

# Climate change mitigation | Reducing emissions

Our emissions as a region are mostly electricity (50 per cent), transport (26 per cent), gas (17 per cent) and waste (6 per cent). As a council we have reduced our corporate emissions by 47 per cent since 2010-11 and our energy use by 33 per cent.

## RENEWABLE ENERGY



The equivalent of **4400 homes** are being powered by bio-gas and the state's first solar farm built on landfill at the jointly owned Southern Region Waste Resource Authority (SRWRA) at Seaford Heights.

**60 per cent renewable energy** is being sourced from Lake Bonney wind farm for large and unmetered sites under a local government sector contract.

**550kW of solar installed** with live performance monitoring.

The **first car park solar shade at a community building** in S.A. is at Wakefield House Positive Ageing Centre.

## BUILDING COMMUNITY CAPACITY

**Sustainable Onkaparinga workshops** reached over 51,000 people (online and in-person) in 2020-21.

**Climart Exchange** offers artists access to council's climate change data and science to interpret through their art at Sauerbier House and Clarendon Creative.

**Climate Ready Communities** with Red Cross, supported 201 people to work in their community to prepare for the impacts of climate change.

**Climate Ready Schools** with Green Adelaide Education, worked with 14 schools to apply a design thinking approach to find solutions to climate change in their schools and local communities.

The **Energy Support Program** complements energy upgrades in community buildings and supports staff and volunteers to understand and monitor their energy use.

## ENERGY EFFICIENCY



Over **12,000 street lights** have been changed to **14W LEDs** using 40 per cent less electricity to light our streets and reducing our emissions by 1970 tonnes CO<sub>2</sub>e per year.

**35 council buildings** have been upgraded to reduce energy, water use and emissions.

The McLaren Vale and Fleurieu Coast Visitor Centre is our **southern Green Hub** and demonstrates ways that households can reduce energy and water use and carbon emissions. A trail brochure self-guides visitors on a 'green' journey, with interpretative signage at each stop.

Woodcroft Community Centre is our **northern green hub** and demonstrates passive solar design and smart building controls that a business can put in place. Tours are available on request.

In 2020-21, completed building projects resulted in **emissions reductions of 175 tonnes CO<sub>2</sub>e**.

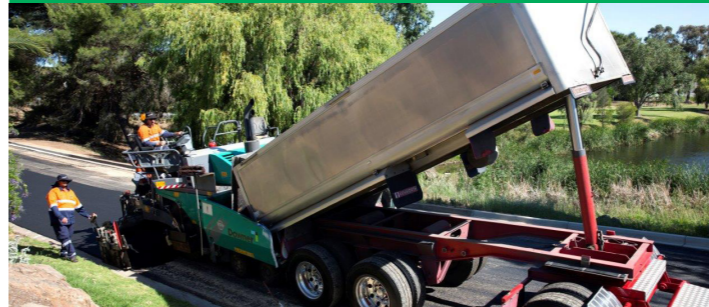
## FINANCING

Our **Environment and Sustainability grants** fund groups that lease council buildings for solar and energy efficiency upgrades.

**Our Revolving Resources Fund** finances council energy efficiency and renewable energy projects that generate cost savings, with the savings reinvested to fund further projects.

**Our Climate Change Response Fund** finances innovative council climate change initiatives.

## WASTE



Over **14,000 tonnes** each of recycling and green organics, including food waste are collected from the kerbside each year avoiding 12,429 tonnes CO<sub>2</sub>e.

**We have set procurement targets** to prioritise the use of recycled materials when we build and install roads, street furniture, edging, bollards and boardwalks. In 2020-21 over 7000 tonnes of recycled materials were used across the city.

**The first S.A. road using soft plastics and glass** was built in Happy Valley, which diverted thousands of plastic bags, packaging, used printer cartridges and glass bottles from landfill and has since been used on 11 other road locations.

**5900 tonnes of recycled asphalt** has been used in road reseals and rural road resurfacing and 1100 tonnes of recycled concrete used as base material for footpath construction.

**Five tonnes of recycled tyres** and other rubber have been used in playground surfaces.

**Compostable tree guards** are reducing our use of plastic.

< What we are doing >

< How we are doing it >

## TRANSPORT



We have **121km of off-road shared use paths**.

**Three public electric vehicle charging stations** are installed at the McLaren Vale and Fleurieu Coast Visitor Centre.

**100 per cent of tail-pipe emissions** from waste and recycling trucks are offset with carbon credits purchased by Solo Resource Recovery.

**Seven hybrid vehicles** have been added to our fleet.

## PARTNERSHIPS

We are advocating to the state government to create a **new benchmark for sustainable development** at their 60 hectare land release at Aldinga. To see our detailed vision that could serve as a national model visit [onkaparingacity.com/sustainableonkaparinga](https://onkaparingacity.com/sustainableonkaparinga)

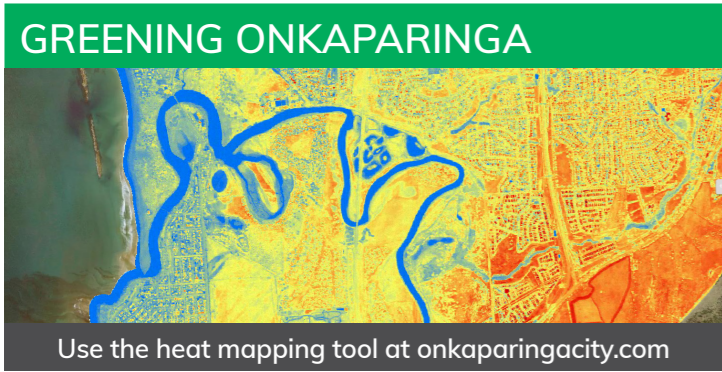
**Resilient South** (established in 2011) is a regional partnership between Mitcham, Marion and Holdfast Bay councils and state government that continues to build the climate change resilience of southern Adelaide. A vulnerability assessment for the region was undertaken and the Resilient South Regional Climate Change Adaptation Plan was adopted by all four councils.

We were the first council in South Australia to join the Climate Council's, **Cities Power Partnership**, a network of Australian councils committed to tackling climate change.



We are already feeling the effects of a changing climate locally with more frequent days over 40 degrees, more extreme fire danger days, changes to rainfall and harvest times, storms, coastal erosion and localised flooding. Here are some of the ways we are working to understand these impacts and to build resilience into our natural and built systems.

< What we are doing > < How we are doing it >



## Cooling our urban hotspots

In 2020 we mapped our suburbs and towns on a 34 degree day to measure surface temperature and tree and vegetation cover.

**Our urban green cover increased by 2.7 per cent** from 2016 to 2020.

**We have set targets to increase urban vegetation cover** and tree canopy by 20 per cent by 2045.

**We have set targets to plant 100,000 trees** in our streets, parks and watercourses by 2037.

**We have planted 40,489 trees** since 2016, including legacy trees for the next generation and 30 pocket forests.

**Tree tags** across the city and as part of the Willunga, Kangarilla and McLaren Vale Cellar Door Tree Trails show the contribution each tree provides to the community in terms of oxygen, CO2 removal and shade.

## Strengthening ecosystems

We manage **270+ conservation sites**.

**1100km of roadside vegetation** has been mapped for woody weeds to improve biodiversity and road safety, and reduce fire risk.

**Ecological restoration** work on nearly 1000ha of natural areas including coast, estuaries, woodlands, forests, grasslands, watercourses, wetlands, swales, roadsides and trail native vegetation.

We are **supporting volunteers at 31 Bush for Life sites** to improve habitats across our region through partnerships with 11 independent conservation community groups and Trees for Life.

**50,000 local native seedlings** are planted each year to increase biodiversity and improve habitat.

We monitor the density of **10 environmental weeds** including olives and desert ash.

## Managing floods, water recycling and water sensitive urban design

**420,000kl of waste water is recycled** each year for irrigation.

**Floodplain mapping** in eight creek catchments identifies areas of flood risk for safeguarding future developments.

**Flood warning system** at Pedlar Creek and on the Onkaparinga River triggers an emergency response in times of flooding.

**Stormwater detention basins** at John Nicholl Reserve, Aldinga Beach.

Byards and Hart Road wetlands – **recharge the aquifer and irrigate open space** by injecting water into the ground for storage and use during dry weather.

**Permeable paving and swales** at Morton Road, Christie Downs reduce runoff and allow water to infiltrate the subsoils and landscaping.

**Tree inlets store 150 litres of stormwater** in the kerb to divert water from the road and irrigate street tree roots in Dalkeith Avenue, Morphett Vale; Morton Road, Christie Downs; Alexander Kelly Drive, Noarlunga Centre; and Main Road, McLaren Flat.

## Managing the impacts of storms and sea level rise along 31km of coast

**A 2020 coastal scoping study** has measured the impacts of sea level rise and revealed that our coastline has been relatively stable over the past 70 years but that sea level rise is likely to increase erosion and flooding in some areas.

**Monitoring coastal risks** includes 3D mapping of coastal erosion hot spots. A tidal gauge in the Onkaparinga River is recording storm surge and tidal events.

**Protection works** stabilising the upper section of cliffs at Aldinga and Seaford with concrete retaining pillars. Investigations into long term protection measures along the base of cliffs.

**Protection of cliff bases** at Moana and Witton Bluff.

**Dune rehabilitation** at Christie Creek outlet with sand carting and drift fencing.

**Investigations, studies, designs** at Witton Bluff north, Christies Beach, O'Sullivan Beach, and Port Willunga to Aldinga Beach to determine:

- historical shoreline changes
- tide, wave and sediment transport regimes
- condition of existing protection structures
- sea level rise impacts and potential mitigation to manage erosion, including upgrading sea walls.

## CLIMATE RISK

In 2021, we undertook an organisation wide assessment of the risks from climate change to our services, assets and operations. We are now working with teams across council to identify ways to manage these risks.

### Climate Adaptation Governance Assessment

In 2019 we led an S.A. pilot of the Informed.City tool that assesses how well councils are managing climate risks in their corporate processes, frameworks and governance. When benchmarked against over 310 other councils across Australia, the City of Onkaparinga was ranked in the top three.

### Resilient Asset Management

Resilient South are piloting a best practice approach to assessing and responding to the impacts of climate change on our built and natural assets.