



Gas pipeline infrastructure – supporting the market

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The Australian Pipelines and Gas Association

450 plus members: pipeline owners and operators, constructors, designers, service providers, suppliers, regulators

Own and operate \$50 billion worth of assets covering 47,000km

Transport all natural gas used in Australia



What do transmission pipelines do for the market?



- Move natural gas reliably
 - In Australia there has never been a major gas outage caused by a pipeline incident
- Move gas efficiently
 - 3-8% of retail delivered gas costs, 15 -20% of wholesale delivered gas costs
- Make cost-effective investment in response to market need
- Pipeline industry is making changes to meet changing market requirements

What transmission pipelines can't do for the market

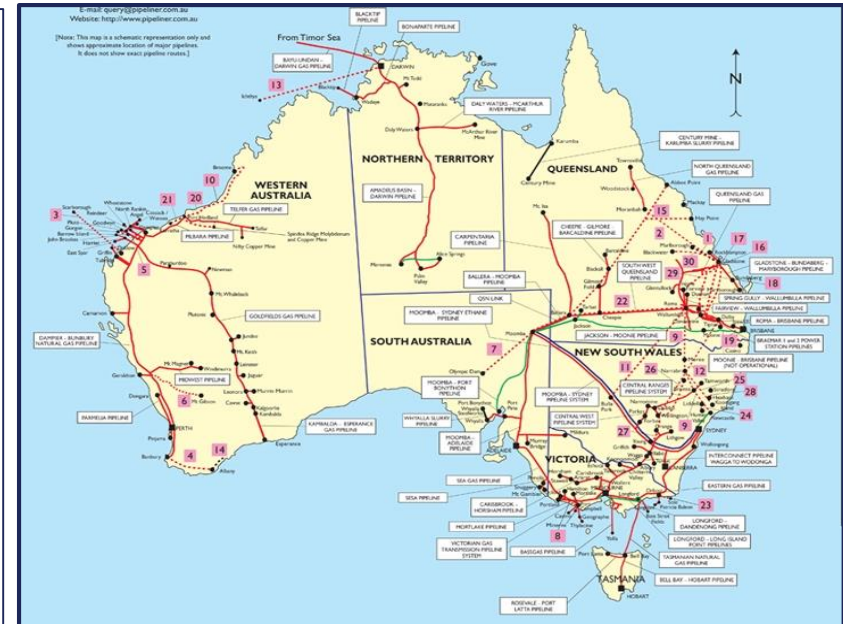
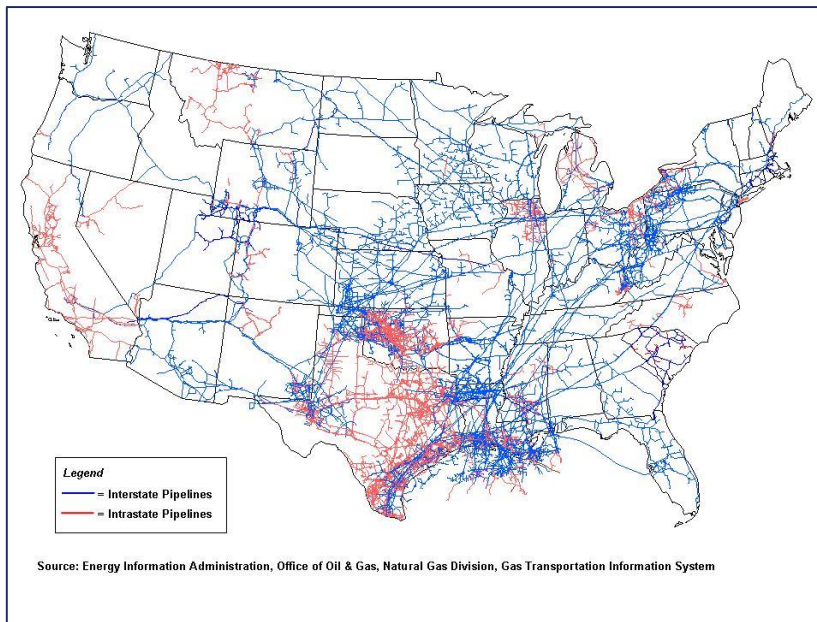


- Produce more gas!
 - Pipelines are not a substitute for supply.
- Build to meet anticipated needs and demand
 - Investments are sized to meet the contractible demand of the near future
- Change the characteristics of Australian markets
 - Number of participants
 - Geographic dispersion

What Transmission Pipelines can't do in Australia



Create the conditions that lead to international market environments; this is a characteristic of geography and population



What are transmission pipelines doing?



- Increasing transparency
 - Most major pipelines now publish indicative tariffs
- Providing new services
 - Capacity trading platforms
 - Meeting increased demand for flexible services
 - Supporting hub development
- Invest in new capacity and capability
 - Bi-directional
 - New linkages



Year	Pipeline	Company	Project	Reason
2010	EGP	Jemena	Expansion	Meet shipper demand
2010	QGP	Jemena	Expansion	Meet shipper demand
2012	RBP	APA Group	Capacity expansion	Meet shipper demand
2012	RBP/SWQP	APA Group	Expand compression capacity at Wallumbilla Hub	Allow gas from several pipelines to access Wallumbilla Hub
2013	QSN Link	APA Group	Bi-directional	Capability to transport from Moomba to QLD
2014	QGP	Jemena	Expansion	Meet shipper demand
2014	SWQ	APA Group	Expansion	Meet shipper demand
2015	VNI	APA Group	Expansion	Meet shipper demand
2015	MAPS	Epic Energy SA	Bi-directional	Capability to transport from Adelaide to Moomba
2015	MSP	APA Group	Bi-directional	Capability to transport gas from NVI to Moomba
2015	EGP/MSP	Jemena	Interconnection	Capability to transport EGP gas to Moomba
2015	RBP	APA Group	Bi-directional	Capability to transport gas westward to Wallumbilla
2015	BWP	APA Group	Bi-directional	Allow bi-directional flow between Wallumbilla to Berwyndale
2015	EGP	Jemena	Expansion	Meet shipper demand

Investment responding to market

Transmission Pipeline Investment



Major new pipelines since 2000

Year	Pipeline	Valuation (\$ million) 2014 Real value
2000	Eastern Gas Pipeline	667
2002	Tasmanian Gas Pipeline	562
2003	SEA Gas Pipeline	671
2004	North Queensland Pipeline	205
2008	Bonaparte Pipeline	198
2009	QSN Link	188

Since 2000, over \$6 billion invested.

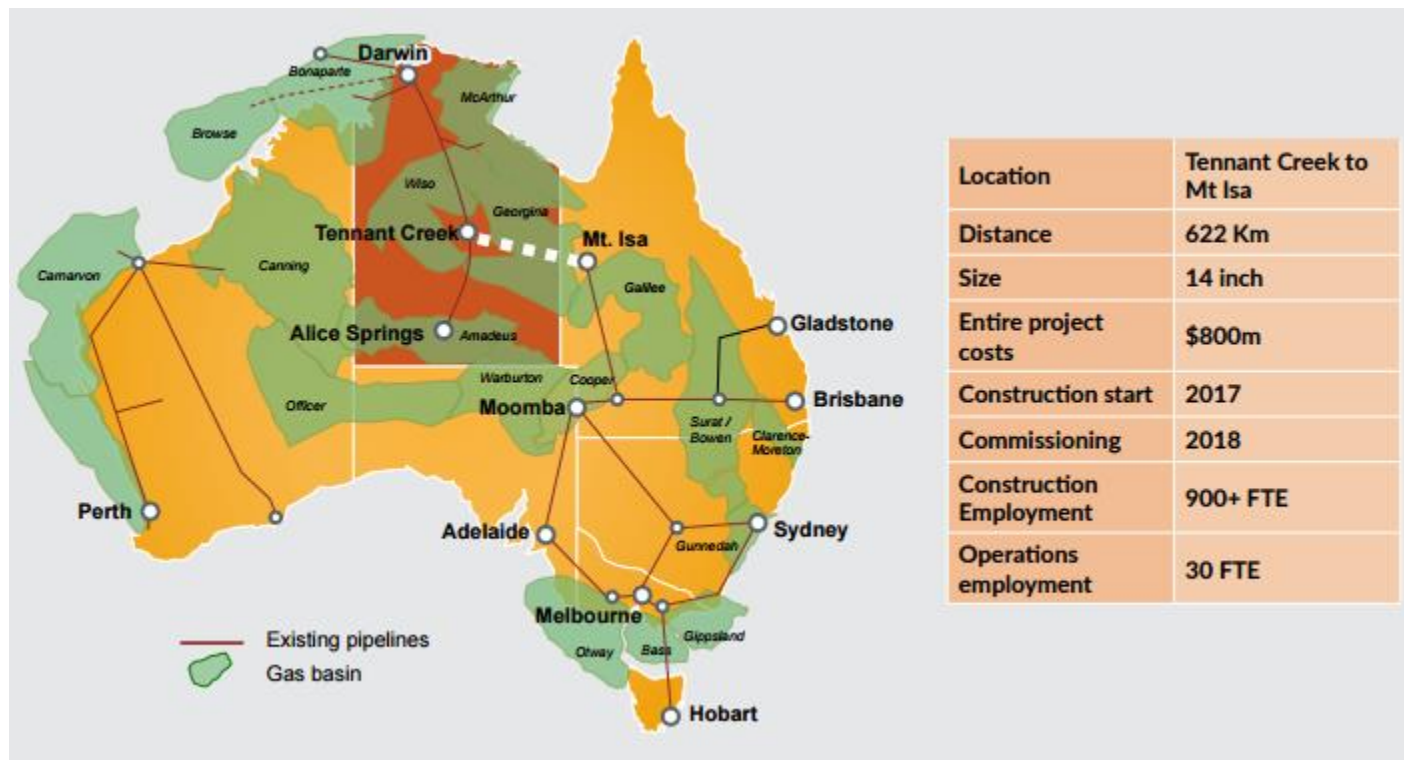
The list does not include the major new pipelines to Gladstone as they were built as part of the vertically integrated LNG facilities or pipelines under \$100 million.

What Transmission Pipelines are doing



Help to open up new regions for exploration

Proximity to infrastructure is a big plus



Transporting the gas to meet New South Wales gas demand



Pipelines bring gas to NSW (and ACT!) – NSW has always imported 95%+ of its gas

MSP – 319 TJ/day from Cooper and beyond

VNI – 124TJ/day from Victoria

EGP – 351TJ/day from Victoria

Total of 794TJ/day

Transporting the gas to meet New South Wales gas demand



NSW average demand in 2013-14 was 270TJ/day

NSW pipeline system capacity can carry almost 3x this amount of gas

What about peak demand?

Table 3 Maximum demand – total, all sectors (TJ/day)

	QLD (incl LNG)		QLD (excl LNG)		NSW		VIC		TAS		SA	
	1-in-2	1-in-20	1-in-2	1-in-20	1-in-2	1-in-20	1-in-2	1-in-20	1-in-2	1-in-20	1-in-2	1-in-20
2015	1829.4	1836.7	491.4	498.6	570.5	601.5	1233.2	1341.8	20.1	25.0	241.9	248.3
2016	4325.8	4332.6	518.9	525.7	576.4	608.2	1245.5	1355.6	20.4	25.4	325.3	331.7
2017	4638.1	4644.8	487.2	493.9	574.7	607.2	1233.7	1344.0	20.8	25.8	292.7	299.2
2018	4735.1	4741.7	449.4	456.1	559.7	592.6	1192.3	1300.8	20.9	26.0	255.3	261.7
2019	4694.8	4700.8	409.1	415.1	547.8	581.2	1196.6	1305.2	21.2	26.4	233.1	239.5
2020	4704.8	4710.9	419.1	425.3	547.1	581.1	1192.3	1301.4	21.4	26.6	225.9	232.4
2035	4856.1	4862.7	597.0	603.6	723.2	763.9	1274.5	1391.7	22.6	28.0	310.3	317.1

Gas Supply – is there a solution?



Pipeline efficiency improvements have value but do not increase supply

- Increasing transparency
- Pipeline capacity trading
- Trading hubs

Domestic market needs more gas

- From CSG; shale
- From conventional gas: offshore; onshore

But will lifting moratoriums deliver new investment?

Gas Supply – is there a solution?



Gas Supply – is there a solution?



ACCC review

- Upstream competition
- Review of retention leases
- Consistent access regime across all sectors – currently access regime applies only to transmission
 - Not to storage, processing facilities and upstream trunk lines
- Incentives for junior explorers to directly participate in gas market

APGA is not calling for changes; merely suggesting those who are more expert in these areas might engage in public debate and discussion

The Role of Public Opinion

Public opinion can drive policy direction

Merits of gas use lost in heat of misinformation and protest

- Debate now lost to the protest movement
- Broader public disengaged

But if the broader public was engaged, natural gas should be held in high esteem

Gas is cheaper than electricity for households



Gas and electricity supply approximately same amount of energy to households (ABS Energy Accounts 2015)

- Natural gas (including LPG) provided 206PJ;
- Electricity (including rooftop solar) provided 216PJ
- **Total cost gas - \$6.2 billion.**
- **Total cost electricity - \$16.1 billion**
 - Households paid \$30.2 million per PJ of gas and \$74.5 million per PJ of electricity

Gas is critical to Australian industry



Gas provides 666PJ of net use energy to industry
(approximately 124PJ for feedstock)

- Cost - \$12.4 billion

Electricity provides 685PJ

- Cost - \$26.9 billion

Cost efficient and emissions reduction

The feedstock role is of added importance; gas can't be replaced

Gas is cleaner than electricity



- Gas used directly in the home has around one quarter the emissions of grid electricity.
- Gas fired electricity generation has less than half the emissions of coal fired electricity generation.
- Gas used in the direct heating applications is much lower cost and emissions than electricity

Gas should be encouraged!

In conclusion – pipeliners are here to help!



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In Conclusion

Pipelines are not the primary solution to meeting gas demand

But, pipelines are part of the solution

- Responding to the changing needs of the market
- Providing improved access to gas as the gas supply increases

More gas supply is critical to market development



Thank you

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