in assets

**Brookfield**
$8B+ in Canadian Assets

**NORTHSTAR TRADE FINANCE**
International trade finance

**Practice areas include transp., enviro., aborig.**
82 Business Council Members in Metro Vancouver Are Contributing to BC’s Natural Resource Economy

<table>
<thead>
<tr>
<th>Finance</th>
<th>Engineering</th>
<th>Forestry</th>
<th>Electricity</th>
</tr>
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<tbody>
<tr>
<td>Advantage BC</td>
<td>AMEC Inc.</td>
<td>Council of Forest Industries</td>
<td>Alterra Power Corp</td>
</tr>
<tr>
<td>Agricultural Bank of China</td>
<td>Ausenco Sandwell</td>
<td>Int’l Forest Products</td>
<td>BC Hydro</td>
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<tr>
<td>BMO Financial Group</td>
<td>SNC-Lavalin</td>
<td>Mercer International Inc</td>
<td>Brookfield Asset Mgmt</td>
</tr>
<tr>
<td>Canaccord Financial</td>
<td>Stantec Consulting</td>
<td>TimberWest Forest Corp</td>
<td>Innergex Renewable Energy</td>
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<tr>
<td>CIBC</td>
<td>Ainsworth Engineered</td>
<td>West Fraser \ timber CO.</td>
<td>Valard Construction</td>
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<td>HSBC Bank Canada</td>
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<td>Veresen</td>
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<tr>
<td>Leith Wheeler Investment</td>
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<tr>
<td>Macquarie Capital</td>
<td></td>
<td></td>
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<tr>
<td>Marsh Canada Ltd.</td>
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<tr>
<td>Odlum Brown</td>
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<tr>
<td>Raymond Jaymes</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Royal Bank and RBC Capital Markets</td>
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<tr>
<td>Scotiabank</td>
<td></td>
<td></td>
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<tr>
<td>TD Bank</td>
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**Industry Associations**

- AME BC
- BCTIA
- Clean Energy BC
- Coast Forest Products Ass.
- MABC
- Canadian Manufacturers & Exporters

**Transportation**

- Arrow Transportation
- CN Railway
- Global Container Terminals
- MMM Group Ltd.
- Port Metro Vancouver

**Professional Services**

- Accenture Inc
- Alexander Holburn
- Blakes
- BLG
- BHT
- Deloitte
- Ernst & Young
- Farris
- FaskenMartineau
- Fraser Milner
- Hennan Blaikie
- Hemmera
- H+K Strategies
- Korn/Ferry
- KPMG
- Lawson Ludell
- McCarthy Tetrau lt
- McMillan
- MNP
- National
- Odgers Berndtson
- PwC
- Stikeman Elliot
- McCarthy Tetrault
- McMillan
- MNP
- National
- Odgers Berndtson
- PwC
- Stikeman Elliot
- McDonald
- McMillan
- MNP
- National
- Odgers Berndtson
- PwC
- Stikeman Elliot
- McDonald

**Mining**

- Cardero Coal Ltd.
- Curis Resources Ltd.
- Imperial Metals
- Nyrstar Canada
- Rio Tinto
- Taseko Mines
- Teck Resources
- Walter Energy

**Oil & Gas**

- Fortis BC
- Pacific Northern Gas Ltd.
- Spectra energy
- Shell
- Enbridge

**Other**

- Corix
- Mitsubishi Canada Ltd.
- TELUS Corporation
- Finning

- Ainsworth Engineered
- AMEC Inc.
- Ausenco Sandwell
- SNC-Lavalin
- Stantec Consulting
The Global Middle Class – in 2010

- EU: 29%
- US: 20%
- Japan: 8%
- China: 5%
- India: 2%
- Others: 36%
The Global Middle Class – in 2030

- India: 23%
- China: 18%
- Others: 34%
- EU: 14%
- US: 7%
- Japan: 4%
## Greater Vancouver Scores Poorly on Income

*(median total income of ‘census families’, 2011 $)*

<table>
<thead>
<tr>
<th>Rank</th>
<th>Metro Area</th>
<th>Median Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ottawa</td>
<td>$93,440</td>
</tr>
<tr>
<td>2</td>
<td>Calgary</td>
<td>$92,100</td>
</tr>
<tr>
<td>3</td>
<td>Edmonton</td>
<td>$90,500</td>
</tr>
<tr>
<td>4</td>
<td>Regina</td>
<td>$87,370</td>
</tr>
<tr>
<td>5</td>
<td>Guelph</td>
<td>$84,970</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Toronto</td>
<td>$70,100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Vancouver</td>
<td>$69,050</td>
</tr>
<tr>
<td>29</td>
<td>Montreal</td>
<td>$68,970</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Abbotsford-Mission</td>
<td>$64,140</td>
</tr>
</tbody>
</table>

In 2011, the Vancouver CMA ranked 28 out of 33 Canadian metropolitan areas in median ‘census family’ income.

Source: Statistics Canada Family income and income of individuals, related variables: Sub-provincial data, 2011.