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Energy Security Position Statement
2023

Engineers Australia Northern

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Vision statement

Energy security is about ensuring sufficient, affordable and sustainable energy resources to meet Territorian energy needs today and in the future.

Engineers Australia Northern acknowledges the Northern Territory has unique energy security challenges. Its energy dependent communities and regions are widely dispersed, remote and subject to seasonal weather events and climate change impacts that can result in energy security risks. Local energy infrastructure is required to be resilient, with communities and regions needing to provide self-sufficiency in operational and maintenance capacities.

Principles

The following principles are statements that the Engineers Australia Northern acknowledge as key to delivering better energy security outcomes in the Northern Territory context.

1. The global energy transition provides a unique opportunity

Engineers Australia Northern acknowledges the global energy transition is a once in a generation opportunity to plan effective, integrated and sustainable energy generation, storage, and distribution infrastructure.

The Northern Territory is perfectly positioned to deliver globally competitive renewable energy with its abundant solar irradiance and potential for hydrogen, without the constraints of legacy infrastructure.

The opportunity to optimise towards decarbonising energy and its supply chains will provide benefits to the community through a healthier environment and new economic opportunities.

2. Resilient and low-cost energy supply systems

Delivery of low-cost, sustainable and stable energy systems ensure costs are kept low while maintaining energy supply resilience. Resilience may be defined by the ability of the energy or power infrastructure to provide sufficient secure energy through long periods of isolation or

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adverse conditions. It also requires local energy reserves to be accessible with less reliance on long and higher risk energy supply chains.

Engineers Australia Northern acknowledges low cost, high availability of energy attracts investment and drives economic growth, and that sustainable economic growth can become a key enabler.

3. Energy infrastructure effectiveness

Northern Territory energy infrastructure must be planned, designed, selected, constructed, operated and maintained in a manner that considers the economic, social and environmental values specific to the Northern Territory.

New energy technologies provide novel solutions that could offer significant advantages over the traditional approach to infrastructure. These opportunities should be pragmatically explored and understood to calculate and embrace acceptable risk while limiting the impacts of any sub-optimal outcomes.

Engineers Australia Northern acknowledges energy infrastructure designs are not a 'one size fits all' approach. Engineers Australia can play a key role in communicating technology changes and maturity to policy makers and stakeholders. We advocate to ensure appropriate investment in sustainable energy infrastructure and triple bottom line feasibility assessments.

Engineers Australia Northern acknowledges critical energy infrastructure should operate in a framework that is fit for purpose. Planning new energy systems that are designed to be capable of matching demand and supply considerations are likely to be more efficient, resilient and secure.

4. Efficient energy use

Engineers Australia Northern acknowledges reducing total energy consumption is an effective method of improving energy security. Reducing energy consumption or improving energy intensity (using less energy to produce the same output, product or service) are the two ways to reduce total energy consumption. Both approaches contribute g to energy security gains by providing less requirement for peaking or energy transportation infrastructure.

Reducing energy consumption can include utilising waste heat, redesigning processes to eliminate transport tasks, high efficiency appliances, space heating and cooling insulation, building and town planning with energy intensity in mind.

5. Effective energy policies

Engineers Australia Northern acknowledges energy security must balance affordability, reliability and sustainability. Engineers Australia Northern will advocate for energy policy that provides the lowest cost, sustainable and reliable long-term outcome for consumers.

Effective energy policy must be evidenced-based, well informed and consider whole of life cost as well as social, environmental and cultural impacts.

Engineers Australia acknowledges that energy policy in the Northern Territory is complicated due to the energy market maturity and size, developmental position and dispersive population base.

6. Integration of energy storage solutions

Energy storage systems come in many forms and will provide improved energy security. Planning, location and system integration of energy storage solutions for the long term are key to realising the benefits of energy storage. Storage solutions are varied but, storage is a critical technology and operational tool to advance renewable energy grid penetration into the future.

7. Reducing reliance on fossil fuels

Engineers Australia Northern acknowledges fossil fuels are volatile in price, imported and because of the long supply chains, present significant energy security risks. Reducing reliance on fossil fuels particularly in remote community power generation also reduces the risk of fuel logistics as increased severe weather events are expected due to climate change.

8. Engineering skills will be critical to a secure energy transition

Engineers Australia acknowledges successful energy security and transition will require significant numbers of engineering and technical professionals. These professionals will have new skills and disciplines such as in distributed power and large-scale integrated energy storage systems. This critical skills shortage must be acknowledged and actively managed to attract, train and retain the skills required to deliver this outcome.

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9. Engagement of energy stakeholders and the community is key

All energy stakeholders have a key role to play in communicating energy transition strategies to community and other stakeholders. Engineers Australia acknowledges as a national body of technical professionals it can provide a leading and facilitating voice in this engagement.

Engineers Australia Northern acknowledges stakeholders are engaged and actively want to participate in the energy security journey. Engineers Australia has potential to play a leading role in facilitated engagement with stakeholders, consumers, producers, manufacturers and the public. Engineers Australia can provide the leadership and illustrate what's possible in redefining energy security.

Engineers Australia acknowledges social acceptance and a ‘just transition’ will be key to the success of the energy transition. We must take communities along with us on this journey.

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