

RESEARCH BRIEF

Investment in Northern Australia that delivers for the long term

There are a range of infrastructure needs and identified gaps across Northern Australia. These have been spelled out in a range of reports including the Northern Australia White Paper, reports from Infrastructure Australia and work by the Joint Parliamentary Committee on Northern Australia.¹

There is broad agreement that infrastructure is critical to the development of Northern Australia. As articulated by the Joint Parliamentary Committee on Northern Australia:

The absence of economic infrastructure, particularly water, power and transport, impedes opportunities for economic development and liveability, as does poor access to telecommunications and global digital technologies.²

Sensitivities around infrastructure in Northern Australia

Importantly many of these reports recognise the sensitivities of delivering infrastructure to the region. As an example, considerations outlined in the Northern Australia White paper include;

Developing the north will need to be done in full partnership with Indigenous Australians, with a focus on creating opportunities through education, job creation and economic development. These opportunities for Indigenous Australians will contribute to achieving the objectives of the Government's Indigenous Advancement Strategy.

¹ Northern Australia White Paper <http://northernaustralia.gov.au/files/files/NAWP-FullReport.pdf>
Infrastructure Australia Priority List http://infrastructureaustralia.gov.au/projects/files/IPL_170225.pdf
Infrastructure Australia – Northern Australia Audit http://infrastructureaustralia.gov.au/policy-publications/publications/files/IA_Northern_Australia_Audit.pdf

Joint Select Committee on Northern Australia

http://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Former_Committees/Northern_Australia/Inquiry_into_the_Development_of_Northern_Australia/Tabled_Reports

² Joint Select Committee on Northern Australia, p.187

It will need to be consistent with safeguarding the incredible northern environment for future generations. It is, after all, the north's exceptional environment that draws visitors from around the world. It is particularly important to understand our role as stewards of our unique natural wonders, such as the Great Barrier Reef, ensuring all development is done in a way that protects the outstanding universal value of such special places.³

Under Infrastructure Australia's 'Australian Infrastructure Plan' recommendation 7.1 echoes the importance of minimising environmental impact.

Australia's energy and transport sectors should deliver emissions reductions in line with international commitments. While some progress has been made, considerable further action is required for our infrastructure to play its part in helping Australia meet its obligations and aspirations. Governments of all levels should consult with industry and clearly communicate reforms to allow the private sector to find the lowest cost pathway to reducing their environmental impact over time.⁴

Infrastructure projects must deliver across industries.

It is important to recognise that Northern Australia has diverse regions, with different population, environmental and economic profiles. These differences mean infrastructure needs across regions of Northern Australia may be different. However, a common need for certain types of infrastructure has been identified.

Infrastructure that provides support to a variety of industries across the economy is critically important to the future of Northern Australia. This includes investment in communications human capital infrastructure and transport links. This type of infrastructures assists with diversification of the economy in Northern Australia which has been identified as an important factor in growing the region.

As identified by Regional Institute Australia in their report 'Rethinking the Future of Northern Australia's Regions':

There is a general consensus that regional growth depends upon broadening the economic base in many regions. Single industry regions are highly vulnerable to external economic shocks.⁵

³ Northern Australia White Paper, p.4

⁴ Infrastructure Australia, *Australian Infrastructure Plan*, p. 127 http://infrastructureaustralia.gov.au/policy-publications/publications/files/Australian_Infrastructure_Plan.pdf

⁵ Regional Australia Institute, *Rethinking the Future of Northern Australia's Regions*, November 2013, p.11 <http://www.regionalaustralia.org.au/wp-content/uploads/2013/11/Rethinking-the-future-of-northern-Australias-regions1.pdf>

And ‘Advance Cairns’ in their submission to the Joint Select Committee on Northern Australia inquiry into the development of Northern Australia:

Economic diversification is the key to sustainable growth of our region into the future.⁶

The Northern Australia Infrastructure Facility has limited funds to invest in the region and therefore it should ensure its investment can provide infrastructure that provides benefit across the whole economy.

Energy, communications, transport and education and research infrastructure have been identified as common infrastructure needs.

Energy

Northern Australia is home to some of Australia’s best renewable energy resources particularly solar. As outlined by the CSIRO in their submission to the Joint Select Committee on Northern Australia in 2014:

Opportunities exist for cost competitive, alternative reliable and distributed energy solutions for rural communities and remote mine sites.⁷

Beyond small scale generation for communities, large scale innovative renewable energy developments are already being pursued in Northern Australia particularly in Northern Queensland.⁸ These include projects in innovative storage technologies such as pumped hydro at the former Kidston gold mine.⁹

The Joint Standing Committee on Northern Australia recommended that:

the Australian Government, as a matter of urgency, engage the Queensland and Western Australian Governments to improve power grids in Northern Queensland and in the Pilbara respectively.

This stability could be delivered through innovative renewable energy and storage projects. The Joint Standing Committee identified the need for a coal fired power station to replace a

⁶ Advance Cairns, February 2014, p.2,

http://www.aph.gov.au/parliamentary_business/committees/house_of_representatives_committees?url=jscna/subs/sub069-advance%20cairns.pdf

⁷ CSIRO, Submission to the Joint Standing Committee on Northern Australia, February 2014, p.7

http://www.aph.gov.au/parliamentary_business/committees/house_of_representatives_committees?url=jscna/subs/sub0108-csiro.pdf

⁸ Australian Renewable Energy Agency, <https://arena.gov.au/projects/>

⁹ <http://www.genexpower.com.au/the-kidston-pumped-storage-hydro-project-250mw.html>

previous plant in Collinsville. However, the recent debate about the construction of new coal fired power stations demonstrate that there are no proponents willing to invest because the cost, the length of time to complete construction and the carbon risk are insurmountable barriers. Further the recent debate also demonstrates that a new coal fired power station would not reduce power costs, a factor driving the committee's 2014 recommendation.¹⁰

Large scale renewable energy projects in Northern Australia are already driving jobs and investment into the region. This includes through the processes of the Clean Energy Finance Corporation and the Australian Renewable Energy Agency (ARENA). Further investment in projects or supporting infrastructure will help drive Northern Australia over the long term.

Late last year ARENA funded a large solar round of 12 projects, from an investment of \$91.7 million they leveraged \$1,056.4 m of projects.¹¹ Four of these were in Northern Australia.

Project name	Size (MW AC)	ARENA funding	Total Project cost	Nearest Town	Jobs Created ¹²
Longreach Solar Farm	15.0	\$1.3 m	\$28.7 m	Longreach, QLD	30
Whitsunday Solar Farm	58.1	\$9.5 m	\$122.4 m	Collinsville, QLD	270
Kidston Solar Farm	50.0	\$8.9 m	\$126.2 m	Kidston, QLD	100
Collinsville Solar Power Station	42.0	\$9.5 m	\$95.9 m	Collinsville, QLD	120 ¹³

Four other projects in Northern Queensland, Baralaba Solar Farm, North Queensland Solar Farm (Prosperine), Hughenden Sun Farm and Kennedy Energy Park (Hughenden) were

¹⁰ Electricity prices could double with new coal-fired stations, energy experts say, <http://www.abc.net.au/news/2017-02-02/coal-power-stations-could-double-the-cost-of-electricity/8234240>

¹¹ Large-scale solar photovoltaics – competitive round
<https://arena.gov.au/funding/programs/advancing-renewables-program/large-scale-solar-photovoltaics-competitive-round/>

¹² <https://www.cleanenergycouncil.org.au/policy-advocacy/renewable-energy-target/jobs-and-investment.html>

¹³ Press Release, 10 May 2017, <http://reneweconomy.com.au/ratch-appoints-epc-contractor-collinsville-solar-project-65055/>

shortlisted for funding in this round but missed out. Despite this their proponents are pushing ahead and these projects are in the planning stage.

There are 20 proposed large solar energy projects in Northern Queensland that could benefit from funding through the NAIF by using subsidised finance to speed up the planning process or to expand the scope of the projects.¹⁴

Investment in expanding transmission infrastructure across Northern Australia would also help the development of further renewable projects across Northern Australia.

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Education and Research

Educational levels in Northern Australia (sometimes described as human capital) have been identified alongside inadequate infrastructure as a major issue holding back the growth of Northern Australia.¹⁵

With improved human capital and infrastructure there is more possibility for economic diversification with its flow on benefits to Northern Australia. There are 20 higher educational campuses spread over Northern Australia, including campuses affiliated to Notre Dame University (WA), Charles Darwin University (NT), James Cook University (QLD), Central Queensland University and TAFE Queensland North.

The importance of economic diversification as a goal for the region as put forward in the Northern Australia White Paper makes the case that:

More investment is needed in the north to diversify the economy as the investment phase of the mining boom transitions to its production phase.¹⁶

¹⁴ Electricity Generation Map Queensland <https://maps.dnrm.qld.gov.au/electricity-generation-map/>

¹⁵ Regional Australia Institute, 'Rethinking the Future of Northern Australia's Regions,' p. 6

¹⁶ Tourism and Transport Forum, Northern Tourism, Submission to the Joint Standing Committee on Northern Australia, April 2014, p. 19 <http://www.ttf.org.au/wp-content/uploads/2016/06/TTF-Development-of-Northern-Australia-2014.pdf>

Stakeholder groups in Northern Australia are adamant that this investment must go into both more traditional forms of infrastructure as well as raising skills of its workforce. The Chamber of Commerce and Industry in Queensland have highlighted workforce and skills shortage as an impediment to growth in Northern Queensland.¹⁷

Northern Australia because of its unique climate and location has the opportunity to position itself as a leader in research in order to develop services relating to the tropical environment.

There is substantial economic potential in science, design, health and medical, and technological development services relating to tropical environments.¹⁸

The Regional Australia Institute has described this potential as the tropical knowledge economy. To fully develop this potential, infrastructure to support science education and research collaboration in Northern Australia will need to be invested in. There are 20 higher educational campuses spread over Northern Australia, including campuses affiliated to Notre Dame University (WA), Charles Darwin University (NT), James Cook University (QLD), Central Queensland University and TAFE Queensland North. Many of these already have research and educational infrastructure in place to support increased investment.

The Joint Select Committee on Northern Australia in their 2014 report identified the Research and Education Sector in Northern Australia as an opportunity for the region and laid out a number of potential projects.¹⁹

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¹⁷ Chamber of Commerce and Industry, Queensland, February 2014, p.9
http://www.aph.gov.au/parliamentary_business/committees/house_of_representatives_committees?url=jscna/su bs/sub0107-%20cciq.pdf

¹⁸ Regional Australia Institute, 'Rethinking the Future of Northern Australia's Regions,' p. 65

¹⁹ Joint Select Committee on Northern Australia, p.43

Indigenous Rangers

A better future for people and nature in our beautiful north starts with supporting the goals of Indigenous people to sustainably manage their country and its resources.

For example, On Cape York Peninsula, the successful land tenure resolution program has now returned over three million hectares of country to Traditional Owners and created, with their informed consent, a network of more than 1.5 million hectares of jointly managed national parks and nature refuges across the landscape. This stretches over an area equivalent to the distance between Melbourne and Sydney. In the Kimberley, Traditional Owners are beginning to see the rewards of the 2011 declaration of National Heritage and of Indigenous Protected Areas over vast areas of the West Kimberley with new business opportunities emerging in carbon abatement and fee-for-service land management, including monitoring of bio-security threats.

These successes need to be consolidated with long term investments to help Indigenous organisations manage their land and maintain its conservation values and address key threats to halt the spread of invasive species and destructive fires – both fuelled by accelerating global warming. Much of this management is undertaken by Indigenous Rangers groups spread over Northern Australia.

A report released in November 2015, found that despite the relatively low level of spending on Indigenous Protected Areas and Indigenous Rangers, there are almost 800 full time and a total of 1,423 people employed through the initiative. Retention rates are over 80 per cent and there are positive economic flow-on effects in communities where Indigenous Rangers live and work.²⁰

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²⁰ The Pew Charitable Trusts and Synergies Economic Consulting, Working for Our Country: A review of the economic and social benefits of Indigenous Land and Sea Management, 1 November 2015, p. 3-4

Communications and digital connectivity

Improved communications infrastructure would assist industries across the economy. The Northern Australia Infrastructure audit carried out by Infrastructure Australia identified communications as well as water and energy as being integral to all sectors in the North.²¹

Gaps in communications were identified in broadband service, mobile service, transmission infrastructure and international connections.²²

The Chamber of Commerce and Industry Queensland has identified communications as one of the top priorities for small and medium businesses in North Queensland.²³

In the tourism industry communications infrastructure is vital to the development and success of tourism in regional and remote areas of northern Australia. Visitors, especially those seeking high value nature and culture based off the beaten track experiences will research in advance, evaluate (via sites like Trip Advisor) book and pay online. Operators need reliable communications to run tourism ventures, and in more remote areas this is vital in emergency situations (floods, fires, breakdowns).

No reliable mobile phone and no internet coverage, equals, no sustainable tourism business.

Communications and digital infrastructure is also critical for the education sector in Northern Australia. As outlined by University of Notre Dame Australia:

*Northern Australian residents should not need to relocate to pursue study and to achieve training and professional development. Technology which necessitates effective access to the internet, can assist with quality learning.*²⁴

Charles Darwin University in their submission to the Joint Select Committee on Northern Australia identified 'Dynamic information infrastructure,' ("IT and other infrastructure to facilitate effective communication, dissemination and processing of information) as one of

²¹ Infrastructure Australia – Northern Australia Audit, p.42

²² Infrastructure Australia – Northern Australia Audit, p.37

²³ Chamber of Commerce and Industry, Queensland, February 2014, p.12
http://www.aph.gov.au/parliamentary_business/committees/house_of_representatives_committees?url=jscna/su/bs/sub0107-%20cciq.pdf

²⁴ University of Notre Dame, February 2014, p.2
http://www.aph.gov.au/parliamentary_business/committees/house_of_representatives_committees?url=jscna/su/bs/sub031_universityofnotredameaustralia.pdf

four critical requisites to transition Northern Australia to a longer term sustainable knowledge economy.²⁵

Hundreds of mobile blackspots have been identified across Northern Australia that hinder both the use of traditional phone conversations and the use of internet services.²⁶

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Transport

Transport priorities particularly road improvement and maintenance have been identified by a range of organisation and stakeholders. Infrastructure Australia's Northern Australia audit identified a number of priority projects as did the Joint Select Committee's report.

Improved road infrastructure in Northern Australia will assist a range of industries including tourism and agriculture.

To increase the reliability and safety of tourism operations, increase comfort for visitors, and to expand the tourism season into shoulder periods in the wet dry climate of northern Australia required an increased investment in all-weather roads and bridges, rest areas, and related transport infrastructure enabling visitors to access remote areas – by boat or light plane.

If all weather roads were in place to tourism destinations this would allow operators to plan tours with more certainty over a longer season. It also provides better access to essential services such as health and education to the residents in more remote areas. A severe wet season can create major washouts on roads which can leave the road impassable, or very

²⁵ Charles Darwin University, March 2014, p.9

http://www.aph.gov.au/parliamentary_business/committees/house_of_representatives_committees?url=jscna/subs/sub0199-%20charles%20darwin%20university.pdf

²⁶ Mobile Blackspot data base - <https://nationalmap.gov.au/#share=s-69KM49J1IaeTo1eTjoDFgHUCLgL>

dangerous, for months into the dry season curtailing operations in the dry season and undermining the viability of tourism ventures which are already highly seasonal.

Tourism transport infrastructure has been identified as an investment opportunity by the Australian Trade Commission in its promotion of Northern Australia.²⁷ The Tourism and Transport Forum have advocated for the upgrading of a range of tourism infrastructure in Northern Australia including roads, airports and public transport facilities.²⁸ These include roads such as the Peninsula Developmental Road in Cape York.

Northern Australia in the Long Term

As this briefer outlines, the needs of Northern Australia are varied. Private and Government investment is not limitless and that is why funding must be prioritised into projects that benefit a range of sectors and provide long term benefits for the North.

Some of the sectors outlined in the briefer could benefit from smaller loans than the NAIF is permitted to grant. Therefore the Australian Conservation Foundation has continued to advocate for the addition of a concessional loan facility geared to packages of smaller and medium scale regional infrastructure needs, within the cost to the Commonwealth of the original \$5 billion fund amount.

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²⁷ Australian Trade Commission, <https://www.austrade.gov.au/ArticleDocuments/2814/Northern-Australia-emerging-opportunities-in-an-advanced-economy.pdf.aspx>

²⁸ Tourism and Transport Forum, Northern Tourism, Submission to the Joint Standing Committee on Northern Australia, April 2014, p. 19 <http://www.ttf.org.au/wp-content/uploads/2016/06/TTF-Development-of-Northern-Australia-2014.pdf>