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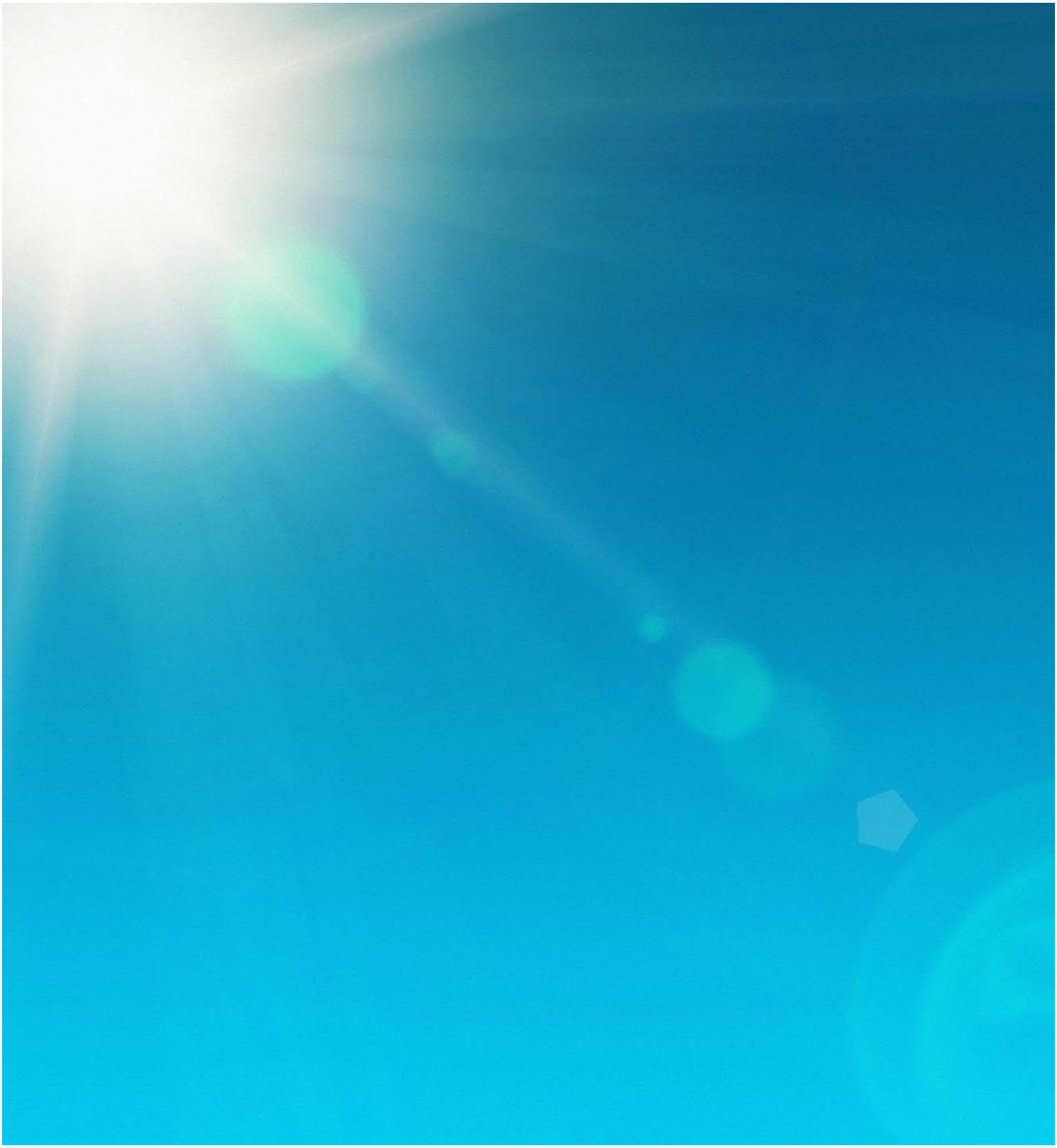
Chapter 13 – Community & Economy

Australia-Asia PowerLink Environmental Impact Statement



Chapter 13 – Community & Economy

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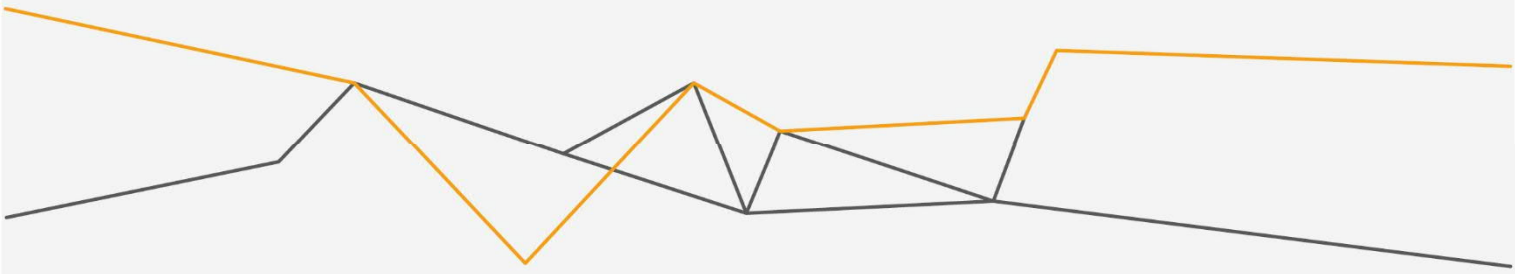
0	18/03/2022	Draft EIS submission	Joe Sheridan	Mark Branson



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13. Community and Economy

This chapter describes and assesses the potential impacts on Northern Territory communities and economy associated with the Australia-Asia PowerLink (AAPowerLink). The NT EPA's objective for this factor is:

> *Enhance communities and the economy for the welfare, amenity, and benefit of current and future generations of Territorians.*

Key documents that inform this chapter include a Social Impact Assessment (SIA), Preliminary Social Impact Management Plan (SIMP) and Stakeholder Consultation Report (EIS Appendices I, J and F respectively), an Economic Assessment (Appendix G), Local Workforce Strategy (attached to SIA in Appendix I) and Industry Capability Network (NT) Report (Appendix Y).

The purpose of the SIA is to combine community insights with expert judgement to determine how the consequences (both positive and negative) of the AAPowerLink are likely to be felt or perceived by impacted people, communities, economies, and service providers. Scoping of issues for the SIA in early 2021 drew on a literature review and analysis of other impact assessment studies in the region. Key stakeholder consultation was undertaken throughout 2021 with consultation efforts to support the SIA occurring mainly in March, October, and November.

The preliminary Social Impact Management Plan (SIMP) is provided (Appendix J) as a stand-alone document that summarises the social, cultural, and economic risks and opportunities of the proposal, then outlines ways to enhance opportunities and avoid, manage, or mitigate negative impacts. Commitments in the SIMP will be supported by a Territory Benefit Plan, ongoing community engagement plan and Regional (Aboriginal) Legacy Strategy which are being developed separately. The SIMP is categorised as 'preliminary' to support the collection of community feedback on the proposed mitigation measures in the coming months.

The SIA finds that the AAPowerLink proposal has the potential for transformational positive impacts to Territory communities and the economy but may also contribute to a range of negative impacts that will need to be managed. Realising the intended legacy will require strong communication, continued community engagement and good will that goes beyond statutory requirements.

13.1 Methodology

The methodology for the SIA and categorisation of impacts accords with best practice social impact assessment guidelines and principles. This includes the New South Wales *Social Impact Assessment Guideline for Statement Significant Projects* (2021), the NT EPA's *Guidance for Economic and Social Impact Assessment* (2013), a *Guide to Social Impact Assessment* (Munday 2020), the *International Association for Impact Assessment's Principles* (Vanclay 2003) and *Guidelines for Social Impact Assessment* (Vanclay et al. 2015), the International Finance Corporation's *Performance Standards for Environmental and Social Assessment* (2012) and internal research by True North into best practice social and cultural impact assessment (see Section 1.2).

Research began with a scoping exercise, based on a literature review, analysis of submissions to the proponent-initiated Referral to the NT EPA and the subsequent EIS Terms of Reference (TOR), issues analysis and stakeholder mapping. The scoping study identified data sources and knowledge gaps, applied a sensitivity analysis (see Sections 13.2 below) and prioritised key areas for study.

The next stage was to gather primary baseline data, through stakeholder and community consultation. Community profiles and secondary baseline data was gleaned from a literature review and desktop research. The data was then analysed to inform predictions of expected impacts and how negative impacts might be avoided or mitigated and positive impacts maximised. Finally, the preliminary SIMP outlines the key findings of the SIA in the shape of a risk and opportunities register. The SIMP provides a summary of commitments and action plans for monitoring and management.

The following diagram (Figure 13-1) outlines the steps taken:

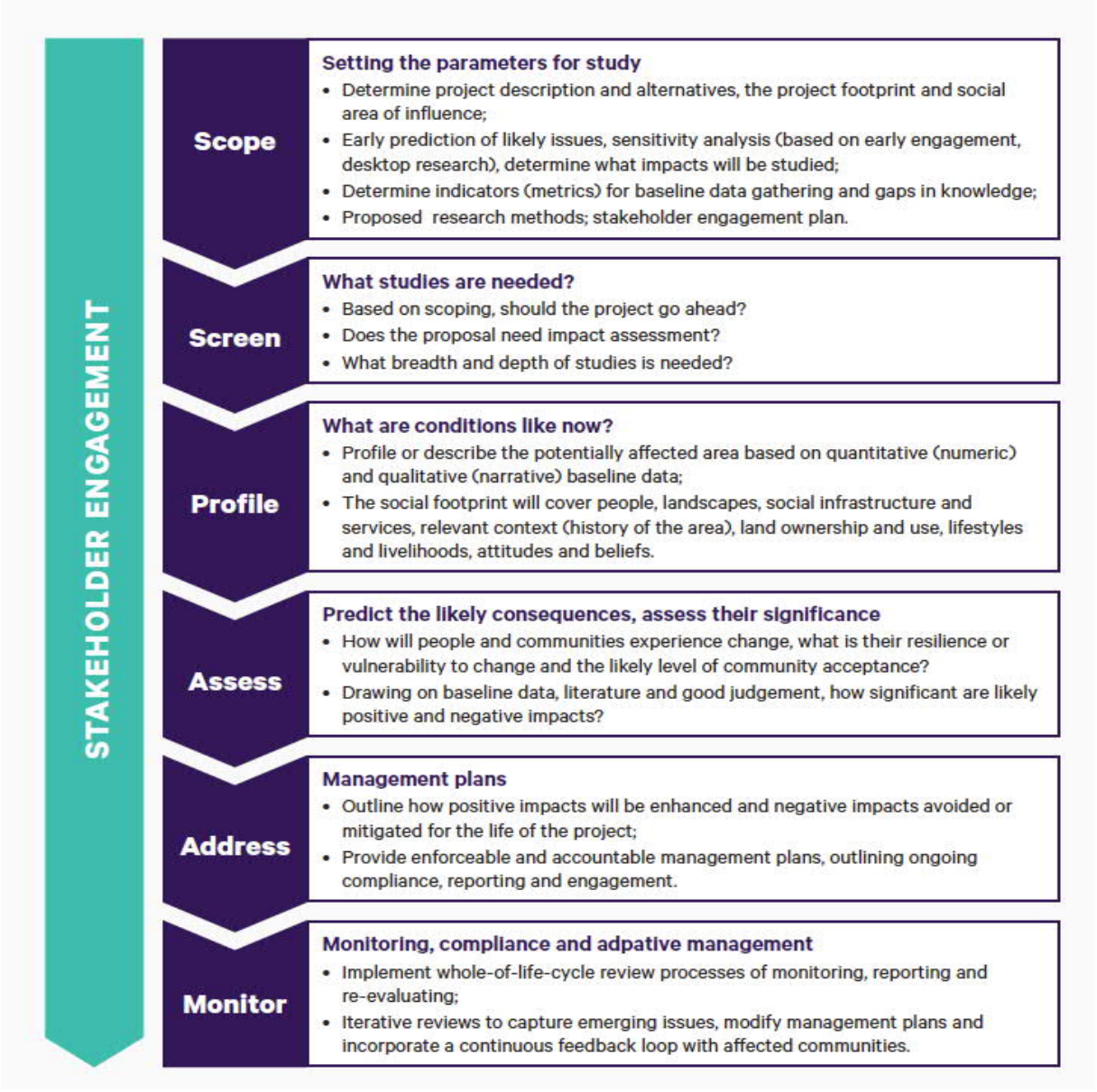


Figure 13-1. Overview of True North methodology

13.2 Scoping

The purpose of a scoping exercise is to guide research and analysis so social impact assessment is targeted and relevant to the material issues, including potential impacts, perceptions, or issues of concern to people and communities. The scoping study for the AAPowerLink aimed to identify existing knowledge, highlight gaps and uncertainties in knowledge, prioritise key areas for study and ensure integration with other EIS studies.

The scoping study listed all potential issues that might be considered in a SIA and causal pathways. It applied a preliminary significance assessment of risks and opportunities, prioritised those impacts that required further analysis and screened out those likely to be inconsequential unless raised by stakeholders. Some potential impacts were retained in the matrix due to limited data or uncertainty (e.g., amenity issues such as air quality, noise, visual amenity).

The scoping study was further refined to accommodate the Notice of Significant Variation referred to the NT EPA in August 2021, when key parts of the AAPowerLink project infrastructure were moved to Murrumujuk on Gunn Point Peninsula.

While the relocation of project infrastructure did not substantially change the issues considered, it did compound the complexities and significantly increase the number and diversity of affected people and communities.

13.2.1 Significance assessment

The preliminary risk and opportunity assessment referred to above considered the likelihood and consequences of potential positive and negative impacts, whether intended or unintended, direct, or indirect. Likelihood is an assessment of how likely it is that the impact (perceived or not) will actually happen. Consequence is the extent to which impacts are perceived or felt. Social risk and opportunity ratings may differ from those of other technical studies in that they are measuring perceptions of how change will be experienced and sensitivity to change.

Likelihood descriptors (based on NSW Department of Planning, Industry and Environment 2021):

1. **Almost certain:** definite or almost definitely expected (e.g., has happened on similar projects)
2. **Likely:** high probability
3. **Possible:** medium probability
4. **Unlikely:** low probability
5. **Rare:** improbable or remote probability.

The following criteria (Munday, 2020) were used to determine consequence from the community's perspective:

1. **Extent**: how many people will experience the impacts
2. **Duration**: how long the impacts will last
3. **Severity**: the scale of change from the current conditions
4. **Sensitivity**: based on the level of controversy, disturbance to values, people's resilience, and capacity to absorb change.

The tables below show the descriptors used for positive and negative social impact ratings (See Section 3 of the SIA for a more detailed account of methodology).

Table 13-1. Descriptors for negative social impact ratings

Negative Rating (-)	Descriptor
Catastrophic	Intolerable social, cultural, and economic impacts that are unlikely to be amenable to management
High	Intolerable impacts that might be accepted if managed to as low as reasonably practicable, taking account of community perceptions, values, and resilience
Medium	Tolerable (depending on the level of community acceptance) if managed effectively, but requires close monitoring
Low	Tolerable, barely perceived negative impacts but adaptive management approaches should be implemented to ensure the threat level doesn't increase.

Table 13-2. Descriptors for positive social impact ratings

Positive Rating (+)	Descriptor
Transformational	Transformational and socially, culturally, and economically sustainable opportunities that build enduring capacity that lasts for generations
Beneficial	Beneficial impacts that may be of a smaller scale or incremental, but which deliver sustainable social, cultural, and economic outcomes
Noticeable	Benefits are noticeable but may be quickly absorbed
Barely susceptible	Little change in the way of life, livelihoods, and lifestyles of the region

The preliminary risk and opportunities matrix was refined at the conclusion of the SIA to take account of treatments that would avoid or mitigate negative impacts or enhance positive impacts of the AAPowerLink (see the SIMP at Appendix J). The residual ratings are summarised in Table 13-3 and outlined in more detail in Section 13.5.

Table 13-3. Residual positive and negative ratings for AAPowerLink

Potential impacts identified				
Positive (+)			**Negative (-)**	
Transformational	4		Catastrophic	nil
Beneficial	5		High	3
Noticeable	9		Medium	15
Imperceptible	2		Low	23
Total positive	**20**		**Total negative**	**41**

13.2.2 Categorisation of impacts

Once the preliminary significance assessment had screened out those impacts regarded as inconsequential, the remaining potential positive and negative were categorised using the dimensions of social impacts adapted for a northern Australia context (Munday 2020). These categories are adapted from the International Association for Impact Assessment (IAIA) Principles (Vanclay 2003) and Guidelines (Vanclay et al. 2015) and are illustrated in Figure 13-2.

Figure 13-2. Key dimensions of social impacts (Munday 2020)

Table 13-4. Descriptions of dimensions (Munday 2020)

What is covered by the key dimensions	
People and communities	Health, wellbeing, safety, community cohesion, our sense of connectedness, ability to feel safe, shared values and capacity to absorb newcomers into the community.
Social infrastructure and services	The quality, accessibility and affordability of social infrastructure and services, such as housing, health, education, transport, emergency services, utilities.
Economies and jobs	Jobs, economic opportunities, and community development, including the employment and training of Aboriginal people, local procurement and equitable distribution of economic benefits and harms.
Cultural identity	Covers connections to country, cultural authority and respect for Aboriginal worldviews and cultural values. Cultural identity can be affected by reduced access to land and traditional livelihoods, damage to sacred or important cultural sites, threats to traditional leadership or dilution of shared values. This dimension also covers the shared culture and values of communities.
Healthy country	Healthy land and seas cover values associated with the use and enjoyment of the natural environment. This is sometimes described as socioecological systems or 'ecosystem services', which are the commercial, cultural, recreational and aesthetic benefits, goods and services we derive from the use of our land, clean air and water.
Living environment	Our living environment incorporates what is often described as a 'surroundings' and includes the community's experience or perceptions of factors that cause annoyance or disturbance to the amenity of places where people and families live, work and play. This includes disturbance from industrial noise, dust, lights, heat, vibrations, traffic congestion, destruction of landscapes or pollution that detracts from the quality of our environs. Technical studies might assess the likelihood and consequences of impacts on receptors. A social perspective explores who these 'receptors' might be, their values and their sensitivity to disturbance.
Strong voice	A strong voice means having influence over decisions and contributing to our own governance. Communities may feel ineffectual if their voice is not heard.

13.3 Relevant policies and guidelines

The primary standards guiding consultation and the social impact assessment for the AAPowerLink are:

- *Environment Protection Act 2019* (NT) and Regulations. The purpose of impact assessment is to allow the NT EPA to analyse the significant potential environmental impacts of a development proposal and make recommendations to the Minister about the acceptability, or otherwise, of these potential impacts.
- *Stakeholder Engagement and Consultation: Environmental impact assessment guidance for proponents (*NT EPA 2021). The guideline adopts as best practice IAP2 principles for stakeholder engagement. It outlines expected formal feedback processes for projects on public exhibition and encourages proactive approaches to early engagement during preparation of environmental impact statements, starting at the scoping phase. The guideline defines engagement as including 'communication, dialogue, listening and responding'.
- *Environmental Protection and Biodiversity Conservation Act 1999* (Cwth) provides for Australian Government assessment of projects likely to have an impact on Matters of National Significance such as threatened species and heritage matters.
- International Association for Impact Assessment (IAIA), *Social Impact Assessment Principles* (Vanclay, 2003), which is regarded as leading practice for social impact assessment.

- IAIA's Social Impact Assessment: Guidance for assessing and managing the social impacts of projects (Vanclay et al., 2015).
- New South Wales *Guidelines for Social Impact Assessment of State Significant Projects* (revised 2021), which is regarded as leading practice in Australia and included in recent NT EPA Terms of Reference.
- International Association for Public Participation (IAP2) *Core Values* (n.d.), *Spectrum of Participation* (n.d.) and *Quality Assurance Standard* (2015) which are regarded as leading practice for public participation (see www.iap2.org.au).
- *Guiding Principles on Business and Human Rights*, United Nations Human Rights, Office of the High Commissioner, 2011.
- United Nations Declaration on the Rights of Indigenous Peoples (2007).
- Guidelines for the Preparation of an Economic and Social Impact Assessment, Northern Territory Environment Protection Authority, November 2013.
- AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines.
- International Finance Corporation's Performance Standards and Guidance Notes (2003; 2012).

13.4 Community and stakeholder engagement

The Northern Territory *Environment Protection Act (2019)* requires proponents to engage with stakeholders who may be affected by their proposal and to support these communities and the public to understand the potential impacts and benefits of a proposed action. The NT EPA's *Stakeholder Engagement and Consultation Guidance for Proponents (2021)* recognises that stakeholder consultation is an important component of social, cultural and health impact assessments, over and above formal opportunities for feedback on documents placed on public exhibition.

Consultation with key stakeholders and the public was guided by stakeholder mapping and a consultation strategy. A range of materials were used throughout the consultation process that assisted with explaining the proposal to Aboriginal and non-Aboriginal audiences. This included materials such as maps, a fact sheet, tailored PowerPoint presentations, banners, and posters.

Stakeholder engagement objectives were to:

- provide all community and other stakeholders with timely, accurate and relevant information
- tailor consultation methods and communication materials to the needs of diverse stakeholders
- inform scoping and project planning, through the life of the AAPowerLink
- provide Sun Cable and regulators with confidence that people and communities' attitudes, beliefs, values, and concerns are well-understood
- inform balanced decision-making by giving equal weight to community knowledge and technical studies
- provide feedback to stakeholders on how their input influenced regulatory and AAPowerLink decisions.

The Northern Land Council (NLC) has a statutory role to represent the interests of Traditional Owners and Native Title Holders, including the provision of free, prior, and informed consent. The NLC coordinated several meetings with Native Title Holders and Traditional Owners, much of which is continuing in 2022 to progress negotiations for Indigenous Land Use Agreements in the proposed footprint. Additional consultation with Aboriginal people included cultural managers working with ecological and cultural heritage survey teams, engagement with the Aboriginal Areas Protection Authority (AAPA) and custodians, site visits and meetings with individuals, families, and Aboriginal organisations throughout the Territory.

Details of this program and key issues raised are provided in the Consultation Report (Appendix F) and summarised in Chapter 1 Introduction of that document. Key categories of stakeholders engaged for the Environmental Impact Statement (EIS) and SIA are shown in Figure 13-3.

Figure 13-3. Categories of stakeholders consulted. Source: True North (2022)

Issues raised during consultation extended from direct feedback about Sun Cable's proposed activities to complaints about existing systemic issues affecting people's daily lives. These systemic issues are important to consider as they are likely to influence people's willingness and capacity to engage with the proposal, their sensitivity to impacts and their ability to access opportunities from the proposal. Key issues raised were:

- equitable distribution of social and economic benefits
- energy solutions for Northern Territory communities and businesses
- addressing high unemployment and poverty in the Barkly
- skills shortages, Aboriginal employment and challenges to successful employment and retention of often disengaged youth
- housing shortages as a constraint to population and economic growth
- the opportunities and challenges of local industry participation
- concerns at extent of land clearing, particularly for the Solar Precinct.

13.5 Socio-economic profile

The Australia-Asia PowerLink (AAPowerLink) has the potential to be socially and economically transformational for the Northern Territory by enabling a 'green' manufacturing sector, providing hundreds of jobs across its 70-year lifespan, and building workforce skills and business capacity.

However, the AAPowerLink is also a large linear infrastructure project that will develop more than 12,000 hectares (the size of Darwin municipality) of a remote, sparsely populated landscape at the Powell Creek Solar Precinct, and approximately 124ha on land identified for future development at Murrumujuk.

The sensitivity of these regions to disturbance of diverse social, cultural, economic, and cultural values is likely to be varied, based on complex and varied histories, social pressures, aspirations, and ability to absorb change. Some of the positive and negative effects of change may be obvious, immediate, and readily managed. Others may be felt or perceived more as ripple effects, or indirect consequences of change with complex causal factors and diffuse solutions.

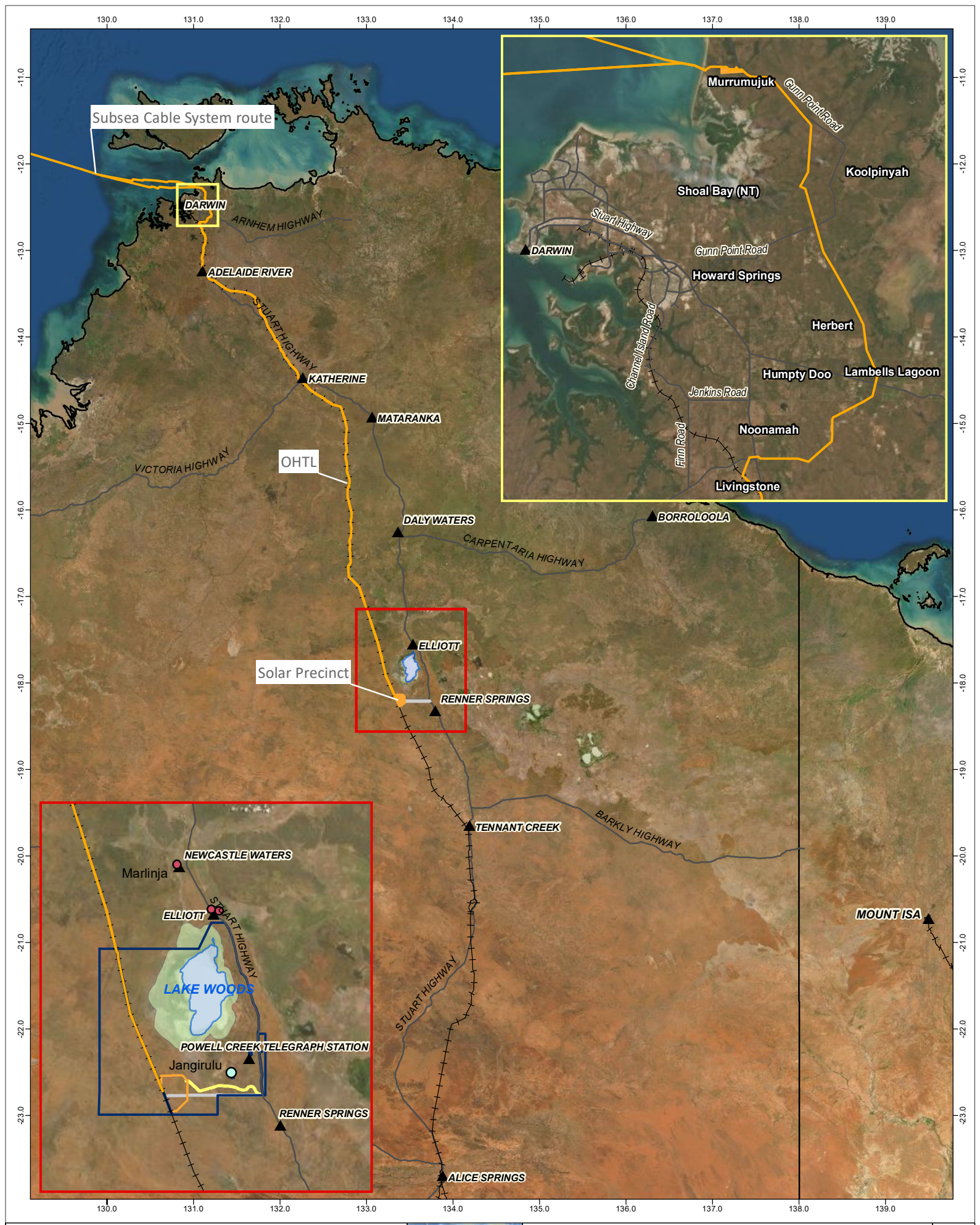
Section 13.5.2 below summarises key places and demographics in the AAPowerLink's immediate footprint and expanded social area of influence. A more detailed profile can be found in the SIA (Appendix I).

13.5.1 Social area of influence

The social area of influence covers key components of the AAPowerLink (described in Chapter 2 Proposal Description). People with connections to these places, service providers and economies are likely to be impacted by AAPowerLink activities. This includes the potential supply chain, transport and logistics and workforces. Communities in the social area of influence are shown in Figure 13-4.

Key components of the AAPowerLink footprint include:

- the Powell Creek Solar Precinct and nearby homelands, cattle stations, and towns
- the Overhead Transmission Line route, including pastoral and agricultural properties, homelands, towns, conservation areas and rural residential areas
- the Darwin Converter Site and Cable Transition Facilities at Murrumujuk on Gunn Point Peninsula, including the nearby beach and nearshore area
- the Subsea Cable System component of the proposal within Australian waters to the limit of the Commonwealth marine area including recreational and commercial fishing, Aboriginal-owned land and seas and conservation areas.



Legend

- Places
- AAPowerLink Infrastructure
- Bitumen access road
- Gravel acess road
- Railway
- Roads
- Powell Creek Station boundary
- Outstations
- Aboriginal Communities
- Lake Woods SOCS
- Lake Woods

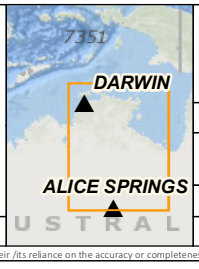


Figure 13-4: Map of key communities in the proposal footprint

Project: Australia-Asia PowerLink

0 50 100 150 Kilometers

Scale: 1:6,000,000

Coordinate System: GDA2020

A4

Reference: M-Files ID 208661

Date: 10/03/2022

Revision: 1

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Source: Sun Cable, EcOz, NTG (NR Maps)

13.5.2 Key places and demographics

The AAPowerLink is proposed in a remote, sparsely populated part of the Northern Territory. It is likely to draw heavily on distant regional and external workforces, particularly during construction. As will be discussed, this has implications for many facets of project planning, including recruitment, transport and logistics and accommodation. The following section summarises a description of affected communities (see also Section 5 of the SIA).

13.5.2.1 The Barkly

The Powell Creek Solar Precinct is proposed in the Barkly region, the second largest local government area in Australia. Barkly Regional Council covers 325,514 square kilometres, the equivalent of the United Kingdom or New Zealand and 42 per cent larger than Victoria. The region includes many small communities and is home to an estimated 7392 people, of whom 72 per cent are Aboriginal from 16 language groups (Barkly Regional Deal 2019).

Table 13-5: Key regional centres and distances from the Powell Creek Solar Precinct

Distance by road to key regional centres	Approximate distance from Powell Creek
Kulumindini (Elliott) - closest town to Powell Creek	68 km
Mount Isa (just across the Queensland border) – a potential source of workers	810 km
Katherine – likely sources of services and possibly workers	488 km
Alice Springs – likely source of workers, services, and supplies	706 km
Darwin – NT's main population and business centre	802 km
Borroloola (relevant because of connections with Garawa people living in the Barkly)	595 km

The Barkly is characterised by a young population, about 40 per cent of whom are aged 24 years and under. About 7 per cent are aged 65 or older (Northern Territory Government 2021). The region has experienced a 4.9 per cent decline in population over the past 10 years. There is high unemployment (24.9 per cent) and a lower proportion of working age residents with a Certificate III or higher (29.3 per cent), compared with the Northern Territory (47.5 per cent) and Australia (56.9 per cent). Youth unemployment in the Barkly is at 40.1 per cent (Barkly Regional Deal, 2019 based on ABS Regional Population Growth data updated in March 2019).

Three key Barkly areas covered by the SIA are Tennant Creek, the town of Elliott and the Powell Creek Solar Precinct:

Tennant Creek

Tennant Creek is the fifth largest town in the Northern Territory, the closest regional town to the Solar Precinct and the main service centre in the Barkly region, which extends along the Barkly Highway to the Queensland border. The estimated residential population of Tennant Creek (SA2) in 2020 was 3302 (ABS 2021). In 2019, 69.3 per cent of Tennant Creek's residents were aged between 15 and 64. In 2016, Aboriginal people made up more than half of Tennant Creek's population (51.5 per cent). The town experienced a decline in net internal migration from 2017 to 2020, however the annual decline dropped from -47 to -5 from 2019 to 2020.

The Warumungu people have lived in the region surrounding Tennant Creek for thousands of years. Other Aboriginal groups moved into the area as they were displaced from pastoral properties onto Aboriginal reserves and fringe camps.

The Patta Wurumungu people hold Native Title for Tennant Creek and in 2008 signed an Indigenous Land Use Agreement (ILUA) that recognises the Patta Warumungu as Native Title Holders for about 27 square kilometres of land. Native Title was surrendered in parts of the town to allow for future residential and commercial development (Planning Commission 2017).

Elliott (Kulumindini)

Kulumindini, or Elliott, is in the Kuwarrangu ward of the Barkly Regional Council. It is the second largest urban area in the Barkly and a key administrative centre. Dubbed 'the middle of everywhere' (Forrest & Forrest 2011), the town lies on the Stuart Highway halfway between Darwin and Alice Springs and halfway between the Western Australian and Queensland borders, on the edge of Newcastle Waters Station. Elliott is the closest town to the Solar Precinct.

At the 2016 Census, Elliott had a population of 339, many of whom are former stockmen and their families living in town camps at either end of the town: Gurungu (North Camp) and Wilyuku (South Camp). Interviews for the SIA described a decline in the town's population and economic fortunes:

"Thirty years ago, in 1990, there was a population of 600. There were four main street businesses, groceries, 33 cabins/motel rooms, two builders, a painter, a motor mechanic and four rural contractors based here. A pub that opened 24 hours a day, seven days a week. Now there is no accommodation and a pub that's never open." (Bob Bagnall, Chair, Local Authority).

Powell Creek

The proposed Solar Precinct site is on Powell Creek Station, about 70 kilometres south-west of Elliott and 30 kilometres west of the Stuart Highway. Powell Creek Station is owned by Consolidated Pastoral Company and managed in conjunction with Newcastle Waters Station. Just off the Stuart Highway is the heritage-listed Powell Creek Telegraph Station, built between 1875 and 1884.

The Solar Precinct is on Warlmanpa Country (Earthsea 2021). Lake Woods and the Longreach Conservation Area are to the north-east of the proposed Solar Precinct. Powell Creek and Lake Woods are popular with local Warlmanpa, Mudburra and Jingili people for hunting, fishing, camping and activities that retain language and biocultural knowledge (Raymond et al. 2015).

Native Title rights on Powell Creek Station were determined by the Federal Court in 2020 for six estate groups: the Bamayu (Wurwanawanji-Yarrayarra) estate group; the Bamayu (Titirlku) estate group; the Marlinja estate group; the Ngapa Jangirulu estate group; the Walanypirri estate group; and the Wilyuku estate group (Northern Land Council 2020).

13.5.2.2 Greater Darwin, Katherine, and Alice Springs

Greater Darwin comprises the three municipalities of Darwin, Palmerston, and Litchfield. The Greater Darwin Area is home to 60 per cent of the Northern Territory's population, with 147,255 residents, about 11 per cent of whom identify as Aboriginal and Torres Strait Islander (ABS 2016 and 2019).

Between 2007 and 2017, the Greater Darwin population increased year on year, peaking at 4.27 per cent in 2013 as a result of the INPEX Ichthys LNG plant construction. However, Darwin was the only capital city to record a population decrease in the 2019-20 financial year, dropping by 180 people or 0.1 per cent (ABS 2021).

Greater Darwin has a young population, with a median age of 33 compared with 38 nationally. Close to half of Greater Darwin's population (43 per cent) is aged between 25 and 49 compared with about a third nationally (34.7 per cent). Similarly, the region has a lower proportion of older people compared with the rest of Australia. Residents aged over 50 account for 24.5 per cent of the population, compared with 34.1 per cent nationally.

Greater Darwin residents overall have a lower level of educational attainment than the rest of Australia, with slightly fewer people having completed a Bachelor degree or above and fewer completing Year 12. However, 19.3 per cent of people in Greater Darwin have obtained a Certificate III or IV compared with 15.7 per cent nationally.

The highest industry of employment is public administration and safety (12.5 per cent) followed by construction (10.3 per cent) and accommodation and food services (9.3 per cent) (ABS 2017).

Palmerston

Palmerston is the third largest and newest city in the Northern Territory, with residential development dating back to 1982. During the 1980s and 1990s, the municipality experienced significant growth, with the population more than doubling between 1991 and 2001. Much of this growth was due to Defence personnel moving into the area (.id community, 2020). While growth rates have steadied, Palmerston recorded the strongest growth in the Territory in 2019-20 (up 1.9 per cent) (Department of Treasury and Finance, 2020). It had a population of 33,786 at the 2016 Census.

Residential development in Palmerston includes the new suburbs of Zuccoli, The Heights Durack and Mitchell Green. Population projections suggest Palmerston will grow at an annual rate of 2.4 per cent from 2016-36 (Department of Treasury and Finance, 2019).

Many Palmerston residents enjoy a high income ($2197 median weekly household income). However, the area has a higher rate of socioeconomic disadvantage than Darwin and Litchfield as ranked by the Australian Bureau of Statistics' Socio-Economic Indexes for Areas (ABS 2016). A higher proportion of families live in Palmerston than in Darwin and Litchfield, but the area also has the highest proportion of single parent families (ABS 2016).

The main employment sector is State Government and Administration (6.5 per cent) which reflects the rest of Greater Darwin. A lower level of tertiary educational attainment is recorded in Palmerston which correlates with a higher proportion of technicians and trade workers than in Darwin (18.5 per cent compared with 14.9 per cent).

Aboriginal people comprise 11 per cent of Palmerston's population, with an unemployment rate of 12.4 per cent. However, participation rates (the proportion of a working-age people working or actively looking for work) for Aboriginal people in Palmerston and Litchfield are relatively low. This is likely to reflect disengaged youth and people on welfare benefits ('non-participation' covers retired persons, students, those taking care of children or other family members, and others who are neither working nor seeking work).

Palmerston has a relatively high rate of home ownership, compared with Darwin, with lower property prices, more young families, and a median age of 30: considerably lower than the median age of 34 in Darwin and 37 in Litchfield (ABS 2016). Households in Palmerston tend to be larger, with an average of 2.9 people per household, compared with 2.7 in Greater Darwin. This may reflect a higher proportion of families. The median monthly mortgage is slightly higher than the Greater Darwin median, sitting at $2253 compared with $2200.

Litchfield

Litchfield Council provides services to the rural suburbs beyond Darwin and Palmerston, covering 3000 square kilometres from Gunn Point in the north to Darwin River about 60 kilometres south of Darwin. The Litchfield local government area accounts for 91.8 per cent of Greater Darwin's land, but only a small portion is residential. It takes in Middle Arm Peninsula, Southport, Weddell, Holtze, Howard Springs, McMinns Lagoon, Coolalinga, Girraween, Herbert, Lambells Lagoon, Freds Pass, Virginia, Bees Creek, Humpty Doo, and Noonamah. The Litchfield Subregional Land Use Plan (2020), suggests that growth is most likely in the urban and peri-urban areas of Holtze, Weddell, Hughes, Murrumujuk, and the Noonamah area.

The Subregional Land Use Plan, updated in 2020, notes that Litchfield has relatively few residents but is heavily visited for recreational purposes by Darwin and rural residents.

The fast-growing municipality had an estimated population of 25,566 in 2020 (ABS 2020), with the 2016 Census suggesting that 9.7 per cent were Aboriginal and Torres Strait Islanders (ABS 2016). The region's Aboriginal unemployment rate is about half that of the rest of Greater Darwin, sitting at 6.6 per cent. People in Litchfield are typically older (median age of 37), with 6.2 per cent citing Defence as their employer.

The municipality includes a range of rural residential, horticultural, and agricultural activities. Rural residential blocks are generally clustered around the four activity centres of Howard Springs, Humpty Doo, Berry Springs and Coolalinga (Planning Commission 2015). Litchfield residents value their rural lifestyle, many living on two-acre blocks. Several residential developments, such as Noonamah Ridge, have been opposed as a threat to this lifestyle.

The municipality contains many scenic and conservation attractions, from Gunn Point beaches, popular with recreational fishers and campers, to the Berry Springs Nature Park, a significant tourism draw card.

The former INPEX workers' village at Howard Springs accommodated FIFO workers during construction of the Ichthys project's LNG plant at Bladin Point, on Middle Arm Peninsula. More recently, the Howard Springs accommodation facility has been used as the Centre for National Resilience, or quarantine facility, for the COVID-19 pandemic.

Katherine

Katherine is the fourth largest town in the Northern Territory and has approximately 11,000 residents. It functions as a service centre to communities from the Western Australia border to the Gulf of Carpentaria. The town is 320 kilometres south-east of Darwin at the junction of the Stuart and Victoria Highways and is regional headquarters for government departments servicing the Katherine/Big Rivers region.

Katherine Town Council takes in Manbulloo, Florina, the Binjari and Rockhole communities. The town also hosts the headquarters of the Victoria Daly Regional Council (which extends from Katherine to the West Australian border, including Pine Creek, Timber Creek, Kalkarindji/Dagaragu, Daly River and Yarralin) and the Roper Gulf Regional Council (which extends from north of Elliott to the Queensland border).

The main drivers of economic activity and jobs are Defence, minerals production and exploration (Deloitte 2017). Major projects include the expansion of Tindal Air Base, which has contributed to substantial population growth and economic activity since it opened in 1988, upgrades to the Bradshaw Field Training Area, a proposed cotton gin 20 kilometres north of the town, Seafarms' Sea Dragon prawn aquaculture project at Legune Station, the proposed Mount Todd Gold Mine, a flood mitigation program in Katherine East and a proposed $35 million logistics hub. Katherine businesses expect to win work with onshore gas exploration and in the Beetaloo gas province.

Alice Springs

Alice Springs is the second largest town in the Northern Territory and likely to be a source of workers and supplies for AAPowerLink. In 2020, Alice Springs had an estimated residential population of 39,391, more than a third of whom were Aboriginal (36.2 per cent).

Alice Springs is the major economic, business and service hub for Central Australia, servicing a regional population of 41,000 and cross-border regions in South Australia, Western Australia, and Queensland. The key industries of mining, tourism and primary industries are underpinned by government funding for regional service delivery and defence (NT Department of the Chief Minister and Cabinet 2021).

13.5.3 Baseline data and context

The Social Impact Assessment determines baseline data for the social area of influence, with a particular emphasis on priority issues likely to be sensitive to change processes invoked by AAPowerLink activities, such as pressure on the affordability and availability of housing, demographic composition, key economic sectors, and workforce participation. The following provides pertinent high-level baseline data.

It focusses primarily on the Barkly, given this is where key AAPowerLink activities will occur, the greater scale of change and sensitivity to disturbance. Qualitative baseline data is contained in the Consultation Report at Appendix F.

Population trends

The Northern Territory's population is expected to grow from 245,678 in 2016 to 351,607 in 2046. The Aboriginal population is projected to grow from 74,546 to 104,387, a steady increase of 1.1 per cent, in the same period. The highest growth rate (4.3 per cent) is projected for Aboriginal people aged 65 and over. A decline in younger Aboriginal population segments reflects an overall out-migration to other Australian States.

The highest expected growth is in Palmerston, which is projected to grow at 2.4 per cent annually between 2016 and 2035. The Barkly is the only region where the population is projected to decline from 6153 in 2016 to 5884 in 2036 (a 0.2 per cent decline in the Aboriginal population and 0.3 per cent decline for the non-Aboriginal population). These projections do not incorporate the effects of future development, such as land releases or major projects (Department of Treasury and Finance 2021).

Levels of disadvantage

A community's wellbeing is a key contextual factor that determines how change processes will enhance or disturb its social fabric.

The Barkly region, which includes Tennant Creek and Elliott, has a population of about 7000 and exhibits high levels of disadvantage and poor levels of wellbeing on most determinants of health. Many disengaged young people live in Community Living Areas (town camps) identified as low socioeconomic areas (BRADAAG 2020).

The following information is based on data from a study by the Menzies Institute of Health Research (De Vencentiis et al., 2019):

- 51.3 per cent of Tennant Creek residents are Aboriginal, compared with 15 per cent in 1981 (Brady 1984), although the population size is roughly the same
- 32.7 per cent of Barkly families are single parent families
- 41.6 per cent of Barkly residents are aged 0-24 and 75.6 per cent of these people are Aboriginal.

Based on data from the 2016 Census, the Barkly's score of 679 on the Socio-Economic Index for Areas (SEIFA) is the lowest of any Territory municipality and compares with 1039 for Greater Darwin (see Section 6.2.3 of the SIA for detail).

Alcohol-related crime

The Northern Territory has the highest per capita consumption of alcohol in Australia and the highest number of alcohol outlets (NT Police 2020b). Alcohol consumption in Tennant Creek is twice the Territory average, which is "associated with an extraordinarily high level of alcohol-related harm" (NT Liquor Commission 2021).

Alcohol abuse and alcohol-related crime is a key issue undermining community wellbeing in the Barkly region. This and other social determinants of health are likely to erode community vitality, or ability to take advantage of employment and other opportunities.

Tennant Creek has high rates of disengaged youth and youth crime, alcohol-related assaults and domestic violence which is outlined in detail at section 6.2.4 of the SIA.

Measures to address the high levels of alcohol abuse include Police Auxiliary Liquor Inspectors (PALIs) stationed outside takeaway bottle shops, controls over the sale of takeaway alcohol in Tennant Creek, Elliott, and roadhouses by the NT Liquor Commission. The Tennant Creek Alcohol Harm Minimisation Plan 2019-2024, coordinated by a local Alcohol Reference Group (2020), targets both supply and demand reduction.

An alcohol management plan for Elliott led to the introduction of permits in late 2021, that allowed people to drink a six-pack of beer at home. The 28 initiatives of the Barkly Regional Deal include $3 million towards crisis youth support.

Education

The schools in Tennant Creek and towns closest to Powell Creek are small, government-operated schools. Secondary school students living in remote Indigenous communities in the NT have a number of schooling options once they reach Year 8. This can include staying in their community to continue their schooling, moving to a regional high school with access to residential facilities or moving to a boarding facility in Darwin, Alice Springs, or interstate. Aboriginal Hotels Limited operates a Tennant Creek residential facility so secondary school students from remote communities can attend Tennant Creek High School (see Section 7.2.1).

The discrepancy in educational outcomes between Aboriginal and non-Aboriginal students in the Barkly region underscores the high level of socioeconomic disadvantage. School attendance for non-Aboriginal students for Term One of 2021 sat at 84 per cent, with 80 per cent attendance in the early and senior years and more than 87 per cent in the primary and middle years. In comparison, school attendance for Aboriginal students in the Barkly region was 47.3 per cent on average, with attendance in the senior years declining to 34.9 per cent (NT Department of Education 2021).

Elliott school reflects more positive outcomes, with 74 children enrolled in 2021. Average attendance is about 67 per cent, with a peak of 80 per cent in late 2021.The school goes to Year 9, after which children go to boarding school. Elliott and Marlinja Schools were described as well-functioning, with strong involvement in school activities by community leaders.

Housing and short-term accommodation

The Real Estate Institute of the NT (REINT 2021) reports a tight property market across the Territory with strong demand and high sales volumes. A limited supply of rental properties is driven by strong demand and rising rents. The vacancy rate for dwellings in Greater Darwin in the quarter to September 2021 was very low, at 1.9 per cent, while Darwin's rural area had a 0 percent vacancy in units. The median rent in Greater Darwin for a three-bedroom house in the quarter to September 2021 increased by 6.4 percent to $589 per week and the median rent for a 2-bedroom unit increased by 3.7 percent to $423 per week (REINT 2021).

In the quarter to September 2021, the volume of properties sold in Greater Darwin increased by 37 per cent, with 331 properties sold in the quarter. Palmerston had an 86 per cent increase in unit sales for the quarter and a 4 per cent increase in the median price (Northern Territory Department of Treasury and Finance 2021).

Scarce affordable housing contributes to long waiting lists for public housing. In 2020, there were 4960 public housing dwellings in urban and regional centres and 3844 applicants on the waitlist for urban public housing. In June 2021, Darwin and Palmerston public housing waiting times varied from two to eight years depending on the location and type of housing required.

High rates of overcrowding in Tennant Creek are more than three times the national rate (Barkly Regional Deal 2020). Causal factors include a shortfall in crisis accommodation, ageing and limited public housing stock, reduced housing affordability, and increased public housing waiting lists (Nash & Memmott 2016). The general wait time for public housing in Tennant Creek is from six to eight years, or from two to six years for priority housing. On 30 June 2021, there were 230 people on the public housing wait list in Tennant Creek but only two vacant public houses available (Northern Territory Government 2021).

There is limited rental and short-term accommodation in Tennant Creek and Katherine and no commercial accommodation in Elliott. The closest motel accommodation to Elliott is at Renner Springs, 90 kilometres away.

Road transport

Mobilisation of the AAPowerLink will increase traffic from East Arm Port to Murrumujuk, along Gunn Point Road, and to Elliott, along the Stuart Highway. Road freight will include many slow-moving, oversized loads (summarised in Chapter 2 Proposal Description and detailed in the Traffic Impact Statement at Appendix K), including:

- Approximately six 300-tonne transformers, each about the size of a house, to be transported along the Stuart Highway to the Solar Precinct
- Approximately 150 oversize movements along Gunn Point Road to the Darwin Converter Site at Murrumujuk
- Approximately 400 oversize movements along the Stuart Highway to the Solar Precinct on double and triple road trains.

To reduce the number of private vehicles on the road and the risk of driver fatigue if workers commute to and from sites after shifts, workers will be flown to the Solar Precinct and transferred by bus. There will be 'park and ride' facilities in Darwin to transport workers to the Darwin Converter Site and potentially in the Barkly region, depending on personnel locations to limit light vehicle traffic directly associated with the project.

The Powell Creek Solar Precinct will likely require construction of a new intersection on the Stuart Highway to facilitate vehicle turning movements to the site during establishment and construction of the precinct. The intersection is in a 130 km/hr speed zone and will require turning lanes, deceleration and acceleration lanes and flag lighting (Byrne Consulting 2022).

Northern Territory economy

The Northern Territory Government is aiming for a $40 billion economy by 2030 to accelerate jobs and population growth (Territory Economic Reconstruction Commission 2020). The 2021 budget papers forecast a $1.4 billion deficit for the upcoming financial year, with the Territory's net debt expected to reach $9 billion in 2021-22. The deficit is expected to expand to $11.4 billion by the end of the forward estimates period in 2024-25, hence the Government's ambition to grow private sector investment and return the economy to a more sustainable footing.

The structure of the Territory's small open economy reflects its wealth of natural resources, strategic defence capabilities, tourism, and relatively large government and community services sector. In 2019-20, the Gross Territory Product (GTP) was $26.2 billion, an increase of 5.3 per cent from 2018-19. Budget papers note that, after a strong rebound in the domestic economy in 2020-21, economic growth is forecast to average 2.4 per cent a year to 2024-25, compared with average growth of 1.9 per cent in the five years to 2019-20. GSP is estimated to increase by 4.7 per cent in 2021-22 and State Final Demand by 4.2 per cent (this is based on projects that have reached Financial Investment Decision and does not factor in the AAPowerLink Project). Growth in 2019-2020 was supported by many NT and Australian Government COVID-19 stimulus measures, limited trading restrictions and low interest rates (Department of Treasury and Finance 2021).

Economic growth in 2021-22 and 2022-23 is forecast to moderate after two years of strong growth and as government stimulus measures are removed. Economic growth is expected to be driven by stronger private and public sector investment, such as the Barossa offshore gas project, new Charles Darwin University campus in the Darwin CBD, Darwin Ship Lift Project, Defence-related works, and significant investments in transport infrastructure (Department of Treasury and Finance 2021).

Key economic sectors across the Barkly region are pastoral, tourism, Aboriginal arts and culture and mining, while economic activity and jobs are driven by government services, pastoral, and mining-related activities (Deloitte 2017).

The Barkly and Tennant Creek pastoral district accounts for a substantial proportion of the Territory's total cattle industry exploration (Northern Territory Government 2021). A regional economic development strategy in 2014 reported the Barkly had more than 200,000 square kilometres of pastoral land covered by 25 leases, most of which were held by large pastoral companies. It accounts for about 30 per cent of the Territory's cattle production. During interviews, a Barkly pastoralist described the sector as doing reasonably well, with high prices driven by a national shortage of cattle and reduced feed due to dry conditions. However, good rain was expected (and has since fallen).

Employment

The Northern Territory labour force as of September 2021 comprised 129,977 employed persons. Seasonally adjusted residential employment in the NT decreased by 0.4 per cent. Full-time employment increased by 2.2 per cent while part-time employment decreased by 8 per cent. The Territory's seasonally adjusted unemployment rate increased from 3.4 per cent in August to 4.2 per cent in September 2021. The participation rate was 70.9 per cent compared with 64.5 per cent for Australia (Department of Treasury and Finance 2021).

Young people in the Northern Territory account for a lower share of the labour force than a decade ago (13.4 % in 2020-21 compared with 17.7% in 2010-11). This reflects both the gradual ageing of the population and a decline in the participation rate of younger workers. The decrease in labour force participation and increased prevalence of part-time work for younger Territorians is partly related to the downward trend in the number of 15- to 24-year-olds who are employed and attending full-time education, with year-on-year declines (Australian Government 2021). An Australian Government Local Jobs Program for Darwin and Alice Springs (Australian Government 2021) comments that young Aboriginal people face additional obstacles in successfully transitioning into adulthood, such as the effect of inter-generational trauma, racism and prejudice and socioeconomic disadvantage.

In 2016, 1,245 people in Tennant Creek reported being in the labour force. Of these, 70.1 per cent were employed full-time, 15.6 per cent part-time and 7.1 per cent were unemployed. Of the Aboriginal people in the labour force in Tennant Creek, 277 reported being employed either full or part-time, while 65 were unemployed. A total of 40.9 per cent of Aboriginal people in Tennant Creek aged 20 to 24 had attained Year 12 or equivalent or Certificate III or above (ABS 2016).

The Barkly Regional Deal (2020) reports that the main industries of employment in Tennant Creek are health care and social assistance (24.5 per cent), public administration and safety (19.8 per cent) and education and training (11.3 per cent). In 2018, there were 2829 jobs in the Tennant Creek area.

The NT Government and Barkly Regional Council are the main employers in Elliott, offering mostly administration and labouring positions. Just over a third of Elliott's population reports being in the labour force (125 people). Of those, just over a third (35.2 per cent) report being unemployed (ABS Quick Stats).

The above baseline data, combined with the results of stakeholder interviews, other technical reports and desktop research informed the next step of predicting and assessing likely positive and negative impacts of the AAPowerLink, which is covered in Sections 6 to 11 of the SIA (at Appendix I).

13.6 Risk and opportunity assessment

13.6.1 People and communities

The SIA analyses the potential impacts of the AAPowerLink on a sparsely populated remote area with high levels of disadvantage. While projects such as the AAPowerLink will inevitably expand opportunities for work and wealth, the ability of small, remote communities to take advantage of these opportunities and absorb change is influenced by factors such as resilience and vulnerability. It is important for proponents to understand this context in order to maximise benefits and be sensitive to existing stressors. Section 6 of the SIA analyses the potential impact of large-scale industrial development on a sparsely populated region with high levels of disadvantage.

The SIA suggests the Barkly is characterised by high levels of disadvantage, poor social determinants of health, a history of dispersal from traditional lands by settlement and existing strains on community cohesion. This compounds likely vulnerability to additional stressors and, as suggested by several stakeholders, increases expectations of benefits from the AAPowerLink to meet basic – let alone aspirational – needs.

Some stakeholders expressed fears that any cash royalty payments and higher levels of disposable income from the proposal could exacerbate conflicts between families and substance abuse in the Barkly. Aboriginal people emphasised the importance of equitable distribution of benefits, beyond those with statutory rights, and the importance of Sun Cable leaving a long-term legacy. The NLC has hired community development staff for the AAPowerLink to work with communities to support community-driven development.

The Greater Darwin Region, with its young, mobile, and less disadvantaged population, is expected to have greater capacity to absorb change. However, the strong values and attachment to place of Darwin's rural and coastal areas will need to be acknowledged and protected.

The TOR requires a description of the potential impacts to aviation/flight paths and shipping channels (current and planned). The main impact on aviation would be increased safety risks from Sun Cable charter flights interacting with helicopters and light planes operating on pastoral properties around the Solar Precinct. Collisions with other boating traffic as cables are laid on the sea floor should be minimised through good communication with AFANT and the fishing community, as well as Harbour Master's Notices (Appendix I).

The following table outlines potential beneficial and detrimental impacts identified for the dimension of people and communities. See the risk and opportunities matrix in the SIMP at Appendix J for more detail of causal pathways, the rationale for initial ratings, suggested treatment of the ratings and the final residual rating for each impact. For methodology refer to Section 3 of the SIA (at Appendix I, which is summarised at Section 13.1.2 above).

Table 13-6. Potential positive and negative impacts for People and Communities

Impact description	Residual rating
Potential positive (+)	
Enhanced community vitality through investment in social and community infrastructure and enhanced economic activity	Noticeable
Enhanced public health, through higher wages and improved socioeconomic status, reduced substance abuse	Barely perceptible
Potential negative (-)	
Reduced sense of public safety and wellbeing as a result of Project-induced substance abuse and alcohol related crime	Medium
Reduced sense of wellbeing and safety from an influx of workers and project activities during construction and operations	Medium
Reduced community cohesion and resilience, through changed demographics, community conflict and jealousies over perceived distribution of benefits	Medium
Higher levels of road trauma on the Stuart Highway, Gunn Point Road, and access routes	Medium
Reduced mental health and wellbeing of workforce from loneliness or family pressures, increased drug and alcohol use, self-harm, and suicide	Medium
Reduced feelings of safety along the railway and high voltage transmission line corridor	Low
Reduced public health, though noise, dust, human exposure to electromagnetic fields, biting insects, waste, and contamination	Low
Reduced welfare of girls and young women due to exploitation by workers, sexual liaisons, sexually transmitted diseases, and unwanted pregnancies	Low

Impact description	Residual rating
Deaths, injuries, or disruptions to recreational traffic on the harbour during trenching of cables	Low

13.6.2 Social infrastructure and services

Major projects can put pressure on social infrastructure if they lead to substantial demographic change, particularly if the pressure is sudden, short-lived, and disruptive. An influx of families or temporary construction workers may increase demand for services such as housing, education, transport, policing and community infrastructure. Cumulative industrial development can put pressure on the availability, quality, and affordability of social infrastructure in the catchment area for workers, particularly given current pressures on the housing, rental, and accommodation markets (REINT 2021).

The key risk identified under the Social Infrastructure section of the SIA (at Section 7) is the potential impact on housing. Causal factors could include demand for rental accommodation in Elliott or Tennant Creek and downward pressure on scarce social housing from any population increases. Much of this will be beyond Sun Cable's control, such as families moving back to the region seeking jobs or workers opting to move to regional towns rather than FIFO from other jurisdictions. Contractors or workers booking out hotels and motels while in transit could saturate the short-term accommodation market. Given what appears to be a housing crisis – across the private and public sectors – this impact would be severe, with flow-on effects to the quality of life and livelihoods in the Barkly and Katherine.

Pressures in the Greater Darwin Area will depend on the extent to which Sun Cable is able to recruit local staff and whether FIFO accommodation is needed. The level of local recruitment remains uncertain, with industry groups reporting skills shortages across all sectors. The Planning Commission is developing sub-regional land use plans and has published a social infrastructure needs analysis to cater for projected residential growth in Litchfield and Palmerston growth areas.

Section 7 of the SIA suggests the greatest scale of change and consequent pressures are likely to be felt in the Barkly. However, it will be important for Sun Cable's accommodation planning to take account of potential pressures on Palmerston and Litchfield as well. For the construction phase, this would apply regardless of whether the AAPowerLink recruits large FIFO workforces needing short-term accommodation or seeks to attract families to settle in the Greater Darwin Region. While ancillary infrastructure such as the proposed East Arm Manufacturing Facility is not covered by this SIA, it is a relevant factor in considering the potential cumulative implications of Sun Cable's labour force demands.

A second key issue is that electricity is seen as expensive and unreliable in the Northern Territory's remote areas, with many smaller communities dependent on diesel generators. Expectations that Sun Cable could contribute to energy security and affordability in the Barkly was one of the most frequently raised issues during consultation, from the Barkly Mayor to Aboriginal service providers and submissions from environmental groups. As outlined in Section 7.1 of the SIA, a key consideration is whether these expectations are realistic and the extent to which Sun Cable can and should provide services that are a government responsibility, resulting in no net gain to communities. The key benefits from the project may, rather, come from Sun Cable's support of technological advances in renewable energy generation.

Table 13-7. Potential impacts on Social Infrastructure and Services

Impact description	Residual rating
Potential positive (+)	
Improved transport infrastructure	Noticeable
Improved quality and range of community infrastructure due to Project investments	Noticeable
Improved access to utilities, such as power, water, and telecommunications	Noticeable

Impact description	Residual rating
Enhanced access to schools and childcare	Barely perceptible
Potential negative (-)	
Reduced quality, affordability, and availability of public and private accommodation, particularly in Tennant Creek, Elliott, and Katherine as workers of families seek local housing	High
Reduced quality of municipal services in Elliott and Tennant Creek due to loss of staff, pressures on budget and staff time	Medium
Pressure on emergency services, necessitating increased staffing and enhanced infrastructure	Low
Pressure on quality and availability of childcare and educational services in the Barkly	Low
Reduced access, affordability, or quality of transport infrastructure, including road and rail	Low
Reduced affordability and access to health services	Low

13.6.3 Economies and jobs

The AAPowerLink will undoubtedly have substantial benefits, including jobs, local procurement, government revenue, economic diversification, and contribution to government's economic and renewable energy agendas. A major source of reliable, affordable energy at commercial scale has enormous potential to create a more sustainable and diverse economy through decarbonisation of existing energy networks and attraction of industries associated with renewable energy such as hydrogen, green manufacturing, and data centres.

The economic impact of the AAPowerLink initially will be observed through additional construction activity in the Northern Territory. These direct economic impacts will flow from capital expenditure (CAPEX) estimated at more than $30 billion and a concentration of employment at the Powell Creek Solar Precinct. Second round or flow-on effects occur as the supply chain of the energy industry is stimulated and as business and consumer demand is encouraged in the economy. AAPowerLink will create opportunities for businesses and suppliers, and stimulate innovation and investment in Australia, especially in the Northern Territory.

PricewaterhouseCoopers (PwC) economic impact modelling[1] (see Appendix G for the Economic Assessment) predicts real Gross Territory Product (GTP) is projected to increase by $20.6 billion from FY24-69 and Gross Domestic Product (GDP) is projected to increase by $4 billion from FY24-69. Sun Cable has identified that the AAPowerLink will create about 1750 direct jobs (full-time equivalent or FTE) during the construction phase and about 350 direct jobs (FTE) during operations. Factoring in both direct and indirect jobs stimulated by the proposal, annual increased employment in the NT is expected to be more than 1200 jobs (FTE, direct and indirect). The increase in employment and project expenditure will drive growth in NT household consumption up to a total of $15 billion from FY24-69. This equates to an average of $1.3 billion a year during the construction phase and an average of $190 million a year during the operational phase.

Sun Cable intends to formally commence the process to raise capital to fund the construction of the AAPowerLink in January 2022. The AAPowerLink is expected to reach financial close by Q4 of 2023 and be funded through a combination of equity, debt (including commercial, project and structured finance), export credit agency and non-dilutive government funding support (Sun Cable, personal communication).

[1] Economic modelling covered the period FY22 to FY69 with results reported for the NT and nationally. All monetary values are given in undiscounted, real terms FY22 prices unless stated otherwise.

The economic impact assessment considers additional matters, such as the extent to which economic benefits might flow to other jurisdictions (nationally), and potential unintended consequences for existing businesses and economic sectors. Prediction and analysis of the significance of impacts is necessarily tempered by context, including the capabilities and the capacity of existing businesses and labour markets to take advantage of opportunities offered by the AAPowerLink.

Across the spectrum of stakeholders consulted for the SIA, support was conditional on the extent to which the AAPowerLink could deliver sustainable (retained) benefits in the Northern Territory. For the NT Government and business community, tangible and enduring benefits must include local jobs and procurement, growing a renewable energy economy and skills development. Several stakeholders highlighted the perceived disparity between Sun Cable's exports providing energy security to Singapore and the energy insecurity of many impoverished Aboriginal communities in the AAPowerLink footprint.

A key issue raised during stakeholder interviews is the 'boom and bust' nature of major projects. The need for large workforces and budgetary and timeline expediency mean legacy social and economic benefits might be bypassed by the 'sugar hits' of construction activity. Sustainability, or enduring benefits, is more likely to evolve incrementally as the project moves into its operational phase or provides businesses with the certainty to invest in growth.

From a community perspective, the participation of local businesses ensures benefits flow to communities. However, as Esteves and Barclay (2011) suggest, the extent to which local communities actually benefit will depend on their capacity to supply goods and services, the extent to which there is a local multiplier effect and the ability of communities to adapt to the inevitable changes that accompany large developments.

Maximising local participation, including agreements with Aboriginal businesses, may require partnerships with governments and support institutions. Procurement might include higher preference ratings for local businesses, unbundling large contracts to create opportunities for smaller suppliers, requiring non-local suppliers to sub-contract or joint venture with local suppliers, investing in supplier development programs, mapping capabilities to determine which businesses would most benefit from opportunities and good engagement to build a supportive and sustainable business environment (Esteves & Barclay 2011).

A key potential social and economic benefit of the AAPowerLink is the employment of local people. The challenge in realising this opportunity is the disconnect between high rates of Aboriginal unemployment and substantial skills shortages across all industry sectors, which is discussed in Section 7 of the SIA.

A Local Workforce Strategy (attached to the SIA at Appendix I) outlines the types of construction jobs likely to be available to local workers. There are significant barriers to both local employment and recruiting skilled workers to live and work in regional towns. The strategy outlines ways in which these barriers might be overcome.

The greatest benefits are likely to accrue incrementally and will require initial small steps, perhaps starting with part-time work and strong mentoring and support. The intergenerational aspect of the 70-year project was seen as an opportunity to lay the foundations for an enduring legacy.

The TOR requires a description of the potential future land use conflicts within the footprint e.g., mineral and petroleum titles. This is detailed in the SIA (Appendix I), however Sun Cable liaised with relevant stakeholders in the area, and no concerns were raised regarding potential land use conflicts. Also required is a description of the potential impacts to future NT Government infrastructure within utility corridors. Sun Cable advises that its infrastructure in the NTG utilities corridor will not preclude other future users, including gas, due to the size of the corridor.

The NT commercial fishing industry is active in 15 different wild harvest fisheries, the largest of which by volume and value are the offshore demersal and the Timor Reef fisheries. A number of fisheries may operate in offshore marine waters proximate to the Subsea Cable System route, including Spanish mackerel, prawn, and demersal fisheries (see Section 10.3.5 of Chapter 10). In the nearshore areas of Shoal Bay, there is a ban on commercial barramundi fishing; however, commercial crabbing is permitted.

The Subsea Cable Systems will be subject to a protection zone, within which bottom trawling will not be permitted but anchoring and other activities will be. The only fisheries which may be affected are those which involve trawling, demersal fisheries, and prawns. The cables will be sufficiently protected (buried or other protection - see Chapter 2) such that there is no limitation on recreational fishing. Regarding commercial fishing, Sun Cable will work with the relevant government agencies and representative bodies to develop appropriate protection measures and determine if exclusion zones are required and minimise impacts on fisheries activities.

Table 13-8. Potential impacts under Economies and Jobs

Impact description	Residual rating
Potential Positive (+)	
Stronger and more sustainable regional economy through contracts, wages, and economic diversification	Transformational
Aboriginal jobs and training and legacy skills development as a result of the Project and community benefits package	Transformational
Access to affordable, reliable power provides long-term social and economic benefits, sustains new economic sectors	Transformational
Stronger and more diversified Territory economy by boosting manufacturing, industry, population, taxes	Beneficial
Local businesses benefit from winning work and enhanced capabilities, including Aboriginal businesses and pastoralists	Beneficial
Enhanced human capital and skills as a result of jobs and training over the lifetime of the Project	Beneficial
Stronger Australian economy through contracts, stronger renewable energy	Noticeable
Enhanced labour force and skills from the relocation of spouses and partners of the construction workforce and management team	Noticeable
Potential Negative (-)	
Frustration by businesses who fail to win tenders	Medium
Failure to deliver on expectations of local jobs, due to lack of interest, skills shortages, poor work-readiness	Medium
Reduced capabilities and productivity of other economic sectors because of loss of workers to Sun Cable	Medium
Businesses become overly dependent on the Project or renewables sector and over-invest due to unrealistic expectations of benefits during the construction phase	Low
Reduced pastoral productivity around the Project site: grazing and mustering, through noise, dust, introduction of weeds, reduced access to bores and productive grazing land, erosion, leaving gates open	Low
Crowding out or reduced productivity of other economic sectors, such as tourism, pastoral, and horticulture	Low
Inflationary effects on other businesses and economic sectors	Low

13.6.4 Cultural identity

The main purpose of this section is to examine how AAPowerLink activities might lead to unintended and intangible impacts on the enduring cultural connections of Aboriginal peoples to their land and seas.

Objects of the *Environment Protection Act (NT) 2019* include:

3(e) to recognise the role that Aboriginal people have as stewards of their country as conferred under their traditions and recognised in law, and the importance of participation by Aboriginal people and communities in environmental decision-making processes.

The AAPowerLink footprint from Powell Creek to Murrumujuk and Shoal Bay out to the Timor Sea passes through a range of tenures including Native Title determinations, land under Native Title claim and Aboriginal Land Trusts. Sun Cable respectfully acknowledges the Aboriginal peoples of this country and their continuing connections to country. The Overhead Transmission Line crosses Larrakia country to Murrumujuk on Gunn Point Peninsula, which is a region of cultural, social, and historical significance to Aboriginal groups including Larrakia, Tiwi and Wulna people of the Adelaide River floodplains. These groups maintain important customary ties to Murrumujuk and use the area for hunting, gathering and recreational uses (Earthsea 2022).

The SIA finds that, despite the effects of colonial settlement, dispossession, poverty, clashes over land and dispersal of Aboriginal people across the Territory, the cultural identity of Aboriginal peoples in the AAPowerLink footprint remains strong, based on enduring connections to country.

In many cases, cultural identity has been strengthened by recognition of land rights, reconciliation, and treaty discussions, a strong Aboriginal visual and performing arts sector and growing involvement in land management, such as ranger groups.

Cultural values could be affected by land clearing, changed land use, and reduced access to areas of cultural importance, such as dreaming tracks, ceremonial places, campgrounds, and travel routes that may not be covered by legislative protections.

This is covered in Section 9 of the SIA, which should be read in conjunction with the Heritage Impact Assessments (Appendices V, W and X). These heritage assessments by Earthsea provide a comprehensive assessment of potential impacts on cultural heritage as well as insights into Traditional Owners' enduring knowledge of and connection to their country. They suggest cultural heritage could be impacted by substantial ground-disturbing activities, roadworks, environmental drainage works and ongoing maintenance over the 70-year AAPowerLink life cycle. Sun Cable is committed to working with Traditional Owners, site custodians and their representatives to develop a Cultural Heritage Management Plan (CHMP) that will prescribe the site protection and management measures required for each site.

Table 13-9. Potential impacts on Cultural Identity

Impact description	Residual rating
Potential Positive (+)	
Enhanced cultural identity by using ranger groups and cultural services	Beneficial
Potential Negative (-)	
Loss of cultural heritage due to damage or reduced access, including fears and anxieties of damage to sites or custodians' responsibilities	High
Reduced values, cultural and spiritual connections to land and seas through reduced access or physical changes	Medium
Reduced ability to engage in traditional hunting, fishing, camping, foraging, gathering art materials, bush medicines or other livelihood activities	Low
Reduced ability to pass on culture, traditional knowledge, undermining of cultural authority due to loss of cultural heritage or access	Low
Loss or damage to declared or valued European heritage sites disturbed by Project activities	Low

13.6.5 Healthy country

Other sections of the Environmental Impact Statement (EIS) cover potential impacts on biodiversity and environmental protection and conservation. Section 10 of the SIA looks at the issue from the perspective of how people value and use healthy country and seas, sometimes described as nature's contribution to people or ecosystem services. Ecosystem services is the contribution of the living natural environment to the basic needs of humans for fresh air, food, and water as well as resource-based livelihoods and quality of life issues such as recreation, art, and sense of place (Diaz et al., 2018).

It is people's reactions to loss of the living natural environment, and iconic or totemic species, that often generates opposition to projects. For example, the cultural values of Lake Woods and nearby outstations - such as Jangirulu, about 20 kilometres east of the Solar Precinct - contribute to the strength of culture and ability to pass on knowledge and continue important cultural activities for the Jingili, Mudburra and Warlmanpa people. In rural residential areas, it is the large rural blocks, landscapes, lower density living and natural environment that are integral to fiercely held values. Values influence the way that people perceive and judge reality, truth and knowledge in ways that may differ from mainstream science (Pascual et al. 2017).

The proposal footprint passes near a number of conservation areas valued by stakeholder groups, including Aboriginal people. They include the Tree Point Conservation Zone, Black Jungle Conservation Reserve, Lake Woods, and the Oceanic Shoals Marine Park, which are described in the SIA at Section 10.2.1.

Land clearing at the Solar Precinct could reduce access and impact on species valued by Aboriginal and non-Aboriginal people for food, cultural and recreational purposes. The importance of spending time on country was raised in several meetings. Traditional owners referred to looking after country for their children and future generations. Some people asked what would happen to the wildlife at Powell Creek, nearby hunting areas or Lake Woods.

Environmental groups expressed concern at the level of land-clearing and its implications, particularly when taking account of other large land clearing applications on other pastoral stations in the NT and the potential cumulative impacts of future projects on loss of species and greenhouse gas emissions (see Chapter 5 on Terrestrial Ecosystems).

On a positive note, the AAPowerLink was seen as contributing to a global reduction in greenhouse gas emissions. The forecast contribution to the Territory's aims of achieving a 50 per cent reduction in greenhouse gas emissions by 2030 and net zero emissions by 2050 is described in the Carbon Study and Greenhouse Gas Abatement Study (Xodus at Appendix H).

NT Field and Game raised concerns that the AAPowerLink may cause bird strike (on the overhead transmission line) and disrupt the magpie geese hunting season (addressed in Appendix O and P). Pastoralists suggested that the introduction of 'seeds and weeds' needed to be managed. Other stakeholders commented that upgrading Gunn Point Road by the Northern Territory Government in 2018 had increased visitors to the informal camping area at Gunn Point Beach, where significant erosion is visible on access tracks.

Fishing is a popular recreational activity in the NT, including around Gunn Point, Shoal Bay, and offshore regions. The Subsea Cable System routes avoid known high value recreational fishing areas (natural and artificial reefs and fish attracting devices. The proposal is unlikely to impact on access to fishing areas, except perhaps for a short-term restriction in isolated areas during construction. As discussed in Chapter 10 Marine Ecosystems, the construction and operational activities are not expected to impact on marine ecosystems and so would be unlikely to impact on fish health or stocks.

Mitigation strategies for these potential impacts are discussed in technical chapters of this EIS, such as a Weed Management Plan (Appendix Q) and Erosion Hazard Assessment (Appendix M).

Table 13-10. Potential impacts under Healthy Country

Impact description	Residual rating
Potential positive (+)	
Contribution to the Territory and global reduction in greenhouse gas emissions	Transformational
Enhanced opportunities to care for country	Noticeable
Potential negative (-)	
Degraded biodiversity and habitat in the Project footprint	Medium
Damage to features with cultural significance, such as waterholes, access to groundwater for livelihoods, or loss of water-dependent species	Low
Reduced recreational fishing and shellfish due to poor fish health	Low
Contribution to greenhouse gas emissions from large-scale land clearing	Low

13.6.6 Living environment

Living environment covers impacts on community amenity or 'pleasantness of a place' (Oxford English Dictionary). Our living environment, or surrounds, is precious to our quality of life and may be disturbed by industrial development, including noise, dust, smells, traffic congestion, pollution, and destruction of landscapes.

The living environment covered by the SIA includes areas where people live, work, or visit for recreational purposes, or the surrounds of residential and recreational areas. At Powell Creek, this would include the Newcastle Waters homestead, 10 kilometres from the Solar Precinct, and outstations near access roads, such as Jangirulu, 17 kilometres from the Precinct. The social area of influence covers all towns, properties, businesses, and homelands along the OHTL route to Murrumujuk. Most of these areas are sparsely populated, remote or rural.

Impacts on the amenity of nearby pastoral properties, towns and homelands did not emerge as a substantial issue from consultation, apart from concerns about reduced recreational access. However, this may partially reflect limited consultation for the SIA along the OHTL corridor and a lack of experience by potentially affected stakeholders with ground-disturbing projects. A review of impacts from other construction projects suggests a watching brief should be maintained on these 'nuisance' impacts to ensure quick responses to any detriment and emerging issues.

The TOR requires a description of the potential impacts to changes or restrictions on railway access by local traffic due to transmission line corridor during construction, operation, and maintenance. Sun Cable advises that any changes to existing access along the railway line or utilities corridor are highly unlikely. Any temporary disruption during construction will be communicated to relevant operators and landholders

Potential impacts under the Living Environment and residual impact ratings are provided in Table 13-11 and discussed in Section 11 of the SIA at Appendix I.

Table 13-11. Potential impacts under Living Environment

Impact description	Residual rating
Potential negative (-)	
Reduced aesthetic values of the landscape	Medium
Reduced sense of place through industrialisation of the landscape and changed land use	Medium
Reduced access to recreational activities	Low

Impact description	Residual rating
Reduced amenity and disturbance from dust, noise, light, heat, emissions, and other pollution	Low
Reduced amenity from congestion and traffic delays with Project traffic	Low

13.6.7 Strong voice

Having a strong voice means being given the time, opportunity, and resources to have real input to decision-making on policies and projects that affect the lives, lifestyles and livelihoods of people, families, and communities. For Aboriginal people, this incorporates *Free, Prior and Informed Consent (United Nations 2007*) to activities on their traditional lands and seas, recognition of traditional governance structures and enjoyment of statutory rights.

A complexity of the AAPowerLink is the number of groups affected by proposal decisions and activities, including the primary Project site at Powell Creek, linear infrastructure crossing the Territory from Powell Creek to Murrumujuk on the Gunn Point Peninsula, the Darwin Converter Site and Subsea Cable.

It is estimated that there are over 20 Aboriginal clan/family groups with cultural connections to the AAPowerLink extended footprint (Sun Cable Regional (Aboriginal) Legacy Strategy). The voices of many of these groups have become fragmented or disempowered through local government reforms in the Territory, changes of government policy and poor engagement by previous project proponents.

Existing governance structures in the Barkly include the Barkly Regional Council and Local Authorities in places such as Elliott. The Barkly Regional Deal has a Governance Table that reflects the three levels of government (Australian, Northern Territory and Barkly Regional Council), cultural authority and local business groups and service providers. Working groups include an Aboriginal Alliance and economic and workforce development groups. Julalikari Council Aboriginal Corporation, which represents language groups across the Barkly, is negotiating a Local Decision-Making Framework with the Northern Territory Government. The Northern Land Council, Central Land Council and Warumungu Patta Group have offices in Tennant Creek, while the Northern Territory Government runs a Government Coordination Committee.

Agreement-making and access to AAPowerLink benefits may enhance agency and empowered decision-making on investing benefits, as long as investment is driven by affected groups who have 'buy in' to their own solutions.

Potential impacts identified under Strong Voice and residual ratings are provided at Table 13-12 and Section 12 of the SIA.

Table 13-12. Potential impacts under Strong Voice

Impact description	Residual rating
Potential positive (+)	
Enhanced agency in project planning and empowered decision-making	Noticeable
Potential negative (-)	
Disempowerment of Aboriginal and other community groups who feel they have not been afforded an influential voice in decision-making	Medium
Reduced enjoyment of human rights, in particular the right of vulnerable Aboriginal people and communities to Free Prior and Informed Consent, gendered impacts, breaches of labour laws, racism in the workplace	Low

13.6.8 Cumulative impacts

Cumulative impacts are the incremental impacts of successive or concurrent projects that may be individually inconsequential. Many cumulative impacts will be difficult for Sun Cable to address as they will be influenced by other policies and projects. However, to the extent that these impacts are foreseeable, Sun Cable may be able to find collaborative solutions to mitigating negative impacts and enhancing opportunities.

Cumulative consequences of multiple developments include changes to the dominant land use and lifestyles of regions, industrial development within relatively remote and intact landscapes, the movement of people and consequent pressures on the labour market, social infrastructure and changed demographics.

In the Barkly, cumulative impacts could include a gradual ecological or socio-ecological degradation of a region that changes its character and values. This is particularly relevant when other projects are in the pipeline in remote areas with little experience of industrial development (such as mining, onshore gas exploration, hydraulic fracturing, horticultural expansion, and other renewable energy projects). Impacts could include competition for skilled labour, cumulative pressures on accommodation and community resistance to changed land use.

In Tennant Creek, cumulative impacts could come from many Barkly Regional Deal initiatives and recent government announcements about enhanced road infrastructure to support onshore gas exploration. This could compound pressures listed in previous sections, such as the recruitment and training of workers, particularly if there is inadequate planning for population growth and land use changes.

At Murrumujuk, there are concerns that Sun Cable and Seafarms' activities could herald industrial development of the Gunn Point Peninsula, despite the area being outlined for future development by the Northern Territory Government. On the one hand, these developments could be viewed as meeting government economic and population growth objectives, in line with long-established land use plans for the area. On the other hand, some stakeholders during consultation described this prospect as a threat to their tightly held rural and environmental values.

Individual and cumulative development could exacerbate community divisions between those who benefit and those who are most exposed to negative impacts, including the distribution of negotiated benefit agreements. Environmental groups are concerned at the cumulative impacts of large-scale land clearing in the Northern Territory.

Other cumulative impacts include consultation fatigue, pressures on Traditional Owners and pastoralists' time negotiating with multiple proponents, industrial development around Darwin Harbour and a consequent acceleration of all social change processes.

Potential cumulative impacts are summarised in Table 13-13 and Section 13 of the SIA.

Table 13-13. Potential cumulative impacts

Impact description	Residual rating
Potential positive (+)	
Cumulative opportunities to invest benefits and build capacity from multiple projects	Beneficial
Cumulative opportunities for development of human capital and business capacity	Noticeable
Potential negative (-)	
Reduced social, cultural, recreational, and ecological values of the harbour	High
Cumulative impacts of industrialisation with onshore oil and gas developments, pipelines, agribusiness, renewable energy, mining, and associated infrastructure	Medium
Communities and stakeholders become reluctant to engage due to consultation fatigue	Low

13.7 Avoidance, mitigation, and monitoring

The Preliminary Social Impact Management Plan (Appendix J) includes a risk and opportunities matrix that outlines recommended measures to avoid or mitigate negative impacts and to enhance opportunities arising from the AAPowerLink. It also provides residual risk and opportunity ratings, which are summarised in each of the above sections. The commitments and engagement activities Sun Cable aims to undertake are described in Sections 5 and 7, respectively. Lastly, Section 8 of the SIMP outlines a grievance and dispute resolution policy to identify and resolve stakeholders' concerns, questions, and complaints.

The Preliminary SIMP establishes a framework for Sun Cable to report against its commitments throughout the AAPowerLink life cycle. Based on the consultation undertaken, potential impacts studied, and feedback received, Sun Cable proposes eight action plans that will address:

- housing affordability and availability, particularly in the Barkly, where most construction activity will take place
- the importance of training, capacity-building, and employment for local people, particularly
  - ensuring equitable distribution of social and economic benefits, particularly given the high levels of socioeconomic disadvantage in the Barkly region
  - addressing high unemployment and poverty in the Barkly
  - addressing skills shortages, finding pathways to employment for Aboriginal people and disengaged youth
- social procurement, service and supply and Aboriginal inclusion
- protection of cultural heritage and values
- cumulative impacts on community and economy
- developing internal working policies to embody an inclusive environment
- providing renewable energy to support the Northern Territory's goal of net zero emissions by 2050
- bolstering the renewable energy sector and supporting communities in the Northern Territory to improve energy security.

The Northern Territory Community and Stakeholder Engagement Plan included in the SIMP, will foster dialogue with stakeholders to deliver the above-referenced action plans. A grievance plan will identify and resolve stakeholders' concerns, questions, and complaints by providing accessible avenues for submission and discussion. The monitoring plan will measure the performance and effectiveness of the action plans to ensure all social opportunities are maximised and issues are promptly addressed. Sun Cable will continue to consult with key stakeholders and refine the action plans, monitoring program, and engagement framework outlined in this SIMP.

13.8 Offsets

Although a formal offsets framework is not required for social impacts, Sun Cable is committed to having a positive social impact in the Northern Territory. A number of strategic initiatives are under-way to manage the social and economic impacts of the AAPowerLink. Some of these include: a Territory Benefit Plan, Preliminary Social Impact Management Plan, Regional (Aboriginal) Legacy Strategy and ongoing dialogues with stakeholders across the proposal footprint to capture the ideas and aspirations that emerge from extensive community engagement.

13.9 References

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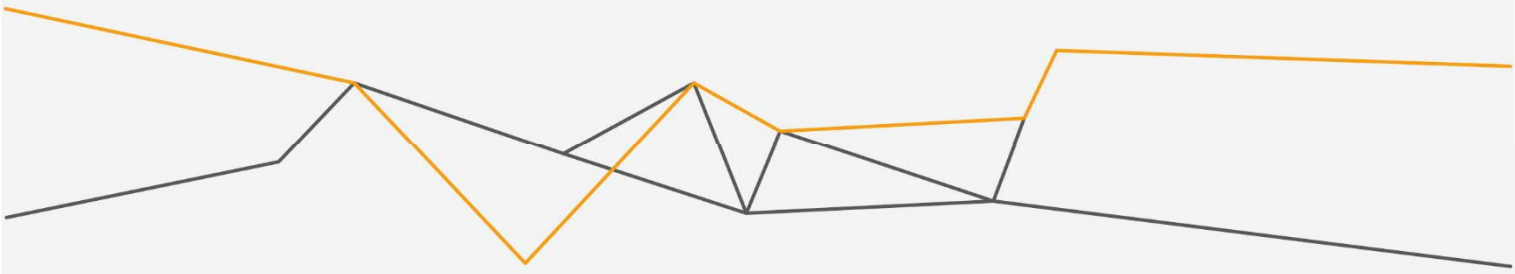

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