

# Community Power Hubs Pilot Program final evaluation



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This external evaluation was carried out by Jarra Hicks (Community Power Agency) and Taryn Lane (Akin Consulting). The findings reflect observations and findings of the researchers, rather than those of Sustainability Victoria.

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# Executive Summary

## Overview

From 2017-2019, the Victorian Government committed funding and support to pilot three Community Power Hubs (CPH). These CPHs bring local stakeholders together to develop community energy projects in and around Ballarat, Bendigo and the Latrobe Valley. This report evaluates the outcomes from the pilot CPHs and the subsequent value delivered in the local communities and to the Government at the end of the two-year pilot period.

The CPH pilot program was established to support and facilitate the delivery of community energy\* projects in regional Victorian communities. At the end of the two-year pilot, the CPH model is proving an effective means to catalyse community interest in renewable energy into tangible projects. Overall, the program has achieved all the desired objectives and outcomes, and delivered significant value across social, environmental and economic outcomes.

Establishing the CPHs involved partnering with existing local organisations to act as hosts, bringing with them valuable reputation, experience, networks, trust and knowledge. The CPHs played a role in increasing local knowledge and awareness of community energy, as well as facilitating the development and implementation of community energy projects. Key activities of the CPHs included:

- › developing community energy projects
- › supporting other local organisations and businesses to develop community energy projects
- › information provision and community engagement around community energy.

The three CPHs delivered 15 completed community energy projects during the two-year pilot, involving the installation of 1.35 MW of renewable energy, as well as integrating energy efficiency measures. Together, these projects will be producing 1,705 MWh of renewable energy per year and reducing carbon emissions by 1,839 tCO<sub>2</sub>e per year. These projects are also saving their host organisations approximately \$364,000 in electricity costs each year. Over the projected 25-year lifetime of the project, this will equal \$9.1 million in savings (calculated at net present value).

## Impact

Examples of projects delivered through the CPHs include:

- › a bulk buy and install of solar PV that also offered battery storage and hot water systems to households, making solar more accessible and affordable. This project installed a total of 326 kW across 42 local homes and four businesses
- › 316 kW solar array on a health centre
- › 31 kW solar array on social housing assisting low-income residents
- › solar streetlights linking a community sporting and recreation reserve to the nearby town
- › 180 kw of solar and batteries to service a small off-grid community that had previously relied on diesel generators.

Achievements of the CPH pilot program include:

- › 15 community energy projects financed and commissioned
- › 1.35 MW of renewable energy capacity installed
- › 1,705 MWh of renewable electricity generated each year
- › saving community project sites \$364,000 in electricity bills each year
- › 114 public events and meetings held
- › 200 businesses and organisations engaged
- › more than 20,000 connections made in the community.
- › In total, the CPHs generated more than \$14.5 million of value from the program within the two-year pilot period, creating a 13-to-1 leverage on the government investment in the program. Over the 25-year life of the projects commissioned during the two-year pilot, this benefit will accrue to a value of \$25.6 million (net present value). This equates to \$22 of value for \$1 of government funding.

\* Community energy refers to projects where a community initiates, develops, operates and benefits from a renewable energy resource or energy efficiency initiative.  
Source: 2015 Guide to Community-Owned Renewable Energy for Victorians, State of Victoria, 2015



The CPH pilot program has applied the \$900,000 investment (across the three sites) co-funded from Sustainability Victoria (SV) and the Department of Environment, Land, Water and Planning (DELWP) and the \$260,000 in-kind investment from SV to leverage:

- \$2.2 million in additional funding from community donations, local organisations and businesses, philanthropy and grants
- \$497,000 of in-kind and voluntary contributions of time and knowledge from 150 people
- 20,000 connections with people in their local communities who are now involved in and/or benefiting from community renewable energy projects
- connections and partnerships with more than 200 local organisations and businesses.

In addition, the three CPHs developed a future pipeline of projects to continue to deliver renewable energy and carbon savings in their communities. Current investigations would see future installation of a further 9.7 MW of renewable energy and an investment of \$14.7 million into regional economies. These projects will deliver 9615 tonnes of CO<sub>2</sub>e greenhouse gas emissions reductions each year, or 240,377 tonnes of CO<sub>2</sub>e over their project life.

Compared with the projects already commissioned, the future pipeline of projects has a strong focus on investment models (six projects). Of the remaining projects in the pipeline, half will be funded via community donation and the other half will be privately funded.

The pipeline also presents a greater diversity of technologies with a blend of mini-grids, energy efficiency, mid-scale solar farms, bioenergy and rooftop solar. Importantly, the project pipeline indicates a progression to deliver megawatt-scale community energy, with five projects between 200–400 kW and two projects within the 2–5MW scale. Seven projects in the pipeline are classified as innovative, an additional six as replicable (replicating an existing model) and two as 'flagship' (the primary project delivered by each CPH).

If the pipeline projects are all delivered, it will generate an additional \$60 million of value from the program, which would increase the leverage on the Government's investment to 72-to-1.

The CPHs also affected indirect greenhouse gas emissions reductions, by encouraging individuals and organisations to think more about their energy choices and behaviour. Almost all (96 per cent) of survey respondents identified that being involved with the CPH led them to think about other ways they can reduce their greenhouse gas emissions, including considering installing batteries and investing in community energy projects.

The CPHs received high levels of support in their local communities, with 83 per cent of survey respondents saying they felt the model has been successful. Survey respondents identified that the most valuable role of the CPHs has been to support the development of community energy projects and building local capacity to facilitate community energy projects.

One community partner described the value of working with the CPH to deliver solar PV on the roof of a community sporting venue: *"This was a great experience, we didn't just achieve [the project], we demonstrated enthusiasm about action on climate change ... this has created positive spirals in our community and generated enthusiasm and positive approaches for making us renewable and sustainable."*

From the CPH evaluation survey, 92 per cent of respondents thought the CPHs increased local support and understanding for renewable energy within their general community.

The CPHs also increased community knowledge of and access to other relevant Victorian Government energy initiatives, including ResourceSmart Schools, Sustainable Finance, the Victorian Schools Building Authority, SV's Resource Recovery Grants, Victoria's renewable energy roadmap, Solar on Public Buildings program, Pick My Project, Environmental Upgrade finance and Regional Development Victoria. In some instances, the CPH successfully supported community organisations to apply for other government programs

## Evaluation methodology

A Theory of Change logic is presented in Table 1, outlining the ways the inputs and activities of the CPH pilot program created outputs, leading to outcomes and impacts.

Table 1: Theory of change for the CPH pilot program

 Inputs	 Activities	 Outputs	 Outcomes	 Impact
<ul style="list-style-type: none"> <li>› <b>\$900,000</b> Victorian Government grant (50 per cent DELWP and 50 per cent SV), from which each CPH received a budget of \$255,000</li> <li>› <b>\$260,000</b> in-kind support from SV</li> </ul>	<p>Establish three CPHs: one each in the Latrobe Valley, Bendigo and Ballarat, to support communities to deliver community energy projects through:</p> <ul style="list-style-type: none"> <li>› education and information provision</li> <li>› developing project feasibility and business cases</li> <li>› building networks and relationships</li> <li>› running community events</li> </ul>	<ul style="list-style-type: none"> <li>› <b>15 projects</b> financed and commissioned</li> <li>› <b>1.35 MW</b> new renewable energy capacity added</li> <li>› <b>\$2.2 million</b> leveraged financial contribution</li> <li>› <b>20,000 people</b> involved and/or benefiting</li> <li>› <b>226,000</b> content views on Facebook / CPH website</li> </ul>	<ul style="list-style-type: none"> <li>› <b>1,839 tCO2e</b> saved each year</li> <li>› <b>\$364,000</b> saved each year on energy costs</li> <li>› <b>Increased support</b> for renewable energy</li> <li>› <b>Increased awareness</b> of climate change</li> <li>› <b>Increased skills</b> and knowledge</li> <li>› Attracted <b>12,500 hours</b> of volunteer and in-kind labour, worth \$497,000</li> <li>› Created <b>16 local jobs</b></li> <li>› Developed <b>15 pipeline projects</b> with a capacity of 9.7 MW and a capital value of \$14.7 million</li> </ul>	<ul style="list-style-type: none"> <li>› Increased commitment to climate action</li> <li>› Increased community resilience</li> <li>› Increased employability of people involved</li> <li>› Increased local community capacity to deliver community energy projects</li> <li>› <b>\$11 million</b> flow-on economic impact in the local economy from activities to date</li> <li>› <b>\$45 million</b> flow-on economic impact from projects in the pipeline</li> </ul>

This evaluation draws on both qualitative and quantitative data sources to assess the outcomes and impacts from the program. The evaluation methodology included interviews (12 people) and a survey (52 respondents) with various stakeholders involved in each of the three CPHs, a focus group with six SV representatives, document analysis and Facebook and website analytics.

A social return on investment methodology was used to quantify blended value (social, economic and environmental outcomes) from the program. Analysis involved developing a series of appropriate indicators and a quantitative value tool to calculate a range of quantifiable social, environmental and economic outcomes from the CPHs.

However, it is imperative to note that a number of CPH outcomes and impacts were qualitative in nature and could not be quantified. The value leveraged on government investment presented only captures the CPH outcomes that could be quantified and monetised as part of the program evaluation, using a light social return on investment approach.

While these figures are indeed impressive, in reality the value derived from the CPH is even greater when non-quantifiable outcomes and impacts are considered. For example, qualitative data revealed participants' increased capacity in a number of knowledge areas and an increased sense of employability – neither of which could be quantified in the scope of this evaluation.

# Program outcomes

Overall, the CPH program achieved all the desired objectives and outcomes, as summarised in Table 2.

**Table 2: Summary of CPH program outcomes for each evaluation measure**

Evaluation measure	Pilot CPH outcome
<b>The extent that the project objectives are being achieved</b>	
<p><b>a.1</b> Test and refine the CPH model for any future wider rollout in Victoria</p>	<p>The CPH model has been successfully implemented and refined in the three communities. It has proven to be a highly effective model for rapidly deploying support for community energy, with key strengths in:</p> <ul style="list-style-type: none"> <li>– utilising the existing interests and assets of local organisations</li> <li>– facilitating community leadership and volunteerism</li> <li>– fostering collaboration</li> <li>– supporting other local organisations to develop community energy projects</li> <li>– increasing the capacity of people involved to deliver community energy projects.</li> </ul> <p>In each instance, the model has been adapted slightly for local context, indicating the relative strengths and weaknesses of the model and its adaptability for future appropriateness and the potential for program expansion.</p>
<p><b>a.2</b> Facilitate the delivery of at least one local community energy project in each CPH area within the timeframe of the pilot CPH project</p>	<p>Each of the three CPHs met and exceeded this objective, with 15 solar PV onsite community energy projects financed and commissioned between them (two in Bendigo, six in the Latrobe Valley and seven in Ballarat). All are behind the meter solar PV projects (they use the majority of electricity produced from the solar PV rather than exporting to the grid), and many involved energy efficiency.</p> <p>All projects are financed through community donations, grants and private investment. As yet, there have been no community investment models deployed, however several are in the project pipeline.</p>
<p><b>a.3</b> Facilitate the development of a pipeline of local community projects</p>	<p>Each of the three CPHs met and exceeded this objective, with 15 community energy projects in the project pipeline between them (four in Bendigo, seven in the Latrobe Valley and four in Ballarat). The projects delivered represent a range of innovative community energy business models, as well as flagship and replicable projects. These projects are at various stages of development. They represent a broader range of renewable energy technologies, and projects at a larger scale than have been delivered thus far. This reflects the longer timeframes required to deliver more complex and larger community energy projects.</p>
<p><b>a.4</b> Increase local capacity and capability to facilitate community energy</p>	<p>Local capacity to deliver community energy increased significantly in each of the CPH communities. The projects completed and in the pipeline are a testament to this. The cohorts that reported the largest increase in capacity to facilitate community energy include CPH staff and volunteers, roundtable advisory group members, host organisation representatives and project partners. Capacity has been built in:</p> <ul style="list-style-type: none"> <li>– knowledge of a range of CE community energy business models</li> <li>– technical knowledge</li> <li>– legal and financial aspects</li> <li>– communications and community engagement skills</li> <li>– project management.</li> </ul> <p>This capacity was greatly enhanced by the three CPHs networking with each other – all of them have expressed the value in learning from each other and then being able to pass this on to their local community.</p>
<p><b>a.5</b> Increase local access to information and support to facilitate the delivery of community energy</p>	<p>Information and support to deliver community energy increased in each community through the CPH. This was particularly evident among the partners and hosts of the projects delivered through the CPH. Each CPH made information and support available in different ways, either by building CPH staff and volunteer capacity, or employing consultants and contractors.</p> <p>It was identified that information sharing with the general public in each host community has been less of a priority. This is reflected in lower rates of increased awareness of and support for community energy among the general public, compared with those who have been directly involved with the CPH.</p>



Evaluation measure	Pilot CPH outcome
<p><b>The extent that the project outcomes are being achieved</b></p>	
<p><b>b.1</b> Reduce greenhouse gases</p>	<p>The projects financed and commissioned through the CPH program will deliver 1,839 tonnes of CO<sub>2</sub>e greenhouse gas emissions reductions each year. Over the expected 25-year life of the projects, this will generate 24,469 tonnes of CO<sub>2</sub>e greenhouse gas emissions reductions.</p> <p>When the projects in the pipeline are factored in, they will save an additional 9,615 tonnes of CO<sub>2</sub>e greenhouse gas emissions reductions each year, or 125,000 tonnes of CO<sub>2</sub>e over the project life. In addition, involvement with the CPHs has increased people’s knowledge of the need for emissions reduction and of ways they can take further action. The evaluation revealed individuals and organisations are considering further actions to reduce their greenhouse gas emissions as a result of their involvement with the CPHs.</p>
<p><b>b.2</b> Support communities in implementing their renewable energy projects</p>	<p>The CPH model has proved effective at providing support to communities in order to implement community energy projects. The CPHs have supported 30 different CE community energy projects to some stage of project development, and have scoped or provided advice to many times this amount over the two-year pilot. Each of these projects involves and benefits local individuals, organisations, businesses and services in different ways. Just under 20,000 people have been engaged, involved or are benefiting from the 15 projects financed and commissioned through the CPHs. In addition, there are dozens of other community project ideas that were scoped and found to be not be viable, therefore saving the proponent time via sense -checking.</p>
<p><b>b.3</b> Support other relevant Victorian Government energy priorities and initiatives</p>	<p>The CPHs increased knowledge of and access to several other Victorian Government programs and initiatives. Almost all survey respondents (92 per cent or 44 of 48) identified that their involvement with CPHs led them to become aware of or access other SV or state government initiatives, in particular, Solar Victoria’s solar PV and solar hot water program, the Renewable Communities grants, Agriculture Victoria’s energy grants program, the regional renewable roadmaps and other energy initiatives. Respondents also indicated their increasing support for groups in the region that have received or applied for other grants by providing networking and communications opportunities. For example, Pick My Project and Bank Australia. The CPHs provided guidance and support for a number of these applications</p>
<p><b>b.4</b> Boost the renewable energy industry in Victoria</p>	<p>The CPHs have contributed to the renewable energy industry by supporting uptake of renewable energy in communities, as well as through enhancing community awareness and support for community energy and renewable energy more generally. Enhanced community awareness and support has been strongest in the cohort of people directly involved with the CPHs or benefitting from a CPH project. Among this cohort, 80 per cent of survey respondents felt: “<i>Very positive about renewable energy development in their area</i>”. The baseline survey of the general public revealed only a slight increase in awareness and support for CE community energy and renewable energy. Support for the developingment of local community energy projects remains high across all CPH regions (more than 88 per cent).</p>

