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To: Joint Standing Committee on Northern Australia
Re: Preparing for emerging industries across Northern Australia

Thank you for the opportunity for the Institute for Energy Economics and Financial Analysis (IEEFA) to provide input to the inquiry into preparing for emerging industries across Northern Australia.

IEEFA is an independent energy finance think tank that examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy.

This submission is largely focused on the role of the Northern Territory in the energy transition, and does not include any comments relating to Queensland or Western Australia. IEEFA is solely focused on the transition to a lower emissions-intensive economy that is both profitable and affordable. We have no comments on the terms of reference questions outside this focus.

In IEEFA's view, the Northern Territory has vast renewable energy potential that could underwrite a low-emissions export industry as well as providing power to emerging industries in the Territory that also hold export potential, such as critical minerals and green ammonia.

Kind regards,

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A. The global transition to net zero and furthering renewable energy, decarbonisation and carbon abatement

Northern Australia has a role to play in the transition to a lower emissions-intensive economy through the development of its vast renewable energy potential. This could underpin the export of renewable energy to neighbouring countries in the Asia-Pacific, if proven economic, and eastern Australia, if commercially viable. It could also provide low-emissions energy to the Territory's critical minerals sector and data centres.[1] However, data centre installation would have to be undertaken in a measured way so that it does not strain the existing power grid and push up prices for territory households and businesses. Data centres would also need some firming power such as batteries, and perhaps gas, which should be kept to a minimum.[2]

The Northern Territory has the potential to be a significant region for renewable energy and low-emissions industries given its vast area and high solar insolation levels.[3] This could provide a platform for future renewable energy development.

The Territory also has a relatively large area of land availability for hosting renewable energy projects. It occupies about 17% of Australia's landmass and has the lowest population density of any state or territory. Although it must be acknowledged half of the Territory is held as freehold title by Indigenous Australians, and holds cultural significance to them.[4]

The Australia-Asia Power Link (AAPowerLink) project by Australian renewable energy company SunCable underlines the potential for exporting renewable energy to neighbouring countries in the Asia-Pacific region. The project plans to send 4 gigawatts (GW) of electricity to Darwin to underpin new industries in "green" minerals and data centres.[5,6] The AAPowerLink project will also export 1.75GW of power to Singapore.[7] SunCable plans to build a solar farm to power the project with up to 20GW capacity, and 36-42GW of energy storage.[8,9] This amount of electricity generation is 33 times the capacity of the Territory's largest electricity generator.[10] If SunCable's project were to obtain the financing and be built to this scale, it would provide multiple economic opportunities, including electricity exports and more power supply for local industries. Although SunCable has not discussed sending electricity to eastern Australia's National Electricity Market (NEM), others have raised it as a prospect.[11] An Australian National University (ANU) study concluded that a high voltage direct current (HVDC) link from the Northern Territory, particularly

[1] Renew Economy. Data centres urged to bring their own wind, solar and big batteries so they don't trip the grid. December 3, 2025
[2] Northern Territory. Hyper Scale Data and AI Centres. Sustainability and clean energy integration. 1 August 2025.
[3] Energy Policy. Exploring energy policy scenarios to transition to a low carbon economy by 2050: A case study on the Northern Territory of Australia. Page 1. June 2023. Solar insolation is the intensity of sunlight, measured in watts per square metre (W/m²) or kilowatt-hours per square metre (kWh/m²).
[4] Northern Land Council. About Us. Accessed on 27 January 2026.
[5] SunCable. Australia-Asia Power Link. Accessed 28 January 2026.
[6] The Australian Financial Review. Cannon-Brookes-backed SunCable in data centre talks with big tech. 2 October 2025.
[7] Ibid.
[8] The Guardian. 'Gobsmacking' solar farm that could power AI datacentres 'possibly unparalleled' in Australia or world. 21 November 2025.
[9] Infrastructure Australia. Australia-Asia Power Link. Business case evaluation summary. Page 2. June 2022.
[10] Territory Generation. Our power stations.
[11] The Conversation. New transmission towers are crucial for renewables – but contentious. Here's where they should go. 25 November 2025.

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from the Victoria Daly region, to the NEM had merit.[12] However, there has been no Australian government agency study on this. The Australian Energy Market Operator (AEMO) undertook a study on transmission expansion options for the NEM, but the report did not include an option for linking the Territory to it.[13]

Connecting the Northern Territory to the NEM could provide renewable power to the east coast at the end of the day to extend the capture of renewable energy. However, so far this connection has not been proven to be commercially viable, and IEEFA is only highlighting it as a concept rather than endorsing it as a recommendation.

SunCable's AAPowerLink project is still at the conceptual stage, and so far there is no date to start construction. If the project is proven to be commercially viable, IEEFA would support the export of renewable energy.

The Northern Territory also has wind generation potential that could help smooth out some of the variations associated with solar power generation; however, these wind resources are only in the southern part of the territory. A report commissioned by the government showed the Territory's south has potential for both large- and small-scale wind projects, while "wind speeds across the northern part of the Territory are generally insufficient for wind power generation".[14]

"The wind resource across the Territory has been assessed at a high-level using data from the Global Wind Atlas, WindLab and the Australian Bureau of Meteorology (BoM). All data sources indicate reasonable wind resources across the Territory."[15]

"There is opportunity to further consider the correlation of wind and solar in these southern regions of the Northern Territory which may provide efficiencies for developers."[16] SunCable is reportedly considering adding wind to its solar and battery project in the Territory.[17]

Hydrogen

IEEFA notes that the Northern Territory's Renewable Hydrogen Master Plan and Allied Green Ammonia includes developing a large-scale renewables-based hydrogen and ammonia facility on the Gove Peninsula.[18] IEEFA has supported ammonia as an ideal early adopter for green hydrogen, and supports green hydrogen for the iron and steel sector.[19,20] However, IEEFA also notes that the economics of producing hydrogen for several uses is still prohibitive, and has forced the cancellations of several large-scale projects.[21] Therefore, we believe the Northern

[12] Applied Energy. An integrated framework for systematically identifying optimal high-voltage transmission routes in renewable energy systems. Page 13. October 2025.
[13] Australian Energy Market Operator (AEMO). 2023 Transmission Expansion Options Report. September 2023.
[14] Jacobs. NT Wind Resource Assessment and Wind Measurement Strategy Page 11. July 2024.
[15] Ibid. Page 10.
[16] Ibid. Page 11.
[17] RenewEconomy. Giant Sun Cable solar project to start off with domestic focus, may add wind. 31 May 2023.
[18] CSIRO, HyResource. Allied Green Ammonia. 20 October 2025.
[19] IEEFA. Local ammonia production the ideal early adopter for green hydrogen. 20 June 2024.
[20] IEEFA. Australia needs to get smarter with green hydrogen. 30 July 2025.
[21] The Conversation. What's happened to Australia's green hydrogen dream? Here are 5 reasons the industry has floundered. 14 July 2025.

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Territory's Renewable Hydrogen Master Plan needs to be very selective in what projects it should pursue in order to make the best use of the Territory's renewable energy potential.[22]

Data centres

The Northern Territory has targeted data centres as a growth industry as part of the Territory government's goal to create a $40 billion economy by 2030.[23] The government says the Territory's proximity to South-east Asia and the high-speed data cables that connect Darwin to the region make it a good location to build a data centre industry. IEEFA sees a role for renewable energy to provide electricity generation for data centres, but we are concerned that a large expansion of data centres could be used to justify more gas power generation.[24,25] IEEFA would like to see further costings of the impacts of data centre growth on local electricity prices, as well as the potential for grid overload given the Territory has a relatively small power network system.[26,27]

Carbon capture and storage (CCS)

There have been several CCS projects in the Territory that are promoted as a solution to reducing greenhouse gas (GHG) emissions, also known as carbon abatement. However, CCS has a poor performance record and has done little to reduce emissions. Rather, it could be argued CCS has been largely used to increase global GHG emissions through enhanced oil recovery, known as carbon capture, storage and ultilisation (CCUS).[28]

Australian gas producer and LNG exporter Santos said in September 2021 it planned to turn the depleted Bayu-Undan gas field in the Timor Sea into a CCS facility. However, Santos has yet to disclose the costs or provide technical details on one of the world's largest CCS ventures, which plans to capture and store 10 million tonnes of carbon dioxide ($MtCO_2e$) a year.[29]

More recently, Japanese LNG exporter Inpex filed an environmental plan (EP) with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) about its CCS project in the Bonaparte Basin. IEEFA assessed that the location for the CCS project had not been proven to be an identified GHG storage formation, as required under Australia's Offshore Petroleum Greenhouse Gas and Storage (OPGGS) Act.[30] Inpex has not completed the required drilling and testing to demonstrate the proposed storage location is suitable to store CO_2 permanently.[31] IEEFA recommended that Inpex resubmit its EP after it had done the necessary

[22] Northern Territory Government. Northern Territory Renewable Hydrogen Strategy. July 2020.
[23] Northern Territory Government. A Step Change to win investment and create jobs. Territory Economic Reconstruction Commission: Final Report. Pages 32 and 44. December 2020.
[24] Clean Energy Finance Corporation. Data centre boom to reshape Australia's energy future: CEFC – Baringa report. 11 December 2025.
[25] Northern Territory. Hyper Scale Data and AI Centres. Sustainability and clean energy integration. 1 August 2025.
[26] Bloomberg. AI data centres are sending power bills soaring. 30 September 2025.
[27] Northern Territory Electricity System and Market Operator (NTESMO).
[28] IEEFA. Carbon Capture to Serve Enhanced Oil Recovery: Overpromise and Underperformance. Page 1. March 2022.
[29] IEEFA. Bayu-Undan: A test bed for carbon trading or a distraction? 16 October 2024.
[30] Australian Government. Offshore Petroleum Greenhouse Gas and Storage Act 2006. Section 20, Page 73. 5 December 2025.
[31] IEEFA. Submission to the Department of Climate Change, Energy, the Environment and Water for the Bonaparte Carbon CCS project. Inpex withdrew project after consultation closed and submissions were not published.

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work to prove it was a suitable location to capture and store up to 8MtCO_2e a year. Inpex has since withdrawn its Bonaparte CCS project from the government's assessment process.[32]

When it comes to reducing GHG emissions, CCS's contribution is little more than a rounding error. The extraction and consumption of gas, coal and oil together generated emissions of 37.8 billion tonnes of CO_2e in 2024. Whereas the estimated total CO_2e stored by the world's dedicated CCS projects is little more than 10Mtpa, or 0.00026%, of global fossil fuel emissions, based on the latest data from the Global CCS Institute (GCCSI).[33,34] IEEFA is of the view that no taxpayer money should finance CCS studies or projects because the cheapest way to reduce emissions is to transition from fossil fuels to renewable energy.

b. Developing the critical minerals industry;

The Northern Territory has multiple critical minerals projects either in development or under assessment as it boasts many minerals that will play a key role in the energy transition, including cobalt, copper, lithium, titanium and rare earths.[35] Development of these minerals should be accompanied by studies into refining capacity powered by renewable energy to ensure the Territory captures more of the value in the critical minerals supply chain and attracts a green premium.

There is increasing potential to export critical minerals from the Northern Territory to key markets such as India. In the fiscal year to 31 March 2025, India imported about 2.7 million tonnes of critical minerals, including lithium, copper, graphite, nickel and cobalt, valued about US$12 billion. About US$677 million, or about 6%, of these imports came from Australia over that period. Initiatives such as the India-Australia Economic Cooperation and Trade Agreement, aligning Northern Territory-level initiatives with broader national frameworks, could help translate resource endowment into sustained trade, investment and industrial collaboration.[36]

c. Supporting the development of export industries;

Government support for the development of export industries must be based on financial metrics, the alignment with Australia's emissions reduction targets and the acceleration of the energy transition. IEEFA notes there is government financial support for export industries through the Northern Australia Infrastructure Fund (NAIF), including the minerals sector.[37] There is also the $5 billion Critical Minerals Facility, which can provide finance to critical minerals projects in the Territory.[38] IEEFA is of the view that no government funding should be allocated to the development of gas exports from the Beetaloo Basin. The world faces a glut of cheaper LNG with record volumes of additional capacity to come online this year.[39] At the same time, long-term

[32] Energy News Bulletin. Inpex pulls Bonaparte CCS project from govt assessment process. 20 January 2026.
[33] IEEFA. Gorgon shows CCS aims are built on technical uncertainty. 15 December 2025.
[34] Global CCS Institute (GCCSI). Global Status of CCS 2025. Pages 44-46.
[35] Northern Territory Government. The Territory Critical Minerals Plan. Page 2.
[36] Australian Government, Department of Foreign Affairs and Trade. Australia-India Economic Cooperation and Trade Agreement (ECTA). December 2022.
[37] Australian Government. Northern Australia Infrastructure Fund. Resources.
[38] Australian Government. Export Finance Australia. The Australian Government's Critical Minerals Facility.
[39] The Australian Financial Review. 'Writing on the wall' for LNG prices as record wave finally hits. 9 January 2026.

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global gas demand for power generation, which is the largest source of gas demand, may be challenged by the increase in renewable energy, further clouding the total gas demand outlook.[40]

d. Supporting the decommissioning industry;

The Northern Territory has an important role to play in Australia's oil and gas decommissioning industry. A study by the Centre of Decommissioning Australia (CODA) concluded that Darwin could emerge as a decommissioning hub for offshore oil and gas facilities in the Browse and Bonaparte basins over the next 40 years.[41] CODA estimates these facilities account for 20% of Australia's US$40.5 billion (A$57.24 billion) decommissioning liability for the full removal of all offshore equipment.[42] CODA also noted decommissioning opportunities for Darwin could start in the near term with, "the subsea infrastructure and mooring systems associated with the Northern Endeavour, coming ashore from 2025".[43] This will be followed by the Montara oil project, which is to be decommissioned from 2032, with further works forecast into the 2060s when the Ichthys gas project is due to be decommissioned.[44]

*IEEFA has no comment on e. f. g. h. i. j. k. for the terms of reference.

[40] Reuters. Renewables turn LNG glut into a sinkhole. 27 December 2025.
[41] Centre of Decommissioning Australia (CODA). Northern Territory Decommissioning Location Study. July 2025. Page 3.
[42] Ibid. Page 7.
[43] Ibid.
[44] Ibid.