APPENDIX N ECONOMIC IMPACT ASSESSMENT

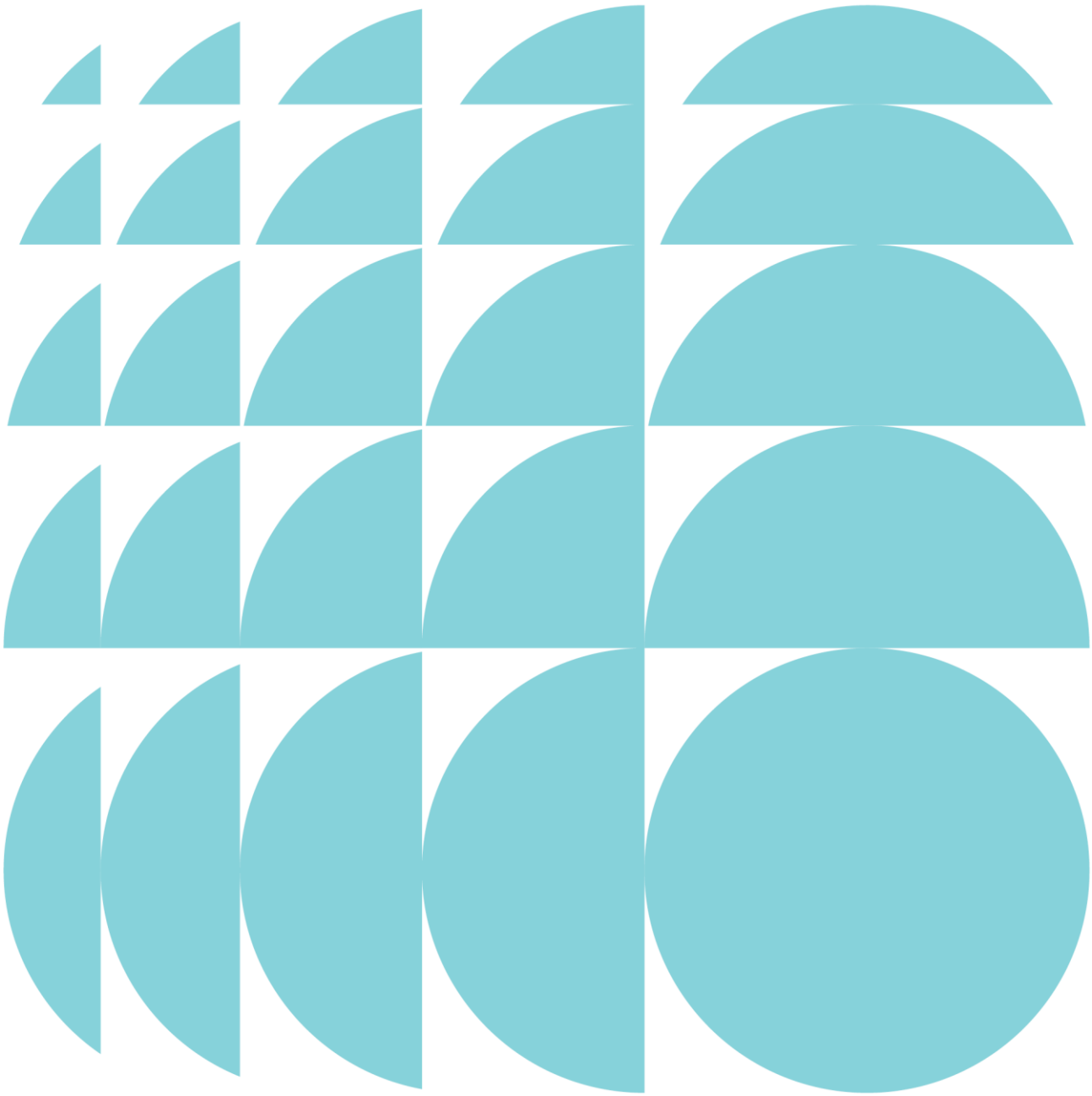
ETHOS URBAN

Culcairn Solar Farm

Economic Impact Analysis

EXTERNAL – FINAL

Prepared for Neoen



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Contents

Executive Summary

Neoen have commissioned Ethos Urban to prepare an Economic Impact Assessment for the proposed 350 MW Culcairn Solar Farm development to be located on Weeamera Road, approximately 5 km southwest of Culcairn in the Greater Hume Shire Local Government Area (LGA).

The solar farm will be located across a 1,300ha site and, subject to planning approval and financing, the facility is expected to be operational by late 2021.

The main findings of this study are summarised as follows.

Regional Economic Context

1 The Study Area has a resident population of 170,710 persons (2018), which is expected to reach 196,170 persons by 2036, representing a modest annual growth rate of 0.8% over the period, compared to the NSW growth rate of 1.2% p.a.

2 The Study Area currently has an unemployment rate of 5.5%, which is well above the NSW unemployment rate of 4.5% (March 2019). The Study Area currently includes 4,900 persons who are unemployed. In this regard, construction of the Culcairn Solar Farm Project provides new short-term employment opportunities for the region's labour force participants, with a small number of ongoing jobs also supported once the facility is operational.

3 The Study Area's occupational and business structures indicate a good base exists to service the needs of the Project, including 24,570 construction-related workers (based on occupation) and 3,430 construction and transport businesses.

4 The major regional cities/townships of Albury, Wagga Wagga and Wodonga have the capacity and labour force to service many aspects of the Project, with smaller settlements such as Culcairn, Holbrook, Jindera and Walla Walla likely to provide labour, accommodation and other general services to the Project.

Economic Impact Assessment

5 The Culcairn Solar Farm Project will involve approximately $640 million in investment during the construction phase and will support 350 FTE direct (on-site) and 560 FTE indirect (multiplier or flow-on) jobs over the construction period. Once operational, 7 FTE direct and 20 FTE indirect jobs will be supported by the facility.

6 While a number of major infrastructure projects are proposed for the Study Area (mainly solar farms), none has yet received planning approval, making cumulative impacts difficult to measure as construction timing is unknown for those projects that proceed. However, the Study Area has significant capacity in terms of construction-related workers (24,570 workers) and businesses (3,430 businesses) to manage multiple infrastructure projects concurrently.

7 The Project will provide significant participation opportunities for businesses and workers located in the Study Area, having regard for the good match of skills and resources available.

8 The 'external' Project labour requirement would be expected to generate an accommodation need for 250 workers at the peak of the Project. This represents less than 10% of total commercial accommodation rooms in the Study Area, with further capacity available in caravan parks, bed and breakfast accommodation, and private rentals (e.g. Airbnb). Noting relatively low room occupation rates in Albury / Wodonga (57%), the Project will support new

revenues for accommodation providers over the construction phase, especially in off-peak seasons.

9 Construction workers relocating to the region would inject an estimated $7.9 million in additional spending into the economy over the construction phase, supporting around 50 jobs in the service sector across the Study Area.

10 Agricultural impacts associated with the project are expected to be small, with a reduction of less than 1% of the Shire's agricultural land and farm gate output anticipated due to the operations of the solar farm. No net loss of jobs is expected, with new solar farm jobs replacing existing agricultural employment associated with the subject land (direct and indirect jobs). An opportunity exists for some sheep grazing to continue across the site.

11 Potential Council and community benefits include developer contributions and Community Fund payments, with an estimated value of $300,000 p.a.

12 Ongoing wage stimulus associated with the 'net' additional 3.5 FTE site workers (i.e. renewable energy generation v agricultural activities) is estimated at approximately $160,00 p.a.

13 The proponent will also make annual payments to host landowners to facilitate the solar farm project. However, these figures are personal and confidential and have not been included in this analysis.

14 The Project has the capacity to supply sufficient clean energy to power the equivalent of an estimated 105,000 homes, approximately 1.6 times the requirements of the Study Area (67,000 homes).

15 Once operational, the Culcairn Solar Farm could potentially support small-scale tourism and educational opportunities in the future.

Net Community Benefit Assessment

A summary of community outcomes is included in Table A.

Table A: Culcairn Solar Farm – Net Community Benefit Assessment (excluding landowner payments)

Factor	Value
Negative Community Outcomes	
Temporary loss of agricultural land (30 years)	-1,300 ha
Loss of employment (includes direct and indirect jobs)	-7.5 FTE jobs
Positive Community Outcomes	
Construction Phase	
Capital investment	+$640 million
Local investment (including wage stimulus)	*+$64.0 million (assumes 10% of total investment)*
Local employment (direct plus multiplier)	+285 FTE local jobs (over14-18 months)
Operational Phase	
Employment	
Local operational employment (includes direct and indirect jobs)	+11.0 FTE local jobs (for 30 years)
Economic Stimulus	
Community contributions – Community Fund, Developer Contributions etc – (adjusted for CPI)	+$13.2 million (over 30 years)
Net wage stimulus – (adjusted for CPI)	+$7.1 million (over 30 years)
Total net local economic stimulus (associated with operations)	*+$20.3 million (over 30 years)*
Total Economic Benefits (Construction and Operational Phases)	**+$84.3 million (over 30 years)**

Introduction

Background

Neoen have commissioned Ethos Urban to prepare an Economic Impact Assessment (EIA) for the proposed Culcairn Solar Farm development to be located on Weeamera and Cummings roads, approximately 5km southwest of Culcairn in the Greater Hume Local Government Area (LGA).

The proposed development will be situated on a 1,300ha site (Subject Site) which involves a number of private landholdings. The solar farm will have a capacity of 350 MW (at the point of connection) powered by approximately 1 million photovoltaics panels, with a 400W module rating. Subject to planning approval and financing, construction of the Culcairn Solar Farm is anticipated to start in mid-2020, with the facility expected to be fully operational by the end of 2021.

Objectives

The objectives of this EIA are:

- To highlight likely local and regional economic benefits arising from the Project.
- To identify potential economic impacts associated with the Project.

This Report

This report contains the following chapters:

Chapter 1: Project Context

Presents a description of site location, project components, policy context and definition of Study Area.

Chapter 2: Regional Economic Profile

Presents an overview of population, labour force, occupational structure, business structure and township services, including an audit of commercial accommodation in the Study Area.

Chapter 3: Economic Impact Assessment of Proposed Project

Presents an assessment of the anticipated economic impacts of the proposed development, including investment, employment, business participation, local wage stimulus, impact on accommodation, impact on agricultural activities, cumulative impacts, local economic stimulus, financial returns to Council and the community, and environmental benefits.

1 Project Context

1.1 Site Location

The proposed Culcairn Solar Farm (the Project) will be developed on a 1,300 ha site in the South-East Riverina area of NSW, which is well-connected to a number of major regional centres and towns located within a 1-hour drive from the Subject Site. These settlements are listed below (in order of population size):

- Wagga Wagga (NSW) – major regional city located approximately a 1-hour drive to the north of the Subject Site.
- Albury (NSW) – major regional city located approximately a 40-minute drive to the south of the Subject Site.
- Wodonga (VIC) – major regional city located approximately a 45-minute drive to the south of the Subject Site .
- Holbrook (NSW) – small town located approximately a 30-minute drive to the east of the Subject Site.
- Culcairn (NSW) – small town located approximately a 5-minute drive to the north-east of the Subject Site.
- Walla Walla (NSW) – small town located approximately a 10-minute drive south of the Subject Site
- Henty (NSW) – small town located approximately a 20-minute drive to the north-east of the Subject Site
- Jindera (NSW) – small town located approximately a 30-minute drive south-west of the Subject Site

These regional centres and townships, to differing extents, are likely to play important roles in supporting the requirements of the Project.

The Subject Site, which comprises a number of separate landholdings, is currently used for farming purposes (cropping and grazing) under the Rural Use 1 Zone (Primary Production).

The Culcairn Solar Farm will require planning approval by the NSW State Government as a State Significant Development (SSD).

1.2 Project Description

The Project is expected to include the following components:

- Single axis tracker photovoltaic solar panels mounted on steel frames over most of the site (maximum tilt 4.2m in height).
- Battery storage to store energy produced on site, with a maximum 100MW / 200MWh storage capacity.
- Underground and overground electrical conduits and cabling to connect the arrays to the inverters and transformers.

- Systems of invertor units and voltage step-up throughout the arrays.
- On-site substation, connecting to the existing 330 kV TransGrid transmission line.
- Site office and maintenance building, vehicle parking areas, internal access tracks, and perimeter security fencing.
- Site access track off Weeamera Road.
- Road crossing and easement electrical crossing through underground and/or overhead lines.

The Culcairn Solar Farm preliminary site layout is shown in Figure 1.1.

Figure 1.1: Culcairn Solar Farm – Preliminary Concept Plan

Source: Neoen

1.3 Policy Context

International agreements and government policy settings are important factors in influencing demand and investment in the renewable energy sector, as noted below.

Paris Climate Accord

The Paris Accord is a comprehensive international climate agreement to which Australia is a party. The Accord provides a framework for participating nations to set themselves nationally-determined contributions (NDCs) beginning in 2020, with review at five-year intervals. The agreement sets out a global consensus to limit temperature increases to below two degrees Celsius when compared to pre-industrial levels; an additional goal is to maintain this increase at less than one and a half degrees Celsius. NDCs do not have any set lower limit but are required to progress over time (beginning with the intended NDC pledged during the Paris conference), and to be 'ambitious'.

Australia's current targets are to achieve a reduction of emissions by 5% from 2000 levels by 2020, and by 26-28% below 2005 levels by 2030.

Federal Renewable Energy Target

The Renewable Energy Target (RET) is an Australian Government scheme designed to reduce emissions of greenhouse gases in the electricity sector and to encourage the additional generation of electricity from sustainable and renewable sources.

The RET works by allowing both large-scale power stations and the owners of small-scale systems to create certificates for every megawatt hour of power they generate. Certificates are then purchased by electricity retailers who sell the electricity to householders and businesses. These electricity retailers also have legal obligations under the RET to surrender certificates to the Clean Energy Regulator, in percentages set by regulation each year. This creates a market which provides financial incentives to both large-scale renewable energy power stations and to the owners of small-scale renewable energy systems.

In June 2015, the Australian Parliament passed the Renewable Energy (Electricity) Amendment Bill 2015. As part of the amendment bill, the large-scale RET was reduced from 41,000 GWh to 33,000 GWh in 2020, with interim and post-2020 targets adjusted accordingly.

NSW Renewable Energy Action Plan 2013

The NSW Renewable Energy Action Plan (2013) provides a framework to enable the State to meet the RET target through a range of 24 actions associated with:

- Attracting investment and projects
- Building community support
- Attracting and growing expertise in renewable energy technology.

While the NSW Government does not mandate a specific renewable energy target for the State, unlike Victoria and Queensland which both have 50% renewable energy targets by 2030, it does have an aspirational target of zero emissions by 2050.

The NSW Renewable Energy Action Plan Annual Report monitors implementation of the Plan and reports on progress to meeting the 2020 RET target. In December 2018, the NSW Government

completed the implementation of the Action Plan with the following actions of relevance to the solar sector noted:

- Contributed funding to Australia's first major solar farms at Nyngan and Broken Hill.
- Entered into a contract with the Beryl Solar Farm in the State's central west to use enough renewable energy to cover all of Sydney Metro Northwest's operational electricity needs.
- Provided targeted assistance to five solar farms with total capacity of 160 megawatts (MW) in Dubbo, Glen Innes, Griffith, Parkes and Manildra to leverage $34.9m from the Commonwealth's Australian Renewable Energy Agency (ARENA).
- Signed an agreement to buy renewable energy from the 24 MW Dubbo Solar Hub which underpinned the project reaching financial close and beginning construction.
- Introduced a streamlined approach to the assessment of solar projects without compromising environmental standards or community engagement.
- Helped 20 businesses in NSW plan to achieve 100% renewable energy use and reduce their emissions through the Clean Energy Strategies for Business program.
- Supported the University of Technology Sydney, Institute for Sustainable Futures' Network Opportunity Maps, which highlight where renewable energy, energy storage and demand management can be used to meet network constraints.
- Commissioned research by the Australian Photovoltaics Institute that revealed at least a quarter of the roof space in Sydney's inner city is available for solar panels.
- Appointed a dedicated advocate for renewable energy within government to oversee delivery of the Plan.

NSW Large Scale Solar Energy Guidelines 2018

The final version of the NSW Large Scale Solar Energy Guidelines were recently issued by the NSW Government. Page 12 notes the following:

> *"Social and economic impacts: Impacts, both positive and negative (including how they are distributed), of the proposed development on potentially affected people and groups. This includes workforce accommodation, job creation opportunities, and flow-on economic impacts to local communities."*

This EIA report addresses these impacts.

1.4 Study Area

The Study Area for the Project has been defined in terms of the following local and regional catchments (based on Local Government Areas (LGAs)):

Local

- Greater Hume Shire LGA

Regional

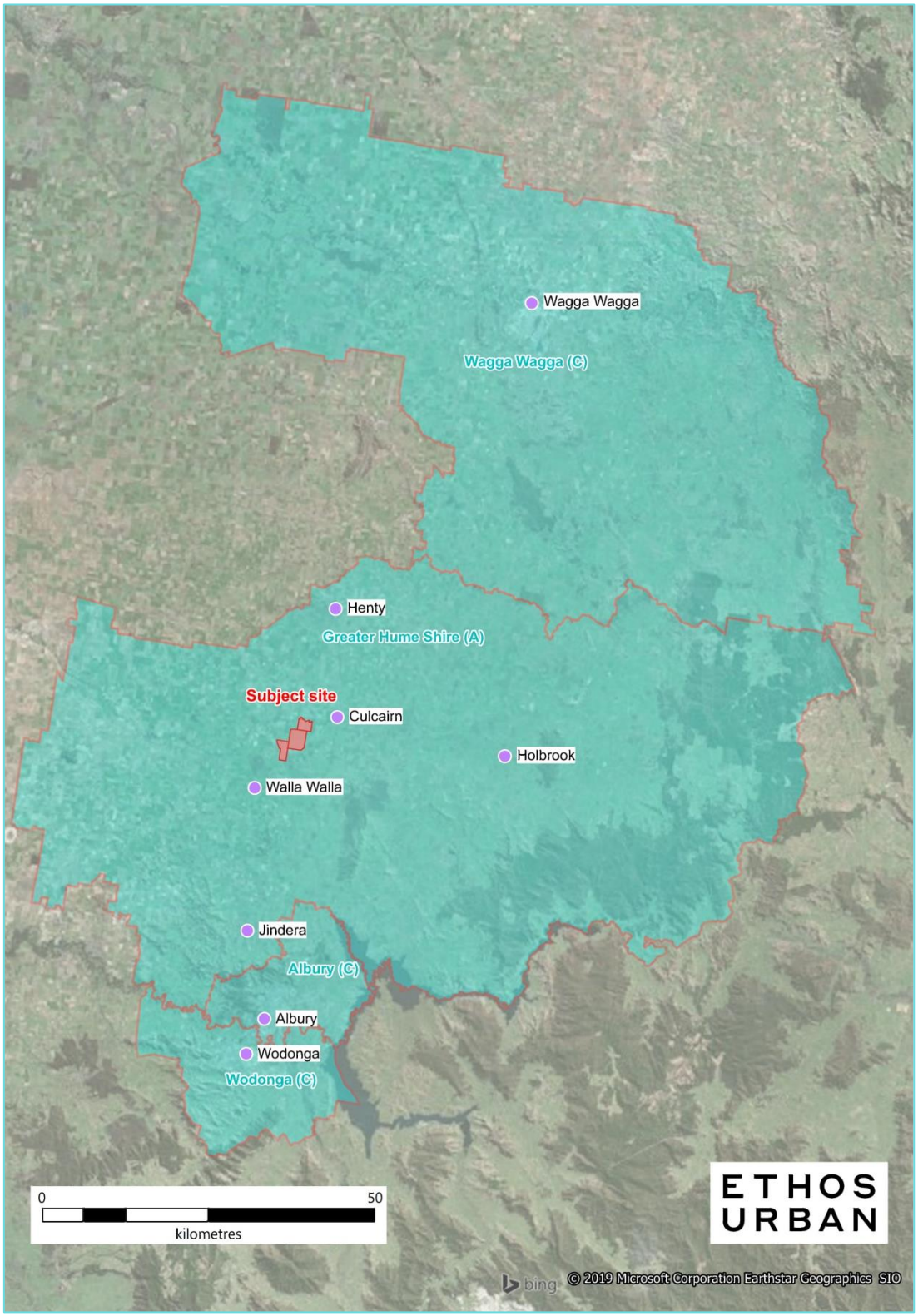
- Albury City Council
- Wodonga City Council
- Wagga Wagga City Council

The main regional cities/townships/settlements in the Study Area are all located within a 1-hour drive of the Subject Site.

The Study Area's local and regional communities, to differing extents, have the potential to contribute to the Project and derive economic benefits from both the construction and ongoing phases of the Project.

The Study Area is illustrated in Figure 1.2.

Figure 1.2: Culcairn Solar Farm – Study Area



Source: Ethos Urban using Mapinfo, StreetPro, BingMaps

1.5 Summary

1 Neoen is proposing the construction of the 350 MW Culcairn Solar Farm located approximately 41km north of Albury and 5km south of Culcairn, in the South-East Riverina area of New South Wales.

2 The solar farm facility will be located across a several properties totalling approximately 1,300ha of agricultural land, which is currently used for a mix of cropping and grazing.

3 Subject to planning approval, grid connection approval, and financing, it is anticipated construction of the solar farm could start in mid-2020, and the facility may be operational by late-2021.

4 Federal (Paris Climate Accord and RET) and state (NSW Renewable Energy Action Plan) policies provide guidance for the renewable energy sector in the short- to medium-term.

5 This EIA will provide an understanding of potential economic benefits arising for the local and regional economies and communities through the construction and operational stages of the Culcairn Solar Farm Project, as well as any other impacts associated with the Project.

2 Regional Economic Profile

2.1 Population

The population of the Study Area totalled 170,690 persons as of June 2018 (ABS Estimated Resident Population, 2019), including 10,690 persons located in Greater Hume Shire.

Over the period 2018-2036, annual population growth in the Study Area is expected to be a modest +0.8% pa (or +25,470 persons over 18 years) compared to the Victorian and New South Wales growth rates of 1.7% and 1.2% p.a. respectively over this period. Of note is the static population forecast for Greater Hume Shire, with projections showing no population growth is forecast in the Shire over the period to 2036. This highlights the need for investment projects which provide new employment opportunities for local residents and alternative income streams for local farmers. Both these factors will contribute to retaining, and potentially expanding, population within the Shire.

The proposed Neoen Solar Farm will provide drought- proofed, guaranteed income to the host farms for 30 years. Importantly, the construction and operational phases of the Project will provide an economic stimulus (additional jobs, project contracts, new spending etc) to the local economy, as well as supporting the emergence of the region's renewable energy sector.

Population estimates, which are shown in Table 2.1, are based on official population forecasts prepared by the Victorian and New South Wales governments.

Table 2.1: Population – Study Area, 2018-2036 (No. of Persons)

Municipality	2018	2036	Change 2018-36	AAGR 2018-36
Greater Hume Shire	*10,690*	10,640	-50	**0.0%**
Albury City Council	53,770	60,910	7,140	0.7%
Wagga Wagga City Council	64,820	75,450	10,630	0.8%
Wodonga City Council	41,430	49,170	7,740	1.0%
Study Area	**170,710**	**196,170**	**25,460**	**0.8%**
New South Wales	**7,988,240**	**9,925,550**	**1,937,310**	**1.2%**
Victoria	**6,460,680**	**8,722,770**	**2,262,090**	**1.7%**

Sources: ABS, 3218.0 *Regional Population Growth, Australia*; Department of Environment, Lands, Water and Planning – *Victoria in Future 2019*; Department of Environment and Planning – *NSW State and Local Government Population Projections 2016*

Notes: AAGR = Annual Average Growth Rate
Figures rounded

2.2 Labour Force

As of March 2019 (latest available) the local catchment (Greater Hume Shire) had an unemployment rate of 3.1% which is well below the NSW average of 4.5%. However, the Study Area overall had an unemployment rate of 5.5%, which is higher than both Victoria (4.8%) and NSW (4.5%).

The Study Area currently has approximately 4,900 job seekers who are unemployed, including 180 unemployed jobs seekers in the Greater Hume Shire.

The Culcairn Solar Farm Project is likely to require 500 Full Time Equivalent (FTE) workers (at peak), with approximately half of these workers likely to be sourced locally or from within the broader region, providing new opportunities for unemployed job seekers (subject to appropriate skills match).

In the context of the Study Area's large labour market comprising 89,270 persons as shown in Table 2.2, the construction phase of the Project is unlikely to cause labour supply issues, rather provide new short-term opportunities for labour force participants.

These labour supply factors are further explored in Chapter 3.

Table 2.2: Labour Force – Study Area, March 2019 (No. of Persons)

Municipality / Area	Employed	Unemployed	Total Labour Force	Unemployment Rate
Greater Hume Shire	*5,465*	*180*	*5,645*	*3.2%*
Albury City Council	25,910	2,200	28,115	7.8%
Wagga Wagga City Council	33,510	1,610	35,120	4.6%
Wodonga City Council	19,490	905	20,390	4.4%
Study Area	**84,375**	**4,895**	**89,270**	**5.5%**
New South Wales	**4,045,500**	**190,500**	**4,236,000**	**4.5%**
Victoria	**3,324,200**	**166,200**	**3,490,400**	**4.8%**

Source: Australian Government Department of Employment, *Small Area Labour Markets,* March Quarter 2019
Figures rounded to nearest 5

2.3 Occupational Structure

The skills base of the Study Area is reflected in its occupational structure, as shown in Table 2.3. ABS Census data for 2016 shows 32.6% of Study Area workers were occupied in activities generally associated with the types of skills required for the construction of a solar farm (i.e. technicians and trades workers, machinery operators and drivers, and labourers).

The Study Area's representation in these occupations is well above State averages of 28.0% in Victoria and 27.6% in New South Wales, indicating a generally suitable occupational base for the proposed Project.

In total numbers, approximately 24,570 workers in the Study Area are occupied in construction-related activities, highlighting the strong worker base available to support the Project.

Table 2.3: Occupational Structure – Study Area, 2016

	Greater Hume Shire (A)		Albury (C)		Wagga Wagga (C)		Wodonga (C)		Study Area		Victoria		New South Wales	
Occupation Type	**No.**	**Share**	**No.**	**Share**	**No.**	**Share**	**No.**	**Share**	**No.**	**Share**	**No.**	**Share**	**No.**	**Share**
Managers	1,087	23.5%	2,508	11.0%	3,629	12.2%	1,917	10.5%	**9,141**	**12.1%**	**369,922**	**13.5%**	**456,086**	**13.5%**
Labourers	554	12.0%	2,324	10.2%	3,070	10.3%	2,041	11.2%	**7,989**	**10.6%**	**247,428**	**9.0%**	**297,888**	**8.8%**
Technicians and Trades Workers	638	13.8%	3,364	14.7%	4,671	15.7%	3,024	16.6%	**11,697**	**15.5%**	**358,746**	**13.1%**	**429,235**	**12.7%**
Professionals	617	13.4%	4,500	19.7%	5,874	19.7%	2,965	16.3%	**13,956**	**18.5%**	**636,220**	**23.3%**	**798,128**	**23.6%**
Clerical and Administrative Workers	520	11.3%	3,004	13.1%	3,657	12.3%	2,296	12.6%	**9,477**	**12.5%**	**363,215**	**13.3%**	**467,982**	**13.8%**
Community and Personal Service Workers	444	9.6%	2,819	12.3%	3,868	13.0%	2,395	13.1%	**9,526**	**12.6%**	**289,342**	**10.6%**	**350,259**	**10.4%**
Machinery Operators and Drivers	347	7.5%	1,535	6.7%	1,627	5.5%	1,378	7.6%	**4,887**	**6.5%**	**159,191**	**5.8%**	**206,840**	**6.1%**
Sales Workers	339	7.3%	2,508	11.0%	3,063	10.3%	1,887	10.4%	**7,797**	**10.3%**	**265,142**	**9.7%**	**311,413**	**9.2%**
Not stated /inadequately described	72	1.6%	332	1.5%	375	1.3%	310	1.7%	**1,089**	**1.4%**	**46,923**	**1.7%**	**62,509**	**1.8%**
Total	**4,618**	**100.0%**	**22,894**	**100.0%**	**29,834**	**100.0%**	**18,213**	**100.0%**	**75,559**	**100.0%**	**2,736,129**	**100.0%**	**3,380,340**	**100.0%**

Source: ABS, *Census of Population and Housing,* 2016

2.4 Business Structure

A tangible benefit of a major investment project, such as the proposed Culcairn Solar Farm, is the extent to which local businesses can participate in the Project through project contracts and other service provision.

ABS Business Count data for 2018 (latest available) shows the Study Area includes 2,640 construction businesses and a further 790 businesses associated with transport, postal and warehousing service, with these two sectors contributing 3,430 businesses or 23.9% of all businesses located in the Study Area (numbers rounded).

This data, which is shown in Table 2.4, indicates a strong presence in the Study Area of the types of firms that are likely to be well-placed to service aspects of the Project. This opportunity is explored in more detail in the following Chapter.

Table 2.4: Business Structure – Study Area, 2018

	Greater Hume Shire (A)		Albury (C)		Wagga Wagga (C)		Wodonga (C)		Study Area	
Industry Sector	**No.**	**Share**	**No.**	**Share**	**No.**	**Share**	**No.**	**Share**	**No.**	**Share**
Agriculture, Forestry and Fishing	704	51.2%	247	5.4%	870	15.8%	204	7.1%	2,025	14.1%
Mining	3	0.2%	6	0.1%	5	0.1%	3	0.1%	17	0.1%
Manufacturing	29	2.1%	195	4.2%	190	3.5%	147	5.1%	561	3.9%
Electricity, Gas, Water and Waste Services	3	0.2%	140	3.0%	16	0.3%	44	1.5%	203	1.4%
Construction	**145**	**10.6%**	**810**	**17.5%**	**992**	**18.0%**	**692**	**24.1%**	**2,639**	**18.4%**
Wholesale Trade	28	2.0%	154	3.3%	153	2.8%	64	2.2%	399	2.8%
Retail Trade	48	3.5%	268	5.8%	276	5.0%	165	5.7%	757	5.3%
Accommodation and Food Services	37	2.7%	211	4.6%	220	4.0%	105	3.6%	573	4.0%
Transport, Postal and Warehousing	**78**	**5.7%**	**248**	**5.4%**	**307**	**5.6%**	**156**	**5.4%**	**789**	**5.5%**
Information Media and Telecommunications	0	0.0%	21	0.5%	22	0.4%	10	0.3%	53	0.4%
Financial and Insurance Services	58	4.2%	402	8.7%	560	10.2%	221	7.7%	1,241	8.6%
Rental, Hiring and Real Estate Services	79	5.7%	554	12.0%	550	10.0%	306	10.6%	1,489	10.4%
Professional, Scientific and Technical Services	54	3.9%	434	9.4%	356	6.5%	254	8.8%	1,098	7.6%
Administrative and Support Services	13	0.9%	133	2.9%	148	2.7%	81	2.8%	375	2.6%
Public Administration and Safety	3	0.2%	24	0.5%	16	0.3%	13	0.5%	56	0.4%
Education and Training	8	0.6%	59	1.3%	59	1.1%	31	1.1%	157	1.1%
Health Care and Social Assistance	20	1.5%	363	7.9%	388	7.1%	165	5.7%	936	6.5%
Arts and Recreation Services	10	0.7%	44	1.0%	48	0.9%	29	1.0%	131	0.9%
Other Services	46	3.3%	269	5.8%	290	5.3%	180	6.3%	785	5.5%
Currently Unknown	6	0.4%	33	0.7%	34	0.6%	18	0.6%	91	0.6%
Total	**1,374**	**100.0%**	**4,616**	**100.0%**	**5,498**	**100.0%**	**2,877**	**100.0%**	**14,365**	100.0%

Source: ABS, *Counts of Australian Businesses*, including Entries and Exits, June 2014 to June 2018

2.5 Township Services Capacity

Commercial Accommodation

The ability to accommodate non-local workers (i.e. those who are not resident in the Study Area or not living within a daily commutable distance) is a key consideration for major construction projects, especially in regional and rural areas underpinned by agricultural activity that are subject to seasonal demand for labour (e.g. harvesting) or have a strong tourism sector. Concurrent infrastructure projects also need to be considered when assessing the adequacy of accommodation for a particular construction project (and this is noted in section 3.3).

As Table 2.5 highlights, the Study Area has a good supply of commercial accommodation as measured by the ABS Tourism Accommodation series for June Quarter 2016 (latest available, series now discontinued). This data, which identifies supply for hotels, motels and apartments with 15 rooms or more for LGAs located in the Study Area (excluding Greater Hume Shire which is not included in the series), shows these areas contained 69 establishments and at least 2,385 rooms as of June 2016.

Room occupancy rates in the Study Area at 61% are below average compared to the Victorian and New South Wales average room occupancy rates of 68% and 66% respectively, indicating the Project will boost the commercial accommodation sector, especially during off-peak periods.

Accommodation requirements and impacts associated with the Project are further discussed in section 3.5.

Table 2.5: Hotel, Motel and Apartments Accommodation (with 15 Rooms or more) – Study Area, June Quarter 2016

	No. of Establishments	No. of Rooms	Room Nights Available	Room Nights Occupied	Room Occupancy Rate
Greater Hume Shire (A)	n/a	n/a	n/a	n/a	n/a
Albury (C)	32	1,125	102,375	58,428	57.1%
Wagga wagga (C)	30	1,012	92,092	61,220	66.5%
Wodonga (C)	7	248	22,568	12,285	54.4%
Study Area	**69**	**2,385**	**217,035**	**131,933**	**61%**
Victoria	**849**	**48,038**	**4,334,887**	**2,969,149**	**68%**
New South Wales	**1424**	**75,235**	**6,783,071**	**4,499,756**	**66%**

Source: ABS, *Tourism Accommodation*, Australia 2015-16

An audit of commercial accommodation in Greater Hume Shire has been undertaken for this EIA, with the results included in Table 2.6. The audit shows 14 commercial establishments and approximately 185 rooms are located in hotels and motels within the Shire. Holbrook contains the majority of the Shire's commercial accommodation, with Culcairn the only other township providing more than one establishment. While demand is likely to include all townships in the Shire, Culcairn (due to proximity) and Holbrook (due to stock levels) are likely to be key providers of workforce accommodation for the Project.

Table 2.6: Hotels and Motels by Establishments and Rooms – Greater Hume Shire, 2019

	No. of Establishments	No. of Rooms
Culcairn	2	29
Gregory	1	6
Henty	1	14
Holbrook	7	117
Jindera	1	4
Woomargama	1	9
Walla Walla	1	6
Greater Hume Shire	**12**	**185**

Source: https://www.visitgreaterhume.com.au/accommodation/motels-hotels; https://www.wotif.com/Culcairn-Hotels.d6347158.Travel-Guide-Hotels; https://www.tripadvisor.com.au/Hotels-g528945-Culcairn_New_South_Wales-Hotels.html; https://www.expedia.com.au/Culcairn-Hotels.d6347158.Travel-Guide-Hotels

In addition to commercial accommodation outlined above, the Study Area also provides a range of additional options which might be used for worker accommodation, including:

- Caravan/ Holiday parks providing cabins/powered sites
- Private apartments and townhouses
- Airbnb
- Bed and Breakfast facilities
- Guest houses
- Farm stays
- Pubs/hotels.

Private Accommodation

Private accommodation is often used to support construction worker needs through the leasing of holiday homes and investment properties, either privately or through real estate agents. In this regard, ABS Census data for 2016 indicates the Study Area has an above-average level of vacant dwellings. As Table 2.7 shows, 10.5% of Study Area dwellings were unoccupied at the Census, which is below the average for Victoria (11.7%) but above the average for New South Wales (9.9%). This data indicates potential private accommodation opportunities will be generated for homeowners in the region (given the majority of vacant dwellings are in New South Wales) and more locally, noting Greater Hume Shire has a high unoccupied dwelling rate of 14.3%. While dwellings may be vacant for a number of reasons (e.g. undergoing renovation or for sale, etc), it is likely that a share of these vacant dwellings would be available for rental to the project's construction workforce.

Shared accommodation is one potential option for the Project, and this is further explored in section 3.5.

Table 2.7: Unoccupied Dwellings – Study Area, June 2016 (No.)

	Occupied Dwellings	Unoccupied Dwellings	Total Dwellings	Unoccupied Dwelling Share
Greater Hume Shire (A)	3,700	616	4,316	14.3%
Albury (C)	19,492	2,489	21,981	11.3%
Wagga Wagga (C)	22,394	2,537	24,931	10.2%
Wodonga (C)	14,262	1,363	15,625	8.7%
Study Area	**59,848**	**7,005**	**66,853**	**10.5%**
Victoria	**2,112,699**	**278,629**	**2,391,328**	**11.7%**
New South Wales	**2,604,320**	**284,741**	**2,889,061**	**9.9%**

Source: ABS, *Census of Population and Housing*, 2016

Township Services

In addition to accommodation, workers locating temporarily to the Study Area will require a wide range of other convenience services, and the Project will also need to source trade, equipment hire, vehicle mechanical services, and other services from businesses located in the immediate region.

The following sections provide an overview of the services located in the regional centres and main townships..

Albury

Albury, with a population of approximately 48,000 persons (Significant Urban Area), is the largest town in the Study Area and, as such, provides an extensive range of services likely to be required to support a major infrastructure project such as the proposed solar farm. Albury is located approximately 40 km south of the Subject Site or a 35-minute drive via the Olympic and Hume Highways. Albury's key services include:

- Albury Airport (with direct flights to Melbourne and Sydney)
- Significant range of commercial and private accommodation, including 26 motels and two caravan parks
- Construction and civil engineering firms (numerous)
- Trade Suppliers (Bunnings Warehouse, Trade Link etc)
- Freight and transport services (numerous)
- Wide range of automotive mechanics
- Engineering services (numerous)
- All major fuel suppliers
- Significant retail services, including major shopping centres and department stores
- Wide range of cafes and restaurants
- Entertainment (hotels, clubs, sports and recreational facilities)

- All major banks and financial institutions
- Real estate agents (numerous)
- Employment agencies (numerous)
- Medical and emergency services, including Albury Hospital, which has a 24-hour emergency department.

Wodonga

Wodonga has a population of approximately 35,130 persons (Significant Urban Area) and, like Albury, provides considerable support services for major infrastructure projects. Wodonga is located approximately 45 km south of the Subject Site, or a 40-minute drive via the Olympic and Hume Highways. Wodonga's key services include:

- Good range of commercial and private accommodation, including eight motels and two caravan parks
- Construction firms (numerous)
- Trade Suppliers (Dalhsens, Trade Link, Bunnings Warehouse)
- Freight and transport services (numerous)
- Wide range of automotive mechanics
- Engineering services (numerous)
- All major fuel suppliers
- Significant retail services, including major shopping centres and department stores
- Wide range of cafes and restaurants
- Entertainment (hotels, clubs, sports and recreational facilities)
- All major banks and financial institutions
- Real estate agents (numerous)
- Employment agencies (numerous)
- Medical and emergency services including the Wodonga Hospital, which has a 24-hour emergency department.

Wagga Wagga

Wagga Wagga has a population of approximately 48,300 persons (Urban Centre/Locality) and provides a good range support services for major infrastructure projects. Wagga Wagga is located approximately 70 km north-east of the Subject Site or a one-hour drive via the Olympic Highway. Wagga Wagga's key services include:

- Wagga Wagga Airport (with direct flights to Melbourne and Sydney)
- Good range of commercial and private accommodations options, including 18 motels and seven caravan parks

- Construction-related services
- Freight and transport services (numerous)
- Trade supplies (Bunnings Warehouse, Wagga Trade Supplies etc.)
- Fuel supplies
- Cafes, bakeries and restaurants
- Entertainment (hotels, clubs, sports and recreational facilities)
- Retail services, including major supermarkets and pharmacies
- Real estate agents (numerous)
- Employment agencies (numerous)
- Most major banks and financial institutions
- Good range of medical facilities, including Wagga Wagga Hospital, which has a 24-hour emergency department.

Culcairn

Culcairn has a population of approximately 1,470 persons (State Suburb) and provides a range of convenience services which could support the proposed Project. Culcairn is located approximately 5 km north of the Subject Site or a 10-minute drive via Walbunde Road. Culcairn's key services include:

- Accommodation (Culcairn Hotel, Culcairn Motel and Culcairn Caravan Park)
- Supermarket (FoodWorks)
- Take away, bakeries and cafes
- Pub
- Pharmacy
- Post office
- Newsagent
- Hairdresser

Culcairn Quarry is located on the outskirts of the town.

Henty

Henty has a population of approximately 1,240 persons (State Suburb) and provides a small range of convenience services which could support the proposed Project. Henty is located approximately 25 km north of the Subject Site or a 20-minute drive via Olympic Highway/ Walbunde Road. Henty's key services include:

- Accommodation (Henty Hotel and Henty Caravan Park)

- Service Station
- Supermarket (IGA)
- Bakery
- Pub
- Pharmacy.

Holbrook

Holbrook has a population of approximately 1,715 persons (State Suburb) and provides a wide range of convenience services, especially accommodation, which could support the proposed Project. Holbrook is located approximately 35 km east of the Subject Site or a 30-minute drive via Culcairn-Holbrook Road. Holbrook's key services include:

- Accommodation:
  - Holbrook Motel
  - Holbrook Motor Village
  - Byer Fountain Motor Inn
  - Jolly Swagman
  - Riverina Hotel
  - Holbrook SKYE Motel
  - Holbrook Settlers Motel
- Service station
- Automotive mechanic
- Supermarket (IGA)
- Take away, bakeries and cafes
- Restaurants
- Pubs
- Pharmacy
- Banks
- Post office
- Newsagent
- Hairdresser
- Hospital.

Jindera

Jindera has a population of approximately 2,220 persons (State Suburb) and provides a good range of convenience services which could support the proposed Project. Jindera is located approximately 35 km south of the Subject Site or a 30-minute drive via Walla Walla. Jindera's key services include:

- Accommodation (Jindera Hotel Motel, Jindera Park and Lake Hume Tourist Park)
- Service Station / convenience store
- Supermarket (IGA)
- Banks
- Take away, bakeries and cafes
- Pubs
- Pharmacy / health services
- Butchers
- 24-hour gym
- Post office
- Newsagent
- Hairdresser

Walla Walla

Walla Walla has a population of approximately 840 persons (State Suburb) and provides a small number of convenience services which could support the proposed Project. Walla Walla is located approximately 15 km south of the Subject Site or a 20 minute drive via Lookout Road/Walbunde Road. Walla Walla's services include:

- Accommodation (Walla Walla Hotel Motel)
- Newsagent/supermarket/post office
- Motor mechanics
- Café
- Pharmacist.

2.6 Conclusions

The key findings of this Regional Economic Profile are as follows:

1 The Study Area has a resident population of 170,710 persons (2018) and this, is expected to reach 196,170 persons by 2036, representing a modest annual growth rate of 0.8% over the period, compared to the Victorian growth rate of 1.7% p.a. and the NSW growth rate of 1.2% p.a.

2 The Study Area currently has an unemployment rate of 5.5%, which is well above the Victorian unemployment rate of 4.8% and NSW's at 4.5% (March 2019). The Study Area currently includes 4,900 persons who are unemployed. In this regard, construction of the Culcairn Solar Farm Project provides new short-term employment opportunities for the region's labour force participants, with a small amount of ongoing employment also supported once the facility is operational.

3 The Study Area's occupational and business structures indicate a good base exists to service the needs of the Project, including 24,570 construction-related workers (based on occupation) and 3,430 construction and transport businesses.

4 The major regional cities/townships of Albury, Wagga Wagga and Wodonga have the capacity and labour force to service many aspects of the Project, with smaller settlements such as Culcairn, Holbrook and Jindera also likely to provide labour, accommodation and other general services to the Project.

3 Economic Impact Assessment

3.1 Project Investment

The total construction cost for the Culcairn Solar Farm Project is estimated to be approximately $640 million, according to information provided by Neoen. Major investment costs are associated with the purchase of PV panels and associated equipment, although significant investment is also required for civil, electrical and grid connection works.

3.2 Project Employment

Construction Phase

Project employment is assessed in terms of direct jobs (i.e., site-related) and indirect (or flow-on) jobs in the local and wider economies (i.e., jobs that are generated through the industrial and consumption impacts of the initial investment).

Direct Construction Employment

Neoen indicate 350 FTE jobs will be generated over the construction phase, which is expected to be approximately 14-18 months. This estimate is based on the generation of 1 FTE position for every 1MW of installed capacity, which is consistent with major utility-scale projects of this type. At the Project's peak approximately 500 FTE positions will be supported.

Construction-related jobs are expected to be associated with a wide-range of on and off-site activities, including:

- Installation of PV support structures
- Vehicle and equipment hire
- Earthworks
- Foundations
- Engineering services
- Roads and access tracks
- Transport and logistics
- Assembly and installation of PV panels
- Electrical works (cabling and connections)
- Installation of monitoring equipment
- Fencing
- Landscaping
- Security
- Waste disposal

- Business and financial services
- Administrative services.

As indicated in Chapter 2, the business structure of the Study Area indicates that a good mix of these types of services is available, principally in Albury, Wagga Wagga and Wodonga. It is reasonable to expect, therefore, that local and regional businesses will be well-positioned to secure contracts during the construction phase of the Project.

Indirect Construction Employment

In addition to direct employment, significant employment will be generated indirectly through the employment multiplier effect. By applying an industry-standard multiplier for the construction industry of 1.6 (based on ABS Type B multipliers), the Project is estimated to generate an additional 560 FTE jobs over the construction period.

Indirect or flow-on jobs (which captures industry and consumption effects) include those supported locally and in the wider economy (including in other states), as the economic effects of the capital investment flow through the economy. Indirect employment creation in local and regional economies would include jobs supported through catering, accommodation, trade supplies, fuel supplies, transportation, food and drink etc. For the purposes of this assessment, it is assumed 20% of indirect jobs or 110 FTE jobs (rounded) are supported in the Study Area.

Total Construction Employment

In summary, approximately 910 FTE jobs (350 FTE direct jobs and 560 FTE indirect jobs) are expected to be generated by the Culcairn Solar Farm Project during the 14-18-month construction phase.

The amount of direct local employment required for the Project is estimated by the proponent to be approximately 175 FTE jobs (50% of total employment), with a further 110 FTE jobs supported indirectly in the Study Area. This number of workers represents only 1% of the Study Area's labour force occupied in construction-related activities (24,570 workers) and this should not present a constraint to labour supply for the Project.

Operational Phase

Direct Operational Employment

Neoen indicate that seven FTE jobs will be supported locally on an ongoing basis through the operation and maintenance of the Culcairn Solar Farm. These local (on-site) jobs will include site management, and land and vegetation management.

Indirect Operational Employment

A number of additional jobs will also be supported indirectly through the employment multiplier effect. By applying an industry-standard multiplier for the electricity industry of 2.9 (based on ABS Type B multipliers) to the direct operational and maintenance jobs, a further 20 permanent FTE jobs (rounded) would be generated in the wider State and national economies, with some of these jobs would be generated locally through existing supply chains.

Operational-related employment is for the lifetime of the Project (i.e., at least 30 years); therefore, while job creation is relatively small, it represents new long-term employment opportunities at a local, regional and national level.

For the purposes of this assessment it is assumed that 20% of indirect operational jobs are created in the Study Area. This equates to approximately 4 ongoing FTE positions.

Total Operational Employment

In summary, approximately 11 FTE jobs (7 FTE direct and 4 FTE indirect) are expected to be generated by the Culcairn Solar Farm Project in the Study Area.

3.3 Cumulative Effects Assessment

The Culcairn Solar Farm Project may need to compete for labour, accommodation and other resources with other proposed major infrastructure projects in the Study Area. Identified projects include:

- Hurricane Hill Quarry, Culcairn – potential expansion in quarry output (rhyodacite rock) from 250,00 tonnes pa to 750,000 tonnes pa (Boral).
- Walla Walla Solar Farm – 300 MW facility (Fotowatio Renewable Ventures)
- Jindera Solar Farm – 130 MW facility (Green Switch Australia/Jindera Solar Farm Pty Ltd)
- Glenellen Solar Farm – 200 MW facility (CWP Renewables/Glenellen Solar Farm Pty Ltd)

In relation to these projects, the following is noted:

- The Study Area has significant capacity in terms of construction-related workers (24,570 workers) and businesses (2,640 businesses).
- The Study Area currently contains 4,900 unemployed labour force participants, some of whom may be employed on major projects (subject to suitable skills mix).
- Expansion of quarries generally require only small numbers of construction workers and additional operational workers.

With regard to the potential major solar farm projects proposed in Greater Hume Shire, it is important to recognise it is unlikely all four solar projects will be constructed concurrently, due to the following factors:

- None of the four projects has yet achieved planning approval.
- Once planning approval is granted, project construction is subject to factors such as securing network connection, attracting end-customers and project finance. Without these key elements in place, projects of this scale and nature generally cannot move forward to development.
- Potential network capacity constraints, e.g. local infrastructure, may not have the capacity to carry the entire output from all proposed solar farm projects.
- The proponents may have a portfolio of approved national renewable energy projects and need to prioritise which ones to develop (which may or may not include projects located in the Greater Hume Shire).
- Government policy changes (especially at a Federal and State level) can impact of the feasibility and timing of renewable energy projects, as well as investment confidence in the sector.
- Economic conditions may change, which make a project financially unviable.

The above factors may lead to some projects not advancing past the permit stage and others taking some time to be construction-ready.

Should two or more of the proposed solar farm projects proceed with little construction overlap, this would create a pipeline of work for local/regional labour force participants and businesses, creating an ongoing economic benefit to Greater Hume Shire and the broader Study Area.

3.4 Industry and Business Participation Assessment

In terms of cost efficiencies (lower transport, labour costs etc), many large construction projects located in regional areas are, where possible, serviced locally or from within the immediate region.

As identified above, the Study Area comprises approximately 2,640 construction firms and many other businesses associated with activities likely to be required for the Project, including transport operators, electrical engineers, trade suppliers, vehicle and machinery hire, auto mechanics etc.

For previous projects of this type, Neoen has arranged for the main contractor to hold local sessions with interested businesses to explain potential local opportunities, contractor requirements, and the process to become involved in the Project. In order to maximise local participation, it is expected that Neoen would follow a similar approach prior to the construction phase of the Culcairn Solar Farm.

3.5 Housing and Commercial Accommodation Sector Impacts

Information provided by Neoen indicates that up to 250 non-local staff may need to be accommodated in the region at the Project's peak. These staff will include occupations such as general management, project management and supervising engineers. Contract lengths will vary. This highlights the need for a number of types of accommodation which would be expected to range from higher-end options for professional staff on longer contracts, to convenient low-cost options for those on short-term contracts.

As highlighted in Chapter 2, the Study Area has a capacity of at least 2,570 rooms in commercial accommodation or 1,560 rooms in locations within a 40-min drive of the Project site (i.e. excluding Wagga Wagga). Assuming each non-local worker requires individual accommodation, only 16% of this more localised accommodation stock would be required at peak times to service the Project. However, this requirement is likely to be much lower as some workers may choose to be accommodated in caravan/holiday parks (cabins), B&Bs, shared private rentals (e.g. holiday homes) or stay with family or friends (where possible) rather than in commercial accommodation. Additionally, other workers may share motel rooms/cabins etc to reduce personal costs.

ABS Tourism Accommodation data for the June Quarter 2016 (latest available) shows room occupancy rates for the Albury and Wodonga region (combined) were just 57%, indicating significant capacity exists to host Project workers in the immediate region.

This data indicates that adequate capacity exists in the Study Area to accommodate the number of non-local workers expected at the peak of the Project, even allowing for increased demand from other regional infrastructure projects and seasonal demands (holiday periods, harvesting etc). Importantly, the influx of these workers will support higher occupancy rates and revenues for local accommodation operators, particularly during off-peak periods.

3.6 Local Wage Spending Stimulus

Neoen estimate that 50% of the 350 FTE direct construction jobs (i.e. 175 FTE jobs) are likely to be sourced from outside the Study Area, particularly specialist and management positions.

This level of employment would equate to $14.0 million in wages (2019 dollars) on the basis that each non-local worker is employed for 12 months and earns the average construction wage of $80,000 pa including on-costs (source: ABS, *Average Weekly Earnings 6302.0*, November 2018).

A considerable portion of these wages would be spent in the Study Area, where the workers will be based. An estimated $7.9 million in wages (2019 dollars) would likely be directed to local and regional businesses and service providers during the construction period. This estimate is based on reference to the ABS *Household Expenditure Survey* which indicates that approximately 75% of post-tax wages are likely to be spent by workers in the regional economy in view of the wide range of goods and services available in the Study Area. This spending would include the following:

- Housing expenditure, including spending on accommodation at hotels, motels, caravan/holiday parks, B&Bs, and private rental dwellings
- Retail expenditure, including spending on supermarket items, clothing, books, homewares etc
- Recreation spending associated with day trips and excursions, gaming (lottery, sports betting, etc), purchases in pubs and clubs (although noting that expenditures at restaurants is included in the retail category)
- Personal, medical and other services, such as GP fees and local prescriptions, fuel, vehicle maintenance and so on.

This level of personal spending would generate the equivalent of approximately 50 jobs in the services sector (based on 1 job allocated for every $150,000 of induced spending), supporting jobs in the Study Area associated with retail, accommodation, trade supplies, cafes and restaurants etc. These jobs are included in the 'indirect employment' estimates outlined in Section 3.2 above.

3.7 Agricultural Impacts

Approximately 1,300ha of agricultural land will be required to host the solar farm, with this land currently used for a mix of cropping (80%) and grazing (20%). The Subject Site (1,300ha) accounts for approximately 1% of all agricultural land (125,000ha) located in Greater Hume Shire.

Revenue from the Subject Site is estimated at approximately $1,420,000 pa, according to ABS Agricultural Census data and Australian Bureau of Agricultural and Resource Economics (ABARE) commodity price indicators (based on 2018/19 market prices). This revenue estimate is split as follows:

- Cropping (Canola): $1,200,000
- Grazing (Lamb): $230,000.

The total value of agriculture production (farm gate) in Greater Hume Shire in 2018/19 was approximately $220 million (2018/19), indicating agricultural activities undertaken on the Subject Site account for less than 1% of the Shire's total farm gate output.

An estimated 4.0 FTE jobs are currently supported by agricultural activities undertaken on the Subject Site. This estimate is based on allocating 1 FTE job per $400,000 of farm gate output (source: RMCG, *Agricultural Assessment of Glenrowan Solar Farm*, 2018). Additionally, a further 7 FTE jobs are supported in the wider economy through employment multiplier effect (based on a multiplier of 1.76 for beef, sheep, grains). Only a portion of these indirect jobs will be supported in the Study Area, recognising the industrial and consumption impacts are spread widely throughout regional, state and national economies. For the purposes of this assessment a 50% allocation is made for indirect jobs supported in the Study Area (3.5 FTE jobs).

In total an estimated reduction of 7.5 FTE jobs are likely to occur as a result of the use of the Subject Site for the operation of the proposed solar farm. However, this reduction in employment is likely to be less as the proponent intends to continue to graze across the site, thus direct and indirect employment impacts outlined above would be lower. For example, Neoen's Numurkah Solar Farm, which has recently commenced operations, has 750 head of sheep successfully grazing across the 500ha solar farm site.

Importantly, as noted in section 3.2, local employment associated with the ongoing operation of the solar farm is estimated to be 11.0 FTE jobs which is slightly above the current employment associated with the land. Therefore, it can be concluded that there will be no net loss of employment associated with the conversion of the Subject Site for electricity generation purposes.

At the end of the 30-year operational period, the solar farm may be decommissioned and the land returned to agricultural activities.

3.8 Ongoing Economic Stimulus

Returns to Council and the Community

Council and community benefits would be expected to include:

- Uplift in annual council rates through change of land use
- Developer contributions
- Community Fund to support local projects and programs

Note, these potential benefits need to be confirmed and will involve discussions between the proponent and Greater Hume Shire. However, in total Neoen anticipates approximately $300,000 pa (excluding council rates uplift) might be associated with these initiatives and this sum would represent a total of $13.2 million over 30 years (adjusted for CPI @ 2.5%).

Local Wage Stimulus

The Culcairn Solar Farm will support 11.0 FTE jobs compared to 7.5 FTE jobs associated with existing agricultural activities. These 'net' additional 3.5 FTE jobs will provide an estimated stimulus within the Study Area of $157,000 p.a. or $7.1 million over 30 years (adjusted for CPI @ 2.5%). Refer to section 3.6 for methodology.

Landowner Payments

The proponent will make annual payments to host landowners to facilitate the solar farm project. However, these figures are personal and confidential and have not been included in this report.

3.9 National Grid Supply Benefits

With an installed capacity of 350MW, the Culcairn Solar Farm has the potential to provide sufficient renewable energy to support the annual electricity needs of the equivalent of approximately 105,000 NSW households, according to information provided by Neoen.

In a regional context, the Study Area currently contains approximately 67,000 dwellings (ABS Census 2016); therefore, the Culcairn Solar Farm has the potential to provide 1.6 times the annual electricity requirements of the Study Area, highlighting the importance of the facility from a clean electrical generation perspective.

3.10 Tourism Opportunities

In the longer-term, the Culcairn Solar Farm may provide opportunities to attract new visitors to the area to view the facility.

Potential visitor types include:

- Environmentalist
- Researchers
- Eco-tourists
- School and educational groups

Benefits of attracting new visitors to the area include increased expenditures on accommodation, food and beverage, fuel, retail, entertainment etc, all of which will support businesses and employment, especially in nearby townships such as Culcairn.

3.11 Net Community Benefit Assessment

1 The Culcairn Solar Farm Project will involve approximately $640 million in investment during the construction phase and will support 350 FTE direct and 560 FTE indirect positions over the construction period. Once operational, 7 FTE direct and 20 FTE indirect jobs will be supported by the facility.

2 While a number of major infrastructure projects are proposed for the Study Area (mainly solar farms), none has yet received planning approval, making cumulative impacts difficult to measure as construction timing is unknown for those projects that proceed. However, the Study Area has significant capacity in terms of construction-related workers (24,570 workers) and businesses (3,430 businesses) to manage multiple infrastructure projects concurrently.

3 The Project will provide significant participation opportunities for businesses and workers located in the Study Area, having regard for the good match of skills and resources available.

4 The 'external' Project labour requirement would be expected to generate an accommodation need for 250 workers at the peak of the Project. This represents less than 10% of total commercial accommodation rooms in the Study Area, with further capacity available in caravan parks, bed and breakfast accommodation, and private rentals (e.g. Airbnb). Noting relatively low room occupation rates in Albury / Wodonga (57%), the Project will support new revenues for accommodation providers over the construction phase, especially in off-peak seasons.

5 Construction workers relocating to the region would be expected to inject approximately $7.9 million in additional spending into the economy over the construction phase, supporting around 50 jobs in the service sector across the Study Area.

6 Agricultural impacts are expected to be small, with a reduction of less than 1% of the Shire's agricultural land and farm gate output anticipated due to the operations of the solar farm. No net loss of jobs is expected, with new solar farm jobs replacing existing agricultural employment associated with the subject land (direct and indirect jobs). An opportunity exists for some sheep grazing to across the site.

7 Potential Council and community benefits include developer contributions and Community Fund payments, with an estimated value of $300,000 pa.

8 Ongoing wage stimulus associated with the 'net' additional 3.5 FTE site workers (i.e. renewable energy generation v agricultural activities) is estimated at $160,00 p.a.

9 The Project has the capacity to supply sufficient clean energy to power the equivalent of approximately 105,000 homes, approximately 1.6 times the requirements of the Study Area (67,000 homes).

10 Once operational, the Culcairn Solar Farm could potentially support small-scale tourism and educational opportunities in the future.

Table 3.1: Culcairn Solar Farm – Net Community Benefit Assessment (excluding landowner payments)

Factor	Value
Negative Community Outcomes	
Temporary loss of agricultural land (30 years)	-1,300 ha
Loss of employment (includes direct and indirect jobs)	-7.5 FTE jobs
Positive Community Outcomes	
Construction Phase	
Capital investment	+$640 million
Local investment (including wage stimulus)	+$64.0 million (assumes 10% of total investment)
Local employment (direct plus multiplier impacts)	+285 FTE local jobs (over14-18 months)
Operational Phase	
Employment	
Local operational employment (includes direct and indirect jobs)	+11.0 FTE local jobs (for 30 years)
Economic Stimulus	
Community contributions – Community Fund, Developer Contributions etc (adjusted for CPI)	+$13.2 million (over 30 years)
Net wage stimulus (adjusted for CPI)	+$7.1 million (over 30 years)
Total net local economic stimulus (associated with operations)	*+$20.3 million (over 30 years)*
Total Economic Benefits (Construction and Operational Phases)	**+$84.3 million (over 30 years)**