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Submission to the
Green Paper on Developing Northern Australia

by

The Australian Academy of Technological Sciences and Engineering
(ATSE)

to

Northern Australia Taskforce
Department of the Prime Minister and Cabinet
Australian Government

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Dear Sir

ATSE Submission: Green Paper on Developing Northern Australia

The Australian Academy of Technological Sciences and Engineering (ATSE) welcomes this opportunity to provide some high-level input to the Government's *Green Paper on Developing Northern Australia*.

ATSE advocates for a future in which technological sciences, engineering and innovation contribute significantly to Australia's social, economic and environmental wellbeing. The Academy is empowered in its mission by some 800 Fellows drawn from industry, academia, research institutes and government, who represent the brightest and the best in technological sciences and engineering in Australia. The Academy provides robust, independent and trusted evidence-based advice on technological issues of national importance. ATSE fosters national and international collaboration and encourages technology transfer for economic, social and environmental benefit.

ATSE welcomes the start of this discussion on the multi-dimensional challenge of strategic development across northern Australia. The unique environment, biodiversity, resources and culture of the North are a significant and valuable advantage for Australia. Seizing these advantages in the most beneficial way for all Australians in general and the region's population in particular – including its traditional owners – will require careful consideration and detailed, long-term planning. The protection of the region's unique and delicate ecosystems is of critical importance to consider in any strategic development plan.

The *Developing Northern Australia* white paper process has made it clear that there is significant interest in the concept of a plan for the strategic development of northern Australia from a range of stakeholders. A significant benefit of this consultation process may be the development of a 'critical mass' of interested parties to drive the ideas that will underpin northern development.

While the concept and desire for increased levels of development in northern Australia is not new, to date there has been a lack of well-developed business plans or an overarching vision to guide this ambitious concept in a strategic, far-sighted manner. The current process offers Australia a unique opportunity to devise a strategic plan and vision to develop one of the largest areas of tropical and subtropical land in any advanced nation in the world. But this cannot be an ad hoc process. Significantly greater levels of ambition, vision and planning are required from state and federal Australian governments to achieve this.

Stimulating the levels of investment from local and global markets, in the order of tens to hundreds of billions of dollars, required to achieve this vision will require a stable, long-term development plan. Bipartisan support in all relevant jurisdictions will be crucial, as this process will ultimately take decades to mature.

An overarching development strategy should aim to facilitate a range of different options for development, while meeting the needs of northern Australia's people and environment. Balancing these competing needs will require highly sophisticated planning processes, including infrastructure, water and land-use, environmental, and urban planning, which take into account the specific climatic and other issues of this region, while engaging closely with the local populations. In particular, it will be crucial to consult extensively with the region's indigenous residents and communities to benefit from their local understanding and ensure that their rights and interests are represented.

More research is required into fundamental issues to understand the potential resources available for development, and how science and technology can enable environmentally sustainable development in northern Australia to underpin an overarching development strategy. A systematic approach to the gathering of data and knowledge is required for well-founded, evidence-based decision making about the future development of northern Australia.

Water in particular will always be a limiting resource for development. It will be essential to build a better understanding of the availability of water resources, both surface and groundwater and the interactions between them, and the capacities of these resources to sustain ecologies alongside other economic activities. The further development of irrigation in northern Australia must be based on a thorough understanding of the impacts on ecosystems of the diversion of water for this purpose.

The impacts of climate change and extreme weather events in northern Australia also demand further research, as these will be central to adapting engineering standards and planning requirements for buildings, infrastructure and flood management, as well as issues such as insurance availability, the impact of business interruption and industry reliability, and appropriate public planning processes.

The identification of key sites for resource development in a holistic fashion is an important step to building a strategic plan for the development of northern Australia. The Government should consider the commission of a comprehensive resources and assets map of the region as a whole, to guide development and forewarn of the level of complexity in planning decisions.

Identification of resource and asset distributions, including minerals, energy, water, agricultural and pastoral, ecological, cultural and tourism-related will provide a basis for long-term planning of development and infrastructure requirements.

Complementing such a resource map with thorough analysis of local, regional, and global market needs, as well as the resources required to achieve this development, could provide a highly attractive investment market opportunity, ultimately improving the prosperity of all Australians.

Without a sufficient evidentiary basis and comprehensive business plan, the private investment required to develop northern Australia will remain elusive. Continuing investment in science, technology and engineering related disciplines will be essential to provide the evidence base for sustainable development of northern Australia. This must cover the whole spectrum of education and training, through to the improved translation of public investment in science and technology into economic, environmental and social outcomes.

We look forward to ongoing constructive dialogue with the Northern Australia Taskforce and continued participation in the White Paper process. I assure you that the expertise of the Academy will be made available to the Government on this important activity.



The contact at ATSE is Dr Andrew Hastings (Research and Policy Officer) on (03) 9864 0909 or via email at Andrew.Hastings@atse.org.au.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Alan Finkel", with a long, sweeping underline.

Alan Finkel