New & Existing Home Electrification Savings Factsheets

Key assumptions

November 2023

Key Messages

In mid-2023, the Department of Energy, Environment and Climate Action (DEECA) produced two fact sheets outlining the potential energy bill savings from electrifying a *new* detached Victorian home and electrifying an *existing* detached Victorian home (with pre-existing solar panels).

These exist on the Gas Substitution Roadmap website at:
www.energy.vic.gov.au/renewable-energy/victorias-gas-substitution-roadmap

The fact sheets conclude that:

- residents of a typical **new**, all-electric detached home (without solar) will spend around $2,600 a year on energy bills, compared with around $3,600 per year for a dual-fuel (electric and gas) home (i.e. around $1,000 of energy bill savings per year).
  - If a **new** home were to have a typical sized solar system, those savings would increase to around $2,200.
- converting an **existing** home with pre-existing solar panels from gas to electricity can save around $1,700 a year on energy bills.
  - If the existing dual-fuel home does not have solar panels, converting to all electric will save around $1,400 per year.

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Key Inputs

The following table outlines the key input assumptions that lead to the above results:

	EXISTING Home (Dual Fuel)	EXISTING Home (All-Electric)	NEW Home (Dual Fuel)	NEW Home (All-Electric)
Annual load (elec, MWh/yr)[1]	4.8	7.9	4.3	6.3
Annual load (gas, GJ/yr)[2]	67.4	0	43.5	0
Gas burner efficiency (heating)[3]	75%	n/a	85%	n/a
Ducting losses[4]	25%	n/a	25%	n/a
Air conditioner efficiency[5]	n/a	400%	n/a	400%
Gas burner efficiency (hot water)[6]	75%	n/a	85%	n/a
Heat pump hot water efficiency[7]	n/a	400%	n/a	400%
Tariff – gas usage charge ($/GJ)[8]	$30.80	$30.80	$30.80	$30.80
Tariff – gas fixed charge ($/yr)[9]	$392	$392	$392	$392
Tariff – elec usage charge ($/MWh)[10]	$340	$340	$340	$340
Tariff – elec fixed charge ($/yr)[11]	$438	$438	$438	$438
Solar system size (where applicable, kW)	6.6	6.6	6.6	6.6
Solar feed-in tariff ($/MWh)[12]	$49	$49	$49	$49
Solar export rate (to grid)[13]	~80%	~60%	~80%	~60%

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[1] AER Residential energy consumption benchmarks, 2020: www.aer.gov.au/system/files/Residential%20energy%20consumption%20benchmarks%20-%209%20December%202020_0.pdf

Renew, Household Fuel Choice in the NEM, 2018: www.renew.org.au/wp-content/uploads/2018/08/Household_fuel_choice_in_the_NEM_Revised_June_2018.pdf

[2] AER Residential energy consumption benchmarks, 2020: www.aer.gov.au/system/files/Residential%20energy%20consumption%20benchmarks%20-%209%20December%202020_0.pdf

Renew, Household Fuel Choice in the NEM, 2018: www.renew.org.au/wp-content/uploads/2018/08/Household_fuel_choice_in_the_NEM_Revised_June_2018.pdf

Victorian Gas distribution network service provider aggregated consumption data (as supplied to DEECA), 2021

[3] Beyond Zero Emissions *Zero Carbon Australia Buildings Plan*, 2013: BZE Buildings Plan 2013 - Appendix 9: supporting information for Sankey diagram for residential HVAC (cyanergy.com.au)

[4] Conservative estimate drawn from Beyond Zero Emissions *Zero Carbon Australia Buildings Plan*, 2013: BZE Buildings Plan 2013 - Appendix 9: supporting information for Sankey diagram for residential HVAC (cyanergy.com.au)

[5] DEECA review of multi-split system products available in the Victorian market

[6] Beyond Zero Emissions *Zero Carbon Australia Buildings Plan*, 2013: BZE Buildings Plan 2013 - Appendix 9: supporting information for Sankey diagram for residential HVAC (cyanergy.com.au)

[7] DEECA review of multi-split system products available in the Victorian market

[8] DEECA review of Origin Energy, Energy Australia and AGL retail tariffs offers from *Victorian Energy Compare*, July 2023

[9] DEECA review of Origin Energy, Energy Australia and AGL retail tariffs offers from *Victorian Energy Compare*, July 2023

[10] *Victorian Default Offer* (average across the five electricity distribution networks), July 2023

[11] *Victorian Default Offer* (average across the five electricity distribution networks), July 2023

[12] Essential Services Commission, minimum feed-in tariff, July 2023

[13] Solar export rate means the percentage of annual solar generation exported to the grid.