

Reducing urban impacts on the natural environment.

OUTCOME 1	OUTCOME 2	OUTCOME 3	OUTCOME 4
Increased energy efficiency and climate resilience of vulnerable households.	Increased public understanding of the climate challenge.	Secure, healthy and sustainable food systems.	Protected and rehabilitated aquatic eco-systems.

To access in-depth information about the other outcomes in the Environment & Sustainability Impact Area, visit [lmcf.org.au/our-impact/environment-sustainability](https://lmcf.org.au/our-impact/environment-sustainability)

## Challenge

### Temperature-related death and illness is increasing.

While most temperature-related deaths in Australia are attributed to cold weather, heat-related health impacts are rising.<sup>1</sup> As the climate changes, the south east of the country is experiencing more frequent and intense heatwaves.<sup>2</sup> The Black Saturday fires in 2009 tragically killed 173 people, however there were also 374 more heat-related deaths during that period,<sup>3</sup> cases involving heat-related illness jumped 34-fold and cardiac arrests almost tripled in Victoria.<sup>4</sup> Extreme heat kills more people in Australia than any natural disaster, causing more deaths since 1890 than bushfires, cyclones, earthquakes, floods and severe storms combined.<sup>5</sup>

Large urban areas can be up to 12°C warmer than surrounding areas.<sup>6</sup> In Greater Melbourne, this Urban Heat Island effect is strongly correlated with areas of disadvantage, particularly in the Western, Northern and South-Eastern suburbs.<sup>7</sup> These effects are further amplified when housing is poorly constructed, not well-insulated and expensive to heat and cool.<sup>8</sup> People with pre-existing health conditions, the elderly and the very young are also particularly vulnerable.<sup>9</sup>

### Victoria's per capita greenhouse gas emissions are some of the highest in the world.

Victoria's per capita greenhouse gas emissions are among the highest in the world - approximately four times the global average.<sup>10</sup> This is primarily the consequence of emissions from energy;<sup>11</sup> Victorians generate 1.07 kg of greenhouse gas emissions per kilowatt hour of electricity – well-above any other Australian state or territory and almost double the national average.<sup>12</sup>

The poor energy efficiency of homes intensifies the issue. While all new homes in Victoria must comply with the compulsory 6-Star House Energy Rating, around 86 per cent were built before these stronger energy efficiency regulations were introduced in 2005. As a result, the average rating for houses constructed in Victoria before 2005 is 1.81 stars.<sup>13</sup> More broadly, a range of market failures have slowed progress and improving energy performance in the built environment has been limited to a small segment of the housing market.<sup>14</sup>

## **Energy costs are rising, impacting the most vulnerable households.**

Low-income families, pensioners and other vulnerable people are under pressure from rising energy costs and face increasing difficulty paying electricity and gas bills. Retail electricity prices for households have increased by 80 to 90 per cent over the past decade and low-income households are hardest hit, spending up to five times more (as a proportion of disposable income) on electricity than higher-income earners.<sup>15</sup> One in four – roughly 455,604 households – are now paying over 8.8 per cent of their income on energy.<sup>16</sup>

## **Our Response**

Energy efficiency and on-site renewables are cost-effective means of addressing all three of these challenges. These measures can reduce the cost of living for households, provide protection from both extreme heat and cold, while reducing Victoria's significant energy-related greenhouse gas emissions.

An investment in improving the energy efficiency of a house can often be recouped by the resulting reduction in energy costs,<sup>17</sup> with a recent report showing higher energy efficiency standards for existing housing stock could deliver more than \$1,000 in electricity savings for the average household, annually.<sup>18</sup> It has been estimated that strengthening the energy efficiency requirements of Australia's residential building code could reduce energy bills by up to \$27 billion, cut energy network costs by up to \$12.6 billion and deliver at least 78 million tonnes of cumulative emissions savings.<sup>19</sup>

While, reducing greenhouse gas emissions in some sectors is more difficult, fortunately for the building sector, technologically proven and commercially available measures, such as energy efficiency and on-site renewables, could deliver 28 per cent of Australia's 2030 emissions reduction target.<sup>20</sup>

Improving the energy efficiency and climate resilience of houses also provides protection from temperature-related risks through affordable, efficient cooling and heating as well as thermal performance improvements.<sup>21</sup>

However, while the climate, financial and health benefits of energy efficiency and renewables are accepted, uptake of both remain limited among the consumers most likely to benefit due to lack of information, cost and other barriers, such as split incentives between landlords and tenants.<sup>22</sup>

The Foundation is increasing the energy efficiency and climate resilience of vulnerable households to reduce the cost of living, reduce emissions and provide protection from both extreme heat and cold.

# ENVIRONMENT & SUSTAINABILITY

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**The Foundation's support is focused on:**

- **Initiatives that directly increase the energy efficiency and climate resilience of vulnerable households, such as subsidy or retrofit programs, including where they potentially intersect with our interest in increasing the supply of affordable housing.**
- **Activities that demonstrably influence relevant local, state and commonwealth policies, regulations and codes.**
- **Research to better understand energy poverty, temperature-related risks, residential greenhouse gas emissions and measures to reduce them.**

**The Foundation will also consider other activities that address this outcome.**

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### Endnotes

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- <sup>8</sup> Australian Sustainable Built Environment Council and ClimateWorks, *Built to Perform: An Industry Led Pathway to a Zero Carbon Ready Building Code*, 2018 <https://www.asbec.asn.au/research-items/built-perform/>
- <sup>9</sup> Australian Sustainable Built Environment Council and ClimateWorks, *Built to Perform: An Industry Led Pathway to a Zero Carbon Ready Building Code*, 2018 <https://www.asbec.asn.au/wordpress/wp-content/uploads/2018/10/180703-ASBEC-CWA-Built-to-Perform-Zero-Carbon-Ready-Building-Code-web.pdf>
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<sup>17</sup> Energy and GHG reductions considering embodied impacts of retrofitting existing dwelling stock in Greater Melbourne, Journal of Cleaner Production Volume 170, 1 January 2018 <https://apo.org.au/node/137651>

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