

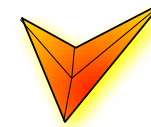
Voltmaster Electrical Contracting

Scott Rayment
PO Box 449
Coolum Beach QLD 4573

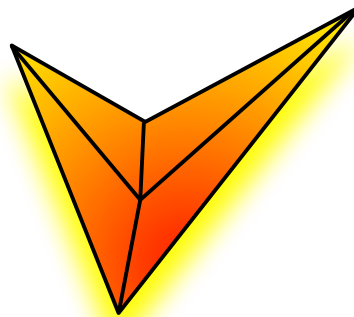
ABN 8433 5368 606
Licence Number 66847
B.S.B. 014556 Acc. 495119395

Fax 07 5473 9296
Mob 0422 167 455

email info@voltmaster.com.au



Grid Connected Photovoltaic Generator.



Cost Savings.

Selecting a Grid Connected Photovoltaic Generator can be confusing due to a large number of factors, including how jobs are priced, how systems are advertised, what components are used and what type of feed in tariff is available.

Queensland has a NET feed in tariff and while most solar sales people have an understanding of how cost savings are made with a NET feed in tariff, they cannot give much help in working out what **realistic cost savings will be generated for a specific user**, often guessing a percentage of power that **might** be fed to the grid (and guessing is all they are doing).

I would be very hesitant to invest in an expensive asset such as PV solar based on a guess, luckily there is no need to guess since there is an accurate power meter installed in your meter box which will tell you how much power you use.

Your power bill will tell you the **total** amount of power that you use, however it can not tell you how much power you might feed to the grid during the daytime (a grid connected PV generator can only operate during the daytime when the sun is shining) and therefore you need to know how much power you use during the daytime (between 8am and 4pm) before you are able to know how much power you **can** feed to the grid.

You will need to take the difference of 2 meter readings from your general supply tariff (tariff 11) electricity meter/s at 8am & 4pm on the same day .

Averaging readings from several days will help to work out your typical **“daytime electricity usage between 8am & 4pm”** (try to be as energy efficient as possible on one or two days to see if it makes much difference to your “daytime electricity usage”) .

This “daytime electricity usage between 8am & 4pm” is the critical information required to work out how much power you can feed to the grid - for which you will be paid at least \$0.44 / kWh (over 2 times the value of power that you take from the grid) if you are eligible for the QLD Solar Bonus Scheme. The following link goes to the QLD Solar Bonus Scheme website - http://www.cleanenergy.qld.gov.au/solar_bonus_scheme.cfm

Note - you only make cost savings at the rate you pay for electricity (e.g. 19c/kWh) if you don't generate more power than you are using at that instant.

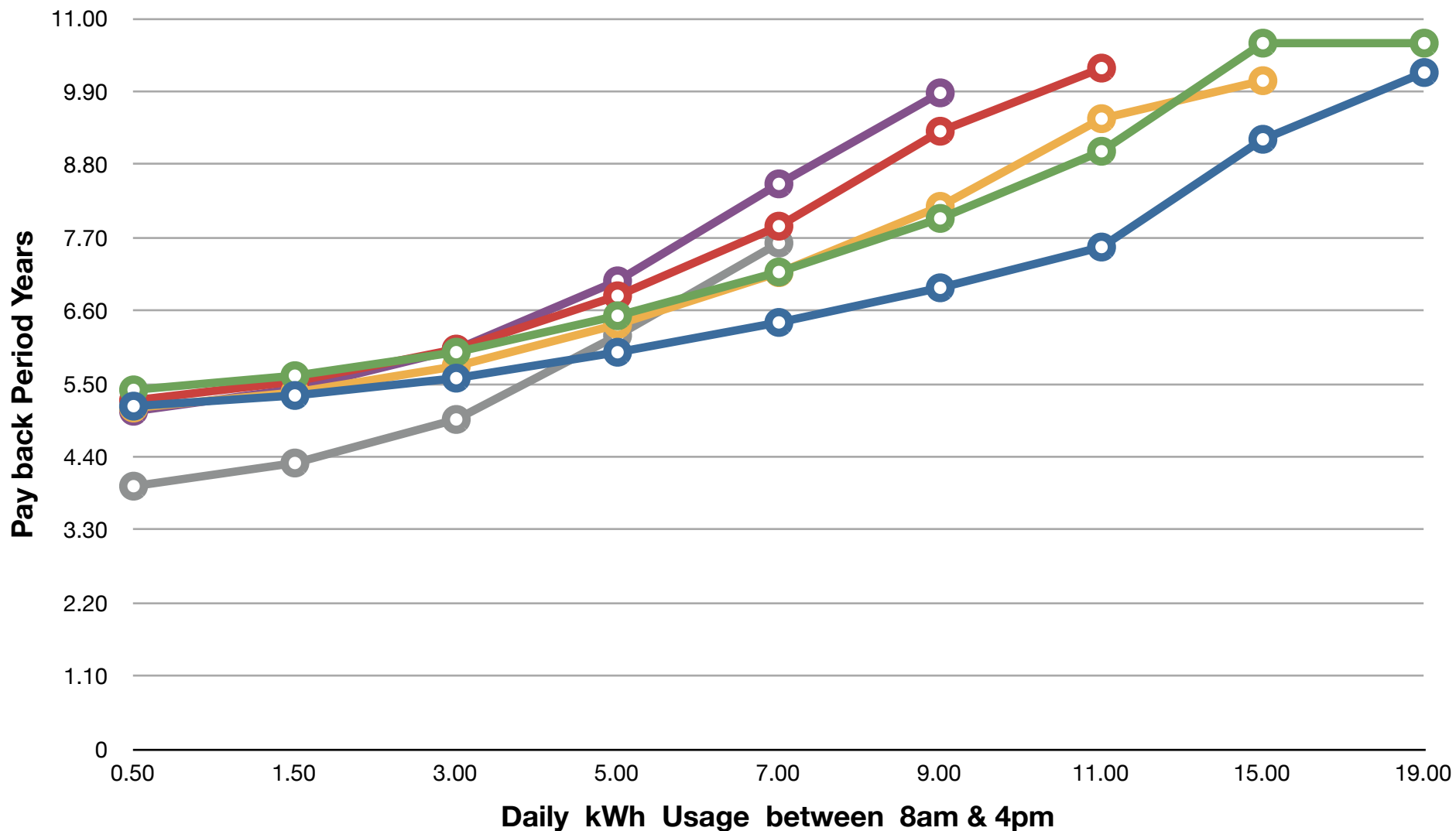
The lower your “daytime electricity usage between 8am & 4pm”, the more power you feed to the grid, the larger your cost savings and the quicker your payback period.

Compare your **measured (8am to 4pm) kWh** with those in our tables / graphs and you will get a **realistic** idea of cost savings for each system.

You will notice that **larger systems** will **make greater cost savings** and have a **quicker Payback period** as your daytime electricity usage between 8am & 4pm increases **and will save you far more money in the long run**. Information correct at Nov 2011, costs may change in future.

http://www.voltmaster.com.au/Solar_Bonus_Cost_Savings.aspx has info on Solar bonus cost savings, see the Detailed NET feed in tariff example.

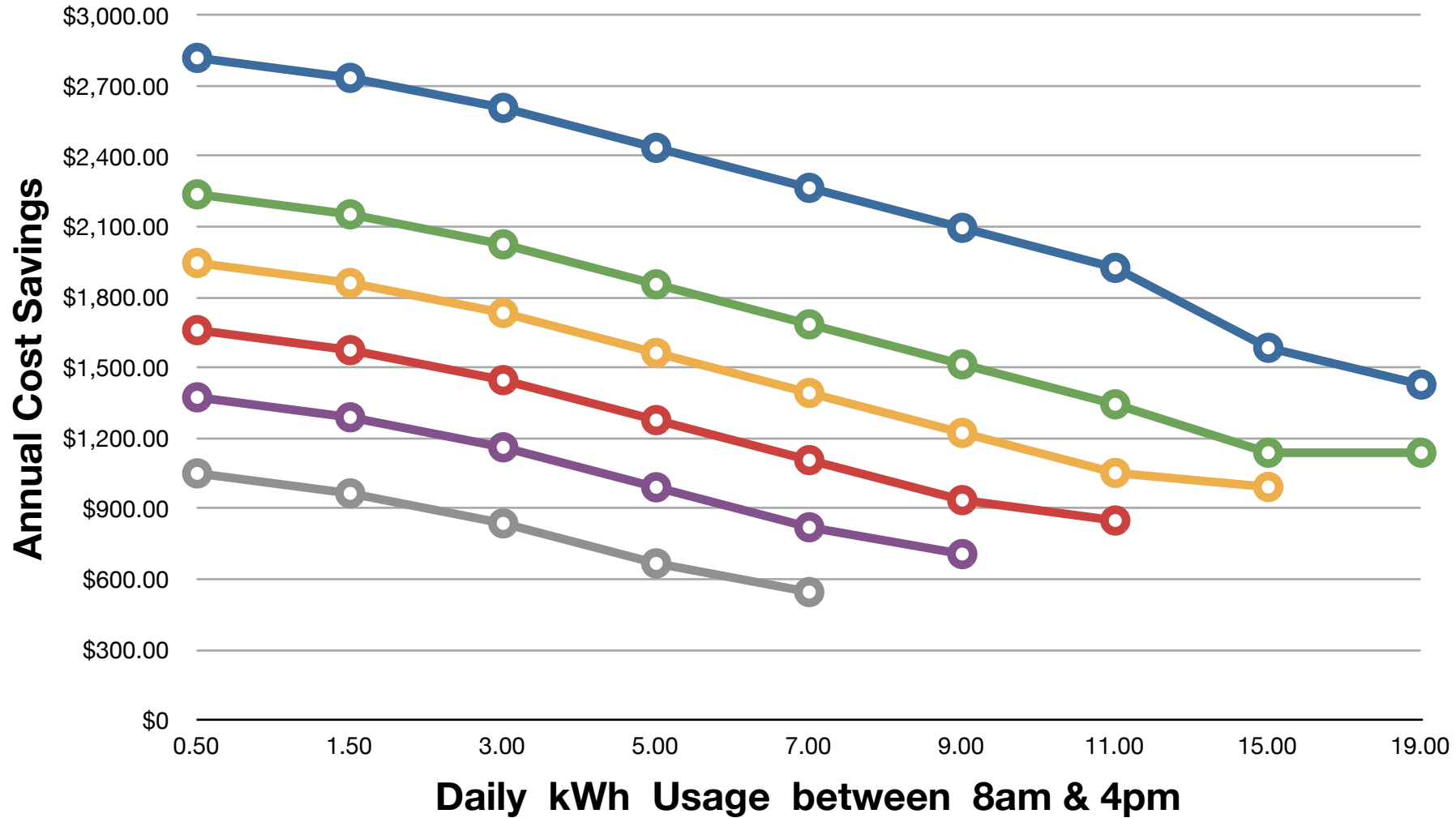
All Tin Roof Systems - fixed crystalline, optimum orientation, Nil shading. "Solar Credits" costing @ \$39 / REC.



Legend - ● 4.4kW ● 3.52kW ● 3.08kW ● 2.64kW ● 2.2kW ● 1.76kW

For systems located on the Sunshine Coast QLD

All Systems - fixed crystalline, optimum orientation, Nil shading. Net Feed intariff @ \$0.44/kWh. Normal tariff @ \$0.206/kWh



Legend - 4.4kW 3.52kW 3.08kW 2.64kW 2.2kW 1.76kW

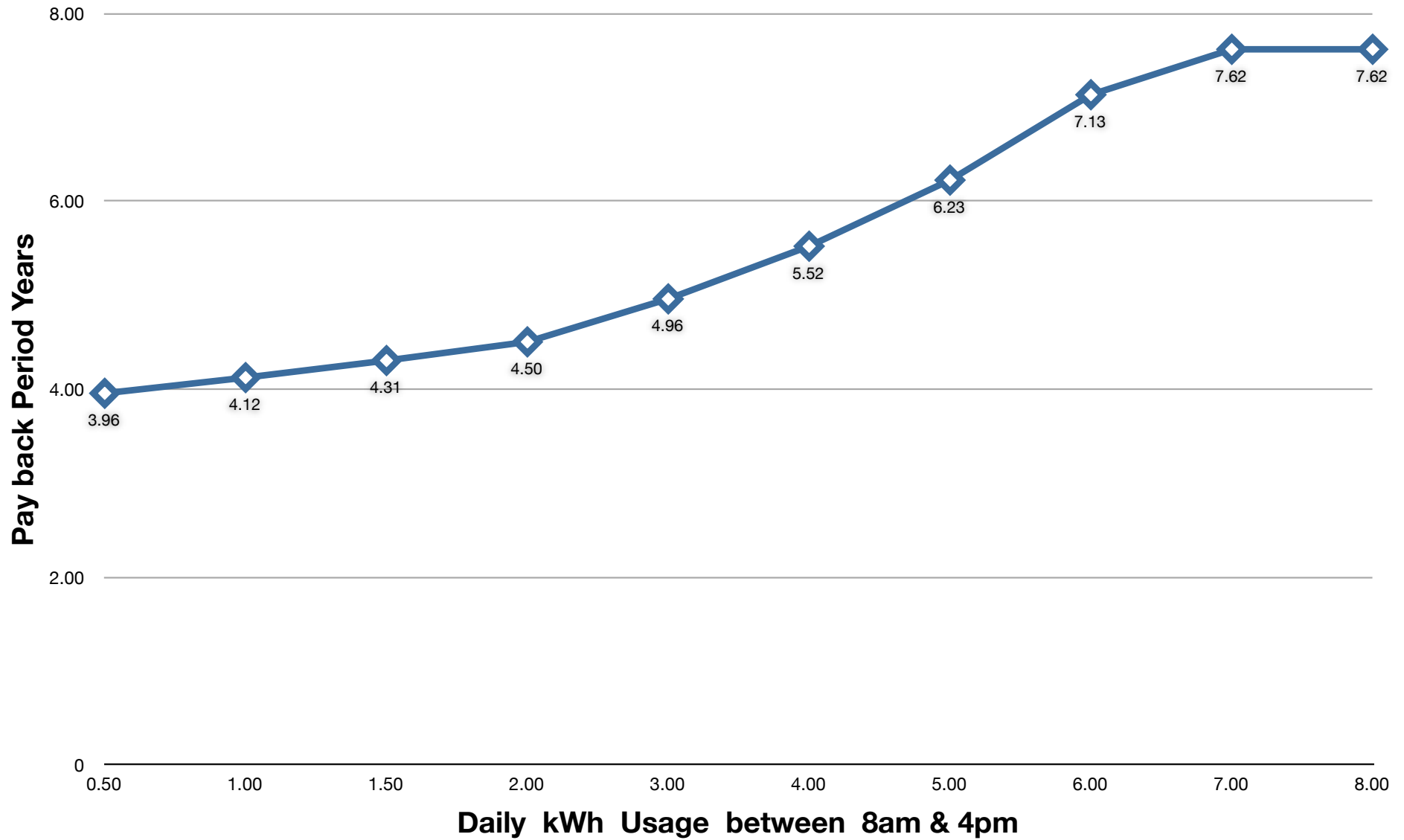
For systems located on the Sunshine Coast QLD

Projected cost savings - Fixed Crystalline Array - Nil Shading, Optimum Orientation (Sunshine Coast)

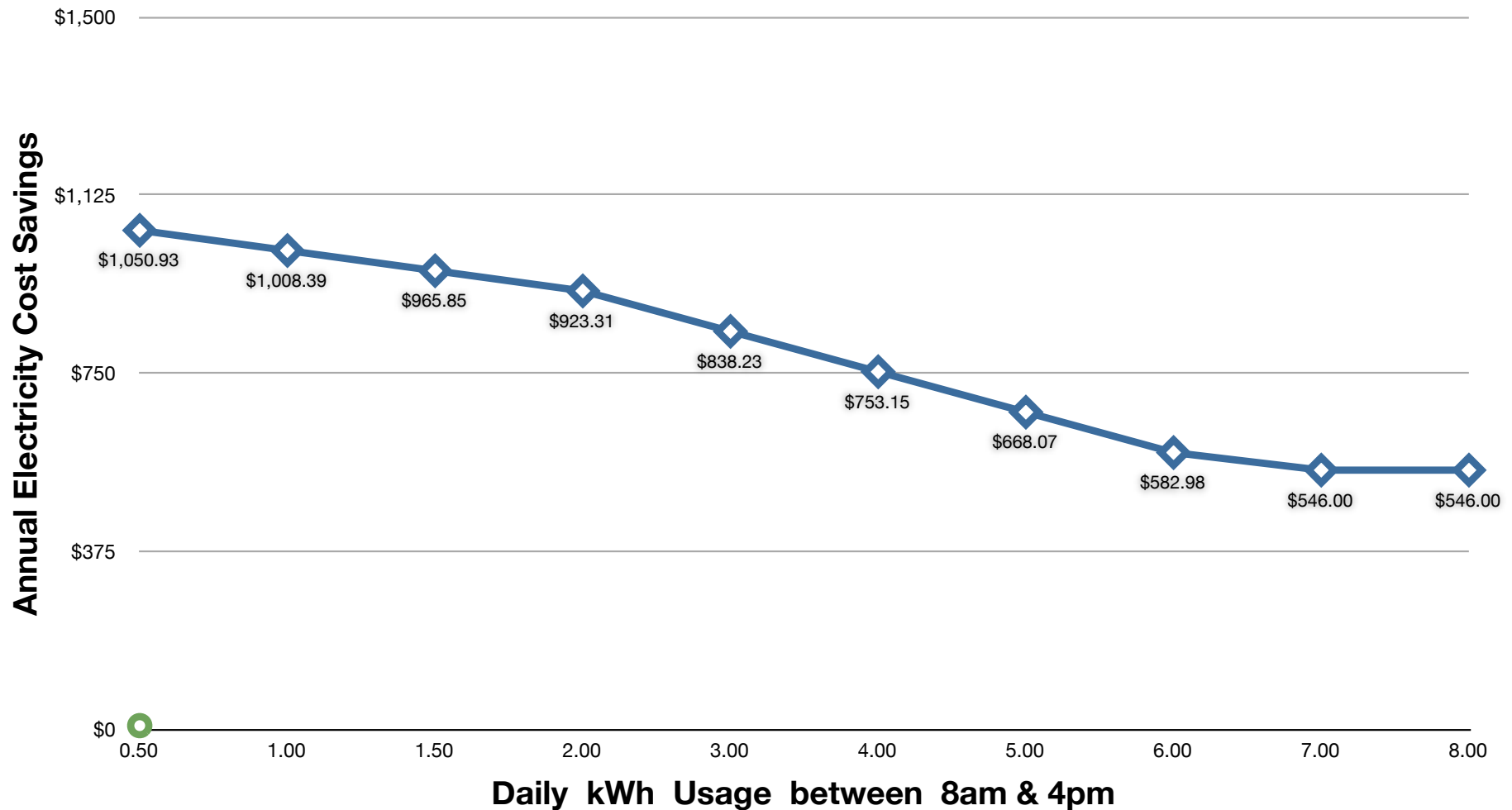
Current Electricity Price \$ / kWh	Your Daily kWh usage between 8am & 4pm.	System Size (kW)	Average Daily Output (kWh)	Average Annual Output (kWh)	Annual CO2 Reduction (tonnes)	Direct Annual Cost Saving without any Solar Bonus Scheme	Annual Cost Savings including Solar Bonus Scheme with "Your Daily kWh usage 8am-4pm"	Pay Back period (years)	Cost savings from Solar Bonus over 15 years	CO2 reduction after 15 years (tonnes)	Cost after REC's - from (pay opt A)
\$0.2069	0.50	1.76kW	7.23	2639	2.64	\$546.00	\$1,050.93	3.96	\$13,558	34.04	\$4,159
	1.00	1.76kW	7.23	2639	2.64	\$546.00	\$1,008.39	4.12	\$13,009	34.04	\$4,159
	1.50	1.76kW	7.23	2639	2.64	\$546.00	\$965.85	4.31	\$12,460	34.04	\$4,159
	2.00	1.76kW	7.23	2639	2.64	\$546.00	\$923.31	4.50	\$11,912	34.04	\$4,159
	3.00	1.76kW	7.23	2639	2.64	\$546.00	\$838.23	4.96	\$10,814	34.04	\$4,159
	4.00	1.76kW	7.23	2639	2.64	\$546.00	\$753.15	5.52	\$9,716	34.04	\$4,159
	5.00	1.76kW	7.23	2639	2.64	\$546.00	\$668.07	6.23	\$8,619	34.04	\$4,159
	6.00	1.76kW	7.23	2639	2.64	\$546.00	\$582.98	7.13	\$7,521	34.04	\$4,159
	7.00	1.76kW	7.23	2639	2.64	\$546.00	\$546.00	7.62	\$7,044	34.04	\$4,159
	8.00	1.76kW	7.23	2639	2.64	\$546.00	\$546.00	7.62	\$7,044	34.04	\$4,159

- **System Output is based on a mean average for the year, for a system on the Sunshine Coast with optimum orientation / tilt, and NIL shading.**
- **An accurate site survey is required to calculate the effects of shading and / or non optimal orientation.**
- **Daily Outputs will vary depending on the season (may be higher in Summer and lower in Winter) and atmospheric conditions.**
- **15 year projection, includes a reduction in system output of 1% annually (in line with the solar module's guarantee on power output being 90% after 10 years & 80% after 25 years).**
- **Returns from the Solar Bonus Scheme (\$0.44 / kWh) are accrued when you use less power than you generate at any instant.**
- **Annual Cost Savings from Solar Bonus Scheme can therefore be larger than shown in the table due to fluctuations in power usage.**

1.76 kW - fixed, optimum orientation, Nil shading (Sunshine Coast QLD)



1.76 kW - fixed, optimum orientation, Nil shading (Sunshine Coast QLD)



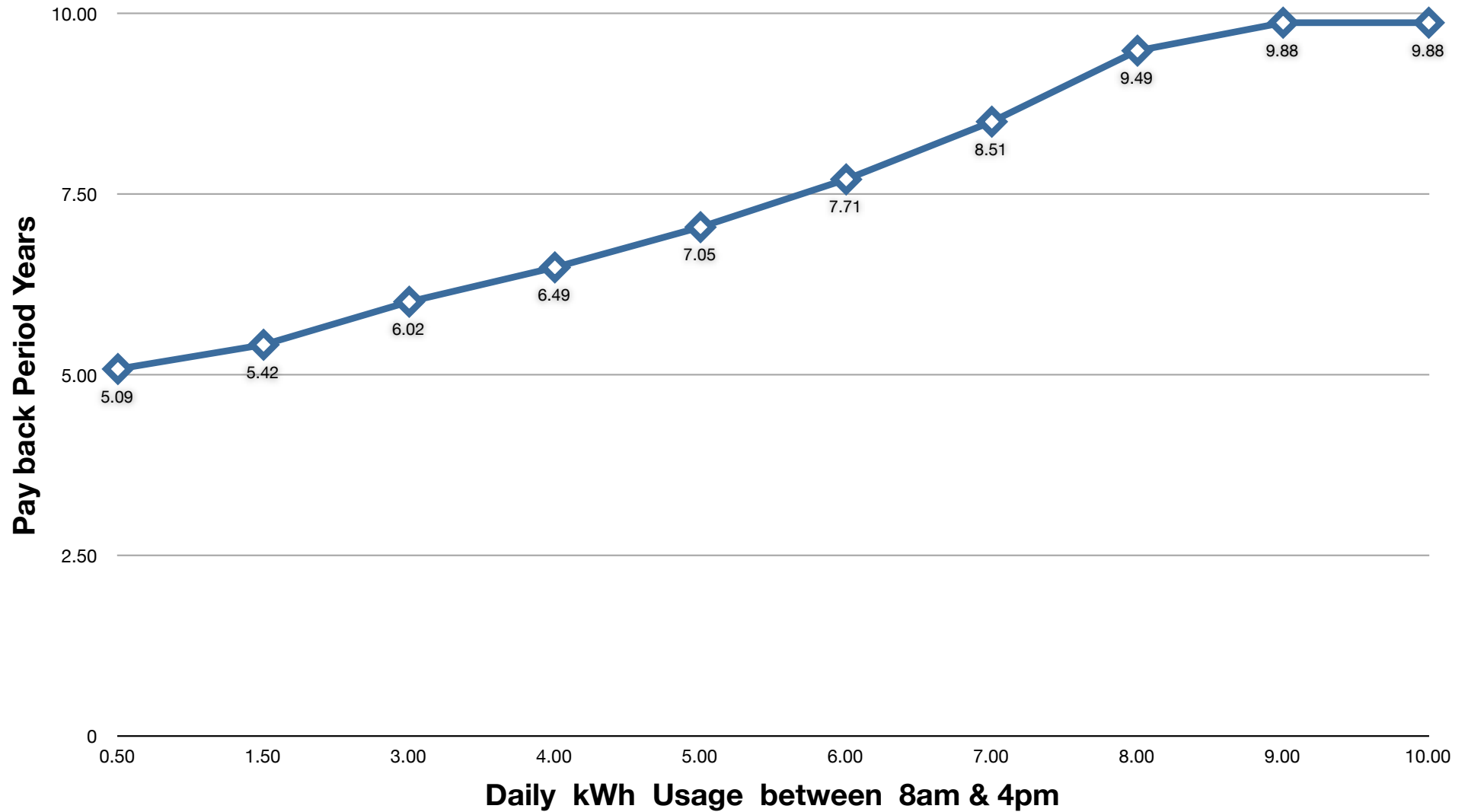
The less power you use between 8am & 4pm, the greater the cost savings will be, which reduces your payback time.

Projected cost savings - Fixed Crystalline Array - Nil Shading, Optimum Orientation (Sunshine Coast)

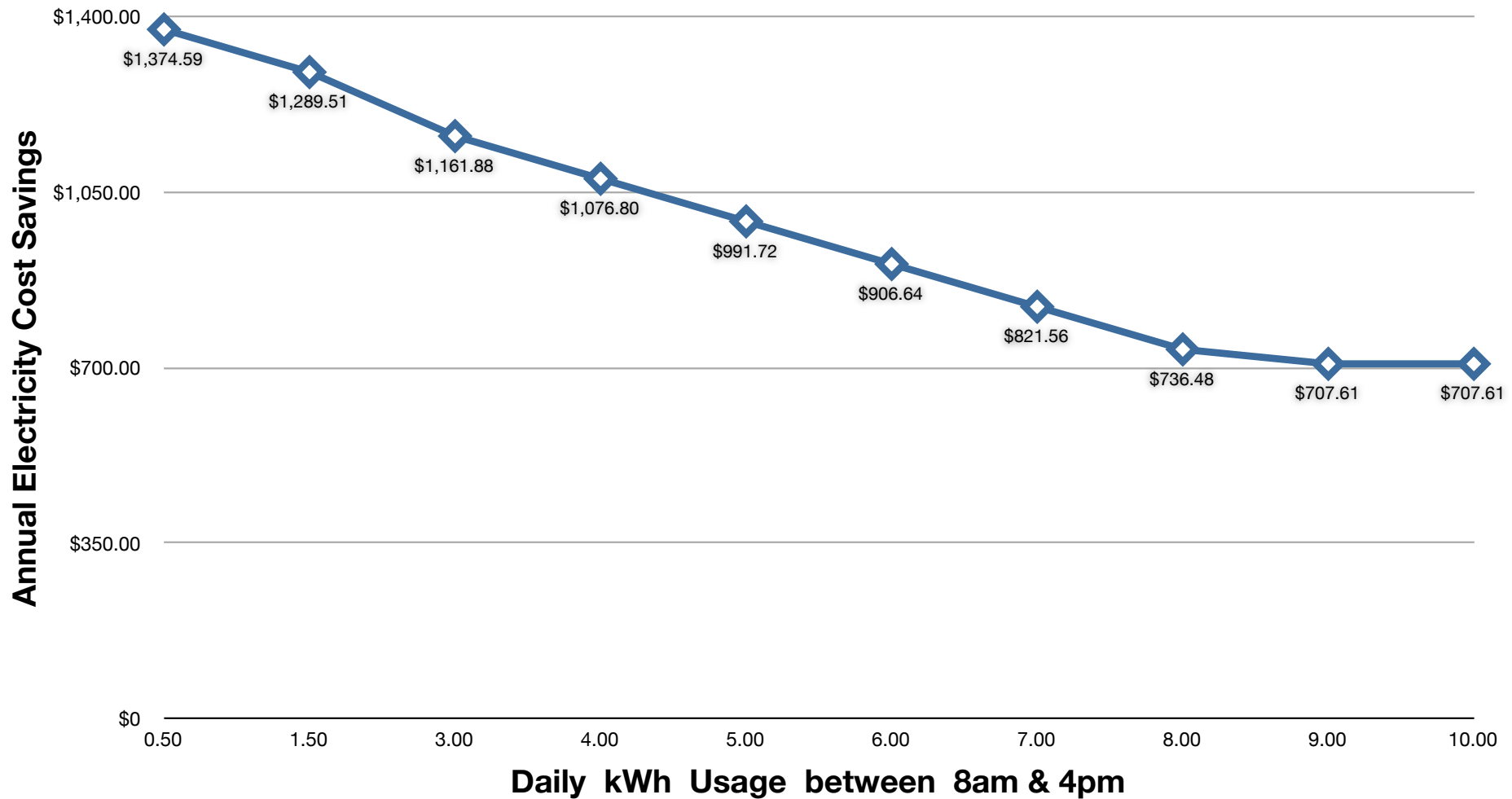
Current Electricity Price \$ / kWh	Your Daily kWh usage between 8am & 4pm.	System Size (kW)	Average Daily Output (kWh)	Average Annual Output (kWh)	Annual CO2 Reduction (tonnes)	Direct Annual Cost Saving without any Solar Bonus Scheme	Annual Cost Savings including Solar Bonus Scheme with "Your Daily kWh usage 8am-4pm"	Pay Back period (years)	Cost savings from Solar Bonus over 15 years	CO2 reduction after 15 years (tonnes)	Cost after REC's - from (pay opt A)
\$0.2069	0.50	2.2 kW	9.37	3420	3.42	\$707.61	\$1,374.59	5.09	\$17,733	44.12	\$6,990
	1.50	2.2 kW	9.37	3420	3.42	\$707.61	\$1,289.51	5.42	\$16,636	44.12	\$6,990
	3.00	2.2 kW	9.37	3420	3.42	\$707.61	\$1,161.88	6.02	\$14,989	44.12	\$6,990
	4.00	2.2 kW	9.37	3420	3.42	\$707.61	\$1,076.80	6.49	\$13,892	44.12	\$6,990
	5.00	2.2 kW	9.37	3420	3.42	\$707.61	\$991.72	7.05	\$12,794	44.12	\$6,990
	6.00	2.2 kW	9.37	3420	3.42	\$707.61	\$906.64	7.71	\$11,696	44.12	\$6,990
	7.00	2.2 kW	9.37	3420	3.42	\$707.61	\$821.56	8.51	\$10,599	44.12	\$6,990
	8.00	2.2 kW	9.37	3420	3.42	\$707.61	\$736.48	9.49	\$9,501	44.12	\$6,990
	9.00	2.2 kW	9.37	3420	3.42	\$707.61	\$707.61	9.88	\$9,129	44.12	\$6,990
	10.00	2.2 kW	9.37	3420	3.42	\$707.61	\$707.61	9.88	\$9,129	44.12	\$6,990

- **System Output** is based on a mean average for the year, for a system on the Sunshine Coast with optimum orientation / tilt, and NIL shading.
- An accurate site survey is required to calculate the effects of shading and / or non optimal orientation.
- **Daily Outputs** will vary depending on the season (may be higher in Summer and lower in Winter) and atmospheric conditions.
- **15 year projection**, includes a reduction in system output of 1% annually (in line with the solar module's guarantee on power output being 90% after 10 years & 80% after 25 years).
- **Returns from the Solar Bonus Scheme (\$0.44 / kWh)** are accrued when you use less power than you generate at any instant.
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2.2 kW - fixed, optimum orientation, Nil shading (Sunshine Coast QLD)



2.2 kW - fixed, optimum orientation, Nil shading (Sunshine Coast QLD)



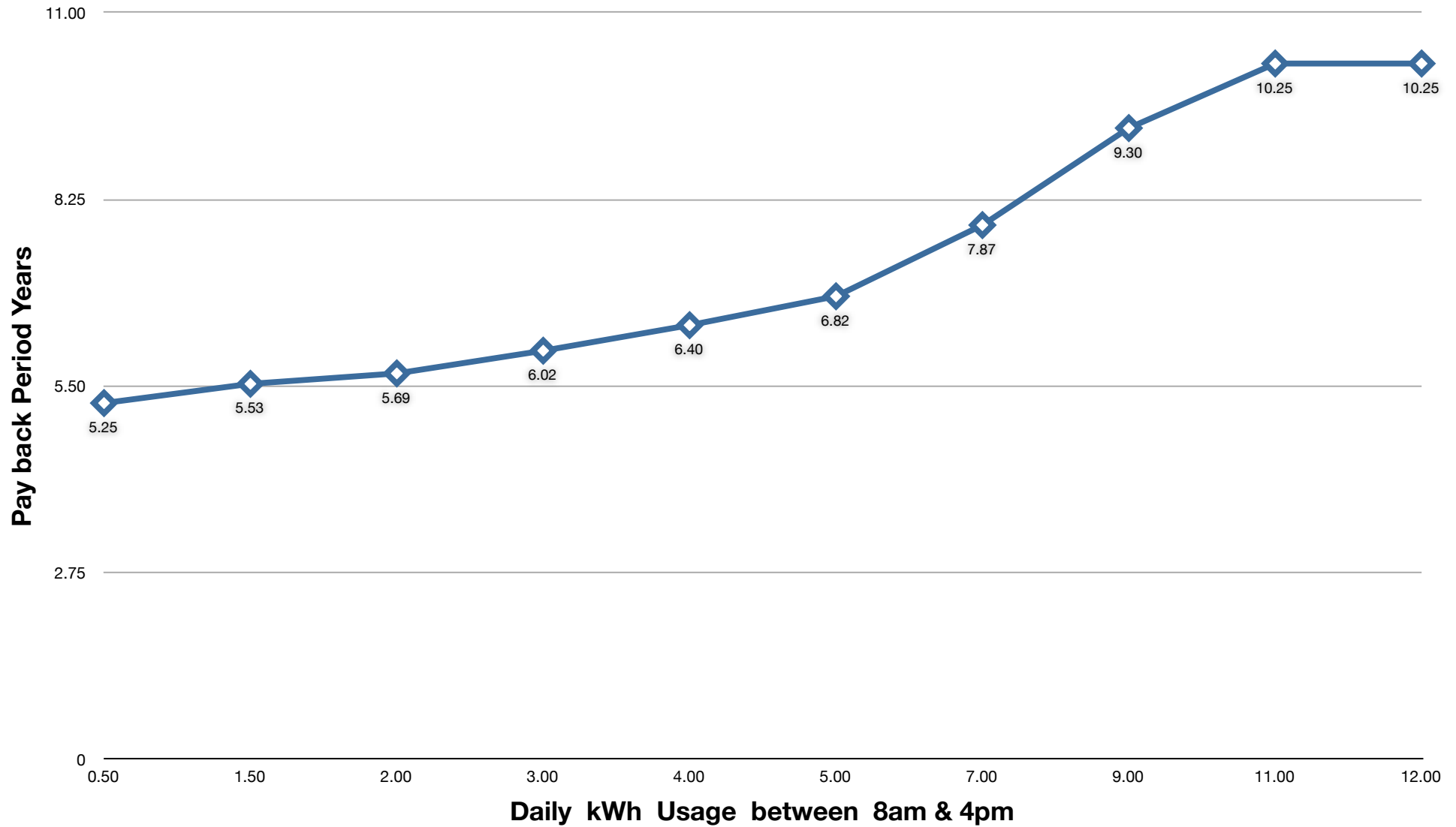
The less power you use between 8am & 4pm, the greater the cost savings will be, which reduces your payback time.

Projected cost savings - Fixed Crystalline Array - Nil Shading, Optimum Orientation (Sunshine Coast)

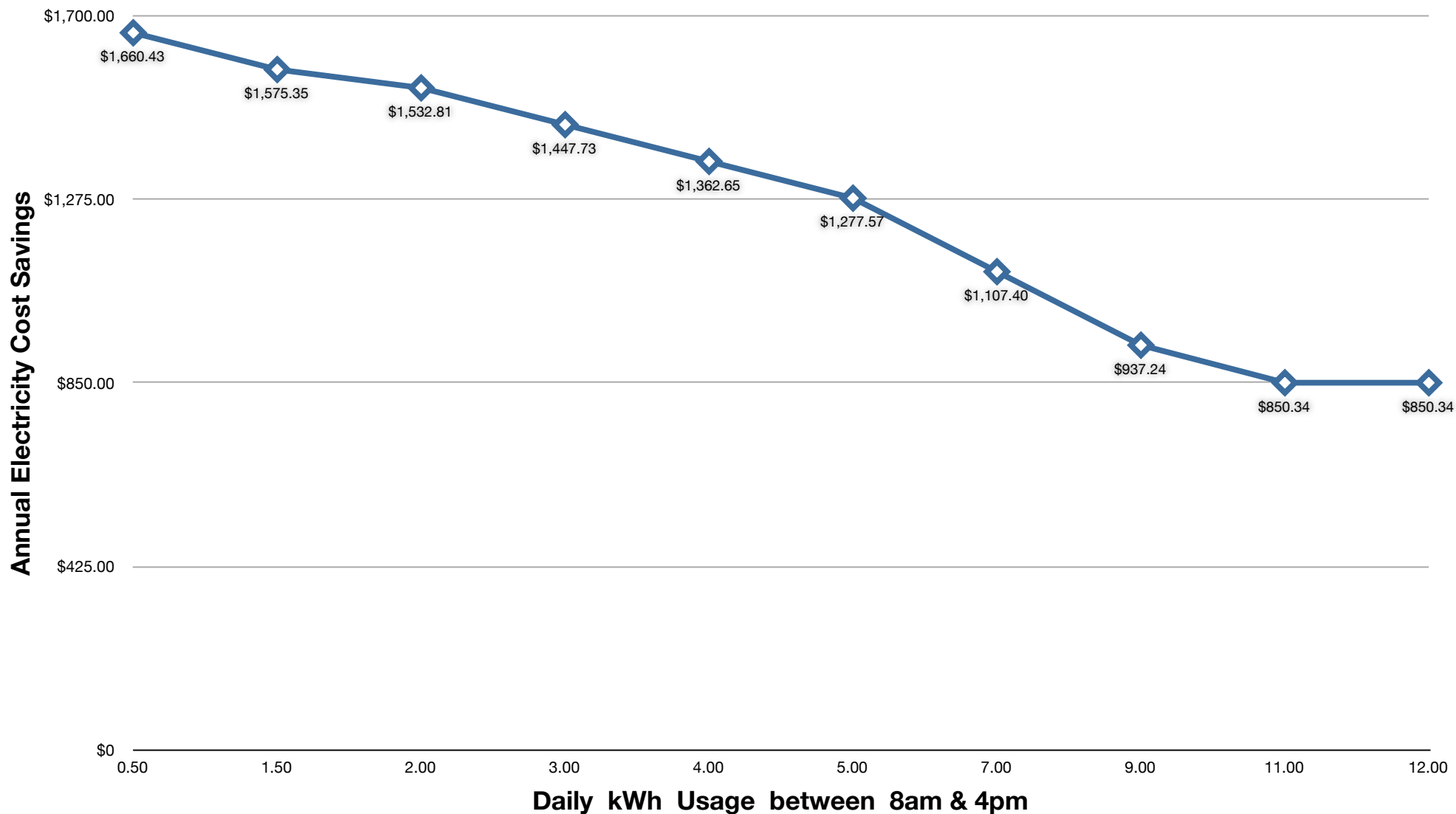
Current Electricity Price \$ / kWh	Your Daily kWh usage between 8am & 4pm.	System Size (kW)	Average Daily Output (kWh)	Average Annual Output (kWh)	Annual CO2 Reduction (tonnes)	Direct Annual Cost Saving without any Solar Bonus Scheme	Annual Cost Savings including Solar Bonus Scheme with "Your Daily kWh usage 8am-4pm"	Pay Back period (years)	Cost savings from Solar Bonus over 15 years	CO2 reduction after 15 years (tonnes)	Cost after REC's - from (pay opt A)
\$0.2069	0.50	2.64 kW	11.26	4110	4.11	\$850.34	\$1,660.43	5.25	\$21,421	53.02	\$8,717
	1.50	2.64 kW	11.26	4110	4.11	\$850.34	\$1,575.35	5.53	\$20,323	53.02	\$8,717
	2.00	2.64 kW	11.26	4110	4.11	\$850.34	\$1,532.81	5.69	\$19,775	53.02	\$8,717
	3.00	2.64 kW	11.26	4110	4.11	\$850.34	\$1,447.73	6.02	\$18,677	53.02	\$8,717
	4.00	2.64 kW	11.26	4110	4.11	\$850.34	\$1,362.65	6.40	\$17,579	53.02	\$8,717
	5.00	2.64 kW	11.26	4110	4.11	\$850.34	\$1,277.57	6.82	\$16,482	53.02	\$8,717
	7.00	2.64 kW	11.26	4110	4.11	\$850.34	\$1,107.40	7.87	\$14,286	53.02	\$8,717
	9.00	2.64 kW	11.26	4110	4.11	\$850.34	\$937.24	9.30	\$12,091	53.02	\$8,717
	11.00	2.64 kW	11.26	4110	4.11	\$850.34	\$850.34	10.25	\$10,970	53.02	\$8,717
	12.00	2.64 kW	11.26	4110	4.11	\$850.34	\$850.34	10.25	\$10,970	53.02	\$8,717

- **System Output is based on a mean average for the year, for a system on the sunshine coast with optimum orientation / tilt, and NIL shading.**
- **An accurate site survey is required to calculate the effects of shading and / or non optimal orientation.**
- **Daily Outputs will vary depending on the season (may be higher in Summer and lower in Winter) and atmospheric conditions.**
- **15 year projection, includes a reduction in system output of 1% annually (in line with the solar module's guarantee on power output being 90% after 10 years & 80% after 25 years).**
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2.64 kW - fixed, optimum orientation, Nil shading (Sunshine Coast QLD)



2.64 kW - fixed, optimum orientation, Nil shading (Sunshine Coast QLD)



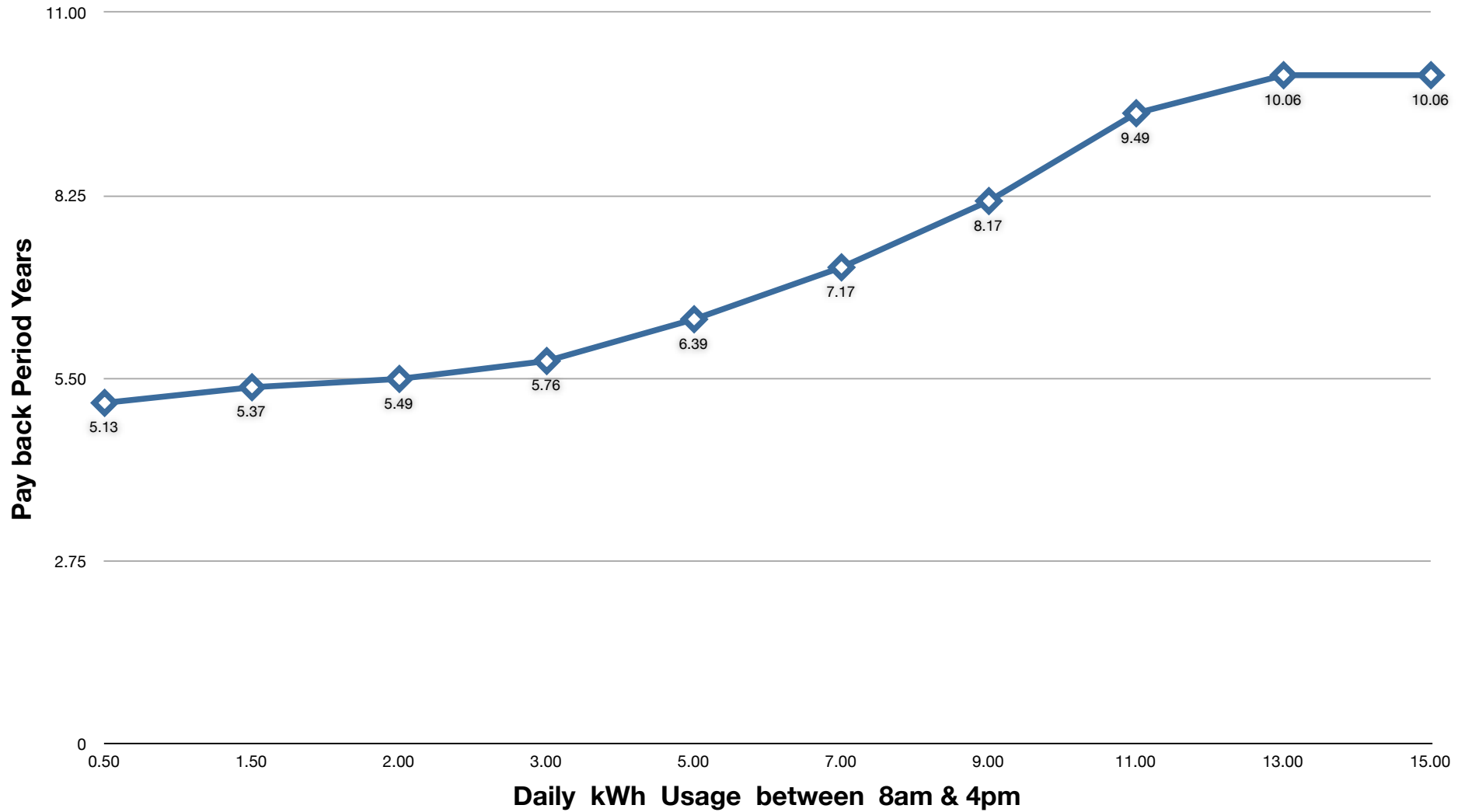
The less power you use between 8am & 4pm, the greater the cost savings will be, which reduces your payback time.

Projected cost savings - Fixed Crystalline Array - Nil Shading, Optimum Orientation (Sunshine Coast)

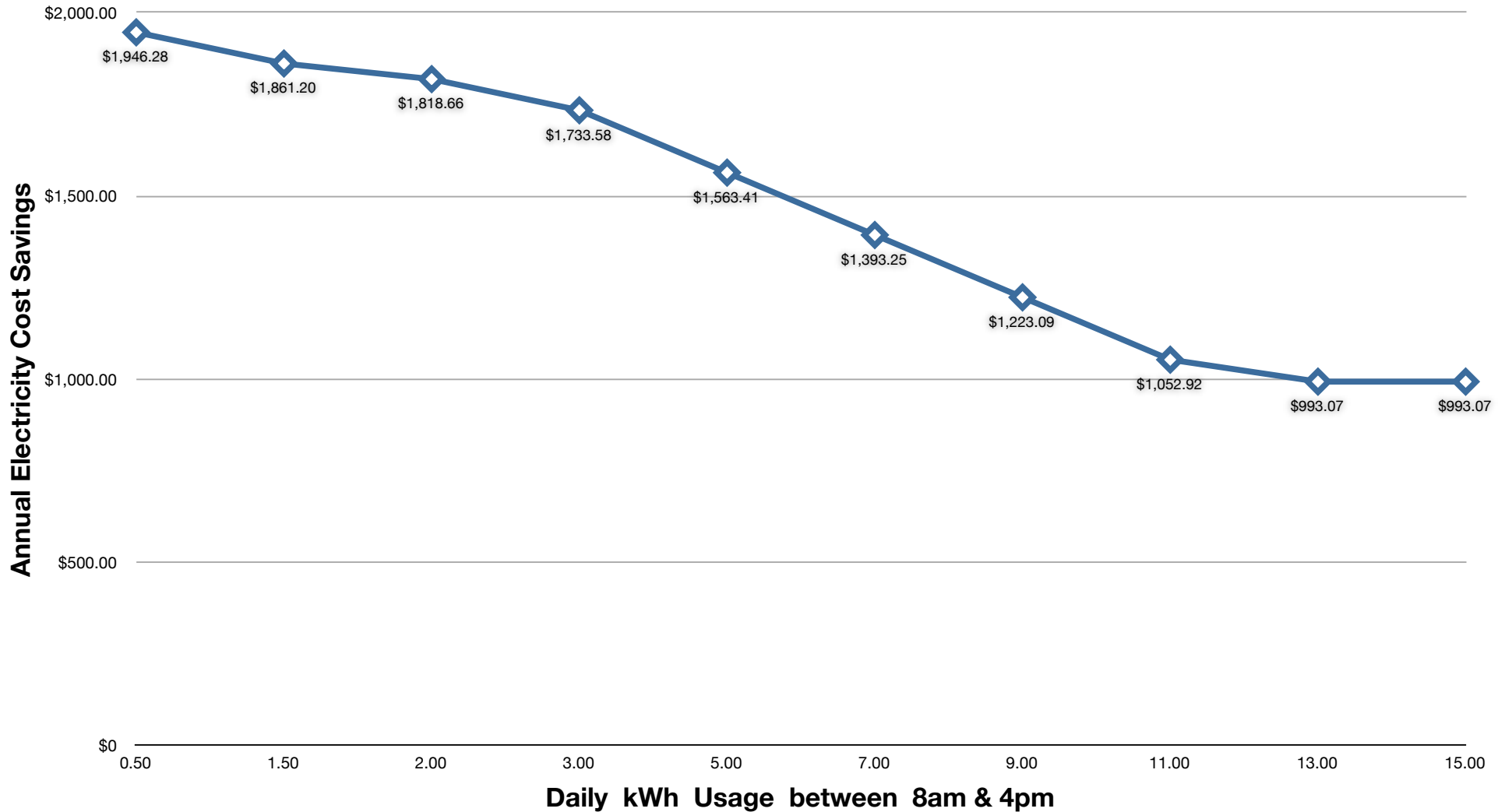
Current Electricity Price \$ / kWh	Your Daily kWh usage between 8am & 4pm.	System Size (kW)	Average Daily Output (kWh)	Average Annual Output (kWh)	Annual CO2 Reduction (tonnes)	Direct Annual Cost Saving without any Solar Bonus Scheme	Annual Cost Savings including Solar Bonus Scheme with "Your Daily kWh usage 8am-4pm"	Pay Back period (years)	Cost savings from Solar Bonus over 15 years	CO2 reduction after 15 years (tonnes)	Cost after REC's - from (pay opt A)
\$0.2069	0.50	3.08 kW	13.15	4800	4.80	\$993.07	\$1,946.28	5.13	\$25,109	61.92	\$9,992
	1.50	3.08 kW	13.15	4800	4.80	\$993.07	\$1,861.20	5.37	\$24,011	61.92	\$9,992
	2.00	3.08 kW	13.15	4800	4.80	\$993.07	\$1,818.66	5.49	\$23,462	61.92	\$9,992
	3.00	3.08 kW	13.15	4800	4.80	\$993.07	\$1,733.58	5.76	\$22,365	61.92	\$9,992
	5.00	3.08 kW	13.15	4800	4.80	\$993.07	\$1,563.41	6.39	\$20,169	61.92	\$9,992
	7.00	3.08 kW	13.15	4800	4.80	\$993.07	\$1,393.25	7.17	\$17,974	61.92	\$9,992
	9.00	3.08 kW	13.15	4800	4.80	\$993.07	\$1,223.09	8.17	\$15,779	61.92	\$9,992
	11.00	3.08 kW	13.15	4800	4.80	\$993.07	\$1,052.92	9.49	\$13,584	61.92	\$9,992
	13.00	3.08 kW	13.15	4800	4.80	\$993.07	\$993.07	10.06	\$12,811	61.92	\$9,992
	15.00	3.08 kW	13.15	4800	4.80	\$993.07	\$993.07	10.06	\$12,811	61.92	\$9,992

- **System Output is based on a mean average for the year, for a system on the sunshine coast with optimum orientation / tilt, and NIL shading.**
- **An accurate site survey is required to calculate the effects of shading and / or non optimal orientation.**
- **Daily Outputs will vary depending on the season (may be higher in Summer and lower in Winter) and atmospheric conditions.**
- **15 year projection, includes a reduction in system output of 1% annually (in line with the solar module's guarantee on power output being 90% after 10 years & 80% after 25 years).**
- **Returns from the Solar Bonus Scheme (\$0.44 / kWh) are accrued when you use less power than you generate at any instant.**
- **Annual Cost Savings from Solar Bonus Scheme can therefore be larger than shown in the table due to fluctuations in power usage.**

3.08 kW - fixed, optimum orientation, Nil shading (Sunshine Coast QLD)



3.08 kW - fixed, optimum orientation, Nil shading (Sunshine Coast QLD)



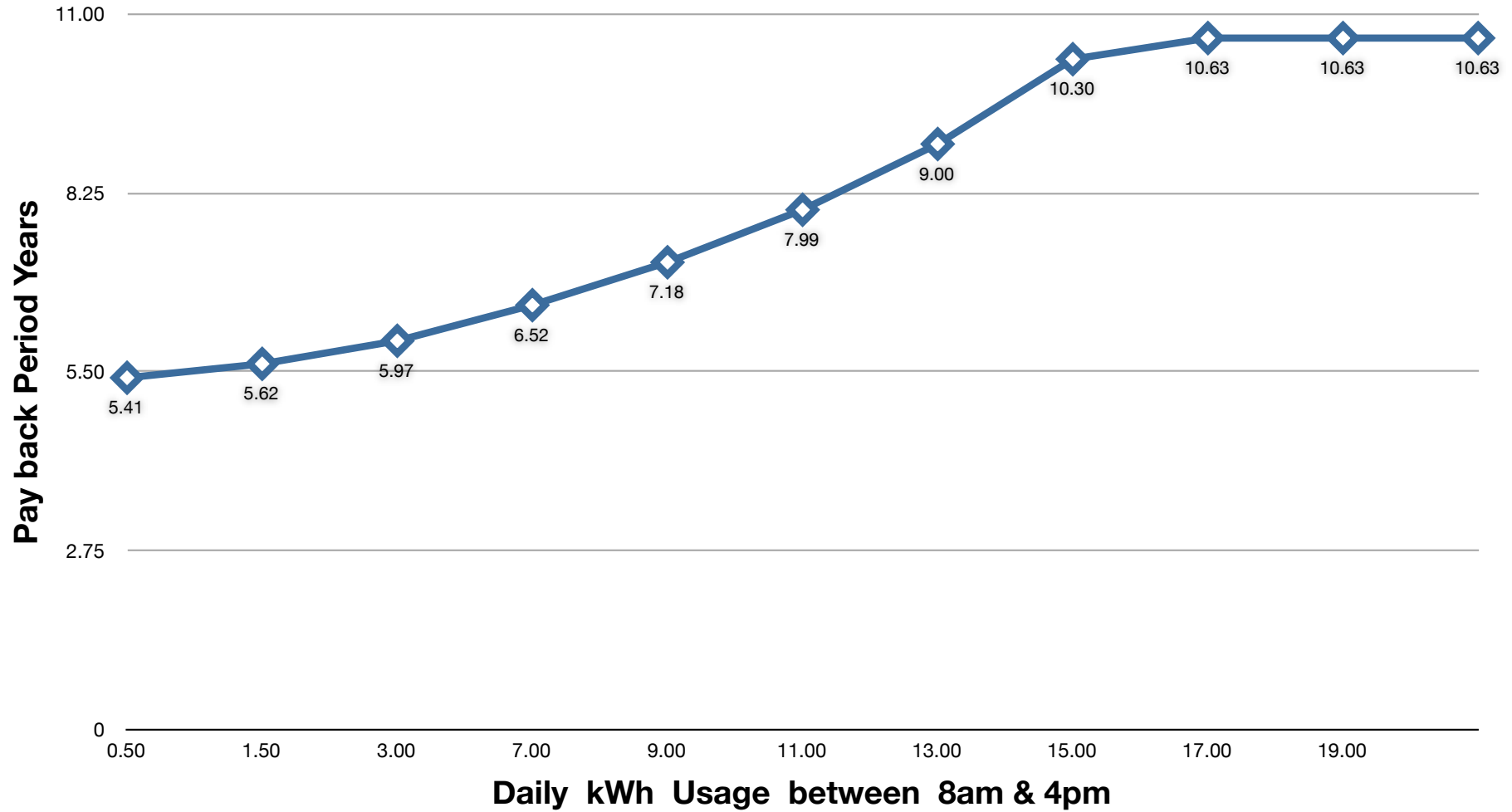
The less power you use between 8am & 4pm, the greater the cost savings will be, which reduces your payback time.

Projected cost savings - Fixed Monocrystalline Array - Nil Shading, Optimum Orientation

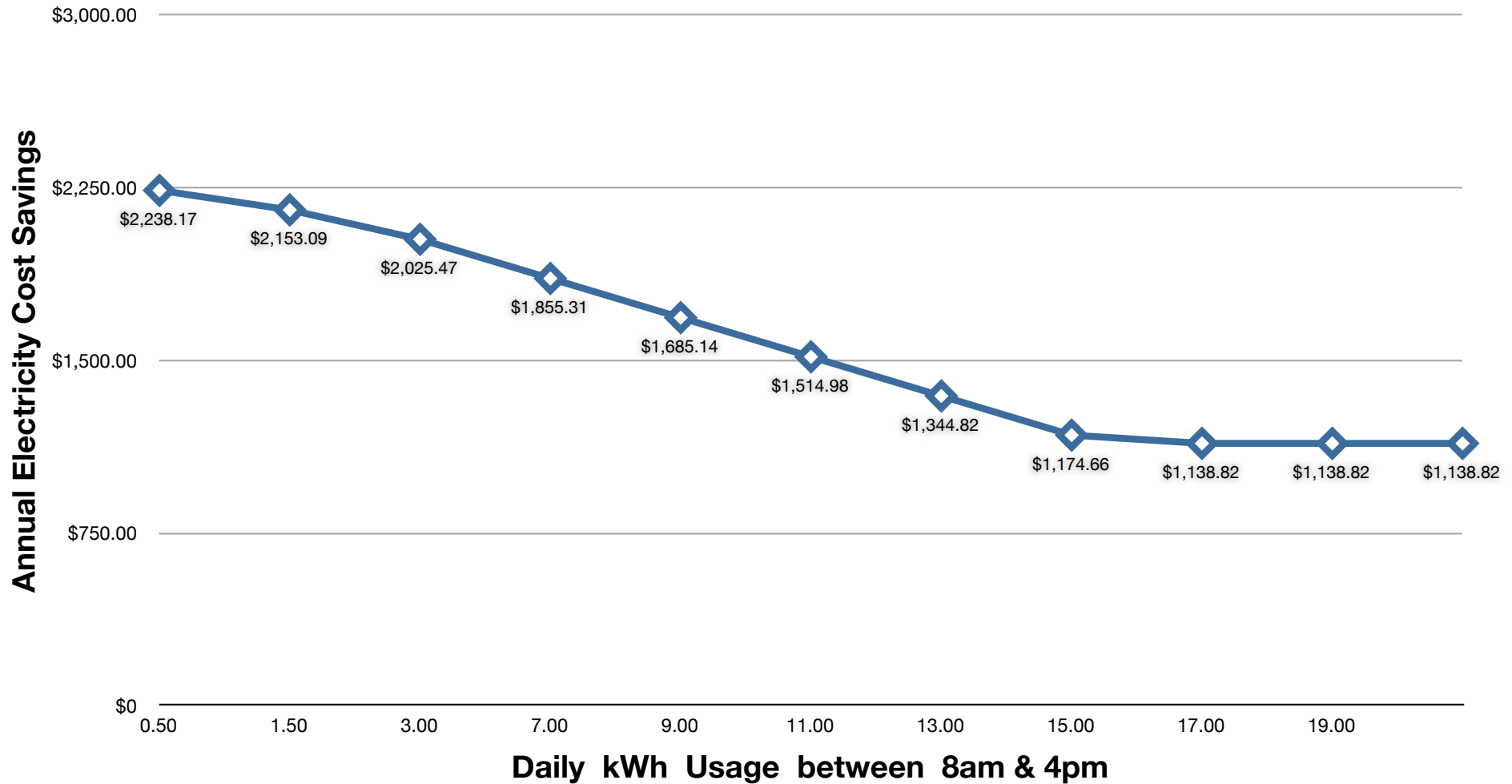
Current Electricity Price \$ / kWh	Your Daily kWh usage between 8am & 4pm.	System Size (kW)	Average Daily Output (kWh)	Average Annual Output (kWh)	Annual CO2 Reduction (tonnes)	Direct Annual Cost Saving without any Solar Bonus Scheme	Annual Cost Savings including Solar Bonus Scheme with "Your Daily kWh usage 8am-4pm"	Pay Back period (years)	Cost savings from Solar Bonus over 15 years	CO2 reduction after 15 years (tonnes)	Cost after REC's - from (pay opt A)
\$0.2069	0.50	3.52 kW	15.08	5504	5.50	\$1,138.82	\$2,238.17	5.41	\$28,874	71.01	\$12,102
	1.50	3.52 kW	15.08	5504	5.50	\$1,138.82	\$2,153.09	5.62	\$27,777	71.01	\$12,102
	3.00	3.52 kW	15.08	5504	5.50	\$1,138.82	\$2,025.47	5.97	\$26,130	71.01	\$12,102
	5.00	3.52 kW	15.08	5504	5.50	\$1,138.82	\$1,855.31	6.52	\$23,935	71.01	\$12,102
	7.00	3.52 kW	15.08	5504	5.50	\$1,138.82	\$1,685.14	7.18	\$21,740	71.01	\$12,102
	9.00	3.52 kW	15.08	5504	5.50	\$1,138.82	\$1,514.98	7.99	\$19,545	71.01	\$12,102
	11.00	3.52 kW	15.08	5504	5.50	\$1,138.82	\$1,344.82	9.00	\$17,349	71.01	\$12,102
	13.00	3.52 kW	15.08	5504	5.50	\$1,138.82	\$1,174.66	10.30	\$15,154	71.01	\$12,102
	15.00	3.52 kW	15.08	5504	5.50	\$1,138.82	\$1,138.82	10.63	\$14,692	71.01	\$12,102
	17.00	3.52 kW	15.08	5504	5.50	\$1,138.82	\$1,138.82	10.63	\$14,692	71.01	\$12,102
	19.00	3.52 kW	15.08	5504	5.50	\$1,138.82	\$1,138.82	10.63	\$14,692	71.01	\$12,102

- **System Output is based on a mean average for the year, for a system on the sunshine coast with optimum orientation / tilt, and NIL shading.**
- **An accurate site survey is required to calculate the effects of shading and / or non optimal orientation.**
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- **Returns from the Solar Bonus Scheme (\$0.44 / kWh) are accrued when you use less power than you generate at any instant.**
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3.52 kW - fixed, optimum orientation, Nil shading (Sunshine Coast QLD)



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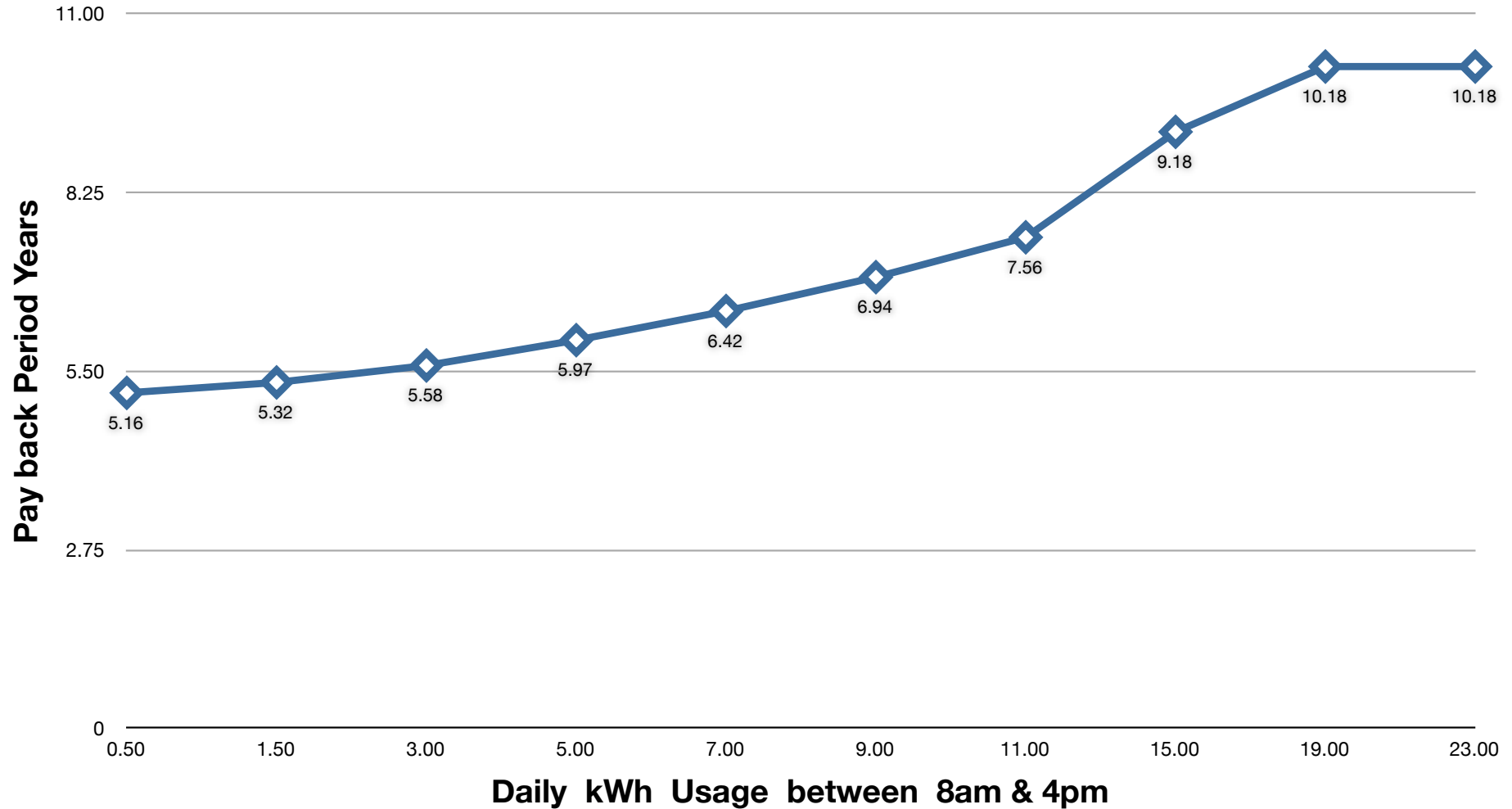
The less power you use between 8am & 4pm, the greater the cost savings will be, which reduces your payback time.

Projected cost savings - Fixed Monocrystalline Array - Nil Shading, Optimum Orientation

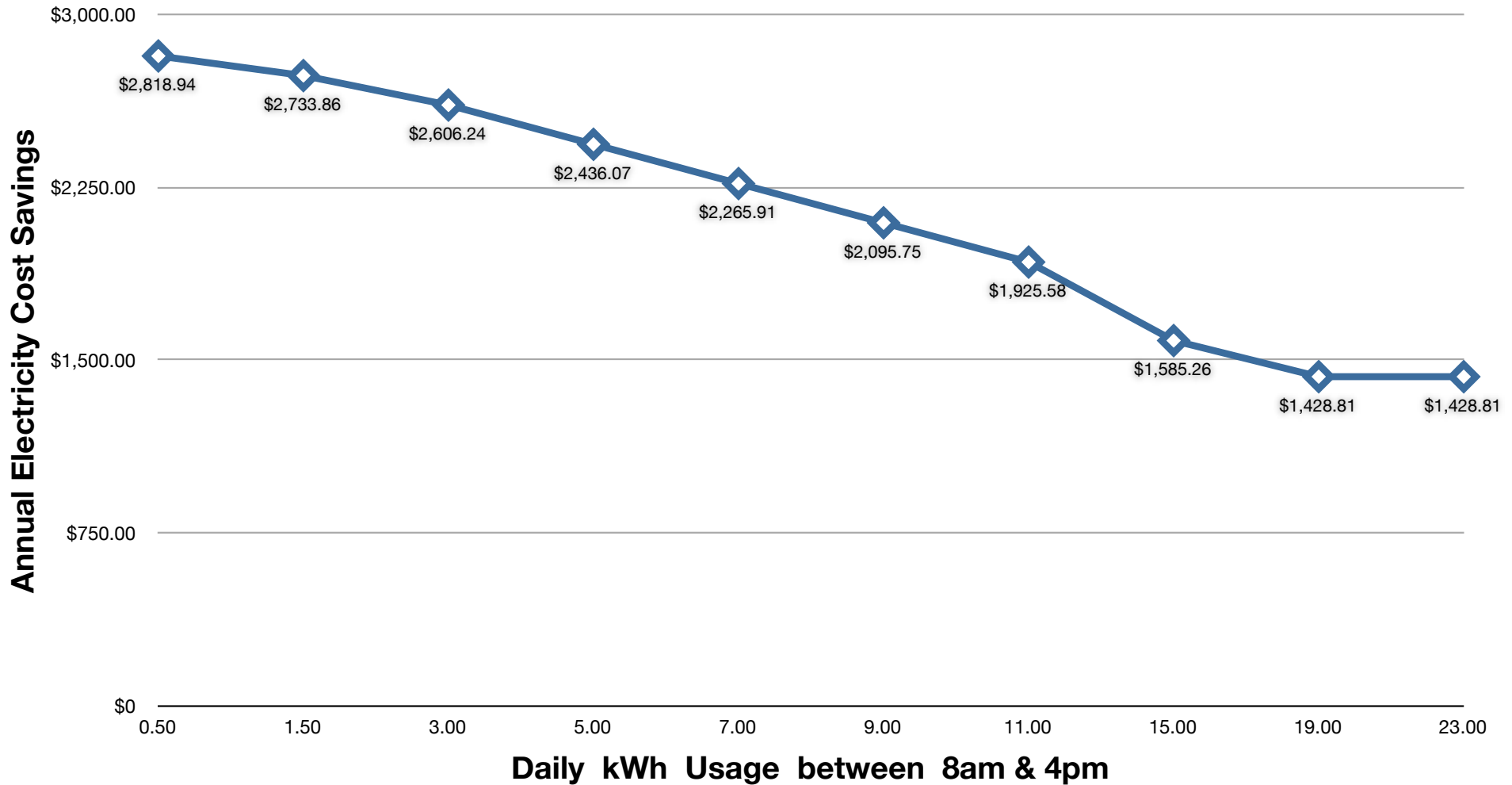
Current Electricity Price \$ / kWh	Your Daily kWh usage between 8am & 4pm.	System Size (kW)	Average Daily Output (kWh)	Average Annual Output (kWh)	Annual CO2 Reduction (tonnes)	Direct Annual Cost Saving without any Solar Bonus Scheme	Annual Cost Savings including Solar Bonus Scheme with "Your Daily kWh usage 8am-4pm"	Pay Back period (years)	Cost savings from Solar Bonus over 15 years	CO2 reduction after 15 years (tonnes)	Cost after Rebate & REC's - from (pay opt A)
\$0.2069	0.50	4.4 kW	18.92	6906	6.91	\$1,428.81	\$2,818.94	5.16	\$36,367	89.09	\$14,552
	1.50	4.4 kW	18.92	6906	6.91	\$1,428.81	\$2,733.86	5.32	\$35,269	89.09	\$14,552
	3.00	4.4 kW	18.92	6906	6.91	\$1,428.81	\$2,606.24	5.58	\$33,623	89.09	\$14,552
	5.00	4.4 kW	18.92	6906	6.91	\$1,428.81	\$2,436.07	5.97	\$31,427	89.09	\$14,552
	7.00	4.4 kW	18.92	6906	6.91	\$1,428.81	\$2,265.91	6.42	\$29,232	89.09	\$14,552
	9.00	4.4 kW	18.92	6906	6.91	\$1,428.81	\$2,095.75	6.94	\$27,037	89.09	\$14,552
	11.00	4.4 kW	18.92	6906	6.91	\$1,428.81	\$1,925.58	7.56	\$24,842	89.09	\$14,552
	15.00	4.4 kW	18.92	6906	6.91	\$1,428.81	\$1,585.26	9.18	\$20,451	89.09	\$14,552
	19.00	4.4 kW	18.92	6906	6.91	\$1,428.81	\$1,428.81	10.18	\$18,433	89.09	\$14,552
	23.00	4.4 kW	18.92	6906	6.91	\$1,428.81	\$1,428.81	10.18	\$18,433	89.09	\$14,552

- **System Output is based on a mean average for the year, for a system on the sunshine coast with optimum orientation / tilt, and NIL shading.**
- **An accurate site survey is required to calculate the effects of shading and / or non optimal orientation.**
- **Daily Outputs will vary depending on the season (may be higher in Summer and lower in Winter) and atmospheric conditions.**
- **15 year projection, includes a reduction in system output of 1% annually (in line with the solar module's guarantee on power output being 90% after 10 years & 80% after 25 years).**
- **Returns from the Solar Bonus Scheme (\$0.44 / kWh) are accrued when you use less power than you generate at any instant.**
- **Annual Cost Savings from Solar Bonus Scheme can therefore be larger than shown in the table due to fluctuations in power usage.**

4.4 kW - fixed, optimum orientation, Nil shading (Sunshine Coast QLD)



4.4 kW - fixed, optimum orientation, Nil shading (Sunshine Coast QLD)



The less power you use between 8am & 4pm, the greater the cost savings will be, which reduces your payback time.