





Acknowledgement of Country

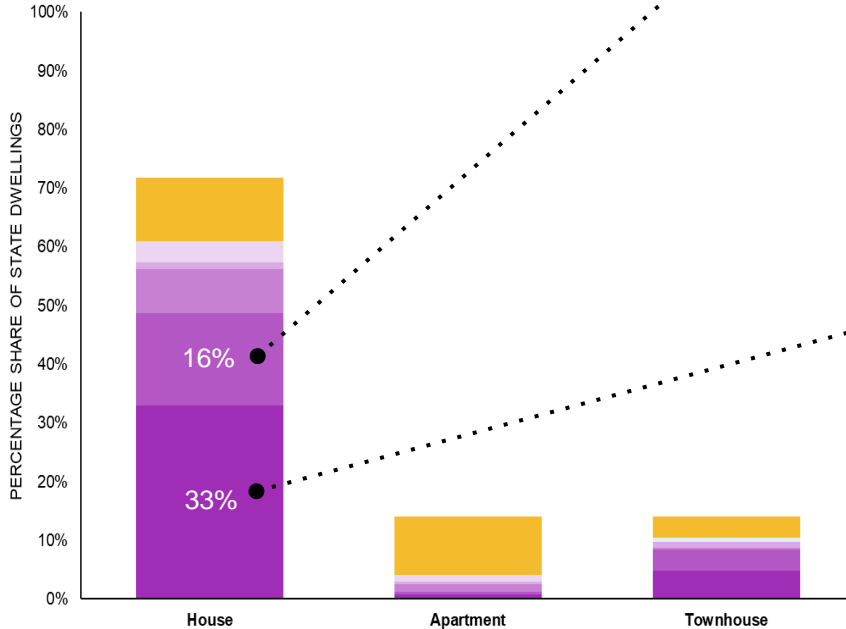
We acknowledge and pay respect to the Traditional Custodians and Elders – past and present – of the lands and waters of the Wurundjeri people of the Kulin Nation, on which the Climateworks Centre head office is located; and acknowledge that sovereignty has never been ceded. We extend our respect to all Traditional Custodians and Elders of the lands and waters where Climateworks operates.

Our 16 archetypes were selected based on dwelling class and wall, floor and roof construction

DWELLING CLASS	ARCHETYPE CODE	ARCHETYPE (WALL, FLOOR, ROOF)
House	H1	Lightweight walls, concrete slab on ground, framed roof (LW_CSOG_F)
	H2	Lightweight walls, suspended timber floor, framed roof (LW_ST_F)
	H3	Cavity Brick walls, concrete slab on ground, framed roof (CavB_CSOG_F)
	H4	Lightweight walls, suspended concrete floor, framed roof (LW_SC_F)
	H5	Cavity Brick walls, suspended timber, framed roof (CavB_ST_F)
Townhouse	TH1	Lightweight walls, concrete slab on ground, framed roof (LW_CSOG_F)
	TH2	Lightweight walls, suspended timber floor, framed roof (LW_ST_F)
	TH3	Lightweight walls, suspended concrete floor, framed roof (LW_SC_F)
	TH4	Cavity brick walls, concrete slab on ground, framed roof (CavB_CSOG_F)
	TH5	Concrete walls, concrete slab on ground, framed roof (C_CSOG_F)
	TH6	Cavity Brick walls, suspended timber floor, framed roof (CavB_ST_F)
Apartment	A1	Lightweight walls, suspended concrete floor, framed roof (LW_SC_F)
	A2	Lightweight walls, concrete slab on ground, framed roof (LW_CSOG_F)
	A3	Lightweight walls, suspended concrete floor, concrete roof (LW_SC_C)
	A4	Concrete walls, suspended concrete floor, framed roof (C_SC_F)
	A5	Concrete walls, suspended concrete floor, concrete roof (C_SC_C)

Distribution of archetypes in Victorian housing stock

Yellow indicates archetypes not included in Renovation Pathways data set.



House 2 Archetype:

Detached house with lightweight walls, framed roof and suspended timber floors.

Image source: [realestate.com](https://www.realestate.com).



House 1 Archetype:

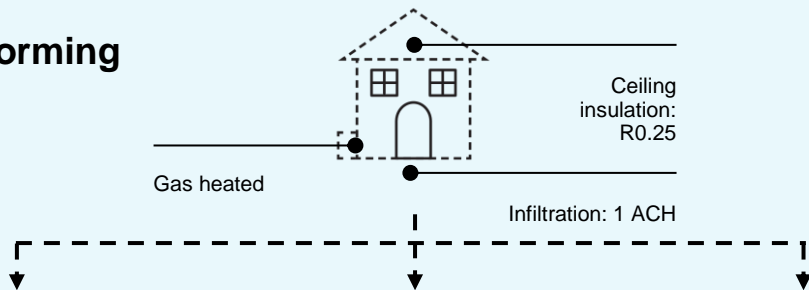
Detached house with lightweight walls, framed roof and concrete floors.

Image source: [Shutterstock](https://www.shutterstock.com).

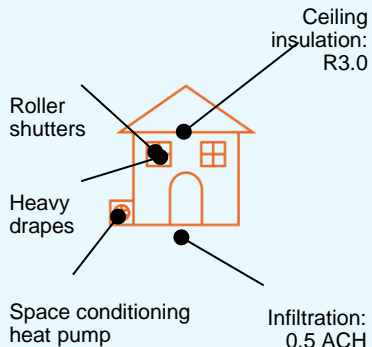


THERMAL UPGRADES

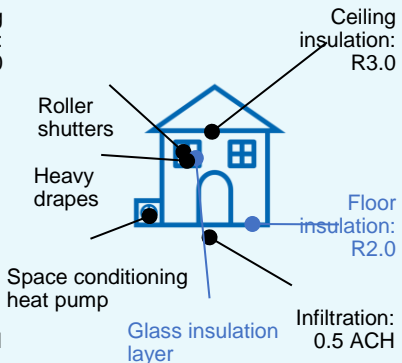
Low-performing home



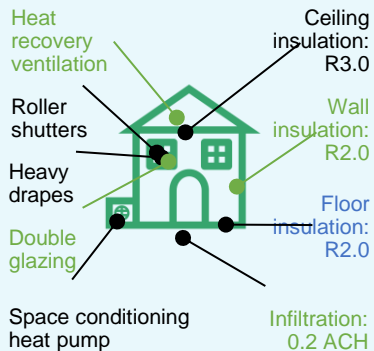
Quick-fix



Modest



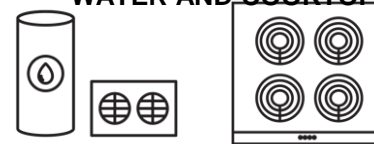
Climate-ready



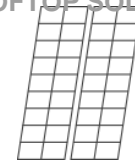
ELECTRIFICATION & SOLAR

We analysed the impacts from three levels of thermal upgrades and electrification of appliances

+ ELECTRIFICATION OF HOT WATER AND COOKTOPS



+ ROOFTOP SOLAR





	Quick fix	Modest	Climate-ready
Incremental cost of thermal shell upgrades (\$) &	14,928	21,536	47,314
Annual energy bill savings (\$) ^	2,434	2,517	3,255
Annual cost of heating energy consumption (\$) &	1,066	989	297
Reduction in peak electrical demand (kW) &	2.4	3.0	8.2
Electrical network cost savings (\$) &	1,332	1,653	4,553
Annual GHG emissions savings (tCO ₂ e) ^	3.0	3.1	3.8
Private Benefit Cost Ratio ^	1.8	1.3	0.8

& = thermal upgrade only

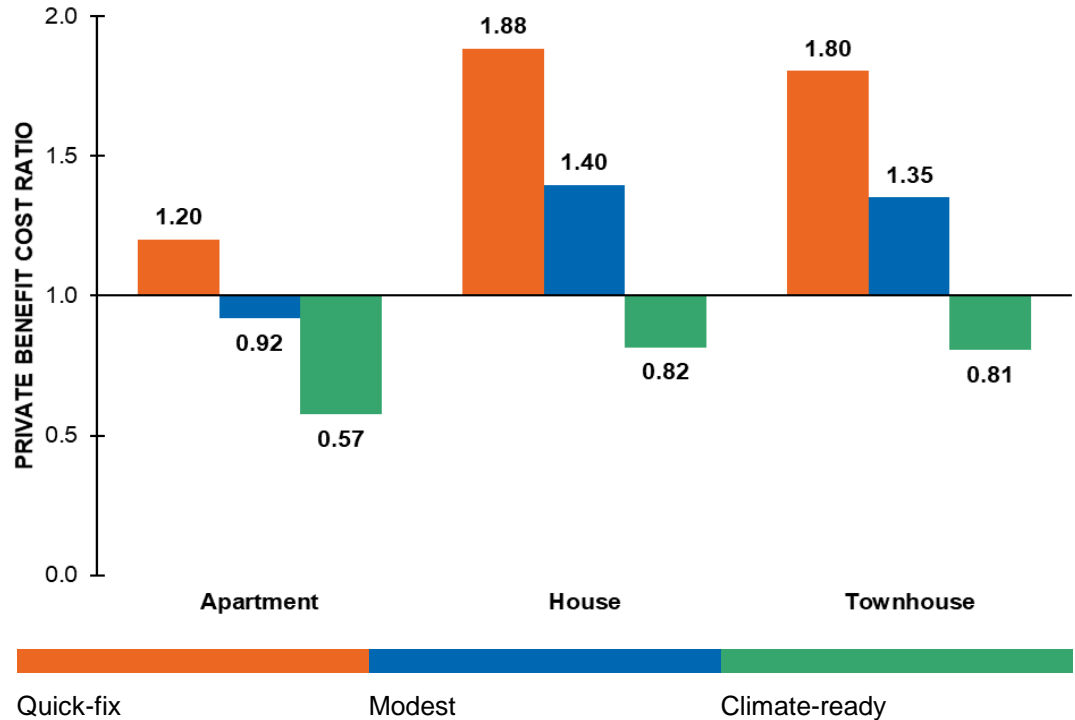
^ = thermal upgrade and fully electrified, excluding rooftop solar

Results are an average for archetype across Victoria

'Quick fix' and 'modest' upgrades are cost effective for occupants of detached houses and townhouses



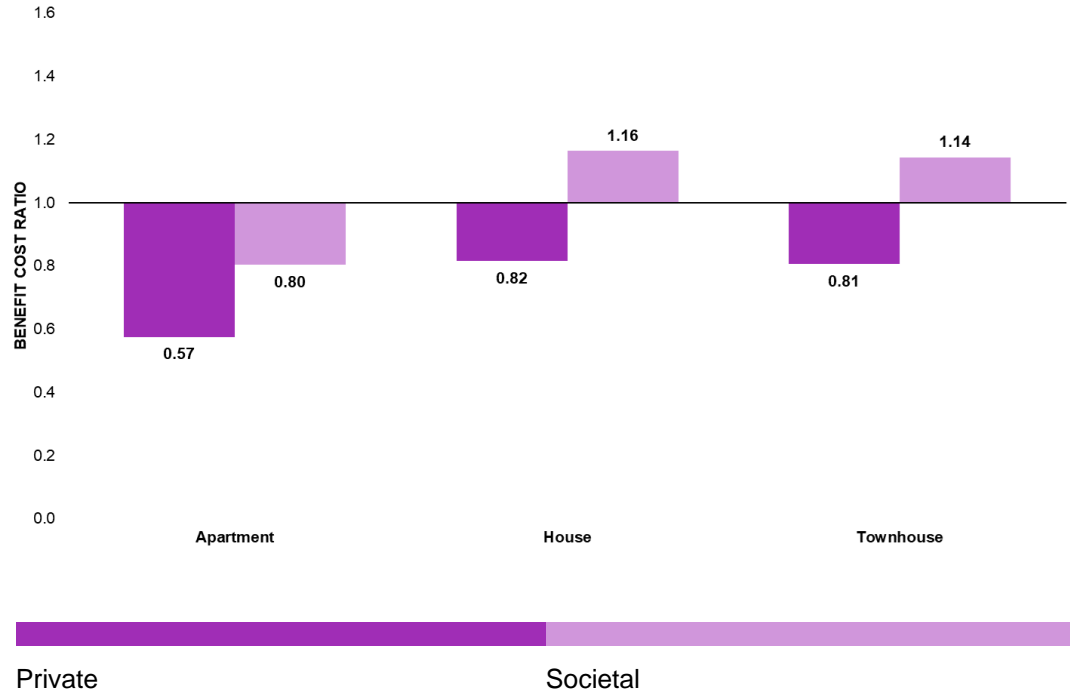
Private benefit-cost ratio per household for thermal upgrades and electrification of appliances



Policy support is needed to achieve the highest emissions reduction through 'climate-ready' upgrades



Private and societal benefit-cost ratios of 'climate-ready' upgrades and electrification of appliances



Thank you for your interest, and action.

JOSHUA DANAHAY
Senior Project Manager
joshua.danahay@climateworkscentre.org
+61 3 9903 9245

Level 8, 750 Collins Street,
Docklands VIC 3008
Wurundjeri Country

+61 3 9902 0741 // info@climateworkscentre.org

www.climateworkscentre.org



MONASH
SUSTAINABLE
DEVELOPMENT
INSTITUTE

Co-founded by philanthropy and Monash University, Climateworks Centre is an independent not-for-profit working within the Monash Sustainable Development Institute.