



Australian Academy of
Technology & Engineering

2019 FEDERAL ELECTION

Science & Technology Priorities

The future prosperity of Australia will depend on embracing new technology to address critical national challenges. The Australian Academy of Technology and Engineering has identified the following key priorities for an incoming federal government, where immediate action will result in significant benefit to Australia.

Climate Change and Sustainability

Energy

Urgently accelerate Australia's transition to low-emission energy generation through:

- > Ongoing support for the Northern Australia Infrastructure Fund, ARENA, and the Clean Energy Finance Corporation;
- > Investing in national energy storage technologies to improve electricity grid stability and security; and
- > Developing economic opportunities through leadership in low emission technologies - examples include adoption of a National Hydrogen Strategy through COAG, and supplying value-added raw materials for energy storage technologies.

Water

Work with the states and territories to develop a new decadal strategy for national water management, which includes:

- > An integrated plan for the water, food, energy and environment sectors; and
- > The use of the Internet of Things to provide real-time, information-based management systems.

Agriculture

Drive change in agricultural practices to reduce greenhouse emissions intensity and increase net carbon sequestration in the land sector including:

- > Investing in farm-scale climate modelling and seasonal forecasting systems to better guide adaptation responses; and
- > The use of big data, to develop new and modified farming systems to optimise production and resource use across the sector.

Health Technology

- > Redesign the healthcare compensation system to enable incentives for healthcare providers to adopt preventative technologies that will improve quality of life and reduce healthcare costs.
- > As the proportion of Australia's aged population increases, incentivise uptake of in-home technology and encourage community- and home-based provision of services for the aged.
- > Provide incentives for consumers to use the My Health Record system for data collection and sharing, which will enable collection of longitudinal data on healthcare procedure outcomes.

Privacy and Data Security

- > Enact data protection legislation that ensures consumer privacy (such as provided by Europe's GDPR), and makes enterprises responsible for the protection of the consumer data they hold (including criminal charges for negligence causing data breaches).
- > Enact legislation that ensures that law enforcement agencies have access to the data they are entitled to (with warranted protections) but does not harm Australia's international reputation as a safe location for tech investment.

Science, Technology, Engineering and Mathematics (STEM) Education

- > Ensure high-quality, discipline-specific teacher training in STEM subjects.
- > Phase out, as soon as feasible, the out-of-field teaching of STEM subjects in years 7 to 10.
- > Invest \$20 million to enable all schools to have access to the Academy's STELR (Science and Technology Education Leveraging Relevance) schools program, which has been demonstrated to increase the number of students undertaking senior STEM subjects via relevance-based, in-curriculum modules.
- > Prepare the workforce of the future for technology disruption by ensuring that school education encompasses both STEM and human disciplines and providing continuing education for those already in the workforce.

Transport Infrastructure

- > Adopt standards and policies that support a transition to low-emission vehicles, including support for infrastructure such as charging networks, which should be supplied by low-emission energy sources.
- > Prepare regulations and infrastructure to enable Australia to be a leading adopter of safe and convenient transport systems enabled through cooperative intelligent vehicles.

Diversity and Inclusion

- > Implement a coordinated, national policy to overcome the cultural, institutional and organisational factors that discourage girls and women from studying STEM, and that limit their opportunities to pursue careers in STEM-underpinned organisations.
- > Develop a national gender equity framework tailored for small and medium enterprises, which includes a toolkit of proven actions and approaches to advance gender equity without regulatory burden.
- > Progressively incentivise gender equity across STEM-underpinned businesses through procurement and grant policies.



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The Australian Academy of Technology and Engineering is a Learned Academy operating as an independent, non-political and expert think tank that helps Australians understand and use technology to solve complex problems.

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