

South-East Queensland Renewable Energy Industry Profile

July 2018



Rooftop solar

Over 2017 we estimate rooftop solar installations supported 809 full time jobs across the South East Queensland region. The total installed base of solar systems across the region indicates that around 30% of all residential dwellings have a solar system installed.

Table 10-1 Uptake of rooftop solar PV in South-East Queensland Region

Number of installations	Proportion of dwellings with solar	Capacity (MWs)	Estimated Generation (MWh)	CO2 Savings (tonnes)
390,273	30%	1,385	1,914,557	1,512,500

Sources: Number of installations, capacity and generation derived by data published by the Clean Energy Regulator as at March 2018. Number of dwellings taken from the 2016 Census.

Utility-scale projects

Outside of the very large installed base of rooftop solar in the densely populated South-East, it also has 17 operational renewable energy projects above a megawatt in scale. This is dominated in capacity terms by the 500MW Wivenhoe Hydro facility which incorporates pumping capability. However, the Wivenhoe facility has historically not been operated close to its capacity due to a large excess of coal generation in Queensland that substantially exceeds average demand. Interestingly the solar plants, which are a small fraction of Wivenhoe, generate almost three times the electricity. Although most of the renewable energy comes from the ten bioenergy plants – with about half the electricity coming from landfill gas and the other half from the Rocky Point facility which is fuelled by a variety of biomass waste materials. The combined annual average generation of 229,145 MWh is equivalent to the consumption of 43,730 average Queensland households.

Table 10-2 Operational large-scale power projects in South-East Queensland Region

Fuel type	No. plants	MW	Annual generation (MWh)	Avoided CO2 (tonnes)	Households powered
Bioenergy	10	49.1	182,673	144,312	34,861
Hydro	1	500.0	12,241	9,670	2,336
Solar	6	22.6	34,231	27,043	6,533
TOTAL	17	572	229,145	181,025	43,730

Sources: Number of projects, their capacity and generation from Green Energy Markets Power Plant Register. Avoided CO2 based on generation displacing the average grid emissions intensity of Queensland electricity according to the Australian Government's National Greenhouse Accounts Factors – July 2017. Households powered derived on the average Queensland household's annual electricity consumption according to the Australian Energy Market Commission's 2017 Residential Electricity Price Trends publication.

Table 10-3 details that there is another 6MW project in construction and another 3 under development in the region. These projects' 1,521 megawatts of capacity are capable of producing almost 3.6m megawatt-hours per annum. This is equal to 6.8% of Queensland's entire annual electricity consumption and equivalent to the annual average electricity consumption of 685,437 Queensland households.

Table 10-3 Projects under construction and development in South-East Queensland region

	Solar	
	No. plants	MW
Under construction	1	6
Development - planning approved	1	10
Development - yet to be approved	2	1,505
TOTAL	4	1,521
Annual generation (MWh)	3,591,688	

Source: Green Energy Markets Power Plant Register for project capacity and generation.

Table 10-4 provides estimates of the employment, investment and emissions abatement these projects could be expected to provide if they were all to proceed. The \$2.3 billion of investment in these projects could be expected to support 3,346 job years of employment building these projects plus 152 ongoing full-time jobs.

Table 10-4 Employment, investment and emissions abatement flowing from projects under construction and development in South-East Queensland region¹

	Solar
Construction employment (job-years)	3,346
Operations employment (FTE)	152
Investment (\$m)	\$2,282
Equivalent households powered	685,437
CO2 avoided (tonnes)	2,837,433

Note: job estimates indicated above are not taken from specific estimates for each project cited by developers due to inconsistent methods for estimating a single job between companies. See section 3.4 for information on how employment is estimated.

Note: The South-East Queensland Region includes the Local Government Areas of Brisbane (C); Redland (C); Moreton Bay (R); Logan (C); Ipswich (C); Sunshine Coast (R); Noosa (S); Gold Coast (C); Scenic Rim; Somerset; Lockyer Valley.



This is an extract from the report '**Renewable Energy Across Queensland's Regions**' by industry analyst Tristan Edis of Green Energy Markets, details current at June 2018.

The report was commissioned by community organisation Solar Citizens and can be downloaded at www.solarcitizens.org.au/qld_regions

For full project list – see next page.

¹ Sources: See section 3.4 for information on how employment is estimated. Avoided CO2 based on generation displacing the average grid emissions intensity of Queensland electricity according to the Australian Government's National Greenhouse Accounts Factors – July 2017. Households powered derived on the average Queensland household's annual electricity consumption according to the Australian Energy Market Commission's 2017 Residential Electricity Price Trends publication.

Large-scale renewable energy projects in South East Queensland

Current at May 2018, includes projects >2MW²

Operational

Type	Name	Company	Capacity MW	Locality
Bagasse	Rocky Point Sugar Mill	FPC 30 Limited	30	Woongoolba
Hydro	Wivenhoe Hydro	Stanwell Corporation Limited	500	Wivenhoe Pocket
Landfill gas	Browns Plains LFG Power Plant	EDL LFG (Qld) Pty Ltd	2.18	Heritage Park
Landfill gas	Caboolture LFG	LGI Limited	2.134	Caboolture
Landfill gas	Rochedale LFG	LMS Energy Pty Ltd	4.492	Rochedale
Landfill gas	Stapylton LFG	LMS Energy Pty Ltd	2.1	Stapylton
Landfill gas	Ti Tree LFG Willowbank	Veolia Environmental Services (Australia) Pty Ltd	3.3	Willowbank
Solar	Gatton Solar Research Facility	The University of Queensland	3.275	Gatton
Solar	Sunshine Coast Solar Farm	Sunshine Coast Regional Council	15	Valdora

Under construction

Type	Name	Company	Capacity MW	Locality
Solar	Brisbane Airport	Epho Pty Ltd	6	Brisbane City

In development³

Type	Name	Company	Capacity MW	Locality
Solar	Ebenezer Solar Project	Juwi Renewable Energy	10	EBENEZER
Solar	Gold Coast Solar Farm	Ormed Investments	5	ORMEAU
Solar	Harlin Solar Farm	Sunshine Energy Australia Pty Ltd.	1500	HARLIN

² Appendix B - 'Renewable Energy Across Queensland's Regions' Green Energy Markets, 2018

³ Projects 'in-development' have either: a site identified and landholder consent; submitted a development application to local Council; or have a development approval.