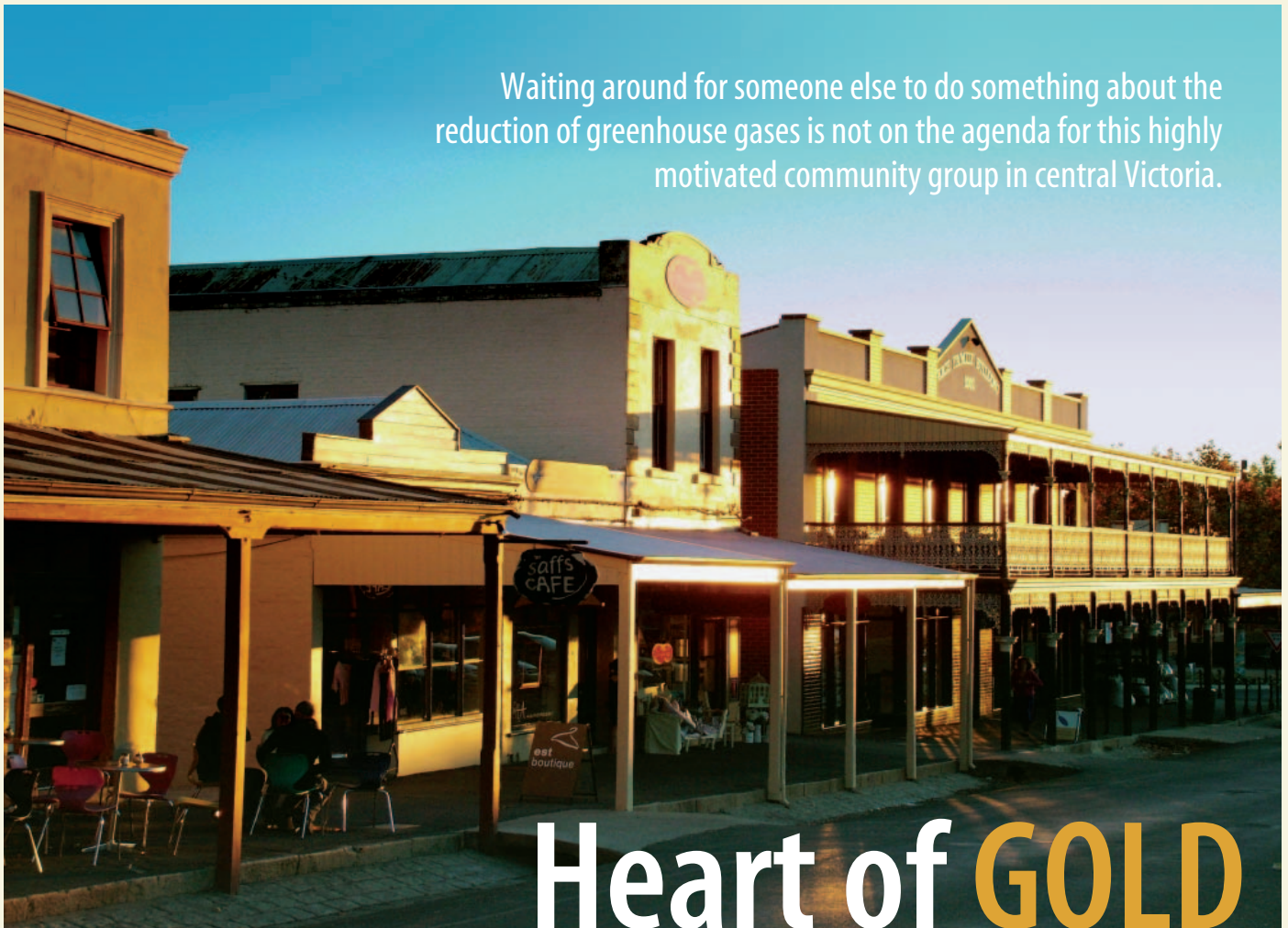


Progress

Waiting around for someone else to do something about the reduction of greenhouse gases is not on the agenda for this highly motivated community group in central Victoria.



Heart of GOLD

In the 1850s, a stampede of 25 000 gold-diggers rushed to Castlemaine in central Victoria when word got around that it was in the middle of the richest shallow alluvial goldfield the world had ever seen.

You could say that today's Castlemaine was built on gold, evidenced by the grand Victorian and Edwardian buildings and wide tree-lined avenues that grace the town.

Castlemaine is now the heart of Mt Alexander Shire, which has a population of 17 500 people, about half of whom live in the town.

The town is also home to KR Castlemaine, a smallgoods manufacturer employing 1291 people; the Castlemaine Hospital with more than 300 staff; Victoria Carpets with 96 employees; and the Flowserve pump foundry with 270 staff.

While these four operations are the cornerstones of the Mt Alexander Shire economy, they also have high demands for energy – a demand that the companies and the Shire realised could not be sustained.

Dean Bridgfoot, joint project coordinator of the Mt Alexander Sustainability Group (MASG) – a not-for-profit local environmental group – says the MASG was able to facilitate cooperation between the four businesses. As a result, each business has undertaken to quantify its present energy use with a view to finding a collaborative solution for operating more efficiently within the constraints of an 'already stressed' power system.

'Collectively, targets have been set, including a 30 per cent reduction in Greenhouse Gases by 2010 from the Shire, leading to zero net emissions by 2020, while simultaneously increasing the security of energy supplies within the Shire,' adds Bridgfoot.

SPARK from CSIRO

To enable the Shire to develop and implement a sustainable energy strategy, the MASG has linked up with CSIRO's Sustainable Communities Initiative (SCI).

The future of regional hubs like Castlemaine will depend on the community driving energy efficiency programs to reduce emissions while maintaining local business viability. Mt Alexander Shire

The SCI is an 'action learning' program that brings together organisations from across the public, private and research sectors to work in partnership with communities to develop sustainability solutions at the local community level.

SCI Director, Sean Rooney, says the SCI is based on the SPARK model – an acronym for the principle 'Solutions to complex issues are a function of Partnership, Actions, Reflection and Knowledge'. This principle acknowledges that effective solutions lie in a community's ability to integrate skills, resources, knowledge and passion from across sectors and organisations, according to Rooney.

CSIRO is currently working with 14 major organisations on SCI projects

around Australia. These partners include government, private and non-government organisations, such as the Australian Department of Environment and Water Resources (DEW), Westpac and ICLEI – Local Governments for Sustainability.

Bridgfoot says SCI's involvement has been an important step in developing a regional energy strategy that will help the four major Castlemaine businesses cap their combined emissions while remaining financially viable.

'They are significant employers within the region, with up to 23 per cent of all people here employed in manufacturing,' Bridgfoot points out.

'Combining the resources and experiences of Castlemaine's businesses with those of the other participants in this Sustainable Communities Initiative, we are confident the collective brainpower will create workable and sustainable solutions that can be replicated elsewhere.'

The Shire plans to achieve its GHG reduction goals by improving energy efficiency; installing low-carbon emission energy generation within the Castlemaine substation area; and facilitating mechanisms that reduce peak loads on the Castlemaine substation.

Distributed energy 'test site'

Peta Ashworth from CSIRO's Energy Transformed Flagship is leader of the Mt Alexander sustainable energy project, bringing expertise from the Flagship's intelligent grid research on distributed energy¹ systems for Australia. With Castlemaine being a regional hub surrounded by smaller towns, the Mt Alexander Shire provides an ideal test site for a distributed energy model.

Ashworth says a systems approach to sustainability involves concurrently targeting social, environmental and economic outcomes. For example, a key research objective will be ascertaining the values and drivers that motivate people to change their behaviours when it comes to reducing GHGs.

'Aside from technology solutions, which abound in renewable and non-renewable forms, there needs to be a strong economic, environmental and social case generated to achieve the required paradigm shift in a supply-side dominated energy system,' Ashworth says. 'Our capacity to study the social dimensions in this project will help

us to determine these reasons.'

The region's main power distributor, Powercor Australia Ltd, is also a key participant. Ian Gillingham, Powercor's Regional Asset Manager, says the project is important for many reasons.

'Community passion and drive to see these objectives come to fruition are vital to any project, and I am impressed by the number of people in Mt Alexander wanting to make a difference,' Gillingham says.

'Powercor is pleased to be a partner as we want to learn how to create a transferable model. This is why the CSIRO's facilitation through the Sustainable Communities Initiative is so important.'



Castlemaine-based Blade Electric Vehicles converts Hyundai Getz cars to electric, providing a low-emissions option for local residents. BEV

Bill Youl, KR Castlemaine's Manager of Research and Development, Quality, Safety, Environment and Security, understands only too well the energy and water supply dilemmas already facing the organisation.

'The nature of our business means we use energy at both ends of the spectrum. To produce smallgoods, we need heat and smoking to cook and flavour the products. Once this has been achieved, we need to keep them at a maximum of 4°C and cool chains are expensive to operate.

'Energy and water use records have been kept at KR since 2000 and through economies of scale, the quantity of energy per kilogram produced has been steadily dropping.

'However, we know we have to look at our situation from a collective perspective with our neighbours and collaborate to achieve the specified GHG reduction targets we all set. The power project is timely and we are committed to the process and achieving the goals.'

Spirit of collaboration

Mt Alexander Shire Mayor, Jim Norris, believes there is another vital element to this project – the ability of local government to act quickly.

'The survival of small towns in regional Australia has seen more people stepping up and willing to take roles including leadership,' says Norris. 'I call this distributed leadership, as the spirit of collaboration is the driving force.'

'In the Mt Alexander Shire, there is now a distinct culture dedicated to enabling the vision of reducing GHGs, changing behaviours and instigating renewable sources of energy and utilising energy in the most rational and effective ways as possible.

'One of the latest arrivals to Castlemaine is Ross Blade who has developed a process to retrofit the Hyundai Getz to produce Australia's first electric car. This is yet another example of the critical mass gathering within our area and the MASG are to be congratulated on their impetus and driving force.'

Another SCI participant, Jacqui McArthur from WWF Australia, was involved with the collaborative BedZED project in the United Kingdom, a zero-energy development initiative.

'The WWF takes a big-picture view of actual and potential threats to ecosystems and landscapes so we can prevent the dire outcomes predicted from ongoing climate change,' McArthur says. 'The Castlemaine power project is ideal for addressing industry's high energy requirements with the use of alternative and renewable energy sources.'

'Utilising the expertise of the CSIRO in this situation will provide localised energy sources which can be re-used and still provide base-load energy requirements for these enterprises and with a huge reduction of GHGs. This is a "can't-lose" situation and a model for other similar circumstances.'

The Castlemaine Shire power project is one of a dozen projects expected to be developed and delivered by the SCI over the next three years in Canberra (ACT), the Avon Catchment (WA), and the Whitsundays and Surat Basin (Qld).

● Pennie Scott

More information:

Mt Alexander Sustainability Group,
www.masg.org.au

CSIRO Sustainable Communities Initiative,
www.csiro.au/Science/SCI.html

¹ Distributed energy (also called on-site generation, dispersed generation, embedded generation and decentralised generation) involves power generation from many small energy sources.