
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\text{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\text{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

www.milduraregion.com.au
Victoria’s premier solar location
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).
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.

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

Mildura region key demographics

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>59,517</td>
<td>21,137</td>
</tr>
<tr>
<td>Jobs</td>
<td>8.3%</td>
<td>8.3%</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>2013</td>
<td>$2.98 billion</td>
</tr>
<tr>
<td>Gross regional product</td>
<td>2013</td>
<td>$211,250</td>
</tr>
<tr>
<td>Median house price</td>
<td>2013</td>
<td>$150,000</td>
</tr>
<tr>
<td>Median apartment price</td>
<td>2013</td>
<td>9%</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Product</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dried vine fruit</td>
<td>98%</td>
</tr>
<tr>
<td>Table grapes</td>
<td>75%</td>
</tr>
<tr>
<td>Almonds</td>
<td>68%</td>
</tr>
<tr>
<td>Pistachios</td>
<td>48%</td>
</tr>
<tr>
<td>Citrus</td>
<td>24%</td>
</tr>
<tr>
<td>Wine grape crush</td>
<td>Over 20%</td>
</tr>
<tr>
<td>Carrots</td>
<td>13%</td>
</tr>
<tr>
<td>Asparagus</td>
<td>9%</td>
</tr>
</tbody>
</table>

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

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

The Mildura region receives the highest solar exposure in Victoria.

Mean Daily Solar Exposure (MJ(m²m)) in Mildura, 1990-2014

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mildura</td>
<td>28.5</td>
<td>24.9</td>
<td>20.8</td>
<td>15.2</td>
<td>10.6</td>
<td>8.6</td>
<td>9.2</td>
<td>12.8</td>
<td>17.1</td>
<td>22.2</td>
<td>25.6</td>
<td>28.1</td>
<td>18.6</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mildura Airport</td>
<td>11</td>
<td>10.3</td>
<td>9.6</td>
<td>8.4</td>
<td>6.6</td>
<td>5.6</td>
<td>5.9</td>
<td>7.4</td>
<td>8.2</td>
<td>9.4</td>
<td>9.9</td>
<td>10.7</td>
<td>8.6</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mildura</td>
<td>32.3</td>
<td>31.6</td>
<td>28.3</td>
<td>23.6</td>
<td>19.1</td>
<td>16</td>
<td>15.4</td>
<td>17.3</td>
<td>20.5</td>
<td>29.9</td>
<td>27.5</td>
<td>30.7</td>
<td>23.8</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
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<th>Nov</th>
<th>Dec</th>
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</thead>
<tbody>
<tr>
<td>Mildura</td>
<td>15.5</td>
<td>14.4</td>
<td>15.7</td>
<td>12.1</td>
<td>8</td>
<td>7.2</td>
<td>7.2</td>
<td>7.8</td>
<td>9.7</td>
<td>10.3</td>
<td>10.8</td>
<td>13.3</td>
<td>132</td>
</tr>
</tbody>
</table>

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.
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 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

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.milduraregion.com.au

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