info@atse.org.au | **atse.org.au**

ATSE Australian Academy of Technological Sciences & Engineering

A future made in Queensland must be built on a foundation of science, technology and innovation.

Now, more than ever, Queensland needs a clear vision for how they will solve the major issues confronting the state to build a greener and more prosperous Queensland.

The Australian Academy of Technological Sciences and Engineering (ATSE) consists of more than 900 of Australia's top engineers, applied scientists and technologists nation-wide, with 155 internationally recognised Fellows based in Queensland.

We stand ready to leverage their collective expertise in support of the future leaders of the state and their plans to achieve the best outcomes for the people of Queensland.

ATSE provides impartial, evidence-based advice to help all Australians use technology to solve complex problems.

We encourage all candidates to engage with ATSE to advance the following issues in order to build a technology enabled future for a fairer, more sustainable and prosperous Queensland.

Water security, quality and environmental management

- Addressing water quality and security is crucial, given the challenges of flooding and drought in Queensland.
- An integrated, statewide, whole of water cycle plan is needed that includes innovations in water resource management, water sensitive urban design and managing water nutrients.
- It should help us adapt to climate chance, protect biodiversity and support sustainable agricultural practices.

ACTION: Develop a state-wide sustainable water management plan for both urban and regional areas.

Building new industries and diversifying the economy

- Building new industries in Quantum, sustainable fuels and green technologies will help diversify Queensland's economy.
- A focus on new technology industries can help regions like Mackay transition from traditional industries (e.g., mining) to more diverse economic activities and gain first mover advantages.
- Support for industry-government-academia collaborations and emerging industries toward commercialisation is needed.

ACTION: Support the early adoption of emerging technologies through government grants and incentives.

Infrastructure development and population growth management

- Modern, integrated planning and service delivery processes are urgently needed across Queensland to account for population shifts, land use changes, transportation infrastructure and service delivery.
- This includes addressing public housing shortages, ensuring the availability of skilled workers in relevant fields, and managing the structural issues within the construction industry.
- Planning for sustainable and resilient infrastructure is crucial for sustainable growth.

ACTION: Develop an integrated population and land use plan and invest in public housing, service delivery and infrastructure development.

Digital equity, inclusion and diversity in STEMM education

- 35% of Queenslanders live in regional areas, yet these areas still have poor connectivity, a lack of IT support, lower levels of digital literacy and lower access to technology.
- Digital inequity needs to be addressed so we can upskill our current and future workforce, particularly in the regions.
- Support for students and teachers to engage with STEMM curricula and STEMM programs is critical.
- ATSE's STELR, Elevate and IMNIS programs provide pathways for improving STEMM engagement in schools and higher education.

ACTION: Invest in digital resources and STEMM programs to improve STEMM literacy in regional areas.

Energy transition and sustainable development

- The state's commitment to renewable energy presents a significant opportunity.
- This transition also must include considerations for adapting existing infrastructure, such as the transition of coal mining towns to new industries and worker re-education and upskilling.
- This new infrastructure needs to be built with local biodiversity and environmental considerations in mind.

ACTION: Encourage and incentivise R&D and roll out of efficient energy solutions like battery technology and green hydrogen.