

Case 04.

Occupants:
A couple with a new-born baby.



Table 01.

Key upgrades (beyond the minimum 6star NatHERS) and Costs

The following are the upgrades and outcomes of a 24 square home recently built in Officer. Please refer to the SECCCA Toolkit for further details of the key upgrades and rating systems.

NUMBER	KEY UPGRADES	TYPE OF ACTION	COST EXTRA	POINTS
1	Maximised orientation of living spaces north	Passive	N/A	0
2	An appropriate Shading Strategy (including eaves, awnings, pergolas, reducing window sizes, block out blinds etc)	Passive	\$0	1
3	Upgrade insulation in roof and walls	Building Fabric	\$1800	1
4	Double Glazing	Building Fabric	\$0	0
5	Good - Excellent Air Tightness	Building Fabric	\$0	1
6	Efficient Solar Hot Water or Heat Pump (ie. not a Water Tank)	Appliance	\$0	1
7	Fully Electric	Appliance	N/A	0
8	Efficient electric reverse cycle heating and cooling system	Appliance	N/A	0
9	Solar PV System	Generate Power	\$5000	1
10	Battery Storage System	Store Power	N/A	0
TOTAL POINTS			\$6,800	5
PAYBACK: 4.6 YEARS*				
SAVINGS AFTER PAYBACK BETWEEN 6.7 AND 15 YEARS			\$24,190	

*Notes: additional \$4000 to met minimum 6 star requirement = Total \$10,800. Assumes typical bill saving of \$1602 annual electricity and gas \$316 -\$135 quarter = \$181 or \$724 annually. Total \$1602 + \$724 saving = \$2326 annual electricity and gas saving.

Additional upgrades:

- LED lights \$120 each
- Hebel upgrade \$4,000

Table 02.

Energy Ratings and Power Bills

RATING / TEST / OUTCOMES	OUTCOME
NatHERS	6
Victorian Residential Efficiency Scorecard	10
Blower Door Test	5.3ACH50
Energy Bills	Electricity: \$0 Gas: \$135 a quarter



Gas ducted heating unit installed in the roof space



R6 insulation installed correctly in most places

Benefits

as reported by the homeowner:

- Cooler during summer as well. Only ever used the evaporative cooler on the hot days. Generally just a more comfortable home.
- Power bill is in credit and receiving 20c for feed in tariff.

Barriers

as reported by the homeowner:

- Cost. We would have liked to have done more, however any upgrades from the builder were overly expensive.

Conclusion

This house achieved 5 out of the 10 key recommendations through the program at a cost of \$6,800 extra. The house was highly rated under the Residential Efficiency Scorecard, however the changes did not move the NatHERS rating.

The home was air tight within recommendations. As a result of the use of efficient appliances such as lights, hot water heating and heating and cooling coupled with solar this house uses zero net electricity. However due to boosting hot water heating, cooking and downstairs heating with gas the house still attracts a gas bill of \$135 a quarter.

The occupant expressed disappointment in the comfort levels in the house, despite a high energy rating. This may be attributed to a lack of double glazing given that the house was well sealed and had increased insulation levels above the standard. There was also disappointment that when it got too hot that the evaporative cooling didn't work well and as a result are looking at installing a further refrigerated cooling system in the living space.



Example of an area of insulation installed poorly



Installed a number of smaller windows to east and west



Installed a 4kw solar system