

VICTORIAN LIGNITE

VICTORIAN LIGNITE FORUM

6 OCTOBER 2015

DEPARTMENT OF ECONOMIC DEVELOPMENT, JOBS, TRANSPORT
AND RESOURCES



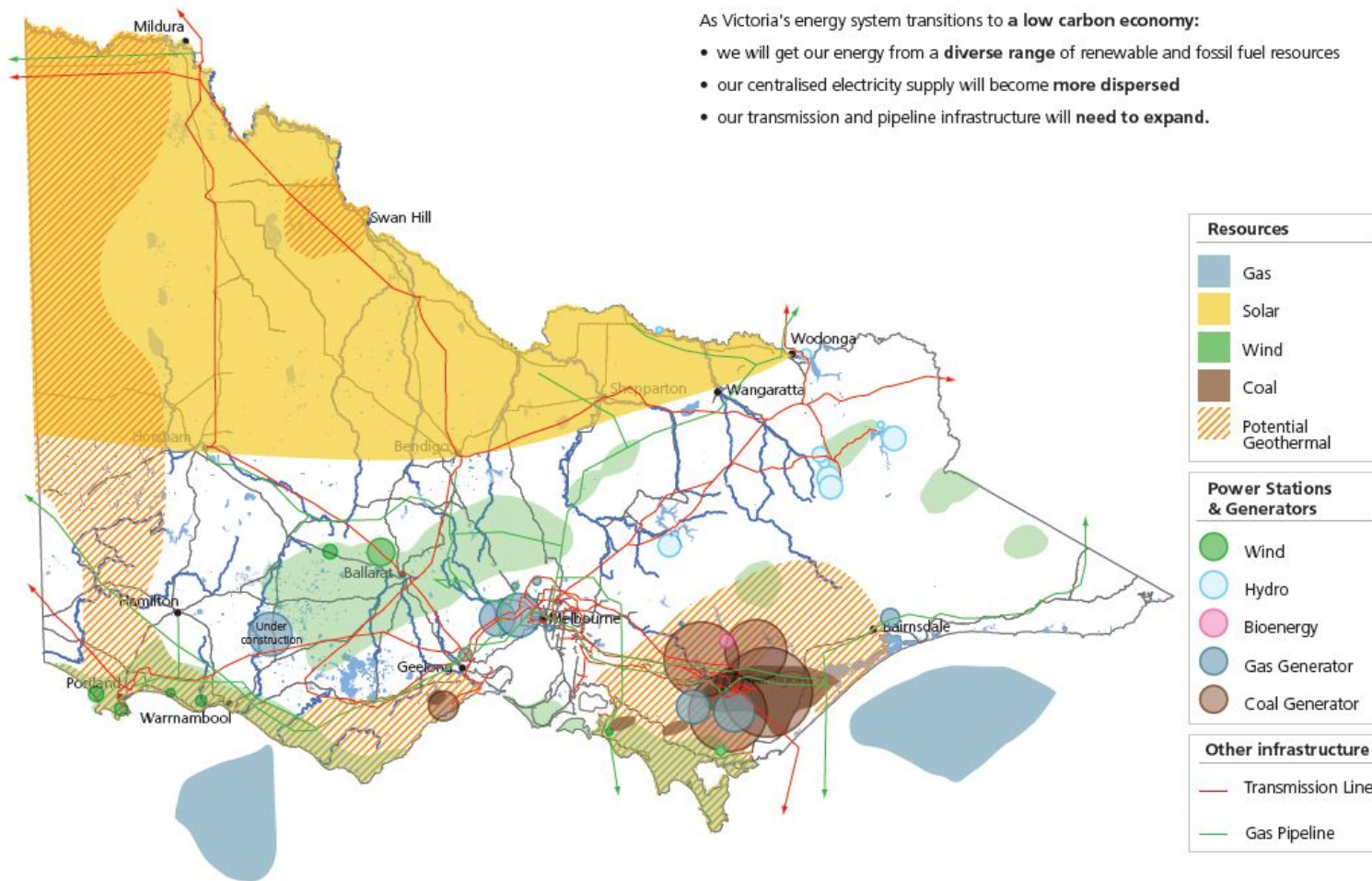



VICTORIAN ENERGY PRIORITIES

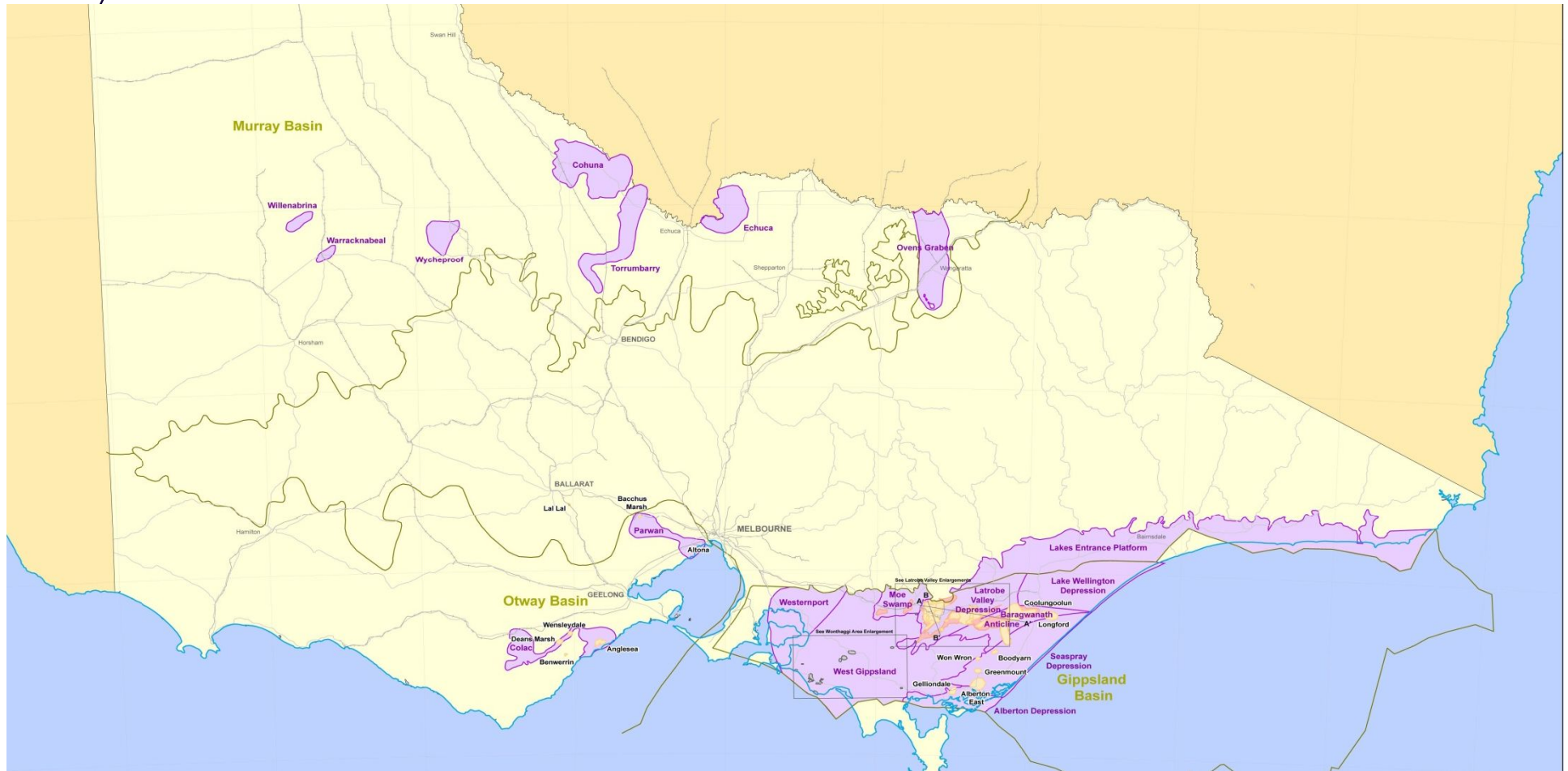
Growing the Victorian economy and reducing GHG emissions:

- New energy sector strategy
- Renewable Energy Roadmap & Action Plan
- Government electricity purchasing
- Victorian Energy Efficiency Target
- New Energy Jobs Fund

VICTORIA'S ENERGY RESOURCES



VICTORIA'S LIGNITE RESOURCE



TYPICAL CHARACTERISTICS - LATROBE VALLEY LIGNITE

% weight

Moisture
48-70%

WATER

Hydrogen 5%

Sulphur
& Nitrogen 1%

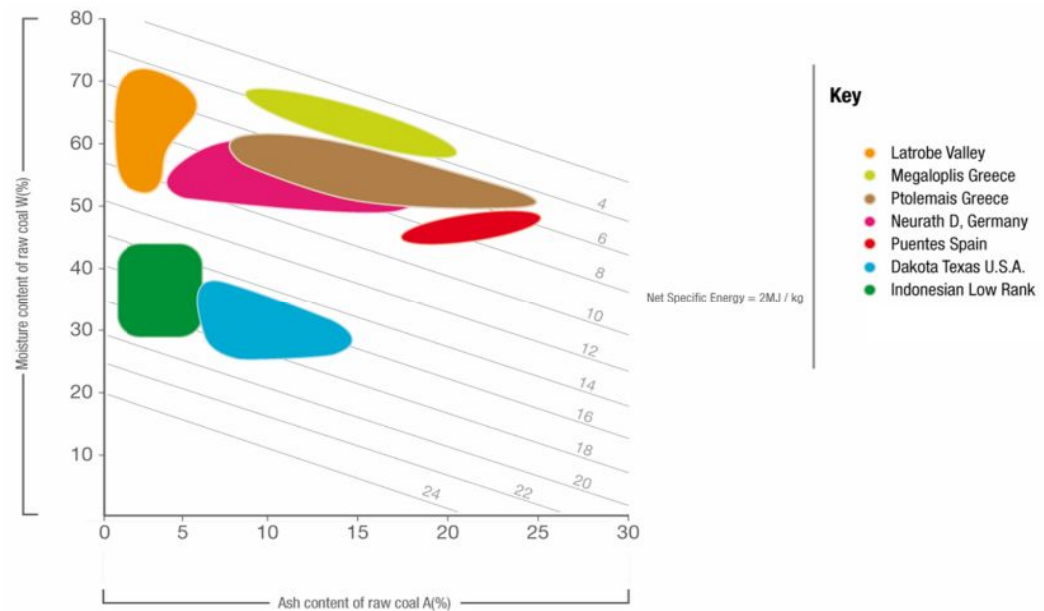
Ash <5%

CARBON
67%

OXYGEN
25%

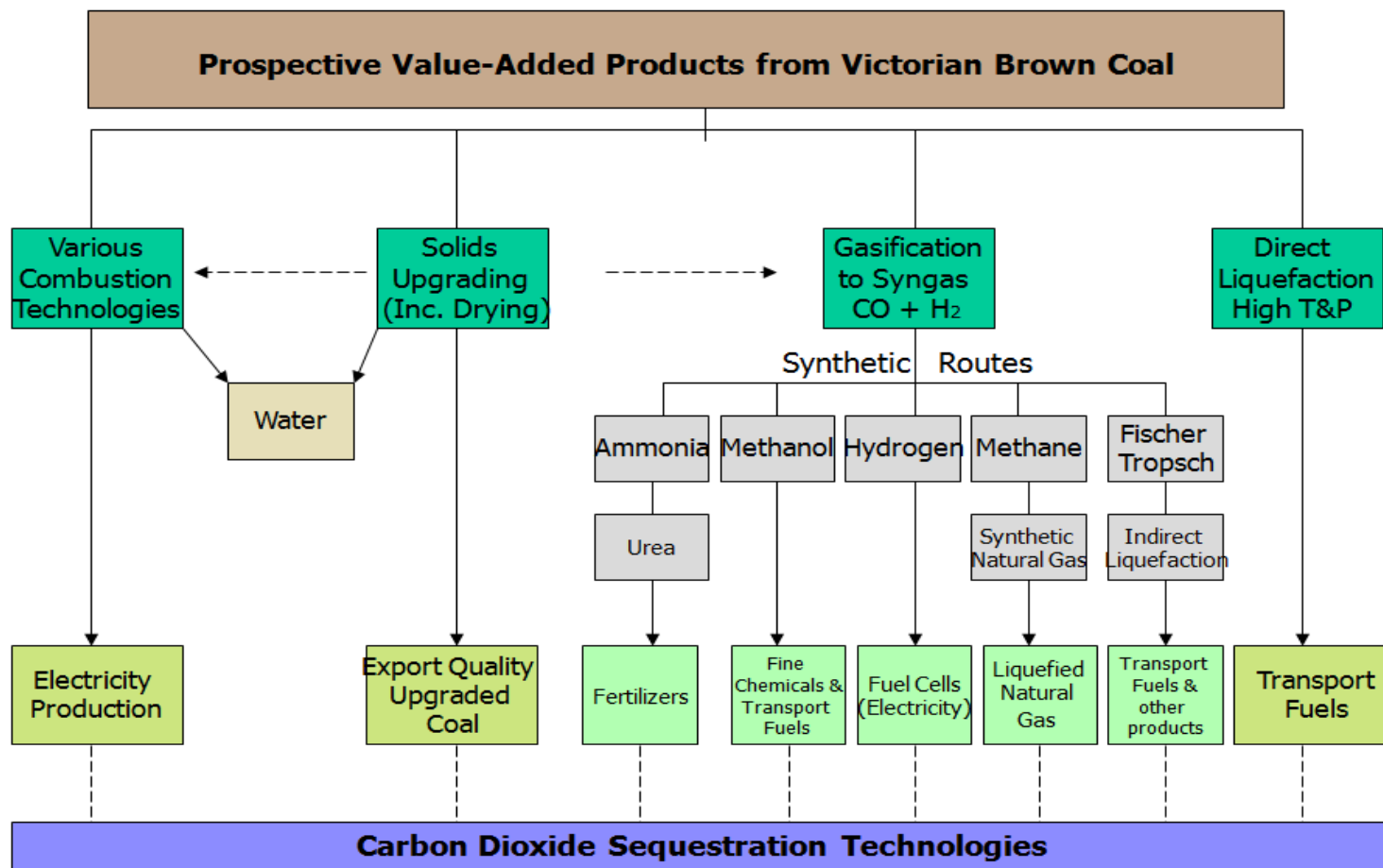
Coal Parameters:

- MOISTURE CONTENT 48-70%
- ASH CONTENT <5% (DRY BASIS)
- AVE NET WET SPECIFIC ENERGY: 8.6 MJ/KG
- AVE GROSS DRY SPECIFIC ENERGY: 26.6 MJ/KG



*If JORC Classifications were applied: "Victorian Coal - A 2006 Inventory of Resources"
GHD Pty Ltd

MANY APPLICATIONS – NOT JUST ELECTRICITY



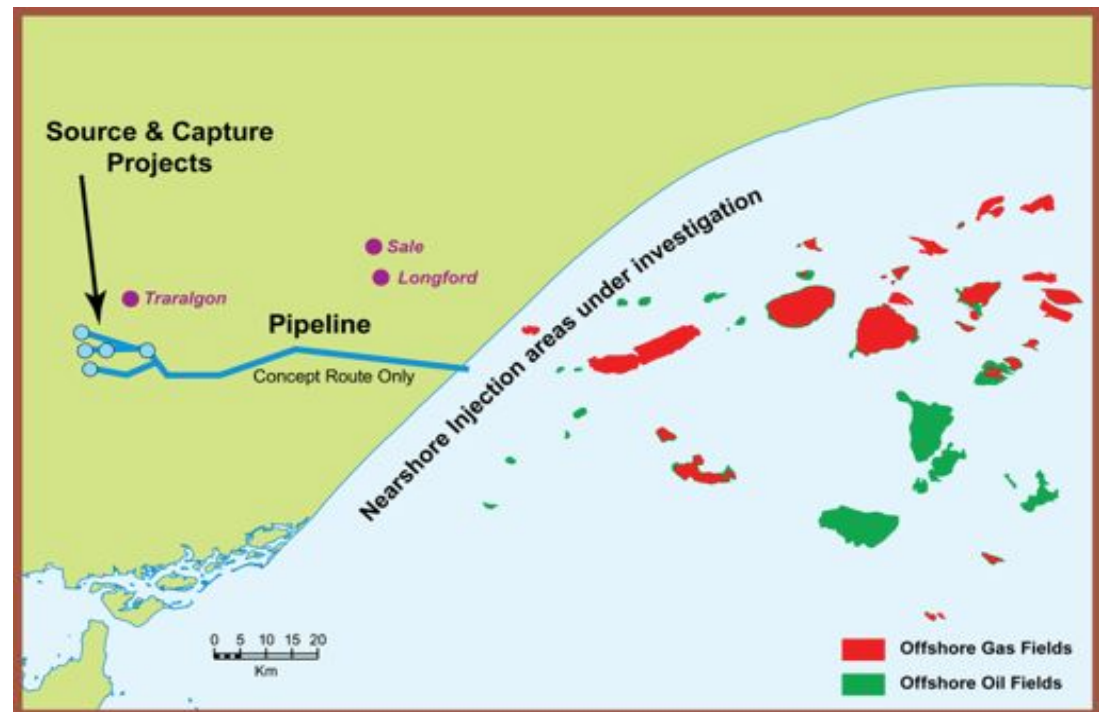


ACTIVITIES IN VICTORIA

- **CarbonNet Project**
- **CO2CRC:**
 - Otway Project
 - Peter Cook Centre for CCS Research
- **CSIRO:**
 - PCC trial - Loy Yang power station
 - AGL / IHI Project
- **Other Related Programs:**
 - Advanced Lignite Demonstration Program (ALDP)

THE CARBONNET PROJECT

- One of the world's largest brown coal reserves close to Australia's best CO2 storage resources*
- Working collaboratively with industry



* National Carbon Taskforce 2009

CARBON STORAGE – THE OPPORTUNITY IN VICTORIA

5-YEARS OF ANALYSIS COMPLETED TO IDENTIFY THE BEST STORAGE SITE IN THE GIPPSLAND BASIN:

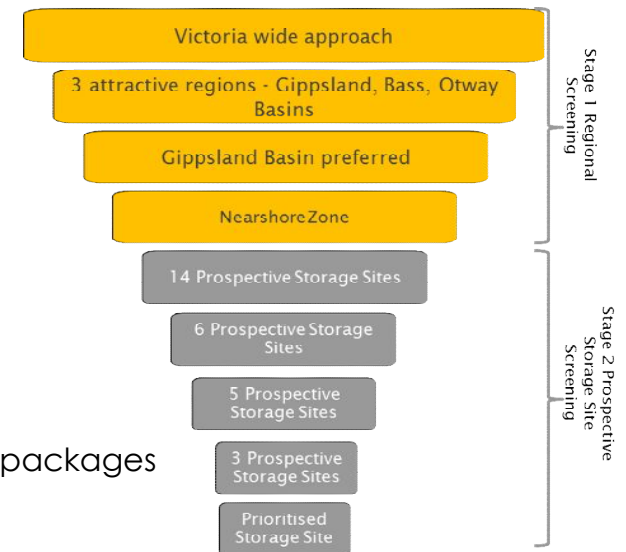
- Extensive in-house geoscience to characterise storage
- Independent expert peer reviews to check site characteristics
- Certification from Det Norske Veritas

Outcome:

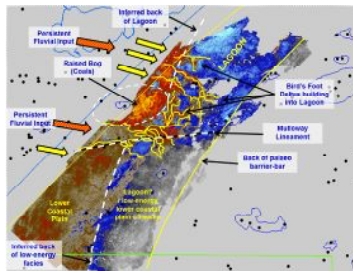
- World-class reservoirs – High injectivity (10 times Gorgon)
- World-class aquifer – No pressure issues
- World-class structural storage – High capacity (125 Mt+)
- Excellent containment

25 man-years of storage expertise (100 project man-years) + external work packages

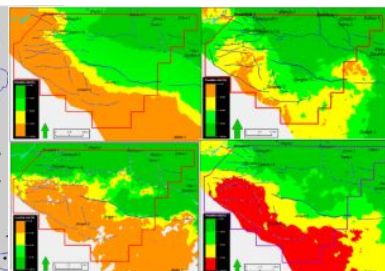
\$12 million storage process / \$30 million whole project



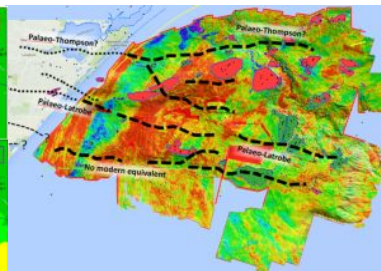
Depositional Systems



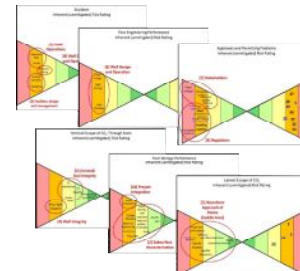
Play Fairways



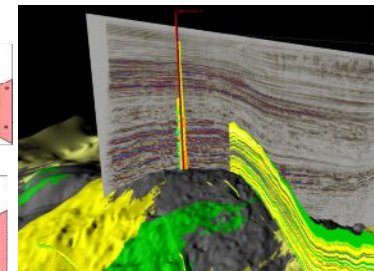
Palaeogeography



Risk Reduction



Detailed 3D Modelling



INVEST VICTORIA -SINGLE ENTRY POINT TO A RANGE OF INVESTMENT FACILITATION SERVICES

1. Support for development of market entry business cases
2. Support for identification of and introductions to relevant industry contacts and local suppliers
3. Assistance with fulfilling property requirements
4. Support in accessing assistance at all levels of government
5. Ongoing investor support - locally and in-market






JAPAN AND VICTORIA RELATIONSHIP

- Japan is Australia's 3rd largest export market for goods and services worth \$2 billion.
 - Japan is ranked as Victoria's 3rd largest international investor with about 140 Japanese companies operating in Victoria.
 - Victoria sources \$6 billion worth of merchandise imports from Japan.
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JAPAN AND VICTORIA – LIGNITE DEVELOPMENT

- Since 1985
 - KHI Hydrogen Energy Supply Chain Project
 - Japan Clean Coal Day
 - Brown Coal Innovation Australia:
 - Direct Carbon Injection Engine (DICE) – Mitsui
 - JCOAL membership
 - International Low Rank Coal Symposiums
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Thank you

