Roadmap
to net zero emissions

A guide to cost-effective greenhouse gas emissions reductions and sector opportunities

Greater South East Melbourne

SECCCA
South East Councils Climate Change Alliance

Roadmap to net zero emissions

Councils are looking for ways to reduce emissions while helping their communities to do the same.

The challenge can be daunting. From energy production and use to transport, agriculture and dealing with waste, just about every aspect of residential and commercial activity generates greenhouse gases.

The good news is that there are many opportunities to achieve rapid and deep reductions in greenhouse gas emissions and save businesses and households money. And there are solutions with the potential in coming years to reduce emissions in virtually all sectors to zero and save businesses and households money.

GSEM and SECCCA have published a roadmap that identifies, sector by sector, the most important and the most cost-effective opportunities for our regions in the journey towards net zero emissions. This brochure summarises the roadmap report.

While our roadmap report identifies opportunities for selected councils in Victoria, the approach is relevant to all local government councils seeking to achieve net zero emissions.

Get the Report

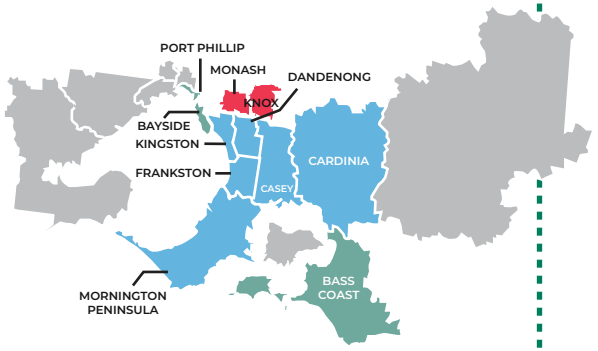
Who are GSEM and SECCCA?

Greater South East Melbourne (GSEM) represents eight councils. GSEM advocates for jobs, infrastructure, investment, liveability, sustainability and well-being for the south-east and everyone who works and lives in the region.

Learn about GSEM

South East Councils Climate Change Alliance (SECCCA) is a collaboration of nine councils in Victoria's south-east making a regional response to climate change. SECCCA's core functions include education, advocacy and project delivery.

Learn about SECCCA



SECCCA councils outside of GSEM area

GSEM councils outside of SECCCA area

Councils that are common

RIGOROUS METHODOLOGY

GSEM and SECCCA commissioned sustainability company SPR to undertake research and modelling, and prepare the roadmap report.

SPR modelled greenhouse gas emissions using methods set out by the International Energy Agency. Modeling was undertaken for each sector and each fuel or emission source, establishing the most likely emissions trajectories to the year 2050.

The company drew on data from the Australian Energy Market Operator, the Australian Bureau of Statistics, the National Pollutant Inventory, DeltaQ and Ironbark Sustainability.

Three to five of the most prospective emission reduction strategies for each were identified, calculating the likely costs and benefits of each. They also documented barriers to each, with suggestions for overcoming them.

Finally, SPR 'roadmap modelling' projected residential and commercial energy use, activity and emissions to 2050, and the impact of each strategy on emissions.

Sectors such as aviation, heavy transport and agriculture face greater challenges than others in reducing emissions. Emerging technologies such as green hydrogen, once commercialised, will aid efforts.

GSEM and SECCCA opportunities and cost effectiveness

GSEM and SECCCA support the rapid and least-cost transition to zero emissions in our regions. In addition to raising awareness of the seriousness and urgency of the climate crisis, we focus on the sectors, businesses and households that face barriers to change, including:

- residential or business tenants not empowered to make necessary changes
- landlords who may perceive no economic or regulatory pressure to make changes
- low-income households and businesses with limited investment capacity
- buildings with poor solar access

Our task is to provide leadership and help emission-producing sectors reduce their emissions to zero as rapidly as is physically possible and economically feasible.

Emissions by sector

Industry

Most emissions from industry come from burning fuel, mainly natural gas, to generate heat. Future industrial emissions in the region depend on the growth of industrial output by industry and product type.

Transport

Total passenger transport rises with population. National and state-wide transport trends apply to the region. Steady growth in freight to 2050 is expected, driven by the growing population and increasing economic growth.

Waste

Waste is a small but significant source of emissions for the region.

Agriculture

Agricultural emissions are predominantly from meat and dairy cattle in the Bass Coast and Cardinia local government areas.

Overcoming barriers

"Our task is to provide leadership and help emission-producing sectors reduce their emissions to zero as rapidly as is physically possible and economically feasible."

We identify ways to overcome barriers to reducing emissions, advocate for policy change and seek funding for the region. We collaborate with sectors on rapid transition, networking and information sharing, research and project delivery.

For example, buying an inefficient heater such as a bar radiator costs less than installing a heat pump. However, inefficient heaters cost more in the long-term and add significantly to greenhouse emissions. Tackling this problem can be done by encouraging heat pumps through planning schemes, information and advisory schemes, and participation in best practice initiatives such as the Built Environment Sustainability Scorecard and Greenstar.

Rental standards could include the provision of heat pumps. Low-income households could receive financial assistance for energy-efficient purchases.

Sector opportunities:
Roadmap to net zero emissions

This roadmap highlights significant, attractive emission reduction opportunities for each identified sector. There are other opportunities not included here.

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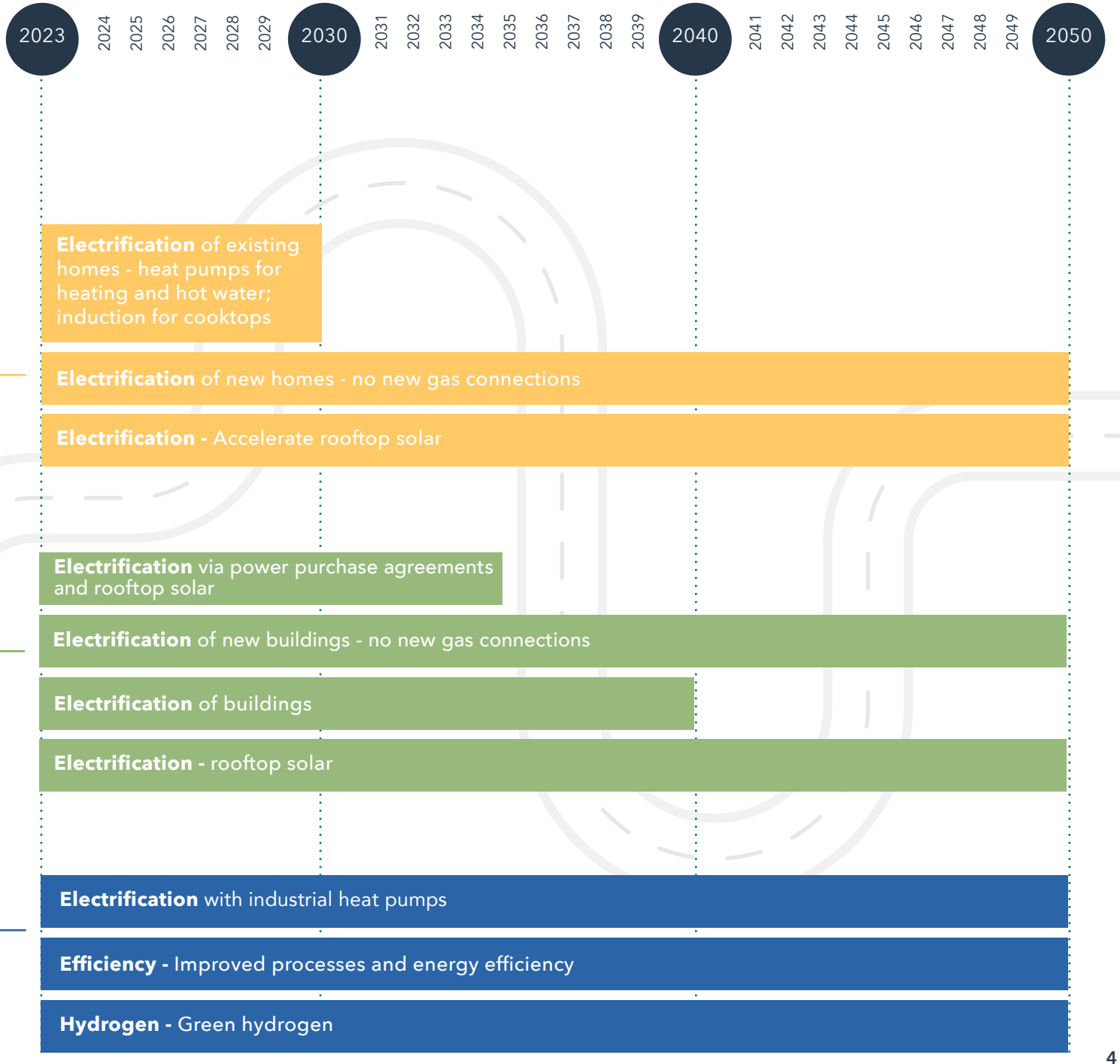
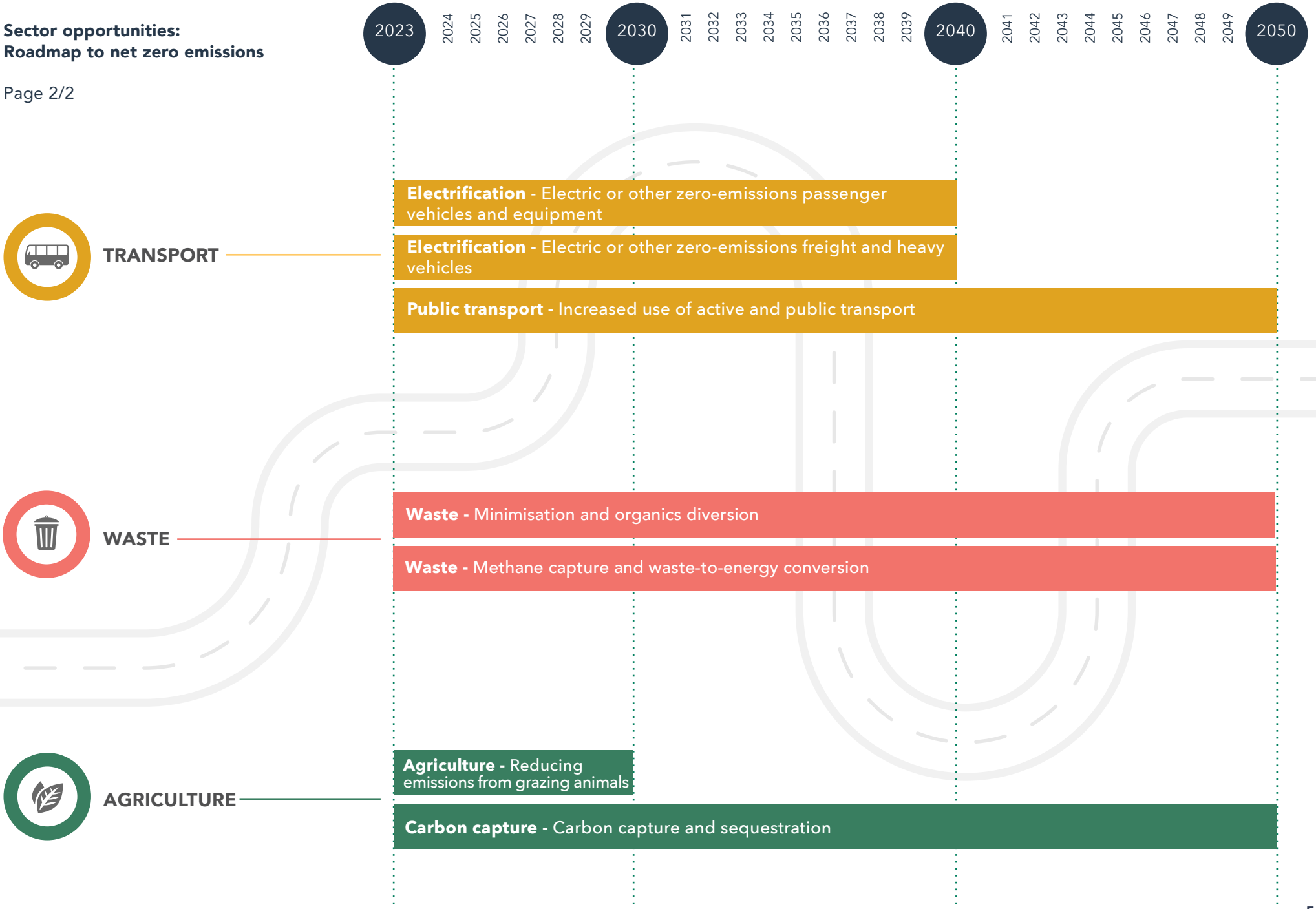


Sector opportunities:
Roadmap to net zero emissions



Our three pillars: communication, advocacy and project delivery

Climate change represents a threat to communities and businesses across Melbourne. There are increasing risks of floods, storms, inundation from sea-level rise combined with storms, and wildfire. Climate change also brings heat stress and other health impacts, and threatens biodiversity.

Many climate change solutions and responses create multiple benefits beyond reducing climate change threats. These benefits include:

- reducing household and business costs
- improving the quality and resilience of the built environment and the power system
- reducing exposure to fossil-fuel price cycles and unpredictable energy costs
- reducing noise and air pollution associated with transport and power generation

GSEM, SECCCA and their member councils play important roles in two-way communication with residents and businesses, encouraging more investment in emissions reductions, the critical first step in combatting climate change.

GSEM and SECCCA strongly advocate for changing policies, programs, budgets, regulations and laws to respond effectively to climate change.

The Roadmap to net zero emissions report highlights the third role of GSEM and SECCCA – project and research delivery. Research and evidence provide a solid basis for education, advocacy, and importantly, action.

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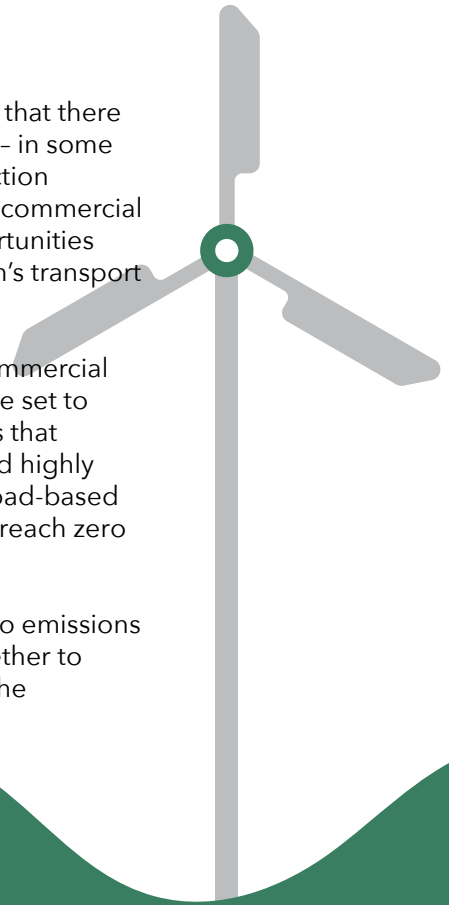
A greener future

The Roadmap to net emissions report shows that there are immediately-available and cost-effective – in some cases, highly cost-effective – emissions reduction opportunities for each of the residential and commercial sector in our regions. There are similar opportunities available today for at least parts of the region's transport and industry.

Emissions associated with residential and commercial electricity use in our region are falling and are set to reach zero by around 2033. This trend shows that electrification is an immediately-available and highly effective solution for emissions reduction. Road-based passenger transport in the region is likely to reach zero emissions by or before 2050.

The GSEM and SECCCA Roadmap to net zero emissions highlights how collectively we can work together to rapidly reduce greenhouse emissions. Join the journey today.



More information

Greater South East Melbourne (GSEM) and South East Councils Climate Change Alliance (SECCCA) – Roadmap to net zero emissions

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