A Beyond Zero Future for South East NSW

Climate Action in Bega Valley

About Bega Valley—Yuin-Monaro Country

Industries—construction, government services, real estate, retail, retirement, aged care, tourism, dairy farming, forestry and commercial fishing

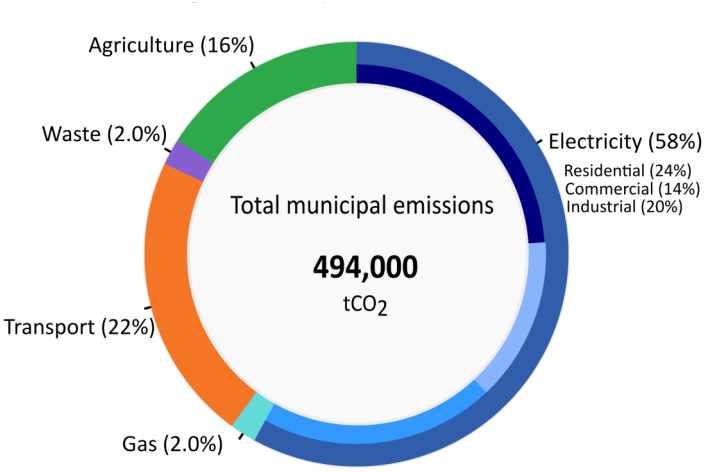
Population—34,476. Emissions—14t CO_2 per person p.a.

Residences—17,881 (2016). Emissions per residence—6.8t CO_2 p.a.

Current emissions profile (from Snapshot 2019)

- 58% of emissions from electricity use, 24% in homes
- 22% of emissions from road transport

Home solar installs to 2020—5,011 (new installs in 2020—570)



Tackling Energy First

Community energy provides more resilient networks, local ownership of generation and cost savings.

In Bega LGA, Clean Energy for Eternity and South Coast Health and Sustainability Alliance are supporting :

- Solar photovoltaic (PV) panels on community buildings
- Tathra community solar farm
- Town meetings, political engagement & awareness raising

In Bega Valley, Zero by 2050 targets require halving our CO_2 emissions by 2030. This means:

- Keep installing residential rooftop PV at 2020 rates (570 installs p.a) to move from 28% (2019) to over 50% of roofs with solar by 2030
- Increase commercial and industrial uptake from 180 (2019) installations to 670 by 2030

Payback period for residential solar is 4 to 6 years, saving about $1000 p.a. — much more with an electric vehicle.

Clean Energy Council publishes consumer guides: choose approved local retailers and accredited installers.

Home Energy Retrofits

An average retrofit without roof-top solar costs $11,000:

- cuts bills and emissions by 40%
- pays back within 7 years
- makes you $23,000 better off over 20 years

Adding a 5kW roof-top solar costing $5,000 to this retrofit:

- cuts emissions by 65%
- makes you $27,000 better off over 20 years

The most effective measures are roof-top solar, low-flow showers, reverse cycle heating/cooling, heat pump hot water, ceiling insulation and draught sealing.

Retrofitting 5% of homes in the Bega Valley each year would see a 50% cut in total residential energy use by 2030.

Transport—Electric Vehicles are Great to Drive

- Running costs up to 85% lower than a conventional car
- Roof-top solar plus EV will typically save you $4000 a year
- See NSW Electric Vehicle Strategy for more incentives
- EVs have been more expensive than their petrol/diesel equivalent but this gap is closing fast
- Fast charging infrastructure is growing

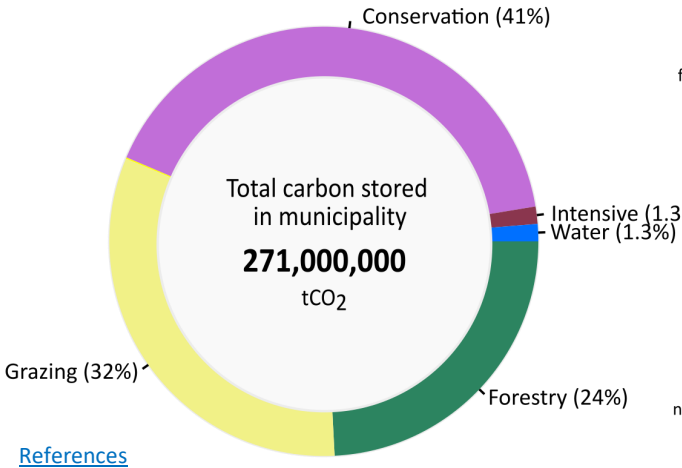
E-bikes are great for distances up to 15km.

What Else is Needed?

Commercial and industrial installations of rooftop PV are the biggest local growth opportunity for renewable energy .

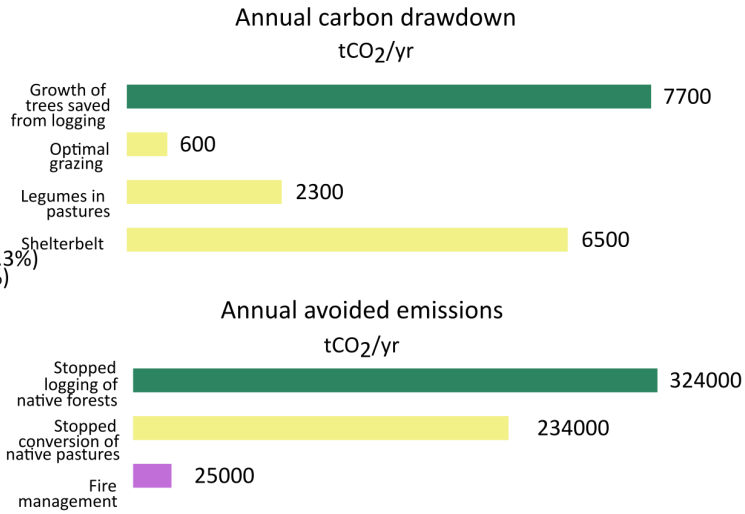
- Get behind the #RePowerOurCommunities campaign
- Ask federal, state and local government to enable community scale projects - solar farms, batteries and microgrids
- Expect clear targets for emission reductions and technology uptake, and hold governments and companies accountable
- Share information and stories about the benefits of transitioning to a low carbon economy
- Look for business & job opportunities in local clean energy technologies

Bega Valley - Current Land Use



References

With 1% Land Use Change



Carbon Wealth in Farms and Trees

Agriculture is key to solving the climate crisis. South East NSW is well placed to implement solutions including draw-down of carbon through changed farming practices and re-taining the vast store of carbon in soils and trees. Bega Val-ley is rich in trees, with 77% of it covered in forests or wood-lands.

Livestock

Methane (CH_4) emissions from burping livestock are a major contributor to world greenhouse gases. In the Bega Valley, 18% of all emissions are from livestock.

If 10% of farmers supplemented their animals' diet with *Asparagopsis* seaweed, 7,500 tonnes of CO_2 emissions would be avoided annually, potentially worth $600,000 on the international carbon market.

Soil

Soil contributes to climate solutions through carbon draw-down into organic matter and avoiding disturbance.

If 10% of Bega Valley farmers sowed their perennial pastures with legumes and practised optimal grazing methods, this would draw down 28,000 tonnes of CO_2 each year and earn $2.3 million per annum on the carbon market.

Retaining 1% of Bega Valley's perennial pasture each year would save 234,000 tonnes of CO_2 emissions.

Planting Trees

One hectare of farm land planted with trees draws down 3.7 tonnes of CO_2 p.a.

The Bega Valley has 110,000 hectares of cleared farm land available for trees.

If 10% of this was planted with trees in shelterbelts, ridgelines and creeklines, (1% p.a. for 10 years), it would draw down 60,000 tonnes of CO_2 into trees and another 4,900 tonnes into soil, earning farmers $5 million on the international carbon market and injecting 80 local jobs for 10 years.

Keeping Trees

If logging Bega Valley's 140,000 ha of State Forest ceased, 324,000 tonnes of CO_2 emissions would be avoided annually, potentially generating $26 million on the international carbon market. This is equivalent to 66% of all Shire emissions from electricity, transport, waste & agriculture.

What are the Barriers?

- Low domestic carbon price of $16/$tCO_2$, well below inter-national price of $80/$tCO_2$
- Lack of strong regulatory frameworks, tax incentives and subsidies for participation in the carbon market
- Lack of just transition funding for forest industry restruc-ture from logging to carbon trading
- High start-up costs for tree planting on farms
- Complexity and cost of carbon marketing
- For methane emissions, limited current availability of *Asparagopsis* supplement

More Reasons to Act Now

- Environmental benefits of moisture retention, soil health, erosion-proofing, animal well-being, biodiversity, sustained productivity and drought resilience
- Diversification of on-farm income
- On-farm long-term financial dividends and investment in 'natural capital'
- Business and job opportunities in carbon drawdown, con-servation and nature-based tourism