Response to "The energy Value of Distributed Energy" state 1 Draft Report.

Produced by: Stephen Kelly, Maurie Wedlake and Robert Watson as members of the Sunraysia Sustainability Network

Re: Wholesale market value of distributed generation exports.

We do support 7.1.2., multi rate tariff.

We support the flexible feed in tariff with deemed output tariff. This with consideration for our pivotal location as part of the power distribution grid and our abundant solar in North West Victoria. The value needs to reflect the cost to produce power from solar at about 11c/kWh at present. The DOT needs to be available, the best way to do this is to compensate renewable power production at say $20/ton of CO^2 not produced. This we will encourage a move away from power produced from fossil fuels.

However the Red Cliffs sub- station has significantly higher line losses than the rest of the state. But the sub-station has a very important role in distributing power to Mildura, Broken Hill, South Australia and Boundary Bend. Therefore to encourage more power to be produced locally it would be of benefit to overcome these line losses. The price to producers should be therefore be higher, we believe that having a 3rd North West Region would achieve this.

When the abundant solar in Mildura (North West Victoria) is taken into consideration as shown by the figures below:

Mean Daily Solar Exposure, Annual 18.6 Mj per M^2

Mean Daily Sunshine (hours) per day in Mildura is 8.6

Number of Clear Days per year is 132

The Mildura region is steadily growing, and future expansion of network capability to Red Cliffs will be very expensive.

Therefore encouraging distributed energy generation in the area captured by the Red Cliffs sub station will have significant long term savings for the State of Victoria.

We suggest adoption of a multi rate tariff with an extra zone for feed in rates incorporating the Red Cliff sub station zone, to account for the significantly higher line loses in this region.

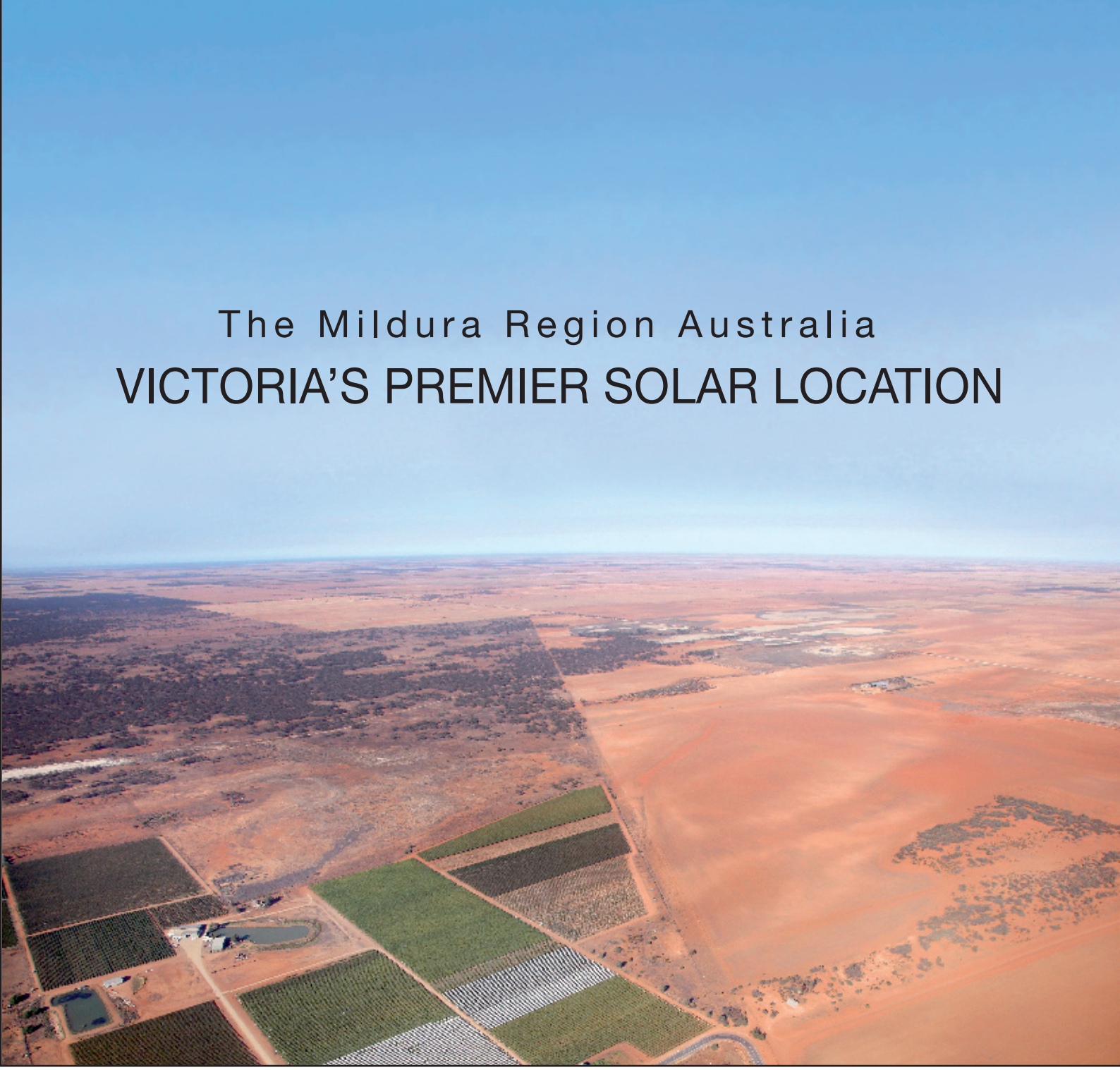
We also support the use of battery storage of power produced from solar, it is the obvious extension to maximise it's potential, either by increasing the amount of available power or giving the producer the option with the use selling software/equipment to sell stored power at the point of maximum tariff.

Reference:

The above figures where obtained from the Mildura Development Corporation's publication " Victoria's Premier Solar Location" and supplied with their permission for your reference.

The Mildura Region Australia

VICTORIA'S PREMIER SOLAR LOCATION



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Victoria's premier solar location

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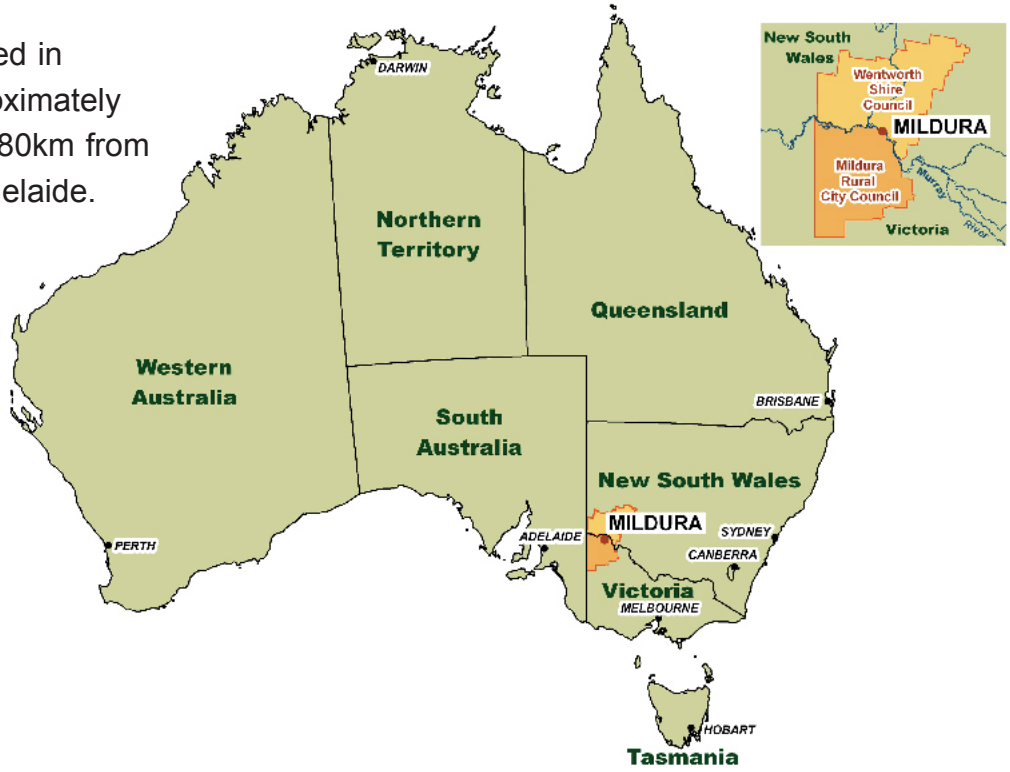
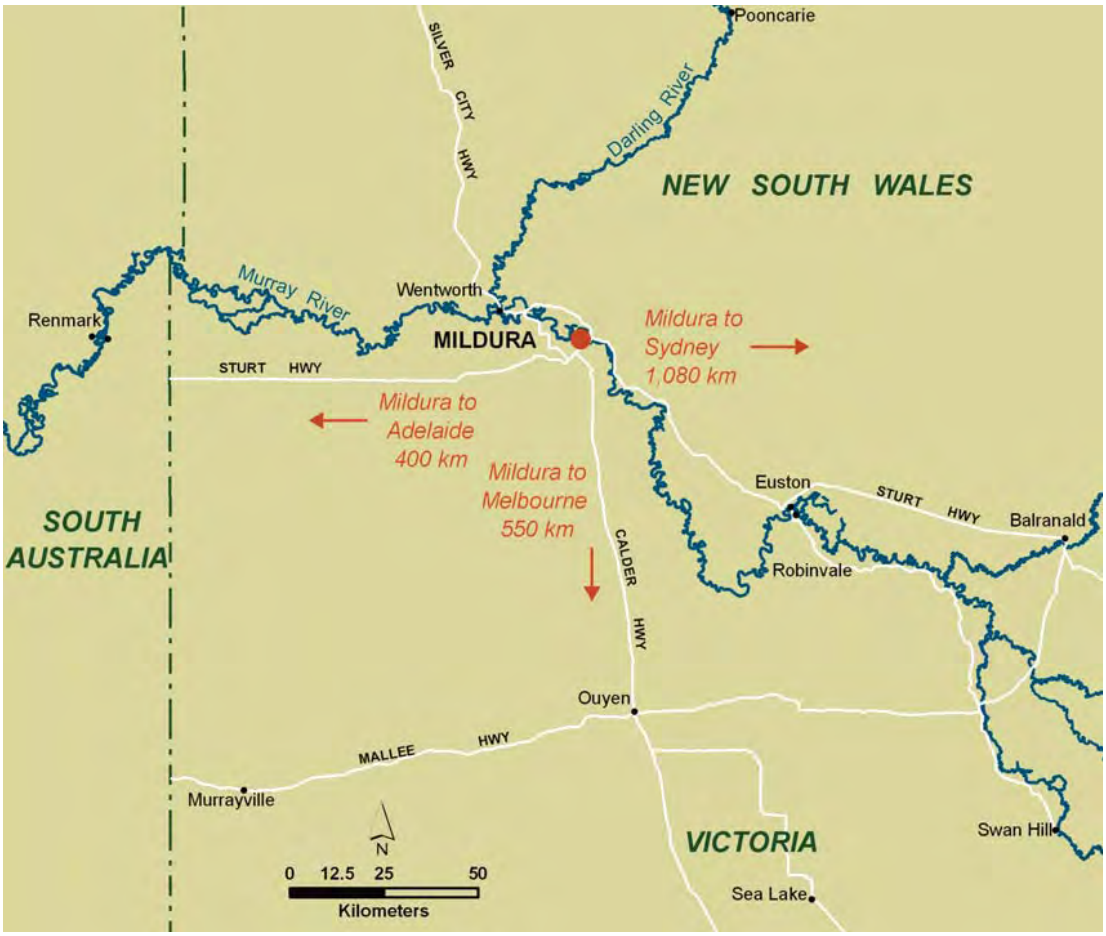
Location of the Mildura region

The Mildura region is situated in Victoria's North West, approximately 550km from Melbourne, 1,080km from Sydney and 400km from Adelaide.

We are conveniently located in a tri-State region between Melbourne (Victoria), Sydney (New South Wales) and Adelaide (South Australia).





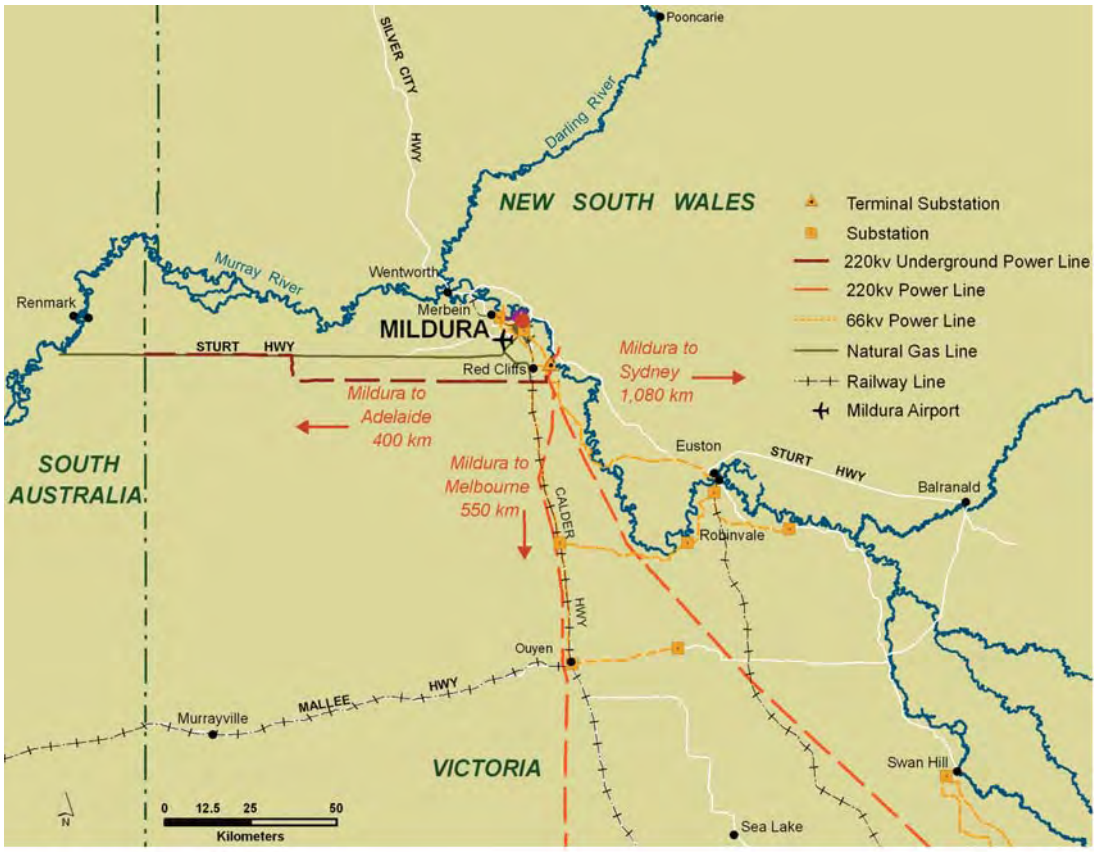
Mildura Region

Climate

The Mildura region has a sunny warm dry climate, with an average annual maximum temperature of 24°C, and an annual rainfall of 284mm.

Land

The Mildura region topography is generally flat to gently undulating. The landscape ranges from Mallee vegetation and dryland farms to intensive horticulture along the Murray River.
There is access to affordable and available land of varying sizes.



Mildura Region Infrastructure

Infrastructure

The National electricity grid goes right through the Mildura region and there are terminal substations located at Red Cliffs and Wemen.

- Both 66kv and 220kv are available for grid connection
- The Mildura region's electricity distribution network is owned by Powercor
- The district's electricity transmission network (66kv and 220kv) is owned by SP Ausnet
- The Mildura region is situated on the Murray River and has access to potable, raw and saline groundwater
- Access to natural gas
- Excellent transport infrastructure including road, rail and air
- The Mildura Airport is the busiest regional airport in Victoria with 140 flights per week moving over 210,000 passengers per year, with flights to Melbourne, Sydney, Adelaide and Broken Hill.

Labour

The Mildura region has an excellent pool of skilled workers and industrial manufacturing and assembly facilities.

Education & training

The Mildura region has excellent education and training options with La Trobe University, Sunraysia Institute of TAFE, TAFE New South Wales Riverina Institute, Monash University, a Trade Training Centre and a number of adult education centres located in the region.

There are over 49 primary and secondary schools in the region including a specialist school and an English Language Centre.

Liveability

Two hospitals are located in the City of Mildura along with a vast array of health and allied health services, including community welfare and disability services.

Affordable house, land and rental properties are plentiful as are a large variety of retail outlets and franchises, making for excellent business and professional service opportunities.

We are renowned for the variety and quality of our sporting facilities, ranging from football, cricket, tennis and netball to golf, water sports and motor sports.

The region is home to Mungo National Park, located in the World Heritage listed Willandra Lakes System, and well as Hattah-Kulkyne, Murray-Kulkyne, Wyperfeld, Murray-Sunset National Parks and Kings Billabong Wildlife Reserve.

Over 300 events and festivals are held each year ranging from food and wine to arts and music.

Planning

Mildura Rural City Council's planning department is on hand to assist potential solar investments with zoning and planning approvals.

Economic benefits & opportunities for the Mildura region

Further solar power development in the Mildura region will inject significant funds into the local economy, both during construction and the ongoing operations stage. This has already been evidenced through solar developments by Solar Systems and BELECTRIC.

Solar investment will create employment and skills development, and the opportunity to value add to solar investment through manufacturing and assembly of components for future solar plant requirements in the region.

Solar power development also opens up opportunities for tourism, education, training, research and development.

Current Victorian Feed-in Tarrifs

The Electrical Services Comission determined a minimum feed-in tarrif of 8.0 cents per kilowatt-hour to apply for the period 1 January 2014 to 31 December 2014.



Demographics

Mildura region key demographics

Population	2013	59,517
Jobs	2013	21,137
Unemployment rate	2013	8.3%
Gross regional product	2013	$2.98 billion
Median house price	2013	$211,250
Median apartment price	2013	$150,000

The Mildura region produces the following share of Australia's produce

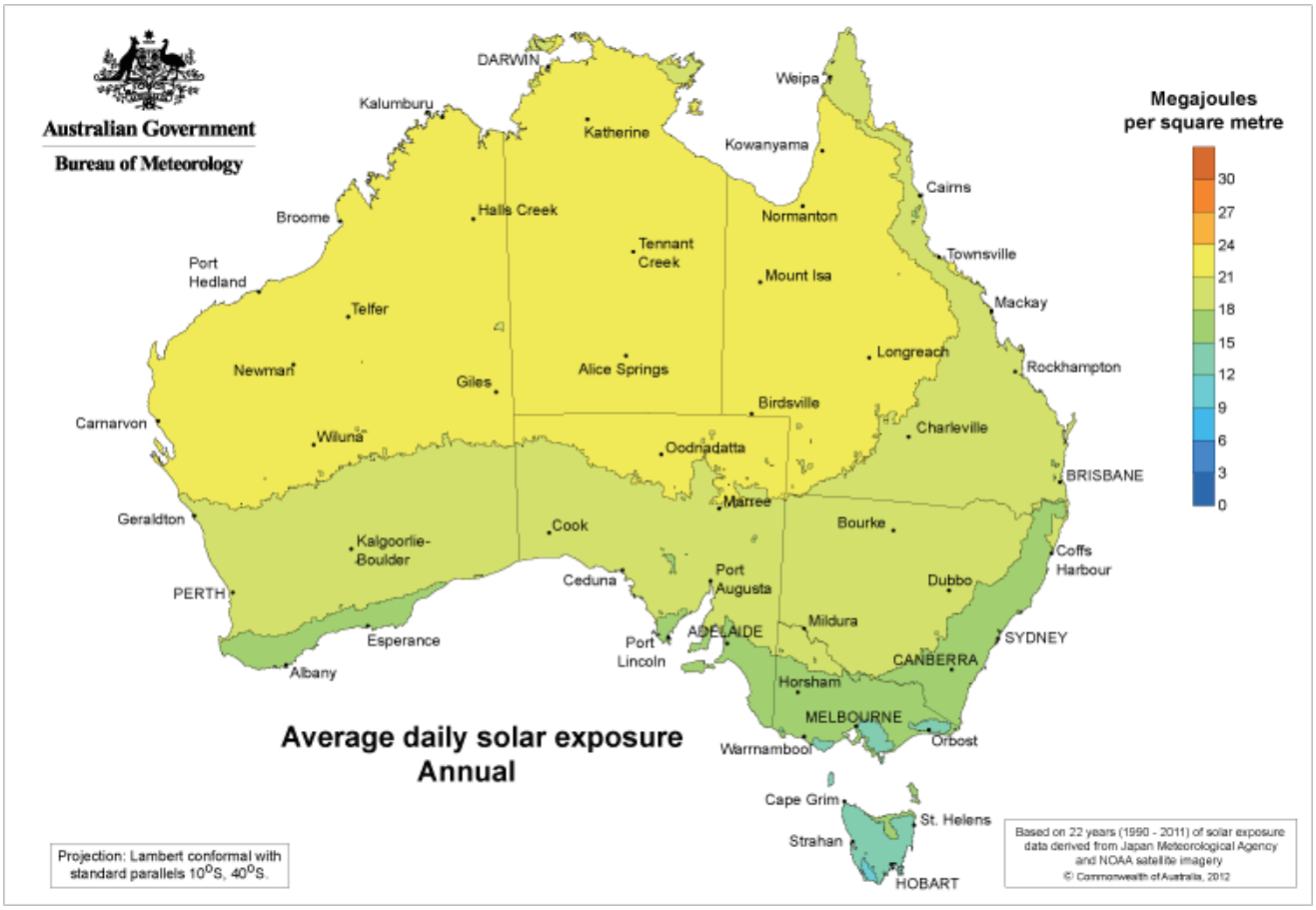
Dried vine fruit	98%	Citrus	24%
Table grapes	75%	Wine grape crush	Over 20%
Almonds	68%	Carrots	13%
Pistachios	48%	Asparagus	9%

A Sample of the Number of Businesses and Employment by Industry Sector – Mildura Rural City Council, 2014

Sector	Number of people employed	% of people employed	Total output	% of output
Retail trade	2,998	14.2%	301 million	8.3%
Health care and social assistance	2,682	12.7%	288 million	5%
Agriculture, forestry and fishing	2,450	11.6%	9.98 million	10%
Education and training	1,941	9.2%	209 million	3.72%
Manufacturing	1,579	7.5%	1.1 billion	20.5%
Construction	1,083	5.1%	402 million	7.1%

Solar Exposure

The Mildura region receives the highest solar exposure in Victoria.



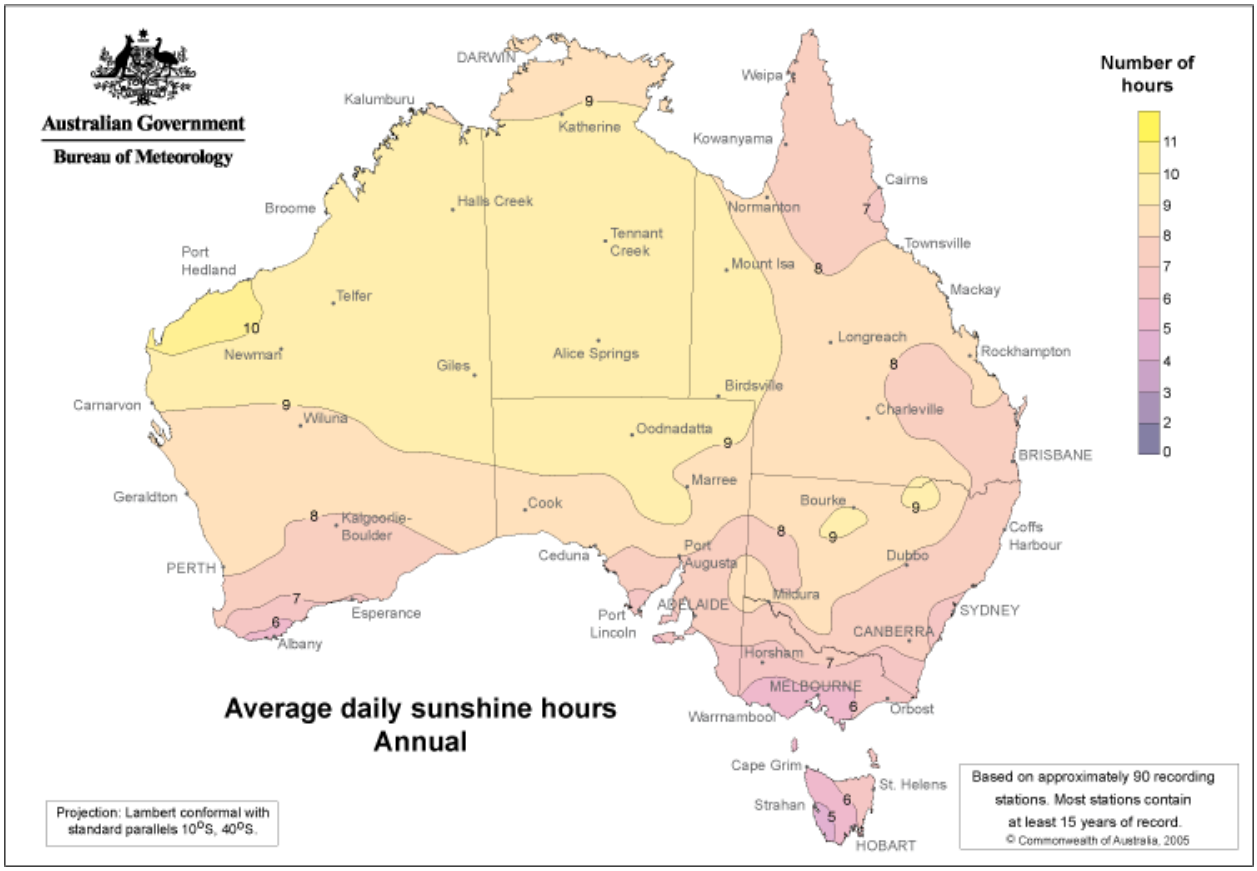
Mean Daily Solar Exposure (MJ(m*m)) in Mildura, 1990-2014

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mildura	28.5	24.9	20.8	15.2	10.6	8.6	9.2	12.8	17.1	22.2	25.6	28.1	18.6

Source: Australian Government Bureau of Meteorology

Sunshine Hours

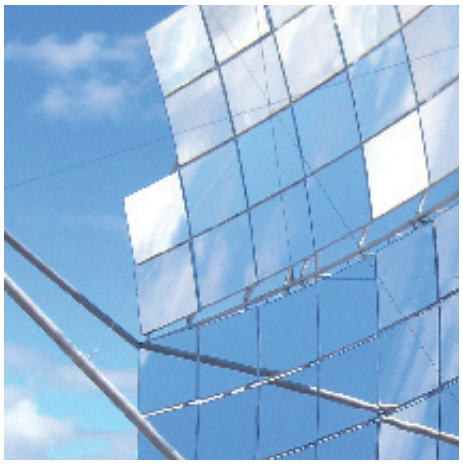
The Mildura region receives the highest average sunshine hours in Victoria.



Mean Daily Sunshine (hours) in Mildura, 1989-2014

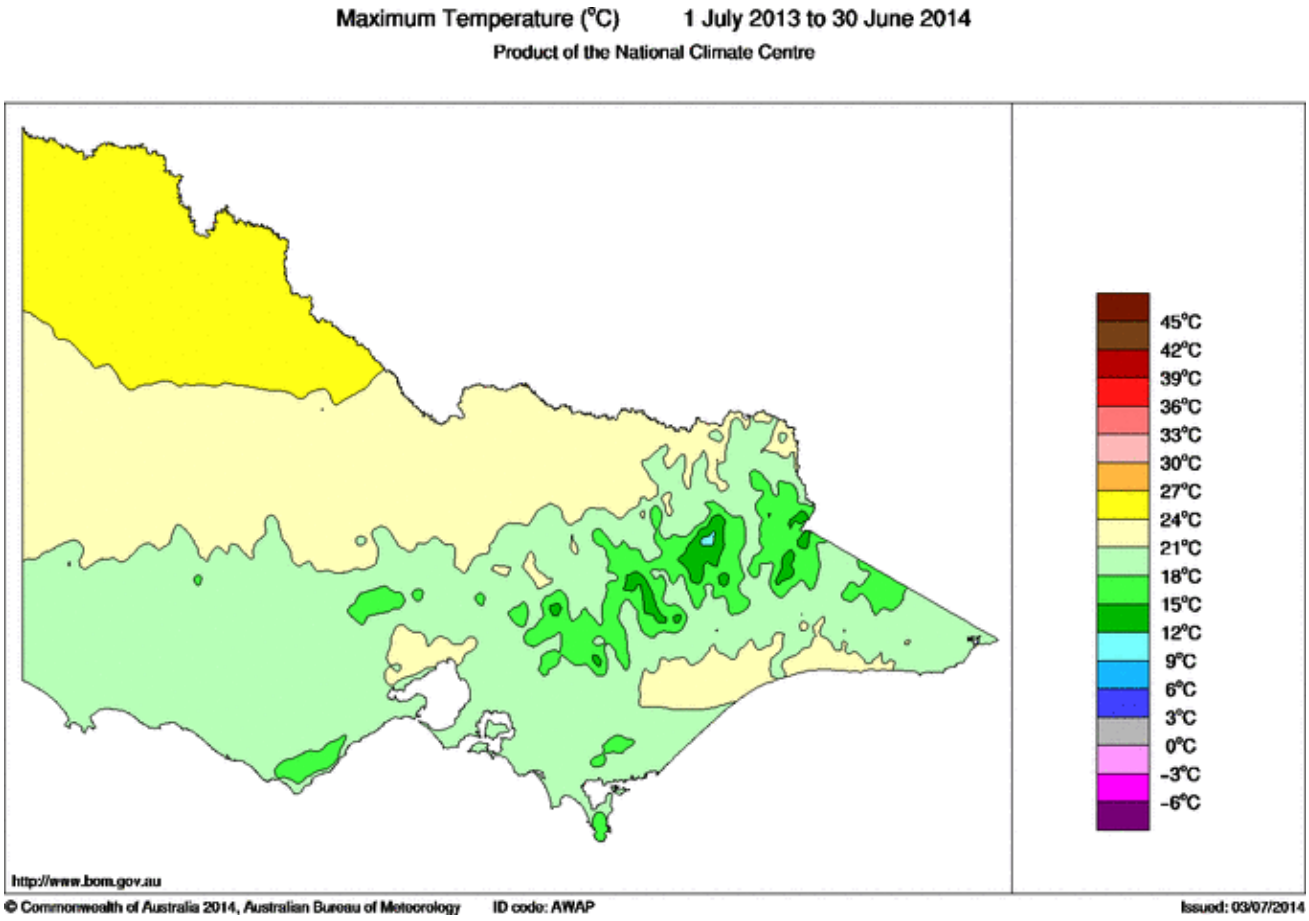
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mildura Airport	11	10.3	9.6	8.4	6.6	5.6	5.9	7.4	8.2	9.4	9.9	10.7	8.6

Source: Australian Government Bureau of Meteorology



Maximum Temperature

The Mildura region has the highest average daily maximum temperature in Victoria.



Mean Maximum Temperature for Mildura, 1946-2014

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mildura	32.3	31.6	28.3	23.6	19.1	16	15.4	17.3	20.5	29.9	27.5	30.7	23.8

Source: Australian Government Bureau of Meteorology

Clear Days

The Mildura region has the highest mean number of clear days in Victoria. Mean Number of Clear Days for Mildura, 1946-2010

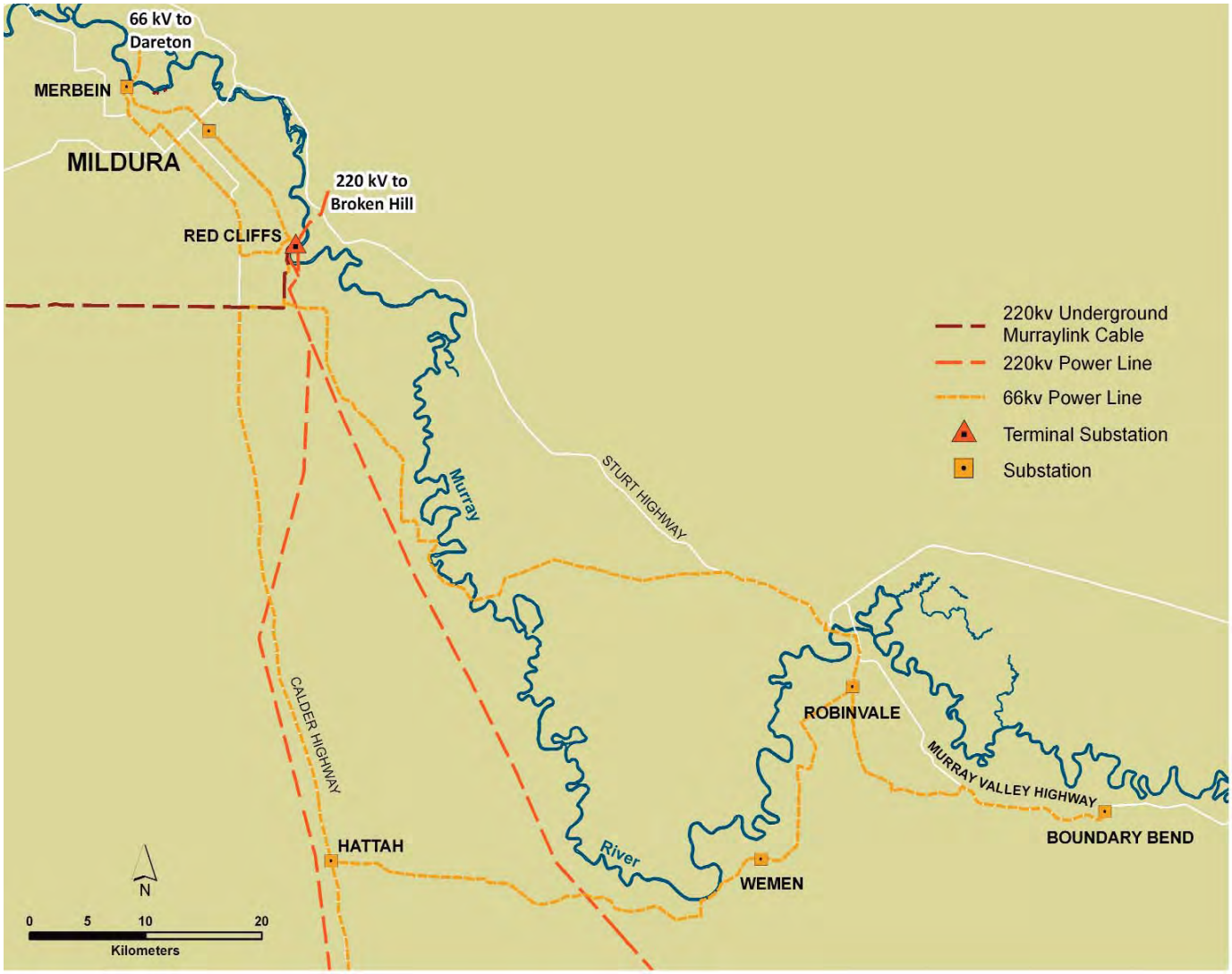
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mildura	15.5	14.4	15.7	12.1	8	7.2	7.2	7.8	9.7	10.3	10.8	13.3	132

Source: Australian Government Bureau of Meteorology

Renewable energy companies investigating establishing in the Mildura region should speak with Powercor, the electricity network owner.

Powercor will need the following preliminary information regarding connection of large power sources:

- Type of plant (eg gas turbine generating unit, wind turbine, solar plant, etc)
- Preferred site location (also list any alternatives in order of preference)
- Maximum power generation or demand of whole plant (maximum MW and / or MVA, or average over 15 minutes or similar)
- Expected energy production or consumption (MWh per month)
- Plant type and configuration (eg number and type of generating units)
- Nature of generation (size of disturbing component MW / MVAr, duty cycle, nature of power electronic plant which may produce harmonic distortion)
- Technology of proposed generating unit (eg Synchronous generating unit, induction generator, photovoltaic array, etc)
- When plant is to be in service (eg estimated date for each generating unit)
- Name and address of enquirer, and, if relevant, of the party for whom the enquirer is acting
- Single line diagram
- Site layout plan including intended location for point of connection to Network.



Mildura Region Electricity Network

For further information please contact:
Mr Ian Gillingham
Regional Business Manager
CitiPower Pty & Powercor | Electricity Networks
Private Bag 8004, Bendigo, VIC, Australia 3550

mildura DEVELOPMENT CORPORATION

Mildura Development Corporation can assist with site selection, facilitation, provision of economic data and information on the region's economy and demographics, land holder introductions, etc.

For further information please contact:
Mr Chris Crewther
Chief Executive Officer
Mildura Development Corporation Inc
PO Box 4146, Mildura, Victoria, Australia 3502

Phone +61 3 5022 0722

Web www.milduraregion.com.au

Mildura Rural City Council

Mildura Rural City Council can assist with planning approvals, zoning, State Government introductions and general advocacy.

Mildura Rural City Council
PO Box 105, Mildura, Victoria, Australia 3502
Phone +61 3 5018 8151

Web www.mildura.vic.gov.au

Data Sources
GHD
Australian Government Bureau of Meteorology
CitiPower Pty and Powercor Australia Ltd
SunRISE Research & Mapping