# TAFE as a key partner of the Climate Change Strategy:

Submission into the Victorian Government 2026-2030 Climate Change Strategy

Victorian TAFE Association – April 2025

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# Introduction

The Victorian TAFE Association (VTA) welcomes the opportunity to provide input into the Victorian Government's *2026-2030 Climate Change Strategy* (the Strategy) and support the Government's commitment to taking strong and lasting action to limiting global warming to 1.5°C and adapting to the impacts of climate change.

The Victorian TAFE Association and Victorian TAFE Network

The VTA is the peak body for the Victorian TAFE sector, comprising Victoria's 12 TAFE Institutes, four dual sector universities and AMES Australia. We proudly champion public vocational education and training (VET) with a focus on sustainability, quality, and outcomes for learners, industry, and community.

As Victoria's government-owned training and skills capability, the TAFE Network[1] is an integral part of the public education system and economy, able to make decisions driven by public benefit not profit. It is uniquely positioned to advance Victoria's economic and skills priorities while also delivering social benefits and is a strategic and democratic public service that gives back to society.

TAFE has a substantial public infrastructure footprint across Victoria with 85 physical campus locations supporting equitable access for all Victorians to high quality, contemporary education and training, and deep place-based connections to industries and communities. Eight of these TAFEs have a regional footprint and are significant anchor entities within their local communities, often being the largest employer and non-school education and training provider in their region.

The TAFE Network enables the Government to navigate economic transitions for all Victorians, while uplifting community outcomes like employment, income and productivity. TAFEs contribute to wider economic and social outcomes of their region, supporting the viability and resilience of local economies and communities. They create and grow the local workforce and play a major role as purchasers of goods and services, building economic resilience and thriving communities.

The TAFE Network uses the Victorian Skills Plan to support the delivery of Government priorities, including aligning training delivery to priorities for the clean economy transition, climate change adaption and mitigation. This also informs the TAFE Network's Statement of Priorities. While this submission relates to the TAFE Network, we note the contributions of the Department of Jobs, Skills, Industry and Regions (DJSIR) and the Office of TAFE Coordination and Delivery (OTCD).

Our submission

The VTA strongly supports a just transition, recognising that the clean economy transition must consider and address existing inequalities, protect vulnerable groups, and create opportunities for all Victorians to participate in and benefit from the clean economy. As we transition, it is critical to support workers and industries through this change, ensuring no one is left behind.

This submission builds on our previous submission to the Energy Jobs Plan and focusses on why TAFE is an indispensable partner in delivering the Strategy – working with industry and Government to plan for, train, upskill and grow the workforce that will drive the clean economy transition.

We provide our view of what is required to support TAFE decarbonisation, so that the Victorian Government can confidently say that the TAFE Network is not only building the workforce of the future, but is energy efficient and climate-ready, supporting the Government to meet its net-zero targets. TAFEs operations and training should align with key Government policies and strategies, including Victoria's Climate Action Act 2017, the Clean Economy Workforce Development Strategy 2023-2033, the Victorian Skills Plan, and the Victorian Gas Substitution Roadmap.

[1] In this submission, 'TAFE' and 'the TAFE Network' are used inclusively to refer to both the 12 TAFE Institutes and four dual-sector universities.

# Summary and proposals

Achieving net-zero emissions requires action across all sectors of our economy

We note that this Strategy will build on the progress and foundations from the first Climate Change Strategy 2021-25 and set the course for reducing emissions for the next 5 years, with a focus on the Government's own emissions.

We understand and stress that slowing action on climate change could have severe and unequal impacts on the Victorian economy, including job losses and decreased economic activity. It's vital that we are thinking ahead as a state to create new clean jobs and industries. Efforts to adapt and mitigate the effects of climate change need to continue and TAFEs need certainty to build workforce pipelines over the medium to long-term. This is critical to maintaining economic growth and supporting future prosperity, while protecting the environment and meeting emissions targets.

The VTA and members agree that achieving net-zero emissions and improving climate resilience across the state requires action by all governments, businesses and communities across all sectors of our economy. This includes the TAFE Network. Our submission sets out progress TAFEs have already made and a compelling case to embed TAFE as a key partner in this new Strategy.

We must build on and grow TAFE's success in developing the clean economy workforce

The 'clean economy' intersects broadly with every aspect of the economy, but most of the public debate is dominated by the transition to clean energy. This Strategy must consider the clean economy in its broadest sense. To support industries, businesses and workers to take advantage of the opportunities of a clean economy future, we need to have already prepared our TAFE system to train and develop the clean economy workforce that will support this. This requires a strong and strategic focus on workforce now, to be maintained over this five-year strategy and beyond.

The TAFE Network is already a key partner in developing the workforce required to support clean economy transitions, actively engaged and leading the way in addressing skills needs in all facets of the clean economy (including renewable energy, circular economy practices, other zero emission economic activity and other climate change adaption and mitigation activity).

In this submission, we highlight important examples of where the TAFE Network has already started this work, that the Strategy can build on. The TAFE Network stands ready to continue as a key partner in the new Strategy, supported by appropriate funding to deliver and grow these initiatives.

TAFEs are crucial public infrastructure

Government should also include TAFE in its focus on improving infrastructure and public assets to better withstand climate-related hazards and extreme weather events, as TAFEs are crucial social and economic infrastructure in their communities. For the community to be able to prepare for and respond to the impacts of increased extreme weather events (such as heatwaves, bushfires, droughts and extreme rainfall) we need an appropriately skilled workforce. This will help ensure communities are well-prepared and resilient to the impacts of extreme weather events.

Focus areas and recommendations

Our submission has two focus areas:

- the need for funding to support TAFE to achieve the Government's net-zero emissions targets.
- the need for clean economy workforce to be a core stream of the new strategy, and for the TAFE Network to be a key delivery partner in developing this workforce as the state-owned training provider.

Across these two areas, we provide a series of recommendations to support the new Strategy:

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| **Reduce TAFE's greenhouse gas emissions** | 1. Provide a targeted funding stream for TAFE infrastructure upgrade and renewal, to support the TAFE sector to reduce its greenhouse gas emissions |
| | 2. Review Government entity procurement and asset management requirements to make it easier for TAFEs to reduce their greenhouse gas emissions and manage their assets in a way that supports emissions reduction, with specific attention given to regional TAFEs. |
| **Leverage TAFE's public role** | 3. Establish clean economy workforce and skills development as one of the Strategy's key priorities, with a specific action plan to ensure progress over the life of the Strategy and links to the Victorian Skills Plan and Clean Economy Workforce Development Strategy 2023-2033. |
| | 4. Embed TAFE as the primary provider of the training needed to support the clean economy transition, including targeted training centres. |
| | 5. Create a Climate Action Innovation Fund for the Victorian TAFE Network, to support TAFEs to:<br>a. develop the training required to support key workforces and industries to reduce emissions and drive action on climate change<br>b. upgrade and maintain necessary equipment to ensure industry-ready training<br>c. conduct applied research related to sustainability, clean energy and climate resilience. |

## Reducing TAFE's greenhouse gas emissions

**Recommendation 1:** Provide a targeted funding stream for TAFE infrastructure upgrade and renewal, to support the TAFE sector to reduce its greenhouse gas emissions

Victorian TAFEs are making progress in reducing their greenhouse gas emissions

The VTA supports the Victorian Government's ambition of Victoria being world-leaders in climate change action and welcomes the recent decision to bring forward and legislate its commitment to achieve net-zero emissions from 2050 to 2045. Environmental sustainability is a strategic driver for TAFE. As public entities, TAFEs are expected to be advanced in their thinking on sustainability and are increasingly engaged in the complex and expensive work of implementation.

There is a great opportunity for the Victorian Government to invest in public and community infrastructure by using TAFE as a flagship net-zero emissions feature of the new strategy, with TAFE taking a leadership role. The Victorian Government should be able to confidently say that TAFE operations and training align with key Government priorities and strategies including Victoria's Climate Action Act 2017, the Clean Economy Workforce Development Strategy 2023-2033, the Victorian Skills Plan, and the Victorian Gas Substitution Roadmap.

We acknowledge that the Victorian TAFE Network contributes a notable share of Government emissions, making it critical for TAFE to continue to explore and implement strategies for reducing emissions, including gas asset electrification, so it can play a strong role in achieving emissions targets. TAFEs are making progress on this and have put in place initiatives and strategies to reduce their emissions. These include:

- Greener Government Buildings (GGB) (*see GGB case study overleaf*): Several TAFEs including Chisholm Institute, Melbourne Polytechnic, the Gordon Institute of TAFE, and Box Hill Institute, have implemented energy efficiency and renewable energy projects that reduce both their operating expenses and greenhouse gas emissions. TAFE Gippsland is in the feasibility stages of this program.

- Installing solar photovoltaic cells (*see Holmesglen Institute case study below*)
- LED lighting upgrades
- Implementing Electronic Content Management systems to reduce the use of paper.
- Ensuring the e-waste is disposed of in appropriate ways to maximise recycling of relevant equipment and components.

We understand the State Electricity Commission will begin servicing government electricity requirements this year.

While strong progress has been made across TAFE Institutes, including through programs such as GGB (though this program has its limitations, particularly in capturing longer-term changes or more difficult to measure impacts – *see Case Study overleaf from South West TAFE*), these projects are just one piece of the broader reforms required in the Victorian TAFE Network's path to net-zero.

**Case Study: Greener Government Buildings at TAFE**[2]

**Chisholm Institute** commissioned an Energy Performance Contract in 2013 to develop a series of energy efficient retrofit solutions. These solutions have led to a 19.2% reduction in greenhouse gas emissions and an overall reduction in operating expenses of over $300,000. Retrofit solutions included a Building Management System (BMS) upgrade, boiler optimisation, push button timer controls, LED lighting refurbishment and upgrades, re-lamping, time clock adjustments, variable speed drives, compressed air optimisation, voltage reduction units, toilet cistern modifiers and flow control devices on taps and showers.

**Melbourne Polytechnic** commissioned an Energy Performance Contract in 2014 across its five campuses which led to annual cost savings of almost $2 million and an annual greenhouse gas reduction of 1,462 tonnes. Installed solutions included local push buttons with time switch control to all individual air units to result in electricity savings, light replacements and modifications to energy efficient systems to reduce electricity and maintenance costs, car park lighting control to automatically switch the lighting off at 11pm and preventing the lighting from switching on during weekend nights and public holiday periods, and emergency exit sign replacements and lighting upgrades to reduce electricity and maintenance costs.

**The Gordon Institute of TAFE** commissioned an Energy Performance Contract in 2018 across two of its campuses which led to an annual cost saving of over $250,000 and 814 tonnes of Greenhouse Gasses. Installed solutions included lighting upgrades and installation of 99kW Solar PV System across the two campuses.

**Case Study: Solar power at Holmesglen Institute**[3]

Holmesglen recently installed a suite of clean energy solutions at two Melbourne campuses, including a renewable energy training facility. RACV Solar worked with Holmesglen to provide solar rooftop panels, a battery solution, EV charging and a power factor correction unit. The training facility included switchboards and the roofing structure for solar.

Holmesglen Institute is a leading provider of accredited solar energy short courses for licensed electricians through the Holmesglen Renewable Energy program and now has one of the most advanced renewable energy training facilities in the country, so that students can be trained and assessed in solar panel and battery installations.

The Victorian Government provided funding for this $2.1 million upgrade to their training facilities[4].

[2] Greener Government Buildings | vic.gov.au, Accessed 15 April 2025.
[3] Adapted from RACV Case Study: https://www.racv.com.au/home/solar/our-work/holmesglen-institute-renewable-energy.html
[4] https://www.holmesglen.edu.au/about-us/news/holmesglen-s-renewable-and-solar-energy-training-gets--2-1m-boost

**Case Study: Challenges for TAFEs in securing funding to reach emissions reduction targets**

Proposed SWTAFE Green Government Building Project – a $1.9m project that will reduce greenhouse gases by over 500t ($CO_2$) and annual savings of $381k. This equates to a 35% saving in utility and electricity costs and a 28% reduction in greenhouse gas emissions. The infrastructure upgrade includes:

- Major LED lighting upgrade
- Solar PV installation on main and rural campuses
- Digital Buildings System upgrade
- Water savings measures
- Electric Vehicle pilot
- Energy Analytics
- Corrosion projection.

A Detailed Feasibility Study by a Department of Treasury and Finance (DTF) approved Energy Performance Contractor showed the upgrades can deliver guaranteed energy savings to cover the cost of the upgrade over a five-year period.

However, final approval for funding of the project has been pending for over 9 months as the requirement of the shared savings beyond the five-year period to be shared with the DTF have been challenged by DJSIR. This has delayed the project's implementation, and the Institute loses valuable training opportunities and the opportunity to promote itself as a regional community leader in environmental sustainability practices. In addition, it increases the risk of future project cost increases that could make the original proposal unviable.

TAFEs need targeted funding for infrastructure upgrade and renewal

The progress TAFEs have already made demonstrates what is possible through targeted support schemes like GGB, but we need renewed momentum to realise the full potential of TAFE's contributions to Government emissions targets.

The Victorian TAFE Network is significantly constrained by its current funding model and is not provided with additional funding to invest in reducing the TAFE sector's greenhouse gas emissions. There is a significant opportunity to build on progress made to date, in recognition of the limitations of the TAFE funding model in funding these reforms.

The current TAFE funding model (described in more detail overleaf) does not provide sufficient support to TAFEs to invest in infrastructure upgrades and the clean energy transitions required to reach emissions reduction targets. Without dedicated financial support for TAFE infrastructure upgrades, the TAFE sector's capacity to contribute to the Government's net-zero target at the pace required will be at risk. The case study above highlights some of the challenges involved in getting traction for reforms.

To enable TAFE to play a leadership role in contributing to the Government's net-zero ambition, we recommend that the Strategy include a commitment to establishing a dedicated funding stream to build and refurbish energy efficient TAFE infrastructure, supporting TAFEs to make this transition. This investment will ensure TAFE can lead emissions reduction through transitions such as reducing reliance on gas and moving toward the installation of onsite renewable energy.

While TAFE Institutes were included in the scope of the Education and Training Climate Change Adaptation Action Plan 2022-2026 in the previous strategy, the VET system no longer sits with the Education Minister. We have concerns that this has meant that VET has not been included in previously funded activities supporting "education communities" to be more resilient (e.g. the Climate Resilient Education Project). With TAFE now under the scope of DJSIR we would expect to see strong commitments made to supporting the TAFE sector to transition through the new portfolio pledges that will come with the Strategy.

**The challenges of the current Victorian Government TAFE funding model**

The TAFE funding model (based on course subsidy rates, the TAFE Services Fund, and ad hoc infrastructure funding/grants) is inadequate, unnecessarily complex, and overly short-term, risking the financial sustainability, quality and responsiveness of Institutes.

Combined with operating model factors that can be outside the direct control of Institutes (e.g. the industrial relations framework, whole of Government priorities and requirements), Victorian TAFEs are constantly challenged to return balanced budgets and are unable to allocate sufficient funds towards infrastructure replacement, upgrades or even best-practice maintenance of infrastructure.

There has been a consistent trend of underfunding and net deficits for the Victorian TAFE sector (when removing the impact of once-off grants or loan forgiveness). While the sector may have reported a net surplus in 2023, this was underpinned by once-off capital grants received to fund campus redevelopment. Without these once off grants, the net result would have been a $35 million deficit for the sector.[5]

Victoria has the lowest Government recurrent expenditure on VET per annual teaching hour of all jurisdictions, a statistic that does not necessarily reflect improved efficiency[6]. Since 2013, Victoria has experienced the biggest decrease in total Government recurrent expenditure (including capital) of any jurisdiction, with a reduction of $846.2m. Over the same period, New South Wales saw a decrease of $136.4m while Queensland saw a decrease of $145.6m.

The current funding model does not account for inflation, representing an annual cut to TAFE. Lack of inflation indexation for Victorian VET funding is equivalent to approximately $4 billion across 2014-2022 and $8.5 billion across 2013-2022[7] noting the large reduction in funding between 2013 and 2014 (-$406.8m or a 17% reduction). VTA analysis of Victorian subsidy rates further supports this, with the majority of course subsidy rates not keeping pace with inflation and not reflecting the sector average cost of $19 per contact hour (2021 dollars)[8]

**Recommendation 2:** Review Government entity procurement and asset management requirements to make it easier for TAFEs to reduce their greenhouse gas emissions and manage their assets in a way that supports emissions reduction, with specific attention given to regional TAFEs.

Government entity procurement requirements may limit the ability for TAFEs to make essential purchases, including infrastructure and facilities updates to meet the Government's commitment to achieve net-zero emissions by 2045.

We propose a review of Government entity procurement arrangements (mandated central purchasing frameworks) to ensure that these are appropriately supporting the need for entities to reduce their greenhouse gas emissions. We do not support a situation where costs are a factor in not making these purchases, for example, while the addition of hybrid/electric vehicles to VicFleet is welcome, they come at a high price tag.

We also strongly support granting the Victorian TAFE Network greater autonomy over how they use and maintain their infrastructure. This should include the ability to sell redundant assets and reinvest into new infrastructure needs. Increased autonomy over assets would enable TAFEs to make more timely investment decisions, particularly in relation to sustainability and energy efficiency upgrades.

These arrangements should also support flexibility to procure in-place.

[5] https://www.audit.vic.gov.au/report/results-2023-audits-technical-and-further-education-institutes
[6] Productivity Commission, *Report on Government Services 2024*, https://www.pc.gov.au/ongoing/report-on-government-services/2024/child-care-education-and-training/vocational-education-and-training (accessed 16 July 2024).
[7] Analysis of VAGO Results of Audits: Technical and Further Education Institutes for the years 2013-2023.
[8] ACIL Allen 2021 VET Pricing report

Regional TAFEs face specific challenges

While the VTA and members strongly support the clean energy transition, it is important to highlight the unique challenges faced by some regional TAFEs in achieving this transition. Eight of the 12 TAFEs and four dual sector universities in Victoria have a regional footprint (the regional TAFEs) and are significant anchor entities within their local economies and communities[9].

Some regional TAFEs may lack the required infrastructure to ensure a smooth transition, including to electrified fleet vehicles when needing to travel across larger distances. They may also face higher costs associated with the clean energy transition including importing materials, technology, and expertise. These factors make the clean energy transition more costly and less immediately feasible in regional settings.

Regional TAFEs also often operate several smaller campuses, frequently in rural or outer regional areas, and consist of older, less energy efficient buildings, combined with smaller available workforces to undertake upgrades. These can present their own challenges and complexities.

This disproportionate challenge means that regional TAFEs may require additional funding to ensure they meet the demands of the clean energy transition, or different procurement provisions to purchase what may be higher-cost options. Without support, there is a risk that regional TAFEs may be left behind enacting the Government's commitment to achieve net-zero emissions from 2045.

## Leveraging TAFE's public role

**Recommendation 3:** Establish clean economy workforce and skills development as one of the Strategy's key priorities, with a specific action plan to ensure progress over the life of the Strategy and links to the Victorian Skills Plan and Clean Economy Workforce Development Strategy 2023-2033.

Leadership on climate action requires long-term workforce planning

The Victorian Government has an ambitious agenda to be world leaders on climate action by achieving net-zero emissions by 2045, build the infrastructure required for a clean economy, continue to grow the economy and create thousands of jobs in the process. If the Strategy is going to create new jobs, or change old jobs, then these workers (existing and new) will need training. To be successful the Strategy must provide a vision not only for what these jobs will be, but how we will build this pipeline of workers, who these workers will be and who will train them.

It is particularly important to have an appropriate and skilled workforce in place if Victoria is to successfully transition to a low-carbon economy and achieve Victoria's emissions reduction targets, make the most of this opportunity and mitigate significant risks for existing workers, communities and industries. This will require a rapid expansion of the clean energy workforce.

Victoria's clean economy transition is expected to need 10,000 new workers every year until 2030[10]. This transition is already transforming many existing jobs through new skills needs and emerging technologies. This will require Victorians already in the workforce to upskill, reskill, and move to new sectors. By 2030, upskilling initiatives are expected for nearly 500,000 workers[11].

The Government could support and enable more industry-based partnerships with TAFE, ensuring that the social and economic benefits from this investment translate into regional and community uplift by investing in long-standing public institutions.

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[9] We refer to the 7 TAFE Institutes and one dual sector university located outside of metropolitan Melbourne – TAFE Gippsland, Bendigo-Kangan Institute, SuniTAFE, South West TAFE, the Gordon Institute, Wodonga TAFE, GOTAFE, and Federation University.

[10] VSA-CleanEconomyWorkforceDevelopmentStrategy2023-2033.pdf

[11] TAFE-Value-and-Perception-Challenge-Research-Report.pdf

We want to see a renewed focus on workforce and clear reporting on progress in the new Strategy

We note an intent of the 2021-2025 Climate Change Strategy was to create new jobs for Victorians "seizing the opportunities of climate action – advancing technology, investing in new industries and creating Victorian jobs"[12] and included the pillar: 'A clean economy will create jobs for Victorians'.

The Strategy outlined that there would be "$10 million for Clean Economy initiatives to upskill and support workers to take on clean energy jobs" and detailed how the Clean Economy Skills and Jobs Taskforce would bring together key stakeholders to establish and implement the Clean Energy Workforce Development Strategy, highlighting "$6 million for a Clean Economy Workforce Capacity Building Fund to provide grants to build capacity in the VET workforce and in industry settings". We understand that this funding provided[13] for:

- $3.45 million to establish three Skills Labs: the **Clean Economy Skills Lab for Residential Building and Construction** and **Circular Design and Manufacturing Skills Lab** at Melbourne Polytechnic, and the **Clean Economy Workforce Transition Framework for Gippsland** delivered by TAFE Gippsland.
- $970,000 for RMIT to co-design three new Skill Sets in sustainable building practices.

Despite the focus in the original strategy, the consultation document 'Summary paper on Victoria's climate action' does not include progress or activities relating to workforce. While these projects were funded, and the Workforce Development Strategy and Clean Energy Prospectus were released, the VTA believes there is an opportunity to capture, identify and make more visible the progress being made across Victoria (including the VET sector, industry and Government) to support the workforce development required for the clean economy transition.

Building on the progress made since the previous Strategy, workforce must be a key priority in the new Strategy. This should be supported by a specific action plan to ensure visible and appropriate progress over the life of the Strategy, building on established foundations and providing the long-term certainty required.

The Strategy should also reference the Clean Economy Workforce Development Strategy 2023-2033 and Victorian Skills Plan, which supports the delivery of Government priorities including the clean economy transition. The Clean Economy Strategy and Skills Plan helps the Victorian Government develop workforce strategies and undertake workforce planning, and the new Strategy should both align with and leverage this.

**Recommendation 4:** Embed TAFE as the primary provider of the training needed to support the clean economy transition, including targeted training centres.

Leverage TAFE as the primary provider of required training

The Victorian Government's climate action goals are dependent on a highly skilled workforce with expertise in emerging green industries. We strongly recommend that the Strategy acknowledge that as the state-owned training provider, TAFE should be the primary provider of the training to support this transition and embed TAFE as the delivery partner for Government in developing this workforce.

TAFE Institutes are centrally positioned to equip the workforce with the education and training required to drive Victoria's clean economy transition. TAFEs are strongly aligned with Government priorities and are wholly focused on public interest outcomes and high-quality education. This makes TAFE the most effective partner to deliver the education, training, and applied research required to support Victoria's clean economy transition.

[12] Media Release: Climate plan to cut emissions and create jobs (2 May 2021)
[13] Media Release: Building the skills for our clean economy workforce (20 August 2024)

The Victorian TAFE Network plays a critical role in supplying skilled workers and upskilling existing workers crucial for constructing, operating, and maintaining the infrastructure necessary for renewable energy.

DJSIR identifies occupations in high demand will include building, electricians, architectural, and surveying technicians, with most of these roles requiring qualifications achievable via a TAFE education. 95% of carpenters and joiners, 95% of electricians, and 69% of architectural, building, and surveying technicians have qualifications that are attainable via a TAFE education[14]. New specialist occupations will also be required in areas such as wind, solar, and renewable hydrogen. Growing jobs in these sectors including blade and wind technician, solar farm electrical technician, and hydropower electrical technician are attainable via a TAFE education.

The first strategy focussed on supporting investment to help industries adapt to climate change and reduce their emissions. Next, we need to see TAFEs funded to support industries to embed this change in their workforce, culture and skills. There is also a requirement to upskill the TAFE workforce to be able to support the uplift of industry. We cannot have new ways of working in industry without new approaches to VET.

This is why TAFEs have already started this work – for example, Federation University's Asia Pacific Renewable Energy Training Centre (APRETC) which is the southern hemisphere's first wind turbine training tower, as well as Skills Labs mentioned previously. We note that applications will soon open for the Renewable Hydrogen Worker Training Centre. TAFE should be the first-choice training partner for Government in this process.

While some of this work has commenced and is partially funded, this commitment needs to be long-term and should form the basis of the new Climate Change Strategy.

Leverage TAFE to establish worker training centres

The Strategy should prioritise continued partnership with TAFE to establish specialised, clean economy training centres where TAFE Institutes can work closely alongside industry. This will ensure that TAFE students are getting industry-relevant training that enable them to seamlessly transition into the clean economy workforce.

Specialised training centres are best led by TAFE, building upon the sector's decades of best practice industry engagement experience. There are many successful examples of cutting-edge industry-TAFE partnerships, including:

- Bendigo Kangan Institute's Automotive Centre of Excellence (ACE): The ACE Docklands campus has world-class vehicle and engine testing facilities, new workshop spaces, and a purpose-built auto electrical lab. Its objective is to strengthen links between the automotive industry and TAFE. The ACE has partnered with several major car companies to deliver technical training for apprentices, providing a turnkey solution from recruitment to certification. This facility provides one of the best pathways into the automotive industry and prepares students with real world, industry skills. The ACE has been supported with investment by many high-profile industry and partners.
- The Victorian Tunnelling Centre at Holmesglen Institute: Funded by Rail Projects Victoria, this Centre was built to support Victorians to gain the skills and knowledge required for work on major projects, such as the Metro Tunnel, Suburban Rail Loop, and Northeast Link. It also provides training for workers on other major projects across Australia. Scenarios can be run that simulate what it is like to work in an underground environment. Prior to the construction of the Centre there was no purpose-built training facility in Australia to provide training in the construction and operation of rail, traffic and utility tunnels.

This experience extends to the clean economy transition, with several case studies overleaf.

[14] McCrindle, *TAFE value and perception challenge report*

**Case Study: Planning to power the clean energy transition**

TAFE Gippsland has published a plan, "powering the energy transition", to train Gippsland's clean energy workforce. The Institute is embracing the clean energy transition and this plan lays out how they are keeping up-to-date with new and emerging technologies, including offshore wind. In recent years, TAFE Gippsland has upgraded facilities across its major campuses investing millions of dollars in new buildings and other infrastructure to provide state-of-the art centres to train the next generations of skilled workers who will drive the transition to renewable energy. Additional projects will be completed in coming years, ensuring continual improvement.

In close partnership with industry and government, they have designed and delivered a wide range of new renewables-related courses and initiatives in the past decade, upskilling existing power industry workers and training a new generation of tradespeople and technicians. With strong offshore wind resources, local transmission infrastructure, an experienced supply chain, and its rich history of power generation, the region is in an excellent position to transition into offshore wind. Onshore wind, solar, hydrogen and battery energy storage will also play a major part in this transition. This positions TAFE Gippsland as a key partner in achieving Victoria's clean energy transition.

**Case Study: New clean energy training centre**

Work is underway on a new clean energy training centre at TAFE Gippsland that will give more Victorians the skills they need to join the renewable energy workforce. The Centre will deliver world-class training in clean and sustainable energy technologies, including the expansion and maintenance of wind power to cater for onshore and offshore energy systems, hybrid and electric vehicle servicing and maintenance, and smart grid technology. The contemporary teaching and learning spaces and industry-standard simulation equipment will give students real-world experience while they're training at TAFE. Construction of the Clean Energy Centre is expected to be complete in early 2026 and the new centre will have capacity for 200 students in its first year.

**Case Study: Using technology to minimise timber waste and timber procurement expenses**

Melbourne Polytechnic technical staff have taken a proactive step to address significant construction waste issues. The Finger Jointing Machine is an innovative solution to minimise new timber purchases and lessen landfill waste through recycling timber offcuts. This machine facilitates the adhesive bonding of two wood pieces to create a robust joint and form a complete piece. Its application extends across various disciplines such as joinery, cabinet making, shop fitting, carpentry, construction and furniture making.

Since using the machine, the Institute has diverted 176 tonnes of timber waste from landfills annually, reducing waste removal costs and minimising timber procurement expenses. Students have also learned how to work with the machine and understand the financial and environmental advantages of proper waste management and recycling technologies. To expand on waste management initiatives, the Institute has plans to install a sawdust briquette machine to capture sawdust waste from the machinery workshop.

**Case Study: Mallee hydrogen technology cluster with SuniTAFE**

SuniTAFE Mildura campus is strategically positioned to support hydrogen hub development. The Mallee Region Innovation Centre, collaborating with Melbourne University and La Trobe University, explores hydrogen use in tractors and cars, aligning with industry partners. SuniTAFE is crucial in delivering targeted training for the integration of hydrogen vehicles and gas network transition in the region.

**Recommendation 5:** Create a Climate Action Innovation Fund for the Victorian TAFE Network, to support TAFEs to:

a. develop training required to support key workforces and industries to reduce Victoria's emissions and drive action on climate change
b. upgrade and maintain necessary equipment to ensure industry-ready training
c. conduct applied research related to sustainability, clean energy and climate resilience.

The current TAFE funding and regulation model does not support innovation

The workforce data cited above demonstrates that TAFEs will require expanded capacity and capability to train new skilled workers and upskill the existing workforce in response to climate change and the clean economy transition. This will include developing new training materials and skills sets for new and changing roles, upgrading necessary equipment and conducting applied research to support sustainability, reduced emissions and climate resilience.

The TAFE funding model creates challenges for TAFE to expand and innovate beyond business-as-usual delivery, with most funding on a per-student contact hour basis. Without dedicated and targeted funding for climate action innovation, crucial workforce requirements of the Strategy will not occur. This could put the success of the strategy, and Victoria's clean economy transition, at risk.

The regulation and compliance environment also limits their ability to innovate and adapt. While regulatory requirements are designed to support quality and integrity, their associated administrative processes and aversion to risk have created large and costly efforts for TAFE Institutes to maintain and demonstrate compliance, creating an extensive internal 'industry' of compliance that disincentivises innovation. This slows down the ability for TAFEs to innovate across their operations – including training development, equipment and infrastructure, and research.

There are significant delays in the qualification system catching up with industry developments. The current system of predominantly nationally designed training products will be outpaced by the rapid changes to occupations and skill needs of the clean economy. The role of the VRQA (Victoria's own course accrediting body) will become more acute, in supporting TAFEs to quickly support and accredit new courses and qualifications for evolving skills. This becomes even more important when considered alongside the natural lag time from recruitment and enrolment to graduation, and the potential loss of students out of this pipeline into other courses or through non- or partial completion.

Considering this combination of constrained funding and regulation, we need to do all we can to drive innovation through the TAFE sector, through additional funding support for innovation.

We propose a TAFE Climate Action Innovation Fund to support training, equipment and research

For the Strategy to succeed, we will need to have the right workforce with up-to-date skills and qualifications, who have been trained on cutting-edge equipment by a teaching workforce with industry-relevant skills. TAFEs will need to update and refine their training, equipment and applied research at a pace that not just keeps up with but ***drives*** innovation.

We recommend that the Government create a Climate Action Innovation Fund for the Victorian TAFE Network, to support TAFEs to develop the training required to support key workforces and industries to reduce emissions and drive action on climate change. This could build on the success of the Clean Economy Workforce Capacity Building Fund which provided funding for a small range of clean energy projects focussed on promoting training for an expanded clean economy workforce.

We propose that this Fund is a non-competitive, business case process that allows TAFEs to unlock funding for innovative and future-focussed projects in high-need areas to support the transition. This funding should support innovative training development, cutting-edge and industry-relevant equipment and applied research. Alternatively, this fund could extend the existing Clean Energy Fund, made available to TAFE previously, or the Clean Economy Workforce Capability Fund.

Training delivery has a role to play in reducing emissions, and TAFEs will need to consistently maintain and adapt curriculum, and innovate their teaching and learning methods, to support this emerging workforce. We note that historically most of Victoria's greenhouse gas emissions are generated through the energy, transport and agriculture sectors (though new data centres for processing AI and other online applications are becoming huge energy users). Updated training, methods and equipment will be crucial in supporting the uptake of new technologies and innovations, ensuring that key industries make the most of known and emerging ways to reduce their emissions and carbon footprint.

**Case Study: SuniTAFE courses supporting the clean economy transition**

SuniTAFE delivers a range of courses supporting the clean economy transition, including in the areas of:

- **grid-connected solar installation and design** – with SuniTAFE already providing workforce training for the Beon Energy Solutions' 120MW solar farm project south of Mildura over an 18-month period. SuniTAFE is exploring • funding options to support increased installation of solar panels to offset energy costs.
- **hybrid and electric vehicles** with a specific course to safely prepare an electric vehicle before beginning working on it and then recommissioning. SuniTAFE offers a concise course on EV risks and fundamental safety measures, designed for local dealerships and emergency personnel. This has led to strategic alliances with key regional auto dealerships. SuniTAFE also offers CPD courses for **Licensed Electricians**.

**Case Study: Sustainable building design project**

RMIT Centre of Vocational Education (CoVE) is currently developing 3 new skill sets around sustainable building design in partnership with industry and employer networks. As part of the Clean Economy Workforce Capability Building Fund, the CoVE is developing 3 new skill sets that can be delivered as standalone skill sets or combined to form a stackable Certificate IV qualification in Sustainable Building Design.

Industry has been heavily involved in the development of the skill sets through consultation and co-design. Other key stakeholders in the partnership include employer networks and the Melbourne Chamber of Commerce. The resulting skill sets aim to be highly accessible, as they can be undertaken by current students, upskilling employees, and construction project managers to complement broader qualifications.

**Case Study: Protecting the atmosphere with natural refrigerants**

Box Hill Institute has several clean economy focus areas. Specifically, they provide training in natural refrigerants and have been working with large organisations such as Coles and Woolworths to upskill existing workers. Natural refrigerants are substances found in nature used for cooling. They are a cleaner alternative because they have a lower global warming potential and don’t deplete the ozone layer, unlike many synthetic refrigerants.

Natural refrigerants training is being embedded into the Certificate III in Air Conditioning and Refrigeration for apprentices at Box Hill and is a positive step towards contributing to the clean economy.

**Case Study: Reducing emissions through hydrogen fuel-cell technology**

South West TAFE, in collaboration with industry leaders and academic experts, has developed a unique course focused on the application of hydrogen fuel cells in heavy vehicle operations. Hydrogen fuel cell technology offers a clean alternative that can significantly reduce emissions and environmental impacts of the sector.

South West TAFE, Warrnambool Bus Lines, AC Transit, Deakin University and Federation University are working in collaboration to develop and deliver a new set of accredited units critical for hydrogen use and fuel cell electric buses. The training will be available for employees, drivers and mechanics and is adaptable for various FCEV bus types.

The strength of the partnership with industry, researchers and educators is pivotal to the success of this project, with all bringing specialised expertise and resources to drive the initiative forward. Located in Warrnambool, the pilot program commenced in 2022 and in late 2024 moved into a practical phase.

To ensure industry relevance, TAFEs will also need to purchase and maintain their equipment and facilities so that students are learning industry-relevant skills on industry-relevant equipment, from staff with up-to-date industry currency.

This fund should also support **applied research projects** related to sustainability, clean economy, and climate resilience. While universities are typically prioritised for research funding, TAFEs are equally capable and bring a unique perspective. With a strong focus on practical skills and industry engagement, TAFEs bridge the gap between lab or desk-based research and real-world implementation. Backed by strong industry connections, TAFEs are well positioned to lead research projects to support the Strategy, such as understanding the geography and skills base of clean energy to deliver tangible, industry-relevant outcomes.

This can build on the success of a new project that Holmesglen will soon commence on behalf of the TAFE Network (funded by the OTCD) to bolster the applied research capacity of the Network and fund care-economy related research projects, building on the success of Holmesglen's Care Economy Skills Lab.

**Case Study: Applied research supporting the rapidly growing wind energy sector**

Federation University is providing applied research opportunities to meet Australia's energy needs. The Asia Pacific Renewable Energy Training Centre (APRETC) Ballarat was established by Federation University in November 2021 with support from the Victorian Government's TAFE Clean Energy Fund and direct funding from industry. It supports the rapidly growing wind energy sector by meeting the demand for local skilled workers. It supports students to apply renewable energy research and learn valuable technical training skills, such as blade repairs, and turbine maintenance, which lead to a Certificate III of Engineering.

**Case Study: Applying circular economy principles in education and training**

Wodonga TAFE's Logical Innovation Precinct will house the Advanced Manufacturing Centre of Excellence (CoE) focusing on integration of clean economy manufacturing principles. This CoE will apply circular economy principles for the introduction of technologies and design processes, including Digital Twins, Design for Disassembly, 3D Print components and parts, and Products-as-a-Service (PaaS). Industry will be able to access the skills required to transition to modern manufacturing processes, whilst embedding circular economy principles into their designs.

The program aims to focus on research to support waste reduction, decreased pollution, as well as extending the lifecycle of materials and consumables.

## Conclusion

The VTA and its members welcome the opportunity to contribute to this consultation process, as achieving net-zero greenhouse gas emissions by 2045 and building climate resilience will require action from all sectors, including TAFE. Our recommendations strengthen the Strategy by highlighting how Government can continue to partner with TAFE to build the clean economy workforce required to achieve net-zero greenhouse gas emissions and build climate resilience.

As demonstrated in the case studies provided, TAFEs are already playing a critical role in building the clean economy workforce and supporting greenhouse gas emissions reduction. However, without targeted funding there is a real risk that TAFEs will be unable to develop and deliver the training required to support the required scale of the clean economy workforce and continue to reduce their own emissions.

Increased investment in TAFE is a critical component of the clean economy transition. Without TAFE there is a risk that climate targets will not be met. Strengthening TAFE will also deliver wide economic and social benefits for Victoria, including increased employment, income, skills and productivity, and a reduced reliance on some social services.

The VTA urge DEECA to consider and incorporate these recommendations to maximise the Strategy's effectiveness and achieve net-zero emissions by 2045.