

Renewable Energy

IN THE WESTERN DOWNS



The Energy Capital of Queensland

Coal, gas, solar, wind and hydrogen powering the Western Downs economy

Why Western Downs?

Fantastic conditions for renewable energy production have made the Western Downs a leader in the field. It's why we currently boast \$4 billion worth of approved projects in the renewable energy sector (wind, solar, hydrogen) including \$2.4 billion under construction. That's nearly a quarter of Australia's investment in renewables right here. With constantly increasing interest in our region's energy capabilities there are growing opportunities that benefit the whole of our economy.

Opportunities for Local Business

Major projects provide excellent opportunities for business. Not only can they be lucrative, but they also help businesses grow by fine-tuning processes, training, gaining accreditation and providing valuable experience for future projects.

The construction phase of wind and solar farms provides hundreds of jobs for skilled and unskilled workers in construction, earthworks, electrical, concreting and more. Whereas the operational phase of these farms requires less staff but in more specialised fields. As more workers come to the region, opportunities open up for everyone including accommodation, retail, health and education.

To get the most from the energy sector, it's important to know a little more about it on a national, state and local level.

National Overview on Renewable Energy

As Australia makes the long-term transition from fossil fuels to renewable energy, the proportion of renewable energy in the electricity mix is increasing, almost doubling in the past five years from 16.9% in 2017 to 32.5% in 2021.

The next five years looks similar with investment in renewables projected to rise.

- Nationally there are 68 large scale projects under construction or financially committed as at end of 2021. This equates to more than 35,000 jobs and \$18 billion in investment
- Qld connected its first large-scale battery to the grid in 2021 when the 100MW/150MWh Wandoan South Battery came online in May.
- Skills shortages in clean energy occupations is being addressed nationally.



Experience Western Downs

It's the
people that
make it.



Clean Hydrogen Energy

The Western Downs region is excited to play its part in a globally significant hydrogen industry which will assist in decarbonising our economy. Nationwide, there are currently around 100 projects (valued at \$163 billion) involved in the commercial production of hydrogen. The Federal Government's \$464 million Clean Hydrogen Industrial Hubs Program together with the Queensland Government's Hydrogen Industry Strategy means there are many opportunities ahead for the Surat Basin.

Already a new hydrogen technology cluster has been established in Toowoomba within TSBE, in partnership with NERA (National Energy Resources Australia) and supported by the Queensland Government.

Hydrogen Projects Approved/Under Construction

The Western Downs is excited to play a part in the decarbonisation of our transport industry and supports the development at Kogan Creek. CS Energy in partnership with IHI Engineering is developing the Renewable Hydrogen Demonstration Plant which will include a solar farm, battery, hydrogen electrolyser, hydrogen fuel cell, hydrogen storage and outloading facility. CS Energy is also planning a refueller network that will form part of the Hydrogen Superhighway.



Australia

Net zero emissions by 2050



Queensland

is aiming for 50% renewable energy target by 2030



19.6% of QLD electricity generation came from renewables in 2021



64.251GWH QLD total generation of renewable energy



\$2 billion QLD's Renewable Energy Fund

Large scale renewable energy projects currently under construction in Queensland

2234 MW \$3476 million 3407 jobs

Wind

The Western Downs region has been identified as an ideal location for wind farms with its excellent wind resources, attractive grid connectivity and low environmental impact. \$7B in renewable developments are underway in region

Jobs

The construction phase of windfarms requires potentially hundreds of skilled workers in earthworks, construction, concreting, electrical, transport and labouring. The maintenance phase only requires around 20 or so full-time technical and site maintenance staff.

Completed Wind Farm

Coopers Gap Wind Farm – AGL

AGL's \$850 million Coopers Gap Wind Farm near Dalby is one of Australia's largest wind farms. It has a capacity of 453MW which powers around 264,000 homes.

Wind Farm Under Construction

Wambo Wind Farm – Cubico Sustainable Investments

Located near Jandowae this project is approved for 110 turbines with completion of first stage operational in 2024. The project will employ 200 workers during construction and 20 during maintenance operations. On completion will generate 500MW of electricity – enough to power 170,500 houses.

Projects Approved

Dulacca Wind Farm – RES Group

The RES Group's 240MW Dulacca Wind Farm is approved for 56 wind turbines. The site will also include a wind and battery energy storage facility.



Solar Energy Overview

The combination of topography, environmental conditions, legacy infrastructure and Council processes make the Western Downs a desirable location for large-scale solar farms. Currently there are four fully operational solar farms in the region:

PROJECT	LOCATION	COMPANY	MW
The Western Downs Green Power Hub	Hopeland	Neoen Australia	460MW
The Gangarri Solar Project	Wolebee	Shell Australia Pty Ltd	120MW
The Darling Downs Solar Farm	Dalby	APA	110MW
Chinchilla Solar Farm	Chinchilla	Diamond Energy	19.9MW

Western Downs Development Report and project websites

Western Downs Regional Council has approved 24 solar farms since 2016. A number of these are currently under construction, while others are just beginning the earthworks and construction phase. For a full list of solar farms in the Western Downs, refer to the Western Downs Development Status Report which is updated annually. Large scale solar general has grown from 5% in 2016 to 32% representing a 5-year growth rate of 1,573%.

Solar farms are distinguished from standard commercial solar installations by their size, location and purpose; solar farms are generally in the megawatt-scale as opposed to kilowatt-scale, they are ground mounted as opposed to roof mounted and they are either built to sell energy into the grid or to a designated purchaser. Commercial solar farms have a power purchase agreement (PPA) with either another entity such as a large energy consumer or electricity retailer, they may also sell energy into the National Energy Grid.



Jobs

Solar farming is a growth industry so it's worth finding out about careers in this sector. Most farms employ designers, engineers, installers, technicians, machine operators, sales staff and general labourers.

References

- QCMA Qld Major Projects Pipeline Report 2021
- Clean Energy Council and Clean Energy Australia Report 2022
- TSBE Western Downs Development Status Report 2024

REGIONAL PROFILE

Rich in natural resources, natural beauty and natural history, the Western Downs is the place to be. These natural strengths are supported by strong industry foundations across the agriculture, energy, manufacturing, and construction sectors. Together with significant and continuing investment in infrastructure and tourism, these have positioned the Western Downs as one of the highest performing local government areas in Queensland, and Australia.

Known as the Energy Capital of Queensland, the Western Downs is experiencing high economic growth, investment, consistently high employment and includes some 38,000km² of land. The region boasts an impressive \$4 billion worth of approved renewables, including \$2.4 billion under construction.

One of the greatest benefits of the location of the Western Downs is the connectivity and proximity to the supply chain and relevant markets.

Another is a connected labour pool resulting in good workforce relations and retention rates and a diversity of industries with high workforce attraction.

Western Downs Regional Council's Gross Regional Product was \$3.68 billion in the year ending June 2022, growing 12.4% since the previous year (economy.id)

Home to a growing population of more than 34,500 residents, the Western Downs offers contemporary technology and opportunities in a friendly regional location.

Modern facilities such as aquatic and fitness centres, art galleries, museums, cinemas and civic centres bring a metropolitan feeling to regional communities.

The region also offers residents accessibility to public and privately run medical and health care services including access to hospitals, medical centres, dental and other health care professionals.

The roll-out of the National Broadband Network (NBN) and increasing mobile and internet coverage has positively impacted the global connectivity of businesses, lifting productivity and profitability. Dalby is classified as 'Business Fibre Zone' providing business grade fibre at reduced wholesale prices.

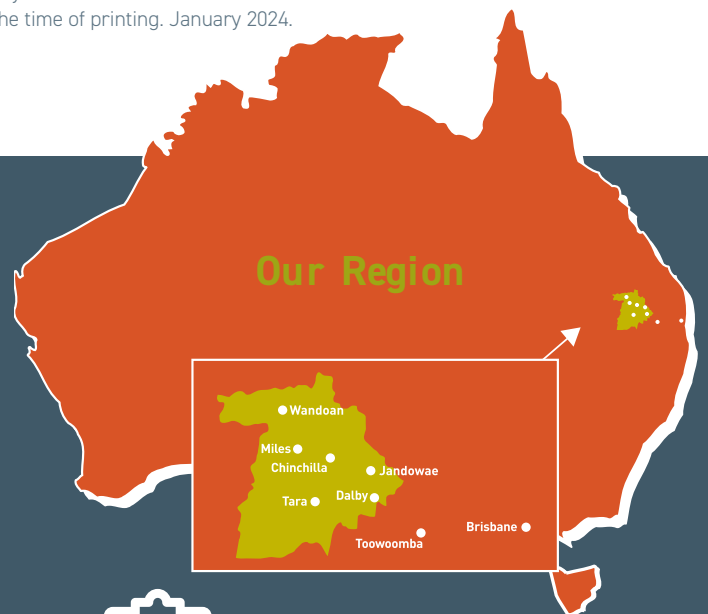
Residents enjoy a lower cost of living due to affordable housing (less than half of QLD average), ease of access to schools, work and retail outlets, with the NBN providing the network connectivity required for families and businesses to flourish.

It also offers a growing, diverse regional economy across agriculture, intensive agriculture, manufacturing, resources and renewable energy.

INNOVATION

Digital technologies create opportunity for growth and transformation. Technology is a continually evolving field and the Western Downs offers local businesses contemporary communication solutions via NBN access to stay connected and current.

The information and statistics included in this document are reliant on the accuracy of sources as listed and were accurate as at the time of printing. January 2024.



A SNAPSHOT



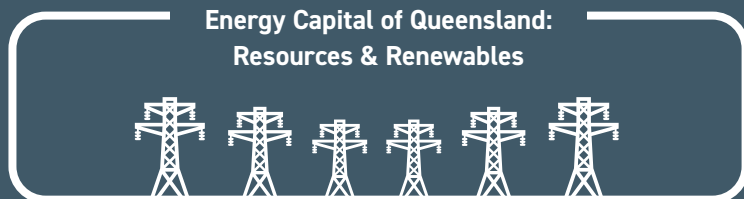
UNEMPLOYMENT RATE TRENDING LOWER THAN QLD AVERAGE



A SKILLED AND EXPERIENCED WORKFORCE



GRP: DOUBLED OVER 15 YEARS



DEVELOPMENT & DEVELOPERS SUPPORTED AND WELCOMED WITH WDRC PLANNING SCHEME



COMPARATIVELY STRONG INDUSTRY SUPPLY CHAINS PER CAPITA OF POPULATION

NBN

INNOVATION: NBN ROLLOUT = DIGITAL CONNECTIVITY & SPEED FOR YOUR BUSINESS

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AVERAGE DISPOSABLE INCOME \$3K HIGHER THAN QLD AVERAGE

Western Downs Regional Council

Postal Address
PO Box 551
Dalby, QLD 4405
E info@wdrc.qld.gov.au

P 1300 COUNCIL
Interstate +617 4679 4000
F +61 7 4679 4099
W www.wdrc.qld.gov.au