



2011
STUDY TOUR



Bitumen Imports

- an Australian perspective

Presentation



- HISTORY
- CHANGE DRIVERS
 - Negative
 - Positive
- PROCESS
- CURRENT POSITION
- OBSERVATIONS

HISTORY



- Refineries in Australia were at major state centres (Shell, BP, Mobil, Caltex)
- Bitumen and lubes produced from sour (high sulphur) crudes
- Bitumen cutback with diesel or petrol and shipped to regional stripping refineries
- Rail used for long haulage to inland regional distribution points
- PMB & some emulsion facilities linked to major & regional centres




5,000 km's wide

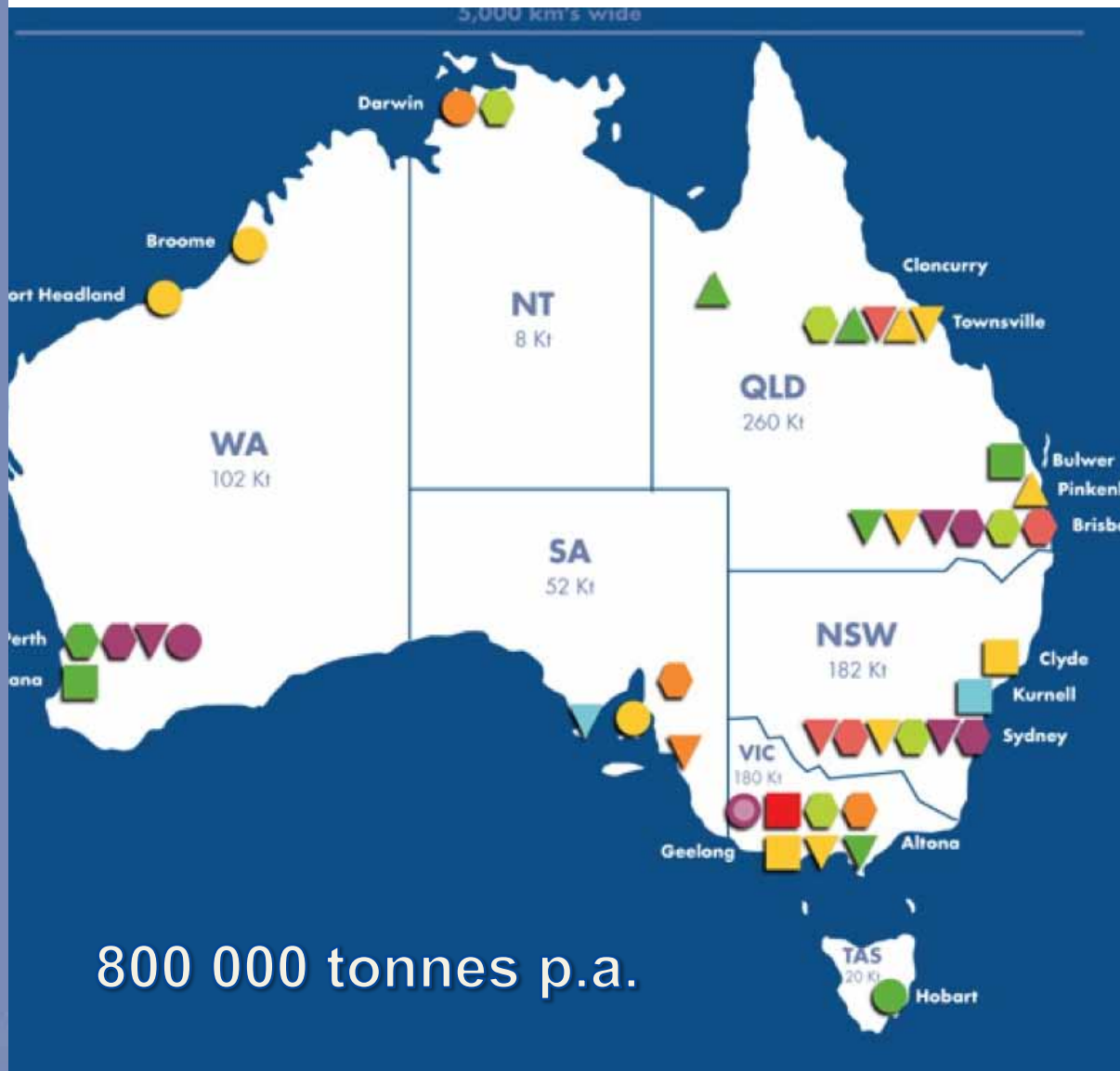


4,000 km's high



Legend

-  BP Emulsion Plant
-  BP Import Depot
-  BP Depot
-  BP PMB Plant
-  BP Refinery
-  Caltex Refinery
-  PMP PMB Toll Blend for Shell
-  Mobil Refinery
-  PRS Emulsion Plant
-  PRS PMB Toll Blend for Shell
-  Sami PMB Plant
-  Sami Emulsion Plant
-  Sami Import Depot
-  Sami/Alex Fraser Import Depot
-  Shell Import Depot
-  Shell Plant
-  Shell Refinery
-  Transpacific Bituminous PMB Plant
-  Transpacific Bituminous Emulsion Plant
-  Works Import (Isotaines)
-  Works Infrastructure Emulsion Plant
-  Works Infrastructure PMB Plant



800 000 tonnes p.a.



- Small size of refineries (in world terms) – lack of capex on upgrades
(economic size 400 000 bpd Australian 80 to 100 000 bpd – limited upgrade potential)
- Bitumen high sulphur crudes (sour) slowed fuels production, difficulty of excess sulphur
- Growing demand for fuels – different sweet crudes – higher output for fuel production
- Indigenous sweet crudes available, and lower cost – quicker supply



- Diesel sulphur content 0.05% motivates use of light crudes – diesel stripping from bitumen not possible at this level of sulphur
- Sulphur market at over capacity – having to pay to dispose of it (explosives, fertiliser)
- Closing of lube plants – sour crudes & efficiencies of scale
- Refineries stopped bitumen production – fuels only
- Smaller refineries closed

It helps to have high level support / need!!!!!!!!!!!!

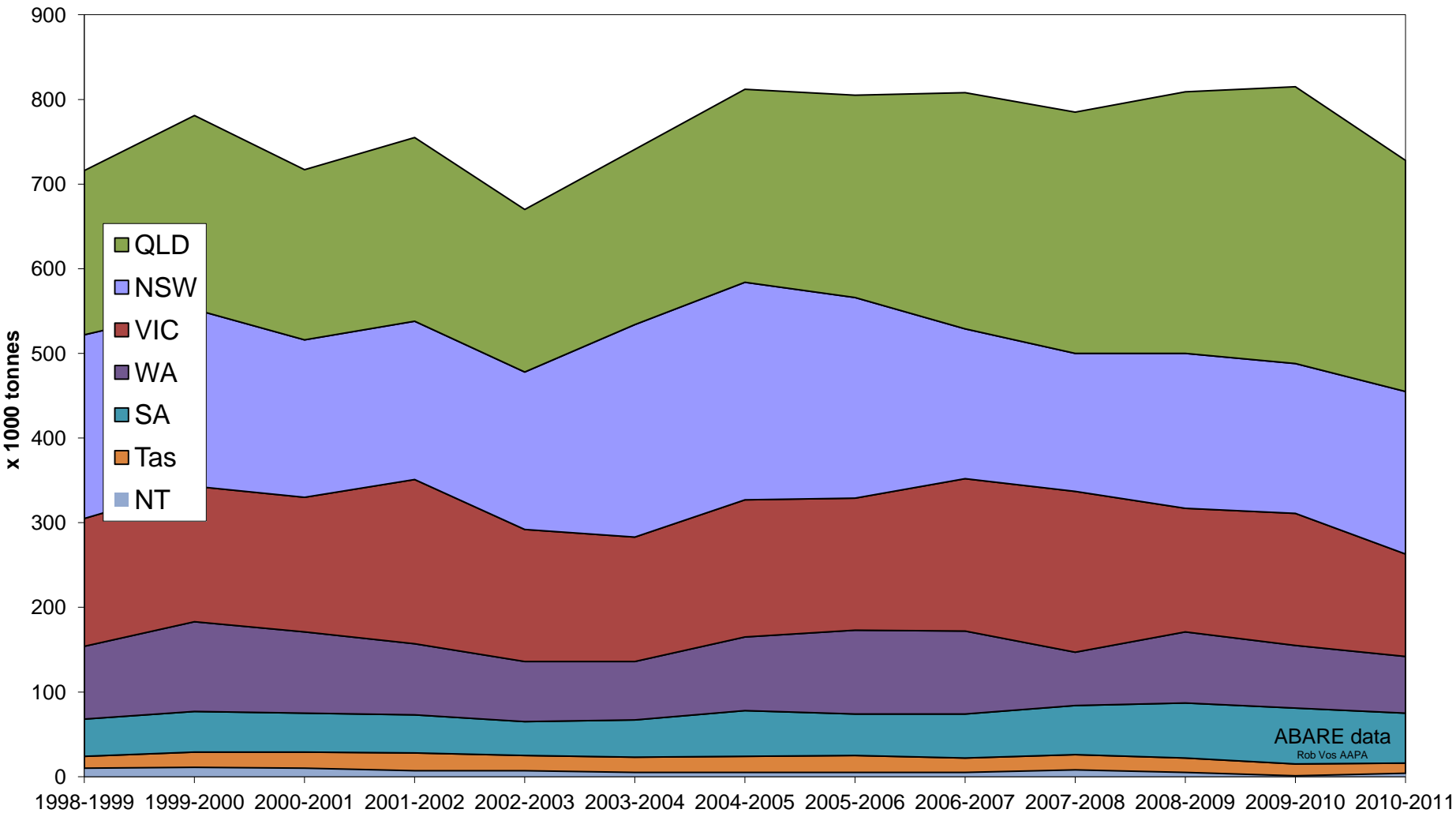
We need a lot more bitumen to develop South East Queensland – CAN YOU SUPPLY?

Oh, oh!! not without imports!!

We will if no one else will!!



Australian Bitumen Usage by State



ABARE data
Rob Vos AAPA



CHANGE DRIVERS - Positives



- Growing bitumen production capacity at a number of Asian refineries
- Spike in bitumen demand in regional areas
- Available facilities and some experience from regional stripping refinery operations
- Smaller sized "value adding" suppliers with import knowledge
- Acceptance on import route by bitumen users
- Preparedness by larger contractors to motivate for imports on projects (with risk)
- Ability to buy Australian Grade Bitumen from international refineries (>6000 tonnes)

PROCESS (1)



- Smaller sized suppliers established import capability and used the binders in their branded products
- Oil companies commenced import facilities matched to blowing columns & PMB gear
- Wharf access with heating pipelines (elec., steam, oil) to storage important constraints

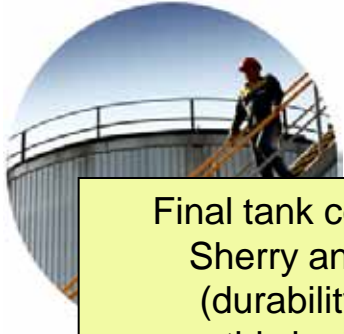
PROCESS (2)



- Port authorities can impose challenging requirements on hot products.
- Users taken along with the QC and evaluation process
- Secondary value adders kept informed on source / or import their own

Import Quality/Testing Plan

Source Refinery



Final tank certified by Pitt and Sherry and BP Altona lab (durability). Tank tested monthly by Pitt and Sherry for key tests.

Sampling and testing of source refinery tanks for conformance to the BP Purchasing Specification by an independent inspection company (SGS)

Loading on Ship



Transfer

Samples taken from the ship after loading, combined and tested by

Samples of ship's compartments taken by SGS. Samples combined and tested by Pitt and Sherry in Hobart

Shipment Departure

17 days at 160 ° C to Tasmania

Shipment Arrival





- Most bitumen suppliers have indicated that they will be importing 100% of their bitumen by 2013 (refinery manufacturing capability will remain but not be used)
- Imported bitumen is accepted and tested for compliance to AS-2008, QC attention required
- Import facilities being established at most state centres and in some regional sites
- Coastal delivery of imported bitumen routine 6 Kt to 13 Kt with potential to 25 Kt



- Construction companies considering or already direct importers of bitumen.
- Integrated road construction companies include importing & value addition
- Distribution coastal or by road, rail priced out of market



OBSERVATIONS



- Regional major weather events impact on bitumen supply
- Bitumen rise / fall more frequent and more international market related
- Greater flexibility in capex investments linked to capacity matching demand
- General acceptance of changed binder sourcing
- Strategic role of bitumen supply has changed – more exposed to external market and more readily available from multiple sources.