

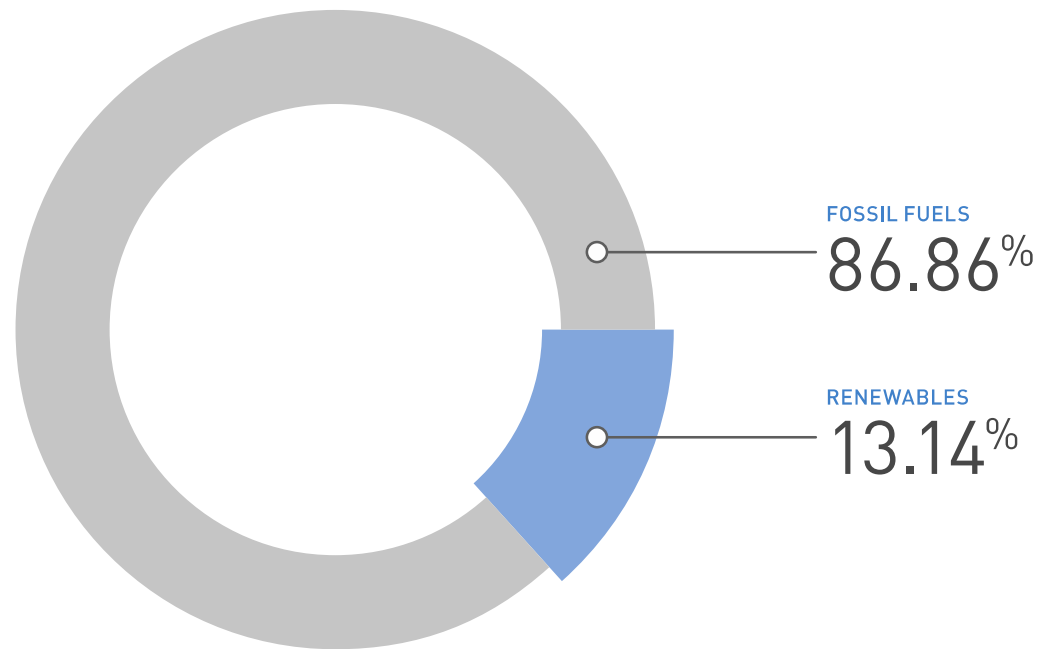


 Clean Energy Australia Report 2012





## Estimated annual renewable electricity generation\*

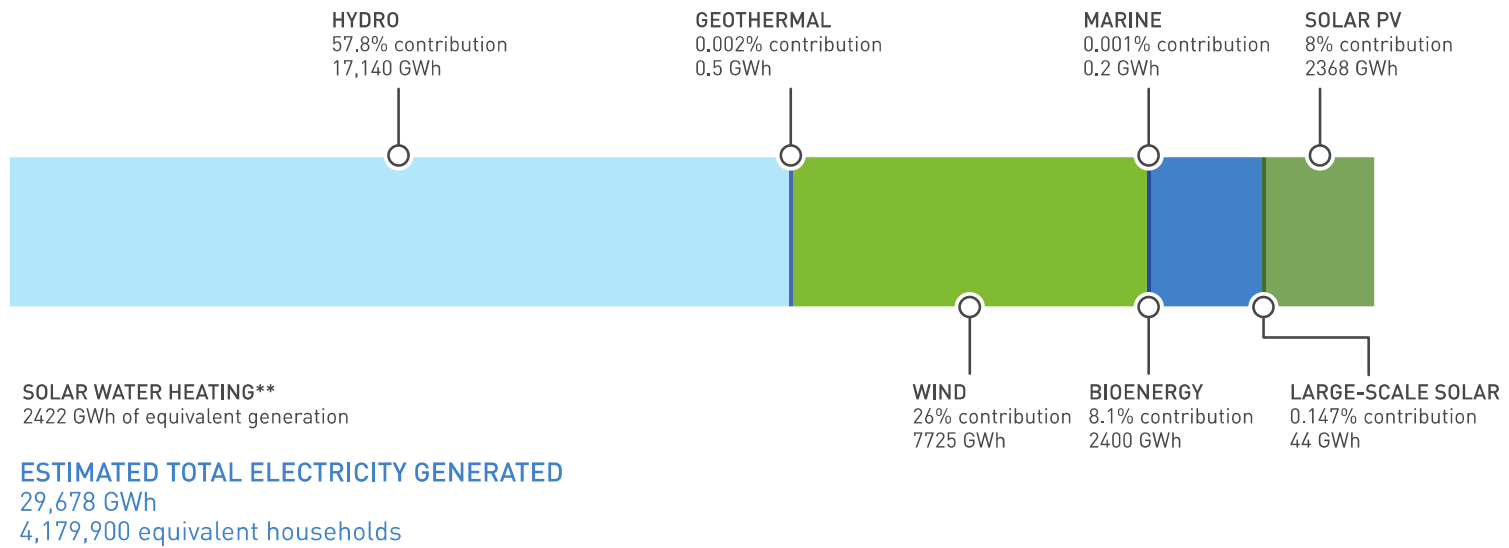


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\* Clean Energy Council Renewable Energy Database, BREE 2012, REC Registry, AEMO, IMO, IES



## Annual contribution to renewable energy generation\*

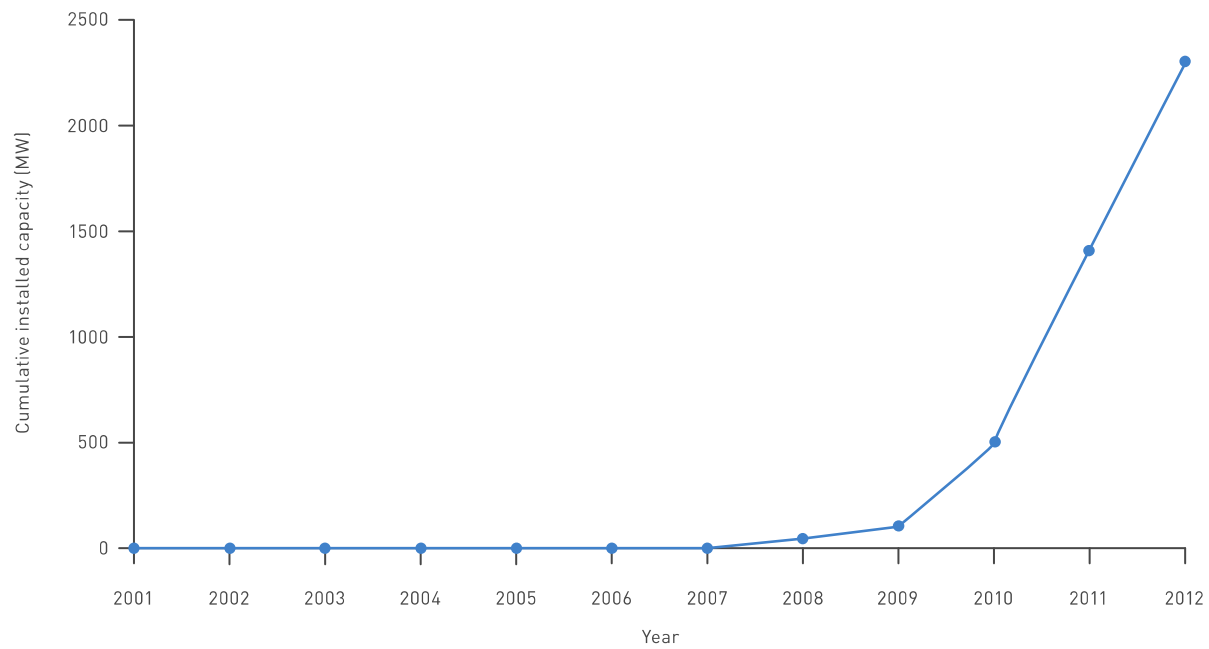


\* Clean Energy Council Renewable Energy Database, BREE 2012, REC Registry, AEMO, IMO, IES

\*\* As solar water heating does not produce electricity it has not been included in the total generation or equivalent in household figures. Figures do not include auxiliary load or transmission line losses.



## Cumulative installed capacity of solar PV\*



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\* SunWiz Consulting, 2013



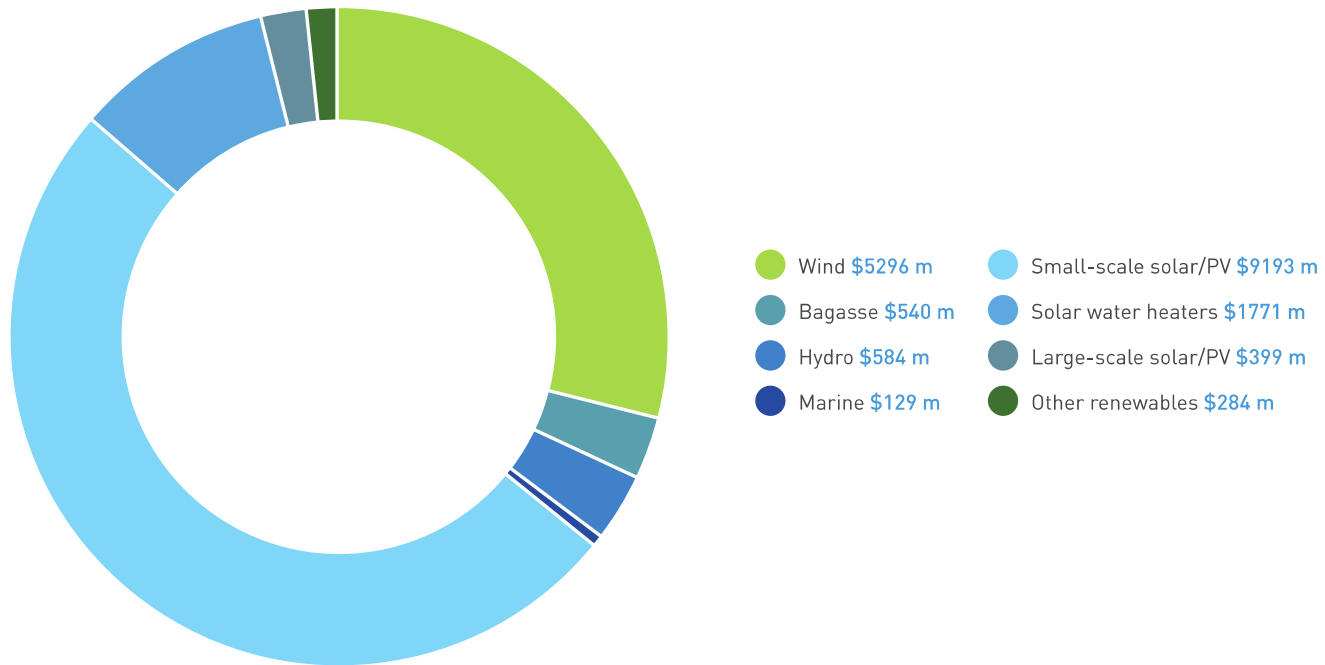
## New financial investment in large- and small-scale clean energy in Australia, 2011/2012 calendar years (AU\$m)\*

Sector	2011 (AU\$m)	2012 (AU\$m)
Wind	633.3	931.2
Solar	4809.5	3211.5
Biomass and waste	26.3	0
Geothermal	18.4	11.8
Small hydro	0	0
Marine	4	60.3
Energy smart technologies	12.8	16.6
<b>Total</b>	<b>5504.3</b>	<b>4231.5</b>

\* Bloomberg New Energy Finance. Note: Includes estimates for small-scale PV investment (under 100kW). Corporate and government R&D estimates are not included. There is no adjustment for re-invested equity. Estimates are included for undisclosed deal values.



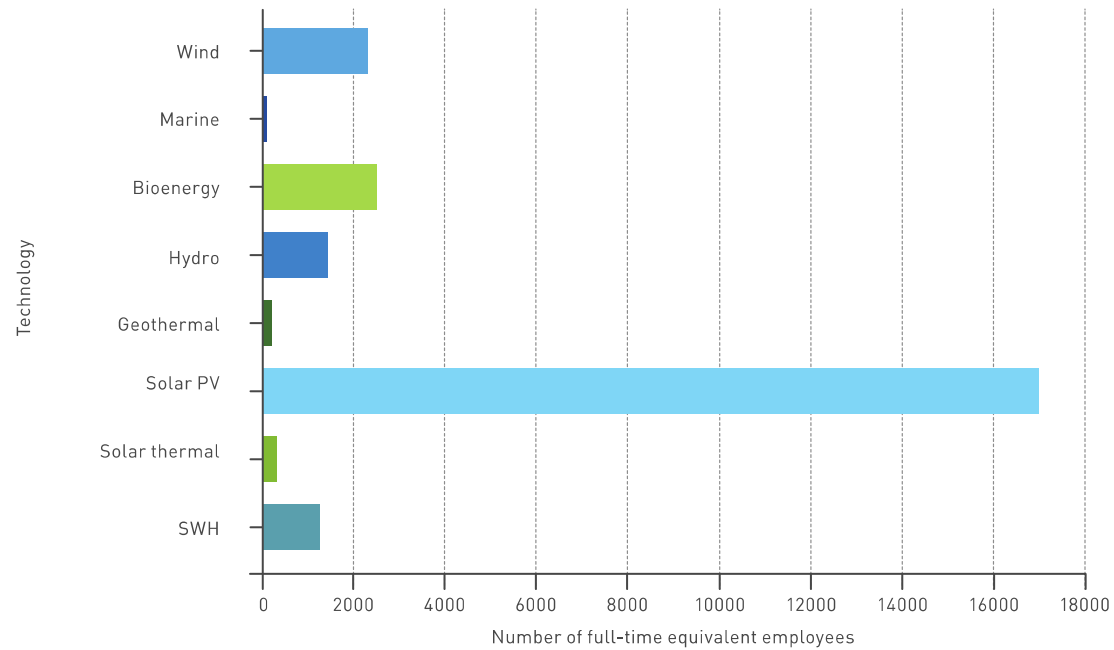
## Investment in new renewable generation since 2001\*



\* SKM MMA, 2012, Benefits of the Renewable Energy Target to Australia's Energy Markets and Economy



## Full-time equivalent jobs in the renewable energy industry\*



\* SKM, Clean Energy Council Renewable Energy Database, Clean Energy Council Review of the Australian solar PV industry, 2012, SolarBusinessServices and SunWiz Consulting



## State by state snapshot\*

### NT

11 MW Total installed capacity  
0.08% Nationwide renewable installed capacity  
10 Operating projects (>100 kW)

### WA

773 MW Total installed capacity  
5% Nationwide renewable installed capacity  
40 Operating projects (>100 kW)

### SA

1571 MW Total installed capacity  
11% Nationwide renewable installed capacity  
30 Operating projects (>100 kW)

### VIC

2001 MW Total installed capacity  
14% Nationwide renewable installed capacity  
79 Operating projects (>100 kW)

### QLD

1837 MW Total installed capacity  
13% Nationwide renewable installed capacity  
62 Operating projects (>100 kW)

### NSW

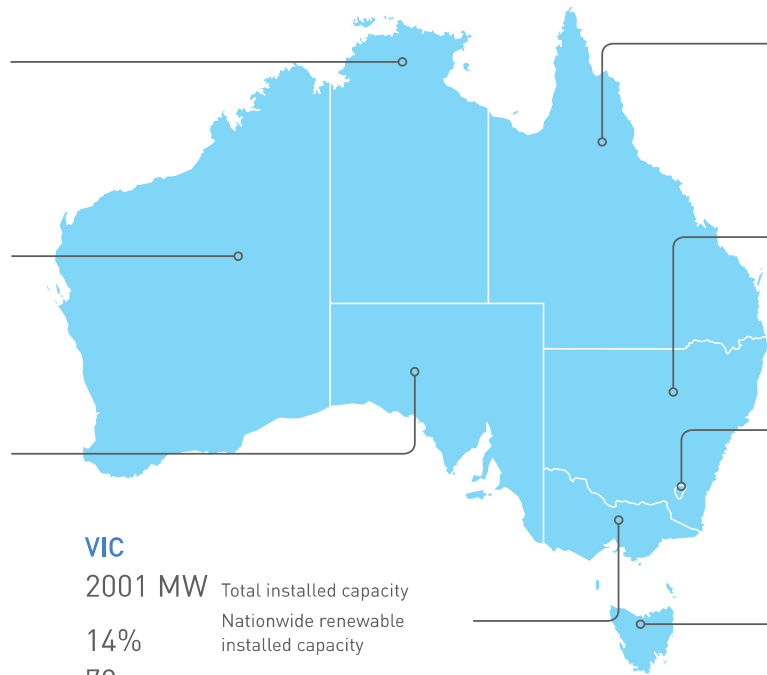
5485 MW Total installed capacity  
39% Nationwide renewable installed capacity  
93 Operating projects (>100 kW)

### ACT

34 MW Total installed capacity  
0.2% Nationwide renewable installed capacity  
5 Operating projects (>100 kW)

### TAS

2485 MW Total installed capacity  
18% Nationwide renewable installed capacity  
45 Operating projects (>100 kW)

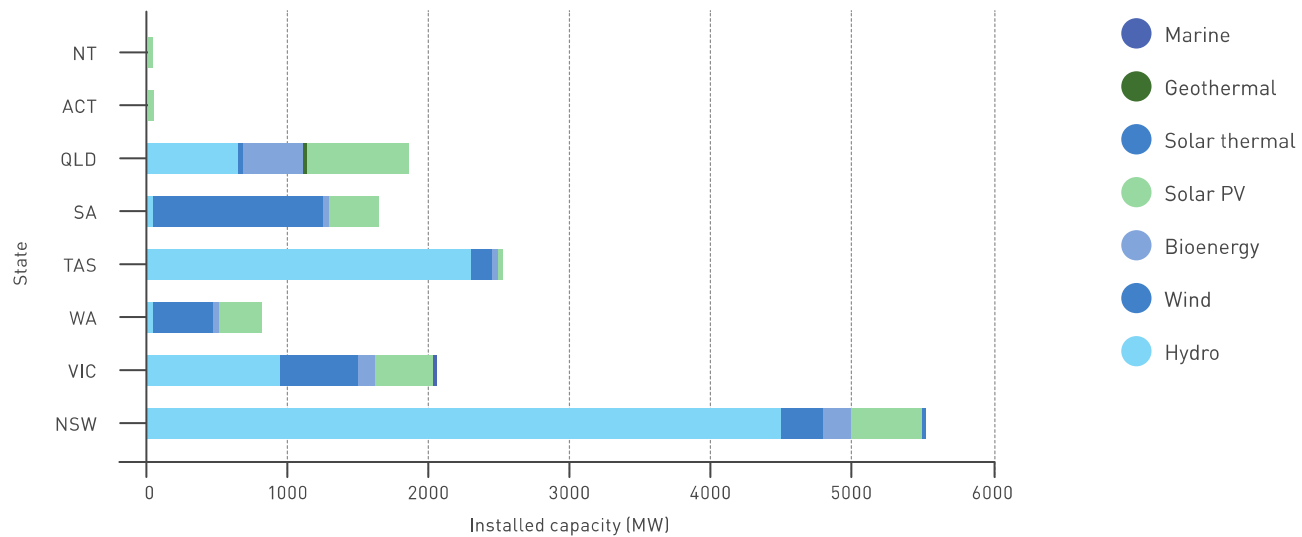


\* Figures accurate to end December 2012.





## Installed capacity of renewable energy projects by state \*



\* Clean Energy Council Renewable Energy Database, SunWiz Consulting, 2013



## Contribution of each renewable energy source to installed capacity\*

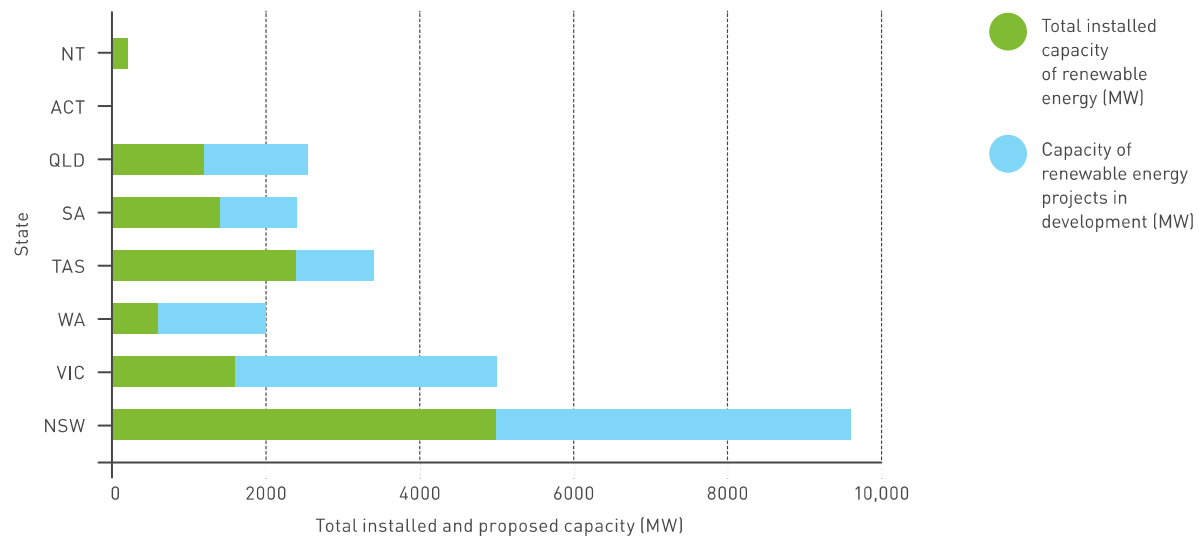
Fuel source	NSW	TAS	VIC	QLD	SA	WA	ACT	NT	TOTAL
Hydro	4522	2310	958	674	4.4	30	1.3	0	8500
Wind	282	142	519	12	1205	423	0	0	2584
Bioenergy	167	5.1	116	430	20.5	33	4.4	1.1	778
Solar PV**	501	28	408	721	341	283	28	9.7	2320
Solar thermal	12.3	0	0	0	0	0	0	0	12.3
Geothermal	0	0	0	0.1	0	0	0	0	0.1
Marine	0	0	0.2	0	0	0	0	0	0.2
<b>Total MW</b>	<b>5485</b>	<b>2485</b>	<b>2001</b>	<b>1837</b>	<b>1571</b>	<b>769</b>	<b>34</b>	<b>11</b>	<b>14,195</b>

\* Clean Energy Council Renewable Energy Database, SunWiz Consulting, 2013

\*\* Includes small-scale solar PV



## Capacity of existing and proposed large-scale renewable energy projects – by state\*



\* Clean Energy Council Renewable Energy Database



## Cumulative installed capacity of solar PV\*

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	Total (MW)
2001	0.007	0.062	0.004	0.061	0.126	0.002	0.113	0.034	0.409
2002	0.010	0.236	0.006	0.110	0.330	0.011	0.255	0.055	1.013
2003	0.015	0.378	0.006	0.178	0.876	0.017	0.439	0.081	1.989
2004	0.021	0.495	0.006	0.280	1.269	0.022	0.616	0.095	2.804
2005	0.026	0.671	0.007	0.387	1.865	0.032	0.827	0.116	3.931
2006	0.053	0.907	0.009	0.488	2.542	0.034	1.133	0.143	5.307
2007	0.249	2.007	0.012	1.057	3.705	0.072	2.099	0.410	9.609
2008	0.724	6.104	0.410	5.096	8.517	0.298	4.888	3.282	29.319
2009	1.942	24.459	0.919	29.109	20.651	1.984	15.898	16.916	111.877
2010	6.923	173.647	2.362	119.173	53.008	4.841	74.667	58.103	492.723
2011	24.126	368.690	4.167	344.235	216.262	10.754	214.942	181.070	1364.246
2012	28.133	499.373	6.077	717.944	339.613	28.425	405.811	272.282	2297.658

\* SunWiz Consulting, 2013



## Annual capacity of solar PV installed in Australia (2001 – 2012)\*

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	Total (MW)
2001	0.01	0.06	0	0.06	0.13	0	0.11	0.03	0.41
2002	0	0.17	0	0.05	0.20	0.01	0.14	0.02	0.60
2003	0	0.14	0	0.07	0.55	0.01	0.18	0.03	0.98
2004	0.01	0.12	0	0.10	0.39	0.01	0.18	0.01	0.81
2005	0	0.18	0	0.11	0.60	0.01	0.21	0.02	1.13
2006	0.03	0.24	0	0.10	0.68	0	0.31	0.03	1.38
2007	0.20	1.10	0	0.57	1.16	0.04	0.97	0.27	4.30
2008	0.48	4.10	0.40	4.04	4.81	0.23	2.79	2.87	19.71
2009	1.22	18.36	0.51	24.01	12.13	1.69	11.01	13.63	82.56
2010	4.98	149.19	1.44	90.06	32.36	2.86	58.77	41.19	380.85
2011	17.20	195.04	1.81	225.06	163.25	5.91	140.27	122.97	871.52
2012	4.01	130.68	1.91	373.71	123.35	17.67	190.87	91.21	933.41

\* SunWiz Consulting, 2013



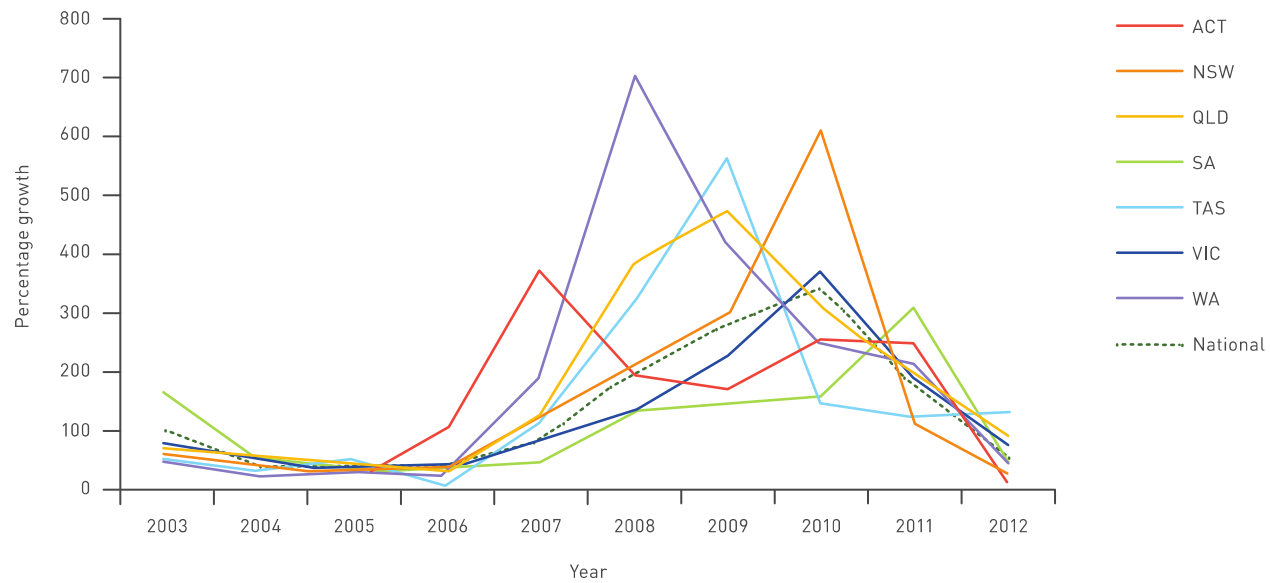
## Cumulative number of solar PV system installations in Australia\*

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	National
2001	5	40	2	35	84	1	73	23	263
2002	2	136	1	29	122	6	100	12	408
2003	3	111	0	44	357	4	134	14	667
2004	3	74	0	58	245	4	130	10	524
2005	3	105	1	65	355	8	139	16	692
2006	13	145	1	57	403	1	198	18	836
2007	102	670	2	348	719	26	606	156	2629
2008	277	2822	82	2867	3437	149	1945	2012	13,591
2009	803	14,026	225	18,377	8592	1454	8735	11,166	63,378
2010	2305	69,073	612	48,301	16,552	1866	35,376	22,223	196,308
2011	6596	68,806	391	90,477	60,901	2365	56,922	48,609	335,067
2012	1436	51,858	448	119,395	39,409	5950	63,412	40,539	322,447
<b>Total</b>	<b>11,548</b>	<b>207,866</b>	<b>1765</b>	<b>280,053</b>	<b>131,176</b>	<b>11,834</b>	<b>167,770</b>	<b>124,798</b>	<b>936,810</b>

\* SunWiz Consulting, 2013



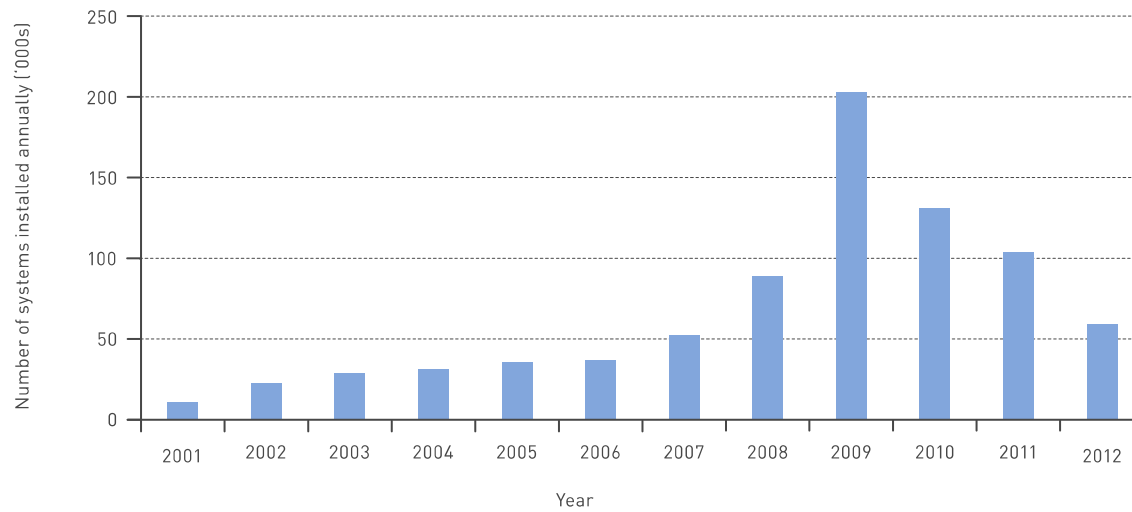
## Growth rates of solar PV capacity by state since 2003\*



\* SunWiz Consulting, 2013



## Annual installations of solar water heaters\*



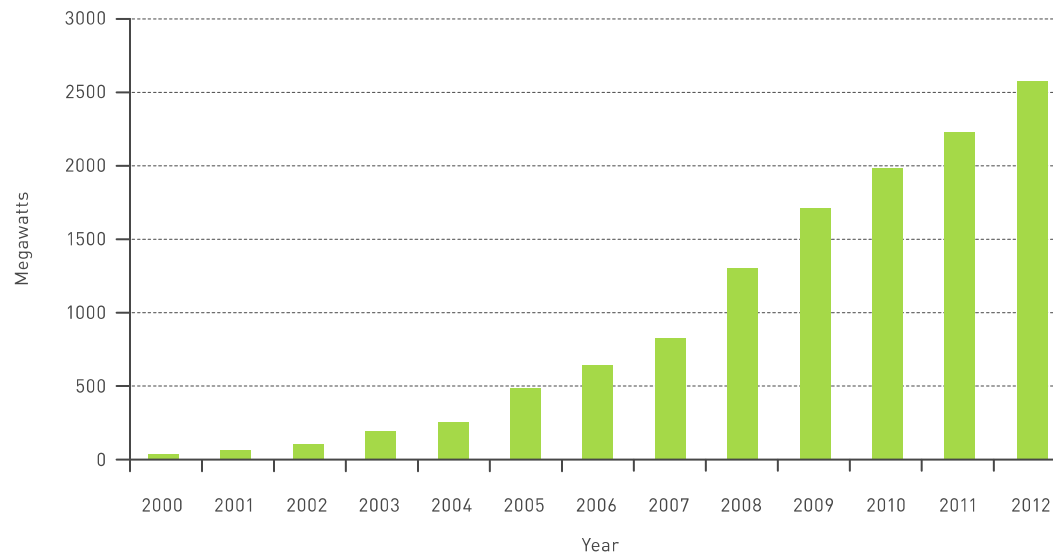
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\* SunWiz Consulting, 2013





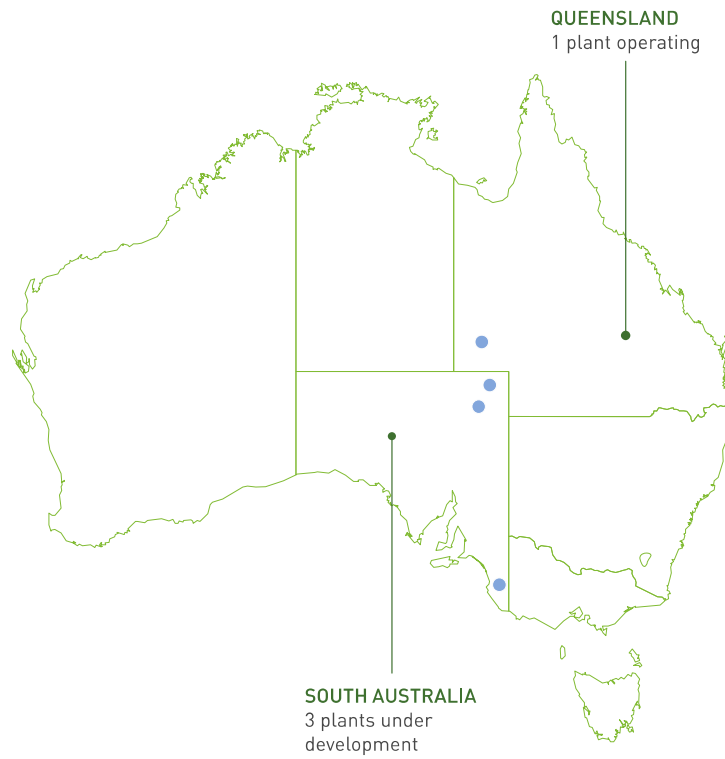
## Cumulative installed wind capacity in Australia (2000-2012)\*



\* Clean Energy Council Renewable Energy Database

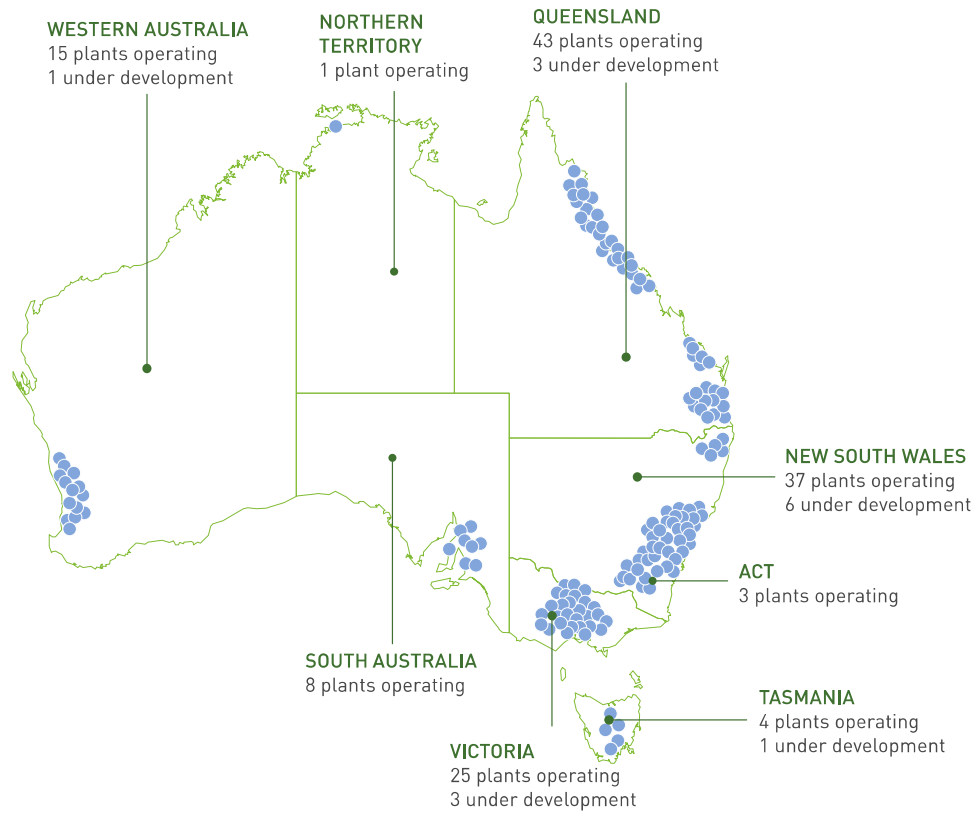


## Geothermal – location of sites



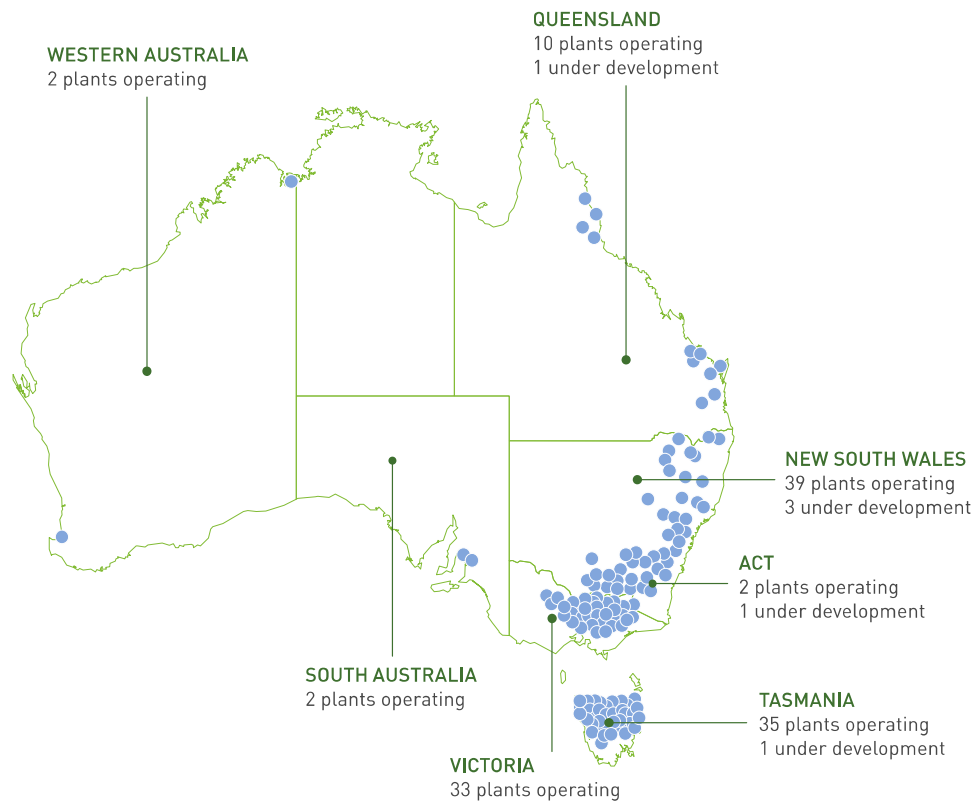


## Bioenergy – location of sites



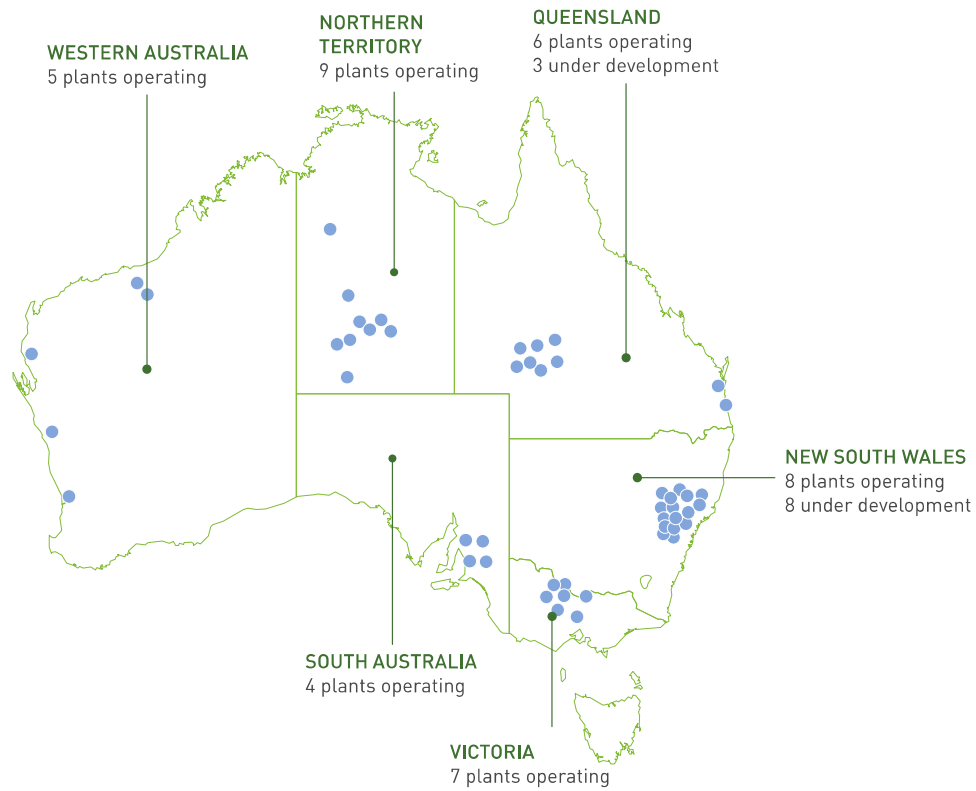


## Hydro power – location of sites



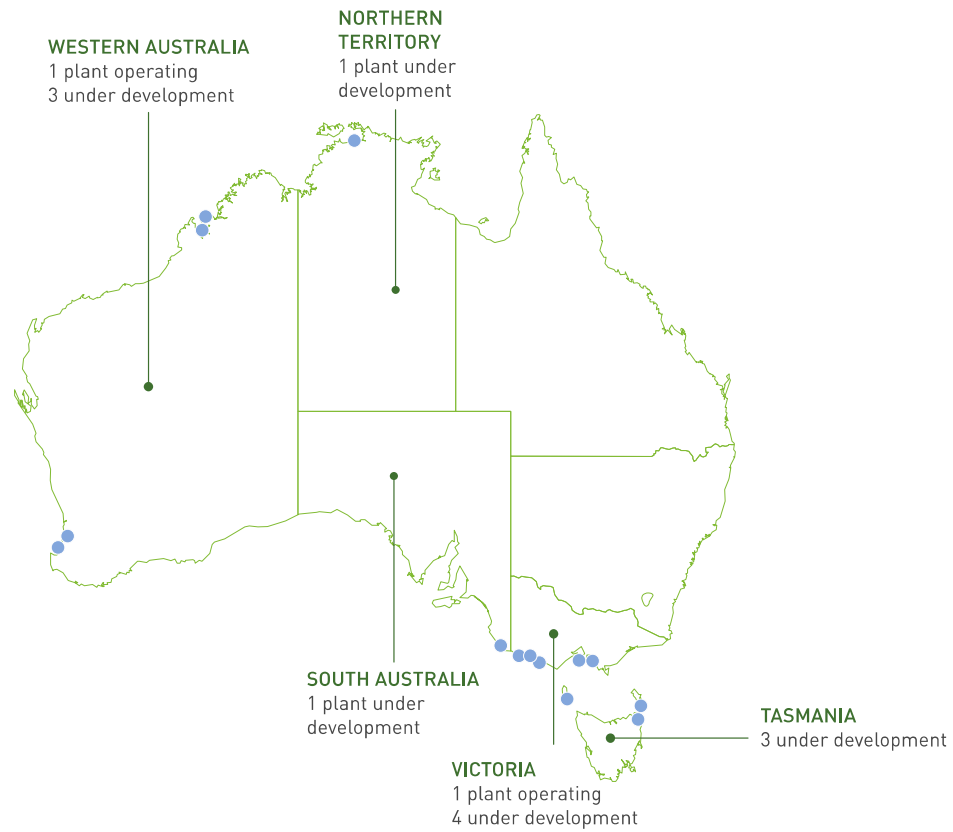


## Large-scale solar – location of sites





## Marine energy – location of sites





## Wind power – location of sites

