



Submission to the Joint Select Committee on Northern Australia

Prepared by

Stuart Blanch, Director, and Rob Law, Manager Policy

Environment Centre NT

14th March 2014

For more information, please contact Dr Stuart Blanch, [REDACTED]

Submitted to:

Committee Secretary
Joint Select Committee on
Northern Australia
PO Box 6021
Parliament House
CANBERRA ACT 2600
AUSTRALIA

Phone: (02) 6277 4162
Fax: (02) 6277 4427
email: jscna@aph.gov.au

1. General comments

Thank you for the opportunity to make a submission to the Joint Select Committee on Northern Australia. We welcome this committee and the terms of reference. It is critical that a long term strategic vision is developed for Northern Australia that carefully considers its complex economic, environmental, social and cultural context.

The Environment Centre NT is the Northern Territory's peak non-government environmental organisation that has advocated for over 30 years on environmental interests in the NT. A sustainable future for the Northern Australia is of great importance for addressing all three aspects of our organisations mission objectives:

1. Cut greenhouse gas emissions and build renewable energy capacity.
2. Foster sustainable living and development, and
3. Protect and restore biodiversity, ecosystems and ecological processes

Our submission addresses the Terms of Reference for Joint Select Committee on Northern Australia:

The Committee to consider policies for developing the parts of Australia which lie north of the Tropic of Capricorn, spanning Western Australia, Northern Territory and Queensland, and in doing so:

- **examine the potential for development of the region's mineral, energy, agricultural, tourism, defence and other industries;**
- **provide recommendations to:**
 - **enhance trade and other investment links with the Asia-Pacific;**
 - **establish a conducive regulatory, taxation and economic environment;**
 - **address impediments to growth; and**
 - **set conditions for private investment and innovation;**
- **identify the critical economic and social infrastructure needed to support the long term growth of the region, and ways to support planning and investment in that infrastructure.**

The Environment Centre NT notes that Northern Australia has had a long history of trialling visionary developments, with many of these failing due to an ignorance of the north's harsh environmental and climatic extremes. We request that the Committee build upon the multitude of previous studies, taskforces, committees and experiences that precedes them. It is our hope that the Committee will be well aware of its place in this long history and will consider and develop the north in a sustainable way that reflects and embraces the evolution in our 21st Century knowledge of this country's environmental limits.

The Committee's inquiry into Northern Australia is not the first such inquiry. Inquiries have been conducted by governments to try to find a way of turning the north into a food bowl. However, the Northern Australia

Land & Water Taskforce's¹ report *Sustainable Development of Northern Australia* in February 2010 concluded there could not be a foodbowl in Northern Australia.² The Taskforce represented a diverse range of stakeholders with varying views, but unanimously found that "...the potential for northern Australia to become a 'food bowl' is not supported by evidence' (p iii).

The Environment Centre NT agrees there is significant potential to grow more food in the north, particularly with a focus on high-value low-impact farming, but this cannot be done at such scale to produce sufficient volumes of food to warrant the being considered a 'food bowl'.

For the Committee's report to be effective in addressing the broad range of development needs in Northern Australia, it must look well beyond food bowls, fossil fuels and large scale infrastructure.

Across tens of millions of hectares of the north, particularly areas remote from the relatively few urban and mining centres, conservation is development and it is the most realistic form of development.

Conservation and low impact land uses are the type of development that aligns with the aspirations of local communities over the majority of the north, such as sustainable grazing of native pastures, protected area management, recreational fishing, Indigenous land and sea management, carbon abatement, natural resource management, and tourism focused on natural and cultural values.

If the Committee's recommendations ignore protecting the globally significant ecosystems and wildlife, and focuses on intensive developments that address only perhaps 5 or 10% of the north, then it will not produce a report that realistically addresses the development and conservation of all of the north.

Should this happen, in not too many years from now politicians and 'visionaries' will – again – call for yet another Inquiry, or Taskforce, or Report into developing Northern Australia.

1. Kimberley to Cape principles

The Environment Centre NT supports the following principles developed by the Kimberley to Cape forum (<http://www.kimberleytocape.net.au/>):

Principles to guide the future of Northern Australia:

- *Northern Australia's unique, intact and globally-significant natural and cultural values must be recognised, utilised and safeguarded as a centrepiece of its future.*
- *Northern development and Indigenous socio-economic development must be pursued together, since neither is sustainable, nor equitable, without the other.*
- *Development options must involve genuine consultation with local communities and be compatible with local conditions.*
- *A strong, diverse and sustainable economy for Northern Australia is necessary to underpin the wellbeing of its communities, the long-term management of its resources, and its contribution to Australian and global society.*

On this basis we urge you to:

1. *Engage Northern Australians, especially Indigenous people, and others including industry, in a broad and genuine dialogue about future aspirations and development policies.*

¹ Note, the lead author of this submission was a Member of the Taskforce.

² *Sustainable Development of Northern Australia*, a report prepared to Government by the Northern Australia Land & Water Taskforce. Department of Infrastructure, Transport, Regional Development and Local Government, Canberra, February 2010.

2. *Heed the lessons of the past, the risks and constraints presented by science, and the views and knowledge of local communities, to ensure development options work within ecological limits.*
3. *Build on the work of Traditional Owner groups and Indigenous expert bodies and forums, such as the North Australian Indigenous Experts Forum on Sustainable Economic Development and the Kimberley and Cape York Appropriate Economies Roundtables, and support mechanisms to receive direct advice from forums such as these.*
4. *Apply the Inquiry Terms of Reference to:*
 - *examine the potential for the development of the region's low-footprint, high-socio economic-benefit industries and land uses, including ecosystem service industries, and identify policy, regulatory, market and incentive instruments to support their long term sustainable development.*
 - *identify critical economic and social infrastructure, and critical environmental infrastructure and services, needed to support the long term wellbeing of the region, and ways to support planning and investment in this.*

2. Northern Australia – a region of globally significant environmental values

Northern Australia is a globally significant opportunity for biodiversity conserve, sustainable development and Indigenous advancement without equal in the world today.

Northern Australia supports the largest ecologically intact tropical savanna left on Earth today, spanning 120 million hectares from Cairns to Broome.³ There are 65 river basins in this region, supporting 1 million kilometres of rivers and creeks (measured at a scale of 1:250K), with most remaining free-flowing and having the lowest levels of disturbance of Australian rivers.⁴ The Arafura and Timor Seas, and Gulf of Carpentaria, is one of the least disturbed shallow marine ecosystems left in the world.⁵

Together this region supports around a quarter of a billion hectares of some of the most ecologically intact ecosystems and wildlife left in the tropics today, and the only large tropical region in such condition in a developed, politically stable nation.

Environmental laws and state, territory and federal levels need to be strengthened to provide adequate protection to these values. Calls for cutting 'green tape' ignore widespread community demands for better and stronger laws that effectively protect the globally significant values of the north.

The Environment Centre NT's members and supporters ask the Joint Select Committee to recommend that:

³ Woinarski et al, 2007. *The Nature of Northern Australia*. ANU Press, Canberra. Available for download at http://press.anu.edu.au/titles/nature_na_citation/

⁴ Stein et al, 2002. Spatial analysis of anthropogenic river disturbance at regional and continental scales: identifying the wild rivers of Australia. *Landscape and Urban Planning*, 60, 1-25. Available at <http://www.sciencedirect.com/science/article/pii/S0169204602000488>.

⁵ Halpern et al, 2008. A Global Map of Human Impact on Marine Ecosystems. *Science*, Vol. 319 no. 5865 pp. 948-952. See <http://www.sciencemag.org/content/319/5865/948.short> and <http://www.nceas.ucsb.edu/globalmarine>

- the region be managed to conserve the globally significant natural and cultural values of the savannas, rivers and seas of Northern Australia;
- a Northern Australian land and sea conservation plan be developed that carefully considers key areas and ecological processes across land and seascapes that should be protected from damaging developments, and identifies how these areas should be managed.
- avoid the major threats to these values, particularly large scale land clearing, damming free-flowing rivers, extracting water from aquifers at unsustainable levels, and approving intensive development in protected areas.
- ecological connectivity be protected and restored, such as through avoiding the threats identified above, and effectively mitigating the impacts of altered fire regimes, weeds and feral animals.

A plan for the north would recognise the value of enhancing ecosystem services, and recognise that our natural resource base is not infinitely available and invulnerable to human actions.

The wilderness quality maps shown in Figure 1 give an indication of the important landscape connectivity values of the north. These maps were produced as part of the Federal Government's National Wilderness Inventory project that resulted over community concern of the rapid decline in the area and quality of relatively remote and natural land in Australia.

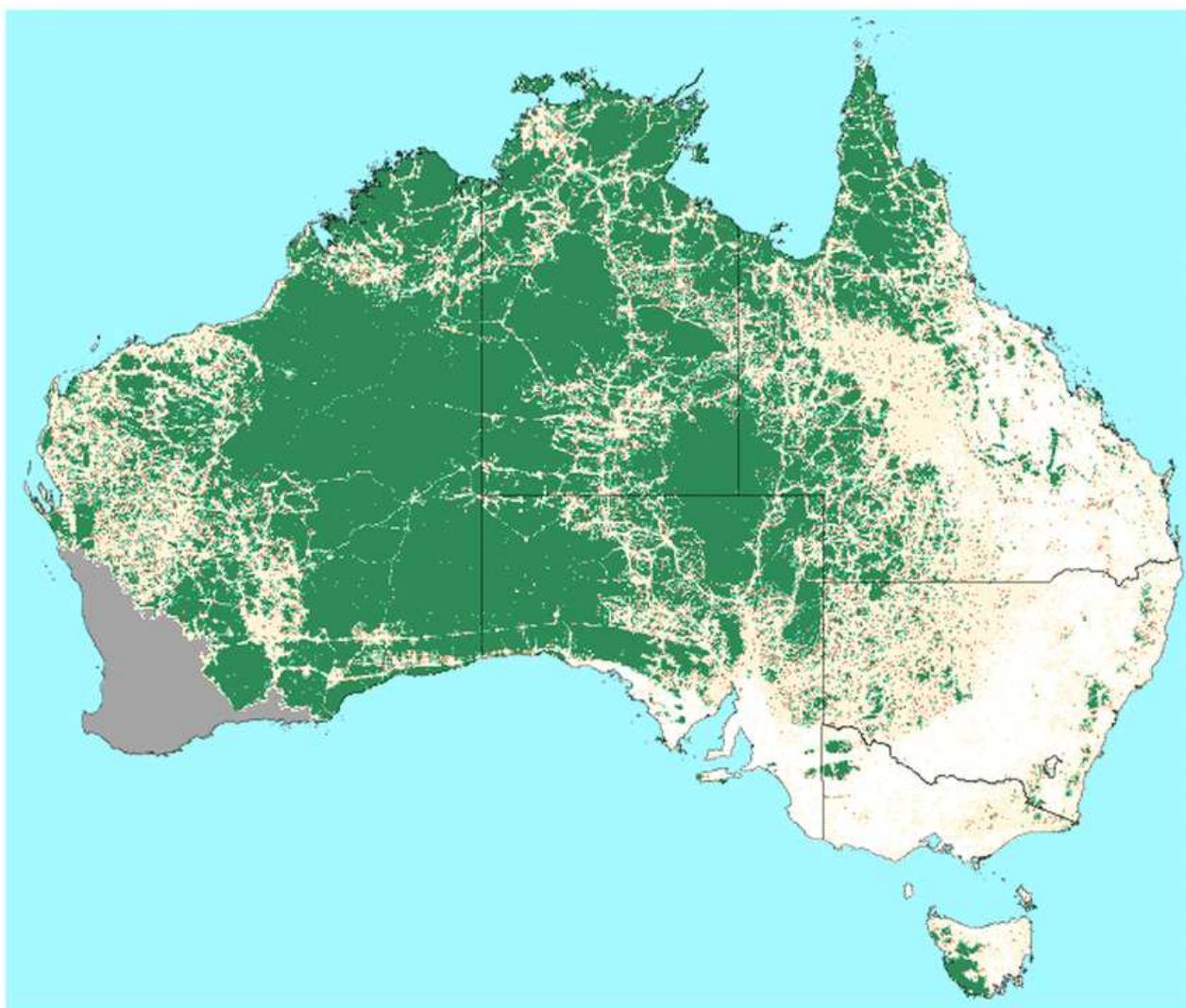


Figure 1: Wilderness Quality Map of Australia (Department of the Environment)

Northern Australia is currently experiencing widespread biodiversity loss and habitat and ecosystem degradation due to land clearing, weed and feral animal invasions, under resourced land management and climate change. Northern Australia is experiencing an enormous extinction crisis of mammals, one that is attracting international attention. There should be clear goals of reintroducing threatened mammals back in to the landscape and conservation plans for this to occur.

Protection of habitats is crucial to address the decline in biodiversity in northern Australia. There is still no legislation relating to native vegetation management in the Northern Territory despite there being one in every other jurisdiction. Land clearing continues in Northern Territory at an unprecedented rate, and with very little environmental regulatory oversight.

We strongly recommend expanding the current national reserve system, including acquiring land for the extension of the National Park system. Currently only 3.5% of the Northern Territory land mass falls under National Park tenure (owned and managed by the Territory Parks and Wildlife Service), and many of these parks experience weak environmental protection and limited management resources. For example, the NT Government has recently approved exploration licences for oil and gas in the newly created Limmen National Park.

A network of marine parks is also important for the future health of our marine ecosystems and protecting fish stocks for decades to come. Currently less than 1% of the Northern Territory's waters fall under Marine Park status.

A conservation plan for the North should carefully consider key conservation values and not just be about unproductive country that is suitable to no alternative land use.

With the development of the north a clear intention of the Northern Territory and Federal government it is important that there is proper engagement with the many different land managers and stakeholders across the North. The Kimberley to Cape Initiative is currently underway and aims to bring different stakeholders and land managers across Northern Australia together to realise common visions on what a sustainable and prosperous future for the savanna landscapes looks like. More info can be found at <http://www.kimberleytocape.net.au/>

3. The importance of the Conservation and Cultural Economy

The Committee should recognise the importance of the conservation and culture sector; jobs relating to natural resource management, conservation and Indigenous culture. This is broader than those provided by National Parks, although these jobs are an integral part of the sector, but include other forms of land managers, such as Indigenous Rangers, those working in weed and fire management, carbon abatement schemes, wildlife enterprises, Indigenous Protected Areas, and so on. This is a largely unquantified sector of the Northern Territory economy, but of significant size to warrant reference to in a strategic vision. Whilst this sector is difficult to define in terms of employment and contribution to the GDP of the north, it is certainly larger than the estimated \$200M p.a. proposed in 'Sustainable Development of Northern Australia'.⁶

⁶ *Sustainable Development of Northern Australia*, a report prepared to Government by the Northern Australia Land & Water Taskforce. Department of Infrastructure, Transport, Regional Development and Local Government, Canberra, February 2010, p18.

A report on the 'cultural and conservation economy of Northern Australia' identified the following characteristics of this economy and why it is important:

- recognises Aboriginal culture, rights and title;
- builds and supports strong, vibrant, sustainable communities;
- provides meaningful work, good livelihoods and sustainable enterprises; and
- conserves and restores the environment—supports caring for country.

Recognise the existing and potential important contribution Indigenous land and sea managers make to the protection and preservation of the Northern Territory. There should be mention of promoting Indigenous Protected Areas and greater support to ranger programs delivering enhanced ecosystem services. There are numerous examples of successful Indigenous land and sea management programs promoting healthy landscapes and healthy people. These should be recognised and promoted in future policies and government support programs.

4. Establishing a globally significant protected area, tourism and sustainable jobs initiative

Conservation, management of Indigenous cultural values and businesses that have relatively low impacts on the environment (eg, low impact grazing on native pastures) are the primary land use and source of income over tens of millions of hectares of Northern Australia.

Protected areas form an important, and growing, component of the conservation and cultural economy.

Protected areas include Indigenous protected Areas, National Parks, conservation reserves, marine parks, World Heritage and National heritage sites, Ramsar wetlands of international significance, conservation covenants, private wildlife sanctuaries and conservation agreements.

However, today protected areas cover around only 13% of the tropical savannas region of 120 Million hectares.

Protected areas need to be considered as part of the economic architecture for the north. They are natural infrastructure assets that attract tourists, require investment, and provide free ecosystems services such as clean water, regulation of the hydrological cycle and carbon storage.

The Environment Centre NT believes the initiative should include a vision of an interconnected network of effectively managed and innovative protected areas of different types covering half the savannas by 2030. This would improve biodiversity conservation, support regional economic development, improve Indigenous futures, and provide mechanisms for resource users to gain market recognition for sustainability practices (eg, pastoralists who establish conservation covenants and thereby receive market recognition for sustainability).

A network of protected areas would generate multiple benefits across multiple sectors. It would directly serve the tourism, recreation, fishing, hunting, seafood and bioprospecting industries, as well as employment in land management and other services, contribute to Indigenous health and livelihoods through provision of food, maintenance of country, and spiritual wellbeing.

We urge the Committee to recommend:

- Establishing an interconnected network of protected areas across Northern Australia to underpin the conservation economy and effectively conserve wildlife across half the tropical savannas by 2030.
- Support a heritage assessment of Arnhem Land, with the informed consent of Indigenous traditional owners and managers.
- Prohibit damaging intensive development in protected areas, such as large mines and oil and gas exploration and production.

5. Climate Change

The development of Northern Australia needs to have climate change at the forefront of planning, and include strong mitigation and adaptation policies and strategies. As is being developed in other parts of Australia there should be the development of climate adaptation plans for northern Australia that map out key risks and strategies to reduce the impacts of climate change.

On top of the existing environmental limits to agricultural development, climate change is likely to pose further challenges for northern Australia. The north can expect changing rainfall patterns, increasing temperatures, and increased likelihood of extreme climatic events such as cyclones and higher intensity wildfires.

Such changes will have a detrimental impact on the pastoral industry and reduce livestock carrying capacity. As such, climate change adaptation is critical for land use planning in the north over the coming decades.

The Northern Territory Climate Change Policy of 2011 highlighted the important opportunities that exist for mitigation through carbon management in the landscape.

6. Energy – old or new?

There are major risks to developing Northern Australia for gas, particularly onshore gas and new greenfield onshore LNG hubs.

Contrary to claims by governments and the industry, gas is not clean. It's a dirty fossil fuel that is contributing to climate change.

Rather than developing major onshore gas fields, such as is proposed for the Beetaloo Basin under the Barkly Tableland, Australia needs to leave the gas in the ground and move to develop clean energy sources instead.

No new LNG projects should be developed in greenfield sites across Northern Australia. New LNG trains should be either built in existing gas hubs, such as Darwin, or using floating LNG technology as it develops. The failure of the proposed James Price Point gas hub to either receive a social licence, receive widespread consent from Indigenous traditional owners, or be financially viable, clearly sends a warning to any companies or governments that seek to create new gas hubs in the north.

Development of a large onshore gas industry in the north, including connecting the NT gas pipeline grid with the east coast gas pipeline grid would lock the north into the dirty, polluting and expensive fossil fuel era.

Our members and supporters want a better future for their kids, the climate and the environment.

A strategic vision for Northern Australia needs to realise the enormous economic potential of growing a large-scale renewable energy industry. Northern Australia is a global solar hotspot, with some of the world's highest average levels of solar irradiance (see Figure).

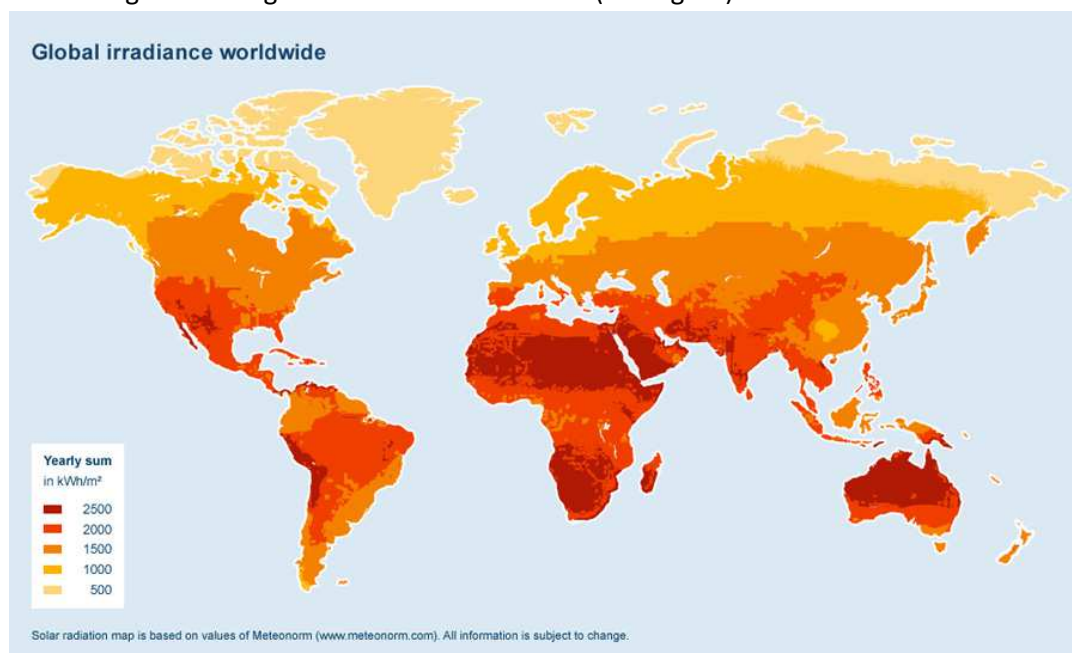


Figure 2. Map of global solar irradiance.

Thus the NT has considerably large untapped potential as a solar energy resource for northern Australia and export energy markets. There is also considerable tidal energy that can be developed further with the right policy incentives.

Despite this potential, less than 1% of the NT energy supply currently comes from renewable energy.

Instead both the Territory and Federal government are focussed on the NT's reserves of natural gas, and have plans to considerably expand this resource for domestic and export markets. Developing natural gas will have considerable environmental impacts; lock in greenhouse gas emissions for decades to come, require development of off and onshore gas processing facilities harming marine environments, and the largely unknown impacts of 'fracking' shale gas.

Onshore shale gas faces similar challenges to coal seam gas on the east coast and unconventional gas development abroad, in frequently failing to secure a social licence to operate from communities and landholders.

Northern Australians should lead the sustainable development of Northern Australia, hence widespread opposition to forms of development that threaten our environments, cultures, businesses, lands and seas should be heeded by the Australian Government.

Moves by the NT Government to establish an NT Legislative Assembly Inquiry into Energy Futures and the recent establishment of an independent NT Inquiry into Fracking reveal the very significant concerns and

risks regarding shale gas and fracking, as well as the desire of many to rapidly transition to a renewable energy future.

Further, interconnection of NT and east coast gas grids would drive up domestic gas prices in the NT just as gas prices will increase significantly for gas consumers in eastern states once LNG plants at Queensland's Curtis Island start exporting from 2015, which will link domestic gas prices with international gas prices.

Increasing gas prices are a commercial disincentive for large scale manufacturing and heavy industry in Northern Australia. The uncertainty surrounding future global gas prices highlights the risks to investors considering shale gas developments in Northern Australia. Should the USA export significant volumes of shale gas into Asia in the next two decades, or LNG exports climb from Tanzania, Mozambique or Kazakhstan, the economics around potential large scale shale gas production in Northern Australia becomes even more questionable, particularly in light of remoteness, lack of infrastructure and high labour costs.

In the past it has been argued that solar energy is just too expensive compared to other fossil fuel based energy sources. As energy prices rise and the cost of solar technologies has rapidly decreased, the time has come for the Northern Territory to properly invest in this resource. In the face of climate change it makes good economic and environmental sense to develop policies that facilitate the transition to these cleaner greener options. Similarly, barriers around the intermittency of solar energy have largely been overcome with new storage solutions.

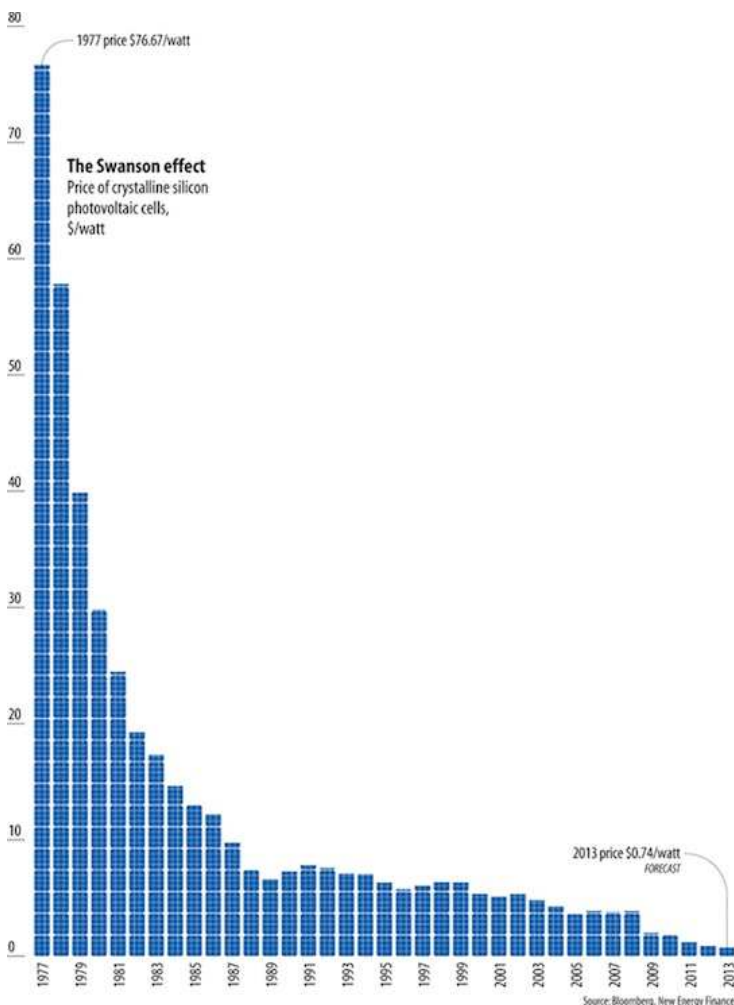


Figure 3. Falling solar prices. Graph shows falling cost of crystalline solar photovoltaic panels, 1977-2013.
Source Bloomberg New Energy Finance. See <http://thinkprogress.org/climate/2013/10/06/2717791/cost-pv-cells-solar-power-grid-parity/>

Despite current federal efforts to repeal existing carbon pricing legislation, eventually Australia is likely to return to some form of carbon pricing along with the rest of the world, including our nearest neighbours in South East Asia. It is important that we prepare our economy for this future, and position the Northern Territory to profit from moves towards a prosperous low carbon economy.

One of the most exciting opportunities to prepare for a low carbon future is to maximize Northern Australia's natural advantage in the way of renewable energy, and plan a transition to a regional renewable energy exporting powerhouse, as discussed below.

A key challenge for the Committee is to set the north on a path that creates jobs and wealth whilst avoiding locking us into a polluting, expensive and climate warming future.

This begs the question, should the north's energy future be old or new?

7. Exporting renewable energy to Asia through an Australia-Asia Interconnector

In July 2013, the Environment Centre NT and Charles Darwin University held a workshop in Darwin exploring the idea of a subsea cable connecting the electricity grids of the Northern Territory with South East Asia.⁷ The workshop brought together over 25 experts and practitioners in the areas of renewable energy and energy markets, subsea electricity cabling, policy makers and government officials from the Northern Territory, Indonesia and Timor Leste.

⁷ Blanch, S. Law, R. Campbell, A. Halawa, E. & Eiritz, C. (2013) *Scoping Workshop on Australia-South East Asia grid connection to catalyse regional generation and distribution of renewable energy*, 29-30 July 2013, Environment Centre NT & Centre for Renewable Energy, Charles Darwin University, Darwin. Available for download at <http://ecnt.org/campaigns/scoping-australia-asia-interconnector-grow-regional-renewable-energy-and-energy-security>



Figure 4. Proposed Australia-Asia Interconnector joining the electricity grids of the Top End, Timor and western Indonesia. A High Voltage Direct Current subsea cable would enable electricity generated from renewable energy to be exported from Australia to Asia.

The workshop concluded that such an idea is an important opportunity for the development of Northern Australia, is technically feasible now and would be based on the following drivers:

- Reducing emissions and tackling climate change
- Meeting rising energy demand in SE Asia
- Developing Northern Australia
- Addressing the inevitable depletion of non-renewable fossil fuel sources such as oil, gas and coal
- Realising the untapped world class renewable resources in the region
- Reducing the health and environmental impacts of coal, diesel and nuclear power
- Alleviating energy poverty
- Increasing energy security and reducing energy conflict risks
- Promoting energy cooperation for reduced energy conflicts
- Building regional partnerships
- Reducing the budgetary costs in Indonesia of major subsidies for diesel and coal electricity
- Falling costs of solar power and rising costs of fossil fuels

Construction and operation of an Australia-Asia Interconnector would provide the critical regional energy infrastructure to enable Northern Australia to grow clean energy exports this Century. It would provide a long term opportunity to transition from fuels with significant risks to the climate and society (eg, fossil fuels, uranium) to an export economy focused on renewable energy (eg solar, tidal, geothermal, biomass).

Technical challenges regarding long distance transmission, storage and intermittency of renewable energy, and integration within existing electricity grids are progressively being addressed. Solar thermal power plants currently operate in Southwestern USA – and have done since the 1980s – and Spain. These can provide almost baseload power, particularly those that use molten salt storage to drive steam turbines

during the night or cloudy days. A recent example is the construction and operation of the 20MW Gemasolar solar power tower in Spain.



Figure 5. Example of an operating solar thermal power plant in Spain, which uses solar power tower technology (Image: Greenpeace).

We urge the Committee to recommend:

- The feasibility of an Australia-Asia Interconnector be assessed, coupled with utility scale renewable energy power plants in the Top End, including through discussions with the Governments and business communities of Indonesia and East Timor.

8. Reducing the reliance of the Northern Territory economy on major industrial projects with an export focus

The Northern Territory Government should seek to find a better balance between external investments from large scale industrial projects such as INPEX's Ichthys Project to providing a more diversified economy that promotes investment from within. The social, economic and environmental problems of relying on large scale projects to propel an economy are well documented and known (see Carson et al. 2009 for more: http://www.tandfonline.com/doi/abs/10.1080/08111146.2010.509886#.UnHq1fk_s2g). Such large scale export focused projects create a boom and bust cycle that is a result of a lack of developed forward, backward, demand and fiscal linkages in a resource based economy. As a result Darwin and other parts of the Northern Territory see a large population turnover, and suffer from symptoms of a 'temporary city'. Instead the vision should recognise the value in NT based industries, and encourage internal sustainable economic development opportunities. An important example of this is land and sea management.

Relying on large infrastructure projects also creates major environmental impacts, and has significant impacts on the other goals of this vision. For example, with the intention to grow large scale industries, the NT government has stated the need for an eventual new port. An area that has been flagged is the ecologically significant area of Glyde Point that is highly valued by fisherman, Indigenous people, conservationists and other parts of the community. For this example it is better to invest in existing

infrastructure of the East Arm wharf to maximize its efficiency and reduce the environmental impacts of port development.

9. Food

The vision for a northern Australian food bowl has been a persistent vision for many over the past century despite a long history of failures. In the Coalition discussion paper on Northern Australia, the first “vision” is of “developing a food bowl...which could double Australia’s agricultural output”. In order for this to be achieved the Coalition will aim to “add flexibility to land use controls and reduce unnecessary regulation and approval processes”.

It is important the Committee understand that these visions are simply not supported by science. The Northern Australian Land and Water Taskforce found that there is here is no scientific evidence to support a food bowl vision for the north. The landscape is limited by poor soils, water availability and harsh climatic conditions.

The Northern Australia Land and Water Review 2009 said there may be between 5 and 17 million hectares of arable land in Northern Australia, but acknowledged this estimate excluded any considerations of financial viability, land access (eg conservation), water availability or climate.⁸

Clearing five million hectares, let alone 17 million hectares, of tropical savanna would destroy vegetation, wildlife, carbon stores and connectivity pathways in the world’s largest tropical savanna. This scale of development should be rejected by the Committee.

Two centuries of agriculture in the south east of Australia, plagued with droughts, poor soil management, urban expansion and rising populations, has led to degradation of production systems.

The trap of the north is created by its appearance as an untouched backup plan to failures in southern landscape management.

Maintaining hydrological connectivity along the rivers and creeks, floodplains and estuaries of Northern Australia is central to maintaining the ecological values of the north. For many, the north is all about healthy rivers, great fishing, maintaining Indigenous cultural values, and clean water.

Dams and weirs erode and destroy the ecological processes that keep rivers and estuaries healthy. Such instream structures impede or prevent fish migration, disrupt beneficial flooding to downstream mangroves and fisheries, lose vast amounts of water to evaporation, and are very expensive to build and maintain.

Australia must not repeat the mistakes made in the Murray Darling Basin or southwest WA across its north. We oppose strongly any plans for instream dams or weirs that erode or destroy these ecological processes.

The development of the Ord River Irrigation area must serve as a salutary lesson in how not to develop the north. Despite being heavily subsidised by taxpayers (well over \$1Bn), having access to the largest body of freshwater in the nation (Lake Argyle), ample land and close proximity to Asian markets, the scheme has been a failure in terms of food production and ecological sustainability. Today, most of the land area in the Ord scheme is used to grow sandalwood trees not food, and Ord Stages 2 and 3 are being proposed for sugar cane to support an ethanol industry. How does this support plans to make the north the foodbowl of Asia?

⁸ Chapter 2-5.

The Ord is not an isolated example. The much touted Douglas Daly region and nearby Katherine in the NT are progressively being converted from cattle production to tree production. These regions will never be a foodbowl as they do not have the scale, water supplies or economic viability for large scale food production. So if some of the most arable soils in the Top End, in areas long-developed for agriculture and supported by taxpayer subsidies, are increasingly growing mahogany and sandalwood trees to the exclusion of food crops, why do so many politicians and southern 'visionaries' think the north is a major food bowl waiting to happen?

10. Mining

Mining is very often not the boon to regional communities and Indigenous peoples. There are many examples of mines failing to benefit adjacent Indigenous communities in terms of health and education, jobs and general community well being.

In our experience, some of the most disadvantaged Indigenous communities live very close to Territory mines, including Borroloola (Glencore Xstrata's McArthur River Mine), Jabiru (ERA's Ranger Mine) and Yirrkala (Rio Tinto's Gove mine and bauxite refinery).

Mines also leave dangerous and expensive legacies. Unfortunately the Territory has more than its fair share of polluting mines. Mt Todd gold mine pollutes the Edith River near Katherine with acid metalliferous drainage. Ranger Uranium Mine has a plume of radioactive contaminated water below its tailings dam of around 1 billion litres. The tailings dam at McArthur River Mine will cause acid metalliferous drainage in due course, which would contaminate the McArthur River, according to the Independent Monitor for the mine. The East Finnis River receives ongoing contamination from Rum Jungle Mine decades after it stopped mining and the mine was rehabilitated with 'best practice' methods. The Redbank Copper Mine on the NT/Qld border turns Hanrahans Creek blue and stops traditional owners drinking its waters.

Contrary to the views expressed by some in government, business and industry, environmental laws in the NT are weak and very pro-business. To illustrate how weak and ineffective our laws currently are, we provide the following examples:

- the **Ichthys LNG Project** in Darwin will increase Australia's greenhouse gas emissions by over 1% but last April project developers INPEX and Total had the conditions attached to the federal project approval amended to remove the requirement to create a greenhouse gas management plan that would require it to offset carbon emissions. Hence, in the absence of a carbon price, it will avoid for its massive carbon pollution.
- **Western Desert Resources** bulldozed much of a 165 km long haul road for its Roper Bar iron ore mine east of Mataranka, including through the newly declared Limmen National Park, before being granted approval for the mine by the NT or federal governments. The NT EPA and NT Mines Department admits it cannot prosecute WDR because its mining, environmental assessment and pastoral laws are so weak the mining company cleverly exploited loopholes in these laws. Further, even if the federal Environment Department prosecutes the company for breaching its EPBCA approval, it would face a fine of a maximum of \$500K and its managers and Directors would spend any time in gaol.
- **Sherwin Iron** de facto commenced mining at its Roper Project iron ore mine near Ngukurr last year when it exported 200,00 tonnes of ore to China before it had even released a draft EIS – let alone received an approval to mine by the NT government - by claiming it was merely a 'bulk sample'.

- **Imperial Oil and Gas** were granted approval by the NT Department of Mines and Energy to explore for oil and gas over the newly declared Limmen National Park in 2013.
- The NT Minister responsible for regulating mining and water management, as well as the 'independent' NTEPA, approved **Vista Gold's** deliberate pollution of the Edith River over the past two Wet Seasons from its Mt Todd mine by issuing the company with a waste discharge licence that allowed them to release acid metalliferous drainage into creeks that feed the river at levels higher than national ANZECC water quality guidelines.
- **Energy Resources of Australia's** Ranger Uranium Mine has a long history of accidents, spills and leaks inside the World Heritage listed Kakadu National Park. Presently, there is a contaminated plume of water sitting underneath the mine site measuring an estimated one billion litres of radioactive water. The mine never received the consent of the Mirarr traditional owners.
- Pastoralists and farmers are **unable to veto exploration and production of oil and gas** on their lands, despite clear evidence from Australia and abroad of the risks of unconventional gas development including fracking to water sources, landscapes, sites of cultural significance and fisheries.

On a brighter note, there exists significant potential for off grid mines in the Northern Territory to shift to renewable energy, with initial finance being the main barrier. Compelling opportunities exist for off-grid mines to generate significant renewable energy for both their operations as well as nearby remote communities which could be connected with mini-grids. The most significant opportunities to achieve such change would be during approvals process (initial construction, expansion, or seeking new energy supplies) and towards end of mine life where the company, government and local communities are focused on legacy, post-mine employment, future energy supply, and corporate social responsibility.

Backfilling pits in mining operations has in Northern Australia rarely been a requirement in environmental approvals. This is often due to mining companies not wishing to forego profits to rehabilitate the mine site back to its former conditions. In some cases such as Mt Todd gold mine near Katherine, new proposals by Vista Gold plan to leave a waste rock dump the size of Ayers Rock as a permanent landscape feature. Future mining in the north should require the backfilling of pits as mandatory and standard practice as is expected by the company ERA at the Ranger uranium mine in Kakadu National Park.

There exists across Northern Australia many legacy mines that contribute significant ongoing environmental damage. Current resources for addressing the contamination issues at mines such as Redbank copper mine, Mt Todd gold mine and Rum Jungle uranium mine are evidently inadequate.

Mining operations have a finite life, yet often mining towns arise due to them and are vulnerable to the future of the mine. Careful consideration needs to be given to post mining futures for towns such as Gove, so that when a mine reaches the end of its life it cannot simply walk away without supporting a transition plan to alternative livelihoods.

We provide the following recommendations:

- Mines and unconventional gas and oil production should not occur within protected areas.
- All new open cut mines in northern Australia should be required to backfill waste in to pits to rehabilitate landscapes to pre-mining conditions, or as close as feasible.

- Prepare remote mining communities for life after mines close, and consider new strategies and requirements of new mines for transitioning communities at the end of mine life.
- Strengthen weak environment, mining and petroleum laws to levels commensurate with community and landholder expectations with the protection of the globally significant ecosystems in Northern Australia.
- A federal plan should be developed for cleaning up legacy mines in northern Australia.
- Develop a transition plan to get all large off grid mines on to renewable energy by 2025.

11. Centre for Tropical Knowledge

Northern Australia is well placed to maximise upon its existing high quality research institutes such as Charles Darwin University and James Cook University. Charles Darwin University could become a G8 university specialising in tropical knowledge and research that supports sustainable industries and communities.

Ends