APPENDIX 9

Social Impact Assessment

umwelt
Environmental & Social Consultants

apa

KURRI KURRI LATERAL PIPELINE PROJECT

Social Impact Assessment

FINAL

March 2022

KURRI KURRI LATERAL PIPELINE PROJECT

Social Impact Assessment

FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
APA Group

Project Director: Paul Douglass
Project Manager: Marion O'Neil
Technical Director: Dr Sheridan Coakes
Technical Manager: Rhiannon Jaeger-Michael
Report No. 21450/R04
Date: March 2022

Environmental & Social Consultants

This report was prepared using Umwelt's ISO 9001 certified Quality Management System.

Acknowledgement of Country

Umwelt would like to acknowledge the traditional custodians of the country on which we work and pay respect to their cultural heritage, beliefs, and continuing relationship with the land. We pay our respect to the Elders – past, present, and future.

Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
Final V4	Dr Sheridan Coakes	8 March 2022	Dr Sheridan Coakes	8 March 2022

Abbreviations

Abbreviation	Description
ABS	Australian Bureau of Statistics
SEDI	Australian Early Development Index
AGL	AGL Energy Ltd
APA	APA Group
CSEP	Community and Stakeholder Engagement Plan
DFID	Department for International Development
DPIE	Department of Planning, Industry and Environment
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EP&A Act	NSW Environmental Planning and Assessment Act 1979
GHG	Green House Gas
the Guideline	NSW Social Impact Assessment Guideline
HPP	Hunter Power Project
IAIA	International Association for Impact Assessment
JGN	Jemena Gas Networks
KKLP	Kurri Kurri Lateral Pipeline
LALC	Local Aboriginal Land Council
LGA	Local Government Area
ML	Mining Lease
MPag	Megapascals
MW	Megawatts
NEM	National Electricity Market
NSW	New South Wales
REZ	Renewable Energy Zone
RTS	Response to Submission
SA	Statistical Area
SALM	Small Area Labour Market
SEARs	Secretary's Environmental Assessment Requirements
SEIFA	Socio-Economic Indexes for Areas
SIA	Social Impact Assessment
SIMP	Social Impact Management Plan
SNP	Sydney to Newcastle Pipeline
SSC	State Suburb
CSSI	Critical State Significant Infrastructure
TJ	Terajoules
TTR	Tourism Region
Umwelt	Umwelt (Australia) Pty Ltd

Glossary of Terms

Terminology to use	Description
Alignment	The centreline of the transmission pipeline Right of Way (ROW) selected for assessment in the EIS.
Project Construction footprint	The total area of land directly disturbed for construction of the Project consisting of the transmission pipeline construction right of way, storage pipeline construction footprint, extra workspaces, temporary laydown areas, temporary access tracks and any other associated facilities required to construct the Project.
Construction right of way (ROW)	Corridor generally of 25 m width for the transmission pipeline.
Hunter Power Project (HPP)	The Hunter Power Project (HPP) is the proposed gas-fired power station located at the former Hydro Aluminium smelter site at Kurri Kurri. Snowy Hydro is proposing to construct the gas fired power station and electrical switchyard with capacity to generate 750MW of 'on-demand' electricity. The approved HPP will operate as a 'peak load' electricity generation facility, capable of supplying electricity at short notice as needed.
Landholder	A general term used to refer to the legal owner or manager of a parcel of land. It may be a private landholder, Government or private utility, or a Government Agency responsible for management of a particular parcel of Crown land (e.g. National Parks or Forestry areas).
Project Area	As defined and used in the associated EIA, describes an area of approximately 98 ha from the rural locality of Lenaghan, approximately 15 km northwest of Newcastle to approximately 2 km north of Kurri Kurri. The Project area considered for the EIA comprises the following: • The construction right of way (ROW) for both the transmission and storage pipelines • Extra workspaces required for construction of the transmission pipeline for truck turnarounds, vegetation storage, horizontal directional drilling entry and exit locations, horizontal bore entry and exit locations, watercourse crossing workspaces and line pipe storage areas • Access tracks to provide access to the construction footprint • Construction footprints for the JGN offtake facility, compressor station and delivery station.
Proponent	APA Group (APA).
Social Locality	For the purposes of the Social Impact Assessment, the social locality describes the geographic area where social impacts may be largely experienced. There is no prescribed meaning, or predefined geographic boundary to a social locality. The social locality may be adapted, minimised, or extended beyond the parameters identified at subsequent stages of Project planning and assessment, to include locations where construction workforces may be based, and/or where suppliers and/or materials may be sourced for the Project. The term 'social locality' is comparable to the 'area of social influence' that is commonly used in SIA practice.
Storage pipeline	An approximately 24 km long buried, steel, 42" high pressure (15.2 MPa) pipeline downstream of the compressor station, located in the former smelter buffer zone, to hold up to 70 terajoules of gas ready to supply the HPP at the required inlet pressure.
The Project	The proposed construction, operation and maintenance of the Kurri Kurri Lateral Pipeline Project (KKLP) which includes a transmission pipeline, a storage pipeline and a compressor station, including associated surface facilities.
Transmission pipeline	An approximately 20.1 km long buried, steel, 14" medium pressure (6.9 MPa) pipeline, connecting the HPP to the existing NSW gas transmission network.
Visual amenity	The views that a resident or receptor may have of the surrounding area.

Table of Contents

Figures

Tables

Appendices

1.0 Introduction

This Social Impact Assessment (SIA) Report documents the process and outcomes of the SIA undertaken by Umwelt (Australia) Pty Ltd (Umwelt) for the Kurri Kurri Lateral Pipeline Project (KKLP) (hereafter referred to as the Project). The SIA forms part of the Project's Environmental Impact Statement (EIS) that will be lodged with the New South Wales (NSW) Department of Planning, Industry and Environment (DPIE) on behalf of APA Group (APA), as part of the Project's Critical State Significant Infrastructure (CSSI) application under Part 5, Division 5.2 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This Report has been prepared in alignment with the Social Impact Assessment Guideline for State Significant Projects (DPIE, 2021) and in accordance with the specific SEARs relating to social impact assessment.

1.1 Project Overview

Snowy Hydro Limited (Snowy Hydro) is developing a gas-fired peaking power station, referred to as the Hunter Power Project (HPP), at the site of the former Hydro Australia Pty Ltd (Hydro) aluminium smelter at Kurri Kurri, NSW. The HPP is proposed to provide up to 750 megawatts (MW) of 'on-demand' electricity to supplement Snowy Hydro's generation portfolio with dispatchable capacity when the needs of electricity consumers are highest. The HPP was approved, subject to conditions, by the Secretary of DPIE on 17 December 2021 and by the Commonwealth Minister for the Environment on 6th Feb 2022.

APA Group (APA) has been engaged by Snowy Hydro to develop a gas supply solution for the HPP. APA has proposed the Kurri Kurri Lateral Pipeline (KKLP) Project (the Project) as the gas supply solution for the HPP. The Project comprises the following key components:

- A buried, steel, medium diameter (up to DN350), medium pressure (up to 6.9 megapascal (MPag)) transmission pipeline of approximately 20.1 km in length to provide a gas supply from the existing Sydney to Newcastle Pipeline (SNP), via receipt and delivery facilities, to the HPP site.
- A compressor station at the termination of the transmission pipeline to boost gas pressure prior to transfer to a storage pipeline.
- A buried, steel, medium diameter (up to DN350), high pressure (up to 15.3 MPag) interconnect pipeline of approximately 1.3 km in total length, providing an interface between the compressor station, storage pipeline and delivery station.
- A buried, steel, large diameter (up to DN1050), high pressure (up to 15.3 MPag) storage pipeline of approximately 24 km in total length downstream of the compressor station with approximately 70 terajoules (TJ) of useable gas storage ready to supply the HPP.
- A delivery station to receive gas from the storage pipeline and control temperature, pressure and flow rate prior to delivery of gas to the HPP.

A compressor station and storage pipeline are required as part of the proposal as the SNP does not provide sufficient gas volumes or pressure to meet the supply requirements of the HPP. As such, a direct pipeline connection between the SNP and the HPP is not a viable solution for gas supply to the HPP. The compressor station and delivery station are located within the HPP project site boundary.

The proposed alignment of the transmission pipeline would commence at the Project's proposed Jemena Gas Networks (JGN) offtake facility near Black Hill, approximately 15 km northwest of Newcastle and terminate at the HPP, approximately 2 km north of Kurri Kurri, as shown in **Figure 1.1**.

Construction is planned to commence during Q4 2022 with a gas supply to the HPP provided during Q4 2023. The HPP is planned to be operational by the end of 2023.

The Project, including the ancillary surface facilities, would be designed, constructed, commissioned, and operated in accordance with *Australian Standard 2885 Pipelines – Gas and Liquid Petroleum (AS 2885)* - a suite of standards outlining requirements for gas and petroleum pipelines which are designed, constructed and operated in Australia and licenced under the *Pipelines Act 1967*.

The Project's construction footprint encompasses an area of approximately 98 hectares (ha), and intersects 54 cadastral parcels owned by 17 landholders (private landowners, property development companies and mining companies).

The Project area is predominantly within a rural landscape, with the nearest residential suburbs (current extents of Cliftleigh and Gillieston Heights) located approximately 600 m away from the transmission pipeline alignment at the closest point (KP 15.0).

The primary current land uses within the Project Area currently consist of undeveloped land within mining leases of the former Donaldson open cut mine (ML1461) and operational Bloomfield open cut mine (ML1738), and small holding agriculture (including equestrian farming and stock grazing) with associated rural residential living. The compressor station and delivery station are located on industrial land used for the former Kurri Kurri aluminium smelter between 1969 and 2014 and the storage pipeline is located on land used for livestock grazing in the buffer zone of the former smelter.

The Project is expected to create approximately 398 construction jobs at the peak construction phase, who will be accommodated in existing local accommodation facilities in the area. The Project will support 5 permanent jobs throughout the operational and maintenance phases. At the end of its operational life, the Project would be decommissioned. The following options for the transmission and storage pipelines will be considered as part of this process, although other options may also be identified:

- **Suspension** – The transmission and storage pipelines would be depressurised, capped and filled with an inert gas such as nitrogen, or water with corrosion inhibitors. The cathodic protection system would be maintained to prevent the pipeline corroding. Surface facilities would be removed or left in place if further service is envisaged.
- **Abandonment** – The pipelines would be disconnected from all sources of hydrocarbons and surface facilities. All remaining natural gas would be purged from the pipeline with a non-flammable liquid. The pipeline may then be filled with water, filled with cementitious mud, or removed. All surface facilities would be removed.

1.2 The Proponent

APA is Australia's largest energy infrastructure business, owning and operating more than 15,000 km of natural gas pipeline infrastructure, connecting with approximately 1.4 million households. APA is one of Australia's largest owners and operators of renewable power generation assets, with wind and solar projects across Western Australia, South Australia and Queensland. In total, APA own or manage and operate around $21 billion of energy assets and deliver half the nation's natural gas usage.

APA is a business that is committed to delivering connected and sustainable energy solutions that are safe, reliable, innovative and cost-effective so that all of its stakeholders are better off as APA works together with its customers to create a better energy future for Australia.

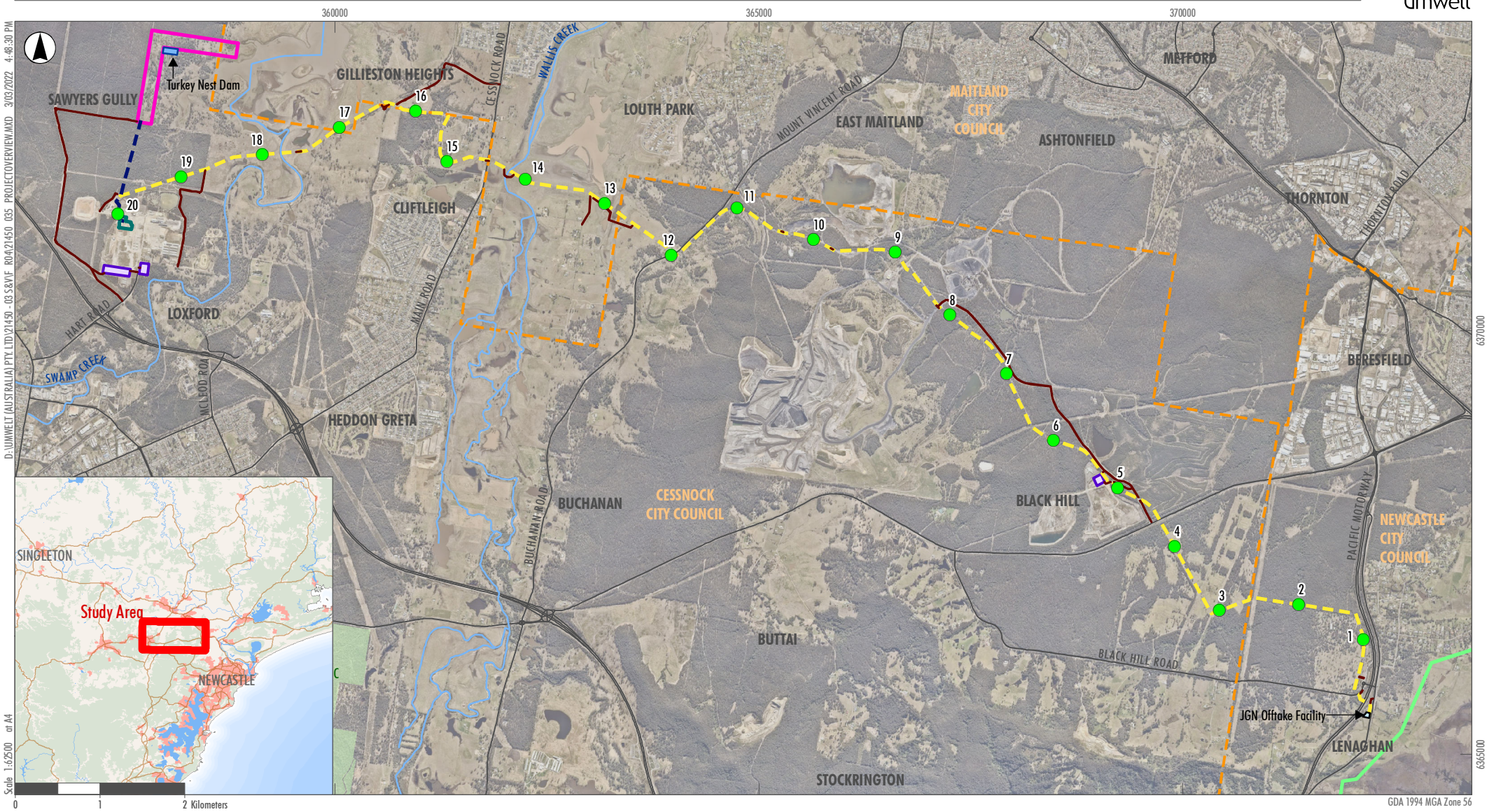
APA Group directly employs approximately 1,800 people, who are involved in all aspects of infrastructure planning, maintenance, and development. Offices are located within all mainland capital cities, with regional centres located near key service areas.

1.3 Relationship to the Hunter Power Project

The Hunter Power Project (HPP) will operate as a "peak load" generation facility supplying electricity at short notice when there is a requirement in the National Electricity Market (NEM). The HPP aims to provide up to 750 MW of electricity and is anticipated to be operational by the end of 2023. The HPP will have a capital cost of approximately $610 million and would supply up to 250 employment opportunities during the construction phase with approximately 10 full time equivalent employment opportunities during operation.

The EIS for the HPP was submitted to the DPIE in April 2021, with the environmental effects of the HPP assessed in the EIS for that project. A decision to approve the HPP under section 5.19 of the EP&A Act was made by the Minister for Planning and Public Spaces on 17 December 2021.

The key objective of the Project is to connect the HPP to the existing NSW gas transmission network, with the development of the HPP being undertaken as a separate project by Snowy Hydro. This Project is subject to a separate planning and environmental approvals process than to the HPP. Therefore, this SIA relates to the project components outlined in **Section 1.1**.



Legend

- Transmission Pipeline Alignment
- Interconnect Pipeline
- Sydney to Newcastle Pipeline (JGN Northern Trunk)
- Local Government Area Boundary
- Kilometre Point
- Compressor and Delivery Station
- Pipe Laydown Areas
- Storage Pipeline
- Turkey Nest Dam
- JGN Offtake Facility
- NSW Conservation Estates
- Access Tracks
- Roads
- Watercourses

FIGURE 1.1
Project Location

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)

2.0 Methodology

2.1 Assessment Requirements

The SEARs for the Project identify key issues and guidelines that must be addressed in the preparation of the Environmental Impact Assessment. **Table 2.1** presents the assessment requirements relevant to the SIA and outlines where these have been addressed in this report.

Table 2.1 Addressing SEARs Requirements

Requirement	Section where addressed
Social and Economic, including:	
Assessment of the likely social impacts and benefits of the project	Refer to **Section 4.0**
Likely impacts of the project on the local community	Refer to **Section 4.0**
Demands on Council infrastructure and services	Refer to **Section 4.2.2** and **4.2.3**
Cumulative impacts (considering other developments in the locality)	Refer to **Section 4.2.4**

This SIA has been prepared in accordance with the NSW Government's Social Impact Assessment Guideline (DPIE, 2021) for State Significant Projects, as part of the environmental impact assessment, as illustrated in **Figure 2.1**.

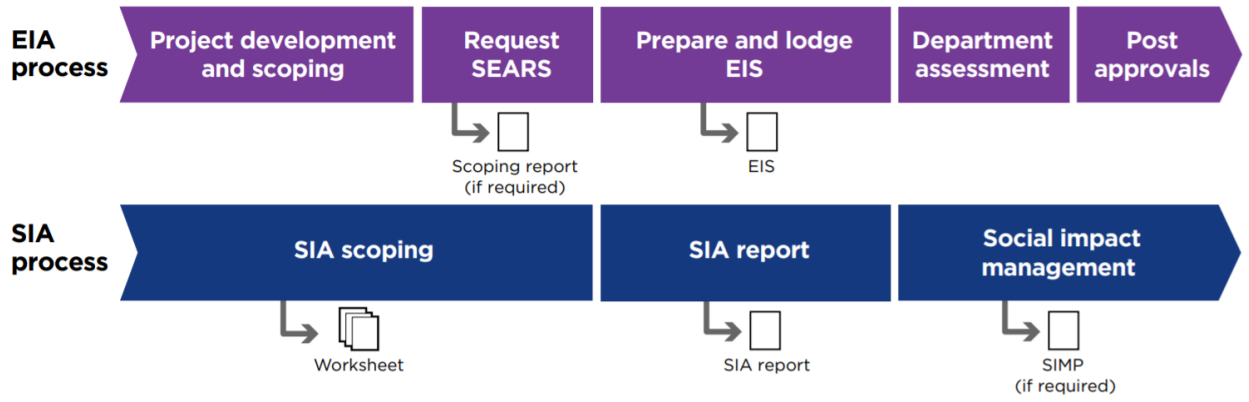


Figure 2.1 SIA and EIA Process Alignment

Source: DPIE, 2021

Figure 2.2 provides an overview of the key SIA program phases of which this report relates.

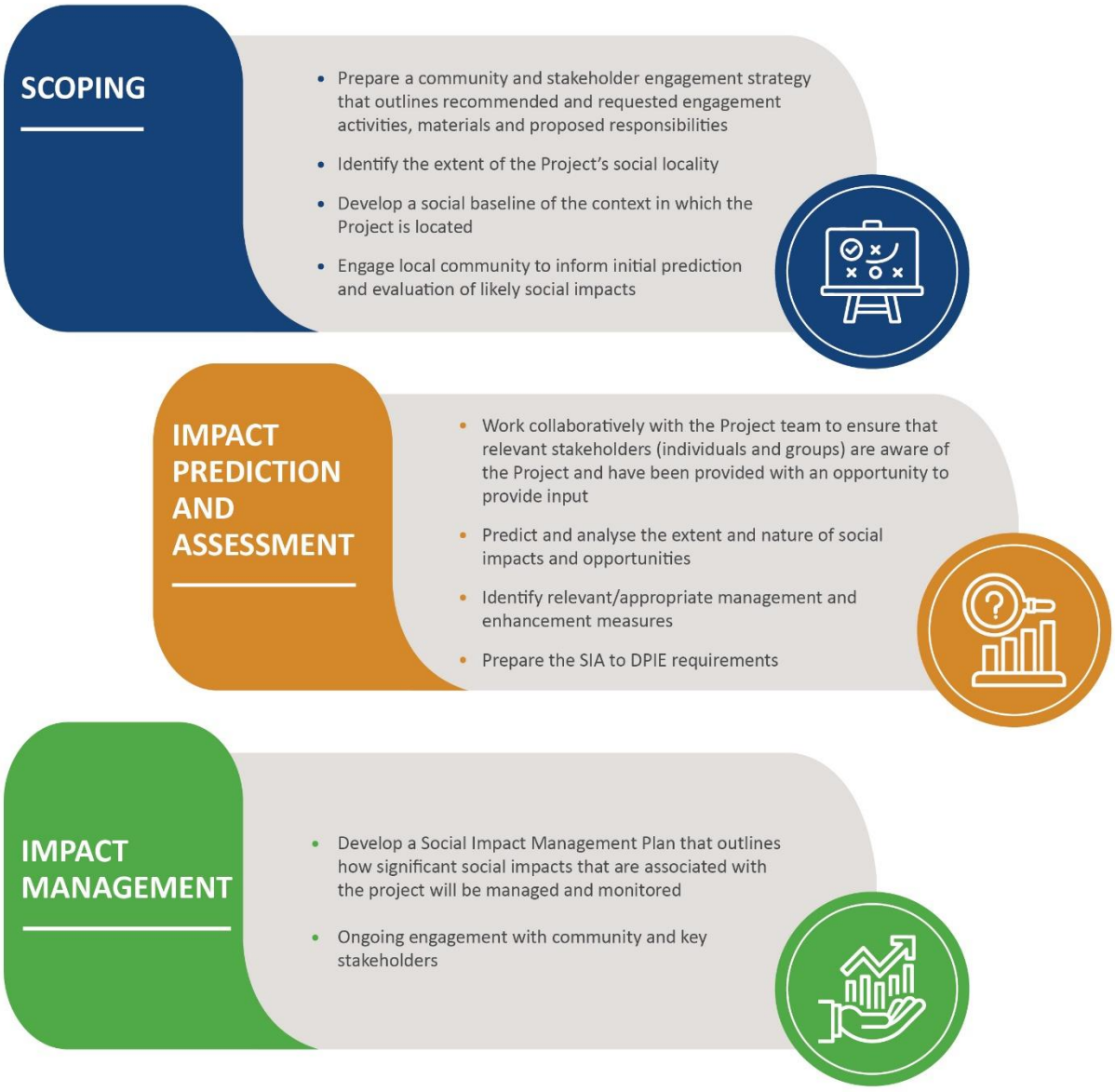


Figure 2.2 SIA Program Phases

© Umwelt, 2021

According to the SIA Guideline, and as outlined in **Figure 2.3**, social impacts can be grouped into several categories and may involve changes to people's way of life, community, accessibility, culture, health and wellbeing, surroundings, livelihoods, and decision-making systems.

A SIA, informed by community and stakeholder engagement, affords the opportunity to effectively integrate social outcomes within the detailed Project planning, design, and assessment phase. As is the case with any type of change, some individuals or groups within the community may benefit, while others may experience negative impacts. If negative impacts are predicted, it is the role of the SIA to determine how such impacts may be addressed effectively to reduce the degree of disruption to those affected. If positive impacts are predicted, the aim of the SIA is to maximise these opportunities and identify how they might be further enhanced and realised.

Monitoring and evaluation are also a key component of a SIA process and should involve developing a plan to monitor and adaptively manage social impacts. Such a plan should outline processes to:

- identify any unanticipated impacts that may arise
- monitor predicted impacts against actual impacts
- identify and report on incidents and complaints
- identify and analyse ongoing social risks and opportunities
- facilitate data sharing.

Figure 2.3 Social Impact Categories

© Umwelt, 2021 (Derived from: DPIE, 2021)

2.2 Defining the Social Locality

A baseline social profile gathers knowledge from both primary and secondary data sources to understand the existing social environment in which a project is proposed, and of potentially affected communities. The social baseline profile is a foundational component of SIA, as it provides the basis for assessing and predicting a Project's social impacts.

The SIA Guideline (DPIE, 2021) outlines the key components that should be considered in developing a social baseline:

- The scale and nature of the project
- Who may be affected, including any vulnerable or marginalised groups
- Any built or natural features on or near the project
- Relevant social, cultural, and demographic trends and other change processes
- The history of the proposed project and/or development in the area, including community response to previous change.

The Project, which is linear, crosses three local government areas (LGA) in the Hunter Valley region resulting in a spatially dispersed social locality. As outlined in the SIA Guideline, SIAs prepared for linear projects should consider the broader area, as well as key precincts or areas that will experience any potential higher level of impact.

Statistical areas as defined by the Australian Bureau of Statistics (ABS) and the land tenure composition of properties nearby or proximal to the Project have been used to define the Project's social locality.

The primary communities of interest that comprise the **social locality** for the Project are outlined and defined in **Figure 2.4**. The Figure outlines the terminology used to reference each of the communities of interest throughout the SIA report. As **Figure 2.4** indicates, there are twelve State Suburbs (SSCs) in three local government areas intersected by or proximal to the Project construction footprint. Where relevant, such data is compared with the Greater Newcastle metropolitan area and the Hunter Valley region statistical area.

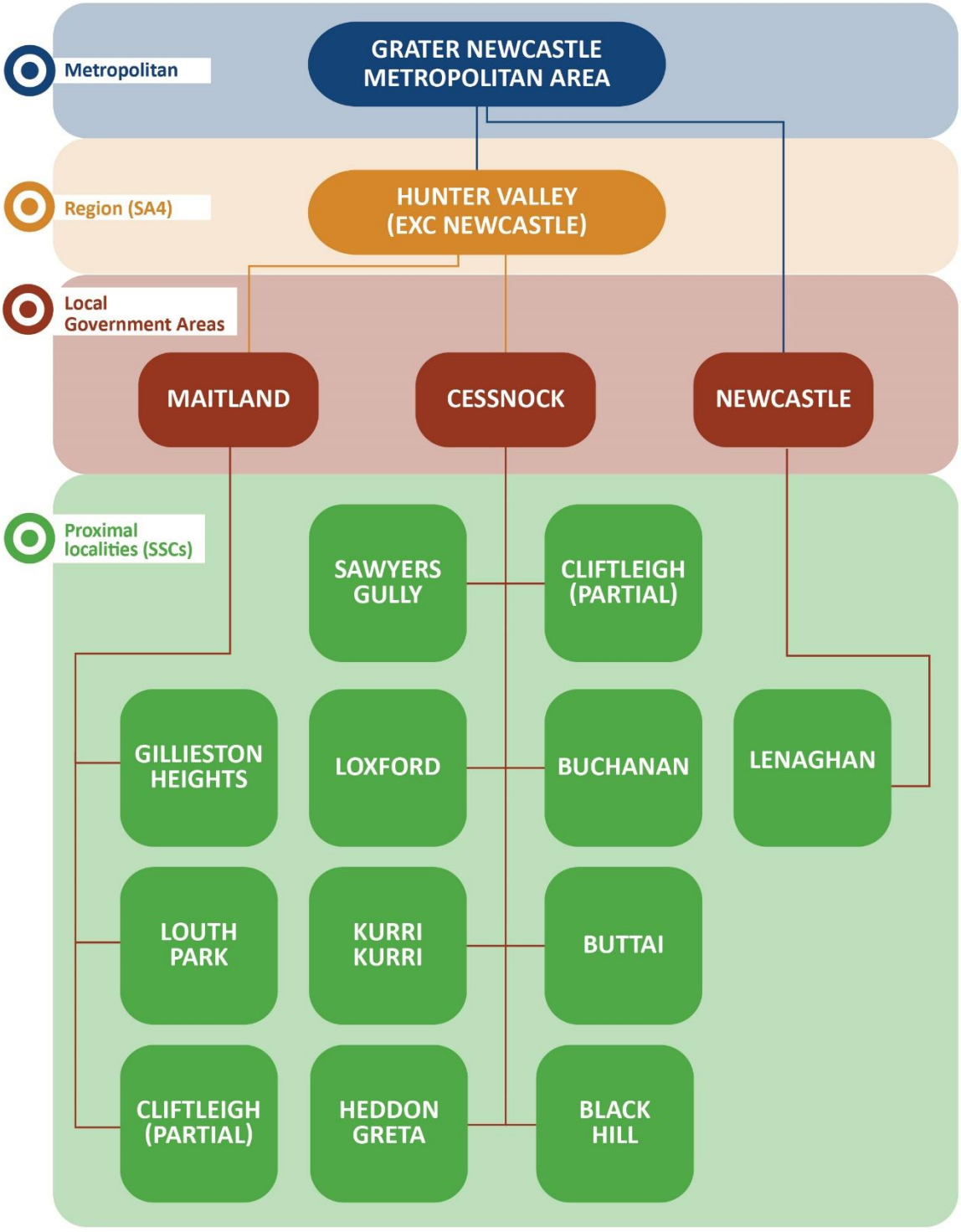
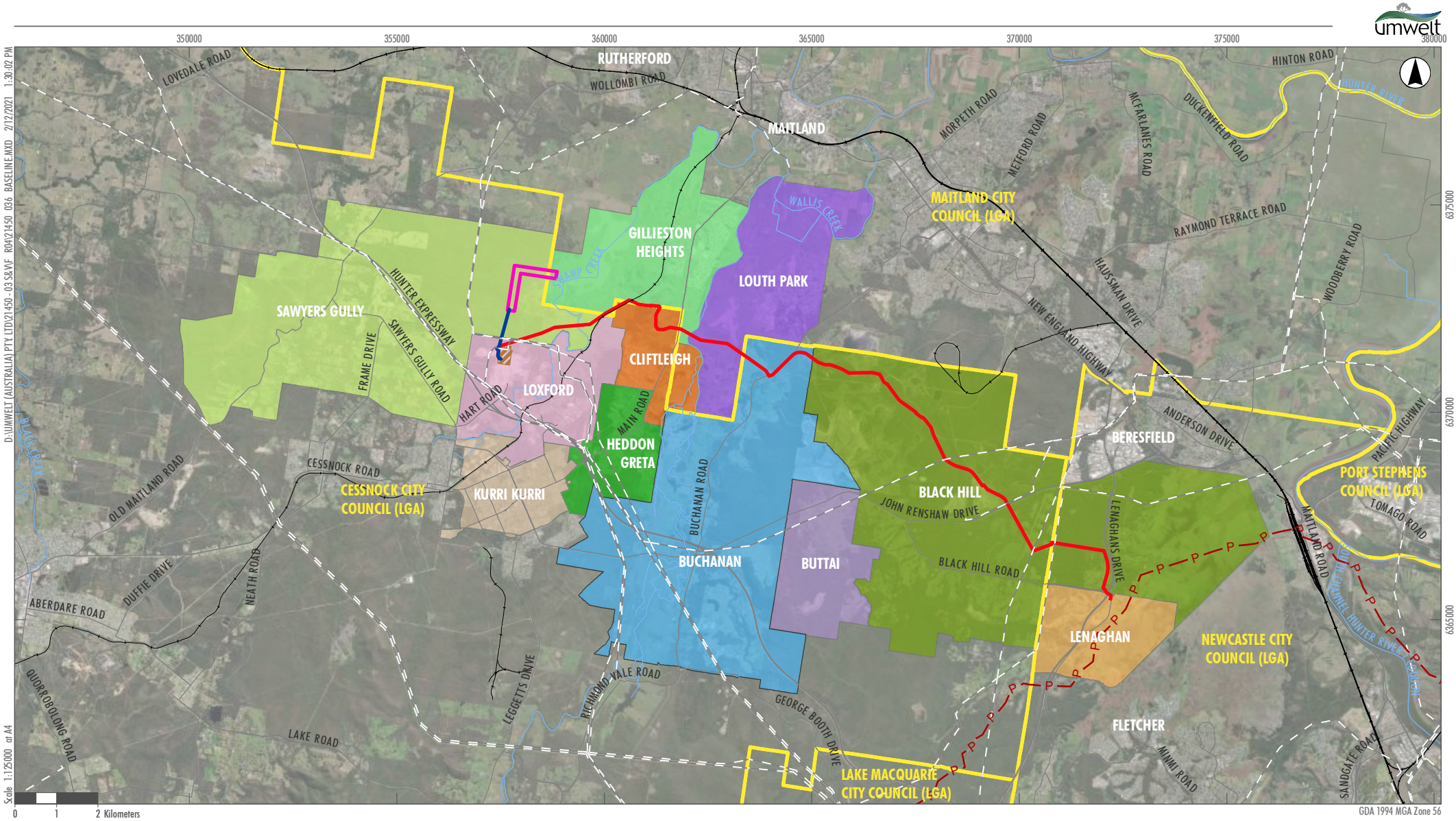


Figure 2.4 Communities of Interest Used to Define the Social Locality



Legend

- Transmission Pipeline Alignment
- Storage Pipeline
- 14" Connecting Pipeline
- Hunter Power Project Boundary
- Local Government Area
- P Jemena North Arm Truck Pipeline
- High Voltage Electricity Lines
- Roads
- Railway
- Watercourses

FIGURE 2.5
Social Locality

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)

The sphere of influence of projects, their impacts, and associations may change as projects and communities develop over time. Consequently, the social locality may be adapted beyond the parameters identified in **Figure 2.4** at subsequent stages of Project planning and assessment, to include locations where construction workforces may be based, and/or where suppliers and materials may be sourced for the Project.

2.3 Data Sources

The social baseline draws on of a range of measures and data sources to understand the socio-economic, cultural, and demographic characteristics of the communities within the social locality and is used to determine how the Project may affect different aspects of people's lives (refer to **Figure 2.3**).

Data to inform the baseline, has been gathered and summarised from publicly available secondary datasets, including the most recent Australian Census (2016) and Social Health Atlas of Australia (PHIDU, 2021) as well as through a review of local media, and local, regional, and State government plans and strategies relevant to the social locality.

Whilst the Project intersects three LGAs, statistical and comparative analysis using ABS data has been undertaken at the SSC level to better capture key trends and themes relevant to the project. LGA level data is also used to inform regional characteristics and trends relevant to the Project, including regional strategic planning priorities and directives.

Appendix A contains the community profile dataset that has been used to inform the social baseline. The data sources used and key indicators of interest, including a brief explanation of their relevance to the Project are outlined in **Table 2.2**.

Table 2.2 Social Baseline Profile Indicators and Data Sources

Category	Indicator	Source
Political Capital **Political representation** **Political identity** **Inclusion, voice, and power** **Democratisation** **Decision-making systems**	Elected representatives and recent political history Traditional Owners and Native Title Claims and Determinations Community strategic planning and development priorities Community perceptions of local governance systems Community priorities and concerns	State representative and electoral information (Parliament of New South Wales, n.d.; Electoral Commission NSW, 2020) Register of Native Title Claims (National Native Title Tribunal, 2021) LGA Council Strategic Planning Documents LGA Council Community Perception Surveys
Natural Capital **Natural resources (e.g. water, metals, energy)** **Ecosystems (fisheries, agricultural soils)** **Beauty of nature (marine reefs, National Parks)**	Gross economic value of agricultural industries Gross economic value of mining sector Areas of Native Vegetation Water Resources	Regional Economic Profiles (Department of Primary Industries, 2013; 2021) ABS TableBuilder Pro, 2016

Category	Indicator	Source
Human Capital **Workforce skills and abilities** **Education and health** **Vulnerable/at risk groups**	Population and median ages Year 12 completion rates Post-secondary education attainment Indigenous status Population Projects Developmental vulnerability Learning or earning Severe or profound disability Aged pension recipients SEIFA Index of Education and Occupation	ABS General Community Profiles (2016) DPIE NSW Population Projections (2019) Australian Early Development Index (PHIDU, 2021) Social Health Atlas of Australia (PHIDU, 2021)
Cultural Capital **Worldview** **Language** **Traditions and customs** **Connection to Country** **Community identity** **Community values and perceptions of place**	Place of Birth Language spoken at home Proportion of the population identifying as Aboriginal and/or Torres Strait Islander Built heritage and tangible heritage items Community perceptions and values	ABS General Community Profiles, 2016 Heritage Management Systems (Heritage NSW, 2021) Local and Regional Strategic Plans
Social Capital **Family and neighbours** **Community networks and inter-relationships** **Governance** **Sense of community** **History and heritage**	Living at a different address one year age & five years ago Participation in volunteering Population born overseas & in Australia Family and household composition Prevalence of crime Levels of Psychological Distress SEIFA Index of Socio-economic Disadvantage	ABS General Community Profiles, 2016 NSW Bureau of Crime Statistics and Research, 2021 Social Health Atlas of Australia (PHIDU, 2021)
Economic Capital **Economic resources** **Key industry sectors** **Wealth of individuals, households, and organisations**	Proportion (%) of the labour force that are: employed full-time, part-time, unemployed, and trends Proportion of full-time & part-time employment Median household income Sex by selected labour force status Median rental payment Median mortgage repayments Median rent by property type Rental vacancy rate Industries of Employment Tourism Visitation Strategic economic planning SEIFA Index of Economic Resources Herfindahl Index Score	Small Area Labour Markets (SALM), March quarter 2021 ABS General Community Profiles, 2016 Rent Report (DOCJ, 2021) Vacancy Rate Survey Results June 2021 (REINSW, 2021) Social Health Atlas of Australia (PHIDU, 2016) NSW State Tourism Statistics (Destination NSW, 2021) Local and regional strategic planning documents ABS TableBuilder Pro, 2016

Category	Indicator	Source
Physical Capital **Built infrastructures** **Accessibility to key community services and infrastructure** **Information accessibility** **Remoteness/isolation**	Car ownership by households Commuting distances to work Availability of short-term accommodation Housing tenure characteristics Value of building approvals Financial housing stress Dwellings with internet access Strategic infrastructure planning and development Health services and infrastructure (proximity of health services, resident to GP ratio, availability of specialist services)	ABS General Community Profiles (2016) REMPLAN, 2021 Social Health Atlas of Australia (PHIDU, 2021) Census of Population and Housing: Commuting to Work (ABS, 2016) Local and regional strategic planning documents

2.4 Stakeholder Identification

Social impact assessment involves the participation and collaboration of people who have an interest in, or those that are affected by a project. As Burdge (2004) outlines, stakeholders may be affected groups or individuals that:

- live, work, or recreate near the Project
- have an interest in the proposed action or change
- use or value a resource associated with the Project
- are affected by the Project.

Stakeholders for the Project were identified as part of planning and delivering community and stakeholder consultation to inform the SIA. This involved identifying stakeholders with an interest, or those directly and indirectly affected by the Project, including any potentially vulnerable or marginalised groups.

This process also considered the interconnectivity of stakeholders with the HPP, with some stakeholders having a mutual interest in both Projects.

Key stakeholder groups that have been consulted or engaged through the SIA and EIS process, and whose engagement outcomes have been incorporated into the SIA, are outlined in **Figure 2.6**. The engagement approach used to inform the assessment phase of the SIA is outlined in the Community and Stakeholder Engagement Plan (CSEP), presented in **Appendix B**.

Figure 2.6 Key Stakeholder Groups

© Umwelt, 2021

2.5 Community Consultation

Early community and stakeholder identification and engagement has been undertaken by APA and Snowy Hydro to build relationships with near neighbours and key stakeholders in relation to the KKLP and HPP Projects respectively. A coordinated approach to community and stakeholder engagement for the Project has been adopted due to:

- the projects being adjacent to each other and in the same social locality, and
- the projects being related.

The approach intends to streamline the two projects' consultation programs and integrate a common approach, aiming to:

- ensure that the implementation of engagement is transparent and provides clear and consistent information across both projects
- establish and develop trust with key stakeholders
- better identify cumulative impacts associated with the two developments
- afford the opportunity for meaningful participation in the assessment phases for both projects, and
- avoid engagement fatigue, particularly for stakeholders potentially affected, or with an interest, across both projects.

Following the scoping phase of the project, Umwelt has been commissioned to work with APA in implementing a SIA and community engagement program that meets DPIE SIA guidelines and requirements for the KKLP. It is noted that a separate socio-economic assessment has been conducted by Snowy Hydro in relation to the HPP and is provided within the supporting EIS (Jacobs, 2021).

Table 2.3 details the range of engagement mechanisms used to inform and obtain input from various stakeholder groups for the SIA. Interview guides used as the basis to guide consultation in this phase are included at **Appendix C**.

The CSEP (**Appendix B**) outlines the engagement approach used to inform the assessment phase of the SIA.

Table 2.3 Engagement Mechanisms

Stakeholder Group	Mechanism	Timing	No. Consulted (as at end January 2022)
Information Provision			
Website	APA have a dedicated project website to provide project information and updates on the project.	Ongoing	NA
Project phone number/email	APA have a dedicated project phone number and email address to enable community members to obtain information and/or provide feedback on the project.	Ongoing	Over 100 external emails have been received to the KKLP inbox.
Social Pinpoint	APA have developed a Social Pinpoint page for the project that gives the community the opportunity to provide feedback via an interactive map with key project features illustrated.	Ongoing	1,823 total visits and 653 unique user visitations, with 14 individual comments made from 4 unique stakeholders
Project briefings	Formal briefings to key stakeholders and government agencies, as well as formal engagements. Slide deck used to formally introduce the project and provide project updates. Project briefings have been undertaken by APA with the Hunter Power Project Community Working Group, with briefings also offered to the Kurri Kurri Regrowth Community Reference Group.	August 2021 – February 2022	134 formal briefings and engagements.
Letter/project information sheet distribution	Distribution of project updates across the proximal community by APA and Snowy Hydro.	February 2021; August 2021	347 residences; 7321 residences
Consultation			
Door Knocking	Door knocking campaign undertaken by Snowy Hydro to discuss the HPP, which also mentioned the KKLP project.	February 2021	38
Personal meetings/ interviews	Semi-structured meetings to introduce the Project and project team members and to listen and gather community feedback relating to the project – social impacts and opportunities and relevant mitigation/enhancement strategies.	November 2021	10 organisations

Stakeholder Group	Mechanism	Timing	No. Consulted (as at end January 2022)
General community survey	Random telephone survey of households within the social locality to gain broader community input to the SIA. Further details of the survey can be found in **Appendix C**.	November 2021	402
Business and Service Provider Surveys	Surveys undertaken via phone and video-teleconferencing by Umwelt to understand community values, concerns, needs, and the capacity and demand for services and businesses in the area.	November 2021	10

Table 2.4 provides a summary of the stakeholder groups that have participated in the Project's broader planning and assessment process to date, as well as those who have informed the development of the SIA Report.

Table 2.4 Stakeholders Consulted

Stakeholder Category	Organisation	Consultation Responsibility	No. Contacted	No. Consulted
Host Landholders/ Near Neighbours	N/A	APA	23	23
Community Members residing in the social locality	N/A	Umwelt	402	402
Key Stakeholders				
Aboriginal Stakeholders		Umwelt	3	0
Local Businesses and Service Providers	Best Western Endeavour Motel Joblink Plus Kurri Kurri Kurri Kurri Hospital Kurri Motor Inn Mercure Maitland Monte Pio Molly Morgan Motor Inn Station Hotel, Kurri Kurri Quest Maitland Abermain Hotel Kurri Kurri TAFE	Umwelt	17	10
Community and Development Groups	Business Hunter Kurri Kurri Business Chamber Inc Towns With Heart	Umwelt	10	3
Local Government	Maitland City Council City of Newcastle Cessnock City Council	Umwelt	3	3
State Government Agencies	Local Land Services Hunter and Central Coast Development Corporation	Umwelt	2	2
Environmental Groups	Black Hill Environment Protection Group Kurri Kurri Landcare Group	Umwelt	2	2
		Total	**462**	**435**

A total of 402 community members across the social locality participated in a general community survey (refer to **Figure 2.5** for the sample area). Households within the sample area were consulted via a random telephone survey undertaken by Taverner Research from 11 to 23 November 2021. Random sampling was used to contact households in the defined area, with 4,693 numbers supplied from communities of interest (SamplePages - a leading supplier of residential phone records to the market and social research industry). Randomly selected numbers were called up to five times at different hours of the afternoon/evening on weekdays and on weekends. A response rate of 17.7% (the percentage of surveys completed) was obtained.

Table 2.5 Broader Community Survey Sample Quota and Frequency Response

Locality	Quota	Response	Under/Over Representation
Sawyers Gully/Loxford	15	8	-3
Kurri Kurri	170	214	-44
Heddon Greta	60	48	12
Cliftleigh/Gillieston Heights	115	80	35
Louth Park	20	13	7
Buchanan/Buttai	10	12	-2
Black Hill/Lenaghan	15	17	-2
Totals	**400**	**402**	**-2**

The Project's Social Pinpoint page has been operational since May 2021 and was advertised to community members through stakeholder engagement activities, letterbox drops, and the APA website. During the period (until end January 2022), the page received 1,823 total visits and 653 unique users, with 14 individual comments made from 4 unique stakeholders.

Local business and service providers, community and development groups, Local and State Government representatives, and environmental groups were contacted by Umwelt (via email and telephone) to offer participation in the SIA consultation in September-October 2021. Contact attempts were made at different times during the week to maximize response, with up to three call backs attempted.

Host landholders and near neighbours to the project were consulted by APA given the existing relationship held between the parties, with information obtained from this consultation provided to Umwelt to inform the SIA.

2.6 Impact Validation and Evaluation

Quantitative and qualitative information collected through engagement activities has informed the identification and assessment of the Project's potential or perceived social impacts (refer to **Section 4.0**) and the identification of management and enhancement measures and Project refinements.

Potential impacts on people are defined for each project component and activity. The assessment of these impacts consider whether previous investigation of the impact has been undertaken, the potential for cumulative impacts, and includes identification of mitigation and/or enhancement measures to reduce negative impacts and enhance positive impacts.

Section 5.0 assesses and ranks the Project's social impacts according to defined criteria, as outlined in the SIA Guideline (DPIE, 2021). The criteria are described in **Table 2.6**.

Table 2.6 Dimensions of Social Magnitude

Dimensions		Details needed to enable assessment
Magnitude	**Extent**	Who specifically is expected to be affected (directly, indirectly, and/or cumulatively), including any vulnerable people? Which location(s) and people are affected? (e.g. near neighbours, local, regional, future generations).
	Duration	When is the social impact expected to occur? Will it be time-limited (e.g. over particular project phases) or permanent?
	Severity or scale	What is the likely scale or degree of change? (e.g. mild, moderate, severe)
	Intensity or importance	How sensitive/vulnerable (or how adaptable/resilient) are affected people to the impact, or (for positive impacts) how important is it to them? This might depend on the value they attach to the matter; whether it is rare/unique or replaceable; the extent to which it is tied to their identity; and their capacity to cope with or adapt to change.
	Level of concern/interest	How concerned/interested are people? Sometimes, concerns may be disproportionate to findings from technical assessments of likelihood, duration and/or intensity.

Source: SIA Guideline (DPIE, 2021)

To prioritise the identified social impacts, a risk-based framework has been adopted. Traditionally, the technical risk assessment process has not been amenable to the inclusion of social impacts. One key adaptation of the approach is that both technical ratings and stakeholder perceptions of impacts are assessed. This approach is consistent with Sandman's risk equation (Risk = Hazard + Outrage) (Sandman, 1993), which acknowledges possibly low correlation between a risk's technical 'hazard' (how much harm it's likely to do) and its 'outrage' (how upset it's likely to make people).

Stakeholder perception of risk/impact is considered an independent and no less valid component of risk. It is worth noting that stakeholder perceptions vary between individuals and groups with no single perception more important than another. However, for the purpose of assessment the most common, or what is judged to be the general perception/sentiment of a stakeholder group has been used as a measure of perceived stakeholder risk or impact.

The integration of the outcomes of technical ranking (severity/scale) with stakeholder perceived ranking of impacts (intensity or importance), thus affords a true integration of expert and local knowledge in SIA and enables both types of risk to be addressed in the development of impact mitigation, amelioration, and enhancement strategies. Such an approach is acknowledged in the SIA guidelines in relation to estimating material effects.

Prioritising impacts in this integrated manner ensures that appropriate assessment and mitigation strategies can be developed that not only address impacts that may require more technical management, but also those impacts that are perceived by stakeholders as of high risk/importance/concern. These perceived concerns are just as important to manage as they have the potential to result in elevated levels of community concerns, complaints and grievances if not addressed appropriately.

As outlined in **Section 4.0**, a range of social impacts have been identified in relation to the Project that require evaluation. The impacts identified within each of the social impact categories are assessed in detail as part of the overarching risk-based framework in the following subsections. It should also be noted that social impacts are often not mutually exclusive, with higher order impacts such as population change resulting in second order impacts such as impacts on sense of community and service provision.

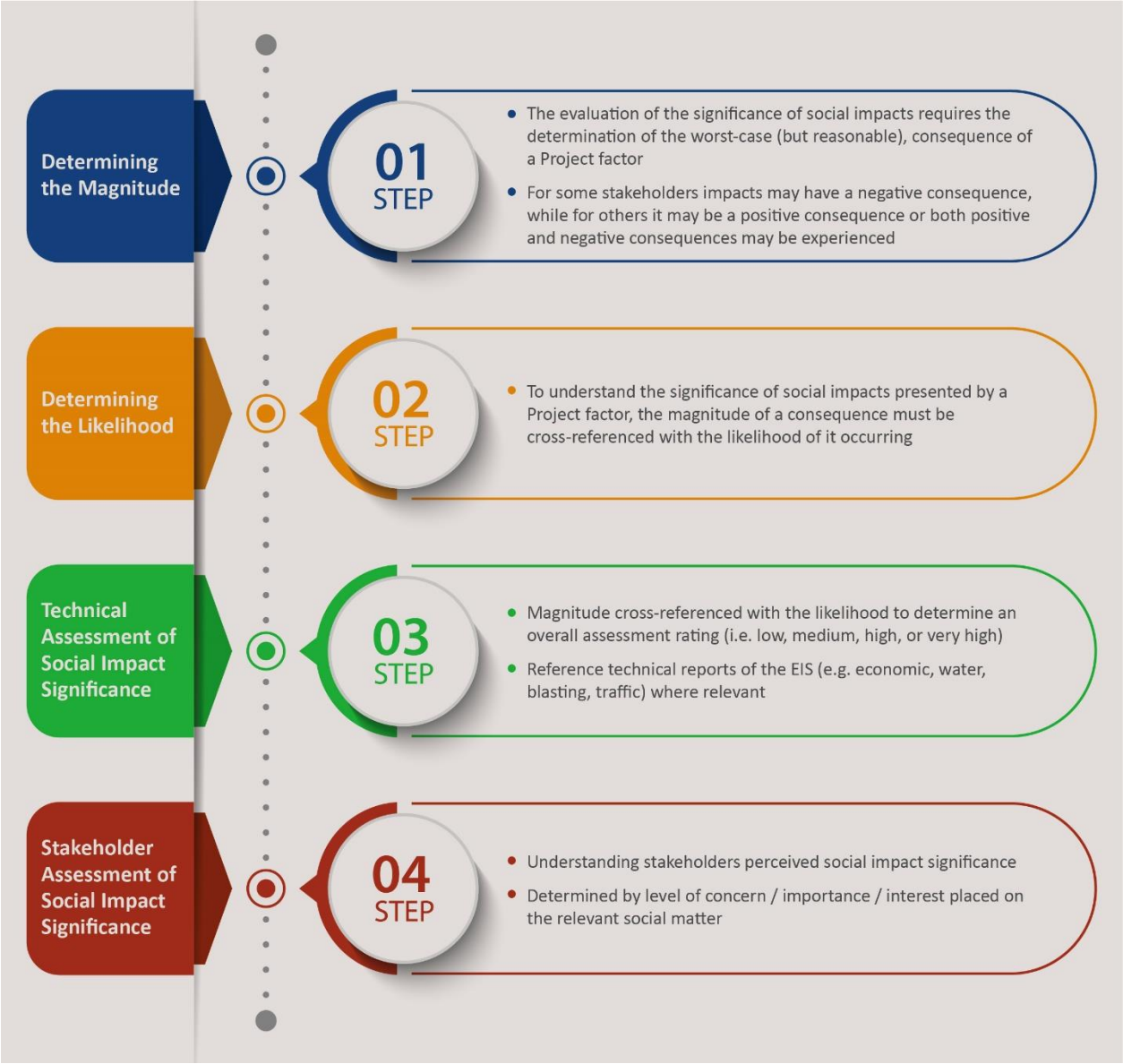


Figure 2.7 Social Impact Evaluation Process

© Umwelt, 2021

The social risk matrix (refer to **Table 2.7**) considers both the magnitude of the potential social impact (minimal, minor, moderate, major and transformational) and the likelihood of the impact occurring (very unlikely, unlikely, possible, likely and almost certain) to determine an overall risk assessment of the social impact as 'low', 'medium', 'high' or 'very high'. **Table 2.8** and **Table 2.9** outline the parameters for defining the magnitude and likelihood level for use in the significance rating process.

Table 2.7 Social Impact Significance Matrix

		Magnitude level				
		1	2	3	4	5
Likelihood level		Minimal	Minor	Moderate	Major	Transformational
A	Almost certain	Low	Medium	High	Very High	Very High
B	Likely	Low	Medium	High	High	Very High
C	Possible	Low	Medium	Medium	High	High
D	Unlikely	Low	Low	Medium	Medium	High
E	Very unlikely	Low	Low	Low	Medium	Medium

Source: SIA Guideline (DPIE, 2021)

Both positive and negative impacts are considered in this regard, with slight adjustments made to the approach to reflect positive impacts e.g., level of concern becomes level of interest, severity becomes scale of improvement or benefit, sensitivity becomes importance of the improvement or benefit and the equity of its distribution, etc.

Table 2.8 Defining Magnitude Levels for Social Impacts

Magnitude level	Meaning
Transformational	Substantial change experienced in community wellbeing, livelihood, infrastructure, services, health, and/or heritage values; permanent displacement or addition of at least 20% of a community.
Major	Substantial deterioration/improvement to something that people value highly, either lasting for an indefinite time, or affecting many people in a widespread area.
Moderate	Noticeable deterioration/improvement to something that people value highly, either lasting for an extensive time, or affecting a group of people.
Minor	Mild deterioration/improvement, for a reasonably short time, for a small number of people who are generally adaptable and not vulnerable.
Minimal	Little noticeable change experienced by people in the locality.

Source: SIA Guideline (DPIE, 2021)

Table 2.9 Defining Likelihood Levels of Social Impacts

Likelihood level	Meaning
Almost certain	Definite or almost definitely expected (e.g. has happened on similar projects)
Likely	High probability
Possible	Medium probability
Unlikely	Low probability
Very unlikely	Improbable or remote probability

Source: SIA Guideline (DPIE, 2021)

Section 5.0 provides an evaluation of the significance of each of the Project's potential social impacts. The assessment is undertaken using the criteria noted above and through the application of the consequence and likelihood framework, as identified in the SIA Guideline (DPIE, 2021) (and summarized in **Figure 2.7**).

3.0 Social Baseline

This section describes the social baseline profile of the communities within the Project's social locality. It details the defining characteristics of the communities, considering a range of demographic, social and economic indicators as outlined in **Table 2.2**. Further, it describes the natural and physical attributes of the social locality and an understanding of how people currently live, work and recreate in the area, and how they value the area.

The following components have been considered in the social baseline for this Project:

- ***Development context*** – a review of the recent history of communities, including cultural characteristics and community values. In this regard, community perspectives relating to the HPP, the Project, other development experiences, and to change are also documented.
- ***Geographic and spatial*** – identification of communities and relevant stakeholders.
- ***Socio-political setting*** – an understanding of the relevant governance structures, including those of Traditional Owners and Local Aboriginal Land Councils, and local, State and Federal government authorities.
- ***Community capital/assets*** – an assessment of the social, cultural, and demographic characteristics of the communities and their resilience and adaptive capacity to respond to change.
- ***Key community values, issues, and concerns*** – documentation of current community issues as identified in key strategic planning documents, regional plans and/or community studies, as well as through analysis of local and regional media sources.

3.1 Local and Regional Context

The Project is located within the Hunter Valley Region of NSW, a diverse and productive region with key transport infrastructure and transport systems connecting Newcastle, Sydney, the Central West, the Northwest, and the Northern Tablelands. The population of the Hunter region[1] is projected to reach 862,250 by 2036 and has consequently been identified as the State's fastest metropolitan growth area (DPIE, 2016). Strategically important transportation and infrastructure networks include the Pacific Highway, the Hunter Expressway, rail infrastructure associated with the Hunter Valley Coal Chain, key electricity transmission infrastructure, and existing gas pipelines.

The transmission pipeline corridor is located predominately within the Cessnock LGA, with smaller sections also intersecting the Maitland LGA, in the suburbs of Louth Park and Gillieston Heights, and the Newcastle LGA.

The broader Cessnock, Newcastle, and Maitland LGAs support a population of over 287,000 people, with the Cessnock and Maitland LGAs having populations of approximately 55,500 and 77,500 people respectively.

[1] For the purposes of the Hunter Regional Plan 2036 (DPIE, 2016), the 'Hunter Region' is defined using the ABS statistical area codes of Hunter Region exc Newcastle SA4, and Newcastle and Lake Macquarie SA4.

The Project intersects or is proximal to 11 ABS defined state suburbs (SSC) including Sawyers Gully, Loxford, Kurri Kurri, Heddon Greta, Cliftleigh, Gillieston Heights, Louth Park, Buchanan, Buttai, Black Hill, and Lenaghan. These SSCs have been identified for analysis as the social locality, illustrated in **Figure 2.5**.

At its' closest point, the Project is located approximately 3km and 5km respectively from the towns of Kurri Kurri and Maitland, The Project is located within the Bellbird and Maitland growth corridor, which includes the SSCs and townships of Kurri Kurri and Heddon Greta (Cessnock City Council, 2021). It is proposed that the area surrounding Kurri Kurri and Heddon Greta will support an additional 400-500 new dwellings per year up to 2036 within the Cessnock LGA and house a projected population of 77,291 people by 2036 (approximately population 22% growth of 22%) (DPIE, 2016).1The growth and trend in increased housing developments within the Cessnock LGA is illustrated in **Figure 3.1**. The value of residential development has more than doubled from $70,455,000 in 2010-11 to $187,775,000 in the 2019-20 period. Data from the 2020-21 financial year indicates that a total of 824 houses were approved in this financial year, an increase of 222 dwellings since 2010-11.

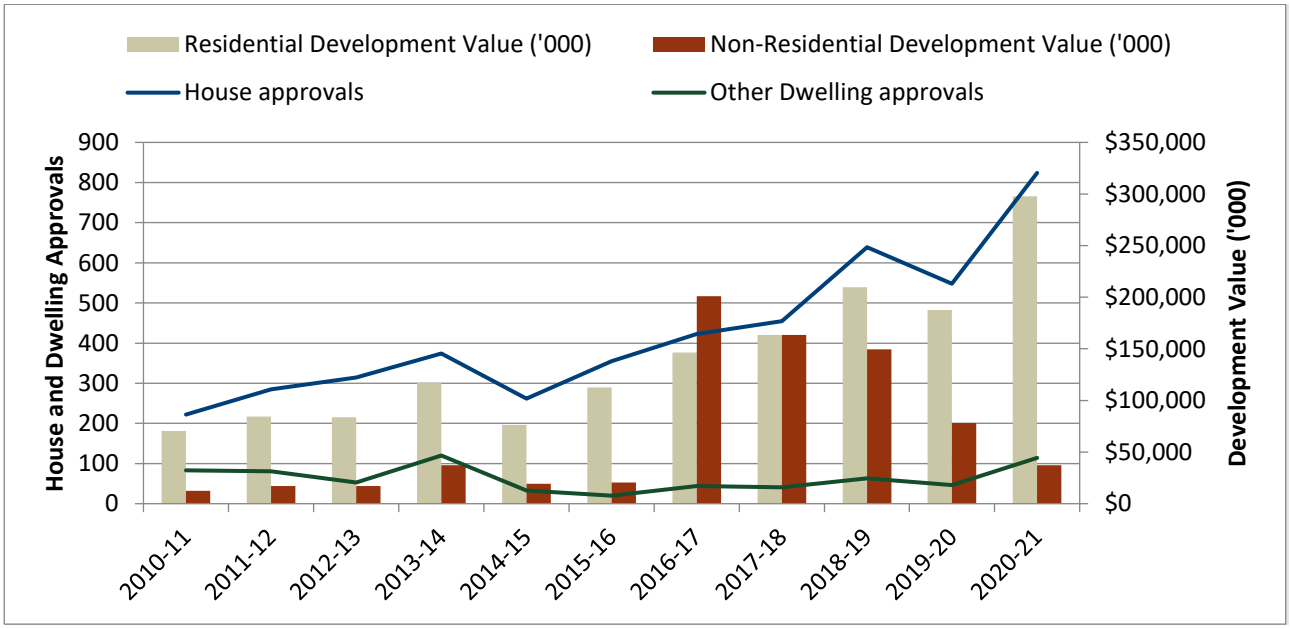


Figure 3.1 Value and Number of Building Approvals in the Cessnock LGA (2010-2020)

Compiled: REMPLAN, 2021; .idcommunity, 2021

Currently, mining accounts for 38% of the Hunter Valley's gross regional product, facilitated by proximity to the Port of Newcastle - Australia's third largest port and the largest coal export port in the world. As outlined in **Section 3.2.2**, the economy is set to diversify further as the operating context for mining and energy generation continue to undergo significant change (Regional NSW, 2018).

Visions for future development of the region include diversifying the economy through significant global gateways (Port of Newcastle, and Newcastle Airport), enhancing inter-regional linkages, preparing for diversification of the energy sector, supporting key knowledge and services sectors, such as defence and education, and protecting agricultural productivity (NSW Planning & Environment, 2016).

The township of Kurri Kurri is a key community of interest for the Project given its proximity to the KKLP and the associated HPP. Kurri Kurri has a population of 6,039 people (as at the 2016 census), and in the early 1900s was developed to support the development of mining in the region. Kurri Kurri today continues to support industry in the area, with 6.2% of the population employed in mining (compared with 0.9% in NSW), and 9.8% employed in manufacturing (compared with 5.8% in NSW) at the time of the 2016 Census.

3.2 Development Context

This section draws on several data sources to build an understanding of the development context of the region and the social locality in which the project is based. Understanding the social localities' historical response to change will assist with predicting how the Project may be perceived and accepted locally; and the degree to which the Project aligns with community values and sentiment.

3.2.1 Energy Policy in NSW

The energy sector is undergoing a significant structural change due to market forces and changing government policy. The NSW Government's strategic statement on coal exploration and mining in NSW outlines a plan to support the diversification of coal-reliant regional economies, such as the Hunter Region, to assist with the expected decline in thermal coal mining over the long term, as coal-fired electricity is progressively replaced with cleaner energy sources.

The transition in the energy sector within NSW is a key driver for the HPP project, and in turn, the KKLP project.

The Project is consistent with the objectives of the Federal Government's Energy Policy Blueprint (Commonwealth of Australia, 2019) and the NSW Electricity Strategy (DPIE, 2019), in maintaining and increasing supply of reliable electricity and increasing domestic gas supplies, and improving the efficiency and competitiveness of the NSW electricity market in addressing capacity gaps and facilitating investment in demand response and generation technologies. A summary of relevant Commonwealth and State energy policies is provided in Section 4.3 of the EIS.

3.2.2 Energy Transition in the Hunter Valley

The development of coal resources comprises an important part of the Hunter's regional history. Today, the Hunter Region is comprised of a mosaic of different industries that include coal mining, agriculture (particularly dairy and beef cattle and pasture production) and associated service industries, horse breeding, electricity production, tourism, and viticulture and wine making.

The Hunter Regional Plan (DPIE, 2016) outlines a goal to 'diversify and grow the energy sector' through promoting 'new opportunities arising from the closure of coal-fired power stations that enable long term sustainable economic and employment growth in the region'.

However, the mining industry has, and continues to be, a major employer within the Hunter Valley region. The industry currently contributes $6.1 billion in direct spending and employs over 13,000 people that reside largely within the region - 3.6% of the population in the Cessnock LGA, 2.7% in the Maitland LGA and 1.0% in the Newcastle LGA (ABS, 2016). In addition, the industry accounts for 13% of gross revenue in the Cessnock LGA, 9% in the Maitland LGA and 4% in the Newcastle LGA.

With a low level of industry diversity in the region, and a high dependence on the resources industry, this means that such communities are more likely to be vulnerable to changes in the sector should a significant reduction in operational activities occur and/or mining ceases.

Despite this dependence on the industry, an energy transition is likely to occur in the region, with the government committing through their NSW Electricity Strategy (DPIE, 2019) to the development of Renewable Energy Zones (REZ) across NSW, including the Hunter-Central Coast REZ.

3.2.3 Development History

Understanding the history of development within a region, and community response to these changes, is important in predicting proposed change that may occur as a result of the development of the KKLP Project. **Figure 3.2** identifies significant community, project and industry related events occurring within the social locality over the past nine years. These events have significantly shaped the contextual landscape and characteristics of the region, providing further context for the ongoing change experienced by local communities.

As the timeline indicates, there have been a range of industrial developments that have both commenced and ceased over the period. These include closure of the Kurri Kurri aluminium smelter, a number of coal mine closures, the release of new industrial and urban land, and new infrastructure projects such as the M1 upgrade and development of the New Maitland Hospital.

These significant developments and structural land use changes have also occurred against the backdrop of a wide range of significant community events, including unemployment within the Cessnock LGA reaching 14% in 2015, the 2017-2019 droughts, the black summer bushfires, and the continuing impact of the COVID-19 pandemic. Despite this, strong regional infrastructure and business development is ongoing, and the Hunter region is anticipated to continue to experience strong social and economic growth. This history indicates that the region is both susceptible, and resilient, to ongoing change.

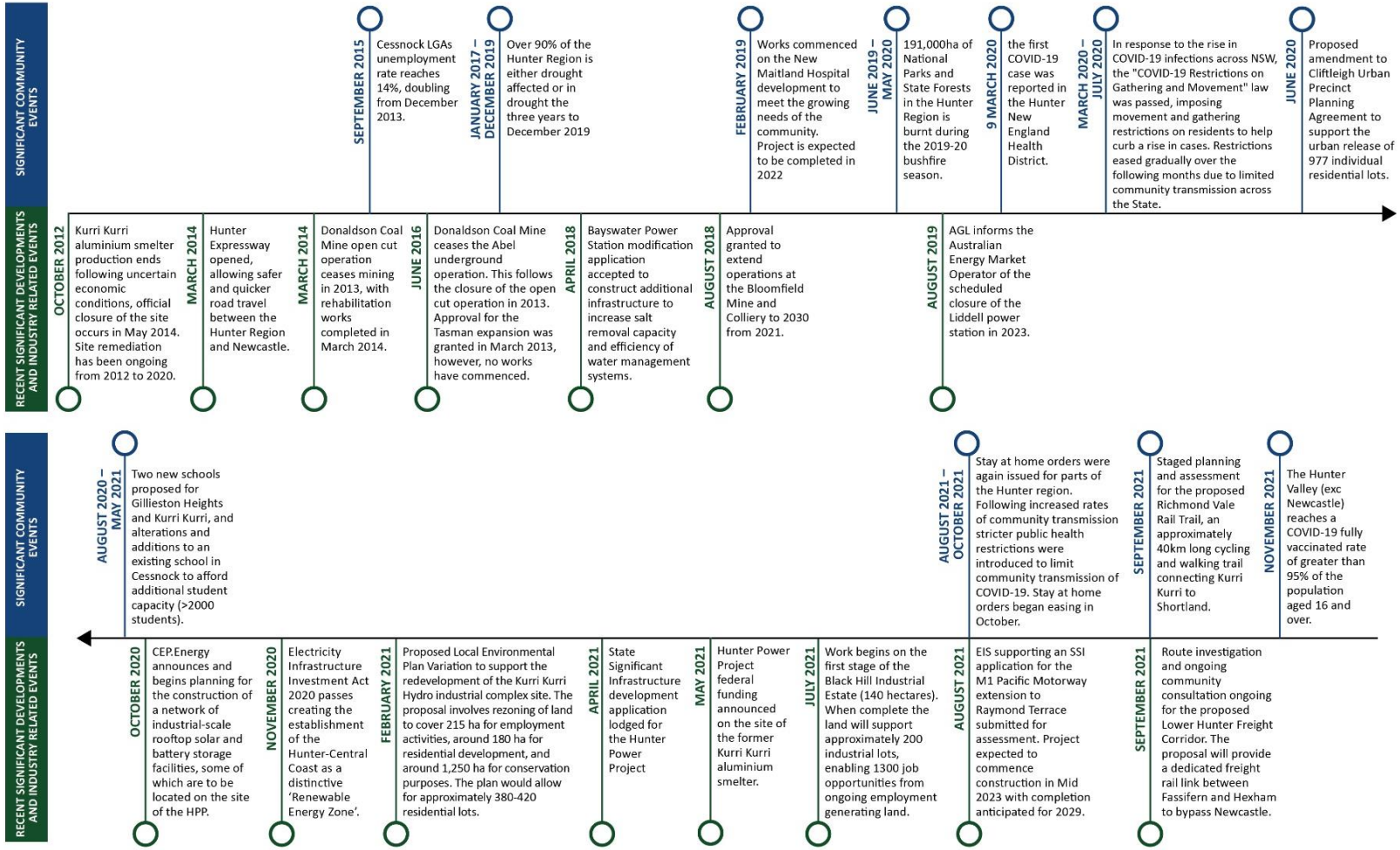


Figure 3.2 Significant community, and Development and Industry Related Events since 2012

Source: Umwelt, 2021. Compiled from: Department of Health, 2021; City of Newcastle, 2021; Valley Planning Pty Ltd, 2021; Barr Property & Planning, 2020; Barr Property & Planning, 2020a; Cessnock City Council, 2020; Hunter Valley News, 2020; Bureau of Meteorology, 2021; NSW Health, 2021; Labour Market Information Portal, 2021; Transport for NSW, 2021; Transport for NSW, 2021a; Stevens Group, 2021; DPIE, 2021; Morton, 2021; Regrowth Kurri Kurri, 2021; NSW Legislation, 2020; Farquhar & Bryce, 2021; AGL, 2019; Project Approval: Bloomfield Coal Project, 2018; DPIE, 2018; Donaldson Coal, 2021; Transport for NSW, 2019; Regrowth Kurri Kurri, 2021a

3.2.4 The Hunter Power Project

As indicated in **Section 1.3**, the KKLP Project is proposed as ancillary infrastructure to support the transmission and delivery of natural gas from existing grid infrastructure to the HPP.

The HPP has been met with a degree of community and commentator criticism, citing that the HPP may not deliver lower energy prices for consumers, and will result in increased emissions and therefore greater climate risks. The need for the HPP has also been questioned, with climate groups and think tanks such as the Grattan Institute (2021) perceiving that the project is not required to maintain grid reliability post-Liddell closure.

The Response to Submissions (RTS) Report prepared for the assessment of the HPP (Snowy Hydro & Jacobs, 2021), noted that key issues raised in submissions included increased GHG emissions and effect on climate change, low long-term employment, perceived impact on land values, noise emissions, air quality impacts, perceived misuse of taxpayer funding, perceptions of inadequate business case and justification, and cumulative impacts associated with gas fields and pipeline infrastructure.

The EIS submitted for the HPP (Jacobs, 2021) identifies that variable renewable or intermittent energy generation, such as wind and solar, needs to be backed up by dispatchable power or energy storage.

The assessment of the HPP EIS conducted by DPIE concluded that the project would strengthen energy security in NSW, as it would:

- contribute to closing the previously forecast reliability gap in 2023-2024 following the retirement of Liddell Power Station
- mitigate electricity supply scarcity for the Hunter, Sydney and Wollongong regions associated with the retirement of Vales Point Power Station in 2029
- mitigate reliability risks associated with the potential early exit of coal-fired power stations ahead of planned closure timeframes
- provide an ongoing source of synchronous energy to contribute to system security
- contribute to avoiding electricity price increases following the closure of Liddell Power Station for the scenario described in the Report of the Liddell Taskforce
- contribute to the net reduction of greenhouse gas emissions in the energy sector by providing ongoing firming of intermittent renewables.

These conclusions have been further confirmed by the announcement from Origin Energy during February 2022 of the potential early retirement of Eraring Power Station in August 2025. Eraring Power Station is Australia's largest power station and provides approximately 25% of NSW power requirements.

The HPP is also notably the foundation customer for the Kurri Kurri Regrowth Project. The Regrowth project spans around 2000ha and offers the opportunity to create a master planned, mixed use urban redevelopment (Regrowth Kurri Kurri, 2022).

3.2.5 Key Community Values, Issues and Concerns

In support of the preparation of this SIA, a review of documentation of current community as identified in key strategic planning documents, regional plans and/or studies, has occurred and is included within **Section 3.3.2.3**. In addition, consultation undertaken for this Project has allowed for the identification of a number of key community values, issues and concerns.

In relation to key community values, stakeholders consulted during the course of the SIA defined their respective communities in the following manner:

> *"A community rich in mining heritage but with the demographics changing due to the coal having been mined out in the area...it has a very genuine and generous population base" – Local community group*
>
> *"The size of the town not being overdeveloped is also an asset with many heritage assets." – Local community group*
>
> *"Black Hill is tiny community, defined by its geography - wetlands on one side, Sugarloaf ranges, industrial estates or mines. The character of that area of Black Hill is going to change a lot given they are in rural areas." – Local community group*
>
> *"The size of the town being not overdeveloped is also an asset" - Local community group*

During the broader community survey, participants were also asked to identify what they valued most about living in the area. **Figure 3.3** summarises the values identified by community residents that assist in defining sense of community and place. It is important to clarify that a person's sense of place is an abstract concept and is derived from a subjective and complex relationship to a geographic locality (Shamai, 1991).

In summary, values frequently identified by respondents in relation to their geographic locality, in order of importance (refer to **Figure 3.3**), included:

- 'rural amenity' or 'small village atmosphere'
- '*environment'* (with the communities of Black Hill, Buchanan, Buttai, and Cliftleigh reporting a higher percentage of responses in this regard)
- '*people'* and '*community'* (valued more highly by respondents in the areas of Kurri Kurri, Louth Park, Gillieston Heights, and Heddon Greta)
- '*family connections'* (valued most highly in Sawyers Gully and Kurri Kurri).

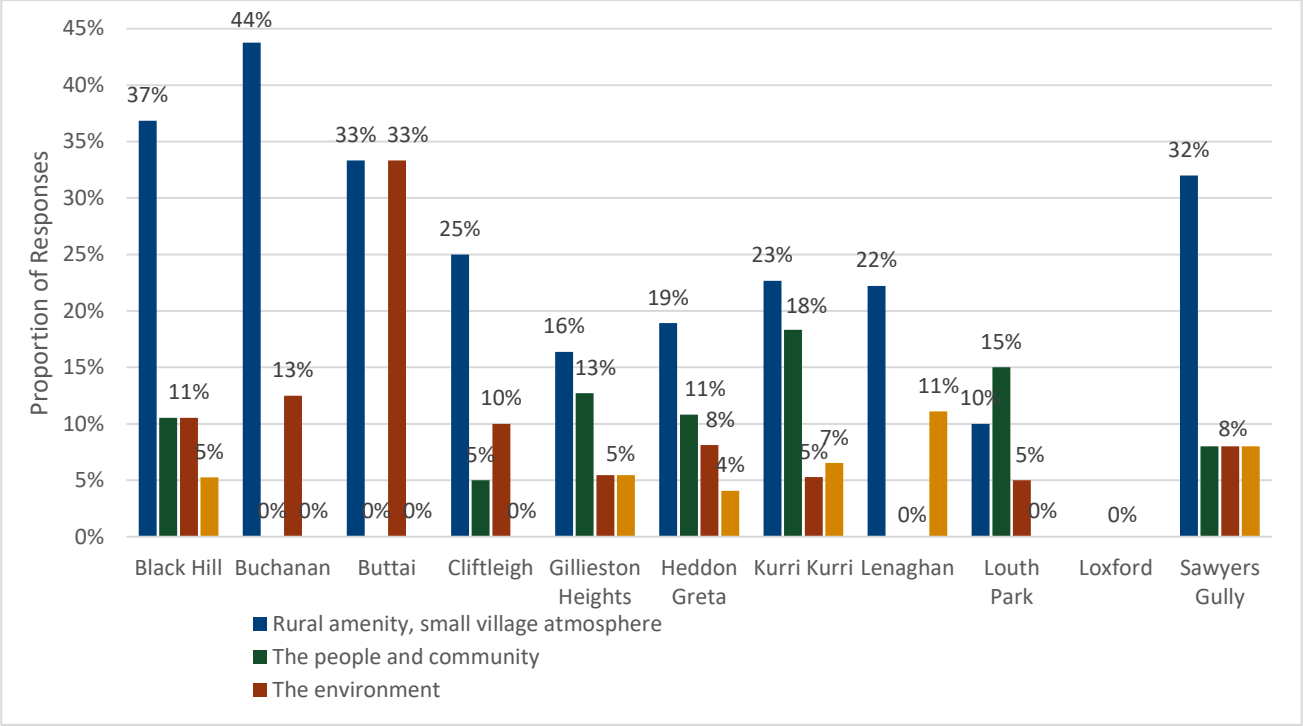


Figure 3.3 'What do you value most about living in the area?' – Broader community survey selected responses categorized by respondent location

Base n = 402; Counting coded responses: Black hill n = 19; Buchanan n = 16; Buttai n = 3; Cliftleigh n = 20; Gillieston Heights n = 110; Heddon Greta n = 74; Kurri Kurri n = 322; Lenaghan n = 9; Loxford n = 2; Sawyers Gully n = 25

In relation to community identified issues and concerns, **Table 3.1** displays the most frequently identified community needs from the broader community survey, analysed by locality. Support for employment, road infrastructure, and medical services and facilities were the most common needs identified. Across the social locality, the following key trends were identified:

- Higher population growth suburbs (Heddon Greta, Cliftleigh, Louth Park, and Gillieston Heights) generally reported a greater need for physical infrastructure and services such as improved road infrastructure, medical and education facilities, compared to other localities.
- Residents in Black Hill experience communication infrastructure deficiencies.
- Employment opportunities were identified as a key community need across the localities of Louth Park (54% of responses), Sawyers Gully (41% of responses), and Kurri Kurri (40% of responses).

Various key stakeholders consulted during the course of the Project's engagement highlighted a lack of local employment and training opportunities as a key community issue, this issue is assessed in relation to the project in **Section 4.1.1**. A number of community groups also highlighted a lack of connectivity between townships as a challenge for the area, suggesting the need for improved cycling infrastructure. A lack of transport options was also raised as a barrier to employment in the area as jobseekers without cars struggle to access employment opportunities.

Table 3.1 Top 15 identified community needs by response locality – Broader Community Survey

Key Community Needs	Black Hill	Buchanan	Buttai	Cliftleigh	Gillieston Heights	Heddon Greta	Kurri Kurri	Lenaghan	Louth Park	Loxford	Sawyers Gully	Net of Responses
Employment and Training	0%	20%	100%	29%	21%	38%	40%	33%	15%	100%	41%	34%
Road Infrastructure	21%	10%	0%	50%	45%	38%	20%	33%	54%	0%	29%	28%
Medical facilities and services	0%	20%	0%	7%	6%	10%	7%	0%	8%	0%	0%	12%
Education facilities	0%	0%	0%	14%	6%	8%	3%	0%	0%	0%	0%	7%
Social and economic opportunities for young people	0%	0%	0%	0%	0%	4%	6%	0%	0%	0%	6%	4%
Retail facilities	0%	10%	0%	7%	2%	4%	4%	0%	0%	0%	0%	4%
Affordable housing	0%	10%	0%	0%	6%	0%	3%	33%	0%	0%	0%	3%
Water supply and drainage	0%	0%	0%	0%	2%	8%	3%	0%	0%	0%	6%	3%
Cheaper electricity	7%	0%	0%	7%	5%	2%	3%	0%	0%	0%	6%	3%
Infrastructure (General)	7%	10%	0%	0%	8%	2%	1%	0%	8%	0%	0%	3%
Communication Infrastructure (phone coverage, etc.)	29%	0%	0%	0%	3%	2%	2%	0%	0%	0%	0%	3%
Industry and economic diversification	0%	0%	0%	0%	3%	0%	3%	0%	8%	0%	0%	2%
Grid reliability	0%	0%	0%	0%	5%	0%	2%	0%	15%	0%	0%	2%
Emergency services (Police, Ambulance etc)	7%	20%	0%	0%	0%	0%	2%	0%	0%	0%	0%	2%
Community engagement	0%	0%	0%	0%	5%	0%	1%	0%	0%	0%	12%	2%
Number of Responses	14	10	2	14	66	48	214	3	13	1	17	402

Source: Umwelt, 2021, Note: % do not equal 100% since the question allowed multiple responses

3.3 Sustainable Livelihoods Approach – Community Capitals

To better understand the communities of interest to the KKLP Project and to evaluate their resilience and adaptive capacity to change, the social baseline has utilised the Sustainable Livelihoods Approach (U.K. Department for International Development (DFID, 2001), and the community capitals outlined in the IAIA SIA Guidance (IAIA, 2015), for analysis purposes.

According to the Sustainable Livelihoods framework, people seek to maintain their livelihood within a context of vulnerability. Specifically, threats to their livelihood including shocks (such as sudden onsets of natural disasters, health problems, conflicts, and economic crises), trends (for instance, those relating to the economy, health, resources, and governance) and seasonality (such as cyclical fluctuations in prices or employment) with people drawing on these assets to build and maintain their livelihood. Consequently, a livelihood is considered sustainable '…*when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base'* (DFID, 2001).

The DFID approach draws on broad categories of community capitals as a fundamental basis to identifying and further enhancing community capacity and resilience and has been used in many SIA studies (IAIA, 2015) (refer to **Figure 3.4**).

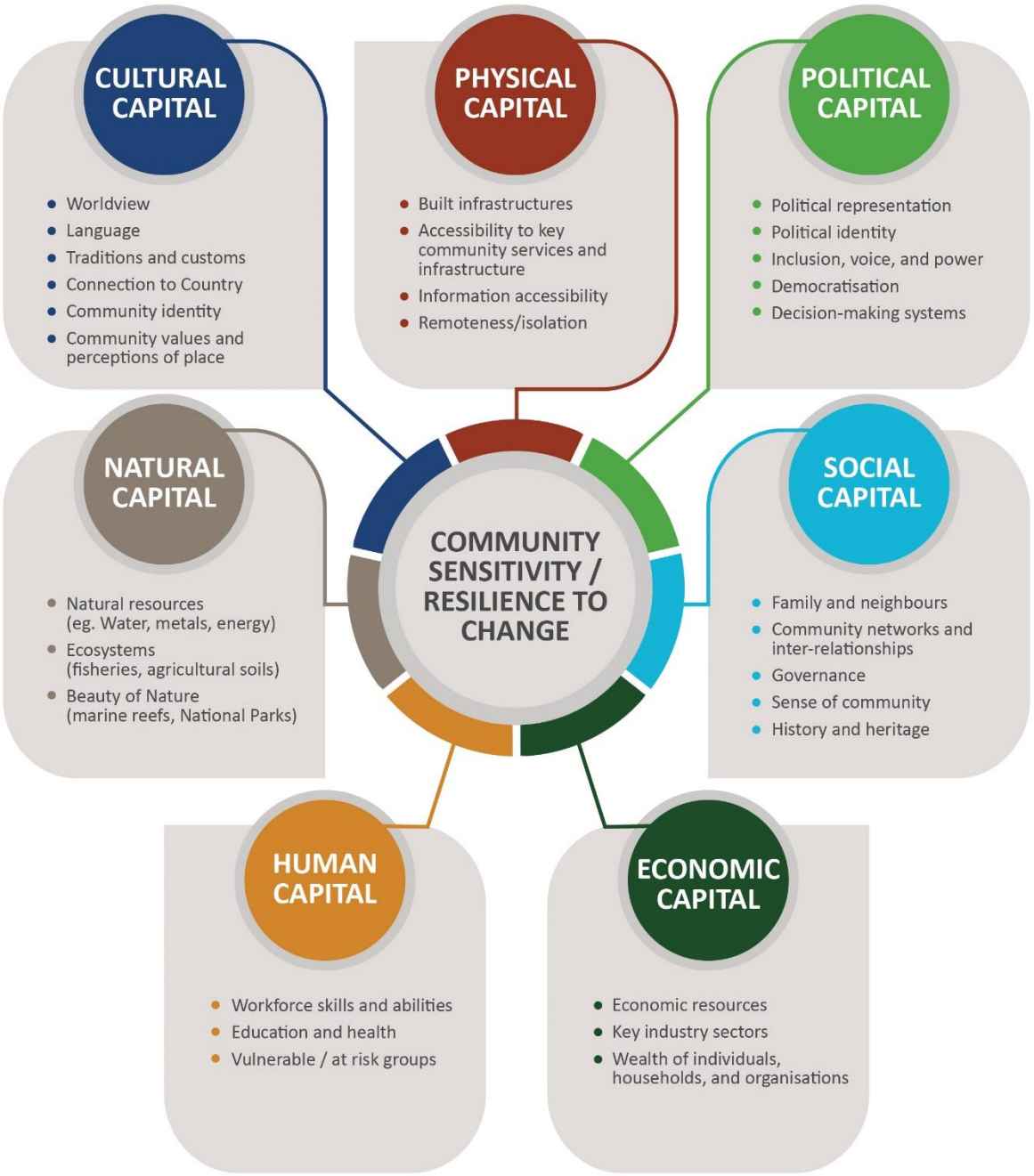


Figure 3.4 Capital Framework

Adapted from Coakes and Sadler (2011)

This methodology has been further developed to reflect an additional two capital areas – cultural and political capital (IAIA, 2015).

The vulnerability or conversely the adaptive capacity of the social locality can be assessed through the selection of a suite of socio-economic indicators. Elements of each capital area are further outlined in **Figure 3.4,** with the following sections summarising key community strengths and vulnerabilities of the social locality with additional information provided in **Appendix A**.

3.3.1 Natural Capital

Natural capital refers to the natural assets and resources that contribute to community sustainability. Natural capital can include resources such as minerals, land, forests, and waterways, which provide benefit to the community, as well as environmental assets that provide social, cultural, economic and/or recreational value. Natural Capital also determines the viability and capacity of an area to support human land use, and accounts for both historic and contemporary land use structures. A summary of the natural capital in the social locality is provided below.

3.3.1.1 Community Identified Values

During the broader community survey conducted for this SIA, participants were asked to identify what they value most about living in their area. The top cited value identified across all localities were made regarding either the 'rural amenity, or small village atmosphere' (refer to **Section 3.2.5**). In the communities of Black Hill, Buchanan, Buttai, and Cliftleigh, a greater proportional frequency of responses cited 'the environment' as a key value over other areas in the social locality. There is a strong sense emergent through consultation that the natural environment is something which people value about the area. Participants who responded to the survey often described their locality in terms of the landscape, citing view, peacefulness, flora and fauna, and the rural landscape as key values.

3.3.1.2 Historic Land Use

As stated in the Aboriginal Cultural Heritage Assessment (Umwelt, 2021), based on the mapping provided by (Tindale 1974), the study area is located at the intersection of the traditional Country of the Awabakal and Wonnarua Peoples. While this mapping is by no means definitive, it is supported by historical accounts noting the presence of the Awabakal People in the area bordering Hexham Swamp and other accounts of the Wonnarua People in the areas around Maitland. A summary of the Aboriginal cultural values in the social locality is provided in **Section 3.3.4.1** below.

In early colonial expansion, the region was used predominately for agriculture on the rich fertile soils of the Hunter River. Since the late 1800s, the social locality has been home to coal mining, with mines established at Kurri Kurri and Heddon Greta, and Four Mile Creek where the Bloomfield colliery remains operational today. Associated settlements to house coal workers and their families were also established at Kurri Kurri and Heddon Greta (Towns with Heart, 2014). These townships were part of a series of settlements in the Hunter Valley and were shaped by the development of national transport networks, including heavy rail and road networks that continue to connect the Hunter coal mining industry to Newcastle, Sydney, and export markets (Department of Planning and Environment, 2018).

3.3.1.3 Contemporary Land Use

Despite a long period of post-settlement contact and occurrent displacement of Aboriginal people, the lands of the social locality are still cared for by Traditional Owners. Today, the Wonnarua people, represented by the Wonnarua National Aboriginal Corporation, live in the social locality. The Wonnarua National Aboriginal Corporation are engaged in several activities such as biobanking, health and education projects and management of sites of cultural importance (Wonnarua National Aboriginal Corporation, n.d.). Similarly, the Awabakal people, represented by the Awabakal Local Aboriginal Land Council, maintain a strong connection to Country and continue to protect the culture and heritage of Aboriginal persons in the social locality.

Within the broader Hunter Region, there is a strong history of viticulture, with winemaking dating back to the 1820s. The Hunter Region is a well-known food and wine destination amongst tourists featuring annual wine, food, and music festivals and events. The sector is protected by a Critical Industry Cluster status and generates annual investment expenditure in excess of $450 million (Department of Primary Industries, 2013).

In 2018-19, the gross value agricultural production in the Hunter Valley region (excluding Newcastle) was $310 million, 3% of the total gross value of agricultural production in New South Wales ($11.7 billion). The leading agricultural commodities in the Hunter Valley region based on gross values include cattle and calves ($135 million), milk production ($60 million), and poultry ($42 million) (Department of Agriculture, Water, and the Environment, 2021).

The Hunter Region is also an internationally recognised and well-established thoroughbred horse breeding region and is classified as one of three international centres of thoroughbred breeding excellence. The area is ranked second to Kentucky, USA, in terms of the concentration of thoroughbred stud properties and the quality and number of bloodlines (Department of Primary Industries, 2013).

The Project impacts land predominately mapped as class 4 (moderate), 5 (moderate-low), and 6 (low) capability land. Additionally, the Project does not impact on any Critical Industry Clusters or any thoroughbred stud properties.

As previously noted, the region is rich in mineral resources. The Hunter coalfield is the largest coal producing area in NSW with a value-added economic contribution of $6.6 billion in 2012-13 (The CIE, 2014), and directly employs 8,824 people in the Hunter Valley Region (ex. Newcastle) (ABS, 2016). Other key mining activities in the region include sand mining and other coarse aggregate and conglomerate for construction materials. The project site intersects a number of mining leases and mining exploration leases, these include ML1738 (Bloomfield Colliery), ML1461, ML1618, and EL5497 (Donaldson Coal Mine).

Most of the water supplied to the Hunter Region is via the Chichester and Grahamstown Dams. There are also several private and locally operated recycled water schemes which contribute approximately 8% of the Hunter's overall water supply. The Draft Lower Hunter Water Security Plan outlines that the 'system's ability to meet [water] demand is increasingly at risk in times of drought' (DPIE, 2021, p. 9).

The social locality comprises part of the Greater Newcastle Metropolitan area, the development of which is considered critical to overall productivity and ongoing success of the Hunter region (NSW Planning & Environment, 2018). There are a wide range of land uses in the social locality which reflects the project site's location at the intersection of the wider Newcastle metropolis, with existing townsites, developing urban areas, historical industrial and agricultural uses, and key transport and infrastructure links.

Despite the larger provision of recreation facilities in the greater Cessnock area, there is a limited amount of formal recreation facilities such as campgrounds, picnic areas, and signposted trails within the social locality. Popular outdoor recreation facilities in the locality include the Loxford Park speedway, located adjacent to the HPP site, and the Kurri Kurri golf course located in Heddon Greta. Kurri Kurri is home to several parks and outdoor parks were also identified in Heddon Greta, Cliftleigh, Louth Park, and Gillieston Heights. No parks were identified in the surrounding areas of Black Hill, Lenaghan, Buttai, and Buchanan.

The social locality is home to remnant pockets of native vegetation, the most extensive of which is located in the Werakata National Park and Conservation Area, Aberdare State Forest, the buffer zone of the former Kurri Kurri Aluminium Smelter, and the Mount Sugarloaf Conservation area. Areas of native vegetation are also located on private landholdings in Sawyers Gully, Abermain, Loxford, Buttai, and Black Hill.

The surrounding areas of Cessnock are home to popular and significant areas of nature reserve, including the Yengo National Park, and the Watagan, Corrabare, and Pokolbin State Forests. These areas offer several outdoor recreation opportunities, including walking trails, 4wd trails, camping and picnic areas, and hunting grounds.

The Project has been designed to avoid and minimise impacts to environmental values which form part of the natural capital of the social locality. A summary of the Project design and refinement process is provided in Section 5.0, Project Alternatives, of the EIS.

An overview and description of the land uses in the social locality surrounding the Project is provided in **Table 3.2**. Further detail regarding land use characteristics in close proximity to the Project is provided in Section 7.2, Land Use, of the EIS.

Table 3.2 Proximal Land Use Characteristics

Locality	Supported Land Usage
Black Hill, Lenaghan, Buttai surrounding areas	Areas of remnant vegetation and agricultural land uses dominate, with some areas of rural/residential lifestyle acreages. The area of Black Hill contains the sites of the Bloomfield and Donaldson coal mines, and the Daracon and Woodbury Civil quarry operations. Beresfield Industrial area is located toward the Maitland residential corridor. John Renshaw Drive and the Pacific Highway intersect the localities.
Buchanan	Areas of remnant vegetation and agricultural land use dominate, with most agricultural land located near the fertile Wallis Creek Floodplain. John Renshaw Drive and the Hunter Expressway intersect the locality, and interchange with George Booth Drive. Housing is low density and rural in nature.
Louth Park	Located within the Wallis Creek Floodplain where agricultural land dominates with large acreages. Low density residential housing is limited to higher ground near Maitland. Home to the Mount Vincent Road Waste Management Centre.
Sawyers Gully	Areas of native vegetation, including Werakata National Park are dominant. Housing is restricted to small acreage and rural landholdings. The Hunter expressway intersects the area.
Kurri Kurri	The Kurri Kurri urban population centre predominately consists of low-density residential housing, a commercial core, and light industrial uses.
Heddon Greta, Gillieston Heights, and Cliftleigh surrounding areas	These areas are dominated by low density residential housing, with future development and strategic urban land releases planned for the corridor between Kurri Kurri and Maitland. The Hunter expressway intersects with the area, interchanging with Cessnock Road. The area also contains the Kurri Kurri Golf Course, and a drive-in picture theatre.
Loxford	Contains the site of the former Kurri Kurri Aluminium Smelter, and HPP location. Includes a small amount of low-density residential housing and significant portions of remnant vegetation. Facilities servicing Kurri Kurri and the social locality include the Loxford Park Speedway, TAFE NSW Kurri Kurri, and a wastewater treatment plant. The Hunter expressway intersects the area.

Natural Capital Key Findings Snapshot

- European settlement in the social locality has been driven by access to rich agricultural land, and later the discovery of coal and the development of industry.
- Towns in the region grew, and were supported by the development of national transport networks connecting primary industry with consumers and export markets.
- The landscape is characterised by a number of diverse land uses, including urban areas and industrial lands, rural lifestyle lots, agricultural land, mine and mine rehabilitation sites, and native vegetation.
- There is a strong regional identity in the broader Hunter Region aligning with the landscapes which have fostered the significant viticulture and horse breeding industries. It is noted that the project will not intercept any Critical Industry Clusters.

3.3.2 Political Capital

Political capital refers to the individuals, institutions, and systems that contribute to a community's ability to maintain and uphold a governance structure. Political capital can determine the extent to which people are able to participate in decisions that affect their lives, the level of democratisation within a community, and the resources provided for this purpose. A summary of the political capital relating to the social locality is provided below.

3.3.2.1 Federal Government

The Project is located within the Australian Commonwealth Electoral Division of Paterson. Meryl Swanson Labor MP was elected to the House of Representatives for Paterson in 2016, following a redistribution of the Paterson electorate. MP Swanson succeeds Liberal Party member Bob Horne.

As of June 2021, the Paterson electorate was listed in the highest electoral enrolment rate band rate, with over 98% of the population enrolled on the electoral roll (Australian Electoral Commission, 2021).

3.3.2.2 State Government

The electoral district of Cessnock represents the SSCs of Cliftleigh (partial), Heddon Greta, Buchanan, Buttai, Black Hill (partial), Kurri Kurri, Loxford, and Sawyers Gully. Clayton Barr MP of the Labor party is the representing member for Cessnock and has held this position since the 2011 NSW state election.

The electoral district of Wallsend represents the SSCs of Lenaghan and Black Hill (partial). Sonia Hornery Labor MP is the representing member for Wallsend and has held this position since the 2007 NSW state election.

The electoral district of Maitland represents the SSCs Louth Park, Cliftleigh (partial), Gillieston Heights. Jenny Aitchison MP of the Labor party is the representing member for Maitland and has held this position since the 2015 NSW state election. She succeeds Liberal Party member Robyn Parker as the incumbent Member for Maitland. MP Aitchison also serves as the Shadow Minister for Regional Transport and Roads.

3.3.2.3 Local Government

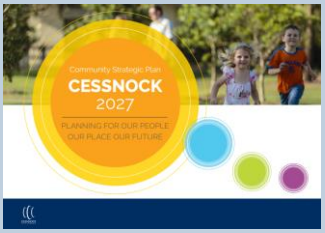
The Project is largely located within the Cessnock LGA, with sections intersecting the Maitland and Newcastle LGAs. The following dot points provide a summary of current and recent political representation at the LGA level across the respective Councils:

- The town of Kurri Kurri is represented by the Cessnock City Council, consisting of twelve councillors, including Bob Pynsent as Mayor. Cr Pynsent is a member of the Labor party and has served on Council since 1999, he is currently serving his second term as Mayor.

- Maitland City Council is represented by thirteen councillors, including Mayor Loretta Baker and Deputy Mayor Ben Mitchell. Cr Baker is a member of Country Labor and joined Council in 2008. She became the first female mayor in the City in September 2017.
- Newcastle City Council is represented by thirteen councillors, including Mayor Nuatali Nelmes, and Deputy Lord Mayor Declan Clausen. Cr Nelmes became Mayor following the 9 September 2017 general elections, was previously a Councillor for six years, and is a member of the Labor party.
- The next local government general election is scheduled to be held on 4 December 2021, having been postponed in September 2020 and September 2021 due to the COVID-19 Pandemic restrictions in place throughout NSW.

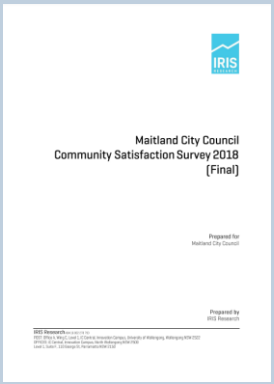
Strategic regional development and planning across the LGAs is supported by the NSW Government through the Department of Planning, Industry and Environment. **Table 3.3** contains an overview of local government strategic plans relevant to the social locality. These documents provide an understanding of the local context, as well as strategic priorities and interests for the area that may be relevant to the Project. Such plans also consider planning and governance priorities for the region, and key community issues and needs.

Table 3.3 LGA Strategic Planning Documents

Plan/Document/Strategy	Strategic Priorities and Community Concerns
Community Strategic Plan Cessnock 2027 (Cessnock City Council, 2017) 	The Cessnock LGA has a focus on looking after the community, through enhancing and diversifying the local economy with the stated vision of being an area that is 'thriving, attractive and welcoming': The Community Strategic Plan Cessnock 2027 notes that the key priorities for the area include: • Employment creation through tourism, industrial lands, and primary resources • Support for businesses to grow and diversify • A diverse economy • Retention of environmental values, which includes a desire for less development and holistic consideration of environmental impacts • A greater focus on renewable energy sources

Maitland +10 2018-2028: Community Strategic Plan (Maitland City Council, 2018) 	The Maitland LGA Community Strategic Plan reflects the aspirations and priorities of the local community. The plan centres around the following priorities:
	• Proud people, great lifestyle
	• Our built space
	• Our natural environment
	• A prosperous and vibrant city
	• Connected and collaborative community leaders
	• The plan also identifies a number of key community challenges:
	  ○ Ensuring sufficient infrastructure and housing for a growing population
	  ○ Accessing local employment opportunities
	  ○ Maintaining heritage
	  ○ Protecting wildlife and environment

Plan/Document/Strategy	Strategic Priorities and Community Concerns

Maitland City Council Community Satisfaction Survey 2018
(IRIS Research)
 
	The Maitland City Council's Satisfaction report identifies several key issues and themes that are of concern to community members. Key themes relating to the governance of the LGA which emerged during consultation include:
	• 'Having a strong and reputable council': 79% of survey respondents were concerned about Maitland Council's reputation.
	• 'The future of Maitland': 55% of respondents stated that the future planning and development of Maitland concerned them greatly.
	• 55% of respondents stated that 'overall, the future of Maitland concerns me greatly'.
	• The top three priorities that community respondents believed that the Council should be focusing on area:
	  ○ Support for local business and job creation (89% of respondents).
	  ○ Physical Planning for Maitland, now and into the future (87% of respondents).
	  ○ Development of Maitland as a place to visit and invest (88% of respondents).
	• Amongst respondents, the top three issues concerning survey respondents, as rated on a averaged scale of 1 to 5 (with 1 being 'not concerned' and 5 being 'concerned'), were:
	  ○ Safety in our community (4.4 out of 5).
	  ○ A strong and reputable Council (4.2 out of 5).
	  ○ Public infrastructure not meeting population growth (4.2 out of 5).

Newcastle 2030 Community Strategic Plan (Newcastle City Council, 2018) 	Newcastle 2030 sets the community priorities and vision for Newcastle to 'be a smart, liveable and sustainable global city'. The community identified the following challenges for the LGA, namely: • Transport • Building and development – especially impacts on heritage, and the scale and density of development • Economy – especially lack of job opportunities • Changing demographics and population size • Governance and leadership • Environmental sustainability.

3.3.2.4 Traditional Owners

The Project is located within the traditional lands of the Wonnarua Nation. Wonnarua means land of hills and plains, reflecting the characteristic landscape of the area (Cessnock City Council, 2021). The Nation's modern-day connections to Country extend over a large portion of the Hunter Region, encompassing Maitland, Muswellbrook, Cessnock, and Singleton.

The Mindaribba Local Aboriginal Land Council (LALC) aims to protect the interests of its' members and the broader Aboriginal community.

The Plains Clan of the Wonnarua People currently have a number of active native title applications that spans the Cessnock City Council, Dungog Shire Council, Hawkesbury City Council, Maitland City Council, Muswellbrook Shire Council, Upper Hunter Shire Council, and Singleton Council areas.

There are currently no Native Title registered claims or determinations listed on, within, or proximal to the Project construction footprint.

Political Capital Key Findings Snapshot

- Strategic planning and development of the local area, and the capacity of facilities and services to appropriately maintain a liveable community has been highlighted in Council plans as a key challenge for the region.
- Future development and land use planning in the area is supported by a range of local and regional strategic planning systems and mechanisms.
- The Project is located within the traditional lands of the Wonnarua Nation. The Mindaribba LALC aims to protect the interests and further the aspirations of its members and the broader Aboriginal community.

3.3.3 Human Capital

The level of human capital within a community is assessed by considering population size, age distribution, education and skills, general population health, and the prevalence of vulnerable, marginalised or at-risk groups within the community. This section provides a summary of the key characteristics of the social locality from a human capital perspective (refer **Appendix A**).

The population has increased across all LGAs since 2006 (refer **Appendix A**) and is expected to rise to 2041 (refer to **Table 3.4**). The Lower Hunter region is identified as the fastest growing population growth corridor in NSW, with concentrated growth being identified in the strategic centres of Kurri Kurri, Maitland, and surrounding areas (NSW Planning & Environment, 2016). Proportional population change characteristics by selected age groups to the year 2041 are identified in **Figure 3.5**. The following key population change characteristics are noted across the social locality:

- Populations are expected to increase across LGAs, with the strongest population growth rates anticipated in the Cessnock LGA (33% population increase to 2041), and the weakest predicted in the Newcastle LGA (16% increase to 2041).
- All LGAs are anticipated to record the largest growth in their respective populations amongst the 75+ years age group, with proportions increasing from 7% in 2021, to 11-12% of the total population by 2041.
- All LGAs are anticipated to record a slight proportional decrease in the representation of younger persons and middle-aged working persons (ages 0-44 years) within their populations. Proportional decreases in younger aged persons and increases in older aged persons indicate a generally ageing population.
- It is anticipated that all LGAs will continue to maintain a large proportion of working aged persons (ages 20-64 years) to 2041.

Table 3.4 Projected Population Changes 2021 – 2041

Locality	Population 2021	Population 2041	Proportional population increase per year to 2041 (%)	Proportional population increase to 2041 (%)
Cessnock LGA	60,062	80,033	1.7	33
Maitland LGA	84,892	104,716	1.2	23
Newcastle LGA	172,525	199,679	0.8	16
NSW	8,414,980	10,572,696	1.3	26

Source Data: ASGS 2019 LGA Projections

Despite the evident aging population, at the 2016 Census, both the Cessnock (38 years) and Maitland (36 years) LGAs had comparable or lower median ages than the NSW average of 38 years, generally indicating the LGAs might experience an increase in median age over the coming decades.

Furthermore, the median ages have increased from the 2006 Census (37 years in Cessnock, and 35 years in Maitland). Changes in the median age across the 2006 and 2016 Census periods are more pronounced in particular locations. Whilst all study periods noted gradual increases, Gillieston Heights recorded a large decrease in the median age from 42 to 29 years.

A high level of variability in median ages was evident across all the respective SSCs. For example, Cliftleigh and Gillieston Heights have average ages of 24 and 29 years respectively, compared with Black Hill and Sawyers Gully both at 44 years. As noted above, lower median ages appear to be correlated with the fastest growth communities - where areas of urban release are occurring - with these areas attracting a greater proportion of younger people and families compared to the broader social locality.

The population within the social locality have a lower-than-average rate of Year 12 completion compared to the NSW average (59%) (32% in Cessnock and 42% in Maitland LGAs). Rates of Year 12 completion are highly variable across study SSCs, with the highest completion rates being recorded in Louth Park (54%) and the lowest being recorded in Sawyers Gully (23%).

A higher attainment of certificate level compared to Bachelor level qualifications was recorded across all communities. The highest proportion of the population holding a bachelor's degree was recorded in Buttai (22%), with the lowest recorded in Kurri Kurri and Cliftleigh (4% respectively). Considering the NSW State completion rate of 16%, there is evidence of a high level of relative advantage and disadvantage across the social locality with respect to access to education.

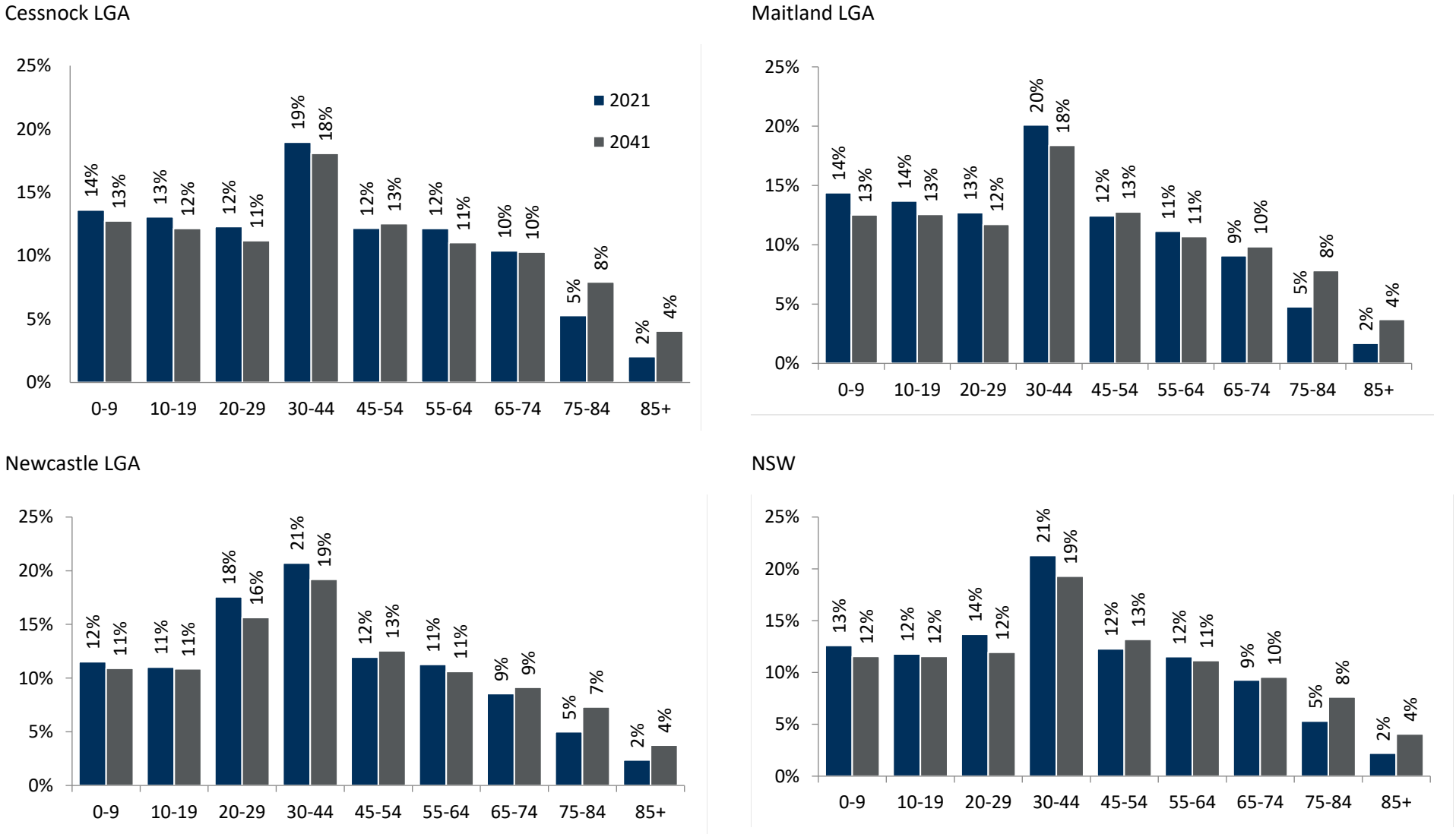


Figure 3.5 Population Projections by Proportional Age (2021 – 2041)

Population groups considered more vulnerable within the social locality have been identified using data provided by the Social Health Atlas of Australia (PHIDU, 2021):

- Figures from the Australian Early Development Index (AEDI) report that children across the Maitland LGA were developmentally vulnerable in one or more AEDI domains compared to broader NSW (physical health and wealth being, social competence, emotional maturity, language and cognitive skills, communication skills and general knowledge) at a rate of 18.4%. Rates of developmental vulnerability in one or more domains was higher in Cessnock LGA at 23.4% of all children.

- The proportion of the 15- to 24-year-old population participating in either learning or earning opportunities is 73.9% in Cessnock LGA and 83% in Maitland LGA. These figures are lower than the State average of 85%. Young people who fail to engage in school, work or further education/ training run a significant risk of school failure, unemployment, risky health behaviours and mental health problems, social exclusion, and economic and social disadvantage over the longer term (WA Commissioner for Children and Young People, 2015).

- People living with a severe or profound disability comprised 7.6% and 6.0% of the population in the Cessnock and Maitland LGAs respectively, compared with 5.6% across the broader NSW.

- The proportion of the population aged 65 years and older receiving the aged pension is higher in the Cessnock LGA (73.8%) and Maitland LGAs (73.2%) compared with 64.3% across NSW.

The above statistics indicate that there is a greater proportion of the population within both the Cessnock and Maitland LGAs experiencing some level of vulnerability, when compared to the broader NSW community, as identified by key social indicator datasets. **Figure 3.6** outlines the Socio-Economic Indexes for Areas (SEIFA), prepared by the ABS, with a low score indicating a greater degree of disadvantage. It should be noted that no comparison can be made between LGAs and state suburbs on ranking, as rankings are only comparative within each geographic classification.

The SEIFA Index of Education and Occupation (IEO) for each of the SSCs reflects the general level of education and occupation-related skills of people within an area, indicative of relative disadvantage compared to other areas in NSW. As shown, there is a very high rate of variability in decile rankings across the SSCs, suggesting that high rates of unequal access to education, training, and occupation opportunities exist across the communities. Sawyers Gully, Loxford, Kurri Kurri, Cliftleigh, and Lenaghan are in the lowest 20% of state suburbs in NSW in terms of proportion of population with higher education qualifications or employment in highly skilled occupations. This is in comparison to the communities of Louth Park, Buchanan, Buttai, and Black Hill that fall within the top 20% of state suburbs of NSW for this metric.

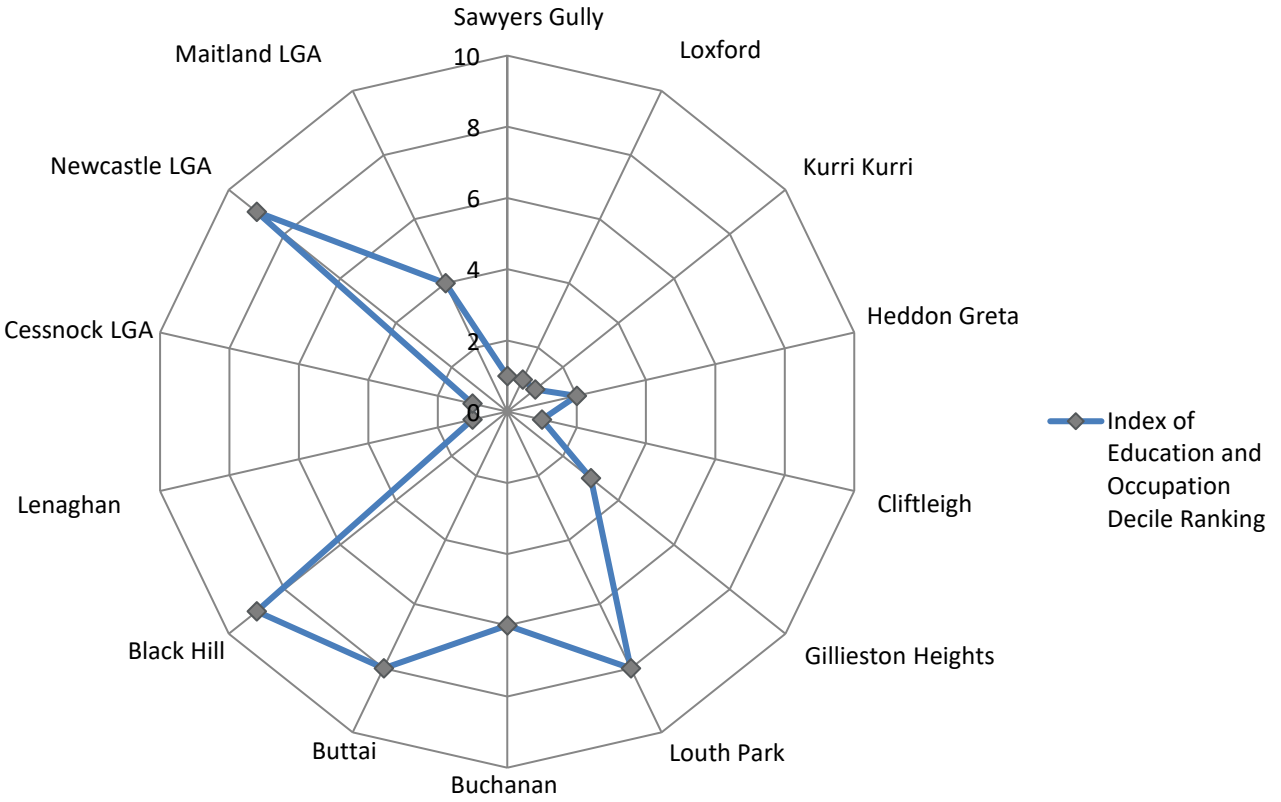


Figure 3.6 SEIFA Index of Education and Occupation

Source: SEIFA, 2016

Human Capital Key Findings Snapshot

- **Strong population growth has occurred since 2006 and is expected to continue to 2041 across the social locality.**
- **The 75+ year age cohort is likely to increase, indicative of an ageing population across the social locality and in line with the NSW projections.**
- **Lower median ages in Cliftleigh and Gillieston Heights indicate strong migration to the region, and the influx of young couples and family households.**
- **There is a high level of relative advantage and disadvantage across the social locality, with unequal access to education and economic resources between the study communities.**
- **There is a greater proportion of the population within the social locality experiencing some form of disadvantage when compared to NSW broadly.**

3.3.4 Cultural Capital

Cultural capital refers to underlying factors that provide human societies with the means and adaptions to maintain themselves in their environment (Cochrane, 2006). It includes the way people know and understand their place within the world. It may also refer to the extent to which the local culture, traditions, or language, may promote or hinder wellbeing, social inclusion, and development (IAIA, 2015). This section provides a summary of the key characteristics of the social locality from a cultural capital perspective.

Populations in Cessnock identify predominately as being of 'Australian', 'English', 'Scottish', and 'Irish' ancestry (> 82%), with most people across the social locality being born within Australia (> 81%) and speaking English only at home (> 85%).

Both Cessnock and Maitland LGAs recorded a higher proportion of Aboriginal and/or Torres Strait Islander residents compared to the NSW average (Cessnock LGA 7.2%, Maitland LGA 5.3%, compared to 2.9% in NSW). The SSCs of Loxford and Cliftleigh had a significantly higher proportion of Indigenous population (16.4% and 11% respectively), whilst Lenaghan recorded no Aboriginal and/or Torres Strait Islander population.

3.3.4.1 Aboriginal Cultural Values

The Project is located within the traditional lands of the Wonnarua Nation. Extensive land clearing and large changes to the landscape in post contact history have led to the likely destruction of artefacts of cultural heritage. Despite this, the Aboriginal Cultural Assessment conducted for the HPP (Jacobs, 2021), which further builds upon an Aboriginal Cultural Heritage Assessment Report undertaken for the Testers Hollow Road Upgrade (Roads and Maritime Services, 2019), identifies that there is extensive evidence of ongoing connection to Country through the landscapes of the Project locality. In particular, the following Aboriginal cultural values and landscapes were identified in consultation with elders throughout the region. These values are summarised in **Table 3.5**.

Table 3.5 Aboriginal Cultural and Landscape values (Jacobs, 2021)

Cultural heritage item/ value	Description
Resource gathering locations and techniques	Fish, plants, and other foods are still collected throughout the region. The primary resource gathering locations, and the techniques used, are known and passed down through the generations.
Campsites	Identified site locations containing hearths and/or stone artefact scatters were noted as having these types of cultural significance. Sites are significant as they provide a link to an ancestral past identity.
Scarred trees	European land use and agricultural practices has resulted in scarred trees often being the only remaining markers for ceremonial sites and burials in the landscape. Sites are known to be common throughout the Hunter Valley in places where older stands of trees are extant. Scarred trees may be located at junctions, ceremonial sites or other significant points in the landscape.
Transit routes/ pathways	Pathways and transit routes are common in the region, and to the east on ridges near Mount Sugarloaf. Pathways link spiritual and ceremonial sites, as well as travel corridors throughout the landscape between the coast and higher ground. During the assessment the importance of waterways and creek junctions was remarked upon. Additionally, ridgelines were mentioned for their association with dreaming routes. These routes link spiritual and ceremonial sites. Artefact scatters often occur along transit routes, as well as scarred trees which may be located at tribal boundaries, ceremonial sites or other significant points in the landscape.
Water courses, water holes or springs	Permanent water bodies are culturally significant as a central location for gathering and resource collection. Wallis Creek is notable in this respect.
Plants and animals	Fauna and flora are linked to spiritual importance and resource collection. No specific species were identified.
Burial sites	Burial sites are of great importance and are generally of high concern to Aboriginal people as the locations of burials are rarely documented. Knowledge holders identified the landscape features chosen for burial sites as being areas near campsites and on sandy rises.

Cultural heritage item/ value	Description
Song lines	Aboriginal knowledge holders identified song lines that traversed or intersected wider landscape. These pathways link spiritual and ceremonial sites, as well as travel corridors throughout the landscape between the coast and higher ground. The specific details of these song lines were however not shared in the assessment
Massacre sites	An early 19th century massacre on the Hunter River near Singleton still resonates with people in the area today. The event was not confined to one locality as the killings were known to have been widespread.
Cultural knowledge	Knowledge holders have, in many contexts, indicated grave concern for the loss of cultural knowledge and the meanings embedded in the landscape of the region. It is felt that the loss that began with early colonisation has been exasperated by significant development in the region. The sense of loss and belonging instils a feeling of guilt that the country is not being protected for the future generations; that there is poor cultural heritage management, and that archaeologists have been instrumental in facilitating the destruction of cultural sites.

The ethnohistoric information gathered during the ACHA conducted for this Project similarly identified the following information relating to the Awakabal and Wonnarua Peoples: the presence of scarred trees; subsistence consumption of foods such as bandicoots and lizards; use of implements made from quartz, stone, shell, wood and bark; trade and exchange between local and inland tribes; and sites and histories of important ceremonies.

The landscape of the Hunter Valley retains significant cultural importance to Aboriginal people through its association with the Dreamtime. Mount Yengo and the four main rivers in the area (Allyn, Hunter, Williams, and Paterson) are also considered culturally significant. The Mindaribba LALC area is part of a long and diverse Aboriginal history with a vast number of historic Aboriginal sites having been found in the region along with rock engravings, sharpening grooves, hand stencils, tribal markings and other images in caves and outcrops (Maitland City Council, 2021).

The Hunter region's long post-contact history has disturbed Aboriginal Culture significantly from its pre-contact form. Aboriginal people experience higher levels of relative disadvantage amongst socio-political, economic, and cultural spheres compared to the broader population. Today, reconciliation in the Cessnock LGA is sought through a growing awareness and understanding of the significant contribution to Australian society, and the everyday lived experience of Aboriginal and/or Torres Strait Islander People. This sentiment is noted by Cessnock City Council (2018) in their strategic vision:

> *We will work to support the national objectives of closing the social, economic and health gaps between Aboriginal and Torres Strait Islander peoples and the broader Australian community and achieving reconciliation in Australia. By walking together along our two paths, Aboriginal and Torres Strait Islander peoples and other community members will work with Council to build a better future for Aboriginal and Torres Strait Islander peoples and communities.*

3.3.4.2 European Cultural Values

The first European overland journey to the Hunter Region occurred in 1820, when John Howe followed a route broadly following the present-day Putty Road. After the construction of the Great North Road connecting Sydney with the Hunter Valley in 1836, the surrounding land of Singleton was used for grazing, viticulture, and later coal mining. The early establishment of the viticulture industry has made it the oldest wine producing region in Australia. Today, remaining sections of the Great North Road are included on the Australian National Heritage List due to the significant use of convict labour and early infrastructure works.

Settlements to house coal workers and their families were established at Kurri Kurri and Heddon Greta in the early 1900s (Towns with Heart, 2014). These townships were part of a series of settlements in the Hunter Valley and were shaped by the development of national transport networks, including heavy rail and road networks that continue to connect the Hunter coal mining industry to Newcastle, Sydney, and export markets (Department of Planning and Environment, 2018).

Between 1949 and 1960 the town of Greta was home to a reception and processing camp for displaced persons and migrants from Europe after World War II. It was one of the largest camps in Australia, having processed an estimated 100,000 migrants who would later settle in surrounding regional towns and cities (Maitland Regional Museum, n.d.). After the closure of the camp the Australia Army resumed control of the camp as a training ground. In 1980 it was sold to a private landholder.

The social locality also has a rich industrial history. A key location in this history, and the site of the HPP, is the former Kurri Kurri Aluminium Smelter. The smelter operated from 1969 to 2012 and was a significant employer in the region. The site is still considered a key location and symbolises the industrial identity of the region at one time, which is remembered through annual employee reunions, and local murals (Regrowth Kurri Kurri, 2021). Kurri Kurri is known as the 'Town of Murals', as the town and surrounding villages display over 60 public artworks that showcase the history and heritage of the region (Towns With Heart, 2014) .

Within the social locality, 19 sites of local historical importance were listed in Kurri Kurri, with 4 located in Cliftleigh and Heddon Greta, and 3 located in the surrounding areas of Buttai, Black Hill and Lenaghan. The significance of Maitland as the administrative and cultural centre of the region is evident in the registration of 25 items of State Heritage Significance, and over 175 items of local heritage significance (Heritage NSW, 2021), most of which relate to early settler expansions and the region's industrial history.

Key community events are representative of the fabric and cultural identity of the region. Notable events in the social locality include the Kurri Kurri Nostalgia Festival, Mulletfest, the Australian Postie Bike Grand Prix, Hunter Valley Steam Fest, Bitter and Twisted beef festival, and the River Lights Multicultural Festival.

Cultural Capital Key Findings Snapshot

- **The region has a rich Aboriginal cultural identity experienced through a strong connection to Country. However, many traditional sites have been disturbed or destroyed due to a long history of colonial land use.**
- **European cultural identity is tied strongly to the agricultural, industrial, and mining landscapes, with the community's sense of place being tied to many historic sites, events, and the rich natural environment.**
- **Retaining a strong sense of community and cultural capital will be a critical issue as the region experiences a high rate of growth and a new demographic of population moving into the region.**
- **The social locality has an extensive industrial land use history which informs and has shaped the region's identity.**

3.3.5 Social Capital

Various indicators can be used to examine and assess social capital. Such indicators include the level of volunteering, population mobility, crime rates, and the demographic composition of the community, such as the percentage of people born overseas, language proficiency etc. The following provides a summary of the key characteristics of the social locality from a social capital perspective (refer to **Appendix A**).

During the broader community survey, participants were asked to identify what they felt were the key strengths of their local community. Of the total number of respondents, 54% cited the people and sense of community as a key strength. Of these responses, the 'tight knit' and 'friendly' nature of the community was often cited. Participants also often commented on the strong sense of community, describing how the area felt safe, and that the people were caring and kind. Such a strong response rate may indicate a high level of community cohesion and attachment to place.

The proportion of the community with a different address one year ago (13% in Cessnock and 15% in Maitland; compared with 14% in NSW), and five years ago (35% in Cessnock and 41% in Maitland; compared with 39% in NSW) is largely consistent with the State average, meaning that residents experience similar levels of mobility.

Across the broader study region, volunteerism is lower than the State average (18%), with 14% of Cessnock and 16% of Maitland residents participating in voluntary work. Rates of voluntary work recorded were variable across the SSCs, with the highest rates being recorded in Buchanan and Black Hill at 25%, and the lowest being recorded in Cliftleigh (8%).

The broader Cessnock LGA recorded a high proportion of one parent families (21%).The communities of Loxford, Kurri Kurri, Cliftleigh also demonstrated a very high proportion of one parent families (>25%) when compared to NSW (16%). The broader Cessnock LGA also recorded a high proportion of one parent families (21%). In comparison, the communities of Buttai, Louth Park, and Black Hill exhibited very high proportions of couple families with children (> 59%) when compared to NSW (46%). The proportion of lone person households were also higher in Loxford (43%) and Kurri Kurri (31%).

The family composition figures reflect key demographic trends across the social locality. Families of all types are attracted to the region, as reflected through the higher proportion of family households compared to the State. A greater proportion of young families are resident in Gillieston Heights and Cliftleigh, which are also the locations of significant urban release areas. Established communities of Buttai and Black Hill are similarly popular with family households.

The prevalence of crime is relatively comparable to other LGAs, with Cessnock LGA recording 502.5 offences per 100,000 population and ranking 45th out of NSW LGAs for crime rates in 2019. However, the Cessnock LGA was ranked 1st in the prevalence of motor vehicle theft (461.8 offences per 100,000 population), and 18th in the prevalence of stealing from a dwelling (406.8 offences per 100,000 population).

Mental health is fundamental to the wellbeing of individuals, their families and the community and can influence an individual's or community's response to change. One indicator of mental wellbeing is the level of psychological distress using the Kessler Psychological Distress Scale-10 items (K10). The K10 scale considers a population's overall level of nervousness, agitation, psychological fatigue, and depression. The percentage of people aged 18 years and over with high or very high distress totalled 16% in Cessnock, 13.8% in Maitland, and 13.2% in Newcastle. These figures are slightly higher than the NSW average of 12.4%, indicating that the study population experiences slightly lower levels of mental health / wellbeing.

Figure 3.7 provides the overall socio-economic status and level of disadvantage within each community, as determined by the Index of Relative Socio-economic Disadvantage (IRSE) – a SEIFA score prepared by the ABS which ranks areas in Australia according to relative socio-economic disadvantage. A low score indicates a greater degree of disadvantage, with the lowest 10% of areas receiving a decile of one, and the highest a decile of ten. It should be noted that no comparison can be made between LGAS and SSCs on ranking as the rankings are only comparative within each geographic classification.

When considering the relative socio-economic disadvantage of the social locality, Kurri Kurri, Cliftleigh, and Lenaghan have the most disadvantage in comparison to other SSCs. Black Hill and Louth Park have very low levels of relative disadvantage and are placed within the highest decile ranking. Cessnock LGA is comparatively more disadvantaged compared to the Maitland and Newcastle LGAs.

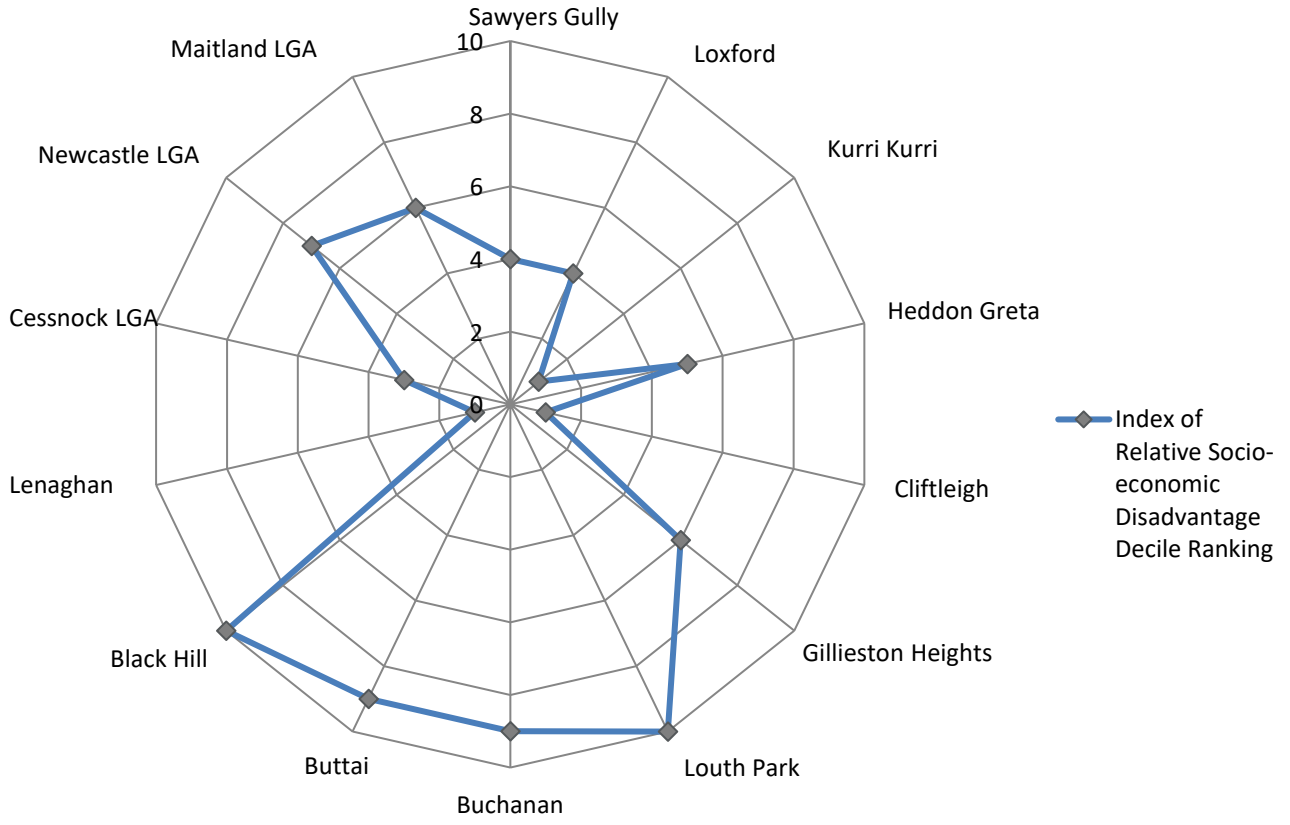


Figure 3.7 SEIFA Index of Socio-economic Disadvantage

Source: SEIFA, 2016

Social Capital Key Findings Snapshot

- **Relatively lower rates of volunteerism and a rapidly expanding and internally migrated population base may place strain on the social fabric and capacity of the region.**
- **Moderate amounts of crime, and higher than average levels of psychological distress indicate that there are social factors within the community that may influence social cohesion and wellbeing.**
- **Highly variable relative socio-economic disadvantage is experienced across suburbs in the social locality, suggesting a degree of social inequality.**

3.3.6 Economic Capital

Examining a community's economic capital involves consideration of several indicators, including industry and employment, workforce participation and unemployment, income levels and cost of living pressures such as weekly rent or mortgage repayments. The following provides a summary of the key characteristics of the social locality from an economic capital perspective.

Across the Cessnock LGA, the unemployment rate was 7.6% in the 2021 March economic quarter. This figure is higher than the broader Hunter Valley (excluding Newcastle) at 4.9%, and the state of NSW at 4.5%. The total number of people participating in the labour force was 27,424 people (49% based on 2016 ABS population figures), a figure that has been decreasing slightly following COVID-19 economic impacts.

As shown in **Figure 3.8**, the unemployment rate in Cessnock LGA peaked at 14% in the September 2015 quarter, following a significant retraction in the mining sector. The unemployment rate has since declined and stabilised within a range of 5.8 to 8.0%. At the time of the 2016 Census, the SSCs with the highest rates of unemployment included Cliftleigh (12.9%) and Kurri Kurri (9.9%).

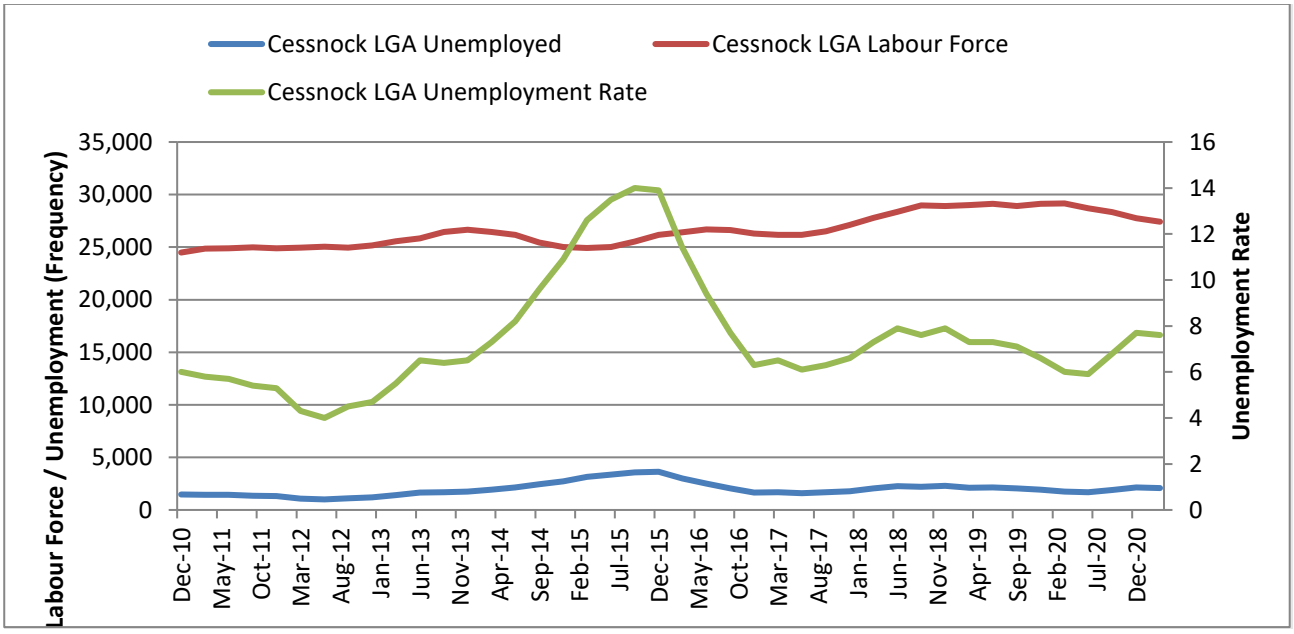


Figure 3.8 SALM[2] Unemployment and Labour Force Participation

Source: Labour Market Information Portal, SALM, March Quarter 2021

Additionally, in the Maitland LGA and Newcastle LGA the proportion of the current population that were classified as unemployed stood at approximately 4.8%, and 6.8% respectively (Labour Market Information Portal, 2021). During the most recent census period (ABS, 2016), unemployment was particularly high in smaller communities such as Cliftleigh SSC (12.9%) and Kurri Kurri SSC (9.9%) compared to the broader Hunter Valley SA4 (excluding Newcastle) at 4.9%, and the state of NSW at 4.5% (ABS, 2016)

The proportion of the labour force employed full-time in both the Cessnock and Maitland LGAs was 54% and 57% respectively, slightly lower than the State average (59%). Mirroring this, rates of part-time employment in Cessnock (32%) and Maitland (31%) LGAs were higher than the State average (30%).

[2] Small Area Labour Markets

Age and gender are important determining factors which can contribute to a person's engagement with labour markets (van der Merwe, 2016). **Figure 3.9** displays the labour force status of persons by sex in the Cessnock LGA at the time of the 2016 Census. It indicates, as a proportion of the total population, that women are half as likely as men to be employed full-time and are more likely to work part-time and be recorded as '*not in the labour force*'.

In the 12-month period to June 2017, there was an average of approximately 28,000 youth (15 to 24 years) unemployed in the Hunter Valley excluding the Newcastle SA4 region, representing a youth unemployment rate of 10.7% (Parliament of Australia, 2017). This figure is approximately double the unemployment rate for the broader population.

During the broader community survey conducted for this SIA, participants were asked what they believed were the key needs in their area. Of responses, 'employment' was the top cited need (34% of responses) across the social locality. As discussed, historic unemployment rates have remained high across the broader social locality when compared to the broader State. This history has likely influenced people's perceptions and understandings of the needs of their locality.

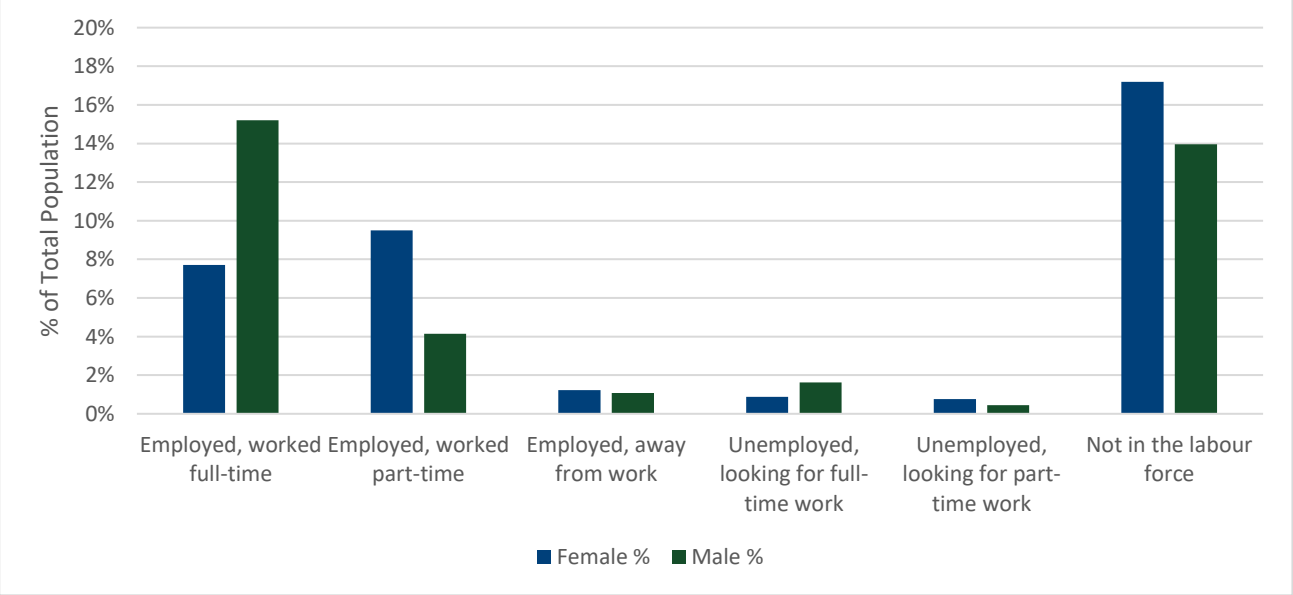


Figure 3.9 Cessnock LGA - Sex by Selected Labour Force Status

Source: ABS TableBuilder Pro, 2016, Census of Population and Housing

The median weekly income is below the NSW average ($1,486) across both the Cessnock and Maitland LGAs at $1,177 and $1,415 respectively. Household incomes are variable across the study SSCs, with Lenaghan ($2,750), Louth Park ($2,694), and Buttai ($2,249) recording very high weekly household incomes compared with Loxford ($966) and Kurri Kurri ($991).

The cost of housing is variable across the social locality and broadly reflects the income variability described above. In Lenaghan and Buchanan, monthly mortgage repayments were $3375 and $2085 respectively compared with Kurri Kurri ($1378). The most expensive average weekly rental prices were recorded in Sawyers Gully ($430) and Cliftleigh ($380), while the lowest were recorded in Loxford ($193) (ABS, 2016).

Median rent as a proportion of household income is lower across the Cessnock (24%) and Maitland (23%) LGAs when compared to the State average of 26%, indicating that on average household costs are slightly more affordable compared to the broader NSW community. Kurri Kurri had the highest rent to income proportion at 28%, indicating higher housing costs relative to income.

Notwithstanding, median rental prices in the Cessnock LGA have increased from $340 in the September 2019 period to $430 in the September 2021 (**Figure 3.10**), representing an average annual increase of 13% over the period. As indicated in **Figure 3.11**, residential vacancy rates in the Hunter Region have declined from 1.6% in November 2020, to 0.9% in October 2021.

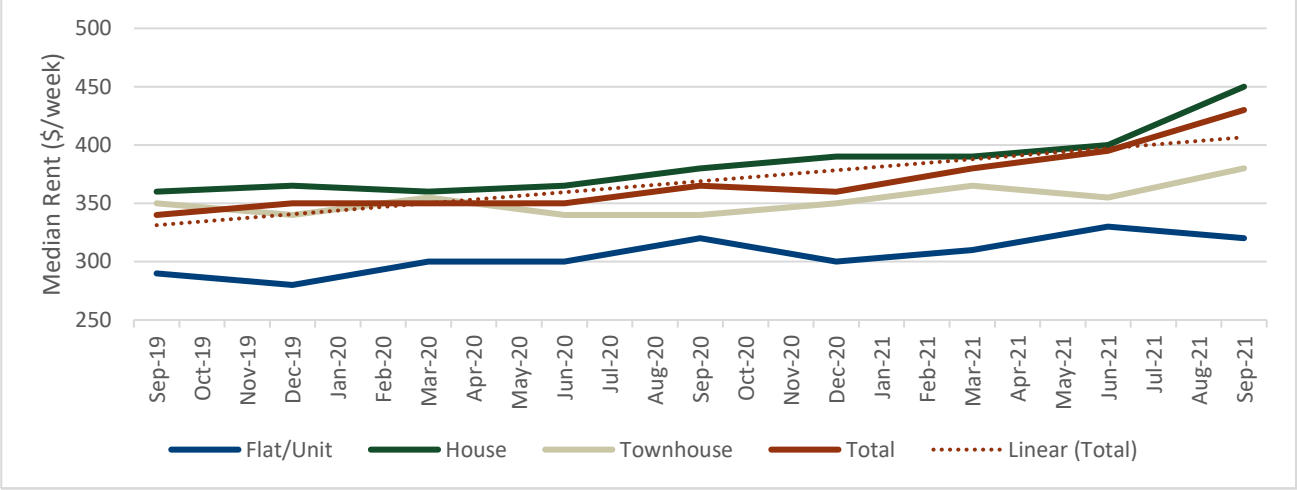


Figure 3.10 Cessnock LGA Median Rent by Property Type

Source: (Department of Communities and Justice, 2021)

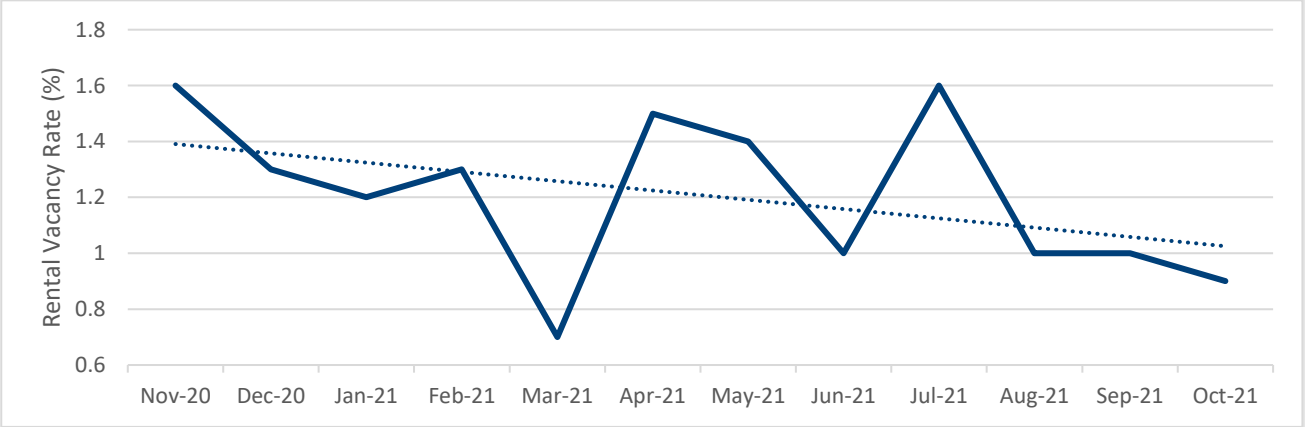


Figure 3.11 Hunter Region Rental Vacancy Rates

Source: (REINSW, 2021)

Large housing sales price increases are also evident across the social locality, with an annual increase in the median value exceeding 22% for all localities (refer to **Table 3.6**).

Table 3.6 Home sales data (all housing types) – June 2021 Quarter

Local Government Area	Median Sales Price $'000s	Mean Sales Price $'000s	Qtly change in Median %	Annual Change in Median %
Cessnock	490	534	13.95	26.45
Maitland	607	640	8.30	26.88
Newcastle	750	847	10.13	22.95

Source: Department of Communities & Justice, Rent & Sales Report June Quarter 2021

At the time of the 2016 Census, approximately 9.6% of workers in Cessnock LGA recorded 'Mining' as their industry of employment, compared with 0.9% across NSW. Approximately 8% of workers in Cessnock LGA also recorded 'Manufacturing' as their industry of employment compared with 6.7% across NSW.

In the Hunter Valley Region (excluding Newcastle), 599 people (0.56% of employed persons[3]; compared to 0.079% for NSW) were employed in 'fossil fuel electricity generation', and 427 people (0.4% of employed persons; compared to 0.32% for NSW) were employed in 'electricity transmission' or 'electricity distribution'. Additionally, there were 40 people employed in 'gas supply' (0.04% of employed persons; compared to 0.025% in NSW). These higher-than-average values are indicative of the region's strong focus on mining, and mining support services, as well as electricity generation and distribution service industries.

Healthcare and social assistance was the top industry of employment across a majority of the SSCs. In Cessnock LGA, the second and third most prominent industries of employment included Retail trade (10.6%), followed by Accommodation and food services (10.2%). Employment in 'agriculture, forestry, and fishing' totalled only 1.9% in Cessnock compared with 2.1% in NSW and 3.4% in the broader Hunter Valley (excluding Newcastle). Construction is the third highest employer in Maitland (employing 3,266 people), sixth highest in Cessnock (employing 1,136) and fourth highest in Newcastle (employing 8,230 people) (REMPLAN, 2020).

The Hunter's industrial services industries retain a prominent position within the Hunter Valley economy and will continue to do so over the medium-term, as identified in the Hunter Regional Plan 2036 (Department of Planning and Environment, 2016). In preparing for a carbon constrained economy, the region is transitioning its energy generation and mining sectors. Future policy and major project development will likely have a significant impact on the economic and employment characteristics of the region, including within the Cessnock LGA.

The Hunter Valley Region also exhibits a strong visitor economy, contributing significantly to local investment demand and planning outcomes. In the year prior to March 2021, the region attracted an estimated 8.6 million visitors to its' viticulture, food, events, sports, and cultural events (Destination NSW, 2021). The Hunter is highly accessible from the population centres of Newcastle and Sydney and serves as the gateway for travel to the northwest, and northern tablelands region of NSW. According to Destination NSW, visitors to the region spent on average 2.8 nights in the area, with a total expenditure of $2.3 billion. In 2013, the Cessnock LGA recorded that tourism had a gross economic output of approximately $392 million, much of which is attributable to the viticulture and visitor industries surrounding Pokolbin and Lovedale.

[3] Calculated by dividing the number of persons by industry by the adjusted total population; excludes responses 'inadequately described', 'not stated', 'not applicable')

The SEIFA Index of Economic Resources (IER) reflects the economic resources of households within an area and includes variables such as household income, housing expenditure (e.g., rent) and wealth (e.g., home ownership). A low score indicates a relative lack of access to economic resources in general, while a high score indicates greater access to economic resources.

When considering the IER for the social locality, Loxford, Heddon Greta, and Black Hill are the most disadvantaged, whereas Gillieston Heights and Buttai demonstrates the highest access to economic resources (refer to **Figure 3.12**).

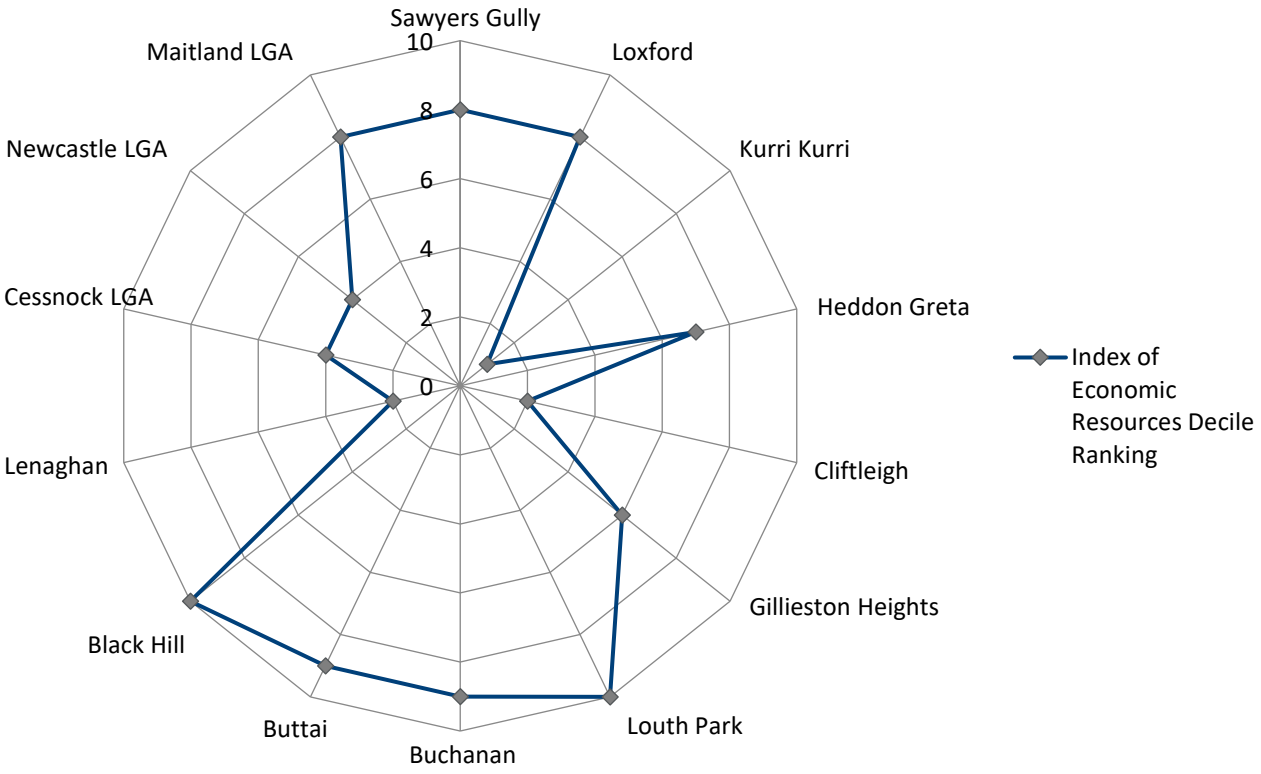


Figure 3.12 SEIFA Index of Economic Resources

Source: SEIFA, 2016

The Herfindahl Index provides an indication of market concentration within a region, and specifically provides an indication of how many industries are competing for market share within a given locality. The higher the index, the more concentrated the market by industry composition, demonstrating a low level of economic diversity, while a low index indicates a greater number of industries and occupations being serviced within the social locality.

The Herfindahl Index for New South Wales is 0.0092, suggesting a high degree of economic diversity and market competitiveness. Maitland and Newcastle also exhibit relatively high economic diversity followed by Cessnock (**Figure 3.13**).

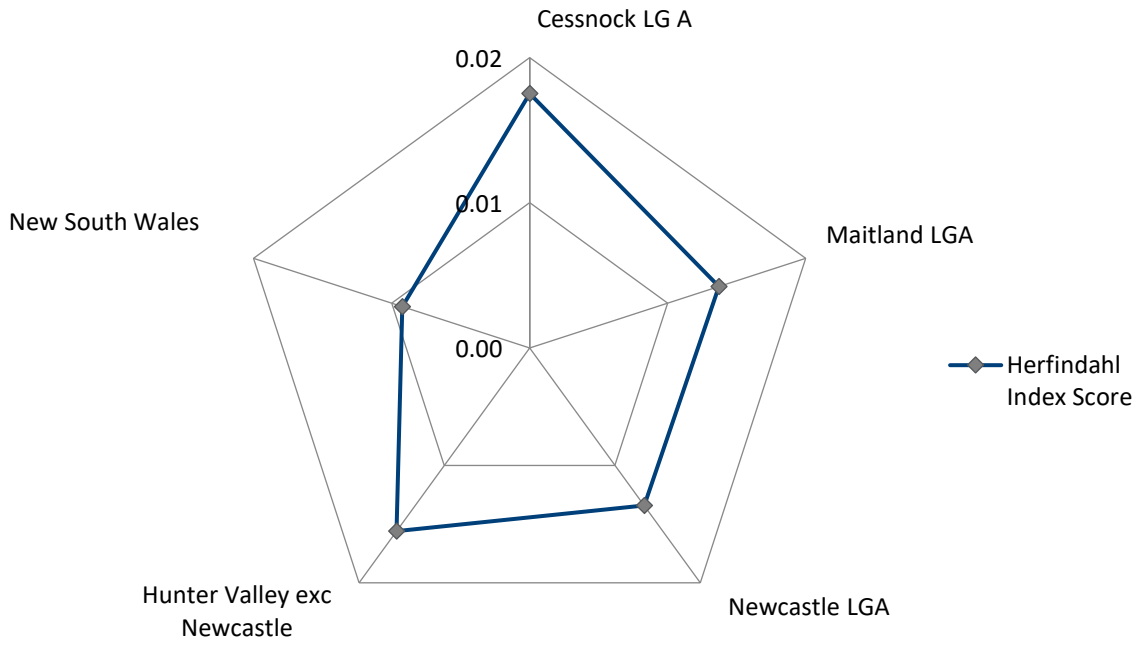


Figure 3.13 Herfindahl Index Score

Source ABS Tablebuilder Pro, 2016

Economic Capital Key Findings Snapshot

- **Employment opportunities are tied heavily to industrial output and development within the region, producing variable unemployment rates dependent on market conditions.**
- **The region has higher rates of employment in mining, electricity generation transmission services, and construction workforces, indicating a greater supply of skilled technician workers.**
- **Residents in the social locality experienced higher rates of unemployment, and lower full-time employment rates compared to NSW. This results in lower-than-average incomes offset by lower mortgage and rent repayments compared to the State.**
- **Young persons (15 – 24 years) are more likely to experience unemployment and non-participation in the labour force compared to the general population.**
- **Women are employed full-time at roughly half the rate of males in the Cessnock LGA and are more likely not to participate in the labour market.**
- **Employment markets in Cessnock are more concentrated and less diverse compared to the Newcastle LGA and broader NSW community, indicating that the economy is less resilient to cope with economic shocks.**
- **There is a high level of relative advantage and disadvantage across the study SSCs in relation to access to economic resources. Social planning should consider this disparity and ensure that the negative and positive outcomes of future developments are equitably distributed.**

3.3.7 Physical Capital

Physical or built capital includes provision of infrastructure and services to the community. Within this capital area, it is important to consider the type, quality, and degree of access to public, built and community infrastructure (including amenities, services, and utilities), as well as housing. The KKLP social locality can be characterised as having a wide range of community services (refer to **Appendix A**).

Across the social locality there are a broadly comparable number of dwellings that are fully owned (without a mortgage) compared to the NSW average (32%). A lower proportion of households within the Cessnock (28%) and Maitland (29%) LGAs rent their homes, compared to the broader NSW community (32%).

The proportion of houses owned with a mortgage is higher in Cessnock (35%) and Maitland (38%) compared with NSW (32%). The community with the highest rates of home ownership (either fully owned or with a mortgage) include Lenaghan (100%) and Sawyers Gully (88%).

The proportion of households experiencing financial housing stress, from either rent or a mortgage, totalled 25.8% in the Cessnock LGA and 28.1% in Maitland LGA, which is slightly lower than the broader NSW average of 29.3% in 2016. This indicates that there is generally a higher level of housing affordability for both renters and buyers in the social locality.

Most of the social locality has a comparable proportion of dwellings with internet access when compared with NSW (78% in Cessnock LGA and 84% in Maitland Regional LGA compared to 85% in NSW). Loxford SSC contained the lowest proportion of households with internet access at 71%; the highest was recorded in Louth Park at 91%.

All areas in the social locality had a higher-than-average number of motor vehicles per household compared to the State average (1.7 vehicles). The communities of Lenaghan and Buchanan had the highest average number of cars per household (2.9) whilst Kurri Kurri contained the lowest proportion number (1.7). Across the Cessnock LGA, the average number of cars per household was 1.9.

The average and median commuting distance for Cessnock LGA residents was 19.5 km and 12.5 km. These figures are higher than the NSW average and median values (16.1 km and 9.7 km respectively). Together with higher car ownership level, this data indicates that residents live further away from places of work and are more reliant on private vehicle usage to access employment and other services.

The rate of General Practitioners (GPs) per 100,000 people is 54 in Cessnock, 65 in Maitland, and 140 in Newcastle. The state average rate of GPs per 100,000 people is 92. Given these figures, there appears to be a relatively disproportionate supply of general medical services across the communities, with Cessnock experiencing the lowest supply of GPs. In addition, the rate of specialist practitioners (per 100,000 people) across the communities is 7 in Cessnock, 99 in Maitland, and 414 in Newcastle, compared to an average of 141 in NSW. This indicates that Cessnock residents are likely to travel to larger centres such as Newcastle to access specialist services.

The Lower Hunter Region contains a rapidly increasing population base, and to service the increased demand for social infrastructure, the NSW Government is funding the development of the New Maitland Hospital, a $470 million facility incorporating a new emergency service, intensive care unit, medical and surgical inpatient services, maternity services, cancer therapy services, and imaging and support services (NSW Government, 2021). The NSW Government has also committed $835 million to deliver a new John Hunter Health and Innovation Precinct on the site of the John Hunter Hospital (NSW Health, 2022).

As the Hunter continues to grow and new economic development opportunities emerge for rural and resource industries, there is potential for compatibility issues to arise and for competition to develop for water resources and for infrastructure to support other uses (DPIE, 2016). the Hunter Regional Plan 2036 also notes the potential for land-use conflict if new housing encroaches into rural and resource areas, leading to increased management costs.

The social locality is also serviced by Kurri Kurri Hospital and emergency department. The community is concerned about the potential closure of the facility post the opening of the New Maitland Hospital. Despite no announcement of closure, a petition to the Parliament of NSW to save the facility has gained more than 700 signatures (Beaumont, 2021).

Regarding short-term accommodation provision, in 2017-18 the ABS defined Hunter Tourism Region (TTR) supplied an estimated 2,362,000 room nights across accommodation providers. Of these available rooms, 1,606,000 room nights were occupied, representing an occupancy rate of 68%. This figure is lower than the NSW occupancy rate of 79.6% (STR, 2018). Given the locations strategic proximity to Cessnock, Maitland, and Newcastle, the provision of accommodation services would likely be considered proficient to service fluctuations in demand across local markets.

As **Table 3.7** illustrates, access to hotels, motels, and serviced apartments with 10 rooms or more varies across the region. In 2016 there were 16 establishments in the Lower Hunter[4] with 535 rooms available, 8 establishments in Maitland with 173 rooms available and 8 establishments in Cessnock with 241 rooms available (ABS, 86350DO001_201516 Tourism Accommodation, Australia, 2015-16, 2016).

More recent, but less geographically granular data indicates that, across the Hunter Tourism Region in 2018-19 (comprised of Cessnock, Gloucester, Lake Macquarie, Muswellbrook, Newcastle, Pokolbin, Port Stephens and Singleton), there was an occupancy rate of 67.2% across 167 properties with 7,063 rooms (ABS, Accommodation Supply, 2017-18 and 2018-19, 2020).

Table 3.7 Access to Hotels, Motels and Serviced Apartments

Statistical Area Level 2	No. Establishments	No. Rooms	No. Bed spaces	Room Occupancy Rate (%)
Cessnock	8	241	631	47.8
Cessnock Region	1	-	-	-
Singleton	7	294	713	45.4
Lower Hunter Total	16	535	1,344	46.5%
Maitland	2	-	-	-
Maitland – East	2	-	-	-
Maitland – West	4	173	450	58.7
Maitland Total	8	173	450	58.7%
Nelson Bay Peninsula	14	994	2,936	58.2
Raymond Terrace	4	178	582	52.6
Williamtown - Medowie - Karuah	1	-	-	-
Port Stephens Total	19	1,172	3,518	57.3%
Muswellbrook	7	227	786	43.5
Muswellbrook Region	1	-	-	-
Scone	5	117	341	55.4
Scone Region	3	47	108	49.6
Upper Hunter Total	16	391	1235	47.3%
Gloucester	2	-	-	-
Belmont - Bennetts Green	1	-	-	-
Belmont South - Blacksmiths	3	64	173	46.0
Charlestown - Dudley	5	200	629	76.0
Glendale - Cardiff - Hillsborough	2	-	-	-
Swansea - Caves Beach	2	-	-	-
Warners Bay - Boolaroo	2	-	-	-

[4] The 'Lower Hunter' is described as per the ABS defined Statistical Area Level 2 geographical structure.

Statistical Area Level 2	No. Establishments	No. Rooms	No. Bed spaces	Room Occupancy Rate (%)
Bonnells Bay - Silverwater	1	-	-	-
Toronto - Awaba	2	-	-	-
Lake Macquarie Total	20	264	802	69.5%
Adamstown - Kotara	3	104	270	70.4
Beresfield - Hexham	1	-	-	-
Hamilton - Broadmeadow	3	81	242	68.7
Lambton - New Lambton	2	-	-	-
Mayfield - Warabrook	5	193	527	67.1
Merewether - The Junction	1	-	-	-
Newcastle - Cooks Hill	8	686	1,838	71.4
Stockton - Fullerton Cove	2	-	-	-
Wallsend - Elermore Vale	1	-	-	-
Newcastle Total	26	1,064	2,877	70.3%
Hunter (TR) Total	**120**	**5,779**	**17,352**	**60.0**

Source: (ABS, 86350DO001_201516 Tourism Accommodation, Australia, 2015-16, 2016)

In terms of connectivity, the Hunter Expressway traverses the region and is a main route of travel for inland residents, connecting Newcastle with the Upper Hunter. The Expressway development has enabled the growth of housing and employment lands in social locality. The region is also serviced by the Pacific Highway, which is the key road freight corridor connecting Sydney and Newcastle with the coastal regions of NSW and Southeast Queensland. With significant growth in the region anticipated, Transport for NSW are developing the M1 Pacific Motorway extension to Raymond Terrace to bypass Hexham which has recently received a committal of $80 million from the Federal Government (Fowler, 2021).

The Region is serviced by the Hunter Valley Coal Chain, a train freight corridor and coal delivery system connecting coal producers to energy sources and the Port of Newcastle. Passenger train services are provided along the Hunter line, with stations located through the Maitland and Rutherford corridor. No train services are provided to Kurri Kurri, where instead public transport is serviced by bus through the Transport for NSW system. There are two airports, one in Maitland and one in Cessnock which predominately provide chartered, club, and tourism services. Regular scheduled flights to key population centres are provided through the Newcastle Airport in Williamtown.

During consultation for the Greater Newcastle Metropolitan Plan 2036 (Department of Planning and Environment, 2018), the following key themes of community concern were noted for the region regarding physical infrastructure:

- Strong recognition of the importance of coordinating land use, transport and infrastructure as the metropolitan area grows, including planning for active transport, park and ride and quality public transport options.
- Specific requests for service improvements including high speed rail to Sydney, airport connections, as well as suggested improvements to the bus network, ferries, and cycleways. Submissions also suggested improvements to the operation of, and possible extensions to the light rail network.
- The need for protection of future transport corridors.

- The challenges of managing freight to and from industrial areas within a metropolitan area, including Newcastle Port, were recognised, with a request to improve last mile freight access and manage freight movements through residential areas.
- The need to adequately fund transport and infrastructure connections and ensure that they are provided in the right locations and in a timely manner.

Physical Capital Key Findings Snapshot

- **The region is strategically located between the key population centres of Sydney, Newcastle, and Southeast Queensland and contains much existing infrastructure such as power transmission lines, rail corridors, and gas pipelines.**
- **Infrastructure needs will be required to be appropriately and carefully planned to manage the continued growth and development in the region.**
- **The social locality is experiencing a rapidly increasing population base. Housing and accommodation will need to be appropriately and carefully planned to manage the continued growth and development in the region.**
- **Compared to major population centres, the area provides more affordable housing options, attracting young families and migrants to the region.**
- **There is a high dependence on cars to transport people around the region, which could potentially result in high levels of car usage on key roads during peak transit and commuting times. This will likely strain infrastructure service provision and impact road safety.**
- **The community is concerned about the appropriate provision of physical infrastructure, and the ability of the built environment to maintain liveability.**

3.4 Local Challenges and Opportunities

Table 3.8 outlines the key challenges and opportunities for the host LGAs and SSCs as identified from the review of local, regional, and state government reports, strategies and plans, ABS Census data and other secondary sources of data, local media and through community consultation.

A key challenge faced by the region is the ongoing transition away from coal mining, and coal energy production to a carbon constrained global economy. The abundance of natural resources, a strong tourism sector and human capital resources, combined with a diversifying economy position the region well to further develop the regional economy away from its mining dependence.

The region also faces an ongoing need to strategically plan social and physical infrastructure services to support a young and rapidly increasing population, as noted in the Hunter Regional Plan 2036 (DPIE, 2016). Housing developments and urban releases proposed in the social locality, may result in some flow-on challenges for the region in maintaining an existing strong sense of community and in decreasing anti-social behaviour. Cessnock and Maitland Council's plans to increase housing provision, will likely result in positive social development for the community more broadly.

As noted during the broader community survey conducted as part of this SIA, several challenges regarding local infrastructure services and service provision were perceived by survey respondents. Of these concerns, the key matters raised were made in relation to the adequacy and suitability of health and medical services and facilities, the need for improved roads and transport infrastructure, affordable housing, and improved education facilities. Further detail regarding consultation outcomes is provided within **Section 4.0**.

The region is also noted for experiencing issues such as traffic congestion, with some of these identified constraints already being considered through key transport development programs along freight corridors.

Table 3.8 Local Challenges and Opportunities as identified in the Social Baseline of the Maitland, Newcastle, and Cessnock LGAs

Challenges	Capital	Opportunities
• Strong population growth will need to be appropriately managed and planned. • As identified in strategic planning documents, future strategic planning must be appropriately managed to ensure that any costs and benefits are equitably distributed and managed.	Political	• Future development and land use planning in the area is supported by a range of local and regional strategic planning systems and mechanisms.
• Water security and drought prone area. • Impacts of mining and industrial land use on the natural environment require ongoing management and regulation. • Impacts from historic land uses may impact on the viability and design of future projects and developments.	Natural	• Area has quality agricultural land. • Community members value the natural environment. • Viticulture and Thoroughbred Critical Industry Clusters exist in the broader Hunter Region. • The area has been identified as having favourable natural resources for renewable energy development (sun and wind). • The area is rich in mining resources.
• Lower rates of educational attainment. • High level of disadvantage are present across the social locality, placing potential pressure on social stability • Ageing population.	Human	• Population increasing, indicating stable economic growth, an expansion of labour markets, and an attractive area to live in. • Younger people and families are being attracted to new urban release areas, with growing communities.
• Extensive post-colonial occupation has destroyed many Aboriginal sites of cultural significance. • Ongoing changes to land use patterns may challenge or shift existing socio-cultural identities.	Cultural	• The Traditional Custodians in the Social Locality maintain a strong connection to Country. • There is a long history of European cultural heritage exemplified through heritage buildings and places, and industrial and viticulture industries. • Residents' cultural identity is tied with the landscape and land uses contained within the region.
• Lower rates of volunteerism compared to the state. • Higher levels of psychological distress compared to the broader NSW community. • High levels of social and economic inequality persist across the social locality	Social	• Strong support for arts and cultural development across the Region. • Thriving tourism, food, events, and cultural sectors. • Low mobility of residents resulting in sustained sense of community. • Moderate to low levels of crime.

Challenges	Capital	Opportunities
• Potential for labour force competition due to strong mining activity. • Increasing retirement age population leading to a reduction in skilled labour. • Regional economy demonstrates a strong dependence on mining for economic activity. • Low median weekly household income resulting in less spending in the local economy.	Economic	• Region has strong and diverse industries including mining, tourism, and agriculture. • Broad support for projects that create new jobs in the region to build a diverse and multi-skilled workforce. • Support for the expansion of essential infrastructure and services to support population, business, and industry growth. • Strong business services sector. • Relatively low cost of living.
• Traffic congestion common at peak time across different areas in the social locality. • Road infrastructure upgrades and new road developments are required to accommodate ongoing growth. • Limited public transport options. • Competition for land use between mining, residential, agriculture, and industrial land uses. • Limited commercial flights per week.	Physical	• Continued investment in road upgrades. • New Maitland Hospital Development. • Historic character of region as evidenced through numerous historic buildings and sites. • Improvement in footpaths and shared cycleways. • There are plans in place to increase housing options in the region. • Relatively affordable housing.

In summary, based on our understanding of the social locality and the characteristics of the communities that have been identified, the Project is:

- located across three different LGAs situated within the broader Hunter Valley Region
- proposed to be developed in distinct communities that are reasonably stable and established, but with some newer growth areas in Heddon Greta, Gillieston Heights, and Cliftleigh, with further urban growth planned to occur in these localities
- compatible with the existing and historic land uses in the area,
- likely to result in cumulative impacts on local service providers during the construction phase given existing development occurring within the region and associated construction timeframes.

4.0 Impact Assessment and Prediction

This section documents the perceived impacts (positive and negative) in relation to the Project, as identified through stakeholder and community consultation and provides a more detailed pre-mitigation evaluation of these impacts and their significance. **Section 5.0** provides the post-mitigation rankings once social impact management strategies have been considered.

Figure 4.1 provides a summary of the key impacts identified through engagement with key stakeholders (n=20) (refer to **Table 2.4** for a stakeholder breakdown) and through a survey of the broader community within the social locality (n=402); with further detail of the impacts identified illustrated in **Figure 4.2**.

As **Figure 4.2** demonstrates, when asked to identify any potential negative impacts of the project, the most highly cited issue by the broader community was a health and well-being social impact related to concern for **potential safety risks associated with gas usage (27%)**. This was followed by environmental concerns at the local scale (**damage to vegetation in proximity to the alignment) (15%)**, and at the global scale (concerns the project would **add to greenhouse gas emissions) (14%).** The survey also revealed concerns about impact on the social locality during construction, including **increased traffic (4%)** and **disruption to social amenity during construction** (**due to noise, traffic and dust**) (**5%**).

Interviews and surveys with key stakeholders reflected similar, though not identical, outcomes. The most cited potential negative impact for key stakeholders was the **effects to natural environment amenity and reduced access to recreational areas** (35%). Despite these challenges, 15% of key stakeholders also expressed **support for APA's chosen alignment** and its contribution to lower environmental disruption. Stakeholders noted **the cumulative impacts of multiple projects resulting in loss of rural land over time (20%)**. 15% of key stakeholders raised a belief that **community engagement had been insufficient** as a concern. Interviews also highlighted a concern that the Project contributed to **climate change, creating issues for future generations** (10%).

Figure 4.3 highlights the key perceived positive social impacts associated with the project. Across both key stakeholders and the broader community, the social impact of the project on livelihoods was a common theme. Respondents identified **local employment opportunities** as the most important positive contribution (20% of key stakeholders, 39% of the broader community) and also highlighted **opportunities for local contractors** (15% of the broader community and 4% of key stakeholders). Similarly, some respondents identified the potential for **community funding or support programs** to generate benefits for the community (15% of key stakeholders and 3% of the broader community). Almost a quarter (24%) of the broader community identified the provision of **reliable electricity** as a key benefit of the Project. Some respondents considered the Project as contributing to the **transition to renewable energy in the region** (9% of the broader community and 5% of key stakeholders).

The following section expands on the positive and negative impacts raised during consultation and through assessment of the Project, linking them to the social impact categories of livelihoods, accessibility, way of life, surroundings, social amenity, engagement and decision making, community, health and well-being and culture.

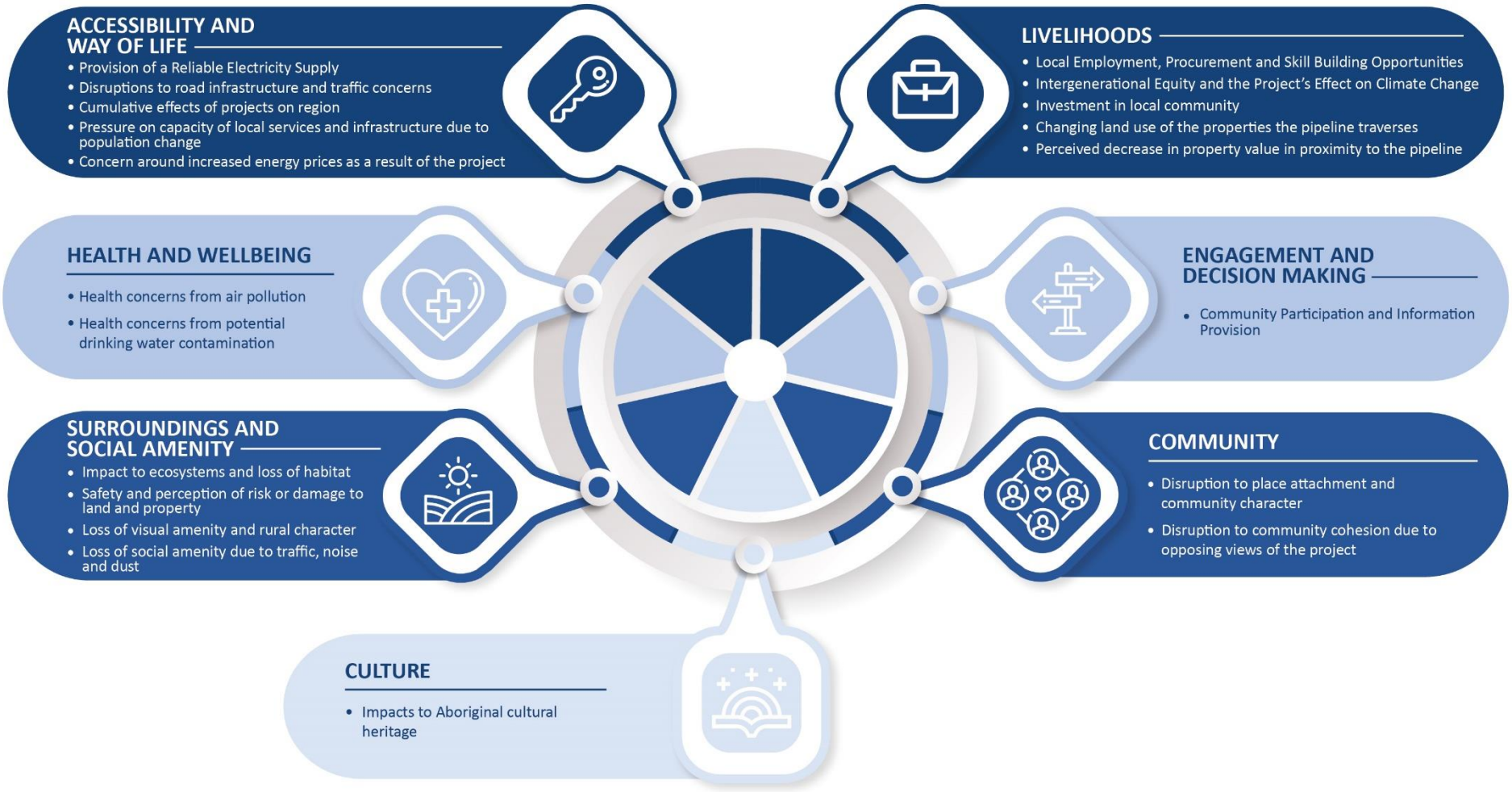


Figure 4.1 Key Social Impacts – real and perceived

Source: Umwelt 2021

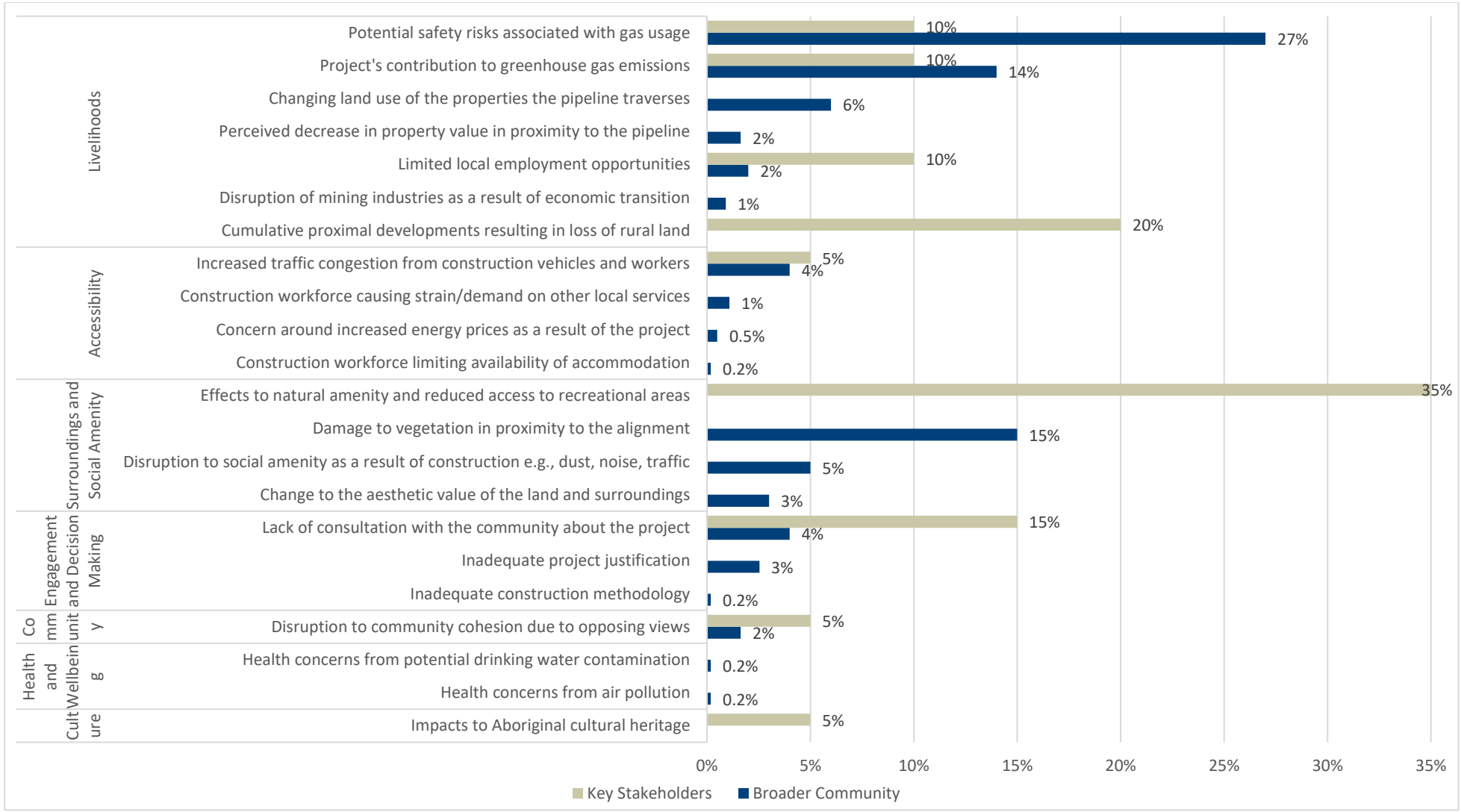


Figure 4.2 Perceived Negative Project Impacts Cited Proportionally by Stakeholders During the Broader Community Survey and Key Stakeholder interviews

Source: Umwelt, 2021; broader community survey: base n = 402; Key Stakeholder interviews base n = 20. multiple responses allowed

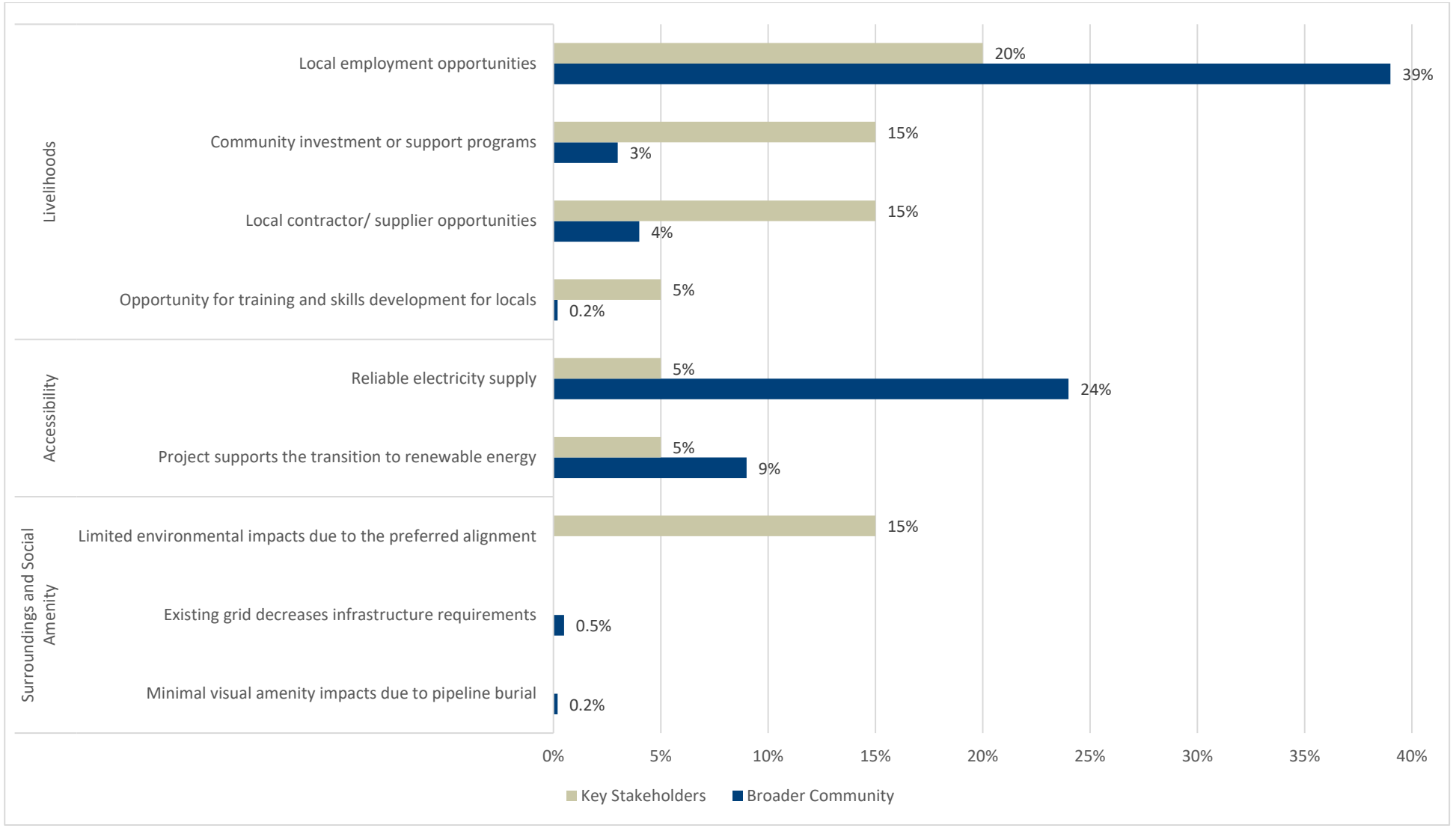


Figure 4.3 Perceived Positive Project Impacts Cited Proportionally by Stakeholders During the Broader Community Survey and Key Stakeholder interviews

Source: Umwelt, 2021; broader community survey: base n = 402; Key Stakeholder interviews base n = 20. multiple responses allowed

The potential positive and negative impacts of the project have been categorised according to the SIA guideline's social impact categories (DPIE, 2021).

Table 4.1 highlights the interconnectedness of impacts across social impact categories. For example, the potential of the Project to generate local employment opportunities may have positive outcomes that occur across community and livelihoods categories. Similarly, the influx of construction workers may place pressure on accessibility to services and accommodation and impact on community cohesion while also creating livelihood opportunities for local accommodation providers. The table indicates both positive (green) and negative impacts (blue) - both real and perceived, acknowledging that respondents can raise both positive and negative impacts in relation to a social impact category.

Table 4.1 Social Impact Matrix

Impact Category	Positive and Negative Impacts	Way of life/ Community	Access to and use of Infrastructure services and facilities	Culture	Health and Well-being	Surroundings	Livelihoods	Decision-Making Systems
Livelihoods	Local Employment, Procurement and Capacity Development Opportunities	Increased employment options					Increased employment options	
	Intergenerational Equity and the Project's Effect on Climate Change	Disruption to place attachment						Distrust in climate change policy and approval process
	Local Community Investment	Opportunities for new activities or services	Increased community access to resources				Community investment	
	Changing land use of the properties the pipeline traverses		Reduced accessibility to rural land and resources				Changes to agricultural outputs	
	Perceived decrease in property value in proximity to the pipeline						Decrease in or fear of decrease in property value	
Accessibility and way of life	Provision of a Reliable Electricity Supply		Increased accessibility to reliable electricity					
	Disruptions to road infrastructure and traffic concerns		Reduced accessibility to road infrastructure		Reduced road safety		Reduced productivity due to lost time	
	Population Change as a result of the construction workforce	Reduced community cohesion	Reduced access to services and accommodation		Pressure on health services			
	Pressure on short-term accommodation		Decreased accessibility to short-term accommodation for tourists				Increased business for accommodation providers	
	Pressure on existing housing markets		Decreased accessibility to housing		Housing Stress		Decreased housing affordability	
	Pressure on health services and infrastructure		Decreased accessibility to medical treatment		Increased wait times for medical care			
	Cumulative effects of other projects underway within the social locality and the broader region	Cumulative impact on place attachment and community change	Reduced access to services and facilities			Industrialisation of the landscape	Cumulative impact on business opportunities and jobs	Overlapping community engagement causing fatigue or confusion
Surroundings and social amenity	Impact to ecosystems and loss of habitat	Changes to how people experience the natural environment		Indigenous and non-Indigenous connection to Country and land		Disruption to Eco-systems	Impact on tourism and agriculture	
	Safety and perception of risk or damage to land and property	Impact on place attachment, fear of explosion			Risk of injury or death	Risk of damage to land and property	Risk of damage to land and property	
	Loss of visual amenity and rural character	Impact on place attachment				Changes to surroundings during construction		
	Loss of social amenity due to traffic, noise, and dust		Increased traffic and road delays		Health impacts of dust, road danger		Lost productivity due to road delays	

Impact Category	Positive and Negative Impacts	Way of life/ Community	Access to and use of Infrastructure services and facilities	Culture	Health and Well-being	Surroundings	Livelihoods	Decision-Making Systems
Engagement and Decision-Making	Community Participation and Information Provision							Democratic and informed decision making
	Disagreement with the project justification reducing trust in project approval processes							Conflict with existing policy goals and community expectations in relation to the energy transition
Community	Disruption to place attachment and community character	Loss of rural sense of community		Conflict with connection to Country and land				
	Conflicting views and impacts on community cohesion	Changes to how people interact/local networks						
Health and Well-Being	Air pollution				Pollution impacts on asthma and other health issues			
	Potential contamination of drinking water				Health impacts of contamination			
Culture	Effects on local culture and heritage		Accessibility to culturally significant sites	Impact on local culture and heritage				

4.1 Livelihoods

Impacts on livelihoods refer to the project's effect on people's capacity to sustain themselves through employment or business, and the economic contribution of a project within the community, with impacts in this theme frequently identified by both the broader community and key stakeholders consulted.

4.1.1 Local Employment, Procurement and Capacity Development Opportunities

Local employment and service procurement were strongly identified as key aspirations of the community in relation to the Project, such that the broader community survey identified 'employment' as the most frequently cited community need across all localities (34% of total responses, see **Table 3.4** for an extended list of community needs identified through consultation). Various key stakeholders also stressed the importance of realising local economic benefits through the Project's lifecycle, with a desire to have apprentices, tradespeople and contractors from local areas employed, as well as provision of training and upskilling of local people. Respondents also indicated a desire to see Indigenous employment and procurement prioritized in the construction phase. In addition, local communities anticipate receiving benefit through procurement opportunities for local businesses and service providers particularly in the construction period of the Project, given that only limited operational employment is likely.

> *"Ongoing projects in the area are seen as an overall positive to the district" – Accommodation Provider*
>
> *"A flow on affect, bakeries, supermarkets etc all benefit when there is a big project in town" – Local community group*
>
> *"Jobs is the thing that will help sell the project - we've still in the 'jobs first zone' in the Hunter rather than energy transition being the priority, even though there are segments of the community that are pro that. People will love that diversification aspect already but jobs are still the priority - the area wants to focus on the sustainable growth of other industries to balance the loss of jobs in mining." – Local business group*

Despite this, there was a feeling that other projects in the area had failed to generate local opportunities and often outsourced goods and services rather than supporting the local economy. Local business organisations expressed a desire to see APA demonstrate a 'deliberate and positive intention to procure locally' and generate supplier opportunities for local and regional businesses.

> *"It would be nice to have diversity of employment - how do you establish something that isn't short term? When big contractors come to town, they FIFO. But things that are not core to their skills – like conservation, water carts, food services – it would be nice to think about those more specifically" – Business group*
>
> *"A lot of people like to have local people in local projects rather than bringing in external employees" – Service provider*

Several community groups and business groups referred to the history of job losses in the region and the impact of closures of key industry in the area, including the Kurri Kurri Smelter. In this regard, the creation of new projects in the area was an opportunity to generate jobs and training opportunities, facilitating job security and diversification of economic opportunities. Community members surveyed within the broader social locality wanted to see employment benefits maximized (31%), and local supplier or contractor opportunities (3%) should the Project proceed.

People that will love diversification aspect already, but jobs are still the priority - the area wants to focus on the sustainable growth of other industries to balance the loss of jobs in mining – Service Provider

When asked to comment on the capacity of the workforce in the local region to contribute to the Project, many raised skills shortages as a key concern.

"There is also a huge skills shortage in the region. With lower migration levels due to covid, companies have looked to upskill existing staff to develop and grow, this has left a number of lower skill positions vacant. We need more training opportunities and pathways to sustain employment opportunities for lower skilled workers" – Local business group

This issue was also reiterated by business groups who suggested there was a need for the creation of specific training and development programs for lower skilled workers in the region. Interviewed stakeholders raised opportunities for contracting of services, particularly in less technical areas such as the provision of water carts, drivers, construction, and catering as a key outcome they would like to see achieved as a result of the Project.

Interest was also expressed in assisting APA in achieving local employment, training, and procurement goals. For example, a local business group offered to email their members on behalf of APA as opportunities arise. Local employment agencies also noted their capacity to assist in linking local job seekers with employment opportunities, if given enough time and further project detail. Several respondents also requested that APA host information sessions on project employment and local procurement opportunities. Local employment services also expressed capacity to aid in linking local job seekers with employment opportunities, especially if given enough time and detail to facilitate employment opportunities.

"The main thing with a project like this is to provide early consultation so we can understand the skillsets required to prepare local jobseekers to have a running chance to find employment on a project (knowing what is required means they can pre-train)" – Local service provider

As previously noted, a small proportion of stakeholders consulted (2%) were disappointed that the project was not likely to create a larger number of employment opportunities in the operational phase.

Would prefer if there were more employment opportunities for the community in both the KKLP and HPP. There aren't many jobs in this after construction finishes. – Local Council

Low employment in operational phase so don't see this as a benefit long-term – Business Group

A small proportion of community members (1%) also lamented that the energy transition, supported by the project, will take away opportunities in the coal mining industry which has been historically significant in the region.

It [the Project] will put people out of jobs, it's going to lose jobs for the coal industry – Broader community survey

I can't see why we can't have coal – Broader community survey.

The construction phase of the Project is expected to last for a period of 12 months, with the construction workforce predicted to peak at approximately 400 employees. A contractor will be engaged by APA that has the relevant knowledge and experience in pipeline and gas surface facility construction and will result in an influx of construction workers to the region. However, there will be opportunities available for a number of local roles to assist in general civil, clear and grade, traffic management, fencing, water cartage roles, and for local accommodation providers to provide accommodation for construction personnel. In the operational phase, a small number of roles associated with the maintenance of the project are anticipated, some of which may be sourced locally.

While stakeholder engagement has indicated skilled labour shortages in the region, many of the roles required in the construction of the KKLP are reflected in the existing locality. As noted in **Section 3.3.6**, construction is the third highest employer in Maitland (employing 3,266 people), sixth highest in Cessnock (employing 1,136) and fourth highest in Newcastle (employing 8,230 people) (REMPLAN, 2020). Consequently, it is likely that a proportion of the proposed construction and operational workforces will be able to be sourced from within the locality.

*The positive social impact of local employment and procurement associated with construction of the Project has been ranked as a **high, positive social impact** (likely to occur and of moderate benefit), given the scale of local employment opportunities; and a **low, positive social impact** (possible to occur and minor benefit) during operations, as once operating, the Project is likely to provide only minimal employment.*

4.1.2 Intergenerational Equity and the Project's Effect on Climate Change

Intergenerational equity refers to the concept of fairness among generations in the use and conservation of the environment and its natural resources (Weiss, 2021). In this assessment, it is discussed in relation to both the Project facilitating a transition to renewable energy, and the perception of using gas as a resource, given its contribution to greenhouse gas emissions.

Local community members expressed support for projects that assist in a broader transition to renewables in the region and supported the Project's ability to support the HPP to provide the peaking power necessary to support transition. Community groups spoke of the region's historical focus on coal mining and the anxiety, financial distress, and changes to way of life caused by closures of mines and smelters.

Some stakeholders expressed scepticism about the KKLP, arguing that the HPP, and by association, the KKLP, was unnecessary, facilitated the use of the wrong resource and technology (natural gas) and expressed a belief that it was a political, rather than a rational decision for the Project to proceed.

> *"Don't think that HPP is needed, if peaking plant it should be another technology. Most think it is political decision." – Local community group*

Some saw the KKLP as being in direct opposition with renewable energy strategies and plans for the area, arguing this presented reputational issues for the region, with flow-on impacts to livelihoods and investment in the area.

> *"the project is in conflict with the renewable energy zone. It is seen by some in the development space as a brand risk to major investment in the region, we're promoting the ability for companies to come and invest in green energy etc. in the region but meanwhile the feds are building a gas plant here… investors want to invest in green energy, and as we look to attract investors it confuses the message." – Local business group*

> *"We are striving for renewables and a net zero by 2040 target. We don't support non-renewable generation proposals. Saying that, I am realistic and we will work to make it work best for Newcastle." – Local community group*

Further, 9% (n = 37) of respondents believed that the most important action that APA could take to enhance the positive impact of the project was to support further investment in renewable energy in the region. In this regard, a local community group also raised questions about the capacity of the pipeline to be used for hydrogen and whether the pipeline could also be used for multiple purposes and function as a catalyst for other projects in the area.

> *"A broader opportunity question, when delivering this kind of infrastructure, a benefit is when it can be used for multiple purposes. Can it [the pipeline] be used to carry green hydrogen? Can this support the development of local hydrogen plants? Given renewable credentials of APA - worth asking that question. How can it link Maitland and Cessnock into the opportunities?" - Local community group*

Others perceived the KKLP and HPP as essential elements in aiding a transition to renewable energy in the region. For them, the delivery of a peaking plant and associated infrastructure served as an 'interim measure' for reliable power in the region.

> *"Strong support for projects that assist the transition to renewables, support this project as it is an interim measure to facilitate this transition and will provide the peaking power that is needed in the area." – Local community group*

This contribution of the HPP to a transition to renewable energy is considered as part of the NSW Government's assessment of the EIS for that project. The HPP was approved by the NSW Government in December 2021, with the NSW Department of Planning releasing a statement saying "*this project will improve energy reliability and security in the national energy market as it brings on renewable energy from wind and solar farms, and transitions away from coal-fired power generation over the next 10 – 15 years*" (Cox, 2021).

The Department of Planning, Industry and Environment further stated that the *"project would contribute to the net reduction of greenhouse gas emissions in the energy sector by providing ongoing firming of intermittent renewables"* (DPIE, 2021).

The mining industry has, and continues to be, a major employer within the Hunter Valley region, as described in previous sections. With a low level of industry diversity in the region, and a high dependence on the resources industry, this means that communities are more likely to be vulnerable to changes in the sector, further contributing to anxiety around the speed and trajectory of energy transitions in the area.

Community sentiment surrounding natural gas is relatively positive across Australia, with a survey by the Australian Petroleum Production and Exploration Association (APPEA) finding that natural gas is seen as the second cleanest energy source after renewables (APPEA, 2021).

*Perceived conflicts relating to renewable energy transitions and intergenerational equity in the region is assessed to be a **medium social impact** (possible and of moderate magnitude).*

4.1.3 Local Community Investment

A number of stakeholders consulted (3%) noted that community funding and contributions had the potential to provide a benefit to the community.

> *"They have got to distribute some of that financial gain back into the local community, such as through local infrastructure" – Broader Community Survey*

> *"They can set up a fund to help support or financially encourage other industries" – Broader Community Survey*

One stakeholder noted that the development of a community fund would be of great benefit to the community if the awareness of such a program was raised in the community.

> *"Community funding will be good, just need to raise awareness of it". – Local Council*

In addition, there was a preference for the funding from the project to remain in the region to benefit communities in closest proximity to the project.

> *"If they gave money to the area, as long as the money stays in the region it would help our community" – Broader Community Survey*

Another stakeholder raised the need to ensure equity in the distribution of the funding within the community, in response to previous experience with similar funds.

> *"There was another project in the area where $350,000 went to one organisation. Be careful about ensuring equity and ongoing sustainability of the community fund. We want to see programs and groups funded with ongoing continuity and a broad range of support in the community" – Local Business Chamber*

Two stakeholders mentioned that any contributions to Council to maintain or improve road infrastructure in the region, was a way in which APA could also contribute to the region.

> *"If there are semis going up and down there, they need to make sure that they maintain or fix the roads once they've finished" - General community survey response*

> *If they are going to be making money out of the area they should put some back into the community, such as providing on and off ramps to the freeway – General community survey response*

APA have established a Community Grants Program that allows individual organisations within the Cessnock, Maitland, and Newcastle LGAs to apply for funding of up to $5,000 or in-kind support during six-monthly funding rounds. These grants are evaluated in line with a number of criteria to ensure that the funding meets APA's community investment objectives in:

- responding to community needs and aspirations
- strengthening local communities and
- supporting community wellbeing, prosperity, and sustainability.

*Community contribution and investment as a result of the Project is assessed to be **a medium, positive social impact** (almost certain, with minor magnitude). The significance of the positive social impact to be experienced, will depend on the amount and quality of community enhancement activities undertaken by APA.*

4.1.4 Changing land use

A small number of respondents (6%) who participated in the broader community survey noted that the landholders of properties through which the transmission pipeline traverses, may experience restrictions or changes to their use of their properties because of the Project. Others commented that the character of rural areas may also change with further industrialization.

> *With this and 2 industrial estates, the Character of that area of Black Hill is going to change a lot given they are in rural areas. – Local Environment Group*

Similar with all linear infrastructure projects that cross rural land uses, there is the potential for conflict with agricultural activities while construction is underway on the property. In this regard, APA have collaborated with and will continue to engage landholders along the transmission pipeline alignment to ensure an understanding of their current and desired land uses, and to develop a construction approach that minimises impacts to current and future proposed use of affected properties.

Additionally, concern was raised about the potential for the development to affect other future land uses in the area, limiting further urban growth and development.

> *[our] main concern is sterilisation of urban areas where there has been a lot of planning for already - including the residential areas and the industrial areas, looks like this has been addressed in the alignment. – Local Council*

> *this new project need to be discussed by the community regarding jobs and whether the pipe line will impact rural lands – Broader Community Survey*

As described in *Section 10.0 Evaluation of Merits* of the EIS, mitigation of the potential for conflict with existing and future surrounding land uses has been considered during Project design and informed by ongoing consultation with current and proposed future land users where known. In particular, the Project has been designed so that:

- The transmission pipeline alignment impacts the lowest number of landholdings of all alignment options considered, avoids all conservation and forestry estate, is preferentially located on land that has been or is approved for clearing, follows existing linear pipeline infrastructure for around 33 % of its length, and avoids areas suitable for residential development as far as practicable.
- The compressor station and delivery station are proposed to be located directly adjacent to the HPP, on land which has supported industrial operations since 1969 and provides significant separation distances to the closest residences.
- The storage pipeline is proposed to be located in an area of the buffer zone of the former Kurri Kurri aluminium smelter that is remote from all surrounding development and has previously been subject to clearing across the majority of the area.
- Trenchless crossings are proposed to avoid surface impacts to all sealed roads, key biodiversity features (such as the proposed stewardship area for Regrowth Kurri Kurri and mapped important habitat for the regent honeyeater) and the main watercourses in the area (Weakleys Flat Creek, Buttai Creek, Wallis Creek, Swamp Creek, Black Waterholes Creek).

As described in *Section 7.2 Land Use* of the EIS, reasonable and practicable design, construction and operation measures have been proposed to minimise potential land use conflict with existing, approved or proposed major resource or infrastructure projects in the vicinity of the Project. Specifically, design measures based on ongoing consultation have been developed, or are subject to ongoing consultation, to mitigate potential land use conflicts with the M1 Pacific Motorway, Lower Hunter Freight Corridor, light

industrial developments of the 'Emerging Black Hill Precinct', Hunter Water Corporation infrastructure, coal mining operations (Abel underground mine, Donaldson open cut mine, Bloomfield open cut mine), residential development west of Wallis Creek, the Regrowth Kurri Kurri project, and the Hydro aluminium smelter remediation project.

Land rehabilitation will occur following pipeline construction, aiming to return land to original land uses. Given that the pipelines will be underground, land users will be able to continue regular land use activities on their land, providing that they do not undertake unapproved excavation activities or erect structures in the easement.

*The social impacts associated with changing land use, particularly on properties through which the pipeline traverses, has been assessed as **medium social impact** (possible but of minor magnitude) for host landholders; and a **low social impact** for other land uses (unlikely and minimal magnitude).*

4.1.5 Perceived decrease in property value in proximity to the transmission pipeline

During consultation, a small percentage of stakeholders (2%) raised concerns that the market value of properties in proximity to the transmission pipeline may decrease because of its presence.

An operational easement will be registered over the transmission and storage pipeline, as well as the surface facilities once construction has been completed. Given that the transmission pipeline will be underground, land users will be able to continue regular land use activities above the pipeline providing that they do not undertake excavation activities or erect structures in the easement. Therefore, ongoing impact to properties is likely to be minimal.

As described in *Section 7.2.4.4 (Pipeline easements and landholder compensation)* of the EIS, when a final alignment for the transmission and storage pipelines have been selected, APA will seek to negotiate the purchase of an easement or an option for purchase of an easement with affected landowners. An easement provides a pipeline operator with a legal right to enter land for the purpose of constructing, operating and maintaining the pipeline. An easement is registered on the underlying land title and will remain on title following any future changes in land ownership. The nominal easement width for the transmission pipeline is proposed to be 20 m.

APA will make all practicable endeavours to purchase an easement through a mutually satisfactory agreement with landowners. APA commits to dealing with all impacted stakeholders in an open and respectful manner to provide fair, adequate and equitable compensation in reaching agreement on a pipeline easement.

APA fairly compensates all landholders for agreeing to grant an easement to accommodate a pipeline. The compensation offered by APA is based on fair market value and includes consideration of the value of the easement area and anticipated loss of production or use during construction. The compensation offered will also reflect the general disturbance to landowners as a result of dealing with APA. Landowners will be paid an upfront fee for entering into an agreement, and APA will meet the reasonable legal and valuation costs incurred in reviewing the proposed easement agreement.

In relation to issues associated with property value, there is little evidence to suggest that the pipeline will reduce property prices. Following an extensive literature review of the impact of proximity to natural gas pipelines on property values, Wilde, Loos and Williamson (2012) concluded that 'there is no systematic evidence, based on actual sales data, that proximity to pipelines or pipeline ruptures reduce property values. Utilising existing data, and as noted in **Section 3.3.6**, median rental prices in the Cessnock LGA have increased from $340 in the September 2019 period to $430 in the September 2021, representing an average annual increase of 13% over the period. At the same time, residential vacancy rates in the Hunter Region have declined from 1.6% in November 2020, to 0.9% in October 2021.

These price increases suggest a high demand for property in the social locality and reflect recent house price increases across Australia driven by low interest rates and population movements to regional locations in response to COVID-19. The social locality, especially Cessnock LGA, is forecast to experience substantial population increase over the next twenty years, further impacting property prices. Similarly, much of the pipeline traverses land in existing infrastructure easements, or land substantially impacted by past or continuing mining land uses, rather than residential areas. Therefore, impacts on land prices are likely to be limited, particularly after appropriate land rehabilitation has occurred.

*The concern associated with a perceived decline in property values for host landholders is considered a **low social impact** (possible but of minor magnitude), and a **low social impact** for proximal landholders (possible but of minimal magnitude).*

4.2 Accessibility and Way of Life

This section discusses the impacts of the Project on how people access and use infrastructure, services and facilities, and changes to way of life, including how people live, get around, work, recreate and interact. Impacts relating to these categories, raised during consultation with the community include:

- Benefits associated with the provision of a reliable electricity supply.
- Potential disruptions to road infrastructure and increased traffic congestion.
- Pressure on capacity of local services and infrastructure due to population change associated with the Project, particularly in the construction phase.
- Cumulative effects of projects in the region, influencing accessibility to infrastructure and services as noted above.

4.2.1 Provision of a Reliable Electricity Supply

A key positive impact identified by a quarter (24%) of stakeholders consulted was the Project's contribution to the provision of a reliable electricity supply by providing a gas connection to the HPP. Stakeholders noted the Project's contribution to reliable electricity provision, outlining:

> *It is great that they are planning for this, I understand that renewals are not reliable 24/7 – Broader Community Survey*
>
> *With Liddell closing, the Project is needed for firming capacity of electricity, filling a gap – Local Business Chamber*

This positive sentiment aligns with rationale for the HPP and the Project, as concluded by DPIE in their assessment of the HPP EIS, and further confirmed by the potential early retirement of Eraring Power Station in August 2025.

Despite this positive sentiment, 3% of responses in the broader community survey questioned the rationale for the Project, or suggested that there may be better alternatives.

> *Not sure that gas plant is the answer to Australia's power needs. – Broader Community Survey*
>
> *Better off using a different resource – Broader Community Survey*
>
> *Won't be used that much, expensive to run – Broader Community Survey*

*Increased reliability in electricity supply has been rated as **high positive social impact** (likely and of major magnitude). However, while it is acknowledged that there is a need for increased electricity generation infrastructure, some respondents questioned the justification for gas infrastructure as the mechanism for achieving this objective.*

4.2.2 Disruptions to road infrastructure and traffic during construction

Additional traffic on local roads during construction may increase travel times, heighten road safety risks, and place further pressure on road infrastructure, but can also contribute to disruptions to social amenity and place attachment, especially in rural areas (as discussed in **Section 4.3**).

The potential for increased traffic on local roads, due to construction workforce movements and construction vehicles accessing the proposed site (trucks, machinery etc.), was noted by 4% of the broader community across specific localities, namely Heddon Greta, Kurri Kurri, Gillieston Heights and Sawyers Gully. Despite concerns relating to increased traffic and road disruptions, APA's preferred route location was perceived by many respondents to be an effective choice, minimizing impacts to local landholders and residents.

The route is through a disused open cut coal mine and land belonging to an open cut coal mine that is scheduled to close in 2023. This route would cause less disruption to residents and road users on John Renshaw Drive during construction – Social Pinpoint User

Further to discussing traffic impacts, respondents also highlighted the inadequacy of existing road infrastructure and the impact of increased population and development on traffic levels and road condition.

> *"Added infrastructure will need to happen and will need to be considered - traffic is already quite bad and this impacts business activity in the region" – Local business group*
>
> *"Minmi residents don't like cyclists on the road so I don't know how they will deal with construction and a gas pipeline." - Local community group*
>
> *"Black Hill road - stay well away from it, all access to industrial estates via John Renshaw drive, we want to keep Black Hill Road for local use" – Local community group*
>
> *Road maintenance and if trucks are going to be on the local roads in building of the pipeline creating wear and tear. The main road from Kurri to Maitland is too narrow/ the roads are struggling with all the new developments – Broader Community Survey*

Consultation suggests that the community believes the baseline transport infrastructure in the social locality is poor. **Figure 4.4** identifies the proportion of respondents by locality citing '*better road infrastructure'* as a key community need, with residents in Louth Park (54% of responses), Cliftleigh (50% of responses), and Gillieston Heights (45% of responses) identifying road infrastructure as a key priority. Smaller proportions of responses were obtained in Kurri Kurri (20% of responses), Black Hill (21% of responses), and Buchanan (10% of responses) in this regard.

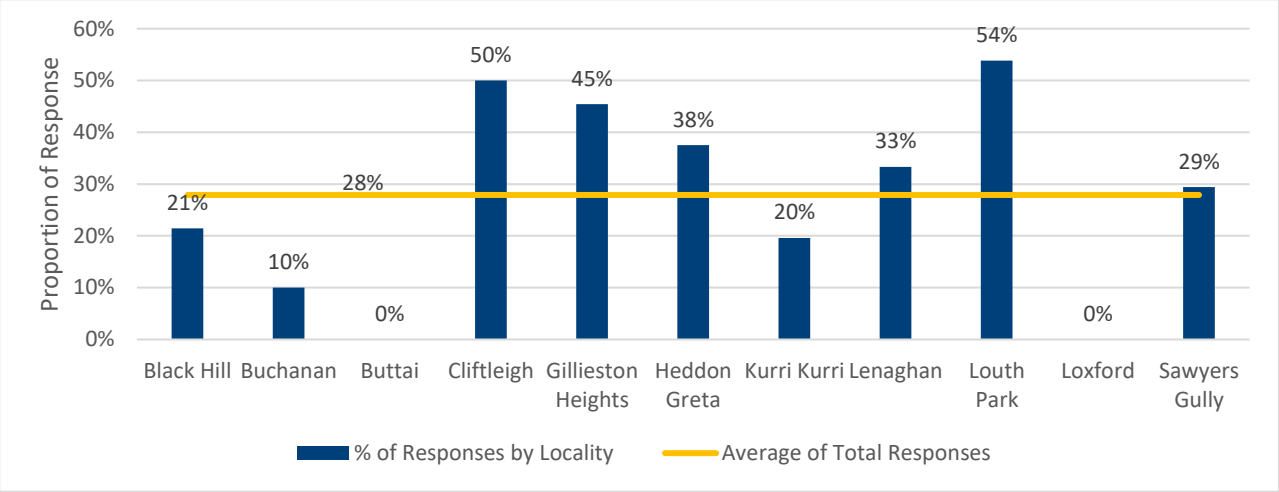


Figure 4.4 Proportion of responses by locality citing 'Better Road Infrastructure' as a key community need

Source: Umwelt, 2021. Base n = 402; Black Hill n = 14; Buchanan n = 10; Buttai n = 2; Cliftleigh n = 14; Gillieston Heights n = 66; Heddon Greta n = 48; Kurri Kurri n = 214; Lenaghan n = 3; Louth Park n = 13; Loxford n = 1; Sawyers Gully n = 17

While these findings do not suggest that the Project will have a greater impact on traffic, it highlights that road infrastructure and traffic is a sensitive issue in the community that, should the Project be approved, will require mitigation and effective communication relating to Project activities that have the potential to increase traffic on local roads.

The Project design considers mitigation of impacts to local roads and traffic by selecting a transmission pipeline alignment that avoids construction parallel to sealed local roads within road reserves, using trenchless crossing techniques to cross sealed roads so that there is no or minimal disruption to traffic flows, and locating the storage pipeline in an area that can be accessed by private tracks and is remote from the local road network.

A traffic impact assessment was undertaken for the Project, as summarised in Section 7.11 of the EIS, to evaluate the effect of traffic generated during construction on the safety and efficiency of the local road network. Modelling of traffic generated during the construction of the Project indicates that impacts to the local road network, road safety, public transport infrastructure or pedestrian facilities are generally not material. Use of Main Road by Project workers returning to accommodation in Maitland in the afternoon was identified as the most significant potential impact to the local traffic network, given this road is already approaching saturation during peak hours.

The assessment identified that the most significant percentage increase to existing traffic volumes on the local road network would likely occur for John Renshaw Drive. However, this assessment was based on a worst-case scenario with pipe delivery from Port of Newcastle to laydown areas, pipe delivery from laydown areas to work areas, and peak construction workforce movements all occurring simultaneously.

This is an extremely unlikely if not implausible scenario as delivery of pipe segments from the Port of Newcastle to laydown areas will be conducted at the commencement of construction phase for up to 6 weeks and is highly likely to be completed prior to the construction workforce ramping up to peak levels some four months into the construction phase. Workforce numbers themselves are estimated to peak for one month only, prior to declining substantially for the remainder of the construction period.

Even with these highly conservative assumptions, John Renshaw Drive was assessed to remain well within the recommended level of service during this period.

With the traffic management measures proposed in the EIS, it is considered that the Project's minor traffic and transport impacts during construction would be effectively managed. A mitigation measure that has been included to specifically address findings of the SIA is for construction traffic to avoid using Black Hill Road between the crossing the location and intersection with John Renshaw Drive. Road dilapidation reports will also be undertaken pre and post construction, with any defects attributable to construction activities to be rectified by APA or compensated in consultation with the relevant road authorities.

Traffic impacts during operations are considered to be negligible as they are typically limited to use of the road network by five full time employees.

The below impact assessment reflects both the community concerns raised and the outcomes and mitigation measures detailed in the Traffic Impact Assessment.

*The social impact on road infrastructure and traffic, particularly during the peak construction period, is likely to be **medium** (likely and of minor magnitude**).** Impacts are likely to be most significant in localities in close proximity to the pipeline development (e.g., Black Hill, Cliftleigh, Gillieston Heights and Sawyers Gully).*

4.2.3 Pressure on capacity of local services and infrastructure due to population change

Changes to population are fundamental impacts within SIA, given that the size, composition, and behaviours of a community are underpinned by its population and characteristics. Population change (influx and outflux) is usually described as a first order social impact which has the potential to create second order social impacts, such as impacts on community infrastructure and services, changes in sense of community and impacts on place attachment etc.

This section examines the potential impacts of population change due to the Project, using established population change characteristics adapted from Burdge (2004). Burdge suggests that population change of greater than 5% in a local area is likely to result in a significant impact being experienced.

Using workforce projections, existing ABS Census data relating to age, gender and household size, and assumptions in relation to source locations for the workforce, the following section provides estimates of potential population changes in the Cessnock, Maitland, and Newcastle LGAs because of the proposed Project.

In relation to population change, the Project will have an impact on population, during construction, due to the influx of the likely temporary and non-resident construction workforce. The operational workforce is small and is likely to be employed from the local population.

There are two scenarios presented for estimates relating to the construction workforce, with the 80:20 rule, used frequently in SIA practice, with Scenario 1 representing the highest impact , and most likely, scenario.

These scenarios are outlined below:

- Scenario 1 – assumes 80% of the workforce will migrate into the region.
- Scenario 2 – assumes 50% of the workforce will migrate into the region.

Population change estimates are provided at an LGA level only, given there is insufficient data available to accurately model how the incoming workforce (both construction and operational) will be distributed within specific communities in the LGA. However, available data on townships within the LGA and capacity of relevant housing/accommodation options outlined in **Section 4.2.3.2**, has been considered to suggest the LGAs where employees in the construction and operational phases could potentially be accommodated. Based on this data, comment is provided on the viability of each scenario given current availability of accommodation.

A range of scenarios are presented to illustrate the extent of population change that may occur because of the Project.

- **Scenario 1** – given the specialist nature of pipeline construction, a contractor will be engaged by APA that has the relevant knowledge and experience in pipeline and gas surface facility construction and will result in an influx of construction workers to the region. However, there are expected to be opportunities available for a number of local roles. Therefore, in considering population change associated with the Project, Scenario 1 (20% of the Project workforce may be sourced from within the locality, with approximately 80% migrating into the area), is the most likely of the two operational scenarios assessed. Impacts and benefits relating to local employment and procurement is discussed further in **Section 4.1.1**.
- **Scenario 2** - is considered an aspirational scenario and will be dependent upon more focused strategies being put in place by APA to facilitate local employment and training.

The Project aspects that have the potential to most significantly influence population change and subsequent impacts on access to community services are considered further below.

4.2.3.1 Population Change as a result of the Construction Workforce

As shown in **Figure 4.5**, the construction phase of the Project is expected to last for a period of 12 months, with construction workforce estimates predicting a peak of around 400 employees on-site four months post construction commencing. Numbers of on-site workers will decrease after this point, falling to below 150 workers in the final three months of construction.

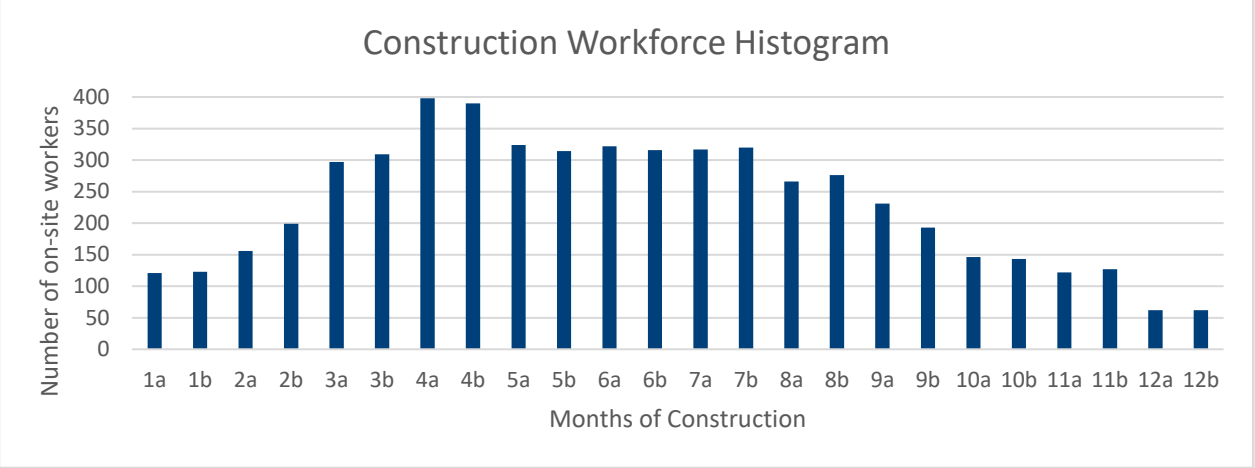


Figure 4.5 Construction Workforce Histogram

Source: APA

Construction workforces can typically result in some specific social impacts to the communities in which they are housed, as construction work is transient, and workers often do not travel with their families. Given the nature of the work being completed and the timeframe of the construction phase, the following assumptions have been made:

- It is not expected that any proportion of the construction workforce coming in from outside the LGAs will choose to permanently relocate to a community within the LGA boundaries.
- The workforce is likely to want to temporarily reside near the Project, as much as is practicably possible.
- It is unlikely that families will accompany these workers to the area.
- Construction workers that come from outside the region are expected to be housed in temporary commercial accommodation, based on previous experience with pipeline construction projects, or possibly rental properties (as required).

In considering the social impacts associated with the Project's construction workforce, **Table 4.2** summarises the population change estimates based on the two construction workforce scenarios, with the change representing the non-resident workforce. The table shows population increases if workers were housed entirely in one of the three LGAs under consideration and also considers if workers were distributed across the three LGAs.

Table 4.2 Construction workforce population change estimates – all scenarios

Scenario	Populations of LGAs: Cessnock (55,561), Newcastle (155,408) and Maitland (77,307)				
	Population increase	% increase in Cessnock	% increase in Maitland	% increase in Newcastle	% increase distributed across LGAs
Scenario 1 (80% migration into LGAs)	320	0.57%	0.41%	0.18%	0.11%
Scenario 2 (50% migration into LGAs)	200	0.36%	0.26%	0.13%	0.07%

At a LGA level, the predicted temporary population influx into the impacted LGAs has been assessed as having a maximum impact of 0.57% increase in population (assuming 80% migration into Cessnock LGA (Scenario 1 – 80% migration into a single LGA) and less of an impact in respect to Scenario 2. The impact of population change during construction of the project is therefore considered a **low** social impact (*likely and minimal magnitude*).

*The impact of population change during construction because of the Project has been assessed as a **low social impact,** likely to occur but with a minimal change to population across the relevant LGAs. The social impacts associated with the presence of the operational workforce is also considered **low**.*

It is also reasonable to assume that the influx of the construction workforce will increase the need for goods and services such as food, accommodation, shopping, and entertainment which will provide a benefit to local businesses supplying these services.

*The positive social impact of increased provision of services and goods because of population change during construction of the Project has been assessed as a **medium positive social impact,** likely to occur with a minor change across the relevant LGAs.*

4.2.3.2 Pressure on short-term accommodation during construction

Access to housing was a commonly raised concern across stakeholders. Business groups and community groups identified a lack of affordable and social housing for local residents, and noted challenges in finding suitable accommodation for temporary workforces. Accommodation providers explained that while vacancy rates had been low due to COVID-19 restrictions, regional tourism had increased and medium-term stays for temporary workers were also on the increase. Accommodation providers consulted highlighted challenges in meeting the demand for short-term accommodation, particularly on weekends and during summer. Occupancy rates are seen to fluctuate throughout the year with September to April considered the busiest time of the year as weddings, events, and concerts bring visitors to the region in the summer months. Accommodation providers based in Maitland also explained that most visitors come from Sydney and anticipated higher regional tourism for the coming year as travellers avoid international travel.

Accommodation providers also noted that clientele differed throughout the week, with families and leisure travellers on weekends and a sustained number of trades workers and business travellers during the week. Providers also commented on the cumulative impact of concurrent projects and existing use of their services to meet the needs of construction workforces.

> *"We are fully booked throughout December. Often fully booked on weekends, and about 50% during the week." – Accommodation Provider*
>
> *"Already seem to be getting a lot of bookings and enquiries for different projects." – Accommodation Provider*
>
> *"We host a number of guests who are staying for project-based needs. This is managed on a case-by-case basis surrounding needs." – Accommodation Provider*

Pressure on local accommodation is likely to vary over the course of construction. Areas that are the closest to the HPP-end of the transmission pipeline may experience a concentration of accommodation demand, given construction of the storage pipeline, compressor station and delivery station. Given high variability in room occupancy rates across the year and throughout the week, construction workforces in these areas are likely to have an impact on local accommodation providers. In areas immediately surrounding the Project, accommodation options are small and geographically dispersed, presenting challenges in efficiently transporting workers to the construction site typically through car-pooling. As accommodation providers outlined;

> *"There are not a huge amount of places, a lot of smaller hotels and motels… There isn't enough accommodation in the area to house an influx of people unless they are spread out across a much broader region." – Accommodation provider*

> *With regard to other projects in the area, and the demand for accommodation we would like to know more about accommodation strategies. We are unsure if accommodation could be provided to the Project without impacting other areas. – Local Business Chamber*

The transmission and storage pipelines are both within a 35-minute drive of Newcastle, meaning accommodation may be distributed across a larger geographic area with greater capacity to manage fluctuations in accommodation requirements. Much of Newcastle is proximal to the KKLP, with 120 establishments and 1,064 rooms available. This means that the social impact of a temporary workforce on accommodation will likely be higher for the townships immediately adjacent to the Project, with such impacts mitigated through dispersal of workforce through a broader geographical area and further consultation with accommodation providers.

While there are substantial short term accommodation options across the broader social locality, accommodation pressures, local amenity and use of facilities may still come under pressure in the smaller localities immediately proximal to the Project, especially when workforce accommodation needs coincide with times of peak demand, like school holidays or during local events. For example, as noted in **Section 4.1**, distributing the workforce across the Kurri Kurri SSC (population 6,039), Heddon Greta SSC (population 2,053) and Gillieston Heights SSC (population 3,150) may increase population across these towns by 0.62% to 2.49% depending on the workforce scenario, with flow-on effects for tourism and concurrent projects in the region.

*The social impact of the Project on access to short term accommodation and local services is likely to be **high for localities immediately adjacent to the KKLP** (including Kurri Kurri, Abermain, Black Hill, Buttai and Cliftleigh SSCs) (likely and of moderate magnitude), and **low for the broader social locality** of Newcastle, Maitland and Cessnock LGAs (unlikely and minor).*

4.2.3.3 Pressure on housing markets

There are also broader pressures on the housing market in the region. As highlighted in **Section 3.3.6** of this report, the rental vacancy rate is extremely low, at 0.7%, and consequently the influx of construction workers is likely to have an inflationary effect on local rental prices, with potential flow on effects for housing stress in the region and homelessness and overcrowding.

> *With the New Maitland Hospital Development, it will be interesting to see how the housing market goes, rental market in particular given the change in location – State Government Agency.*

Recent research by Equity Economics forecasts that the Hunter Valley (excluding Newcastle) and Newcastle and Lake Macquarie would experience a 40% and 37% increase in rates of homelessness respectively between February 2020 and June 2021, placing these areas as the third and fourth most effected regions for homelessness in Australia. There is anecdotal evidence that COVID-19 has exacerbated homelessness and housing stress in the social locality. As one respondent explained,

> *Homelessness and unemployment is a growing issue in Maitland and Port Stephens … The rental vacancy rate is 0.7% - key issues will be to source suitable accommodation - locals here who are not privileged struggle to find housing. There is also a limited supply of affordable housing and social housing. Incoming workforce will need to be managed to ensure that they can find accommodation but also, not impact on other services, providers, and projects in the region. – Business group.*

Similarly, Equity Economics predicted a 78% increase in housing stress in Newcastle and Lake Macquarie and a 72% increase in Hunter Valley (exc. Newcastle) over the same period, predominantly due to rapid housing cost increases and increases in unemployment and underemployment in these areas (Equity Economics, 2021). In this context, the social locality is particularly vulnerable to rental and house price increases.

While housing and homelessness pressures across the social locality may be significant, the individual contribution of the Project construction workforce is likely to be moderate. This is especially the case if a Local Participation and Social Procurement Plan is developed to prioritise local employment and procurement focused on sourcing workers living in the social locality, thereby reducing temporary population increase and demand on rental and short-term accommodation.

*The impact of the Project on rental housing and homelessness is likely to be **medium** (likely and of moderate magnitude) **for localities immediately adjacent to the KKLP** (including Kurri Kurri, Abermain, Black Hill and Cliftleigh) and **low** (possible and of minimal magnitude) for the broader social locality of Newcastle, Cessnock and Maitland.*

4.2.3.4 Pressure on health services and infrastructure

Concerns about pressure on other local services and facilities was also raised through consultation. When residents were asked about the key needs in the area, during the broader community survey, 12% (n = 29) of responses were made in relation to the need for better medical facilities and services. Of these responses, 31% (n = 9) were made with respect to the retention of the Kurri Kurri Hospital. With the new Maitland Hospital and John Hunter Health and Innovation Precincts in construction (**Section 3.3.7**), media reporting suggests that local community members fear the Kurri Kurri Hospital will be closed, reducing access to healthcare in the region. A further 14% (n = 4) of responses also noted the need for greater mental health support. The remainder of comments were generic in nature, citing the general need for improved healthcare facilities and services in the social locality.

The stakeholder responses reflect broader trends in the region. As highlighted in **Section 3.3.3,** the social locality is within the fastest growing population corridor in NSW, (NSW Planning & Environment, 2016). Due to this rapid growth, key initiatives, and strategies in the Greater Newcastle Metropolitan Plan (Department of Planning and Environment, 2018) include the need to facilitate the development of allied health, education, training, hotels, aged care services and research facilities at the John Hunter and East Maitland health precincts, strategic centres and other major health precincts.

Given that across Australia, there are on average 3.9 public and private hospital beds per 1,000 people (Australian Institute of Health and Welfare, 2019), a temporary increase of 400 people is likely to have a low social impact on health services, especially as temporary workforces are unlikely to seek elective surgery or other longer-term treatment while in the social locality. Additionally, the Project has committed to retain a nurse, paramedic or other suitably qualified health care professional, and suitable first aid facilities, to service construction areas for any minor injuries. As such, use local health services during construction hours may be limited to the unlikely scenario of a serious injury.

*The social impact of the Project on health services and infrastructure is likely to be of **medium** significance (possible and of minor magnitude) for localities immediately adjacent to the KKLP (including Kurri Kurri, Abermain, Black Hill and Cliftleigh) and **low** (unlikely and of minor magnitude) for the broader social locality of Newcastle, Cessnock and Maitland LGAs.*

4.2.4 Cumulative effects of other projects within the social locality and the broader region

As noted within **Section 3.3.3,** the social locality is experiencing high levels of population growth with concurrent expansion in infrastructure and housing**.** Section 7.16 of the EIS assesses the potential for cumulative impacts with 20 concurrent projects underway within or proposed for the social locality. Community engagement also highlighted the potential for cumulative impacts, particularly in relation to impacts on the environment, employment and energy infrastructure.

A number of community responses – particularly groups with an interest in environmental issues – noted the Project's potential to contribute to an ongoing change in the surroundings and natural environmental.

> *The scale of development in the area is likely to have a cumulative impact on the environment and valued vegetation in the area. – Local Land Services Group*
>
> *Loss of high value vegetation expected to occur from cumulative projects – Local Land Services Group*
>
> *Along with the industrial estates, the character of that area of Black Hill area is going to change a lot given they are in rural areas. – Local Environmental Group*

Cumulative effects regarding the ability of accommodation providers to service workforce accommodation demand was also noted. These concerns are further addressed in **Section 4.2.3.2**.

> *Workers coming from a range of different services and developments all the time. Already service a variety of people (sometimes at weeks at a time). – Accommodation Provider*
>
> *Quite regularly fully booked (weekends), weekdays at 50% occupancy. Limited capacity that could not be changed. – Accommodation Provider*

As highlighted in **Table 4.2**, the Project will occur concurrently with several other projects in the social locality, contributing to cumulative impacts related to service access, particularly housing and accommodation within the Maitland and Cessnock LGAs.

Additional concerns with respect to the cumulative impacts on services and facilities in the social locality are discussed in **Section 4.2.3**.

Cumulative effects from multiple projects in the social locality and broader region can also provide on-going benefits in the form of job creation, diversification of the economy and efficient use and re-use of existing infrastructure. For example, as one respondent noted:

> *People will love that diversification aspect, but jobs are still the priority - the area wants to focus on the sustainable growth of other industries to balance the loss of jobs in mining – local business group*

A further stakeholder also saw the project as an enabler for the HPP and other projects in the area.

> *It will provide a source of clean fuel for the power station. It will however be the power station itself which will be the main driver for economic growth in the area. – Local community group*

A number of stakeholders were also supportive of the proposed design of the Project and the benefit of locating it with a critical mass of enabling infrastructure. Stakeholders considered the location of the HPP and KKLP as sensible, due to the presence of existing electricity transmission infrastructure enabling the adaptive reuse of the site. The KKLP is therefore considered to support an option which limits the need for additional infrastructure investment and development in the social locality.

> *Alcan area is an area with electricity infrastructure, so the network is already there and should not go to waste – Broader Community Survey*

> *Existing power lines are already there – Broader Community Survey*

The impact of the KKLP in enabling cumulative projects in renewable energy is discussed further in **Section 4.1.2**.

*The social impact of the cumulative effect of the KKLP in the social locality and the broader region is likely to be **medium (possible and of moderate magnitude)**. Impacts in this regard, are likely to be both **negative**, relating to cumulative loss of natural environment and pressure on accommodation and community services, and **positive**, relating to improved infrastructure for electricity production and greater support for renewable energy transitions and other job-creating projects.*

4.3 Surroundings and Social Amenity

As outlined in the SIA Guideline (DPIE 2021), indicators of surroundings and social amenity include ecosystem services such as shade, pollution control, erosion control, public safety and security, access to and use of the natural and built environment and aesthetic value and amenity. Potential Project impacts on social amenity and surroundings include the following, and are further detailed in the sections below:

- Concerns for the local environment and biodiversity.
- Safety and the perception of gas explosion or leakage risk.
- Loss of visual amenity and sense of place.
- Disruption to social amenity due to traffic, dust, and noise particularly during pipeline construction.

4.3.1 Disruption to ecosystems and loss of habitat

Local community groups raised several environmental concerns relating to the pipeline's interaction with wetland areas and impacts on trees and vegetation. Key concerns were:

- the depth of drilling and its interaction with root zones and tree health
- impacts on local birdlife
- potential for pipeline interaction with swamp land near Hexham
- interruptions to vegetation connectivity with flow-on effects for increased weed dispersal
- The importance of ensuring that the land above and surrounding the buried pipeline was rehabilitated
- the potential sterilization of land adjacent to the pipeline.

Stakeholders considered environmental impacts from both an environmental and social perspective, explaining the importance of ensuring the project did not adversely impact environmental assets. From a social perspective, key stakeholders referred to the well-being benefits derived from access to trees and the natural environment and raised concerns about the general loss of recreational spaces in the social locality, as noted below.

> *"the impact on streams and wetlands, trees and vegetation – there is a low level of tree coverage in the area. The densely vegetated parcels that are there provide a range of community wellbeing benefits too." - Local environmental group*

The broader community survey identified that damage to vegetation in proximity to the alignment) (15%) as the second most cited concern in relation to the Project. Similarly, key stakeholders listed potential effects to natural environment amenity and reduced access to recreational areas as the most important concern.

Environmental groups have a long history of interest in the areas adjoining the KKLP, often with strong involvement in opposing or shaping decisions around other large-scale projects in the area. As one group explained:

> *"The environment is very important in the area. [Our group] was formed to address the drainage from mining land into the Hunter River and other waterways so we have a strong focus on rehabilitation of mining land." -Local environment group*

> *"We've been in the region for 37 years. There are quarries, coal mines, dump, industrial estates – we have a long history of opposing, we often lose but will then get involved in CCC's to make sure the process runs." – Local environment group*

Consequently, given the presence and history of local environmental groups, and community values associated with the natural environment, the level of concern for the project on surroundings was considered high for these particular groups. This is because loss of natural amenity and damage to vegetation conflicts with strong community values attached to environmental quality, reduced trust in approval processes for groups with strong involvement in decision making processes and disruption to sense of place.

Despite these concerns, stakeholders also acknowledged that the chosen Project design mostly avoided high value vegetation and minimized environmental impacts, as long as land was rehabilitated following construction; and that the decision to bury the pipeline also reduced visual impacts.

Understand the northern KKLP is a sensible option, other alignments were worse, this preferred alignment is better. – Local Environment Group

Support the preferred alignment - agree that there is less environmental impact in particular, so supportive of the direction chosen here. – Local Council

You look to have made a good effort to avoid vegetation, still expect there to be some impact on vegetation and regent honey eaters, but it looks to be minimal… Would encourage as much buried pipeline as possible and any opportunity to rehabilitate or enhance vegetation in the wetlands area near the storage pipeline would be great… Other alignments impact more of the high value vegetation that this alignment, the areas to the south are important for connectivity. – Land Services Organisation

As further shown in **Table 4.3**, APA has worked to address community concerns with the Project design that were raised on Social Pinpoint.

Table 4.3 Environmental concerns raised via Social Pinpoint and responses

Stakeholder Concern	Design response
The Hydro Kurri Kurri rezoning concept master plan shows a number of E2 environmental conservation zones in this area - how will you ensure that the pipeline construction doesn't destroy/damage/have an adverse impact on these area – Social Pinpoint User	The alignment is being designed in this area to avoid impacts to E2 zones associated with Swamp Creek and Wentworth Swamp in the first instance, or where avoidance is not possible to limit impacts to the periphery of E2 zones. It is proposed to cross Swamp Creek using a trenchless construction technique called horizontal directional drilling to avoid impacts to this watercourse.
Why have a gas storage pipeline, which necessitates removal of trees that otherwise form part of a buffer zone around the proposed gas plant? Why not a gas storage facility with a much smaller footprint? – Social Pinpoint User	The storage pipeline will be located in areas of the buffer that are cleared or support primarily regrowth vegetation. Large blocks of intact remnant vegetation in the buffer zone will be avoided.

Other design features that have been adopted to minimise impacts to biodiversity include:

- Design of a Project construction footprint that uses existing disturbed areas (for the JGN offtake facility, compressor station, delivery station and storage pipeline) or areas approved for disturbance by other projects (Stevens Group Hunter Business Park) wherever practicable.
- Design of a Project construction footprint that almost entirely avoids mapped important habitat for the regent honeyeater and swift parrot.
- Trenchless crossing of the proposed Regrowth Kurri Kurri stewardship area and a population of around 269 individuals of the threatened *Grevillea parviflora* subsp. *parviflora* north of the HPP.
- Development and implementation of biodiversity offsets strategy in accordance with the requirements of applicable state and Commonwealth polices and regulations.

Given the importance the community places the natural environment, the disruption to vegetation and is a key concern for stakeholders. While concerns are largely addressed by the Project design, it remains the nature of land based pipeline construction that impacts to biodiversity cannot be entirely avoided, and the point of concern requires addressing through mitigation strategies as discussed in **Section 6.0**.

*The social impact of loss of values associated with the natural environment due to the Project's impact on environmental ecosystems is **medium** (likely and of minor magnitude) for the broader community given the chosen alignment and is considered **high** (likely and of moderate magnitude) for local environmental groups.*

4.3.2 Perception of risk or damage to land and property

The potential safety risks associated with gas usage was highlighted as the top community concern (27% of respondents citing safety as a concern) in the broader community survey (refer to **Figure 4.2**).

The Preliminary Hazard Analysis (PHA) conducted for the Project, as summarised in **Section 7.12** of the EIS, assessed numerous potential hazard scenarios including underground pipeline loss of containment, compressor heat exchanger tube rupture and excavator tooth penetration and jet fire. The PHA states that if the risk management measures outlined in the analysis are implemented, the Project will meet all regulatory risk criteria for individual fatality, injury, and propagation, resulting in a negligible technical impact on community risk or safety.

Similarly, the chosen transmission pipeline alignment, compressor station and storage pipeline locations and construction methodologies have all been subjected to a multi-criteria analysis that prioritised community safety and amenity (see Section 5 of the EIS for further details), including maximising the separation distance between the storage pipeline and residences.

Table 4.4 provides an overview of the outcomes of the Preliminary Hazard Assessment.

Table 4.4 Stakeholder perceived and predicted impacts for explosion hazards

Stakeholder Concern	Outcome of Preliminary Hazard Analysis
Concern about potential gas explosion	All Project components were assessed as meeting the HIPAP 4 individual fatality risk criteria using UK HSE frequency data for leaks ranging from small holes to pipeline ruptures for a range of failure modes. The frequencies of the modelled credible hazardous events for all Project components with potential injurious impacts to residential and sensitive receivers were estimated to be below the HIPAP 4 criteria of 50 x 10^{-6} events/year. The frequency of hazardous events with potential propagation impacts for all Project components were estimated to be below the HIPAP 4 criteria of 50 x 10^{-6} events/year It is therefore considered that if the risk management measures outlined in the PHA are implemented, the Project will meet HIPAP 4 risk criteria for individual fatality, injury and propagation.

Despite this, societal risk perception and risk appetite rarely reflect technical analysis (Sandman, 2003) and should be considered separately from technical risk assessment.

Figure 4.6 displays the response rate of participants in the broader community survey that cited safety as an issue of concern, by locality. Respondents from Lenaghan and Loxford likely represent statistical outliers due to a low response rate to this survey question (4, and 2 responses respectively). However, most concern was noted in the suburbs of Buttai (25% of responses), Heddon Greta (25% of responses), and Louth Park (24%). Localities where safety was of less overall concern included Cliftleigh (14% of responses), Sawyers Gully (8% of responses), and Buchanan (7% of responses).

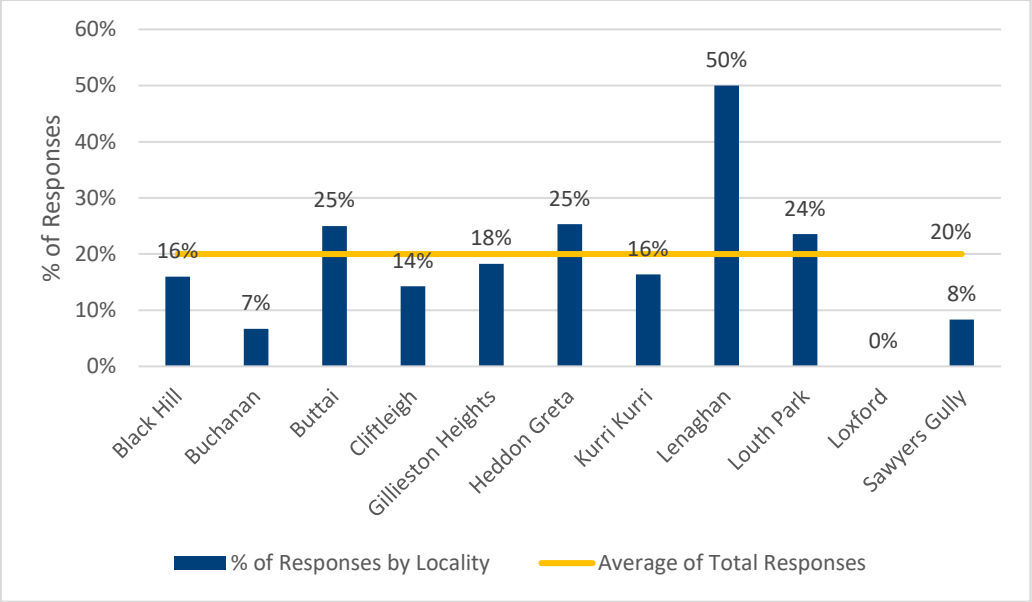


Figure 4.6 Proportion of Responses by locality citing 'Potential safety risks' as a key perceived negative impact associated with the Project

Source: Umwelt, 2021. Base n = 402; Black Hill n = 25; Buchanan n = 15; Buttai n = 4; Cliftleigh n = 21; Gillieston Heights n = 104; Heddon Greta n = 79; Kurri Kurri n = 324; Lenaghan n = 4; Louth Park n = 17; Loxford n = 2; Sawyers Gully n = 24

Safety issues may also have been heightened due to the recent fire at the Weston Aluminium site near Kurri Kurri in November 2021. Potential safety concerns associated with gas usage were expressed by 27% of the broader community survey respondents (**Figure 4.2**), with an average of 20% of all responses to the survey citing safety as a key concern (**Figure 4.6**) Community awareness of other recent accidents, even if not considered the same risk level or context, may increase anxiety about the Project.

> *"Safety is important for gas storage, in case of any accidents, residents in Newcastle are aware of risks associated with the ammonium nitrate stockpile on Kooragang Island after the Beirut incident so there may be some interest there in safety protocols etc." – Local community group*

Addressing this issue will rely on technical risk management but will also require responsive communication strategies to outline safety procedures in place to manage any risks to public safety and to reduce community anxiety and concern.

Perceptions of risk are important to consider in the context of gas infrastructure. Research shows that levels of risk perception are strongly influenced by levels of trust in the institutions responsible for managing the risk associated with a project (Brasier, et al., 2013). As one stakeholder emphasized:

> *"Just make sure a community information pack outlines the safety procedures, history of APA operationally etc." – Local Community Group*

Risk perception relies on attitudes, which are psychological tendencies to evaluate an object (i.e., gas pipeline) through weighing the costs (or "risks') and benefits of a specific object. The higher the perceived risks and the lower the perceived benefits of a project, the less likely people are to evaluate the specific object positively, and vice versa (Siegrist & Sutterlin, 2014). This means that risk perception and project acceptability is not just based on the likelihood and intensity of gas explosions, fires, or land sterilization in the social locality, but are also a function of attitudes and perceptions of companies, natural gas, and power plants more broadly.

The perception of risk of the transmission and storage pipelines is also impacted by several factors known to increase likelihood of public outrage. In particular, events that are memorable (like gas explosions); events that are catastrophic rather than chronic; events or projects that people perceive to be out of their control; and outcomes that people perceive to be immoral (like projects that contribute to climate change) are likely to exacerbate outrage (Sandman, 2003).

A further factor that may influence an individual's perception of risk relates to a person's self-assessed knowledge about a project and its associated social, environment, and economic risks (Brasier, et al., 2013). **Figure 4.7** displays the frequency of responses that identified impacts on public safety by self-reported knowledge of the Project (on a scale of '1 = No knowledge at all', to '10 = All possible knowledge'). Figures have been weighted appropriately according to the total findings for self-reported knowledge about the Project (n = 402), with responses 9 and 10 being removed from the graph due to a low response rate (2 and 4 respectively).

As the chart illustrates the number of people that cited safety as a potential risk of the Project was higher amongst those who reported less knowledge of the Project. Conversely, the level of concern was found to decrease where a person's self-reported knowledge of the Project increased. This finding suggests that information sharing, and clear communication will be key to managing concerns relating to the construction and operational safety of the Project.

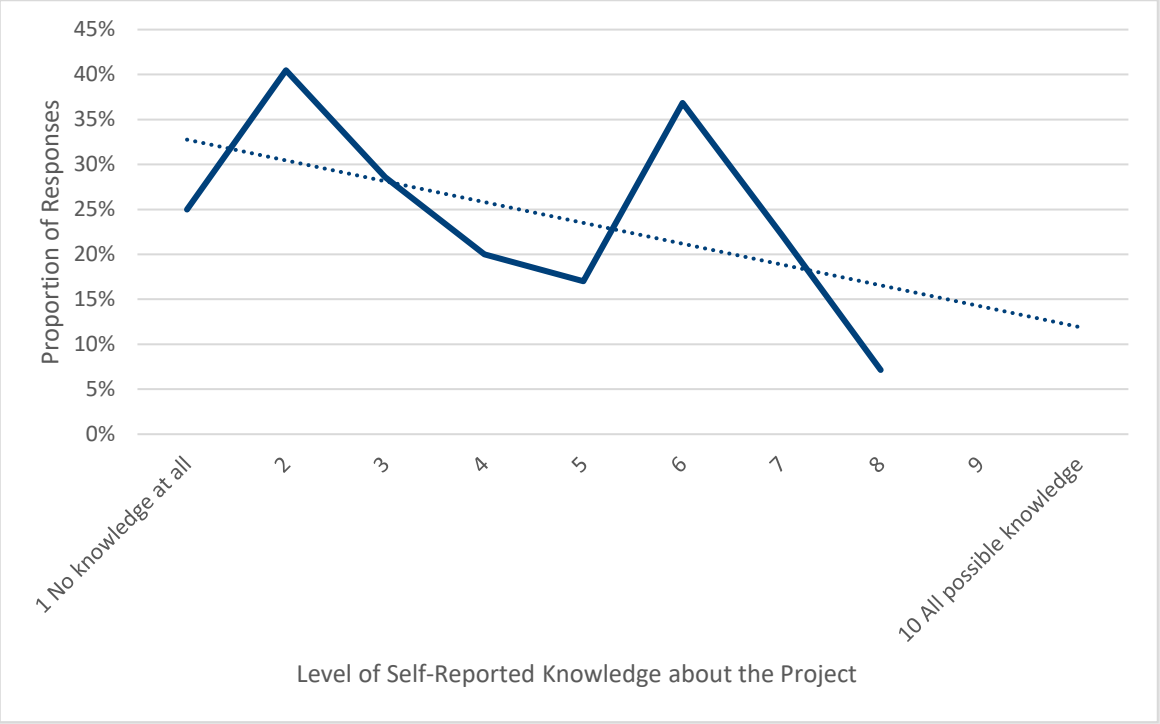


Figure 4.7 Weighted frequency of responses citing potential safety risk as a Negative impact by self-reported knowledge of the Project

Source: Umwelt, 2021. N = 59

*The social impact relating to perceived public safety risks associated with the construction and operation of the KKLP has been ranked as a **medium social impact** (possible and of moderate magnitude).*

4.3.3 Loss of visual amenity and rural character

Visual amenity was not commonly raised during consultation in relation to the Project. Respondents supported the decision to bury the pipeline underground, commenting that this reduced visual impacts of the project.

Loss of visual amenity is likely to be minimal post construction and land rehabilitation. However, the construction phase is likely to cause temporary impacts to visual amenity, especially in the localities of Buchanan, Black Hill and Buttai, where respondents highly value the environmental amenity of their surroundings (refer **Figure 3.3**). When asked to identify what they valued most about their localities, respondents often cited appreciation of the country atmosphere, peacefulness, cleanliness, and the surrounding bushland and rural landscape.

The visual amenity assessment undertaken for the EIS (**Section 7.13**) determined that impacts associated with the Project are primarily constrained to the construction phase, when land clearing and movement of construction equipment will occur. Visual impacts during operations are generally minor as pipelines are buried and surface infrastructure has been located in areas of compatible land use with low visibility from residences and roads. APA has committed to implementing landscape screening or other visual mitigation for the JGN Offtake Facility given its location in a rural setting adjacent to Lenaghans Drive.

*The social impact relating to loss of visual amenity and rural character has been ranked as a **medium social impact** (possible and of minor magnitude) during construction and **low social impact** (possible and of minimal magnitude) during operation.*

4.3.4 Loss of social amenity due to traffic, noise, and dust

Loss of social and visual amenity due to increased traffic and noise and construction of the pipeline was raised by some stakeholders and local residents. As discussed in **Section 4.2.2**, the community survey identified a strong belief that transport/road infrastructure was lacking in many parts of the social locality. Respondents raised concerns about the pre-existing condition of roads and existing traffic congestion in the area (refer **Section 4.2.2**).

Furthermore, 5% of survey respondents identified loss of social amenity due to traffic, noise and dust as a key negative impact associated with the Project. This is in line with research relating to the social costs of pipeline infrastructure, which indicates that impacts on air quality and amenity are common social costs in pipeline projects, along with increased travel time due to increased traffic, increased vehicle operation costs and lost business revenue (Matthews, Allouche, & Sterling, 2015). Despite this concern, the Traffic Impact Assessment has identified minimal likely impacts on traffic (see **Section 4.2.2, Table 4.2**).

Community members also raised concerns about noise and vibrations. The Noise and Vibration Impact Assessment is presented in **Section 7.10** of the EIS (summarised in **Table 4.5**) and has identified noise impacts during construction and operation, especially at night when horizontal directional drilling activities may need to occur. The Assessment states that "noise modelling results and analysis for noise levels indicate that reasonable and feasible noise mitigation measures are required to minimise the potential impacts on the communities surrounding the project." The assessment considers vibration impacts in relation to the Project to be negligible.

Table 4.5 Stakeholder perceived and predicted impacts for noise and vibrations

Stakeholder Concern	Outcome of Noise Assessment
Construction noise	• Of the 13,627 sensitive receivers identified in noise catchments surrounding the Project construction footprint, the modelling of worst case construction noise impacts during standard hours indicates only one residential receiver would potentially experience highly intrusive noise and seventeen residential receivers would experience moderately intrusive noise. This result is primarily due to the design of the Project such that distances to residences have been maximised as far as practicable. Nonetheless, the modelling results and analysis indicate that without noise management, a number of sensitive receivers are predicted to experience noise levels above the applicable guidelines. • Horizontal direction drilling and horizontal boring typically have to be undertaken continuously and so extend beyond the standard hours period to evenings, nights and weekends, when the potential for noise impacts is increased. Without noise management, a number of sensitive receivers are predicted to experience noise levels above the applicable guidelines in each period (day, evening and night) outside of standard hours. Although none would experience highly intrusive noise, 1 (day), 12 (evening) and 29 (night) receivers would potentially experience moderately intrusive noise. Modelling of worst case noise impacts during storage pipeline construction works outside standard hours predicts that less than five sensitive receivers will experience noticeable noise during the day period. This result is primarily a consequence of the remote location of the storage pipeline construction footprint.
Concerns about construction vibrations	• The separation distances between the Project construction footprint and receivers is greater than the minimum working distance of 100 m for human response suggesting that vibration impacts from construction activities will be negligible.
Operational Noise	• The compressor station and delivery station are main operational noise sources for the Project and have been strategically located adjacent to the HPP, away from sensitive receivers. Electrically driven compressors have also been selected to minimise noise emissions. Modelling of cumulative noise emissions of these facilities with operation of the HPP predicts that noise criteria are met are the nearest residences. • Modelling of the JGN offtake facility indicates that night time noise impacts at the two closest sensitive receptors are marginally above guideline levels during worst case meteorological conditions. Further work undertaken will be during detailed design to reduce noise emissions from this facility in order to meet guideline levels.

Therefore, given community feedback and technical assessment, the below social impact ranking has been applied.

*The social impact of a loss of social amenity due to noise during the construction phase of the Project has been ranked as **medium** (likely and of minor magnitude) for the localities immediately proximal to the alignment (Kurri Kurri, Black Hill, Gillieston Heights and Sawyers Gully SSCs) during the construction phase and **low** (unlikely and of minor magnitude) for the broader social locality.*

The social impact of a loss of social amenity due to vibrations during the construction phase of the Project has been ranked as low (unlikely and of minimal magnitude).

4.4 Engagement and Decision Making

Impacts in relation to decision-making systems relate to whether people experience procedural fairness, can make informed decisions about a project, can meaningfully influence decisions, and are able to access complaint, remedy, and grievance mechanisms.

During engagement for the Project, participants identified several concerns relating to engagement and decision-making, specifically the perceived quality of community participation, a lack of trust in the assessment process and information provision.

4.4.1 Quality of Community Participation, Approvals Processes and Information Provision

Perceptions of the quality of community participation, the independence of assessment processes and information provision can have both positive and negative social impacts. High quality community engagement can improve Project and community benefits and support management of key impacts. In contrast, poor quality engagement can encourage distrust in assessment processes and reduce opportunities for improved design outcomes.

The engagement program that has informed the SIA and the broader EIS has to date afforded key stakeholder (host landholder, service provider, local government, Aboriginal, community and environmental groups) and broader resident feedback on key project issues. Survey responses from consultation identified general support for APA's refinement to the transmission pipeline alignment. This refinement and design have been informed by consultation with landholders directly affected by the alignment, consultation with key stakeholders, outcomes of project engineering studies, as well as findings of field surveys and technical studies undertaken for the SIA and EIS.

> *As long as it goes through the rigorous process required for the environmental studies and addresses the Cessnock land use constraints, I'm fine with it, it looks like you are doing all of that (local community group).*

A desire for genuine engagement and transparent information sharing was a strong theme throughout stakeholder engagement. When asked the question, *'how can APA work with the community to address community needs?*', 32% (n = 127) of broader community survey respondents responded that greater information provision and participation was important. Further, 6% (n = 24) of respondents suggested collaboration with council and local groups was also important to ensure that Project benefits were enhanced.

When asked to indicate some of the ways that APA could better manage any potential impacts of the Project, 19% of broader survey respondents cited early and consistent communication regarding surrounding road closures and/or traffic delays, and 9% (n = 17) of respondents suggested that impacts could be better managed by increased community engagement and consultation relating to Project impacts. As has been previously noted, these factors are key elements in a Project obtaining and maintaining a social license to operate and further strengthen opportunities to contribute positively to the social locality.

While some community groups and members expressed interest in the Project, the broader survey results indicate that the Project is not well understood or known about in the broader social locality. For some, this was said to be a result of limited time or a lack of interest in engaging in projects generally or a lack of familiarity with, and information on the Project.

> *"The community is not that engaged with what's going on around them, too busy going to work, will be interested to see if local people around the site notice next year after EIS is lodged." - Local community group*

> *"I haven't heard anything much about the project from the community - it hasn't made waves yet." – State Government Agency*

For others, limited community feedback may also reflect an acknowledgement of the lower levels of impact associated with the KKLP Project, compared to other projects in the region.

> *"People are concerned with the bigger projects being developed in the area that will have a bigger impact, this project is not a priority for the community." – Local community group*

It is also important to note that the community often associated the HPP and KKLP Projects with each other, considering them as connected/linked projects. Findings from the broader community survey also highlight how a large proportion of the respondents to the survey were aware of the Project as a result of this relationship. As illustrated in **Figure 4.8**, most people had heard about the KKLP through protest signage relating to the HPP Project, with other stakeholders interviewed noting that their knowledge of the KKLP came from attending information sessions or hearing about the HPP.

> *"I went to HPP information sessions, on the Hydro CRG so had heard about the broader project" – Broader community survey*

> *There has been some concern in relation to noise and energy transition related to HPP - not much about KKLP. – Local community group*

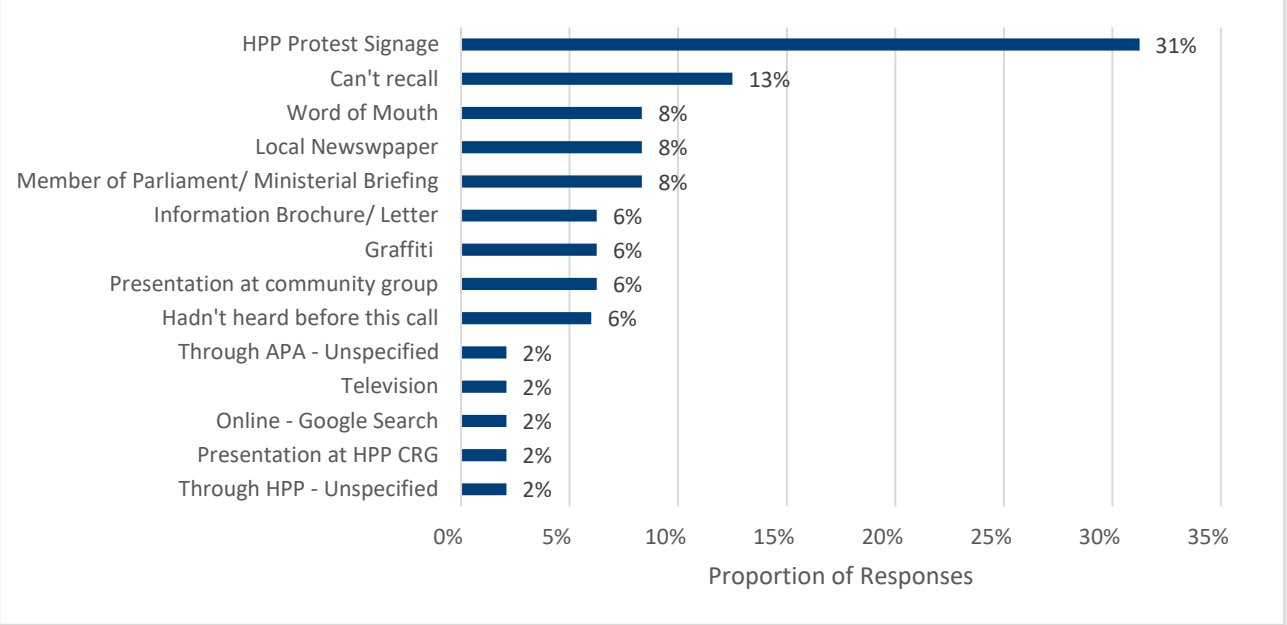


Figure 4.8 'Can you recall where you first heard about the Project?' – Proportion of responses and knowledge source about the KKLP

Source: Umwelt, 2021. N = 48

Given the likelihood that some community members will conflate the HPP and KKLP and have been made aware of the Project through information relating to the HPP, there is a need to ensure that ongoing community engagement, relating to the KKLP, provides transparent information to avoid confusion or miscommunication.

*The social impact relating to community participation in the assessment process and decision-making systems has been ranked as **a medium positive social impact** (possible and of a moderate magnitude), reflecting the beneficial social impacts of transparent information sharing and engagement with community groups to maximise project benefits.*

*The social impact of perceived insufficient community participation and information sharing has been ranked as a **medium negative social impact** (possible and of a moderate magnitude), particularly due to the high profile of related projects.*

4.5 Community

According to the SIA Guideline, potential impacts to the community may include changes to composition, cohesion, character, how the community functions, resilience, and people's sense of place. Key potential impacts identified include the potential for increased social division, and changes to sense of community and sense of place.

4.5.1 Disruption to place attachment and community character

The introduction of projects in a social locality, and the subsequent influx of construction workers and changes to the built and natural environments, can influence levels of social cohesion within a community and its stability and character (NSW DPIE, 2021). Rapid changes to a social locality can cause a sense of loss or anxiety for existing community members, especially for those who feel a strong sense of place attachment.

Place attachment refers to the cognitive and emotional connection of an individual to a particular environment or the experience of a long-term emotional bond to a particular geographical area (Low, 1992). Place attachment is connected to sense of belonging or the emotional need to be an accepted member of a group that generates identity and social reference.

Large-scale transitions and substantial construction programs can disrupt place attachment. Policies that ignore the emotion of economic change, job loss and community changes in the name of 'impartiality', take the risk of sidelining 'a key set of relations through which lives are lived and societies made' (Anderson & Smith, 2001).

Given the context of the social locality, disruptions to place attachment may occur due to:

1. Population growth and construction impacts disrupting place attachment in rural and rapidly growing areas.
2. Loss of visual amenity.
3. Broader transitions from a region with strong connections to and reliance on mining to one that focuses on renewable energy and more diversified economic opportunities.

When considering place attachment in the social locality, it is important to acknowledge that the Project traverses a diverse range of communities and townships with different demographics, natural and built forms and histories. During the consultation program, community members expressed a strong connection to place and acknowledged that the region was changing rapidly away from its traditional industry focus e.g. mining, which had subsequent impacts on livelihoods, way of life and community.

The introduction of a large temporary workforce and associated pressures on road infrastructure and accommodation services may cause tensions in communities. However, the Project design developed by APA serves to mitigate and reduce impacts on sense of place.

Furthermore, while the construction workforce at its peak may cause some disruption in the social localities such as Kurri Kurri (population 6,039), Heddon Greta (population 2,053) and Gillieston Heights (population 3,150), this change is temporary and should local employment be maximized to the greatest extent possible, may in turn provide economic benefits to the local area.

*The social impact of the Project on people's attachment to place has therefore been ranked as a **low social impact** (unlikely to occur and of minimal magnitude).*

4.5.2 Conflicting views and impacts on community cohesion

Consultation with key stakeholders and local community residents has suggested that there are opposing views to the Project in the community. While some residents expressed a low level of interest in the Project, as reflected below, other stakeholders had a greater awareness of the Project and its role in facilitating energy transition within the region.

> *"Most people in that area are too focused on work, they go there and come home and don't know much else about what is going on" – Local community group*

For those that have lived in the region for many years, the KKLP project and the HPP are viewed by many as important energy infrastructure, further contributing to industry development within the area, with the potential to provide local employment and broader economic benefits. In contrast, others in the community see the future of Newcastle, Maitland and Cessnock LGAs as 'green regions' that should be more focused on economic diversification and transitions from fossil fuels to renewable energy.

Community tensions are common in rapidly changing regions, especially when transitions from traditional industries and jobs are not supported by activities and programs that assist community members to adapt to changing economic and social contexts (World Resources Institute , 2020).

The KKLP on its own is unlikely to cause significant conflict or disruptions to community cohesion, however, further structural adjustment in the coal industry is likely to have a significant effect on the social locality if not managed appropriately.

*The social impact of the Project on community cohesion has therefore been ranked as a **low social impact** (unlikely to occur and of minimal magnitude).*

4.6 Health and Wellbeing

Health and wellbeing impacts include impacts to both physical and mental health and may include psychological stress resulting from uncertainty, financial and/or other pressures, as well as changes to individual and public health. During the engagement process, participants raised concerns about potential Project impacts on the following health and wellbeing factors:

- air pollution
- potential contamination of drinking water
- pressure on health services and infrastructure.

Impacts on air quality and the potential for contamination of drinking water were not commonly raised concerns, only identified by 0.2% of survey respondents as potential negative impacts of the Project. The Surface Water and Hydrology and Air Quality Impact Assessments also note that such potential impacts can be appropriately managed (as outlined in **Table 4.6**).

Table 4.6 Stakeholder perceived and predicted impacts from air quality and water quality

Stakeholder Concern	Outcome of Surface Water and Hydrology Assessment and Air Quality Impact Assessment
Potential for contamination of drinking water	The potential impacts associated with the construction and operation of the Project can be appropriately managed through implementation of a range of conventional mitigation measures. With implementation of mitigation strategies, the risks to surface water quality during construction of the Project is expected to be negligible No impacts to groundwater are expected during operation.

Stakeholder Concern	Outcome of Surface Water and Hydrology Assessment and Air Quality Impact Assessment
Potential for air pollution	The air assessment identified dust (PM10) during construction as the primary emission of concern for the Project. Modelling of PM10 emissions during construction activities, assuming worst case meteorological conditions, predicted that daily PM10 criteria could be met at all nearby sensitive receptors for the JGN offtake facility, compressor station, delivery station and storage pipeline. A small number of receptors in close proximity to the transmission pipeline were identified as exceeding daily PM10 criteria. When enhanced dust control measures are applied to construction activities near these residences the daily criteria is predicted to be met. Air quality impacts from the operation of the Project are expected to be minimal. The compressor station is electrically driven, so no combustion emissions will occur. Combustion of natural gas will occur during operation of water bath heaters for the delivery station, however emissions are assessed as minor and unlikely to lead to any cumulative air quality impacts when the HPP is operating. Air quality control measures proposed in the EIS would effectively mitigate any potential air quality emissions from the Project during construction and operations.

In relation to health service provision and as discussed in **Section 4.2.3.4**, key stakeholder interviews indicated that pressure on existing health services and infrastructure is a key concern of community members, with around 7% of survey respondents identifying the community needs better medical facilities and services. Longer waiting times to access medical services has been shown to be associated with patient dissatisfaction, delayed access to treatments, poorer clinical outcomes, increased health costs, inequality, and patient anxiety (McIntyre & Chow, 2020).

While the influx of the construction workforce may result in longer medical wait times, thus impacting access for the existing population, this impact is considered **low** (unlikely but minimal).

*The social impact of the Project on health and well-being has therefore been ranked as a **low social impact.** Impacts of air pollution and contamination of drinking water on health and wellbeing have also been ranked as **low** (unlikely to occur with minor consequence). Impacts on health services and infrastructure have been ranked as a **low social impact** (unlikely and of minor magnitude) in proximal communities, and **low** (unlikely and of minor magnitude) on the broader social locality.*

4.7 Culture

Impacts or changes to culture include effects on people's shared beliefs, customs, values, language, and dialect, as well as their local culture, heritage, and ability to access cultural resources.

As identified in the Aboriginal Cultural Heritage Assessments (ACHA) for the Project and for the HPP (Jacobs, 2021), there is extensive evidence of ongoing connection to Country throughout the landscapes of the social locality.

The ACHA for the KKLP identified that "there is a total of 381 sites recorded on the AHIMS database and other heritage reports within the area surrounding the Project. A wide variety of sites have been recorded and indicate that historically Aboriginal people used the area's rich resources. Similarly, the ACHA found "there were 26 Aboriginal heritage sites within or in close proximity to the Project Area, including 24 artefact sites and two Potential Archaeological Deposits."

A stakeholder interviewed during consultation identified that construction activities have the potential to disturb or destroy artefacts.

There is a lot of Aboriginal land, [the Project] impacts on artefacts – Local Business Chamber

It is noted that substantive concern regarding impacts on Aboriginal culture and artefacts were not raised during the broader community survey, nor identified as a key issue during stakeholder interviews. Similarly, no feedback was received from Traditional Owners through the SIA process. However, the social locality does contain important sites, practices and knowledges as noted in the ACHA. There is also a higher proportion of Aboriginal people living in the social locality (Cessnock LGA 7.2%, Maitland LGA 5.3%, compared to 2.9% in NSW). APA have committed to developing an Aboriginal Cultural Heritage Management Plan (ACHMP) be developed in consultation with registered Aboriginal parties. This ACHMP should include identification, demarcation and avoidance of key sites, opportunities for community collection and/or excavation of artefacts, protocols should additional ground disturbance be required, the management of any new Aboriginal archaeological sites that may be identified during inspections and the management of human skeletal remains should they be found.

*The social impact of the Project on Culture has therefore been ranked as a **medium social impact** (possible to occur with minor magnitude).*

5.0 Social Impact Evaluation

In line with the impact evaluation process defined in **Section 2.0**, this chapter provides a summary of the impacts identified in the SIA, which have been categorised in line with the Social Impact Categories and evaluated according to the impact characteristics outlined in the SIA guideline (2021).

Figure 5.1 below presents an overview of first order impacts and higher order impacts relating to the KKLP Project. First order or the more direct impacts of the KKLP include:

- changes in community/population due to influx of a temporary construction workforce
- changes to local surroundings due to construction of pipeline and transmission infrastructure
- changes to regional economies (due to development of new energy infrastructure) and local livelihoods through local employment, procurement and investment opportunities.

Table 5.1 provides an evaluation of the likely significance of the positive and negative social impacts associated with the Project and are assessed according to both subjective (people's individual experiences and/or perceptions) and objective components (technical evaluation). The table summarises the Project aspects that have the potential to generate social impacts, describes the social impact itself, its extent (likely affected stakeholders), the importance of the impact (sensitivity/vulnerability) to these key stakeholders and groups (from the perspectives of the stakeholders consulted), the duration and/or timing of the impact, and the significance of the impact, with consideration of relevant management measures to ameliorate, mitigate and/or enhance social impacts.

Social impacts have been ranked in terms of their significance from low (coloured green) to very high (coloured red) (refer to **Table 5.1**). As noted in **Table 2.7**, social impact significance is a function of the likelihood and magnitude of social impacts. For example, social impacts that are very high significance are those impacts that are major or transformational and likely or almost certain to occur. In contrast, social impacts that are low significance are those impacts that are minimal or minor and very unlikely or unlikely to occur.

Proposed strategies to manage or enhance the predicted impacts are further described in **Section 6.0**.

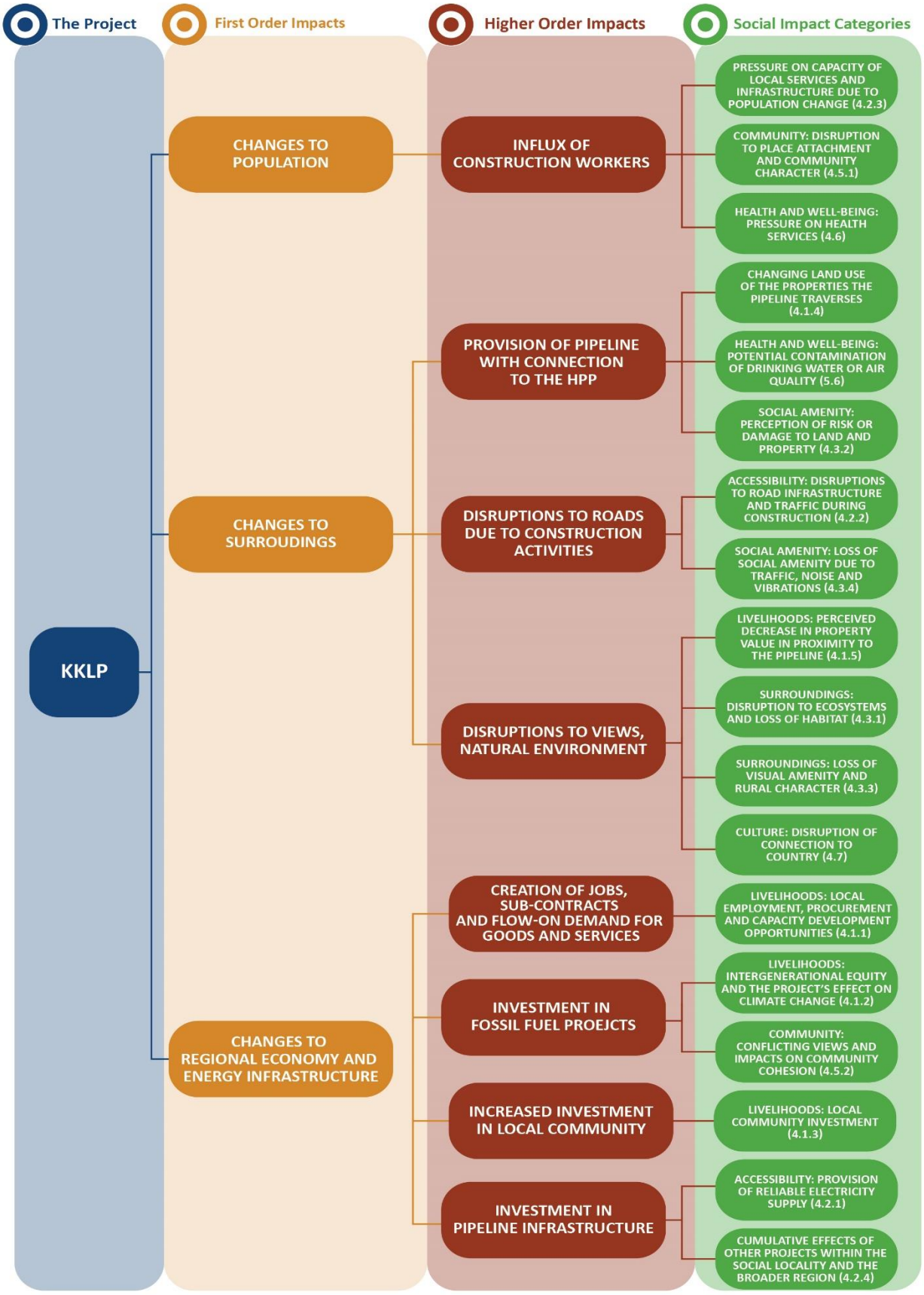


Figure 5.1 First and second order impacts associated with the project

Table 5.1 Social Impact Evaluation

Social Impact Category	Social impact description	Project aspect	Timing/ Duration[5]	Extent	Affected Stakeholder Groups	Perceived significance	Significance rating			Refinements/mitigations/management measures	Residual significance
							M[6]	L[7]	S[8]		
Livelihoods/Way of Life/ Community/Accessibility	Provision of employment opportunities, training and upskilling for local people and commercial benefit through procurement opportunities can increase ability to improve local service capacity, local workforce capabilities and build human and economic capital	Establishment and operation of Project infrastructure including ancillary infrastructure	C	Social Locality	Broader Community	High (+ve)	3	B	H	Develop and implement a local procurement strategy/participation plan to ensure economic benefits and opportunities flow to the social locality Develop and implement a local employment and engagement strategy to ensure economic benefits and opportunities flow to the social locality	H
			O			Low (+ve)	2	C	L		L
Livelihoods/Decision-Making Systems/Way of Life/Health and Wellbeing/Culture/ Surroundings	The continuation of gas projects in the context of climate change and environmental degradation may result in heightened anxiety and stress, and contribute to intergenerational inequity due to cumulative environmental impacts on future generations	Establishment of Project and connection to HPP	C, O, & P	Australia Wide	Broader Community Future Generations	High (-ve)	3	C	M	Continued communication and engagement in relation to the project and the broader policy context with residents in the social locality	M
Livelihoods/Community/ Way of Life/Accessibility	Local community investment and establishment of community benefit funding and engagement strategy resulting in positive social development and improvement in the social locality	Establishment and operation of Project infrastructure including ancillary infrastructure	C, & O	Social Locality	Community groups	Medium (+ve)	3	A	M	Continue to implement a community engagement strategy to communicate opportunities to local community groups Continue to implement a Community Investment Program to identify and distribute community benefit funding	M
Livelihoods	Changing land use of impacted properties affecting the ability for landholders to sustain land-based livelihoods	Establishment and operation of Project infrastructure including ancillary infrastructure	C, & O	Transmission pipeline and storage pipeline transmission corridor and associated infrastructure	Host Landholders	Medium (-ve)	2	C	M	Continue consulting with landholders to: consider refinement to design and layout planning that allow for continued property usage in consultation with host landholders on a case-by-case basis maintain open, transparent, and accessible communication in relation to the Project conduct land rehabilitation immediately following construction and consult with landholders to deliver maintenance work at times that do not conflict with key events or rural activities	L
					Other land users in the broader community	Low (-ve)	1	D	L	N/A	L
Livelihoods	Potential decrease in property values of properties in close proximity to the Project	Establishment and operation of Project infrastructure including ancillary infrastructure	C, & O	Transmission pipeline and storage pipeline transmission corridor and associated infrastructure	Proximal landholders	Low (-ve)	1	D	L	N/A	L
					Host Landholders	Medium (-ve)	1	C	L	Continue to conduct engagement with landholders to negotiate responses to Project impacts on their respective properties	L

[5] **Timing/ Duration**: C = Construction phase (assuming a 12-month construction period for the transmission and storage pipeline); O = Operational phase; P = Planning phase
[6] **Magnitude**: 1 = Minimal; 2 = Minor; 3 = Moderate; 4 = Major; 5 = Transformational
[7] **Likelihood**: A = Almost certain; B = Likely; C = Possible; D = Unlikely; E = Very unlikely
[8] **Significance**: L = Low; M = Medium; H = High; VH = Very High

Social Impact Category	Social impact description	Project aspect	Timing/ Duration[5]	Extent	Affected Stakeholder Groups	Perceived significance	Significance rating			Refinements/mitigations/management measures	Residual significance
							M[6]	L[7]	S[8]		
Accessibility and Way of Life	Potential for the Project to support the provision of a reliable electricity supply to NSW	Establishment and operation of Project infrastructure including ancillary infrastructure	O	NSW	Broader Community	Medium (+ve)	4	B	H	Communicate the contribution of the Project in supporting energy provision within the region	H
	Increased traffic congestion from the commute of the construction workforce and goods transportation to and from the site	Establishment of Project infrastructure including ancillary infrastructure	C	Social Locality	Broader Community	High (-ve)	2	B	M	Develop and implement a traffic management plan Communicate road closures to surrounding community Return roads to pre-construction condition in line with the Construction Management Plan	L
Accessibility and Way of Life	Increased needs for local goods and services such as food, accommodation, shopping, and entertainment by the construction workforce	Establishment of Project infrastructure including ancillary infrastructure	C	Kurri Kurri SSC, Black Hill SSC, Buchanan SSC, Sawyer's Gully SSC, Gillieston Heights SSC, Cliftleigh SSC, Louth Park SSC, Buttai SSC, Lenaghan SSC, Heddon Greta SSC, Loxford SSC	Accommodation Providers	High (+ve)	2	B	M	Develop and implement a Local Participation and Social Procurement Strategy to maximise number of jobs and contracts awarded to local workers, thereby reducing external pressure on the region. Develop a Workforce Accommodation Plan to minimise conflicts with other accommodation and housing users	L
					Visitors and Tourists	Medium (-ve)	3	B	H		L
					Local Businesses	High (+ve)	2	B	M		L
				Broader Social Locality	Local Businesses	Low (+ve)	2	B	L	Develop and implement a Local Participation and Social Procurement Strategy to enhance economic benefits and opportunities to the social locality	L
Accessibility and way of Life	Construction workforce may place strain on existing rental and home purchase markets	Establishment of Project infrastructure including ancillary infrastructure	C	Kurri Kurri SSC, Gillieston Heights SSC, Heddon Greta SSC, Abermain SSC, Black Hill SSC, Loxford SSC, Cliftleigh SSC, Buttai SSC	Broader Community	Medium (-ve)	3	B	M	Develop a Workforce Accommodation Strategy to address the impact of construction workers on access to short term accommodation and rental housing	L
				Newcastle LGA, Maitland LGA, other localities across the Cessnock LGA		Low (-ve)	1	C	L		L
Accessibility and Way of Life	Construction workforce may place strain on existing health facilities and services	Establishment of Project infrastructure including ancillary infrastructure	C	Kurri Kurri SSC, Gillieston Heights SSC, Heddon Greta SSC, Abermain SSC, Black Hill SSC, Loxford SSC, Cliftleigh SSC, Buttai SSC	Health Service Providers Broader Community	Medium (-ve)	2	C	M	Work with local service providers to assess impacts on local health infrastructure and encourage workers to attend health providers in Newcastle if required First aid facilities and a nurse, paramedic or other suitably qualified health care professional will be available to service construction areas.	L
				Newcastle LGA, Maitland LGA, other localities across the Cessnock LGA	Health Service Providers Broader Community	Low (-ve)	2	D	L		L
Cumulative / Surroundings	The Project will contribute to a cumulative loss of natural environment	Establishment of Project infrastructure including ancillary infrastructure	O and C	Kurri Kurri SSC, Gillieston Heights SSC, Heddon Greta SSC, Abermain SSC, Black Hill SSC, Loxford SSC, Cliftleigh SSC, Buttai SSC	Broader Community	Medium (-ve)	2	C	M	Design of Project and planning of alignment has considered the importance of high-value ecological sites. Implement management measures outlined in the Biodiversity Development Assessment Report during the construction phase to limit potential habitat destruction	L
Cumulative / Accessibility	Cumulative impact on accommodation and services in the locality, due to construction coinciding with other projects	Construction of Project infrastructure including ancillary infrastructure	C	Kurri Kurri SSC, Gillieston Heights SSC, Heddon Greta SSC, Abermain SSC, Black Hill SSC, Loxford SSC, Cliftleigh SSC, Buttai SSC	Broader Community Service Providers Tourists and Visitors	Medium	2	C	M	Develop a Workforce Accommodation Strategy to address the impact of construction workers on access to short term accommodation and rental housing	L

Social Impact Category	Social impact description	Project aspect	Timing/ Duration[5]	Extent	Affected Stakeholder Groups	Perceived significance	Significance rating			Refinements/mitigations/management measures	Residual significance
							M[6]	L[7]	S[8]		
Cumulative/ Livelihood	Cumulative impact on job creation, infrastructure usage and co-location of energy projects driving economic growth and efficient use of infrastructure	Establishment of Project infrastructure including ancillary infrastructure	C & O	Social Locality	Local businesses Broader Community Job Seekers Energy Companies	Medium	2	B	M	Develop and implement a Local Participation and Social Procurement Strategy to maximise number of jobs and contracts awarded to local workers	L
Surroundings **Social Amenity** **Decision-making Systems**	Change in surroundings and damage to areas of environmental value (damage to important wetlands, loss of vegetation and habitat for wildlife) due to land clearing and burial of the pipelines	Establishment of Project infrastructure including ancillary infrastructure	C & O	Transmission Pipeline and Storage Pipeline alignment	Broader Community`	High (-ve)	2	B	M	Design of Project and planning of alignment has considered the importance of high-value ecological sites. Implement management measures outlined in the Biodiversity Development Assessment Report during the construction phase to limit potential habitat destruction.	L
					Local Environmental Group	High (-ve)	3	B	H		L
Surroundings and Social Amenity/Health and Wellbeing/Way of Life	Increased anxiety/ stress surrounding perceived fire or explosion risk associated with the pipeline and potential for gas leakage, breach, or explosion	Establishment of Project infrastructure including ancillary infrastructure	C, O, & P	Social Locality	Broader Community	High (-ve)	3	C	M	APA has done extensive consultation with the host landholders and refined the project alignment based on their feedback. Develop and implement a communication strategy to explain risk mitigation approaches and company expertise to the broader community.	L
Surroundings and Social Amenity	Loss of visual amenity and rural character associated with land clearing during the construction phase, prior to rehabilitation occurring	Establishment and operation of Project infrastructure including ancillary infrastructure	C	Transmission Pipeline and Storage Pipeline alignment	Proximal Landholders and Visitors	Medium (-ve)	2	C	M	Implementation of rehabilitation management plan	M
			O		Proximal Landholders and Visitors	Low (-ve)	1	C	L		L
Surroundings and Social Amenity	Loss of social amenity due to noise associated with construction activities	Establishment of Project infrastructure including ancillary infrastructure	C	Kurri Kurri SSC, Gillieston Heights SSC, Heddon Greta SSC, Abermain SSC, Black Hill SSC, Loxford SSC, Cliftleigh SSC, Buttai SSC	Broader Community	Medium (-ve)	3	B	M	Implementation of relevant mitigation measures in the Noise and Vibration management plan and other relevant management plans. Engagement strategy to consider information provision to the broader community on construction schedule and activities including impact management.	M
				Newcastle LGA, Maitland LGA, other localities across the Cessnock LGA		Low (-ve)	2	D	L	Implementation of relevant mitigation measures in the Noise and Vibration Impact Assessment and other relevant assessments Engagement strategy to consider information provision to the broader community on construction schedule and activities including impact management.	L
Surroundings and Social Amenity	Loss of social amenity due to vibration associated with construction activities	Establishment of Project infrastructure including ancillary infrastructure	C	Kurri Kurri SSC, Gillieston Heights SSC, Heddon Greta SSC, Abermain SSC, Black Hill SSC, Loxford SSC, Cliftleigh SSC, Buttai SSC	Broader Community	Low (-ve)	1	D	L	N/A	L
Engagement and Decision Making	Positive engagement with community groups, government and other stakeholders may result in improved Project outcomes and increased trust	Engagement surrounding the design, construction and operation of the Project	C & O	Social Locality	Broader Community	Medium (+ve)	3	C	M	Continue to engage in community engagement and information sharing with relevant stakeholders Develop and implement a Community Engagement Strategy	M

Social Impact Category	Social impact description	Project aspect	Timing/ Duration[5]	Extent	Affected Stakeholder Groups	Perceived significance	Significance rating			Refinements/mitigations/management measures	Residual significance
							M[6]	L[7]	S[8]		
Engagement and Decision Making	Perceived lack of engagement or confusion in the community between the KKLP and the HPP resulting in distrust of the Project	Engagement surrounding the design, construction and operation of the Project	C & O	Social Locality	Broader Community	Medium (-ve)	3	C	M	Continue to engage in community engagement and information sharing with relevant stakeholders Develop and implement a Community Engagement Strategy	L
Community	Population influx caused by the construction workforce may cause disruption to place attachment as population increase conflicts with rural or 'quiet' community attributes	Establishment of Project infrastructure including ancillary infrastructure	C	Social Locality	Broader Community	Medium (-ve)	1	D	L	N/A	L
Community	Disruption to the level of community cohesion as a result of opposing views towards the Project	Establishment of Project infrastructure including ancillary infrastructure	C, O, & P	Social Locality	Broader Community	Low (-ve)	1	D	L	N/A	L
Health and Well-Being	Construction and operation of the gas pipeline may result in air pollution and contamination of drinking water	Establishment and operation of Project infrastructure including ancillary infrastructure	C, O & P	Water catchment area and social locality	Broader community	Low (-ve)	2	D	L	N/A	L
Cultural	Potential for the Project construction activities to displace and destroy Aboriginal artefacts resulting in damage to Country and loss of Aboriginal cultural values	Establishment of Project infrastructure including ancillary infrastructure	C	Social Locality	Aboriginal Groups and Persons	Medium (-ve)	2	C	M	Develop an Aboriginal Cultural Heritage Management Plan in collaboration with registered Aboriginal parties	M

6.0 Social Impact Management Planning

This section provides further detail on the proposed strategies to be implemented in response to the predicted social impacts that have been evaluated as significant and ranked as medium or high given their respective likelihood and consequence ratings.

The strategies proposed have been developed from the mitigations and enhancement measures identified by community stakeholders through consultation, as well as through industry benchmarking and application of social impact management practice.

A number of management measures (mitigation and enhancement strategies) are proposed to address social impacts predicted as part of the Project. While certain strategies address specific social and environmental impacts, others serve to address several of the salient social impact categories and themes, given the interrelated nature of social impacts. Therefore, each of the strategies proposed may address social risk to varying degrees.

Community engagement undertaken to inform the SIA has indicated that preferred management strategies relate to:

- maximizing local employment and procurement opportunities
- ensuring continued stakeholder engagement and collaboration
- supporting renewable energy
- developing and ensuring that appropriate safety measures and risk controls are in place to ensure public safety
- tailoring and targeting community investment to address key community needs.

As illustrated in **Figure 6.1**, stakeholders strongly support the development of a local employment and procurement/participation strategy to be developed in collaboration with local Councils and key community groups to maximize Project benefits in the social locality.

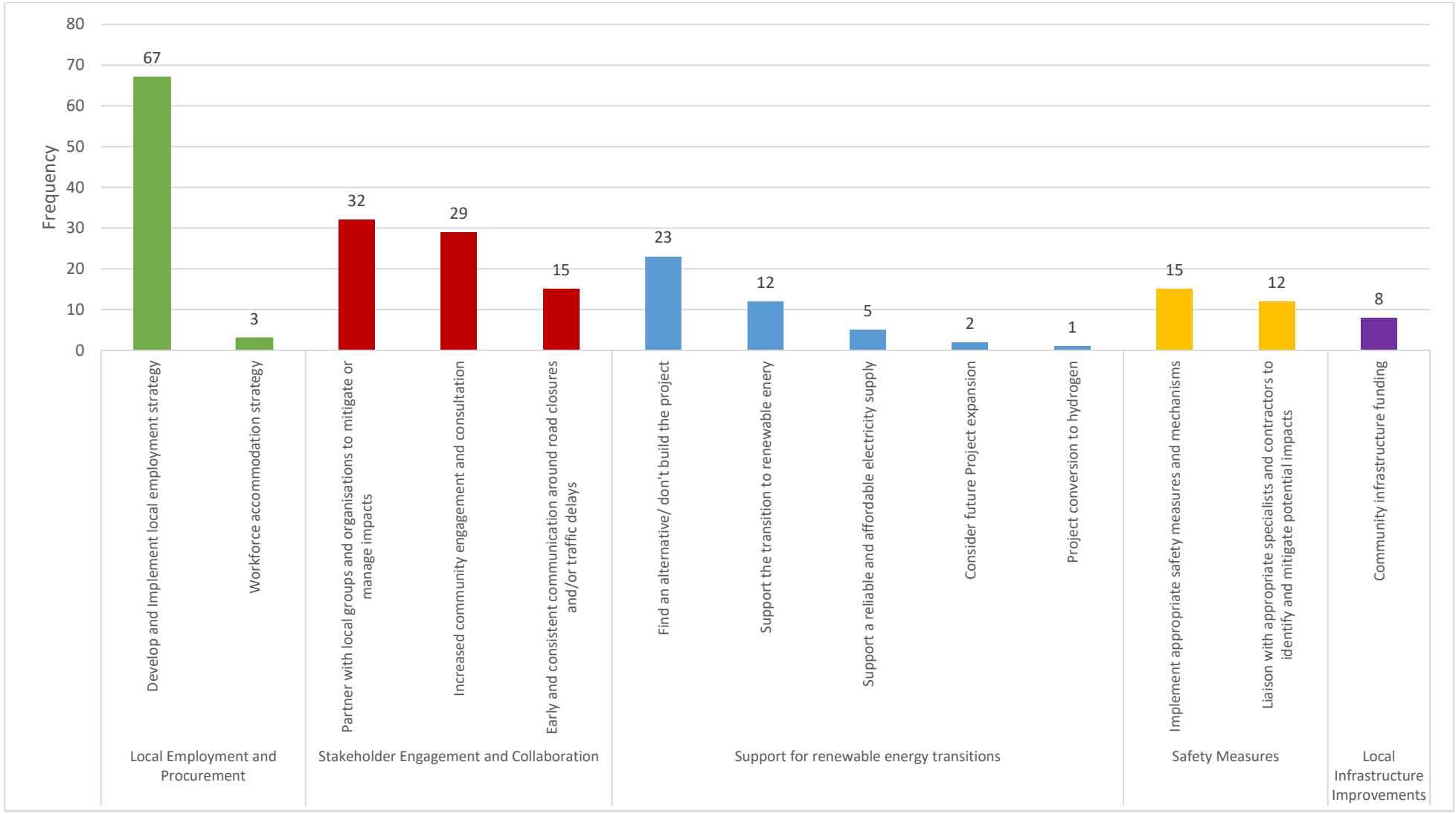


Figure 6.1 Frequency of cited enhancement and mitigation measures (Broader Community Survey)

Source: Umwelt, 2021. Base n=402

A framework for social impact management is presented in **Figure 6.2**. Guiding principles and key components of these plans and strategies are outlined further below.

It is recommended that the governance structure of the three strategies and their associated administration processes are developed and designed in collaboration with the local community and key stakeholders.

Figure 6.2 Framework for Social Impact Management

6.1 Community Engagement Strategy

Consistent and consultative engagement with communities throughout the Project's planning, pre-construction, construction, and operations is critical in ensuring social acceptance, developing strong local partnerships and overall, more successful, and sustainable Project outcomes. Fairness in the Project development process requires the establishment and management of processes that ensure people have meaningful opportunities to influence the design, plans and outcomes of a development as well as in realising and enhancing the benefits of the Project.

APA and Umwelt have conducted community engagement and information sharing activities in the development of the SIA for the Project (see **Section 2.5** for an overview), and as part of broader engagement and Project design activities. On-going community engagement is key to minimizing impacts on affected communities, managing on-going concerns about the KKLP, and affording iterative responses to social impacts and opportunities.

Table 6.1 provides an overview of the recommended key stakeholders, objectives, and themes to prioritise in an on-going Community Engagement Strategy.

Table 6.1 Community engagement stakeholders, objectives and key themes

Community Engagement Objectives	Key Stakeholders for the KKLP	Identified Priority Engagement Themes for the KKLP
• Continue to identify and engage likely affected stakeholders to facilitate their understanding of the proposed project, how it may affect them, and how they can participate or benefit. • Continue to assess stakeholder interests in the project and how likely impacts may be experienced from their perspectives. • Continue to consider the views of people in a meaningful way, and use these insights to inform project planning, design and delivery, mitigation and enhancement measures, and monitoring and management frameworks. • Continue to provide opportunities for people to collaborate on project design matters and provide input into the identification and consideration of preferred solutions. • Maintain communication throughout construction phases for affected communities and respond to concerns or opportunities that arise throughout Project phases.	• Host and neighbouring landholders. • Broader proximal community. • Aboriginal stakeholders, including Mindarriba Local Aboriginal Land Council, • Local Governments of Cessnock, Maitland and Newcastle. • Local business and service providers. • Community and business groups. • Environmental groups.	• Desire of local workers, contractors and suppliers to benefit from economic opportunities flowing from the Project and desire for this strategy to occur in collaboration with local Councils and groups. • Concerns about safety surrounding the transmission and storage pipeline, especially relating to risks of gas explosion or leakage. • Concerns about traffic impacts and a desire for APA to proactively communicate upcoming road closures, etc. • Concerns or curiosity about the capacity of the pipeline to transport hydrogen and also opportunities to expand hydrogen capabilities in the region. • APA's 'green credentials' and capacity to support renewable energy transitions in the area. • Scepticism or opposition to natural gas in the context of a broader transition to renewable energy in the region. • Concerns or opportunities arising from the connection to the HPP. • Negotiations with host and neighbouring land holders about access to the KKLP for maintenance work post-construction.

Source: (DPIE, 2021; Umwelt, 2021)

It is recommended that in the remaining development phase of the Project, and throughout the pre-construction and construction phases, APA continue to prioritise the implementation of a Community Engagement Strategy, which is to continue to be led by a dedicated internal resource and comprising project-specific stakeholder analysis, mechanisms or methods to be utilised, periodic action plans, targets, responsibilities for implementation, as well as a monitoring and evaluation framework for the Strategy throughout the life of the Project.

The approach for community engagement and public participation should be guided by the following industry standards and frameworks:

- The International Association for Public Participation (IAP2)'s *Spectrum* of *Public Participation* (2018)
- The NSW DPIE's Social Impact Assessment Guideline (DPIE, 2021)

A Stakeholder Register should continue to be maintained as a key tool used by the Project team in the implementation of the Community Engagement Strategy. It should continue to comprise logging, tracking, and record-keeping of all engagement activities and correspondence with external stakeholders for the Project in one central location or database.

6.2 Community Investment Program

Community Investment Programs often entail voluntary and periodic payments made by the developer of a project for distribution to local community initiatives, programs, or projects. Engagement and integration with communities is increasingly an expectation of gas and infrastructure projects as industry begins "*to understand the need to operate as a part of the social and economic fabric of the regions in which it operates*" (Witt, Garnett, Staggs, & Holm, 2020).

According to the International Finance Corporation, the following elements are central to strategic community investment:

- **Results measurement:** tracking progress systematically, having shared definitions of success.
- **Strategy:** having a written strategy linked to a clear business case, screening of community initiatives against well-defined objectives and criteria.
- **Alignment:** aligning strategic issues of the business with development priorities of local communities, alignment of community investment strategies with community engagement and local hiring and procurement strategies.
- **Sustainability:** support for projects that are designed to avoid dependency and create long-term benefits, taking a long-term view when engaging with communities.
- **Multi-stakeholder partnerships:** engaging as a partner in a multi-stakeholder, supporting communities and local government in defining and meeting their own development goals and aspirations (International Finance Corporation, 2010).

Further, investment should aim to create shared value. Optimally investment should target programs and projects that 1) reflect high priorities for local communities, 2) are consistent with development priorities of local government and regional bodies and 3) support business objectives and drivers (International Finance Corporation, 2010). Key community priorities and community granting opportunities are identified in the following sections.

APA is delivering a Community Grants Program associated with the KKLP that aims to "*strengthen communities by supporting local community groups or initiatives who are working to build thriving sustainable communities*" (APA, 2021). Through this program, APA offers grants of up to $5,000 to support events, programs and activities within the Cessnock, Maitland and Newcastle LGAs that benefit the local community.

Community engagement identified a series of community needs or priorities (highlighted in **Section 6.2.1**) and a desire to see community investment occurring in collaboration with Local Government and existing community groups. These findings can be used to inform the Community Grants Program and align funding with community identified strengths, needs and opportunities. Furthermore, the collation of this data on community needs can be used to monitor and evaluate the Community Grants Program.

6.2.1 Community-identified strategies and opportunities

It is recommended that APA's Community Grants Program should continue to strategically target proximal communities within the social locality and ensure that investments directly relate to identified community needs. APA should continue to consider timing the funding of these initiatives to follow the progress of construction works through the social locality. Identified key community values, issues, and concerns are provided in **Section 3.2.5**.

Several desires for project-specific community benefits, broken down by community focus areas, were expressed by stakeholders during key stakeholder meetings. These are listed below, noting that several relate to provision of services that are the responsibility of local and State governments:

- **Employment and Training**: specific training and development programs for lower skilled workers prior to, during and following Project construction.
- **Transport Infrastructure**: contribution to a bicycle rail trail linking communities in the Lower Hunter. Planning approval for the first 13 km of the Richmond Vale Rail Trail from Shortland to Minmi/Fletcher via Hexham Junction and Minmi Junction was announced on 6 December 2021. There is an opportunity for APA to support and contribute to this cycle way development. Alternatively, APA could consider separate bike infrastructure linking communities in the area.
- **Transport Infrastructure**: contributions to road infrastructure in the social locality (see **Section 4.2.2** for further details)
- **Medical facilities and services**: contribution to key health programs run by local community services or schools
- **Environmental conservation**: Funding to support on-going management of State Conservation Areas in the social locality and other environmental areas of value to key stakeholders. While important tracts of land have been transferred to conservation land uses in the area, limited resources mean that on-going management and maintenance has been difficult.

In addition, the future provision of gas supply to proposed light industrial estates was identified as a potential benefit to other businesses in the locality, for instance:

> *Could the gas pipeline extension through this area be of benefit to the two proposed light industrial estates (by the Stevens Group and the Broaden Group)? – Social Pinpoint User*

While the above opportunities offer useful contributions to the social locality, engagement also identified a belief by some stakeholders that building more infrastructure or services was less important than preserving or protecting existing community amenity. As one stakeholder explained:

> *"[It is] more about protecting what people have than giving them something else."*

Further to the above Project-specific suggestions, between August and October 2021, Hunter Renewal and the Hunter Jobs Alliance convened five workshops complemented by an online survey to gather community input, ideas and priorities for new funds committed through the recently announced Royalties for Rejuvenation Fund. The top concerns identified in the community through this process were protection of the environment and climate change, job security, urgency of transition planning, economic futures beyond mining and food and water security. The top ten priorities identified through these forums are outlined in **Table 6.2**. While not all recommendations are appropriate for a community benefit strategy, they are indicative of community-identified needs across the region.

Table 6.2 Top Ten Priorities according to community consultation by Hunter Renewal

Locally-driven coordination and community support	Quality job creation	Education and skill-building
• A local authority to coordinate and fund job creation and community support. • Start community-owned energy networks. • Establish a long term fund for land and water management after mine rehabilitation.	• Fund flagship projects that create jobs. • Market the Hunter to attract investment. • Create rules for mining and power companies to protect workers.	• Expand TAFE and vocational education. • Build pilot projects for new industries. • Provide free training for mine and power station workers moving into new roles. • Provide Grants and training for local businesses to diversify.

Source: (Hunter Renewal and Hunter Jobs Alliance, 2021)

6.3 Accommodation, Employment and Procurement Strategy

To directly address and respond to the social impacts and opportunities of the KKLP as they relate to construction workforce matters, it is recommended that APA develop, and then implement, an Accommodation, Employment and Procurement Strategy in the pre-construction phase of the Project.

In relation to the workforce accommodation and housing needs of the construction workforce, the Strategy should include a discrete Workforce Accommodation Plan. Regarding employment and procurement for the Project's construction, it is recommended that the overarching Strategy contain dedicated plans relating to local participation, social procurement, and Aboriginal participation. The following sub-sections contain guiding principles and frameworks for each component of this Strategy.

6.3.1 Workforce Accommodation Plan

Regarding the Project requirement to accommodate the incoming construction workforce, it is suggested that the following is required by the Strategy:

- Engage with relevant service providers.
- Identify measures to ensure there is sufficient accommodation for the workforce associated with the development and manage impacts.
- Consider the cumulative impacts of workforce accommodation associated with other users, sectors/industries or development projects in the area when developing strategies.
- Investigate options for prioritising the employment of local workers.
- Include a program to monitor and review the effectiveness of the measures during construction.

It is understood through this SIA that the construction workforce would be partially sourced from within the social locality, and partially as an incoming temporary population to the area for the purposes of working on the Project (it has been assumed as per the analysis contained in **Section 4.2** that the likely incoming workforce is 50% of the total construction workforce or 200 people).

Based on this assumption, a critical first step in the development of this Plan involves detailing of the workforce requirements and job profile for the construction phase, to ascertain the planned proportion of locally sourced versus incoming workers. The extent of the Workforce Accommodation Plan is dependent on the number of incoming workers and their staging, in that the more people employed from within the social locality, the less need for accommodation for workers. It is therefore understood that there would be a considerable amount of coordination required during the development of this Plan and the Local Participation Plan described in the following section.

Specifications to be considered within the Plan should include:

- Dispersion of workers across multiple locations/towns and across numerous providers.
- Sourcing of long-term accommodation (with confirmation of long-term rates) as early as possible in the lead up to construction.
- Staging of construction works to avoid or minimise activity during summer months when accommodation needs for tourism are highest.
- Opportunities to cluster workers to allow for shuttle buses between site and accommodation.

6.3.2 Local Participation and Social Procurement Plan

The purpose of a local employment and procurement strategy is to use procurement processes and purchasing power to generate positive social outcomes, in addition to the delivery of efficient goods, services and works. Local employment and procurement strategies also aid in reducing social impacts by reducing pressure on housing and services generated by the influx of non-resident workers.

Local employment and procurement strategies focus on enhancing sustainable and strategic procurement practice, enabling procurement to effectively contribute to building stronger communities. These strategies are a key mechanism by which to generate wider social benefits for triple bottom line reporting, by providing a mechanism for linking and integrating social and economic agendas.

The outcomes of an effective local employment and procurement strategy may include:

- creation of training and employment opportunities through procurement processes, clauses and specifications in contracts
- encouragement of local economic development and growth
- promotion of fair and ethical trade
- social inclusion, particularly for vulnerable groups - giving them the opportunity to participate in the community and the economy
- engagement of small-to-medium enterprises and social benefit suppliers providing them with the same opportunities as other businesses, including the ability to engage in procurement processes
- securing the company's reputation and leadership in recognising and implementing corporate social responsibility initiatives.

The Local Participation and Social Procurement Plan for the Project should contain initiatives to proactively enable maximisation of local employment and sourcing for the Project's construction and operational needs, and include the following:

- Direct and indirect jobs for local workforce participants.
- Supplier and servicing opportunities for local businesses.
- Up-skilling, re-skilling and training opportunities for local people.
- Jobs, supplier and servicing opportunities that target partnerships with local and active social enterprises.

Actionable targets with associated responsibilities should be contained within this Plan, including mechanisms to involve local stakeholders in the Plan's development and implementation. Key stakeholder groups related to this Plan should include Council, industry associations or business groups, employment and training service providers, community committees or representative bodies and regional development organisations.

Information provision relating to the Project's construction requirements in the pre-construction phase (post development approval) is critical in embedding a planned and proactive approach to local participation and should therefore also comprise a component of this Plan.

Mechanisms for local businesses, job seekers and services to register their capabilities and interest in working with the Project should also be formalized, and widely shared within the area of social influence.

7.0 Conclusion

This Social Impact Assessment (SIA) has presented a social baseline for the social locality relevant to the Project. Drawing on the Sustainable Livelihoods Approach, the SIA has highlighted the social locality's historic reliance on mining and agriculture, rapid population growth, rapidly rising housing costs, Aboriginal cultural heritage, and highlighted policy and projects currently working to transition the Hunter Region to a diversified economy with a strong emphasis on renewable energy.

The SIA has assessed the key impacts and benefits of the KKLP as identified by key stakeholders and the wider community of the social locality. Key social impacts include:

- impacts on natural environments, including habitat loss and impacts on the functioning of rural land uses
- perceptions of safety risks to property and life from gas explosions, leakages, or breaches
- potential for construction workers to create additional pressure on existing infrastructure, particularly roads, health services and housing availability and flow-on impacts on social amenity
- differing opinions about the Project's contribution to climate change and regional renewable energy transitions causing contention in the community.

The Social Impact Assessment also identified key Project benefits and community needs, including:

- local employment, procurement, and skills development opportunities, and flow-on economic opportunities for accommodation, food, entertainment and retail providers
- increased access to reliable electricity and reduced electricity costs
- opportunities for investment in community infrastructure and local community projects and groups, particularly in relation to transport infrastructure and health services
- continued engagement with the impacted community and collaboration with local groups and local governments to maximise project benefits. The SIA has also proposed measures to manage (mitigate and/or enhance) these impacts and opportunities, through:
    - continued implementation of a Community Engagement Strategy
    - continued implementation of a Community Grants Program
    - a Workforce Accommodation Plan
    - a Local Participation and Social Procurement Plan.

The SIA has identified a number of social impacts relating to the Project, with the proposed management (mitigation and enhancement) measures having the capacity to address many of these impacts, and enhance the benefits of the project to the social locality.

8.0 References

ABC News. (2021, 09). *ABC News*. Retrieved from Expected traffic loads cause worry for local roads: https://www.abc.net.au/news/2014-01-10/expected-traffic-loads-cause-worry-for-local-roads/5193626

ABS. (2016). *86350DO001_201516 Tourism Accommodation, Australia, 2015-16.* Australian Bureau of Statistics .

ABS. (2016). Community Profiles. *Census Data 2016*. Canberra: Australian Bureau of Statistics. Retrieved from https://www.abs.gov.au/websitedbs/D3310114.nsf/Home/2016%20Census%20Community%20Profiles

ABS. (2018). *Regional Statistics by LGA 2019, 2011-2019.* ABS.Stat.

ABS. (2018, March 27). Socio-Economic Indexes for Areas (SEIFA) 2016. *Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA), Australia, 2016*. Canberra: Australian Bureau of Statistics. Retrieved from https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2033.0.55.001~2016~Main%20Features~SOCIO-ECONOMIC%20INDEXES%20FOR%20AREAS%20(SEIFA)%202016~1

ABS. (2020). *Accommodation Supply, 2017-18 and 2018-19.* Australian Government, Tourism Research Australia .

AGL. (2019, August 02). *Schedule for the closure of AGL plants in NSW and SA*. Retrieved from AGL Media Centre: https://www.agl.com.au/about-agl/media-centre/asx-and-media-releases/2019/august/schedule-for-the-closure-of-agl-plants-in-nsw-and-sa

Anderson, A., & Smith, S. (2001). Editorial: Emotional geographies. *Transactions of the Institute of British Geographers*, 7 - 10.

APA. (2021). *Kurri Kurri Lateral Pipeline Project Communty Grants Program.* APA.

APA Group. (2021, September 13). *Apa*. Retrieved from About apa: https://www.apa.com.au/about-apa/

APPEA. (2021). *Social license report: Australia's oil and gas industry .* APPEA.

Australian Bureau of Statistics. (2016). *Census of Population and Housing.* Australian Bureau of Statistics.

Australian Electoral Commission. (2021, July 21). *2021 enrolment rates by division*. Retrieved from Australian Electoral Commission: https://www.aec.gov.au/enrolling_to_vote/enrolment_stats/rate-div/index.htm

Australian Energy Council. (2020). Gas supply and gas generation put on centre stage. *Australian Energy Council*.

Australian Energy Market Operator. (2020). *2020 Electricity Statement of Opportunities: A Report for the National Electricity Market.* AEMO.

Australian Financial Review. (2021). Taylor ups pressure on generators to commit to new plants. *Australian Financial Review*.

Australian Institute of Health and Welfare. (2019). *Hospital resources 2017-18: Australian hospital statistics* . Canberra: AIHW.

Barr Property & Planning. (2020). *Scoping Report: Young Parents' Hub .* St Philip's Christian College.

Barr Property & Planning. (2020a). *Scoping Report: Request for Secretary's Environmental Assessment Requirements.* St Philips Christion College Cessnock.

Beaumont, A. (2021, April 28). Petition to prevent Kurri Kurri Hospital closure after rumours spark fear, community concern. *The Advertiser*, pp. https://www.cessnockadvertiser.com.au/story/7229697/petition-to-prevent-kurri-kurri-hospital-closure-after-rumours-spark-fear-community-concern/.

Beer, A. (2014). Structural adjustment programmes and regional development in Australia. . *Local Economy, 21-40.* .

Brasier, K., McLaughlin, D., Rhubart, D., Stedman, R., Filteau, M., & Jacquet, J. (2013). Risk Perceptions of Natural Gas Development in the Marcellus Shale. *Environmental Practice*.

Burdge, R. J. (2004). The concepts, process and methods of SIA. *The Social Ecology Press*. doi:ISBN 0-941042-35-9

Bureau of Meteorology. (2021). *Previous Droughts*. Retrieved from Drough Knowledge Centre: http://www.bom.gov.au/climate/drought/knowledge-centre/previous-droughts.shtml

Cessnock City Council. (2017). *Cessnock Community Strategic Plan 2027.* Cessnock: Cessnock City Council.

Cessnock City Council. (2018). *Innovative Reconciliation Action Plan May 2018 - April 202.* Cessncok City Council.

Cessnock City Council. (2020, June 18). *Amendment to Cliftleigh Urban Precinct Planning Agreement*. Retrieved from Cessnock City Council: https://www.cessnock.nsw.gov.au/Council/Have-your-say/Amendment-to-Cliftleigh-Urban-Precinct-Planning-Agreement?BestBetMatch=Urban%20release|092adf0f-7be8-4026-abc2-ad39b42ce19d|ac7cd658-71a9-46ea-b143-31f7655c8c15|en-AU

Cessnock City Council. (2020, June 18). *Amendment to Cliftleigh Urban Precinct Planning Agreement*. Retrieved from Cessnock City Council: Have your say: https://www.cessnock.nsw.gov.au/Council/Have-your-say/Amendment-to-Cliftleigh-Urban-Precinct-Planning-Agreement

Cessnock City Council. (2021, September 14). *Local History*. Retrieved from Cessnock City Council: https://www.cessnock.nsw.gov.au/Council/About-council/Local-history

Cessnock City Council. (2021, February 1). *Planning Proposal, 18/2015/2 – Hydro Kurri Kurri*. Retrieved from Cessnock City Council: https://www.cessnock.nsw.gov.au/Council/Have-your-say/Planning-Proposal-1820152-%E2%80%93-Hydro-Kurri-Kurri

Cessnock City Council. (2021). *Urban Growth Management Plan.* Cessnock City Council.

City of Newcastle. (2021). *Richmond Vale Rail Trail*. Retrieved from City of Newcastle Projects and Works: https://newcastle.nsw.gov.au/council/news/projects-and-works/richmond-vale-rail-trail

Clean Energy Council. (2019). *A Guide to Benefit Sharing Options for Renewable Energy Projects.*

Coakes, S., & Sadler, A. (2011). Utilizing a sustainable livelihoods approach to inform a social impact assessment practice. In F. Vanclay, & A. M. Esteves, *New Directions in Social Impact Assessment.* Edward Elgar.

Cochrane, P. (2006). Exploring cultural capital and its importance in sustainable development. *Ecological Economics*, 318-330.

Commonwealth of Australia. (2019). *A Fair Deal on Energy* .

Commonwealth of Australia. (2020). *Budget 2020-21 - Economic Recovery Plan for Australia: JobMaker - Creating jobs and rebuilding our economy.* Commonwealth of Australia.

Cox, L. (2021, December 20). NSW approves Morrison government's $600m Kurri Kurri gas-fired power plant. *THe Guardian*.

Deloitte. (2014). Prospects and Challenges for the Hunter Region. .

DELWP. (2021). *Community Engagement and Benefit Sharing in Renewable Energy Development: A Guide for Renewable Energy Developers.* Victoria State Government.

Department of Agriculture, Water, and the Environment. (2021, August 3). *About my region – Hunter Valley (excluding Newcastle) New South Wales*. Retrieved from Australian Government Department of Agriculture, Water, and the Environment: https://www.agriculture.gov.au/abares/research-topics/aboutmyregion/nsw-hunter#agricultural-sector

Department of Communities and Justice. (2021, Nov 17). *Rent Report.* Retrieved from Tableau Public: https://public.tableau.com/app/profile/facs.statistics/viz/Rentandsales_15565127794310/Rent

Department of Health. (2021, November 15). *Geographic Vaccination Rates.* Retrieved from COVID-19 vaccination – Geographic vaccination rates – SA4 – 15 November 2021: https://www.health.gov.au/sites/default/files/documents/2021/11/covid-19-vaccination-geographic-vaccination-rates-sa4-15-november-2021.pdf

Department of Planning and Environment. (2018). *Greater Newcastle Metropolitan Plan 2036.* Department of Planning and Environment. State of NSW.

Department of Planning, Industry and Environment. (2021). *Draft Lower Hunter Water Security Plan.* NSw Government.

Department of Planning, Industry and Environment. (2021). *Social Impact Assessment Guideline For State Significant Projects.* NSw Government.

Department of Primary Industries. (2013, June). *Upper Hunter Region Vitivulture Profile*. NSw Government.

Department of Primary Industries. (2013, June). Upper Hunter Region Equine Profile. NSW Government.

Destination NSW. (2021). *Hunter Visitor Profile Year ended March 2021.* Destination NSW.

DFID. (2001). Sustainable livelihoods guidance sheets.

Donaldson Coal. (2021). *About*. Retrieved from Donaldson Coal Mine: https://www.doncoal.com.au/

DPIE. (2016). *Hunter Regional Plan 2036.*

DPIE. (2018). *Bloomfield Coal Mine: Mod 4 - Extension*. Retrieved from Major Projects: http://mpweb.planningportal.nsw.gov.au/major-projects/project/13076

DPIE. (2018). *Greater Newcastle Metropolitan Plan 2036 Consultation Report .* Department of Planning and Environment.

DPIE. (2019, December 12). *NSW 2019 Population Projections*. Department of Planning, Industry and Environment on behalf of the NSW Government.

DPIE. (2019). *NSW Electricity Strategy.*

DPIE. (2020). *Hunter Expressway Draft Strategy.* State of New South Wales. Department of Planning, Industry and Environment.

DPIE. (2020). *NSW Landuse 2017 v1.2.* State Government of NSW and Department of Planning, Industry and Environment. Retrieved from https://datasets.seed.nsw.gov.au/dataset/nsw-landuse-2017-v1p2-f0ed

DPIE. (2021). *Draft Lower Hunter Water Security Plan.* NSW DPIE.

DPIE. (2021). *Major Projects*. Retrieved from Hunter Power Project (Kurri Kurri Power Station) Project 40951: https://www.planningportal.nsw.gov.au/major-projects/project/40951

DPIE. (2021). *Notice of Decision.* DPIE.

DPIE. (2021). *Social Impact Assessment Guideline.* Sydney: NSW DPIE.

Duffy, R., & Pringle, A. (2013). *Buying Local - Tools for Forward-Thinking Institutions .*

Electoral Commission NSW. (2020, September 14). *Past Election Results. State election results*. Retrieved from NSW Electoral Commission: https://elections.nsw.gov.au/Elections/past-results/State-election-results

Equity Economics. (2021). *Double Return: How investing in soical housing can address the growing homelessness crisis and boost Australia's economic recovery.* Equity Economics.

Esteves, A., Brereton, D., Samson, D., & Barclay, M.-A. (2010). *Procuring from SMEs in local communities: A good practice guide for the Australian mining, oil nad gas sectors.* Brisbane: Univesity of Queensland .

Farquhar, L., & Bryce, B. (2021, February 05). Plans unveiled for world's biggest battery in the Hunter Valley. *ABC News*.

Fire + Rescue. (2021, November 14). *Incidents & Emergency Warnings*. Retrieved from Massive Factory Fire - Kurri Kurri: https://www.fire.nsw.gov.au/incident.php?record=1636844940

Fowler, G. (2021, December 06). *Feds promise $80 million for M1 extension from Black Hill to Raymond Terrace*. Retrieved from Newcastle Herald: https://www.newcastleherald.com.au/story/7554882/80m-for-m1-extension-to-raymond-terrace/

GHD. (2021). Scoping Report - Kurri Kurri Lateral Pipeline.

Gratta Institute. (2021, May 19). *Gas misfire: the Federal Government's $600m intervention in the energy market*. Retrieved from Grattan Institute: https://grattan.edu.au/news/gas-misfire-the-federal-governments-600m-intervention-in-the-energy-market/

Grieve, C. (2021, May 20). *Big four banks forced to defend thermal coal exit.* Retrieved from The Sydney Morning Herald: https://www.smh.com.au/business/banking-and-finance/big-four-banks-forced-to-defend-thermal-coal-exit-20210517-p57soo.html

Ha, J., & Reeve, A. (2021, November 23). *The National Electricity Market will soon be coal-free.* Retrieved from The Grattan Institute: https://grattan.edu.au/news/the-national-electricity-market-will-soon-be-coal-free/

Heritage NSW. (2021). *State Heritage Inventory.* Heritage NSW.

Hunter Renewal and Hunter Jobs Alliance. (2021). *Future-Proofing the Hunter: Voices from our community.* Newcastle: Hunter Renewal.

Hunter Valley News. (2020, February 10). NSW Rural Fire Service deems 79-day Kerry Ridge bushfire officially 'out'. *Hunter Valley News*.

IAIA. (2015). *SIA Guidance Document.*

Infrastructure Partnerships Australia. (2020). *Building trust: Social license for infrastructure.* Infrastructure Partnerships Australia.

International Association for Impact Assessment. (2015). *Social Impact Assessment: Guidance for assessing and managing the social impacts of projects.* International Association for Impact Assessment.

International Association of Impact Assessment. (2021). *Social Impact Assessment*. Retrieved from https://www.iaia.org/wiki-details.php?ID=23

International Finance Corporation. (2010). *Strategic Community Investment.* Washington, D.C. : International Finance Corporation.

IRIS Research. (2018). *Maitland City Council Community Satisfaction Survey 2018 [Final].* Maitland City Council.

Jacobs. (2021). *Hunter Power Project Aboriginal Cultural Assessment.* Snowy Hydro.

Jacobs. (2021). *Hunter Power Project Environemtnal Impact Statement.* Snowy Hydro.

Labour Market Information Portal. (2021, June). *Small Area Labour Markets (SALM), June quarter 2021*. Retrieved from Labour Market Information Portal: https://lmip.gov.au/default.aspx?LMIP/Downloads/SmallAreaLabourMarketsSALM

Low, S. (1992). Symbolic ties that bind: Place Attachment in the Plaza. In I. L. ltman, *Place Attachment: Human Behavior and* (pp. 165- 185). New York, NY, USA: Plenum.

Macdonald-Smith, A. (2021, May 19). Hunter gas plant 'needed to keep the lights on': Tomago CEO. *Australian Financial Review*.

Macdonald-Smith, A. (2021, December 21). Kurri Kurri gas plant gets all-clear but doubts remain. *The FInancial Review*.

Maitland City Council. (2016). *Cultural Plan.* Maitalnd City Council.

Maitland City Council. (2018, August). *Mount Vincent Road Planning Proposal*. Retrieved from Maitland City Council: https://www.maitland.nsw.gov.au/maitland-your-say/engagements/mount-vincent-road-planning-proposal?mc_cid=f45024388b&mc_eid=UNIQID

Maitland City Council. (2021, February 1). *Gillieston Heights South (Western Precinct)*. Retrieved from Maitland City Council: https://www.maitland.nsw.gov.au/maitland-your-say/engagements/gillieston-heights-south-western-precinct-area-planning-proposal

Maitland City Council. (2021). *Gillieston Heights South Planning Proposal*. Retrieved from Maitland City Council: https://www.maitland.nsw.gov.au/maitland-your-say/engagements/gillieston-heights-south-planning-proposal

Maitland City Council. (2021). *Wonnarua Country*. Retrieved from MyMaitland: https://www.mymaitland.com.au/discover/wonnarua-country/

Maitland Regional Museum. (n.d.). *The Story of the Greta Migrant Camp*. Retrieved from Maitland Regional Museum: https://maitlandregionalmuseum.com.au/exhibitions/greta-migrant-camp/

Matthews, J., Allouche, E., & Sterling, R. (2015). Social cost impact assessment of pipeline infrastructure projects. *Environmental Impact Assessment Review*, 196-202.

McIntyre, D., & Chow, C. (2020). Waiting Time as an Indicator for Health Services Under Strain: A Narrative Review. *Inquiry*.

Merwe, M. v. (2016, December). Factors Affecting an Individual's Future Labour Market Status. *Reserve Bank of Australia - Bulletin: December Quarter 2016*.

Millington, B., & Scully, A. (2021, November 21). *Weston Aluminium plant fire in Kurri Kurri could burn for days, officials say.* Retrieved from ABC News: https://www.abc.net.au/news/2021-11-15/residents-near-kurri-blaze-told-to-keep-windows-and-doors-closed/100621360

Morton, A. (2021, May 18). Morrison government to fund $600m gas-fired power plant in NSW Hunter region. *The Guardian*, pp. https://www.theguardian.com/australia-news/2021/may/18/morrison-government-to-fund-600m-gas-fired-power-plant-in-nsw-hunter-region.

NSW Bureau of Crime. (2021). *NSW Local Government Area excel crime tables*. NSW Bureau of Crime Statistics and Research.

NSW Department of Planning, Industry and Environment. (2021). Net Zero Plan Stage 1: 2020-2030.

NSW DPIE. (2021). *Social Impact Assessment Guideline for State Significant Projects.* New South Wales Government.

NSW Government. (2016). *Central West and Orana Regional Plan 2036.* NSW Government.

NSW Government. (2021). *New Maitland Hospital Development*. Retrieved from Project Overview: http://newmaitlandhospital.health.nsw.gov.au/the-project/project-overview

NSW Government. (2021). *Project Overview*. Retrieved from New Maitland Hospital Development: http://newmaitlandhospital.health.nsw.gov.au/the-project/project-overview

NSW Health. (2021). *New Maitland Hospital Development*. Retrieved from Project Overview: http://newmaitlandhospital.health.nsw.gov.au/

NSW Health. (2022). *John Hunter Health and Innovation Precinct*. Retrieved from Project Overview: https://johnhunter.health.nsw.gov.au/

NSW Legislation. (2020, December 10). *Electricity Infrastructure Investment Act 2020 No 44*. Retrieved from NSW Legislation: https://legislation.nsw.gov.au/view/html/inforce/current/act-2020-044

NSW Mining. (2020). *NSW Mining Industry Expenditure Impact Survey 2019/20.*

NSW Planning & Environment. (2016, October). Hunter Regional Plan 2036. NSW Government.

Parliament of Australia. (2017, August 7). *Youth unemployment statistics for small geographic areas: a quick guide*. Retrieved from Parliament of Australia Research Papers 2017-18: https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/rp1718/Quick_Guides/YthUnemployAreas

Parliament of New South Wales. (n.d.). *Mr Philip DONATO, MP*. Retrieved July 2021, from Parliament of New South Wales: https://www.parliament.nsw.gov.au/members/Pages/member-details.aspx?pk=2226

Perry, N. &. (2019). Weathering the storm: The case for transforming the Hunter Valley. . *Western Sydney: School of Business, Western Sydney University.* .

PHIDU. (2021, June). New South Wales & Australian Capital Territory. Data by Local Government Area. *Social Health Atlas of Australia*. Public Health Information Development Unit. Retrieved July 2021

PHIDU. (2021). *Social Health Atlas of Australia.* PHIDU.

Project Approval: Bloomfield Coal Project, SCHEDULE 1: Application No: 07_0087 (August 2018).

Regional NSW. (2018). *Hunter*. Retrieved August 2021, from Regional NSW: https://www.investregional.nsw.gov.au/regions/hunter

Regrowth Kurri Kurri. (2021). *Rezoning*. Retrieved from Regrowth Kurri Kurri: https://regrowthkurrikurri.com.au/rezoning/

Regrowth Kurri Kurri. (2021a). *Regrowth for the Region*. Retrieved from Regrowth Kurri Kurri: https://regrowthkurrikurri.com.au/

Regrowth Kurri Kurri. (2022). *Regrowth Kurri Kurri*. Retrieved from Regrowth Kurri Kurri: https://regrowthkurri.com.au/

REINSW. (2021, June). *Vacancy Rate Survey Results June 2021.* Retrieved from Real Estate Institute NSW: https://www.reinsw.com.au/REINSW_Docs/Vacancy%20Rates/2021/REINSW-Vacancy-Rate-Result-June-2021.pdf

REMPLAN. (2020). *REMPLAN*. Retrieved from Economy, Jobs and Business Insights: https://app.remplan.com.au/

Richmond Vale Rail Trail. (2020, August 13). *City of Newcastle - Development Application DA2020/00641.* Retrieved from Richmond Vale Rail Trail Inc: https://www.richmondvalerailtrail.org.au/resources.html#RVRTUpdate1

Roads and Maritime Services. (2019). *Appendix E Aboriginal Cultural Heritage Assessment Report.* NSW Government.

Sandman, P. (2003). *Responding to community outrage: Strategies for effective risk communication.* Fairfax, VA: American Industrial Hygiene Association.

Shamai, S. (1991). Sense of Place: an Empirical Measurement. *Geoforum*, 347-358.

Siegrist, M., & Sutterlin, B. (2014). Human and Nature-Caused Hazards: The Affect Heuristic Causes Biased Decisions. *Risk Analysis*.

Singleton Council. (2021, September 14). *Aboriginal History*. Retrieved from Singleton Council: https://www.singleton.nsw.gov.au/212/Aboriginal-History

Snowy Hydro & Jacobs. (2021). *Hunter Power Project Response to Submission.* Jacobs.

Stevens Group. (2021, July 29). *Green light for Black Hill Industrial Estate*. Retrieved from Stevens Group: https://stevensgroup.com.au/green-light-for-black-hill-industrial-estate/

STR. (2018). *Australian Accommodation Monitor, 2017-18.* Austrade.

The CIE. (2014). *The contribution of mining to the New South Wales economy.* NSW Minerals Taskforce.

The Hon Scott Morrison MP. (2020, September 15). *Media Release*. Retrieved from Prime Minister of Australia: https://www.pm.gov.au/media/ensuring-affordable-reliable-and-secure-electricity-supply

Towns with Heart. (2014). *2014*. Retrieved from Visit Kurri Kurri: http://www.visitkurrikurri.com/us/heritage-history/

Towns With Heart. (2014). *Kurri Kurri Murals*. Retrieved from Visit Kurri Kurri - Events and Attractions: https://visitkurrikurri.com/events-attractions/kurri-kurri-murals/

Transport for NSW. (2019, September 24). *The Hunter Expressway Project Information*. Retrieved from Transport for NSW Projects: https://roads-waterways.transport.nsw.gov.au/projects/the-hunter-expressway/index.html

Transport for NSW. (2021, August 31). *Lower Hunter Freight Corridor*. Retrieved from Transport for NSW: https://www.transport.nsw.gov.au/projects/current-projects/lower-hunter-freight-corridor

Transport for NSW. (2021, Novembet 2). *Lower Hunter Freight Corridor*. Retrieved from Current Project: https://www.transport.nsw.gov.au/projects/current-projects/lower-hunter-freight-corridor

Transport for NSW. (2021, November 10). *M1 Pacific Motorway extension to Raymond Terrace*. Retrieved from https://roads-waterways.transport.nsw.gov.au/projects/raymond-terrace-upgrade/index.html

Transport for NSW. (2021, July). M1 Pacific Motorway extension to Raymond Terrace Transport for NSW Community Update. *Project Update - Environmental Impact Statement*. NSW Government.

University of Newcastle. (2021, February 1). *Hunter Region Nominated as a Hydrogen Technology Cluster*. Retrieved from University News: https://www.newcastle.edu.au/newsroom/featured/hunter-region-nominated-as-a-hydrogen-technology-cluster

Valley Planning Pty Ltd. (2021). *Scoping Report to Request SEARs: The Heights Learning Community.* SDA Schools.

Vanclay, F., Esteves, A. M., Aucamp, I., & Franks, D. (2015). *Social Impact Assessment: Guidance for assessing and managing the soical impacts of projects.* IAIA.

WA Commissioner for Children and Young People. (2015). *Children and young people at risk of disengagement from school.* University of Western Australia: Telethon Kids Institute.

Weiss, E. B. (2021, April). *Intergenerational Equity*. Retrieved from Oxford Public International Law: https://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e1421

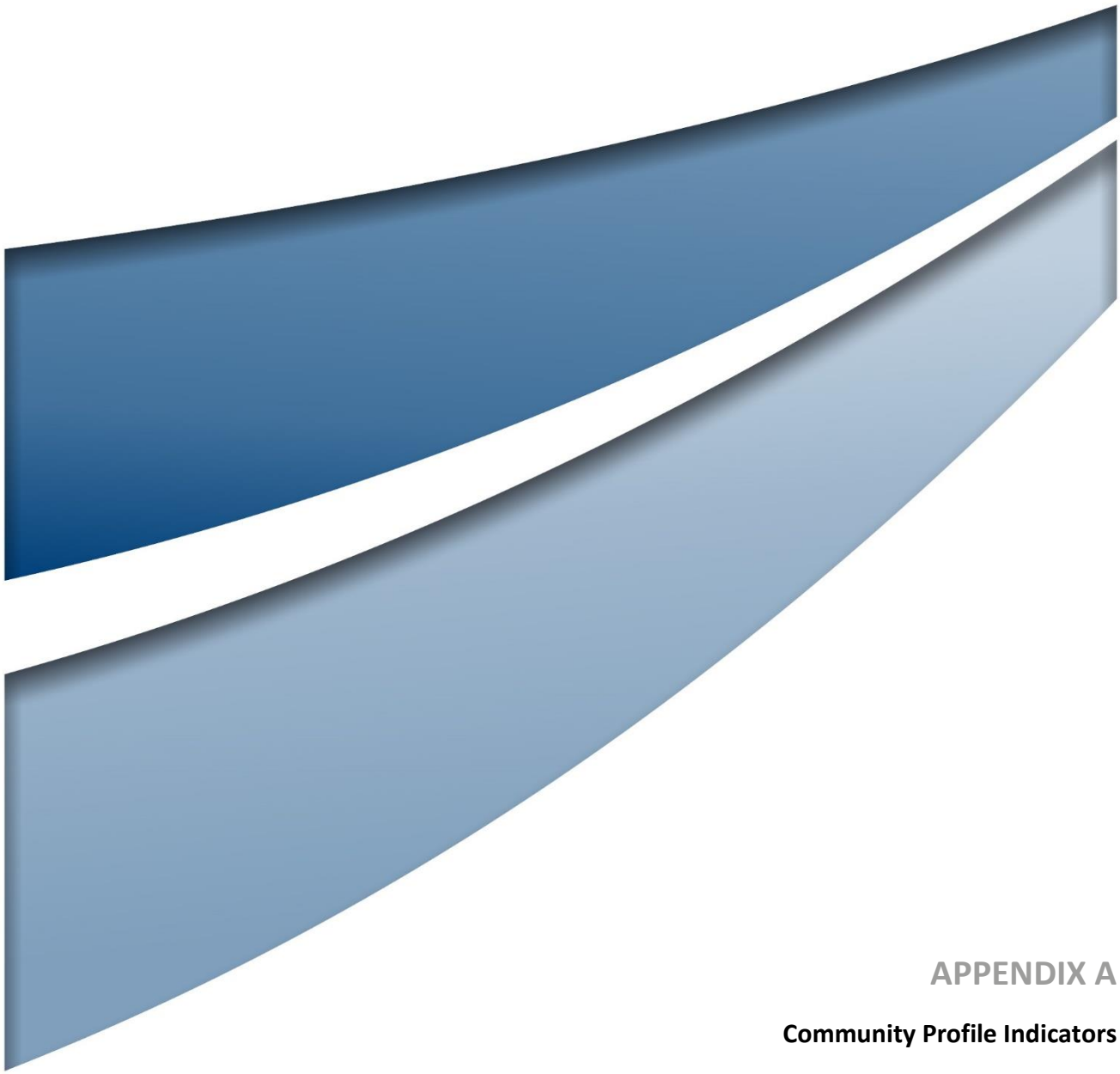
Wilde, L., Loos, C., & Williamson, J. (2012). Pipelines and Property Values: An Eclectic Review of the Literature. *Journal of Real Estate Literature*.

Wilde, L., Williamson, J., & Loos, C. (2014). A Long-Term Study of the Effect of a Natural Gas Pipeline on Residential Property Values. *Journal of Real Estaet Literature*.

Witt, K., Garnett, A., Staggs, J., & Holm, D. (2020). *The coal seam gas industry in Queensland and the 'Golden Rules' of gas.* The University of Queensland .

Wood, T. (2021, March 14). *Australia must take right path on power plant closures.* Retrieved from The Age: https://www.theage.com.au/national/victoria/australia-must-take-right-path-on-power-plant-closures-20210314-p57aj8.html

World Resources Institute . (2020). *Just transition and equitable climate transition .* World Resources Institute.



APPENDIX A

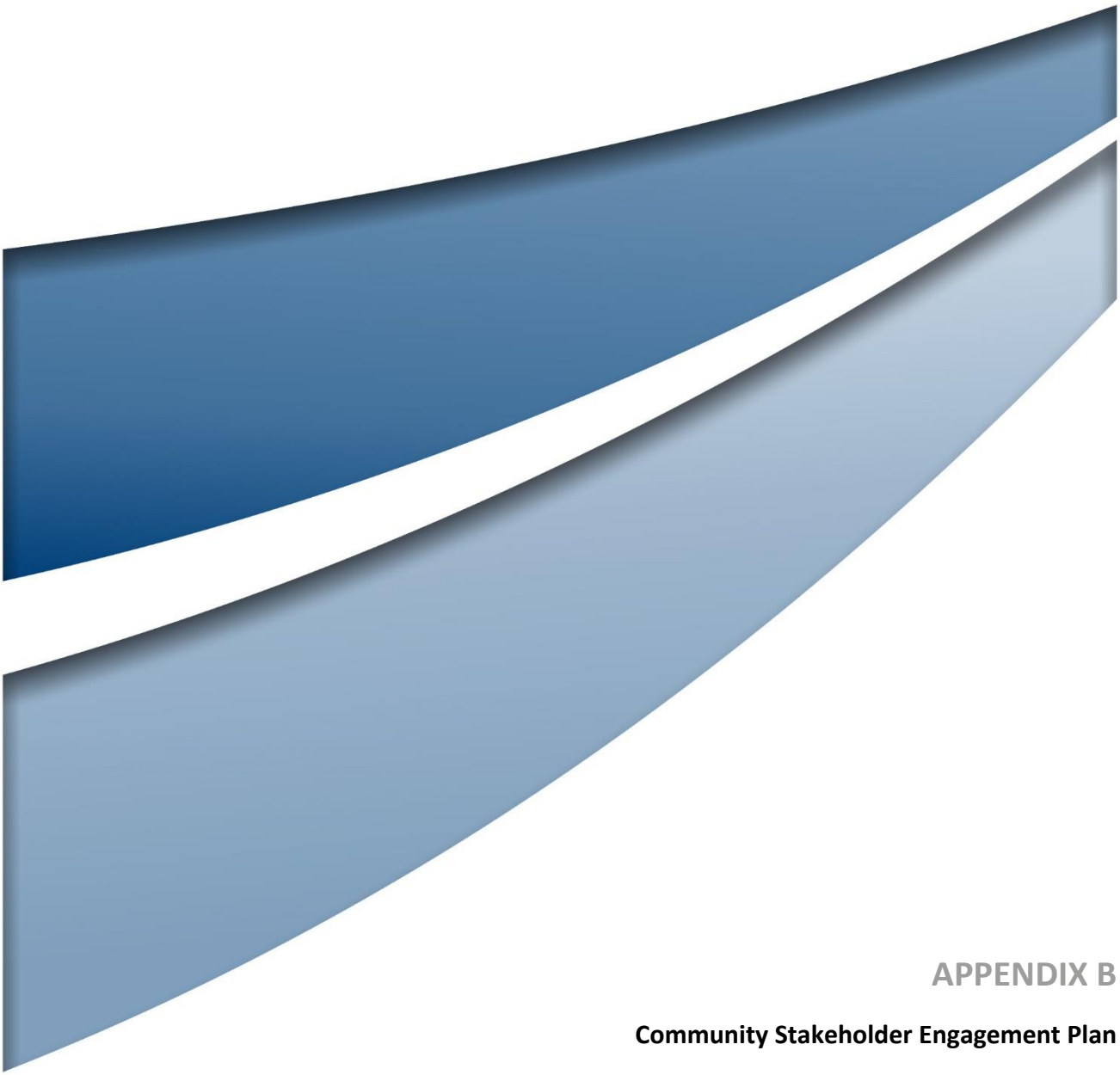
Community Profile Indicators

	Sawyers Gully	Loxford	Kurri Kurri	Heddon Greta	Cliftleigh	Gillieston Heights	Louth Park	Buchanan	Buttai	Black Hill	Lenaghan	CESSNOCK LGA	NEWCASTLE LGA	MAITLAND LGA	NSW
Human Capital															
Population (number)	496	65	6039	2053	888	3150	657	196	57	568	52	55,561	155,408	77,307	7,480,231
Median Age (years)	44	37	40	34	24	29	38	41	34	44	40	38	37	36	38
Aboriginal or Torres Strait Islander people (% of population)	7	16	8	6	11	6	4	7	7	2	0	7	4	5	3
Year 12 Highest Level of Schooling Completed (% of population)	23	35	28	34	32	45	54	41	38	46	49	32	56	42	59
Year 10 Highest Level of Schooling Completed (% of population)	51	65	41	43	43	34	30	41	41	34	26	40	26	36	23
Completed the Equivalent of Post-Secondary Education (% of population)	41	21	34	43	37	48	51	37	64	55	37	37	49	44	47
Bachelor Degree Highest Level of Attainment (% of population)	6	5	4	6	4	9	15	9	22	15	9	6	16	9	16
Advanced Diploma and Diploma Highest Level of Attainment (% of population)	7	0	5	8	6	9	12	5	11	13	9	6	9	9	9
Certificate/s Highest Level of Attainment (% of population)	29	16	27	31	28	32	24	25	27	24	22	27	21	27	18
Children developmentally vulnerable in one or more domains (%)	-	-	-	-	-	-	-	-	-	-	-	23.4	19.8	18.4	19.9
Persons living with a profound of severe disability (% of population)	-	-	-	-	-	-	-	-	-	-	-	7.6	6.1	6	5.6
Learning or earning at ages 15 to 24 (%)	-	-	-	-	-	-	-	-	-	-	-	73.9	87	83	85
Proportion of 65 years and over receiving an age pension (%)	-	-	-	-	-	-	-	-	-	-	-	73.8	68.1	73.2	64.3
Proportion of adult population experiencing high or very high psychological distress (%)	-	-	-	-	-	-	-	-	-	-	-	16	13.8	13.2	12.4
Cultural Capital															
Birth Place: Australia (% of population)	87	66	86	90	85	88	90	83	89	86	88	86	81	87	65
Birth Place: Elsewhere (% of population)	4	4	5	6	5	8	7	5	9	8	0	6	14	8	28
Language spoken at home: English only (% of population)	91	70	91	95	87	92	95	86	106	91	85	90	85	91	69
Language spoken at home: Other (% of population)	1	5	2	2	3	4	2	2	0	2	0	2	10	4	25

	Sawyers Gully	Loxford	Kurri Kurri	Heddon Greta	Cliftleigh	Gillieston Heights	Louth Park	Buchanan	Buttai	Black Hill	Lenaghan	CESSNOCK LGA	NEWCASTLE LGA	MAITLAND LGA	NSW
Social Capital															
Participated in voluntary work (last 12 months) (%)	13	19	12	14	8	14	24	25	24	25	11	14	19	16	18
Living at a different address one year ago (%)	9	0	13	11	20	23	8	7	6	5	19	13	17	15	14
Living at a different address five years ago (%)	27	29	34	36	69	68	27	40	38	25	25	35	42	41	39
Couple Families with Children (% of families)	53	47	37	53	42	47	69	45	117	59	33	41	41	45	46
Families Without Children (% of families)	31	32	36	33	26	34	28	45	33	37	33	37	38	36	37
One Parent Families with Children (% of families)	11	37	25	13	33	16	5	12	0	4	0	21	18	18	16
Family Households (% of households)	77	86	67	85	86	84	90	87	88	86	107	72	64	76	72
Group Households (% of households)	2	0	2	2	5	3	2	0	0	0	0	3	7	2	4
Lone Person Households (% of households)	21	43	31	13	10	13	9	13	24	15	20	25	29	21	24
Economic Capital															
Median total household income ($/weekly)	1569	966	991	1780	1542	1712	2694	1812	2249	2166	2750	1177	1368	1415	1486
Unemployment (%)	5.4	0	9.9	6.3	12.9	5.8	7.2	6.2	0	3	0	8.7	7.4	7.3	6.3
Proportion of the labour force employed full-time (%)	60.9	58.1	54.3	58.5	51.4	62.1	55.2	56.7	52.8	55.8	62.5	53.8	55	57.3	59.2
Proportion of the labour force employed part-time (%)	29.1	22.6	30.3	31	28.3	26.8	34	28.9	22.2	32.7	37.5	32	32.7	30.6	29.7
Median mortgage repayment ($/month)	1831	0	1378	1762	1636	2000	1863	2084	1517	2000	3375	1517	1768	1733	1986
Median rent ($/week)	430	193	280	350	380	395	300	200	0	350	0	280	340	320	380
Median rent as a proportion of median household income (%)	27	20	28	20	25	23	11	11	0	16	0	24	25	23	26
Top occupation	Technicians and trades workers, 18%	Clerical and administrative workers 21%	Technicians and Trades Workers, 20%	Technicians and Trades Workers, 17%	Technicians and Trades Workers, 18%	Technicians and Trades Workers, 19%	Professionals, 25%	Clerical and Administrative Workers, 17%	Professionals, & Technical and trades workers 19%	Professionals, 25%	Managers 28%	Technicians and trade workers 18%	Professionals 27%	Technicians and trade workers 17%	Professionals 24%
Top Industry of Employment	Health care and social assistance 13.6%	Transport, postal and warehousing 25%	Health care and social assistance 13.3%	Retail Trade 11.9%	Health care and social assistance 16.2%	Health care and social assistance 13.7%	Health care and social assistance 11.9%	Retail trade 15.1%	Transport, postal and warehousing 25%	Health care and social assistance 18%	Construction 31%	Health care and social assistance 12%	Health care and social assistance 18.4%	Health care and social assistance 13.5%	Health care and social assistance 12.4%
Physical Capital															
Total occupied private dwellings	154	21	2301	687	228	1092	182	62	17	166	15	19368	59974	27374	2604314
Average people per household	2.8	1.7	2.4	2.9	3.4	2.8	3.4	2.9	2.8	2.9	2.3	2.6	2.4	2.7	2.6
Tenure – owned outright (%)	37	38	31	28	18	21	36	34	35	51	33	33	30	29	32
Tenure – own with a mortgage (%)	51	24	31	51	11	39	54	47	35	37	67	35	31	38	32

	Sawyers Gully	Loxford	Kurri Kurri	Heddon Greta	Cliftleigh	Gillieston Heights	Louth Park	Buchanan	Buttai	Black Hill	Lenaghan	CESSNOCK LGA	NEWCASTLE LGA	MAITLAND LGA	NSW
Renting (%)	8	62	34	19	72	36	10	18	35	13	0	28	36	30	32
Average No. of motor vehicles per household	2.8	2	1.7	2.1	2.1	2	2.7	2.9	2.8	2.7	2.9	1.9	1.9	1.7	1.7
Average commuting distance to place of work (kms)	-	-	-	-	-	-	-	-	-	-	-	19.5	16.3	17.9	16.1
Median commuting distance to place of work (kms)	-	-	-	-	-	-	-	-	-	-	-	12.5	15.4	12.6	9.7
Number of General Practitioners (per 100, 000 population)	-	-	-	-	-	-	-	-	-	-	-	54	65	140	92
Number of Specialist Medical Practitioners (per 100, 000 population)	-	-	-	-	-	-	-	-	-	-	-	7	99	414	141
Proportion of Dwellings with Internet Access (%)	86	71	74	88	85	87	92	91	78	90	79	78	83	84	85

Source: ABS General Community Profiles, 2016; Social Health Atlas of Australia (PHIDU, 2021); 2071.0.55.001 Census of Population and Housing: Commuting to Work - More Stories from the Census, 2016



APPENDIX B

Community Stakeholder Engagement Plan

umwelt
Environmental & Social Consultants

apa

KURRI KURRI LATERAL PIPELINE

Community and Stakeholder Engagement Plan – SIA

FINAL

February 2022

KURRI KURRI LATERAL PIPELINE

Community and Stakeholder Engagement Plan – SIA

FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
APA Group

Project Director: Paul Douglass
Project Manager: Marion O'Neil
Technical Director: Dr Sheridan Coakes
Technical Manager: Rhiannon Jaeger-Michael
Date: February 2022

Environmental & Social Consultants

Disclaimer

This document has been prepared for the sole use of the authorised recipient and this document may not be used, copied or reproduced in whole or part for any purpose other than that for which it was supplied by Umwelt (Australia) Pty Ltd (Umwelt). No other party should rely on this document without the prior written consent of Umwelt.

Umwelt undertakes no duty, nor accepts any responsibility, to any third party who may rely upon or use this document. Umwelt assumes no liability to a third party for any inaccuracies in or omissions to that information. Where this document indicates that information has been provided by third parties, Umwelt has made no independent verification of this information except as expressly stated.

Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
V3 Final	Dr Sheridan Coakes	February 2022	Dr Sheridan Coakes	February 2022

Table of Contents

Figures

Tables

1.0 Introduction

Snowy Hydro Limited is proposing to develop a gas-fired peaking power station, referred to as the Hunter Power Project (HPP), at the site of the former Hydro Australia Pty Ltd (Hydro) aluminium smelter at Kurri Kurri, NSW. The HPP is proposed to provide up to 750 megawatts (MW) of 'on-demand' electricity to supplement Snowy Hydro's generation portfolio with dispatchable capacity when the needs of electricity consumers are highest. The HPP is currently undergoing assessment under both the NSW and Commonwealth planning and environmental assessment frameworks.

APA Group (APA) has been engaged by Snowy Hydro Limited to develop a gas supply solution for the HPP. APA has proposed the Kurri Kurri Lateral Pipeline Project (the Project) as the gas supply solution for the HPP.

The proposed Kurri Kurri Lateral Pipeline (KKLP) Project involves the construction, operation, maintenance and decommissioning of an approximate 21 km transmission pipeline, including associated surface facilities. Key supporting infrastructure required as part of the Project includes an approximate 14 km long storage pipeline and compressor station to ensure that the supply and pressure requirements of the HPP are met.

The proposed alignment of the transmission pipeline would commence at the Project's proposed Sydney to Newcastle Pipeline delivery facility near Black Hill, approximately 15 km northwest of Newcastle and terminate at the HPP, approximately 2 km north of Kurri Kurri. The Project traverses the local government areas (LGAs) of Cessnock, Maitland, and Newcastle in the Hunter Valley region of New South Wales (NSW), Australia.

1.1 Purpose and objectives

This Community and Stakeholder Engagement Plan (CSEP) outlines the approach, strategy, and implementation program to inform the Social Impact Assessment (SIA) and broader Environmental Impact Statement (EIS) for the project's State Significant Development Application (SSDA), to be lodged with the NSW Department of Planning, Industry and Environment (DPIE).

The purpose of the CSEP is to outline the approach and strategy for community and stakeholder engagement across the Project's planning and approvals phase, to inform the preparation of the Project's SIA and the technical studies (as part of the EIS).

As noted in the NSW DPIE SIA Guideline (2021), respectful, inclusive, and meaningful engagement is a fundamental part of project planning and development. Engagement with affected communities and stakeholders provides first-hand insight into what people value and how they expect a project to affect them.

Community and stakeholder engagement is a key component of the EIS and SIA processes, with the DPIE SIA Guideline (2021) outlining the following objectives to guide engagement:

- To ensure those potentially affected by a project understand the project and how it will affect them.
- To collect relevant data, evidence, and insights for scoping the SIA to maximise diversity and ensure representativeness of views.
- To understand the interests that people have and how impacts may be experienced (from their perspective).

- To consider the views of people in a meaningful way and use these insights to inform project planning and design.
- To provide opportunities for people to collaborate on project design matters and input to preferred solutions to address impacts.
- To confirm data, assumptions, findings, and recommendations.
- To ensure people know how their input has been considered, and what strategies will be put in place to address their concerns.
- To help understand how other specialist studies prepared for the EIS assist in addressing social impacts.
- To respect people's privacy, allowing them to communicate their views anonymously if requested.

Therefore, the specific objectives of this CSEP are to:

- **Identify key stakeholders and communities relevant to the development of the Project.**
- **Facilitate the genuine involvement of stakeholders in the planning and approvals process as well as in developing responses to impacts.**
- **Support understanding of the project context, including identification of stakeholders and their expectations and aspirations, including identification of any vulnerable or at-risk groups that maybe impacted by the project.**
- **Guide and support a strategic and coordinated approach to engagement, including specific mechanisms, timeframes and responsibilities during the planning and assessment phase of the Project.**
- **Ensure that community and stakeholder inputs are effectively integrated into the technical assessments within the EIS and inform refinements to project design and plans.**
- **Meet regulatory requirements for public, stakeholder and community consultation.**
- **Collaborate with local stakeholders on local benefit sharing strategies to ensure they are co-designed, targeted, and appropriate to the Project's operating context.**
- **Align with APA's values and principles around timely, open, inclusive, and meaningful engagement.**

1.2 Approach and process

The NSW Government's SIA Guideline (2021) now requires SIA to be undertaken for all SSDs in NSW. SIA is informed by, and relies on, the outcomes of early, and ongoing community and stakeholder engagement through the assessment phase to identify social issues/impacts and develop appropriate strategies to mitigate and/or enhance project impacts.

The approach to stakeholder engagement adopted for the Project is informed by the NSW Government's SIA Guideline (2021), and the NSW Department of Planning, Industry and Environment's '*Undertaking Engagement – Guidance for State Significant Projects'* (2021). Furthermore, best practice engagement design and delivery will also be guided by the International Association of Public Participation (IAP2) Public Participation Spectrum.

This CSEP covers the engagement approach to be undertaken in the EIS phase of the Project, noting that APA's Stakeholder Engagement Framework – KKLP outlines the engagement approach and strategy undertaken in the scoping phase of the Project.

2.0 Project Overview

2.1 Project Background

Snowy Hydro Limited is proposing to develop a gas-fired peaking power station, referred to as the HPP, at the site of the former Hydro aluminium smelter at Kurri Kurri. The HPP is proposed to provide up to 750 MW of 'on-demand' electricity to supplement Snowy Hydro's generation portfolio with dispatchable capacity when the needs of electricity consumers are highest. The HPP is currently undergoing assessment under both NSW and Commonwealth planning and environmental assessment frameworks.

APA has been engaged by Snowy Hydro Limited to develop a gas supply solution for the HPP. APA has proposed KKPL Project as the gas supply solution for the HPP. The KKPL Project comprises the following primary components:

- A buried, steel, medium diameter (up to 14 inch), medium pressure (up to 6.9 megapascal (MPag)) transmission pipeline of approximately 20.1 km in length to provide a gas supply from the existing Sydney to Newcastle Pipeline (SNP) (formally referred to as the Plumpton to Hexham Northern Trunk), via receipt and delivery facilities, to the HPP site.
- A compressor station at the termination of the transmission pipeline to boost gas pressure prior to transfer to a storage pipeline.
- A buried, steel, large diameter (up to 42 inch), high pressure storage (up to 15.3 MPag) pipeline of around 23.6 km in total length downstream of the compressor station to hold approximately 70 terajoules (TJ) of gas ready to supply the HPP.
- A delivery station to receive gas from the storage pipeline and control temperature, pressure and flow rate prior to delivery of gas to the HPP.

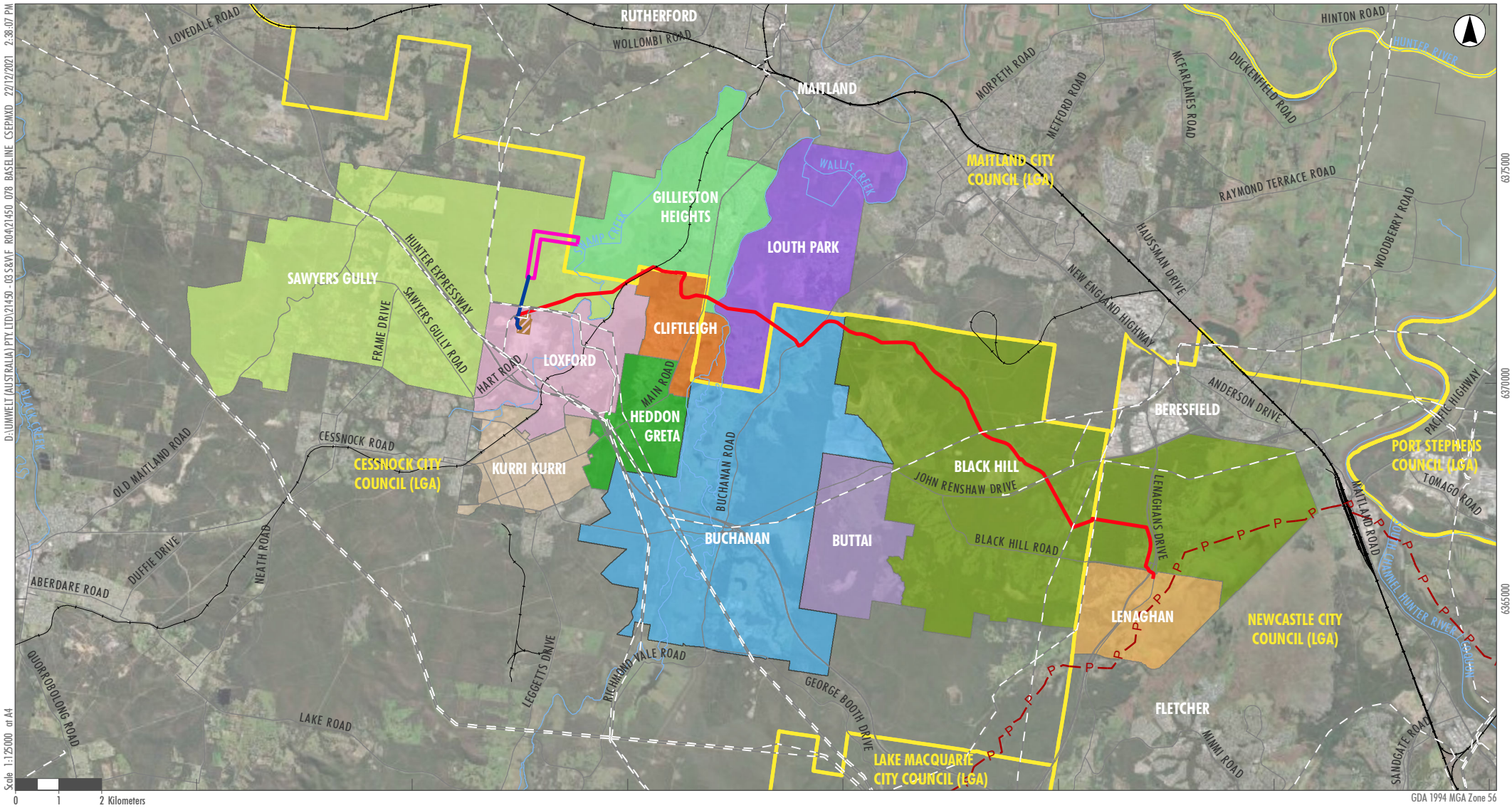
A compressor station and storage pipeline are required as part of the proposal as the SNP does not provide sufficient gas volumes or pressure to meet the supply requirements of the HPP. As such, a direct pipeline connection between the SNP and the HPP is not a viable solution for gas supply to the HPP.

The proposed alignment of the transmission pipeline would commence at the KKPL Project's proposed SNP delivery facility near Black Hill, approximately 15 km northwest of Newcastle and terminate at the HPP, approximately 2 km north of Kurri Kurri.

Construction of the KKPL Project is planned to commence during Q3 2022 with a gas supply to the Hunter Power Project provided during the second half of 2023. The HPP is planned to be operational by the end of 2023.

2.2 Governance and policy setting

The KKPL Project is located within the Cessnock, Maitland, and Newcastle LGAs, with most of the KKPL Project located in the Cessnock LGA (refer to **Figure 2.1**). Within the broader LGA, there is an apparent community desire to have a greater focus on renewable energy sources (Cessnock City Council, 2017), with some negative community sentiment expressed through local and regional media sources in relation to the HPP (refer to **Section 2.3** for further discussion of key community issues). However, there has been support for the KKPL Project from elected representatives such as Hon Joel Fitzgibbon MP and Meryl Swanson MP.



Legend

- Transmission Pipeline Alignment
- Storage Pipeline
- 14" Connecting Pipeline
- Hunter Power Project Boundary
- Local Government Area
- P Jemena North Arm Truck Pipeline
- High Voltage Electricity Lines
- Roads
- Railway
- Watercourses

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)

FIGURE 2.1
Social Locality

The HPP has been designated as CSSI under the State Environmental Planning Policy (State and Regional Development) 2011, and an EIS is currently being developed for that project. The CSSI designation for the HPP includes 'the construction and operation of a new gas transmission and storage pipeline, compressor station and delivery station'. As such, the KKLP is also CSSI Infrastructure requiring an EIS under the *Environmental Planning and Assessment Act 1979* (EP&A Act). Consequently, the NSW Planning Secretary's Environmental Assessment Requirements (SEARs) issued for the KKPL Project stipulated that a SIA is to be completed for the KKPL Project in accordance with the current NSW SIA Guideline 2021.

2.3 Community profile and considerations

The study area (as depicted in **Figure 2.1**) covers a number of suburbs including Sawyers Gully, Loxford, Kurri Kurri, Cliftleigh, Gillieston Heights, Louth Park, Heddon Greta, Buchanan, Buttai, Black Hill and Lenaghan. The project also traverses the three local government areas (LGAs) of Cessnock, Maitland, and Newcastle.

Data has been gathered and summarised from publicly available secondary datasets, including the most recent Australian Census (2016) and Social Health Atlas of Australia (PHIDU, 2021), on the study areas noted above to develop an understanding of the social and economic context of potentially affected communities. **Table 2.1** outlines some key characteristics of these communities with considerations also noted as a basis to inform engagement planning.

Table 2.1 Community Characteristics and Considerations for Engagement

Characteristic	Consideration
Older than average median age	May be reluctant to use online engagement mechanisms. More personal mechanisms may be more suitable to facilitate engagement e.g., telephone surveys, personal meetings Likely to have an interest in the project
Low proportion of CALD communities	Unlikely to require translation of materials into other languages
High rates of home ownership	Landholders are likely to be more invested in outcomes of the project/ concerned about the impacts on their property and livelihoods
Below average (NSW) mobility in most communities **Higher mobility in new residential areas**	Established communities that are often well connected (resulting in a fast spread of information) and invested in the sense of community in the broader area
Higher than average unemployment and technicians and trade workers key occupations	Opportunities for the project to provide employment or contractor/supplier opportunities, with suitable qualifications for construction work
Project transverses a number of communities	A range of residents, community and environmental groups are likely to be interested in the project
The community has experience with past SSD projects	They are likely to have been consulted or made submissions on other projects, therefore, understand their opportunity for participation

3.0 Engagement Strategy

3.1 Principles of Engagement

In line with the SIA Guideline, community engagement undertaken as part of the KKPL Project will be respectful, inclusive, and meaningful. Engagement will be used to identify community's values and aspirations in relation to the project, and to focus the SIA and the broader EIA on key issues of concern for relevant stakeholders and local communities, including opportunities to further refine project design to address and/or enhance project impacts.

The basic principles of effective public participation (IAIA, 2006) will also be applied, to ensure that engagement is:

- Relevant to the context
- Informative and proactive
- Adaptative and communicative
- Inclusive and equitable
- Educative
- Cooperative

3.2 Stakeholder identification

SIA involves the participation and collaboration of people who have an interest in, or those that are affected by a project. As Burdge (2004) outlines, stakeholders may be affected groups or individuals that:

- live, work, or recreate near the KKPL Project
- have an interest in the proposed action or change
- use or value a resource associated with the KKLP Project
- are affected by the KKPL Project e.g., may be required to relocate as a result of the project.

A stakeholder identification process was undertaken for the KKPL Project to support the planning and delivery of community and stakeholder consultation to inform the SIA. This process involved identifying stakeholders with an interest in the Project, or those that may be directly or indirectly affected by the KKPL Project. This included identifying any potentially vulnerable or marginalised groups.

This process considered the interconnectivity with the HPP, incorporating some mutual stakeholders.

Table 3.1 Stakeholder Identification Process

Affected stakeholder groups	Potential stakeholders	Prioritisation	Level of Engagement
Host landholders	16/17 host landholders, 8 owner occupiers, Stoney Pinch group, 2 industrial sites and smelter	High	Collaborate
Broader proximal community	Hunter Power Project Community Working Group Interested stakeholders from Snowy Hydro's door knocking/ postcard drop response and APA website and Social Pinpoint response Random sample survey participants	Medium	Consult
Aboriginal stakeholders	Mindirriba LALC Barkuma Neighbourhood Centre	High	Involve
Local Councils	Cessnock City Council – representatives from the Planning and Environment, and Corporate and Community Services teams, Mayor Maitland City Council – Matthew Prendergast, Group Manager Planning and Environment and Judy Jaeger, Group Manager Culture, Community and Recreation, Mayor, Catherine Pepper, Sustainability Manager Newcastle City Council – representative from the Community Strategy and Innovation team, Ward 4 Councilors	Medium	Consult
Local businesses and service providers	**Accomodation providers:** Kurri Motor Inn; Station Hotel, Kurri Kurri; Abermain Hotel; The Neath Hotel, Maitland accomodation providers **Employment providers:** Joblink Plus, Kurri Kurri **Health providers:** Kurri Kurri Hospital, Maitland Hospital **Emergency service providers:** Kurri Kurri Ambulance Station, Fire and Rescue NSW (Kurri Kurri), NSW Rural Fire Service (East Maitland), Beresfield Ambulance Station, Fire and Rescue NSW (Tarro)	High Medium Low Medium	Involve Consult Inform Consult
Community and development groups	Hunter Business Chamber; Kurri Kurri Business Chamber Inc; HunterNet, Hunter and Central Coast Development Corporation, Kurri Kurri Lions Club, Kurri Kurri Rotary Club, Kurri Kurri Community Services, I Love Kurri Kurri, Towns With Heart, Kurri Kurri TAFE, Barkuma Neighbourhood Centre	Medium	Consult
Environmental groups	Hunter Region Landcare Network, Kurri Kurri Landcare Group, Hunter Local Land Services	High	Involve

3.3 Engagement Mechanisms

The engagement of stakeholders and community groups will include a combination of information provision (inform) and engagement (consult, involve) (IAP2, 2014) mechanisms to:

- to improve knowledge and awareness of the company, its activities, the project, and key issues/impacts as they arise.
- facilitate stakeholder involvement in the identification of issues/impacts, areas of interest/concern and strategies to address the issues raised.

Engagement mechanisms will be selected based on engagement objectives and knowledge of stakeholder engagement preferences. Mechanisms selected will also build on previous mechanisms utilised by APA and the HPP project team, as relevant. **Table 3.2** provides an overview of the mechanisms to be utilised for the project and their engagement objective.

Table 3.2 Engagement and Communication Mechanisms

Mechanism	Engagement objective	Description
Website	Inform	APA have a dedicated project website page to provide project information and updates
Project phone number/email	Inform	APA have a dedicated project phone number and email address the community can contact for information or to provide feedback on the project
Social Pinpoint	Inform	APA run a Social Pinpoint page for the project that gives the community the opportunity to provide feedback via an interactive map with key project features shown
Project briefing	Involve	Formal briefings to key stakeholders and government agencies, with slide deck to formally introduce or provide updates on the Project Briefings given to Hunter Power Project Community Working Group by APA and briefing offered to Kurri Kurri Regrowth Community Reference Group
Personal meeting / interview	Involve	Introductions to the Project and team, semi-structured discussion to listen to individual concerns, interests, issues and gather preliminary feedback, scope potential impacts and opportunities, including sensitivities, to inform mitigation/enhancement strategies, understand future engagement preferences
Letter/project information sheet distribution	Inform	Distribution of project updates throughout the proximal community by APA and Snowy Hydro
Door knocking	Consult	Door knocking campaign undertaken by Snowy Hydro that mentions the KKLP and APA
Random sample telephone survey	Consult	Telephone survey of a random sample within the study area outlined in **Figure 2.1** to gain broader community input to the SIA
Service provider survey	Involve	Surveys undertaken via telephone by Umwelt to understand the capacity and demand of accommodation services in the area

Table 3.3 outlines the mechanisms that are planned to be utilised to engage with each stakeholder group for the KKPL Project.

Table 3.3 Mechanisms by stakeholder group

Stakeholder Group	Website/phone number/email/ Social Pinpoint	Letter/ project information sheet distribution	Project briefing	Personal meeting / interview	Door knocking	Random sample telephone survey	Service provider survey
Host landholders							
Broader proximal community							
Aboriginal stakeholders							
Local Councils							
Local businesses and service providers							
Community groups							
Environmental groups							

3.4 Instruments and Supporting Materials

Umwelt will draft and prepare instruments, materials, and tools to be used to support engagement in accordance with this CSEP. These will be prepared following APA's confirmation of the Implementation Plan (**Section 5.0**). Instruments to support engagement activities will include the following:

- Interview discussion guides – a suite of discussion guides including a standard discussion template/survey question set, as well as targeted guides for specific stakeholder or community groups. Each guide will likely include up to 5 open ended questions.
- Random sample telephone survey instrument – survey instrument to be used in the random sample survey, likely including up to 5 open ended qualitative questions.
- Service provider survey – survey instrument to be administered to local service providers, primarily quantitative questions with qualitative questions relating to community needs.
- Stakeholder engagement database – set up of template in an Excel spreadsheet.

Discussion points for engagement activities are likely to include:

- Knowledge and Awareness of the KKLP
- Positive and negative social impacts of the KKPL Project
- Measures to mitigate and enhance project impacts
- Preferred engagement mechanisms and information requirements
- Community values, needs and aspirations

4.0 Key Messages

4.1 Overview

For the assessment phase of the EIS, key project messages will be developed and adapted for communication to targeted stakeholders and community residents. Key messages will be developed in line with the principles and commitments outlined within **Section 1.0** of this document and will be developed to share information related to the KKPL Project and its current activities, as well as to respond to stakeholder issues, concerns and interests as identified through the development of the KKPL Project.

Key messages will be developed to address the following key objectives:

- Provide clear and consistent information relating to the KKPL Project and its relationship to the HPP Project to reduce misinformation
- Clearly articulate project aspects and components
- Outline the environmental and SIA process and opportunities for engagement.

The key messages have been developed and refined, around four message categories as outlined below. These will be used to inform engagement and associated material development.

1. **The Proponent** – who is APA?
2. **The Project** – what is the KKPL? Including details on the planned pipeline, quick facts, and project description
3. **The Process** – the development planning and EIS process, including key milestones and opportunities for engagement
4. **Impacts and Opportunities** – key issues in relation to the KKPL Project i.e., social and environmental impacts, stakeholder issues/concerns, opportunities and benefits, engagement preferences and information requirements.

4.2 Who is APA?

Question	Message
Who is APA?	APA Group is an Australian energy infrastructure business listed on the ASX. APA delivers around half of the nation's gas usage and connect Victoria with South Australia and NSW with Queensland through our investments in electricity transmission assets. APA is also one of the largest owners and operators of renewable power generation assets in Australia, with wind and solar projects across the country.
Where do they have project interests and what is their track record?	APA own and/or operate a $21 billion portfolio of gas, electricity, solar and wind assets across Australia. APA understands that the expectations of its customers and communities are evolving and is determined to deliver ever-better outcomes, Listening to their customers and stakeholders and responding to their needs remains key to APA's purpose to strengthen communities through responsible energy.

Question	Message
How long have APA been operating in Australia/NSW?	This year marks the twenty-first anniversary of APA's listing on the ASX. The continued growth and sustainable development of APA is a core area of focus. APA is determined to capture opportunities presented by the energy transition, continuing to invest in gas, electricity and renewable energy assets while helping to unlock the energy solutions of tomorrow. This is consistent with APA's vision to be world-class in energy solutions.
How many people will they employ?	The construction workforce is estimated to peak at around 398 personnel over a one-month period when core construction of the transmission pipeline, storage pipeline and compressor station overlap. Workforce numbers are estimated to peak at 330 personnel over the remainder of the 12-month construction period. A contractor will be engaged by APA that has the relevant knowledge and experience in pipeline construction. There will be opportunities available for a number of local roles to assist in general civil, clear and grade, traffic management, fencing, water cartage roles, and for local accommodation providers to provide accommodation for field personnel.
How do their projects benefit communities?	APA Group is committed to positively contributing to communities in the local and regional area of its proposed Kurri Kurri Lateral Pipeline project. As part of this commitment, we have established a Community Grants program to benefit local communities.
Is APA related to Snowy Hydro?	Snowy Hydro is a dynamic, integrated energy business and is a fully Australian-owned company. The Commonwealth Government is the sole shareholder of Snowy Hydro Ltd. The proposed Hunter Power Project – a gas-fired power station at Kurri Kurri – will supplement Snowy Hydro's generation portfolio with dispatchable capacity when the needs of electricity consumers are highest. The APA KKLP is a proposed buried gas transmission pipeline and storage pipeline that will connect the proposed Snowy Hydro Hunter Power Project in Kurri Kurri, NSW to the Sydney to Newcastle pipeline, near Newcastle, NSW. APA is a separate business to Snowy Hydro; however, the two businesses are working together collaboratively to develop their respective KKLP and Hunter Power projects.
How is APA working with Snowy Hydro?	APA and Snowy Hydro are working together collaboratively to develop their respective KKLP and Hunter Power projects.

4.3 What is the KKLP Project?

Question	Message
What is the KKPL Project?	The KKLP is a proposed buried gas transmission pipeline and storage pipeline that will connect the proposed Hunter Power Project at Kurri Kurri, in NSW, to the existing Sydney to Newcastle pipeline, near Newcastle. The project also includes a compressor station to provide sufficient gas volumes and pressure to meet the supply requirements of the HPP.
Is it part of the HPP?	The APA KKLP is a proposed buried gas transmission pipeline and storage pipeline that will connect the proposed Snowy Hydro HPP in Kurri Kurri, NSW to the Sydney to Newcastle pipeline, near Newcastle, NSW. APA is a separate business to Snowy Hydro; however, the two businesses are working together collaboratively to develop their respective KKLP and HPP.

Question	Message
What is involved in the project?	The proposed KKLP Project comprises the following components: • A buried, steel, medium diameter (up to 14 inch), medium pressure (up to 6.9 MPag) transmission pipeline of approximately 20.1 km in length to provide a gas supply from the existing Sydney to Newcastle Pipeline (SNP) (Plumpton to Hexham Northern Trunk), via a SNP receipt facility, to the Hunter Power Project site. • A compressor station at the termination of the transmission pipeline to boost gas pressure prior to transfer to a storage pipeline. · • A buried, steel, large diameter (up to 42 inch), high pressure storage (up to 15.3 MPag) pipeline of up to 23.6 km in total length downstream of the compressor station to hold approximately 70 TJ of gas ready to supply the HPP. · • A delivery station to receive gas from the storage pipeline and control temperature, pressure and flow rate prior to delivery of gas to the HPP.
What is the alignment of the pipeline?	The proposed pipeline will be located within the Cessnock City Council, Maitland City Council and Newcastle City Council local government areas, with the closest communities including Kurri Kurri, Heddon Greta, Cliftleigh and Gillieston Heights. The initial pipeline alignment has been selected with consideration for the environmental values of the local area, compatibility with the local terrain, that it limits the number of landholders impacted, and considers current and future land uses.
Will the pipeline be underground or above ground?	The pipeline will be buried underground except where there will be a small take off facility at the point where the pipeline joins the SNP, and where the pipeline joins the HPP.
How long is the pipeline?	The transmission pipeline will be approximately 20.1 km and the storage pipeline will be of approximately 23.6 km.
What will the pipeline be used for?	The pipeline will be used to transmit gas from the SNP to the HPP.
What's the timing of the project?	The KKPL Project is currently going through the planning and approvals phase. APA submitted the Project Scoping Report to the DPIE in June 2021. The EIS and SIA for the Project are expected to be lodged in the first half of 2022. If planning approvals are granted, construction of the proposed KKLP Project is planned to commence during 2022, with a gas supply to the HPP provided during the second half of the year 2023.
How long will it take to construct?	The construction of the KKPL Project is expected to take approximately 12 months.
Where will construction workers live?	The construction workforce will likely be accommodated within short-term accommodation that is available in the local area.
How long will it be operational?	The HPP is anticipated to have a lifespan of 30 years.

4.4 The Assessment and Determination Process

Question	Message
Why am I being contacted?	As part of the approval process for the KKLP, a SIA, including a community engagement program, will be prepared considering the NSW DPIE's draft SIA Guideline (2020). The engagement program includes consultation with interested parties, affected communities and local representative groups. The outcomes of the engagement program will inform the development of the KKPL Project EIS.
What are the likely impacts – should I be concerned?	Comprehensive assessments will be completed to identify the potential positive and negative impacts of the KKLP, including the cumulative impacts, and how best to manage these potential impacts. The detailed design of the KKPL Project will be informed by these studies to ensure that negative impacts are mitigated as far as reasonably and feasibly possible, and positive impacts are enhanced.
What assessment process is required?	The KKLP is declared a Critical State Significant Infrastructure (CSSI) project and will require development consent under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). This involves developing an EIS to submit to the DPIE. The EIS includes a SIA, in addition to several specialist studies including assessments on effects to visual changes, traffic and transport, air quality, noise and vibration, biodiversity, Aboriginal and non-Aboriginal heritage, surface water and groundwater, hazard and risk, soils and land use.
Who will approve the project?	A CSSI project requires the approval of the Minister for Planning and Public Spaces before it may proceed. After the Minister's determination has been given, DPIE will publish the decision online, and give public notice of the reasons for the decision and how community views were taken into account in making the decision.
How will the determination consider my concerns?	The feedback we receive from the community will inform the SIA for the KKPL Project, as a component of the EIS that will be lodged with DPIE for assessment.
How long will the approvals process take?	APA submitted the Project Scoping Report to the DPIE in June 2021. The EIS and SIA for the Project are expected to be lodged in the first half of 2022.
How can I have my say?	The engagement program for the KKPL Project includes consultation with interested parties, affected communities and local representative groups through a range of personal meetings, community forums and other mechanisms. People can also learn about the KKPL Project through the project website and provide feedback via the interactive online project map. Further, people can raise queries, receive feedback, and generally express an interest in being informed via the dedicated hotline and email.
Hasn't the EIS already been lodged for the project? [*HPP*]	The EIS was lodged for the HPP in April 2021 and was on exhibition from 13 May 2021 to 9 June 2021. The EIS for this KKPL Project is currently being prepared, with the scoping report lodged with DPIE in June 2021. We anticipate the EIS will be lodged with DPIE in the first half of 2022.
I saw that the project already has funding, isn't it already going ahead?	The Australian Government has provided funding in the 2021-22 budget for the HPP. However, the KKPL Project still needs to be approved by the State Government in line with the EP&A Act 1979.

4.5 Impacts and Opportunities Associated with the Project

Question	Message
How will I be affected?	APA recognises that the siting of the KKPL Project may result in community impacts (both positive and negative) and that impacts may be experienced differently across stakeholder groups. APA is committed to working with the community and key stakeholders to identify potential environmental and social impacts associated with their KKPL Project and to explore relevant strategies to mitigate negative impacts and enhance positive impacts. APA will work to ensure that through the EIS, SIA and associated community engagement process, that community issues are well understood and are addressed, where possible, in project design and planning.
What is APA going to do for residents and the community? How will we benefit?	APA is committed to building strong local relationships with key stakeholders and communities as part of their planning and understands the importance of ensuring local participation and community input, to achieve positive local and regional community benefits.
Will the projects make gas cheaper or easier to access in our local area?	The overall objective of the HPP is to provide dispatchable capacity and other network services to the National Electricity Market (NEM) which can be used by the Australian Energy Market Operator (AEMO) to meet the requirements of the NEM, and to supplement Snowy Hydro's generation portfolio with dispatchable capacity when the needs of electricity consumers are highest. Importantly, open cycle gas fired generation capacity provides firming of renewable generation projects' intermittent electricity supply to the NEM.
How will the project influence climate change?	The KKPL Project is aligned with the Australian Government's energy policy, through its key objectives of supporting the NEM to provide reliable electricity, developing energy infrastructure that is efficient, and contributing to net reductions in greenhouse gas emissions. Greenhouse gas emissions associated with the project will be investigated during the EIS process.
Is the pipeline going to be visible from the road/town?	The pipeline will be buried underground and will not be visible once construction has finished. There will be a small take off facility at the point where the pipeline joins the SNP, and where the pipeline will join the HPP. A visual impact assessment of the project, including the development of photomontages from key viewpoint locations, is being undertaken as part of the EIS process.
Will the pipeline take up agricultural land?	APA has been consulting with all landholders directly affected by the KKPL Project throughout the design and planning phase to ensure that the alignment of the project would result in minimal impacts to their properties. Where a landowner uses land for agricultural purposes, APA will negotiate with those landowners to bury the pipeline at a suitable depth to lessen any impacts on that business.
What is the safety and health risks associated with the pipeline?	APA has stringent safety protocols and procedures to ensure community safety during the construction and operation of the pipeline. The KKPL Project, including the ancillary facilities, will be designed, constructed, commissioned and operated in accordance with Australian Standards 2885 (AS 2885 - a suite of standards outlining requirements for gas and petroleum pipelines which are designed, constructed and operated in Australia) and licenced under the *Pipelines Act 1967*. To assess the potential hazard impacts and safety risks associated with the construction and operation of the KKPL Project, a Preliminary Hazard Assessment is being undertaken as part of the EIS process. This assessment will also identify suitable hazard and safety controls and management measures to be implemented as part of the project.

Question	Message
What is the impact on fauna and flora?	The preferred alignment for the transmission pipeline and storage pipeline have been identified to avoid locations where threatened species have previously been recorded. The majority of the alignment for both pipelines are proposed within areas that have previously been disturbed. A comprehensive Biodiversity Impact Assessment is underway to determine the potential impact the KKPL Project would have on any native fauna and flora.
What happens to the pipeline when it is no longer used?	The KKPL Project is anticipated to have a 30-year lifespan, after which it will be decommissioned.

5.0 Implementation Plan

Target Stakeholder Group	Mechanism	Objectives	Tasks	Responsibility	Timing
Local Councils	Project briefing	Provide project overview and update, understand interests and concerns	Organise briefings	APA	Start of October
			Develop briefing presentation	APA/Umwelt	Start – mid October
			Attend online briefings	APA/Umwelt	End of October
			Analyse/report on outcomes	Umwelt	November
Host Landholders	Review of APA engagement outcomes, inclusion of SIA specific questions in next APA landholder meetings	Understand concerns and expectations, community needs and values	Provide landholder engagement outcomes to Umwelt	APA	End of September/ Start of October
			Undertake calls/meetings and include SIA questions	APA	End of October
			Analyse/report on outcomes	Umwelt	November
Community and development groups	Phone calls, emails and offer of presentations at existing group forums	Provide project overview, understand interests and concerns, community needs and values, facilitate understanding of project in community	Define community/development group representatives and source contact details	Umwelt	October
			Undertake calls/emails inviting participation	Umwelt	End of October
			Undertake presentations/meetings	Umwelt/APA	Start of November/ when requested
			Analyse/ report on outcomes	Umwelt	November

Target Stakeholder Group	Mechanism	Objectives	Tasks	Responsibility	Timing
Local environment groups	Initial letters sent via email, offer of project briefing	Provide project overview, understand perspectives, community needs and values	Define environment group representatives and source contact details	Umwelt	October
			Undertake calls/emails inviting participation	Umwelt	End of October
			Undertake presentations/meetings	Umwelt/APA	Start of November/ when requested
			Analyse/report on outcomes	Umwelt	November
Aboriginal stakeholders (e.g., LALCs)	Personal meetings	Provide project overview, understand perspectives, community needs and values	Organise meetings	Umwelt	End of October
			Undertake meetings	Umwelt/APA	Start of November
			Analyse/report on outcomes	Umwelt	November
Broader proximal community	*Broader community survey (pending approval)*	Provide project overview, understand perspectives and broader community sentiment, community needs and values	Develop survey instrument	Umwelt	End of September
			Review and approve survey instrument	APA	Start of October
			Engage survey partner	Umwelt	Mid-October
			Implement survey	Traverner Research	Mid-November
			Analyse/report on outcomes	Umwelt	End of November/ Start of December
Service providers	Interviews – informs SIA service provision assessment	Provide project overview, understand existing capacity, supply and demand trends, community needs and priorities	Develop survey instrument	Umwelt	End of September
			Review and approve survey instrument	APA	Start of October
			Undertake interviews	Umwelt	Mid-November
			Analyse/report on outcomes	Umwelt	End of November/ Start of December

6.0 Reporting and Evaluation

6.1 Record-keeping and stakeholder database

A dedicated Stakeholder Database will be established in Microsoft Excel format to record stakeholder interactions and related information throughout the Project's planning and approvals phase. This will include an Engagement Register, whereby team members will record the contact details of stakeholders, summaries of each consultation or contact undertaken, and any actions that arise from these meetings. This database will be established by Umwelt on an interactive and accessible platform for live sharing with the project team (e.g., SharePoint).

Outcomes and records of each engagement activity will be documented by the team member(s) in attendance. The Engagement Register will be maintained throughout the delivery of the Implementation Plan to ensure consistent tracking and recording of all community or stakeholder engagement activities and outcomes. Information to be recorded will include:

- Stakeholder contact details
- Activity details (including stakeholder engaged, attendees, time, place, mechanism used)
- Discussion points
- Summary of key outcomes, including any actions arising
- Preferences for future engagement.

Following completion of engagement for each phase, outcomes and data obtained will be collated and analysed to identify key impact themes and impact prioritisation. Identified issues or impacts may also be mapped to identify any spatial/geographic patterns in the data.

Outcomes of the engagement will then be collectively summarised in the SIA. Outcomes of the engagement will also be provided to inform relevant EIS technical studies and for further consideration in project design and planning.

6.2 Evaluation

The implementation of the CSEP will be monitored and evaluated on an ongoing basis to ensure the effectiveness of the CSEP in achieving the objectives outlined in **Section 1.1**. The evaluation will be based on ensuring that:

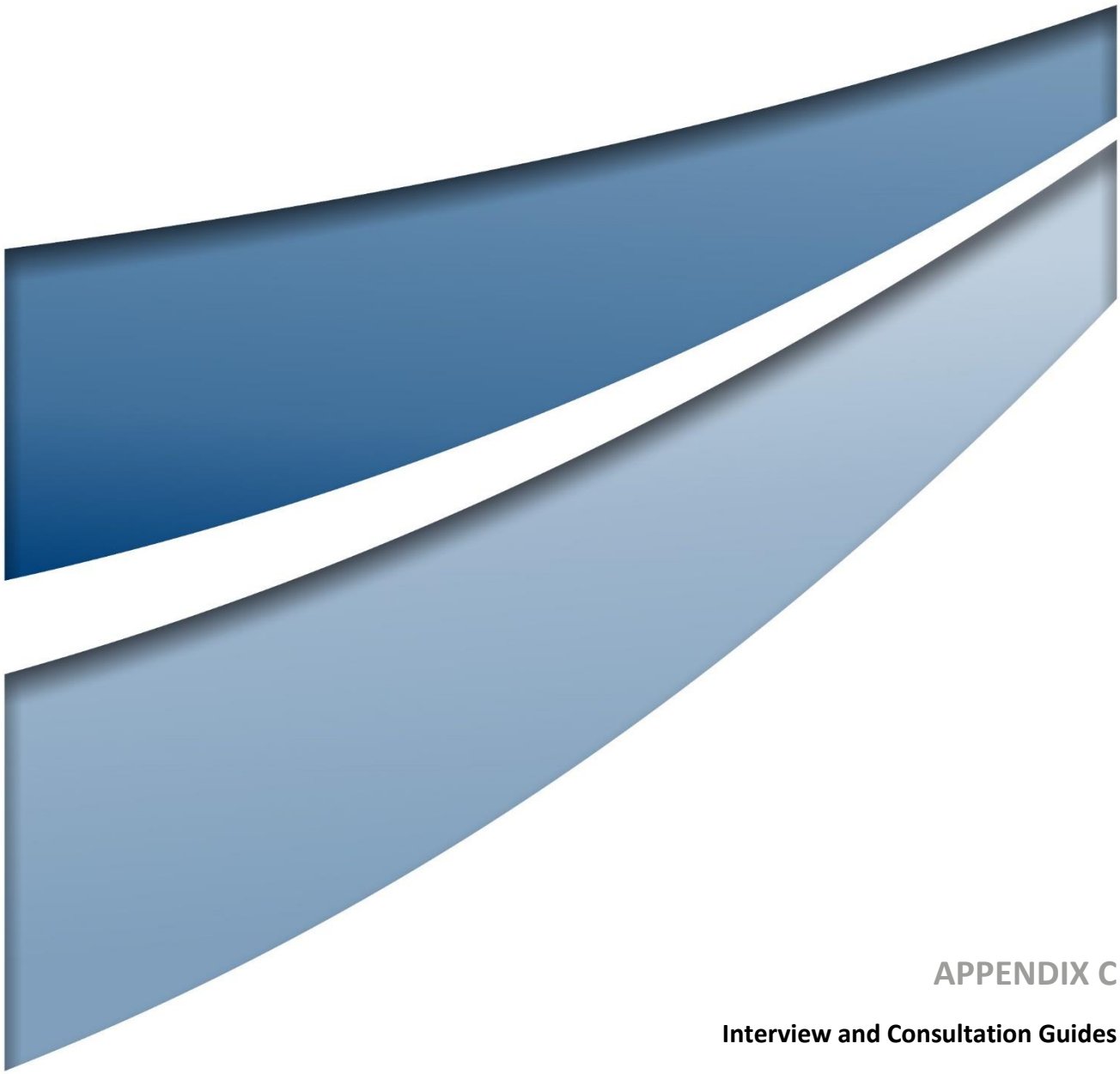
- All key stakeholders and communities relevant to the project have been identified, in particular, vulnerable and at-risk groups
- All identified relevant stakeholders are offered the opportunity to participate in the engagement program
- Relevant project information will be provided to all stakeholders and all questions and queries received will be followed up in a timely manner by Umwelt or APA
- Regular project team meetings will be held between Umwelt and APA to provide required updates and ensure a collaborative and consistent approach to engagement across the project

- Engagement outcomes and community feedback is meaningfully and adequately considered in the development of the SIA and EIS, and where possible, is used to inform project design and refinements, including the development of local community benefit sharing programs
- All regulatory requirements relating to community engagement are met
- Engagement is timely, open/transparent, inclusive, and meaningful

Mechanisms/methods such as those outlined below, will be used to ensure that the engagement program is on track and is responsive to any changing project issues.

- Proactive contact made with stakeholders identified in **Section 3.2**.
- Prompt project team response and inclusion of stakeholders interested in being involved in the project.
- Fortnightly project meetings to discuss outcomes of engagement progress.
- Fortnightly media monitoring to identify any emerging community issues and concerns.
- Evaluation items utilised in relevant survey instruments and discussion guides to facilitate process improvement.
- Outcomes of the engagement program communicated to project team members.
- Transparent summary of community issues and impacts associated with the project reported in the SIA and used to inform the Project EIS.

Revisions and updates to the CSEP will be made as required, to address any issues raised or ideas for improvement, in collaboration with APA.



APPENDIX C

Interview and Consultation Guides

APA Group (APA) are proposing to develop the Kurri Kurri Lateral Pipeline Project (KKPL), a proposed underground gas transmission pipeline, compressor station and storage pipeline that will supply the proposed Hunter Power Project at Kurri Kurri, in NSW, with gas from existing Sydney to Newcastle pipeline, near Newcastle.

As part of the development assessment process for the Project, a Social Impact Assessment (SIA) is being prepared to identify the impacts (positive and negative) the project may have on the community. APA and the social consultancy preparing the SIA, Umwelt (Australia) Pty Limited (Umwelt), are consulting the community through a range of mechanisms to inform the SIA, including a survey of community members in the Cessnock local government area.

APA and Umwelt would like to hear from you in relation to a number of topics including:

- Your level of awareness and interest in the KKPL
- What positive and negative impacts you feel the project may have on the community
- How the potential impacts of the project can be better managed and/or enhanced
- What the current needs, issues, and challenges are in the region

You are not obligated or required to participate in the survey. Would you like to participate?

1. **Have you heard about the KKPL Project?**
    a. Yes – If yes, how have you heard about the Project? (Via media, website, project team, word of mouth)
    b. No
2. **What is your level of knowledge of the Project on a scale from one (1) to ten (10), with one (1) being no knowledge at all and ten (10) being all possible knowledge?**

1	2	3	4	5	6	7	8	9	10
No knowledge at all									*All possible knowledge*

Brief Project Description (only if requested)

The proposed KKPL Project is an approximately 21 km underground gas transmission pipeline, compressor station, and an approximately 25 km storage pipeline. The transmission pipeline would transport gas from the existing Sydney to Newcastle Pipeline to the compressor station adjacent to the proposed Hunter Power Project. The compressor station will fill the storage pipeline with gas at a higher pressure until it is required to be used by the Hunter Power Project to generate electricity at times of peak demand. The project is within the Cessnock, Maitland and Newcastle local government areas.

3. **What is your level of interest in the Project on a scale from one (1) to ten (10), with one (1) being not interested at all and ten (10) being extremely interested?**

1	2	3	4	5	6	7	8	9	10
Not interested at all									*Extremely interested*

4. **Can you identify any positive impacts of the Project?** *(Interviewer: allow free recall)*

5. **In your view, what are some of the keyways in which these impacts could be further enhanced?** *(Interviewer: allow free response)*

6. **Do you see any negative impacts of the Project?** *(Interviewer: allow free response)*

7. **In your view, what are some of the key ways in which these impacts could be managed?** *(Interviewer: allow free response)*

8. **What do you see as the key community needs in your area? How could APA work with the community to address these needs?**

9. **What are the key strengths of the community?**

10. **What do you value most about living in the area?**

11. **In which suburb do you live?**

12. **How long have you lived in the area?**

13. **Is there anything else you'd like to add?**

Introduction

I am _____ from APA Group and this is _____ from Umwelt.

APA Group are an Australian energy infrastructure business publicly listed on the ASX. APA delivers around half of the nation's gas usage and connect Victoria with South Australia and New South Wales with Queensland through our investments in electricity transmission assets and are proposing to develop the Kurri Kurri Lateral Pipeline in the local area.

We would like to talk today about the proposed Kurri Kurri Lateral Pipeline project that relates to the development of an underground gas transmission pipeline and storage pipeline, and a compressor station, that will connect the proposed Hunter Power Project at Kurri Kurri, to the existing Sydney to Newcastle gas pipeline, near Newcastle.

The Project traverses the Cessnock, Maitland, and Newcastle LGAs, with most of the Project located in the Cessnock LGA.

Umwelt is working closely with APA this year to undertake the social and environmental assessments for the project.

As part of our activities, we have been meeting with a range of stakeholders to introduce the project and to obtain your views on the project – what you see as the key impacts (positive and negative) of the project.

We see these meetings as important for us to understand your perspectives and the local community that you are a part of and/or represent. This helps us with our project planning and will also inform the SIA that is being undertaken as part of the EIS for the project.

Thank you for taking the time to meet with us.

All information you provide to us is confidential and will only be reported in aggregate form.

Intro – Additional Information for Accommodation Service Providers, Health Services, and Emergency Services

If developed, the construction phase of the Kurri Kurri Lateral Pipeline is likely to employ up to 400 workers over the construction period which is anticipated to be approximately 12 months.

The key opportunities for local supply may include:

- Opportunities for non-pipeline specific contractors and trades including general civil, clear and grade, traffic management, fencing, water cartage, vegetation management and rehabilitation
- Accommodation for field personnel.

A right of way (ROW) will be developed as the primary thoroughfare for the construction of the project. Local roads and access tracks will only be used where necessary; however, a traffic study is being undertaken as part of the EIS in order to assess worse case impacts.

It is likely that the pipeline and associated materials for construction will be transported by truck to the construction ROW – however, this has not been confirmed.

It is also likely that the construction workforce will travel to site in light vehicles, a bus doesn't appear suitable due to the potential spread across different accommodation providers. This will also be confirmed at a later date.

Core interview questions

Question	Stakeholder Group
Knowledge and awareness	
1. What knowledge do you have of the APA Group	Business Chambers Aboriginal Organisation Community Groups
2. Have you heard about the Kurri Kurri Lateral Pipeline? If so, how have you heard about the project?	Business Chambers Aboriginal Organisation Community Groups
Sense of Community	
1. How would you describe your community (in general/to help us get to know your community)? What do you like most about living in the area? What is important to you and why?	Business Chambers Aboriginal Organisation Community Groups
2. What do you see as the key strengths/assets of the community? (social, economic, environmental)	Business Chambers Aboriginal Organisation Community Groups
3. What do you see as the key needs of your community (or matters that your community wants to see/community aspirations)? What would make your community a better community and place to live? (Refer to prompts below) - *Historical aspects* - *Greening and beautification* - *Local business/employment growth or opportunities* - *Services and infrastructure – housing, education, retail, health care, transport etc.* - *Cultural and recreation – community volunteering, sport and leisure, tourist attractions, cultural events etc.* - *Other ways to improve social cohesion*.	Business Chambers Aboriginal Organisation Community Groups
4. What are some of the changes and/or challenges facing the region, what have you observed? For example, are some sectors experiencing growth or emerging, and others slowing down etc?	All stakeholders
Perceived impacts and benefits	
1. What do you think the development of the Kurri Kurri Lateral Pipeline means for the region?	Business Chambers Aboriginal Organisation Community Groups

Question	Stakeholder Group
2. Do you feel that the proposed project has the potential to contribute positively to the locality/region/state? (Provide detail)	All stakeholders
3. What do you think APA can consider to enhance project benefits, in collaboration with local community groups or with yourselves?	All stakeholders
4. What do you see as the main impacts or issues relating to the Project and who do you think may experience that impact? How could these impacts be managed? (Provide detail) *Allow free recall but use table to code responses as appropriate.*	All stakeholders

Impact Type	Description	Yes or No *(Describe)*
Social amenity and surroundings	Visual changes to the rural character of the landscape, increase in industrial infrastructure	
Way of Life	Changes to land use - how people live, work, recreate in the area	
Surroundings	Effects to local flora and fauna or natural environment or reduced access to recreational areas	
Social amenity and surroundings	Increase in noise in the local area from construction, or otherwise project-related activities	
Social amenity and surroundings	Construction impacts – air quality and dust	
Social amenity and surroundings	Traffic congestion, public/tourist/road user safety, nuisance/delay caused by construction activities	
Way of Life	Land or site access on private agricultural properties	
Accessibility	Construction workforce accommodation and housing	
Accessibility	Local services, infrastructure and facilities utilisation in town (construction workforce)	
Health and Wellbeing	Health (physical/emotional/mental) effects of the project including perceived levels of public safety	
Community	Intergenerational equity and the effect on climate change	
Livelihoods	Employment and local procurement	
Livelihoods	Compensation for land acquisition or leasing	
Culture	Changes to the cultural values of the community and local area	
Community	Sense of community, sense of place and levels of cohesion in the local area	
Decision-making systems	Engagement or consultation processes and opportunity for community members to have a voice in the process	
Cumulative	Matters relating to other projects, or other recent development projects nearby (describe types of other impacts experienced)	
Other	Specify	

Question	Stakeholder Group
5. What are your views on the range of development in the local/regional area? Do you think this is likely to affect how people perceive the Kurri Kurri Lateral Pipeline Project?	Business Chambers Aboriginal Organisation Community Organisations
Engagement and Information Requirements	
1. Are there particular aspects of the project or process that you would like further information about?	Business Chambers Aboriginal Organisation Community Organisations
2. Is there anyone else that you think we should be talking to, to inform our assessment?	Business Chambers Aboriginal Organisation Community Organisations

Targeted questions

Question	Stakeholder Group
Local Economic Conditions – Business Chambers	
We'd like to better understand the characteristics of the local economy, existing economic conditions, key drivers or constraints, key priorities, and opportunities, needs and aspirations of the community and expected benefits from the Kurri Kurri Lateral Pipeline 1. What do you see as the key industries of employment and economic contributors in the LGAs and broader Lower Hunter Region?	Business Chambers
2. What do you think local service providers and businesses would like to see APA consider in relation to the project? (e.g., local employment, local procurement or contractors used, to promote opportunities for local involvement, the development of a community benefit program)	Business Chambers
3. How do you think local businesses would like to be involved in the project?	Business Chambers
4. What do you think the broader community may think about the project?	Business Chambers
5. And on behalf of the Business Chamber, do you think APA and the Chamber could work together/collaborate in relation to the project? (e.g., to source appropriate suppliers/ contractors etc.)	Business Chambers

Question	Stakeholder Group
Accommodation Capacity – Maitland Business Chamber and Accommodation Providers	
During the Construction Phase, The Kurri Kurri Lateral Pipeline will support up to 420 full-time equivalent workers. The construction workforce will likely be accommodated within short-term accommodation facilities that are available in the local area. 1. Please provide an overview of the types of accommodation services providers in the area that are associated with the Maitland Business Chamber?	Maitland Business Chamber
Aboriginal Organisation – Targeted Questions	
We would like to better understand the characteristics of the local community, the interests, needs and priorities within the community, and to understand the activities of key community representative bodies. 1. What are the key priorities and activities of your organisation?	Aboriginal Organisation
2. How would you describe the local community, and the local Aboriginal community specifically? What are the priorities, interests, and expectations of the local Aboriginal community?	Aboriginal Organisation
3. What do you see are the key values or features of importance to the community and what about these make them important, in your views?	Aboriginal Organisation
4. And in relation to the project area specifically, are there specific features, places, or matters of value (social, cultural, historical) to the community or any subgroups of the community, that you know of?	Aboriginal Organisation
5. On behalf of the community that you represent, what do you see as the main interests, issues or concerns in relation to these projects?	Aboriginal Organisation
6. And on behalf of your organisation, how do you think APA Group could work together in the future in relation to these projects in creating local benefit?	Aboriginal Organisation
7. Are there key Aboriginal service providers, Aboriginal community groups or environmental groups that we should consult with in relation to anything we have spoken to today?	Aboriginal Organisation
Service Provider – Targeted Questions (Health, education, accommodation, Employment, TAFE, health)	
1. Please provide an overview of the services you provide and a little on your history. What type of service do you provide? How long has the service been operating in the area?	Service Provider
2. Describe your current capacity to provide the service? Do you have a waiting list for this service? Do customers currently experience difficulty in accessing the service across the region?	Service Provider
3. Is there a specific geographic area or catchment that you primarily service? And a particular cohort of the community or demographic?	Service Provider
4. Would you say there many others in the region that provide the same services?	Service Provider

Question	Stakeholder Group
5. Approximately how many people access your service in a normal year? Would you say that was stable pre-COVID-19? Describe any annual or seasonal trends.	Service Provider
6. What impact has COVID-19 had on the ability to offer your service and the demand? Has there been impacts on the broader industry within the region?	Service Provider
7. What challenges do you experience in providing services? What would you say are the highest needs or priorities in providing an improved service?	Service Provider
8. What is your capacity to provide the service to more people? How many more people do you think you could provide the service too? Would the number of people you could service change if it was only short-term (i.e., construction timeframe)?	Service Provider
9. What are your thoughts on the various other projects in planning/development in the region and are these likely to impact service provision in the area? (e.g. M1 Pacific Motorway Extension to Raymond Terrace, Black Hill Industrial Estate, New Maitland Hospital, Kurri Kurri Hydro Industrial Complex Site)	Service Provider
TAFE & Employment Services – Targeted Questions	
1. How would you describe the training and employment landscape in the region? What are the key industries in which training is being undertaken in? Are there any emerging industries that require different skillsets that you are planning for?	TAFE Employment Services
2. What types of training services do you provide? Is there a particular industry sector that you cater for or have ongoing collaborations and partnerships with?	TAFE
3. What are the key training and skills needs for businesses and organisations in the local area?	TAFE Employment Services
4. How could APA support local employment and training opportunities for people in the region?	TAFE Employment Services
5. What do you see are the challenges for people facing access to education, training, and employment opportunities in the region?	TAFE Employment Services
Closing Remarks	
1. Is there any other information you would like to add?	All respondents

umwelt
Environmental & Social
Consultants

Umwelt (Australia) Pty Limited

T| 1300 793 267 E| info@umwelt.com.au www.umwelt.com.au