

THE PREMIERS ECONOMIC AND SOCIAL RECOVERY ADVISORY COMMITTEE (PESRAC) - SUBMISSION

AUSTRALIAN ARCHITECTS DECLARE- SUGGESTIONS AND COMMENT



The following has been prepared by Australian Architects Declare (AAD) for consideration by the Premiers Economic Recovery Advisory Committee having also reviewed the Tasmanian Governments Climate Change Action Plan and Climate Action Document Action 21 – under the 6 Key Priority Areas :

- 1. Understanding Tasmania Future Climate
- 2. Advancing our Renewable Energy Capacity
- 3. Reducing our Transport Emissions
- 4. Creating a Climate Resilient Economy
- 5. Building Climate Resilience
- 6. Supporting Community

The views expressed are seen as a summary of opportunities and potential policy directions for Tasmania post Covid 19 , concurrent with the objective of creating a resilient economic response to Climate Change and achieving Net Zero Emissions by 2050 , or earlier . Australian Architects

Declare (<http://au.architectsdeclare.com>) is a non-partisan organization representing currently 976 and increasing , small and large scale architectural enterprises nation wide . Since its creation in mid 2019 , the concept has been joined by Australian Engineers Declare ; Planners Declare and Builders Declare and more recently the advent of Construction Declares . As such the Declare movement is committed to action in its own right in supporting all levels of Government reaching Net Zero targets by changes in its own professional and trade practices . We are exploring new emerging and old technologies , materials and processes which will change the practice , design and construction of all elements involved in procuring and altering buildings for a more resilient future . As such this is intended to be a practical response to reducing emissions and waste in design and construction to meet Net Zero emissions in the industry as soon as possible . We see that this accepted responsibility goes well beyond Tasmania achieving Net Zero solely through the Energy Generation sector by 2050 .

In general terms AAD encourages a post Covid 19 economic strategy which fully supports existing industries across the state in reducing carbon emissions but also ensures that new policy directions have the ability to promote Tasmania as an economy driven by renewable energy , assisting the establishment of new climate responsive industries in this state .

Practical Considerations for the Design and Construction Industry :

In the context of achieving Net Zero by 2050 we propose the following in support and encouragement of the State Governments current objectives / policies as outlined in its Action 21 document providing particular focus on the Design and Construction Industry which is not currently defined in that document **notwithstanding that the industry is responsible for up to 40% of all emissions nationwide** .

In practical terms to ensure the Construction Industry participates in the process of reducing its emissions impact moving forward to 2050 and beyond , it is recommended that –

- i) The government adds a **7th Key Priority Area to its ACTION 21 document** addressing changes to design and construction practices and activities that assist achieve the Net Zero 2050 policy direction **or alternatively include same under Priority 3 as “ Reducing our Transport and Construction Industry Emissions ”**
- ii) The **Government Housing Sector procurement and Capital Works Programs** for all agencies and consultants including architects , designers , engineers , builders and suppliers as well as developers are encouraged to adopt Net Zero emissions and waste management practices , and regenerative design in the construction process leading to full compliance by 2050 . This can be achieved and supported by ensuring that government procurement policies through all agencies statewide are adjusted . This would include new clauses which would define **adherence to government Net Zero and Waste**

management design and construction practices and processes in invitations to tender and commissioning documents for all consultants as well as inclusions of same in construction contract specifications for developers , builders and sub-contractors in the Preliminary and General clauses of the contracts . Constructed projects already exist in Tasmania within the government sector which illustrate the type of project that is achievable if appropriate principles are applied at the commencement of design and adhered to through the construction process . One such example is the Northern Integrated Care Service building at the Launceston General Hospital which employs Green Concrete (employing a fly-ash mix, reducing emissions by 20%+) ; providing solar cells embedded in the atrium roof glazing ; and using the atrium to naturally ventilate the building utilizing a campus energy reducing Chill- Beam heating and cooling mechanical system . The project received a national Property Industry award for innovation in Sustainability . Another example is the Sustainable Design Centre Mount Nelson which operates to encourage sustainability objectives . These and other projects illustrate what is achievable even with current technology and very little additional capital cost compared with the operational cost benefit and adherence to positive emissions reductions outcomes . Such projects should be the norm not the exception now and in the future leading to 2050 .

- iii) The **Parliamentary Standing Committee on Public Works (PSCPW)** in the context of ensuring follow through on government policy , ought be required amongst other priorities to review each project recommended to it , to investigate how the requirement of **compliance with the Government strategy of Net Zero emissions** is addressed through its design , construction and operation .
- iv) The **National Construction Code (NCC)** will soon require all State Governments nationally to audit all construction to ensure code compliance requirements are met for all projects . This will no doubt result in more skilled resources having to be applied within government to achieve this requirement together with the ability to adequately advise on **construction industry compliance with Net Zero policy requirements** .
- v) The government should voluntarily promote through its own agencies and government businesses the agenda of adherence to Net Zero and waste management activities and seek **independent consultant audits of its own agencies for compliance** .
- vi) With regard to materials and processes used in construction in order to minimize carbon emissions , priority can be justifiably placed on materials of low carbon emissivity specifications and short transport delivery distances on all construction projects in Tasmania wherever possible . Such use can be subject to **reporting the demonstrated use of reduced carbon emission product specifications and processes** . An example of this would be the mandated use of Green Concrete wherever possible in all building and engineering projects where concrete is used as the major structural form . Currently this

would incur a cost penalty of around 10% of that one trade , however, in the context of the total capital cost of a given project this a miniscule addition to what will save from up to 20-30 % of carbon emissions on that one component of construction . There are of course other products such as locally produced bricks and sustainable plantation timber together with many other locally produced products and processes . In terms of transport emissions of imported products Tasmania is fortunate with its proximity to bulk sea transport of other less locally available but otherwise needed products from its closest neighbor, the industrial heart of Australia , Victoria . Further reduction in transport emissions need however to be developed over time heading to 2050 .

- vii) AAD considers the Engineering Design industry is critical to establishing **better performing buildings through innovative building systems and forms of construction** including but not limited to emphasis on thermal performance , natural ventilation coupled with sustainable air conditioning design technologies , energy saving light systems , solar , wind and other new power generation and building performance technologies which will assist reduce energy usage and wastage . To this end all buildings undertaken in the Tasmanian context but in particular all government projects should ensure that there are **engineering reports available for analysis during the design phase , at the completion of testing and handover and within 2 and 5 years of completion to ensure continual improvement of building performance for all buildings commissioned on behalf of government.**
- viii) The government should encourage a policy wherever possible of **reusing , repurposing and refitting existing buildings where the embodied energy of major construction works has already been expended .**

Summary :

Australian Architects Declare fully supports the objectives that the Tasmanian Government has established through it's **Key Priority Areas with the inclusion of an additional Priority area being the Design and Construction Industry .**

Other objectives of the Tasmanian Government which are also supported are :

- The electrification of the Governments own car fleet particularly if the government can encourage car design companies to use Tasmania as a testing ground for a variety of car designs and encourage the incentivizing of assembly in the State that can utilize our sustainable energy generation as part and parcel of their own auditable zero emissions company activities .
- The role out of an expanded network of charge stations with the proviso that they are designed to charge a range of models . It may also be possible to redirect some of the activities of Government Businesses to achieve a faster outcome in this direction . Multi

storey carpark owners and operators could be incentivized to ramp up installation of multiple charge stations .

- Changing the current one dimensional mass transport bus systems across the State from large diesel based transport to a more flexible range of alternative sized new technology electrified and other sustainable fuel vehicles which can respond to the peaks and lows of usage . In this context again to encourage new businesses that can assemble such vehicles to establish in the State . In Hobart to encourage the further development of a private river based ferry system provided that concurrently sufficient attention is given to parking areas for the resultant passenger park and ride strategy where local governments entities can be encouraged to sustainably redevelop some of their existing parking infrastructure .
- Reviewing the possibility of a light rail System for Hobart bearing in mind that new technologies currently available and soon to be commonly available such as autonomous vehicles may be more suitable than a system that relies typically on a population density much larger than any city in Tasmania . Whilst there are some areas of potential appropriate development along the existing rail corridor , the light rail option is more likely to be a distant future possibility . The objective again would be to not rely on a single transport technology which requires large on-going government operational funding but to take the technological leap to utilize the newest technologies being brought on line . To this end encourage enterprise participation in assembly , testing , construction and operation establishment within the State .
- The further development of renewable energy options within the state including known technologies such as solar , wind , battery storage , hydrogen and other evolving technologies .
- The development of coordinated health , police , fire fighting and emergency services response to possible emerging local and global crises ensuring the States resilience .
- Assisting the development of climate and crises responsive and resilient agricultural and tourism industries .

In concluding , Australian Architects Declare AAD along with the Australian Institute of Architects AIA through its Climate Action Task Force CAST supports all efforts by the Tasmanian Government to stimulate an economy which is based on sustainable , resilient and innovative principles in ensuring a viable future for the State as it recovers from the Covid 19 epidemic and responds to the challenges of Climate and a changing world .