



**Consumers should ask:
Is more renewable energy affordable and reliable?**

MEDIA RELEASE - 15 May 2019

“Australia’s future generation mix will determine if Australians have jobs and a reasonable standard of living.”

The debate about ‘*the mix and type*’ of generation that will supply Australia’s future electricity needs is welcomed by the Queensland Electricity Users Network (QEUN).

“Whether or not the sun is shining or the wind is blowing, the reality is we need electricity to run fridges, lights, air-conditioning, the nbn and most importantly to employ people.”

“What Australia needs is sufficient **dispatchable** electricity at a price homes and businesses can afford,” said Jennifer Brownie, Coordinator of the Queensland Electricity Users Network (QEUN).

“**Dispatchable** electricity is sourced from generation that can, at any time of any day, be turned on and within minutes supply electricity continuously for at least 4 hours”.

“Peak demand for electricity is from 4.00 pm to 8.00 pm Monday to Friday, particularly during summer.”

“It is not unusual for there to be low sun and wind generation from 4.00 pm to 8.00 pm,” said Ms Brownie.

At present there are 81 mostly intermittent solar and wind farm projects under development in Queensland, their total combined capacity is 14,562 MW.

The total existing capacity of all types of generation in Queensland is 13,771 MW.

“This means that in a short space of time, intermittent solar and wind farms could potentially replace Queensland’s existing fleet of largely coal and gas-fired power stations.”

Queensland has 6 battery storage projects under development with a combined capacity of 3,122 MW.

“What is scary is only one battery project is a committed project and its capacity is only 2 MW.”

“Batteries connected to solar and wind farms can offer some capacity to provide **dispatchable** electricity, however their ability to provide **dispatchable** electricity is limited to the battery’s size and rate of discharge”.

The largest battery in Australia is 100 MW.

Last summer Queensland set a new all-time peak demand record of 10,044 MW on 13 February at 5.30 pm in the afternoon.

If at this time a 100 MW battery was fully charged, it could have contributed 100 MW towards this 10,044 MW peak demand for a period of 1 hour, or the owner could have chosen to discharge/supply electricity at a rate of 25 MW over 4 hours. Once discharged, the battery needs time to recharge. The time to recharge is dependent on the source of energy used to recharge.

“Queensland is not the only state that could be replacing its existing generation with intermittent solar and wind generation. Victoria’s existing fleet of 11,566 MW could be replaced shortly with 10,372 MW of intermittent solar and wind generation currently under development. Of major concern is Victoria has less than 1,000 MW of dispatchable electricity projects under development; battery storage (112 MW) and gas (765 MW).

“There is a great deal of debate about the future cost of batteries; however at over \$100 per megawatt hour (\$100/MWh), wholesale electricity supplied by large scale batteries is not affordable to most homes and businesses.”

“To drop power bills we need to reduce wholesale prices well below \$100/MWh as wholesale prices represent about 25% of a power bill.”

The current average wholesale price traded on the National Electricity Market is over \$110/MWh in both South Australia and Victoria.”

“In Queensland the average wholesale spot price is \$80.24/MWh and in NSW is \$88.72/MWh.”

All states in the NEM are reliant to some degree on coal-fired generation, coal being the dominant type of generation in Queensland (59%), NSW (59%) and Victoria (40%).

“Although South Australia’s last coal-fired power station closed in 2016, South Australia is still somewhat reliant on electricity produced by Victoria’s coal-fired power stations.”

“When South Australia’s fluctuating wind and solar generation is low or the wholesale price from their gas-fired generation is too expensive, Victoria’s largely coal-fired generators supply electricity to South Australia.”

South Australia’s all-time peak demand record is 3,399 MW, well short of the all-time peak demand record in Queensland (10,044 MW), NSW (14,744 MW) and Victoria (10,576 MW).

“Australia needs to continue its transition to a renewable energy future.”

“However, the pace of the transition needs to ensure Australian jobs are not put at risk, household lights remain on, the wheels of industry keep turning and our computers and phones keep working.”

Consumers across Australia should be asking;

- Will more renewable energy provide 24/7 reliable electricity?
- Will a generation mix highly reliant on largely intermittent renewable energy deliver power bills that their home and their employer can afford?

Average wholesale electricity spot prices by state, 2014-15 to YTD 2018-19

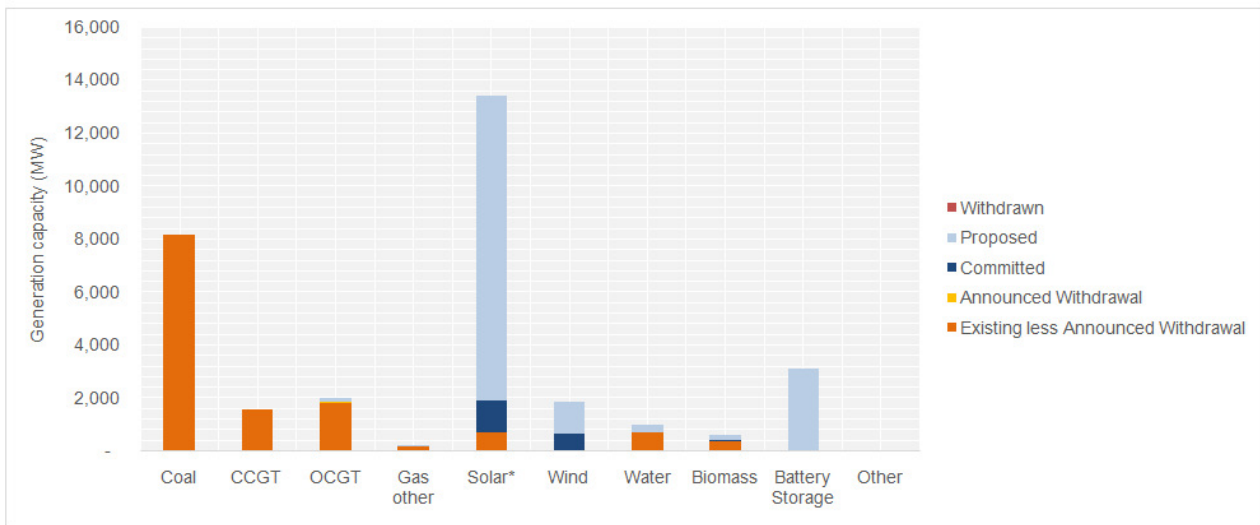
YEAR	NSW	QLD	SA	SNOWY	TAS	VIC
2015	35.17	52.52	39.29	N/A	37.16	30.35
2016	51.60	59.99	61.67	N/A	102.70	46.14
2017	81.22	93.12	108.66	N/A	75.40	66.58
2018	82.27	72.87	98.10	N/A	86.98	92.33
2019	88.72	80.24	112.71	N/A	89.41	111.72

Note: 2019 is year-to-date FY 2018-19 as of 15 May, 2019

Source: Australian Energy Market Operator– entity responsible for the operation of the National Electricity Market- 15 May 2019

Continued - please refer to supporting tables on next 2 pages.

Queensland existing and potential new developments by generation type (MW)

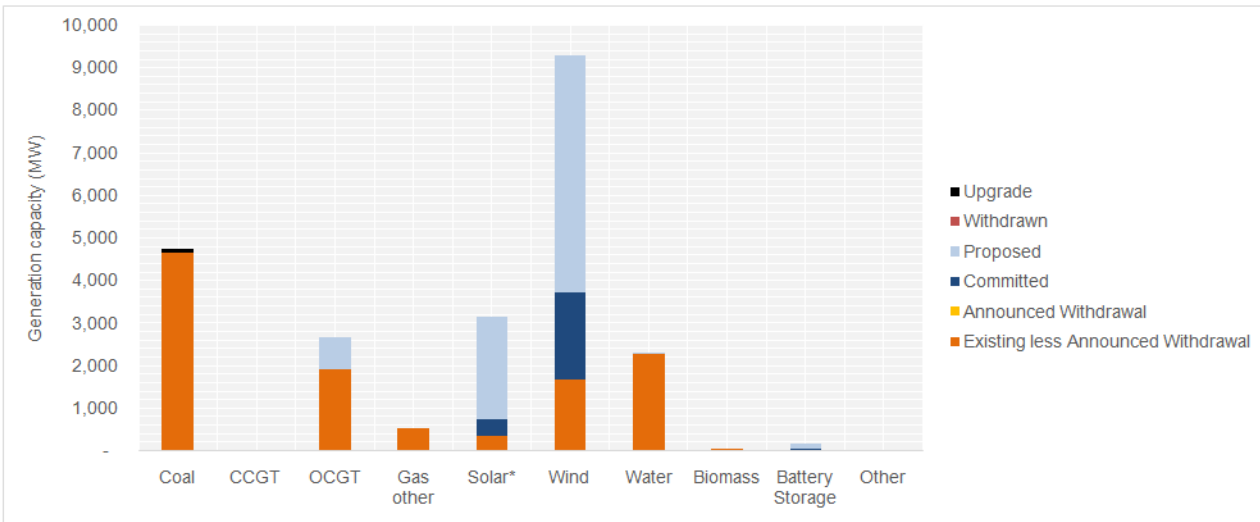


Status	Coal	CCGT	OCGT	Gas other	Solar*	Wind	Water	Biomass	Battery Storage	Other	Total
Existing	8,186	1,596	1,895	208	716	12	738	419	-	1	13,771
Announced Withdrawal	-	-	34	-	-	-	-	-	-	-	34
Existing less Announced Withdrawal	8,186	1,596	1,861	208	716	12	738	419	-	1	13,737
Committed	-	-	-	-	1,195	677	-	24	2	-	1,898
Proposed	-	-	132	15	11,502	1,188	250	190	3,120	-	16,397
Withdrawn	-	-	-	-	-	-	-	-	-	-	-

Note: Existing includes Announced Withdrawal
 * Solar excludes rooftop PV installations

Source: Australian Energy Market Operator – entity responsible for the operation of the National Electricity Market, 21 Jan 2019

Victoria existing and potential new developments by generation type (MW)



Status	Coal	CCGT	OCGT	Gas other	Solar*	Wind	Water	Biomass	Battery Storage	Other	Total
Existing	4,660	21	1,917	523	354	1,693	2,286	58	55	-	11,566
Announced Withdrawal	-	-	-	-	-	-	-	-	-	-	-
Existing less Announced Withdrawal	4,660	21	1,917	523	354	1,693	2,286	58	55	-	11,566
Upgrade	80	-	-	-	-	-	-	-	-	-	80
Committed	-	-	-	-	396	2,025	-	-	20	-	2,441
Proposed	-	-	765	-	2,401	5,550	34	-	92	-	8,841
Withdrawn	-	-	-	-	-	-	-	-	-	-	-

Note: Existing includes Announced Withdrawal
 * Solar excludes rooftop PV installations

Source: Australian Energy Market Operator – entity responsible for the operation of the National Electricity Market, 21 Jan 2019

Please see the next page for the impact of wholesale electricity prices on retail prices (power bills)

The impact of wholesale electricity prices on retail prices (power bills)

On 28 February 2019, the Queensland Competition Authority (QCA) announced its *Draft retail* electricity prices for 2019-2020.

QCA’s *Final retail* electricity prices for 2019-20 will be announced by 31st May 2019.

Based on the wholesale electricity prices in the table below, QCA estimate retail electricity prices in 2019-2020 will decrease by 4.1% for households and 7.2% for small businesses.

However two years ago, the QCA stunned households by announcing their *Final* retail prices would result in a 7.1% increase for a typical residential power bill. This was after earlier announcing a *Draft* increase of only 1.7%.

The QCA largely blamed the massive increase on the rising cost of wholesale electricity.

Within hours of QCA’s announcement, the Queensland Government intervened and removed a state levy/tax to limit the increase to 3.3%.

The Queensland Government was able to intervene and reduce retail prices as under the Constitution electricity is a State Government responsibility.

There is a major difference between the Queensland Government’s much touted phrase of “**putting downward pressure on electricity prices**” and “**charging a price that is affordable to homes and businesses.**”

The Queensland Government owns:

- 100 % of the ‘poles and wires’ network in Queensland
- 65% of the electricity generation capacity in Queensland
- 100% of Ergon Energy Retail – a retailer with a near monopoly on 700,000 customers in regional Queensland

The Queensland Government collects multi-million dollar profits from its electricity assets – it’s the hidden tax.

Wholesale energy costs used to determine *retail* electricity prices in regional Queensland

Year	Wholesale Energy Cost at Qld Reference Node (\$/MWh)	Renewable Energy Costs at Qld Reference Node (\$/MWh)	Other Costs Qld reference node (\$/MWh)	Total transmission and distribution loss factor (MLF x DLF)	Network losses (\$/MWh)	Total Energy Costs at the customer terminal (\$/MWh)	Change from previous determination (\$/MWh)	Change from previous determination (%)
Draft 2019-20	\$89.08	\$16.32	\$3.18	1.062	\$6.73	\$115.31	-\$14.86	-11.4%
2018-19	\$99.10	\$19.56	\$3.91	1.062	\$7.60	\$130.17	\$0.78	0.6%
2017-18	\$103.11	\$14.98	\$3.40	1.065	\$7.90	\$129.39	\$34.94	37.0%
2016-17	\$75.32	\$11.57	\$1.80	1.065	\$5.76	\$94.45	\$15.31	19.4%
2015-16	\$63.73	\$8.72	\$1.87	1.065	\$4.83	\$79.15		

Source: Compiled from ACIL Allen’s Estimated Energy Cost Reports to the Queensland Competition Authority, 2015 to 2019

For more information on electricity pricing and supply please visit the QEUN website www.qeun.com.au or contact Jennifer Brownie, Coordinator, QEUN on 0740 312 865.