We offer these ideas for the consideration of the Economic Reform Roundtable.

1) Getting Australians trained up and certified

a) **Demand-driven entry for domestic students in national workforce shortage priority areas**

Australia is experiencing significant and persistent workforce shortages in critical occupations, many of which are supplied by accredited university courses. Despite the desperate need for qualified graduates in fields such as nursing, teaching, aged care and occupational therapy, our national higher education settings, combined with the constraints of professional accreditation in many cases, artificially constrain the volume of Australian students that can enter these courses. We then attempt to resolve this shortfall in qualified workers through skilled migration. The Commonwealth could remove the artificial constraint on domestic student supply by designating certain degree courses demand-driven, so universities can recruit, educate and graduate as many students as are willing and able, subject to rigorous quality standards and to annual review by the Minister for Education in consultation with the Minister for Employment and Workplace Relations. Relatedly, urgent reform of the Job Ready Graduates cluster funding arrangements is required to ensure that universities are adequately funded to teach courses leading to qualifications in essential fields, without needing to cross-subsidise teaching costs from elsewhere.

Productivity benefit: put more local workers into critical occupations currently in shortage.

b) **Anchor institution scheme for small subjects of national benefit**

Individual universities find it increasingly challenging to cross-subsidise the unsustainable cost of teaching subjects of small enrolment, some of which are clearly in the national interest to preserve – including languages and culture (especially those of our near neighbours and certain strategic countries), and specialist subjects across mathematics, science and technology – yet nationally we have no collective strategy in place to protect key subjects from closure due to financial pressure at the local level. Without civic capacity in language skills and cultural proficiency, for example, we compromise our ability to do business in our region, maintain relations, provide urgent emergency assistance in times of need, and rely on one another in times of turmoil. Different but equally serious deficits result from the neglect of niche subjects in mathematics, science and technology. A national scheme under which a selected anchor university is funded to maintain teaching capability in each designated subject of national priority – combined with technology-enabled remote instruction and expedited cross-institutional enrolment arrangements – would preserve subjects of national importance that cannot be maintained by individual institutions acting alone.

Productivity benefit: preservation of essential skills for economic and strategic advantage.

c) **National RPL College**

Many Australia workers have mastered skills that are not credentialed – skills they have learned on the job and utilise every day at work, but can't prove to a prospective new employer. Many seek to gain credit for these skills when undertaking course in a process called Recognition of Prior Learning (RPL), which can be expensive and time-consuming when done as one-off assessments by education and training institutions. Others end up taking courses that teach skills they already have solely so they can achieve certification. A dedicated, coordinated, national approach to awarding RPL could utilise technology to make an onerous bespoke process feasible at scale. In some cases this could enable the award of a qualification without the need for any further study; in many others, it might require only limited extra study. This initiative would: give workers control over their authenticated skills portfolio; help employers assess the actual skills possessed by potential employees; and greatly accelerate progress towards the Government's target of 80 per cent of working age people holding a Certificate III or above by 2050, at much less expense than full training.

Productivity benefit: workforce efficiencies through matching of qualifications to real skills.

2) Promoting effective research-industry engagement

a) **Support co-location and embedded partnerships for real commercialisation benefit**

Government programs to encourage collaboration with industry should increase resources specifically for co-location and integration of R&D operations, the hallmark of the most successful, innovative and enduring collaborations between research and industry. QUT examples include:

i. The Melbourne-based molecular sensing, systems engineering and software development company IUGOTECH has sited its R&D Lab at QUT, taking advantage of our advanced research infrastructure – including cutting-edge mass spectrometry – and our expert researchers and technicians.
ii. Lava Blue and QUT are developing processes for manufacturing the very high purity materials needed for the energy transition, including high purity alumina extracted from kaolin clay and mine wastes, in Lava Blue's purpose-built facility at QUT Redlands research campus, where QUT researchers work alongside their industry collaborators.
iii. The Queensland Energy Storage Technology Hub (QUEST Hub), located at the QUT Banyo pilot precinct, brings together university researchers and Queensland industry to advance the commercialisation of new battery technologies and materials, including work towards the onshore refinement of our own critical minerals.
iv. The Advanced Robotics for Manufacturing Hub (ARM Hub), established by QUT and Urban Art Projects (UAP) with Queensland Government support and located adjacent to the UAP foundry in Brisbane, sees QUT researchers and industry experts working with SMEs to accelerate the creation and adoption of next-generation robotic and AI and other Industry 4.0 technologies into their manufacturing processes, to scale their operations and grow the nation's onshore advanced industrial capability.

Productivity benefit: enhancement of the practical elements that drive real commercialisation outcomes

b) **Promote research uptake beyond commercialisation and IP**

While significant Government energy is currently expended on encouraging industry engagement towards commercialising research outcomes, other significant research impacts are often overlooked, including cost savings for industry, policy benefits to government, and unquantifiable but tangible public benefits ranging from quality of life for patients to amenity and safety for citizens. Government policy should be harmonised to support research and uptake

towards these other beneficial outcomes to the same extent as it promotes collaboration towards commercial outcomes. Governments should also improve their own willingness to seek out, listen to and harness research evidence in their areas of regulatory responsibility, in the same way they encourage industry to do. QUT examples include:

i. Science conducted for decades by QUT world-leading expert Distinguished Professor Lidia Morawska and her collaborators decisively shows that significant performance and productivity benefits are to be gained at little expense by introducing, monitoring and enforcing clean indoor air quality standards for Australian public buildings, including schools, hospitals, aged-care and child-care facilities, airports, public transport and shopping malls. Despite offering only globally recognised expert advice and seeking no funding, we have found it difficult to inspire government interest in exploring ways to improve academic performance in students, health and wellbeing for workers, safety for aged-care residents and productivity in workplaces across the economy.
ii. The new Cheaper Home Batteries Program will greatly accelerate the already skyrocketing rate of importation of batteries of highly variable quality and safety. The costly and sometimes tragic consequences of poor oversight of battery quality and safety in portable devices and electric vehicles will soon be extended to home storage batteries unless greater attention is paid to quality and safety considerations as a matter of urgency. Nation-leading QUT researchers working on energy storage safety testing and standards are well positioned to assist government and industry (especially the insurance sector) avert disaster, but not enough is currently being done to regulate and monitor the quality and safety of imported batteries.

Productivity benefit: both improved performance and avoidance of expensive disasters can be achieved by early and sustained collaboration with research experts willing to work for public benefit.

3) Improving productivity in higher education and research

a) Reduce red tape

The higher education sector has been described as more tightly regulated than the aviation sector. There is extensive regulatory duplication within Commonwealth domains; regulation tends to be intensely focused on compliance reporting rather than performance-oriented; overlap with state and territory oversight is often poorly understood or disregarded; and regulatory tightening in accordance in one Commonwealth policy area is frequently at odds with inducements and stated policy objectives in other areas. The Government should harmonise its policy objectives for the higher education and research sector; ensure its regulatory instruments are aligned with one another; reduce and preferably eliminate regulatory overlap between portfolios and agencies; and pivot from a close compliance justification approach to a performance monitoring approach. Examples include:

i. The extraordinary increase in delays processing 408 visas for high-value, low-risk, short-stay expert scientists and scholars is actively harming Australia's domestic research effort in all disciplines, along the entire technology readiness level spectrum, and across universities, research agencies and industry alike. It is also doing significant reputational damage to Australia as a reliable research partner.
ii. In the area of national security, defence and foreign interference protections, it is our experience that the multiple Commonwealth agencies responsible for the extensive suite of related protection regimes are not always cognisant of the range of operation of each other's areas of responsibility, even where they overlap. Lack of coordination between Government agencies can result in regulatory duplication in the field, which in turn elevates real underlying risk by diverting frontline attention and effort away from the identification, assessment and control of genuine national security vulnerability towards the management of multiple bureaucratic processes with overlapping and sometimes inconsistent oversight and reporting requirements. We understand that portions of industry share the same frustrations and concerns. Government should stand up an effective inter-agency collaboration mechanism, to harmonise and refine protection regimes to ensure that all concerns are addressed coherently and integrally.
iii. Multiple overlapping regimes for student support, advice and complaints processes, each burdened with extensive compliance reporting obligations, risk reducing the effectiveness of actual, shopfront support provision to the very students they aim to help. Additionally, poor understanding of university processes has led to the imposition of well-meaning but misguided obligations that do not actually achieve the professed objectives: the requirement to develop (and report on) an explicit standalone Support for Students Policy, for example, has had little impact compared to resourcing effective user interface systems such as the student-friendly QUT Questo tool.

b) Simplify financing arrangements

The higher education sector's funding arrangements have been described as more complex and convoluted than those of the health sector. Alignment of funding arrangements to match funding to the activity would address legitimate areas of need, and recognition of systemic shortfalls will provide greater clarity of operational funding needs and, in all likelihood, help identify areas for potential savings.

i. Funding for higher education has some explicit and many implicit cross-subsidies required to make the system function. A simpler system that explicitly funds each required element is desperately needed.
ii. The indirect costs of research are not provided by research agencies or in government research contracts, nor increasingly by industry. The Research Block Grant has been diluted over many years to the point where it is funding far less than half of the indirect costs incurred in conducting research. When universities win research grants or contracts, they run the research programs at a loss, having to meet from other sources indirect costs of at least 50 cents in the dollar (against the value of the direct grant). As not-for-profit public institutions, universities are constrained in how they can raise these funds. International student fee revenue has been the mainstay of research cross-subsidy in the last 20 years, but this has now been effectively capped by government policy. Resolving this problem is the top priority for research reform right now.

Productivity benefit: harmonisation and reduction of red tape and alignment of funding with the funded activity will generate savings to the taxpayer and enable universities to devote more resources to teaching and research.