

Introduction

This report analyses the electricity consumption and generation data for NSW, compared with Narrabri LGA and Northwest NSW.

Northwest NSW is defined by the LGA’s of:

- Narrabri
- Gunnedah
- Moree Plains
- Warrumbungle
- Walgett
- Coonamble
- Gilgandra
- Warren



The data includes Residential, Controlled Load and Business consumption as well as Export.¹

In 2021/2022 this region accounted for only 1.94% of the state’s Essential Energy customers and yet consumed 4.68% of the total Essential Energy electricity.



Geni.Energy

This report is prepared by Geni.Energy, a community led not-for-profit energy company based in Narrabri in Northwest NSW. It seeks to create new jobs and investment from the renewable energy industry, ensuring the maximum amount of benefits are accrued to the local community.

Geni.Energy is establishing the Northwest Renewable Energy Precinct, so has an interest in understanding the current consumption and generation patterns in the Northwest region, and specifically in Narrabri LGA, and how this compares with the overall State of NSW and other LGAs.

¹ Noting the following qualifications:

- Data does not include the Large Site Specific customers
- Export is the total electricity exported to the grid from small solar power stations as recorded by electricity meters. The total includes electricity exported from both gross and net metered solar power systems, this total does not include the solar power used directly within the homes with a net metering arrangement.
- Raw data can be found [here](#).

Opportunity One – Residential Energy Use Remains Strong

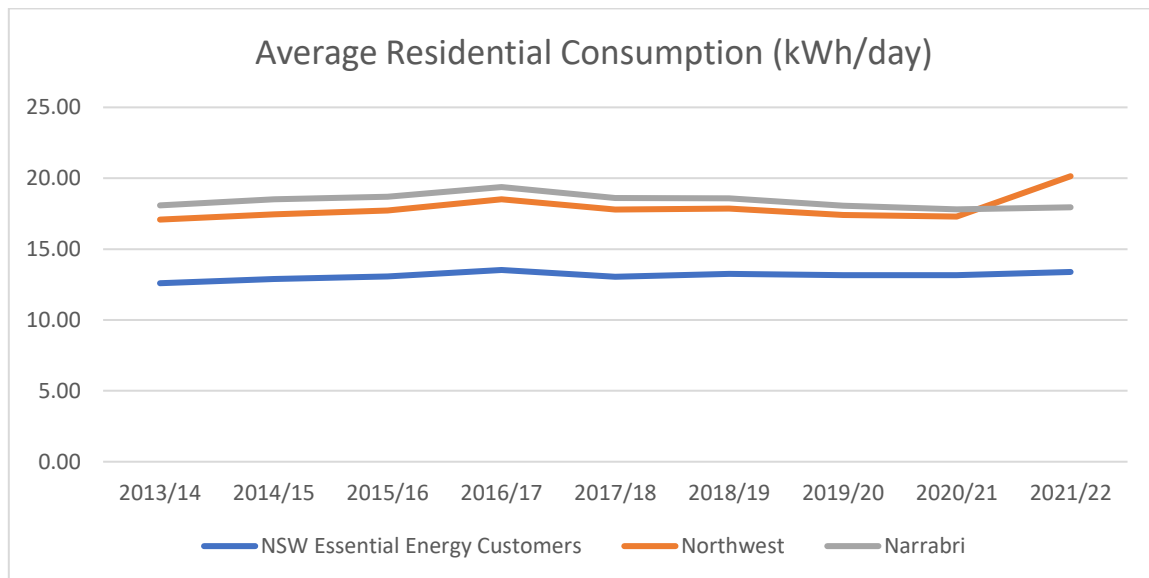
In the last nine years the growth in residential consumption has been:

- NSW has seen an overall 6% growth in the average daily energy consumption per residential customer (from 12.59 kWh/day to 13.38kWh/day)
- Northwest has jumped 15% (from 17.08kWh/day to 20.14kWh/day)
- Narrabri has reduced by 1% (from 18.08kWh/day to 17.95kWh/day)

This shows a steady demand for electricity and it highlights that Northwest residents are considerably larger energy users on average than the state.

Currently all of the cost of this residential electricity is an economic leakage from the region. The region’s annual residential consumption is 182,425 MWh p.a. If this is valued at a retail energy price of 28c/kWh, this is a total cost of over M\$51, currently leaking from the region.

The total amount of domestic controlled load used each year is 50,814MWh, which when valued at 12c/kWh is a total of M\$6 currently leaking from the region.



Opportunity Two - Electricity Generation and Export Going Gangbusters

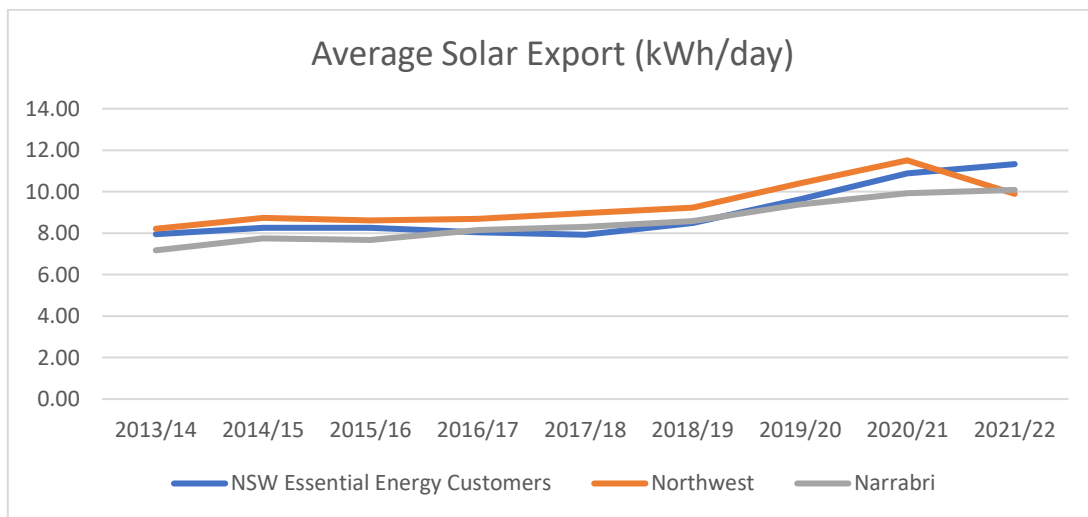
The total amount of energy exported, the total number of export customers and the average amount of electricity exported per customer have all grown at both the NSW and the Northwest scales.



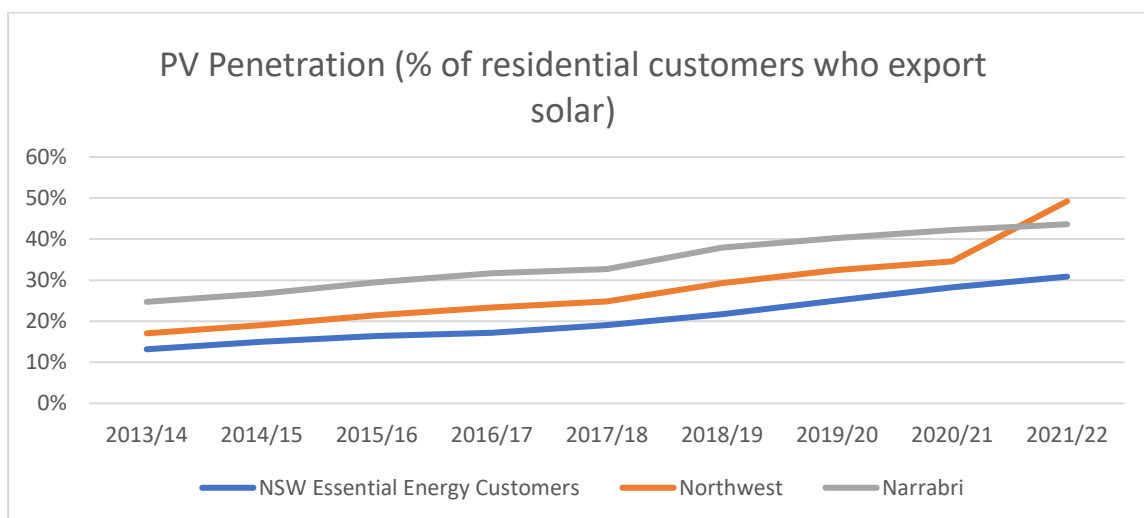
Narrabri LGA is equal-second (along with Moree Plains LGA) for the highest levels of Photovoltaic penetration in the NSW Essential Energy network.

Since 2013/14 NSW residential customers' average export has increased from 7.95kWh/day to 11.33kWh/day (30% increase), while Northwest residential customers' average export has increased from

8.21kWh/day to 9.89kWh/day (17% increase) and Narrabri's export customers has increased from 7.17kWh/day to 10.08kWh/day (29% increase).



This would indicate an already good penetration of solar in the Northwest: on average in Essential Energy's NSW grid 31% of residential energy users also export solar, compared with Northwest average of which is 49% and Narrabri LGA which is 44%.



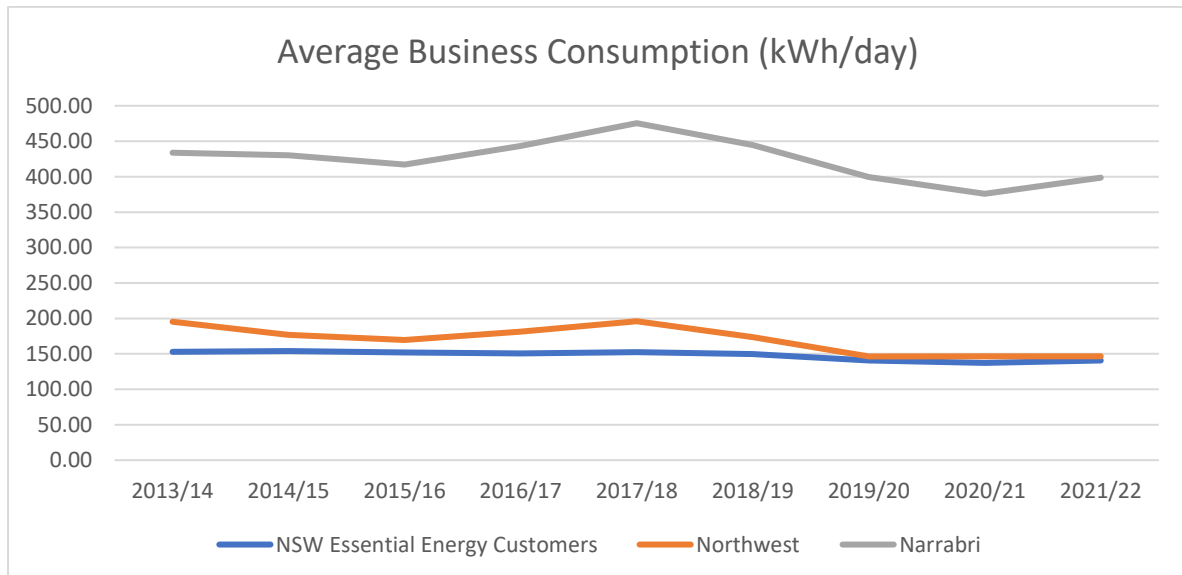
Currently a total of 44,081MWh/pa is exported from the region, likely at an average price of around 12c/kWh, generating about M\$5 of revenue for local residents.

Opportunity Three – Business Consumption Is High

Narrabri LGA’s annual electricity consumption by business customers is the tenth largest in the Essential Energy network, yet is ranked 120 out of 348 in the number of business customers in the network.



The average daily business consumption for the Northwest is consistent with the state average at 146kWh/day and NSW at 141kWh/day. However, the Narrabri LGA, has a massive average daily use of 398kWh/day.



The 1,055 business customers in the Narrabri LGA consumed 153,388 MWh/pa in 2021/22, with an average of 145MWh/pa. At a 30c/kWh tariff, the cost to the businesses community is over \$6M, with the average business paying \$43,600/pa in electricity costs.

In the Northwest the average business would be spending \$16,000/pa with a total of M\$98 leaving the region in electricity costs.



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