2021 (No. 7)

PARLIAMENT OF TASMANIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

TasTAFE Energy Trades and Water Centre of Excellence

Brought up by Mrs Petrusma and ordered by the House of Assembly to be printed.

MEMBERS OF THE COMMITTEE

Legislative Council	House of Assembly
Mr *Valentine (Chair)*	Ms *Butler*
Mrs *Rattray*	Mr *Ellis*
	Mrs *Petrusma*

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1 INTRODUCTION

The Committee has the honour to report to the House of Assembly in accordance with the provisions of the *Public Works Committee Act 1914* on the -

TasTAFE Energy Trades and Water Centre for Excellence

2 BACKGROUND

2.1 This reference recommended the Committee approve works to construct a new facility at the TasTAFE Clarence Campus; the Energy Trades and Water Centre of Excellence (ETW CoE). The proposed ETW CoE aims to provide a state-of-the-art facility to serve the growing demand for apprentice and short course training for the Plumbing, Mechanical Services, Water, Hydrogen, Electrotechnology and Polymer Processing industries.

2.2 Industry stakeholders have identified that the current plumbing, air-conditioning and refrigeration, and water training facilities in Tasmania no longer meet the needs of industry or meet the standard that these industries require. The existing facility at the Claremont College campus was built in 1980 and has not been updated. The current infrastructure does not provide a contemporary teaching environment, nor does it have the latest industry technology that mirrors innovations within the sector. The Electrotechnology training facilities at TasTAFE's Campbell St campus are similarly over 30 years old, with the equipment well overdue for replacement.

2.3 The ETW CoE is co-sponsored by industry and aims to deliver an innovative teaching and learning facility that meets the needs of the Plumbing and broader Water industries, together with electrotechnology training and the emerging industries of renewable and alternative energy (such as hydrogen). The ETW CoE is intended to provide an environment where innovation and the latest technologies are showcased and available for teaching, learning, demonstration and applied research.

2.4 The facility will provide pre-vocational, apprentice and higher-level vocational education qualifications in line with an industry workforce development plan to skill and up-skill new and existing industry participants.

2.5 Trade courses currently offered at the TasTAFE Clarence campus include Construction, Plastering, Bricklaying, Wall and Floor Tiling, Painting and Decorating and Glazing. These trades would be supported by the relocation of Plumbing, Gas, Refrigeration and Air-Conditioning and Electrotechnology courses. Traditionally the delivery of these trade courses has operated independently, however, there is now a greater degree of overlap between these trades. By co-locating them, TasTAFE hopes to provide an improved training delivery model, that is adaptable, flexible and more efficient and which will better suit industry and student needs.

2.6 The proposed works require the construction of a new building to house training for the Plumbing, Mechanical Services, Water, Hydrogen Electrotechnology and

Polymer Processing industries. The new building will include the following elements:

- Classroom facilities that are suited to both traditional teaching methods, audio visual (AV), and online supported approaches;
- Workshops for tool skill development, fitting, welding, and fabricating;
- Simulated work environments, including a demonstration house and foundations, vertical pipe training tower, sandpit, water room and plant room;
- A reconfigurable and adaptable training facility learning space that is functional and flexible and considers acoustic, colour, light, layout, materials, interactivity, graphics, inspiration and technology factors;
- The use of mobile, roll-in/roll-out equipment trolleys to support flexible, modular training delivery; and
- Exposing normally hidden building services and technologies, so the building itself is a tool for learning.

2.7 A key element of the building design is the provision of training spaces that are flexible, adaptable and reconfigurable, allowing training to respond to industry needs, student demand and changing technologies. This will be achieved by the use of significant open space, complemented by adjacent simulated work environments and training platforms and the use of mobile equipment trolleys.

2.8 There are a number of key advantages of the adaptable training space concept including:

- Providing multi-functional and flexible learning spaces that are adaptable to changes in course delivery and practical training requirements;
- Opportunities to occupy less floor area by elevating classrooms or learning platforms above open spaces and using modular units to adapt the training space;
- Creating space that can accommodate multiple training and demonstrations by eliminating wasted space occupied by equipment not required for the current training module;
- Enhancing students experience in learning and training space as it can explore and demonstrate the current technologies and job requirements; and
- Providing a medium for industry involvement to develop a dynamic and appropriately skilled workforce.

3 PROJECT COSTS

3.1 Pursuant to the Message from Her Excellency the Governor-in-Council, the estimated cost of the work is $21 million.

The following table details the current cost estimates for the project:

Project budget				$ 21,000,000.00	
Design Contingency			5.00%	$ 1,050,000.00	
Arts Tasmania legislated expenditure				$ 80,000.00	
Wages & Salaries and oncosts				$ 1,000,000.00	
Sub-total				$ 2,130,000.00	
Project Budget minus TasTAFE cost				$ 18,870,000.00	
Design fees				$ 1,830,600.00	
Local Council Fees & Charges				$ 90,000.00	
Construction budget minus fees and charges				$ 16,949,400.00	
Design Contingency			5.00%	$ 847,470.00	
Construction Contingency			10.00%	$ 1,694,940.00	
FFE	100%	$ 1,500,000.00		$ 1,500,000.00	
Sub-total				$ 4,042,410.00	
Construction budget				$ 12,906,990.00	

	Area % remaining	Quantity	Rate	Cost	Comment	
Communal	8%	5.04	$ 2,063	$ 10,397.52		
Electrotechnology	60%	1001.4	$ 2,500	$ 2,503,500.00		28.88%
Plumbing / Gas / Refrigeration	45%	2461.05	$ 2,500	$ 6,152,625.00		70.97%
		3467.49	Sub-total	$ 8,666,522.52		48.15%
Engineering Services						
Electrical Services	45%	$ 693,000.00		$ 693,000.00	Prorata	
Electrical Intrastructure						
Existing Switchboard Upgrade	100%	$ 50,000.00		$ 50,000.00	Fixed	
Submains from existing switchboard	100%	$ 30,000.00		$ 30,000.00	Fixed	
Optical fibre infrastructure - 2 diverse paths	100%	$ 25,000.00		$ 25,000.00	Fixed	
PV array 250 kW	0%	$ -		$ -	Option	
Battery storage 40 kWhr	0%	$ -		$ -	Option	
24V/48V reticulation to 13 Labs	100%	$ 90,000.00		$ 90,000.00	Fixed	
Building E services upgrade	100%	$ 70,000.00		$ 70,000.00	Fixed	
CCTV System - 40 cameras/local storage	100%	$ 60,000.00		$ 60,000.00	Fixed	
Access control system - 20 doors	100%	$ 60,000.00		$ 60,000.00	Fixed	
Dry Fire Services	100%	$ 20,000.00		$ 20,000.00	Fixed	
Dry Fire Services	45%	$ 81,000.00		$ 81,000.00	Prorata	
Mechanical Services	100%	$ 200,000.00		$ 200,000.00	Fixed	
Mechanical Services	45%	$ 630,000.00		$ 630,000.00	Prorata	
General Requirements	45%	$ 335,700.00		$ 335,700.00	Prorata	
Siteworks	75%	$ 1,065,000.00		$ 1,065,000.00	Prorata	
Site Services	75%	$ 704,250.00		$ 704,250.00	Prorata	
			Sub-total	$ 4,113,950.00		
			Total	$ 12,780,472.52		

4 EVIDENCE

4.1 The Committee commenced its inquiry on Tuesday, 16 February last with an inspection of the site of the proposed works. The Committee then returned to Committee Room 1, Parliament House, whereupon the following witnesses appeared, made the Statutory Declaration and were examined by the Committee in public:-

- Scott Adams, TasTAFE, Chief Operating Officer;
- James Kazalac, Architect, FMSA Architecture;
- James Eaves, TasTAFE, Senior Project Manager; and
- Febianca Sampson, Project Architect, ARTAS.

Overview

4.2 Mr Adams provided an overview of the proposed works:

> ***Mr ADAMS -*** *Thank you for the opportunity to present this exciting project to the committee. This project represents a $21 million investment by both the state government and the federal government in the establishment of a centre of excellence for water, electrotechnology and related trades training in Tasmania. The centre will replace ageing training facilities for plumbing, heating, ventilation, and air conditioning - HVAC - and refrigeration at the Claremont College and electrotechnology training currently delivered from the TasTAFE Campbell Street campus.*
>
> *In addition to replacing these existing training facilities, the new centre will cater for emerging training needs in new industries such as poly welding, wastewater management, hydrogen and renewable energies. The centre is the culmination of three years of work and will place Tasmania at the forefront of trades training in these areas. The chosen site for the centre is on vacant land at TasTAFE's existing Clarence campus, which is already the home of construction and allied trades training, as well as many other disciplines. The co-location of these new trades with the existing trades will result in a much-improved learning experience for students.*
>
> *The Clarence site will also provide much-needed ancillary services for students, including a learning hub featuring a library and computer labs; cafeteria; student counselling and support services; and, most importantly, onsite student accommodation. The centre will cater for the trades training needs, both now and well into the future, training from short course through certificate II to certificate IV and advanced diploma level. It will be underpinned by TasTAFE's agreed set of principles for centres of excellence, which include being co-designed with industry; a strong partnership with industry and university, including shared use of facilities and integrated learning models; applied research; catering for strong existing student demand and predicted future growth; and emphasis on the use of emerging technologies.*
>
> *The centre of excellence project is being overseen by a steering committee made up of representatives from industry, including the Master Plumbers Association, the National Electrical and Communications Association, the Air Conditioning and Mechanical Contractors' Association, TasWater and Keystone. All these industry partners have committed not only to a successful development of the physical centre but also to the ongoing success of the centre of excellence.*

Benefits of the Development

4.3 The Committee was keen to understand the benefits of the development. The witnesses indicated key benefits included the space allowing for flexibility in training delivery, the ability to deliver training that overlaps trades in the one location and the replacement of ageing equipment:

> ***Mrs PETRUSMA*** *- The paragraph above the introduction talks about how it will replace TasTAFE's ageing plumbing training centre located at the Claremont College school campus and the electrotechnology training facility at TasTAFE's Campbell Street campus. For the record, how old are those existing centres? What are the benefits of those centres being moved to Warrane? What is the benefit not only to the students, but also to industry in the sectors involved?*
>
> ***Mr ADAMS*** *- The plumbing facility at Claremont is in excess of 30 years old. The electrotechnology facilities at the Campbell Street site would be the same sort of vintage.*
>
> *In addition to its age, the Claremont plumbing facility was not a purpose-built training facility and is quite dispersed - it has a range of small rooms and small workshops, which limit flexibility around training. So space is a significant issue around there. With the electrotechnology facilities at Campbell Street, it is not so much a space issue there. The equipment is very aged and needs to be brought up to speed. In addition, a real driver behind moving that facility to Clarence is there is a lot more overlap in trades training now between disciplines. For example, virtually all plumbers need to do a restricted electrical licence for installation and what have you. At the moment, we deliver that in different locations. By combining all that at Clarence, everything will be on one site, which will allow us much more flexibility in the delivery model.*

4.4 Another advantage is the ability for students to gain easier access to programs to improve their literacy and numeracy on site:

> ***Ms BUTLER*** *- ….I think it is important to note for the record that for some of the best apprentices, their literacy and numeracy may not be that flash but they may be absolutely brilliant practically. I think it's really positive that this is part of the education strategy and TasTAFE has recognised that. I think that needs to be noted.*
>
> ***Mr ADAMS -*** *That again is one of the advantages of moving to the Clarence site, where we deliver our foundations training to support literacy and numeracy. Apprentices identified who might struggle in that space will have access to training at the Clarence site, whereas at the moment it is not offered at Claremont so they have to travel.*

4.5 The Committee sought further information from the witnesses on how the new facility would provide value for money for the Tasmanian community, as stated in the TasTAFE submission:

> ***Ms RATTRAY*** *- **……**Is the Tasmanian community receiving value for money? Is there something specific you can point me to that reassures me we will be getting value for money ……?*
>
> ***Mr ADAMS -*** *Perhaps I could best answer that question by saying that the investment in these facilities is needed based on the age and the lack of suitability of the existing ones. Doing it at the Clarence site will ensure we maximise value for money. There is a range of advantages building within an existing campus. All the support infrastructure I've mentioned is at the one site, a lot of which would need to be replicated if we went anywhere else. In the business case, which we have taken through to the TasTAFE board, we detailed the ongoing running costs of this facility, showing that both in terms of delivering teaching and student support services, it is significantly cheaper than even the existing facilities because we have them co-located.*
>
> ***Ms RATTRAY*** *- And for some of those areas you already mentioned in previous answers as well?*

Mr ADAMS - *Yes, and in a much better environment for students because they have access to all that infrastructure that they don't elsewhere.*

Mr ELLIS *- Would you mind reiterating that? Constructing at this site would actually increase the value for money, not just because of the new build but the rest of the campus around it because there will be greater utilisation of some of those shared services?*

Mr ADAMS - *Absolutely. The shared services and student support services I have mentioned will offer far more value for money by activating this site more. The more students we have on the site using those facilities, the delivery cost per student comes down dramatically.*

Mr ELLIS *- It's a win-win for the existing facilities at two separate locations coming together?*

Mr ADAMS - *Yes, it is a win from a value for money perspective but it is also a win from the student experience. The learning opportunity, particularly with the trades co-located in one site, which we have seen at our other facility in Alanvale in Launceston, where we have more of the trades co-located across learning opportunities, is significant.*

Why the Clarence Campus was Chosen for the Development

4.6 The Committee sought to understand why building a new facility at the Clarence TasTAFE Campus was preferred over redeveloping the current training facilities. The witnesses highlighted that the availability of land, the ability for interaction with other trades, access to existing student services and the availability of student accommodation were all factors that made the Clarence TasTAFE Campus the best site for the ETW CoE:

CHAIR *- … … Under section 3.1, you talk about the existing facility at Claremont College campus having been built in 1980 and that it has not been updated. Why Clarence campus in particular? Is it possible there is space in Claremont to do this? There must be reasons why this is seen as a good site for this.*

Mr ADAMS - *Absolutely, space is one. We have vacant land at the Clarence campus but there are a number of other factors as to why the Clarence campus. The principal ones are that Clarence is already our southern trade training base and we do all our other trades there - construction, allied trades. As I mentioned earlier, there is a lot of crossover in trades training now, so one site will be able to deliver core components for all trades, including working at heights, first aid and components such as that. Cross-fertilisation across trades is very important.*

Second, moving to an existing substantial campus like Clarence means we do not have to replicate all those other services for students. So, we have the library, computer labs and student counsellors on site, all of which will need to be replicated elsewhere; at the moment they are not replicated at Claremont and that is to the detriment of students. The other very important component is onsite student accommodation. This is available at Clarence and is becoming more and more important because we have apprentices come from around the state for their block release components.

CHAIR *- It is catering for the whole state?*

Mr ADAMS - *Yes.*

ETW CoE Design

4.7 The Committee sought to explore how the building design would contribute to the facility gaining traction as a "centre of excellence"

Mrs PETRUSMA *- The second last paragraph talks about how 'the design of the centre will cater for changes in technology and training requirements over time.'. Can you explain how the design will do that, please?*

Mr ADAMS *- Yes, we can, and then I might defer to our architect experts.*

Essentially the model we're adopting here for this centre of excellence is what I term a roll-in, roll-out model. With our existing training at Claremont, for example, everything is fixed and there are small rooms to cater for particular training. The model under this scenario has a workshop facility where basically we can roll-in and roll-out equipment, depending on the discipline that's being delivered, which has been a successful model.

Perhaps, James, you might want to expand on that?

Mr KAZALAC *- Yes, absolutely. One of the main design methodologies out of this is that we want to try to maximise multipurpose use throughout this facility as best we can and some of this sort of 'park and play' and flexible training aids and modules is a key component of that.*

Part of our role is to design that sort of process and integrate that fit-out into the different disciplines that we have. For example, there are options with our backflow team training in plumbing. We can have a mobile trolley which can be utilised when the course is running, and then from a management sort of system and timetabling, we can then shift that to a storage area and utilise that open space for another key component of the course. That's kind of the ideology behind the design process at the moment.

Mrs PETRUSMA *- And that design is being used successfully elsewhere?*

Mr KAZALAC *- Yes. I've had previous experience personally working for PICAC throughout Victoria and their facilities in Queensland too. They have a similar sort of typology that they've developed as well. It seems to give them a good balance of what certain items will need to have fixed infrastructure in place but also where we can utilise any of these multipurpose or flexible modules and trolleys. It gives them an opportunity to use the space to give more benefit than from just a single purpose-use design, which is a little bit more old style.*

4.8 The witnesses also highlighted that the ETW CoE had been designed to be flexible and responsive to the different training needs of each trade, with a more productive utilisation of available space than currently experienced in the existing training facilities. The witnesses also noted that this flexibility and productive use of space would allow TasTAFE to cater for the expected growth in student demand:

Ms BUTLER *- I just want to see if it is as big here as it is at the moment in Claremont. Has there been a reduction in the actual area space?*

Ms SAMPSON *- … … I think it's bit on par, if I'm not mistaken, James Kazalac, in that we're just providing more multi-use sort of purpose spaces instead of dedicated spaces? Is that correct, James?*

Mr KAZALAC *- Yes, that's right. I think there's around 2800 square metres at Claremont. With the 4000 we've got here it's sort of about a two-third split, so we're not far off but we do have a change from that sort of single use enclosed space at Claremont to more open plan in here. So it's similar. There might be a fraction below, but it's just got a slightly different design typology of the spaces.*

CHAIR *- You have moveable walls and things like that to be able to configure the spaces?*

Ms SAMPSON *- Yes.*

Mr KAZALAC *- Yes, correct, where possible.*

Ms BUTLER *- So the floor area at the moment is larger at Claremont than this will be?*

Mr ADAMS *- No. The floor area at Claremont is approximately 2800.*

Ms SAMPSON *- It is 2700-something.*

Mr ADAMS *- The submission one is 4000 including electrotechnology so it's substantially larger and more flexible. It's larger than Claremont but it also includes electrotechnology. In total*

floor space we're not delivering more for plumbing than we currently have. It's pretty close to about the same, but we'll get a lot more productive use out of this space.

***Mrs PETRUSMA** - It's also because this is a much taller building too. In this building you can have up to four different levels and you've got the sandpit and everything else, so you're using the space in a more innovative or productive way?*

***Mr ADAMS** - Yes, far more innovative. What you also have at Claremont, as I indicated earlier, is a lot of small dedicated rooms, which is not a good use of space, whereas here with the roll-in, roll-out philosophy we have a bigger open workshop, but it will be reconfigured depending on what they want.*

***CHAIR** - It's more flexible?*

***Mr ADAMS** - Far more flexible*

***Ms BUTLER** - It's more flexible but is there as much dedicated space for plumbing in this new facility as there has been at Claremont because this new facility is also shared with other areas?*

***Mr ADAMS** - As James indicated, it's a bit hard to separate them, but it's roughly the same. At Claremont we've got about 2700 square metres and this facility's going to be 4000 square metres with about two-thirds allocated sensibly to plumbing, so it's close to about the same.*

***Ms BUTLER** - So we're going for something that's the same, but you believe the number of apprentices going through and using that space will be vastly increased, maybe doubled?*

***Mr ADAMS** - Yes.*

***Ms BUTLER** - But they're going to have the same space as they have now. That's what my point is. I know it's a dedicated shared area, but it seems to me like they're getting less than they have already.*

***Mr ADAMS** - They're not getting less; they're getting space that can be reconfigured for different purposes. For example, at Claremont they have a particular training area that's dedicated to training that happens four weeks out of the year but that takes up a whole section that's not used for anything else. Under this model there won't be dedicated space, there will be a roll-in component so they can deliver that training, move it out and use it for something else.*

***CHAIR** - … … The third dot point on page 19 says -*

> *Creates space that can accommodate multiple training and demonstrations by eliminating wasted space occupied by equipment not required for the current training module.*

Where does that go? Does it just get rolled out of the way?

***Mr ADAMS** - In the plans you will see a fairly significant central store, so the intention is the equipment gets rolled into there and rolled out when it's required for training.*

***CHAIR** - I suppose it's part of that flexibility, getting back to the efficient use of space - that while a large portion of that space is flexible, there are components that really can't be used for anything other than storage in that regard.*

***Mr ADAMS -** Yes, storage is definitely required to make that model work.*

***CHAIR** - But it's still more flexible to do it that way than providing dedicated space for each individual course.*

***Mr ADAMS** - Yes*

***Mr ELLIS -** It might assist the committee to have a bit more explanation about what these trollies might look like. Are we talking things like backflow valves and thermostatic mixing valves that are small and can sit on top of a trolley, which is very rarely taught in plumbing*

except for a week or two as part of your full four-year training program? Some places have to do a full room; this way you can shuffle it off into a cupboard.

Mr ADAMS - *Perhaps as an example we could table the document Febianca's got there. That is the T and V training unit we were mentioning that we needed four weeks out of the year for training. It's only a small component delivered to apprentices and that is the model. It is a self-contained unit that can be wheeled out, deliver the training and then it slides away. Previously that was an empty room for 48 weeks of the year. At our current facility it's all fixed infrastructure at the moment so it's a dedicated space that gets used four weeks out of 48.*

Mr EAVES - *The other advantage with that is we can always take it back to industry and say, 'Update it and bring it back'.*

Mr ADAMS - *That is an important point. Obviously, there is a fair component of fixed infrastructure but the less fixed the infrastructure, the easier it is to replenish and replace it.*

4.9 The Committee also noted the intention that the ETW CoE would be designed such that the building itself would function as a key learning tool. The Committee sought to explore this concept further:

Mrs PETRUSMA *- On this page it also talks about the building as a tool for learning. Can you explain that concept for the record, please?*

Ms SAMPSON - *……As shown on the report, we would like to introduce a passive sort of learning tool. We are trying to expose the services so the apprentice or student can see what is going on when they lay pipes and what happens if the toilet flushes and the like, wherever we can, in the foyer, in the amenities area.*

Mr KAZALAC - *……The more we expose the physical services throughout the building, the more, the knowledge is observed by the student. That has been a key thing to all this. You get, obviously, a higher workmanship quality than is usual from the mechanical point of view concealed by ceiling tiles and what not. The more we can show and the more on display, gives this passive learning happening throughout the building, not just in the actual class itself. It is quite a powerful tool.*

Mrs PETRUSMA *- ……James, can you for the record, let us know where else in Australia is this concept being used, please? We have seen in the submission that it is based on the Centre Pompidou in France, but also it is being used elsewhere in Australia.*

Mr KAZALAC - *Yes, a couple of projects I have worked on with PICAC* [Plumbing Industry Climate Action Centre]*, which is a joint venture between the Plumbers Union, the Master Plumbers and a few RTOs*[registered training organisations] *altogether. They have done some work obviously in Victoria, also some training centres in Queensland as well, so those buildings there that use this typology trying to show the knowledge of what's hidden behind things. You've got the example of the toilets with cisterns. With the one we just completed not long ago in Narre Warren, we had a geothermal heat pump system so we had the conduits in the ground exposed; we had hydronic heating in the slab too, so that's shown as a portion of exposed services as well. Those are examples of how the building works and operates. It's all part of that learning experience as well. We try to take that across the border to as many facilities as we can.*

……Yes, they're the most recent ones we've worked on and that had geothermal, hydronic heating, services and fire sprinklers included as all part of that process, and the toilets as well. There were a few different toilet systems in there too.

CHAIR - ……*I suppose as technology changes you might retrofit some to be able to demonstrate new technology.*

Mr KAZALAC *- That's the general idea.*

4.10 The Committee noted the facility would include a centrally located vertical tower training stack above a sand excavation pit and questioned the witnesses on the advantages this would provide for trade training:

> ***Mrs PETRUSMA*** *- ……Can you explain the advantages of the sandpit, but also what is in current use at the moment and how this is more advantageous, and the issues around the height? How are you overcoming those?*
>
> ***Mr ADAMS -*** *At our current facility at Claremont there are two sandpits that are both quite small and difficult to use. At this site there will be one sandpit. What we call the stack or the four-storey tower will sit and overhang part of the sandpit and that allows them to do a full building plumbing right through to what happens in the ground and the termination of facilities. The sandpit here will also be significantly larger to allow for all the other training in terms of laying stormwater and sewerage, installing septic tanks and the model is they can do the training and then there will be a gantry system over the sandpit which allows them to then pull that stuff out, reset the sandpit and start again.*
>
> ***CHAIR*** *- It sounds very interesting. It is more than a bucket and spade, isn't it?*
>
> ***Mr ADAMS -*** *One of the big advantages with the new build is that the stack is very important; a lot of training takes place in that where they set up the plumbing et cetera room by room, and to be able to have that right through down to the sandpit is very important.*
>
> ***Mrs PETRUSMA*** *- Is this sandpit seen as industry best practice? Is this going to be industry-leading or is it equivalent to what other states have?*
>
> ***Mr KAZALAC -*** *It's going to be similar so it will be on par with what the other states are doing at the moment. There are variations to this. Some like to have it fully integrated under the sandpit, some like to have it adjacent as well. I think this is right up there with getting that real-life simulation of construction into the training area, which is a key component to the course delivery.*
>
> ***Mr ADAMS -*** *The sandpit is also used for fairly extensive training by other components of industry and Tasmania Fire Service uses the sandpit facility for some of its training as well.*
>
> ***Ms BUTLER*** *- Will this be able to assist with training for multistorey plumbing as well as just your normal plumbing? Was that part of the function?*
>
> ***Mr ADAMS -*** *Yes, that is one of the reasons it's a four-storey stack - so they can demonstrate basically all the components required for multistorey.*

Industry Involvement

4.11 The Committee was keen to understand the level of industry involvement in the development of the ETW CoE concept, the building design and the training to be offered:

> ***Ms RATTRAY*** *- In regard to stakeholder communication, can you give us some idea of what sort of communication there has been with stakeholders? You talk a little bit about it, the Master Plumbers Association and other relevant industry stakeholders have been identified through an independent audit, but what sort of engagement has there been?*
>
> ***Mr ADAMS -*** *……From the beginning of this project, it has been a joint effort with industry and, as I mentioned, all those industry bodies sit on our steering committee that oversees the entire project. Underneath that we have established a series of working parties in particular disciplines, where we draw on other experts of industry in terms particularly of where the emerging leads are coming. Where I have talked about emerging industries such as poly welding and wastewater management, we bring experts from industry in to be on the working parties, initially to help ensure the physical design of the centre will cater for their needs. Also, for what goes into our education plan as to what qualifications and courses we will be delivering.*

Ms RATTRAY *- Are they industry experts from within or from outside the state?*

Mr ADAMS - *No. They are within the state. Our direct involvement with industry representatives is with those from within the state who are sitting on our working parties. We have done various site tours and discussions nationally. That is now restricted to virtual site tours because of COVID, but that is more focused on the physical build whereas the work with industry is much more focused on the ongoing education.*

Ms BUTLER *- During the consultation with those stakeholders, did you consult with the Communications, Electrical and Plumbing Union at all? They represent 2000 workers, including plumbers and TasWater employees. Have they been consulted at all? I note they are not noted in the stakeholder list in the education plan.*

Mr ADAMS - *There has been no formal contact with that union.*

Ms BUTLER *- Is there any reason why not? It is 2000 workers and their expertise would be very important, I imagine.*

Mr EAVES - *We have TasWater as part of the steering committee so they are represented through that. We have consultation from time to time with other agencies such as TasWater, TasNetworks, Tas Fire Service, Hydro and the others. We are trying simply to be part of those agencies and talk to those agencies but we haven't spoken directly to those unions.*

Ms BUTLER *- The CEPU represents Tasmanian plumbers and actually has a very good reputation. Is there any reason why they wouldn't be included in this consultation? They represent the workers and the people with the expertise.*

Mr ADAMS - *No particular reason. I suppose our focus to date has been what needs to go into the physical build to cater for the training and education delivery. We hadn't considered involving them but there's no particular reason why we wouldn't.*

Ms RATTRAY *- ..... you have listed the National Electrical and Communications Association - NECA. What input did it provide, given what Ms Butler has just said about the local electrical trades and plumbers association representatives?*

Mr ADAMS - *NECA is a member of our steering committee and has membership on various working parties so it has regular input that way. NECA represents the business owners but also delivers electrical training in a number of states nationally, so we get a lot of very good input from it in terms of the training delivery.*

Mr ELLIS *- I note that the Master Plumbers Association is obviously the custodian of the quality of the trade and the work done around the state and nationally. In other states they're employers of apprentices and are an RTO themselves. I personally was employed and trained with the Master Plumbers in Western Australia. What sort of input did they have in this? What was the need they identified and why do they think consolidating it in one site to then train across the state was a good idea?*

Mr ADAMS *- The Master Plumbers has been a partner in this from the very start and they were instrumental in identifying that Claremont didn't meet training needs and simply would not meet those needs going forward. It has been very active in terms of what needs to be in the new centre to basically bring it up to speed but also meet those particular emerging needs. The plumbing training package is going through a revamp at the moment. A new training package will be implemented this year. The requirements within that are changing fairly significantly in terms of what needs to be delivered, so Master Plumbers is, I guess, our key conduit for that information.*

Mrs PETRUSMA *- ..... Mitchell Plastics is a fantastic business in my electorate of Franklin, and it has had a fantastic growth over the last decade. As they are mentioned in the submission, what conversations have been held with Mitchell Plastics and how will this assist them in the future?*

Mr ADAMS *- Yes, the main focus in assisting them is on the poly welding components. We have had a number of discussions with Mitchells and they will be or have already been invited to the industry subcommittee working party on poly welding. This is clearly an area experiencing rapid growth in Tasmania. Currently, there is no formal training on poly welding and Mitchell Plastics do a lot of on-the-job training. The discussion is really on how we can turn that into accredited training both to the system and also how to ensure it is a transferable skill for students.*

CHAIR *- ……On page 18 in the second paragraph you say -*

> *In exposing the structure, technologies and moving parts the building becomes an expression of the trades themselves and provides opportunity for the industry to market their products.*

Are we becoming commercial?

Mr ADAMS *- That relates back to our comments earlier about industry contribution, both in terms of the development of the centre and ongoing support and equipment replacement. We already receive donated equipment from industry at various places at TasTAFE and we would like to see that certainly continue and hopefully ramp up at this centre of excellence.*

CHAIR *- A bit of in-kind support, is that the opportunity you're talking about there?*

Ms SAMPSON *- Yes.*

Project Funding

4.12 The Committee noted the budget for the project was $22.5 million, which includes a $1.5 million industry contribution. The Committee questioned the witnesses about the level of the industry commitment and what form it may take:

Mrs PETRUSMA *- In regard to the project cost, it says it is $22.5 million and $21 million in government funding, but then there is a $1.5 million contribution from industry through cash and in-kind. I note that in the project agreement it was only $500 000, $250 000 for TBCITB* [Tasmanian Building and Construction Industry Training Board]*and $250 000 for Master Plumbers et cetera so is their in-kind contribution now increased by another $1 million from when the initial agreement was made with the federal government?*

Mr ADAMS - *It is not confirmed yet. We certainly have pledges from industry of those sorts of quantities. Under the arrangement with industry we asked for initial pledges of support. The next component is exactly what that looks like. As we go through the detailed design process, it will be determining exactly which equipment can be provided by industry to meet that initial pledge.*

Mrs PETRUSMA *- Can you explain to us what the cash and in-kind contribution from industry is? What do you think that $1.5 million is made of at this stage?*

Mr ADAMS - *There is a cash component from Keystone, formerly TBCITB, into the project, and that is really targeted towards ensuring we have the ability to deliver from the centre statewide in terms of remote learning, so online learning, AV delivery et cetera will be the focus of that money. The rest of it is largely equipment. We have a fairly significant spreadsheet that James might be able to talk to that basically outlines all the various types of equipment we require in the delivery of the training and what industry players can meet that. That includes things like hot water cylinders, gas units, TMV valves* [thermostatic mixing valves]*, a whole range of equipment.*

Mrs PETRUSMA *- Is there scope for that $1.5 million to increase, that industry might want to contribute more if need be?*

Mr ADAMS - *Absolutely. We considered $1.5 million was really the minimum threshold to make the project work and ensure a commitment from industry. We would like to see that contribution grow as we go through the design process with industry and identify particular fit-out.*

4.13 The Committee also sought to understand whether the entire project as scoped and presented to the Committee could be completed within the allocated funding:

CHAIR *- With respect to this whole project that we're dealing with, we're looking at a $21 million project. Is there absolute surety that that will be built? Or is this a project that you're looking to get us to approve that will eventuate in the future rather than in the time line that's put in here? Is it guaranteed that this will be built? Can you explain that to me exactly so we can understand what we're approving today?*

Mr ADAMS *- Absolutely. The first thing I'd say is we're actually talking about a $22.5 million, so it's $21 million of government funding plus industry contributions. As we go through the design process we were certainly confident that the $22.5 million was adequate to deliver everything we needed when we started this process, but obviously things move on and building costs have increased significantly. It's a little hard to answer the question until we've completed our design process and gone to market as to whether there's an issue there.*

CHAIR *- But you can appreciate the question?*

Mr ADAMS *- Absolutely. I have to be upfront with the committee that all the indications are that building costs have risen significantly since we started this process. We feel, in terms of the project, that we need to complete our design process and then assess what that looks like and see whether we can deliver what we need to with the available funding. If not, there are various levers to look at, whether that's further contributions from industry or whatever that might be.*

CHAIR *- So we're really approving the concept and the integrity of the project, if I can put it that way. Whether it gets fully delivered will depend on future costs that may arise, or may rise more particularly?*

Mr ADAMS *- Yes. We were certainly confident that we could deliver everything we wanted within the budget when we secured the funding, but things are moving fairly rapidly in the building space.*

CHAIR *- The question then is, are we going to end up with a two-thirds built set of structures that can't be utilised?*

Mr ADAMS *- ……No. Our intention would not be to go forward with the build until we had a workable facility that will deliver the centre of excellence.*

CHAIR *- Or at least build full components that can be utilised and other parts that might be added at a later point - is that fair to say?*

Mr ADAMS *- Absolutely, and we'd need to look at that in terms of all the things we've talked about in terms of the advantages of having students on the one site and what have you.*

CHAIR *- Okay.*

Mr ADAMS *- But we would not proceed with something that was only going to deliver half of what we needed.*

Training for the Hydrogen Industry

4.14 The Committee noted the aim to provide training for the hydrogen industry. Noting this is an emerging industry, the Committee sought to understand what training might be provided and how it would be delivered:

CHAIR - *Further down the page under plumbing, refrigeration and air-conditioning, you mention that the development of the centre of excellence will allow TAFE to deliver a whole heap of things but various qualifications in hydrogen to be developed in consultation with industry. Is that purely to satisfy what we believe to be the major government project that's likely to happen in the north of the state - the generation of hydrogen through using electricity, or is it for other aspects as well?*

Mr ADAMS *- It's broader than that and certainly it will cater for that. The reason it says 'various qualifications ... to be developed' is currently there aren't any accredited qualifications around hydrogen. It's an emerging technology Australia-wide. Work is underway now to determine what training is required within that industry.*

CHAIR *- So we're getting ahead of the game in a sense? Would that be fair to say?*

Mr ADAMS *- Yes, and our intention is to design those qualifications and courses now and get them accredited through the National Accreditation Framework.*

CHAIR *- ... ... In terms of the staffing of that area, obviously they're going to need some pretty good skills and there will be a fair bit of competition maybe. How do you intend to staff that? Is it just taking current staff and sending them off to get trained, or is it buying in that sort of expertise?*

Mr ADAMS *- It's a combination. You referred to the potential for a hydrogen production hub in the north of the state. If that gets the go ahead, then that feeds in. It will attract people here. It will create jobs here and therefore that will feed in to what we can do in terms of training and accessing people.*

CHAIR *- So you'd make arrangements with government or private enterprise, depending on what it is, to deliver this course?*

Mr ADAMS *- Yes, absolutely.*

Mr ELLIS *- ... ... I noted that Tas Gas signed its offtake agreement to put hydrogen into the Tasmanian Gas Network - TGN - about a month ago. We have some stuff in here about hydrogen training. How important is it to make sure that this centre caters for existing traders like gasfitters to be able to adapt to new technologies such as hydrogen through this centre?*

Mr ADAMS *- It is extremely important. One of the items underpinning the principles for a centre of excellence is emerging technologies that comes back to the design methodology James mentioned previously. Also, while we have to invest and build a facility here, we need to be conscious that training will change over a number of years so that feeds into the methodology about having flexible space that needs certain services, but a lot of the equipment needs to be changed regularly.*

Again, one of the principles underpinning a centre of excellence is once we have built the physical facility, the centre will continue with industry representation so that it is continually adapting.

Meeting the Expected Growth in Student Demand

4.15 The Committee noted that TasTAFE expected student numbers to increase and sought to understand why this growth in demand was anticipated and how the growing demand would be met. The witnesses indicated that growth in the construction service industry created demand for skilled labour, which was flowing through to increased demand for trade training. The witnesses also highlighted that providing industry with continued professional development, specialised

offerings and the training needed for new and emerging industry sectors were factors expected to have a positive impact on student growth:

CHAIR *- ……You are confident you will get the student numbers you are expecting and other states are not going to gazump you?*

Mr ADAMS - *No, I am confident we will get the numbers for a couple of reasons. As you have seen, our traditional training delivery is showing no signs of slowing up in terms of apprenticeship demand and associated services, but also the list of emerging needs in this area when we talk about not only hydrogen but renewable energy training and the move to waste water. There are significant components to the market that simply are not being serviced at the moment - polymer welding, for example. I am very confident our traditional student numbers will continue to increase and they will also be complemented by those emerging technologies not catered for at the moment.*

CHAIR *- ……With respect to the last paragraph on page 6, you talk about expecting to see a doubling of student numbers per annum from 2019 within five years. Was that just finger in the wind? Or how have you decided that that is exactly what is going to happen?*

Mr ADAMS - *That's a very good question. It is a little more than a finger in the wind. What we have done is look at demand for training over the last few years. There has certainly been a very clear growth in the certificate and apprenticeship space. What we have identified is also a growing need for particular specialisations or what we refer to as skill sets, where you have got your qualifications but are coming back to do particular areas. We have taken that experience and basically projected what we see happening. We are expecting a doubling in student numbers but that does not mean a doubling in apprentice numbers, for example. There is a steady growth there but there is a lot more short course delivery.*

Mrs PETRUSMA *- ……Going to the trades and water student numbers on page 7, fantastic growth is shown there. If you add up all the individual ones, it comes to around 9000. Can you explain what that increase would look like in day-to-day operations between now and 2027? How will this new facility cater for this increased demand to be able to flex up or flex down to cater for that huge increase we're going to see, which is great?*

Mr ADAMS *- Absolutely. Perhaps I will refer to the graph to start with. The single biggest increase you will see there is something labelled CPD courses. That's continuing professional development for industry. That's where I was talking earlier about people who've been through, they've got their qualification, they're working in industry, but they need to come back and refresh or upskill in particular areas.*

In answer to your question as to how we're going to cater for it, whilst the facility will cater for significantly more students at any point in time than the current ones, CPD courses, for example, will mostly be done out of hours because they want to do it and obviously they're working during the day, so weekends, evenings et cetera. The facility will be working more than existing facilities.

Mrs PETRUSMA *- So the facility will be open evenings and weekends?*

Mr ADAMS *- Yes, and that's something we've seen over the last couple of years - a requirement for more and more out-of-hours training, if you like, because that's when industry wants to do their training because they're obviously very busy at other times.*

***Mr ELLIS** - …… Would it be fair to say that the growing demand we're seeing for construction services across Tasmania will be proof of just how important this centre is?*

***Mr ADAMS -** Absolutely, it would be very fair to say that. We've had very strong growth in all our traditional trades over the last three years and there is certainly no indication that that is going to be abating. There will be continual demand from industry for more skilled labour in that space.*

***Mr ELLIS** - So some of those challenges in terms of looking to the next steps are part of demonstrating the need that we have for building this kind of facility?*

***Mr ADAMS -** Yes, absolutely.*

4.16 The Committee was also interested to ascertain if there would be any competition from other facilities interstate that may temper the expected student demand:

***CHAIR** - …… Do we know how many others of a similar nature are actually being funded by the Commonwealth, going to deal with the courses this site will provide?*

***Mr ADAMS - ……** In terms of building similar facilities, I am not aware of anyone at the moment investing in these facilities. There was some prior investment, which FMSA was involved in, particularly plumbing facilities in a couple of other states.*

***CHAIR** - Is it going to be in competition with other sites in the context of what we are providing here and being able to basically fill it with students? I thought that was a relevant question to ask, including whether there has been any discussion with other states or the Commonwealth in terms of what they are funding and whether they are funding it viably.*

***Mr ADAMS** - Perhaps the best way to answer that is to talk a little bit about the types of training that will be delivered. A lot of the training, particularly in the certificate II through to certificate IV level is training for tradesmen and apprentices, which each state does directly because they will do components of learning on campus and then with their employer, so moving to other states is not practical for that type of training.*

Perhaps the best way we move up the Australian Qualification Framework level into diplomas and advanced diplomas is where there can be more specialist delivery. In this particular centre, we will be focusing on where we see a need, particularly in the wastewater management components. At the moment, that training is delivered in only one other state, Queensland. We do not believe we will necessarily be competing because there is growing demand for that in Australia and there is only one site at the moment in Queensland that delivers this. In terms of wastewater management - whilst I am not an expert - our advice is that temperature and climate have a significant impact on how you design wastewater management. Obviously, Queensland has a fairly significant different climate to south-east Australia.

4.17 The witnesses also noted that the facility would be capable of providing specialist cool-climate training in waste water management, which was not currently available in Australia:

***Mrs PETRUSMA** - You touched briefly on specialist cool climate training. Can you explain more about specialist cool climate training? Why is it not currently available anywhere else in Australia? What would be the advantage for this site in Warrane?*

***Mr ADAMS** - The cool climate training we referred to specifically refers to wastewater training. At the moment, Queensland is the only place that specialisation is delivered, where they have a training facility to deliver on those specific components of wastewater training. I cannot give you too much detail. Some wastewater training is included in the core qualifications, but there is specialisation around wastewater training and design of wastewater treatment facilities. That is only delivered out in Queensland and all states send people to Queensland for training. Part of the problem with waste water is that it is very climate dependant and the Queensland climate is very different. We have identified a gap, particularly for south-east Australia with specific climate associated training on waste water which we can fill, because there is no facility doing that at the moment.*

Mrs PETRUSMA *- Other states are sending students to Queensland at the moment?*

Mr ADAMS *- Correct.*

Mrs PETRUSMA *- Is that all southern states*

Mr ADAMS *- Yes, everyone sends students to Queensland. We believe there is an opportunity for certainly south-eastern states to send to Tasmania because it would be more relevant for training.*

Staff Recruitment and Retention

4.18 The Committee recognised that recruiting and retaining qualified teaching staff would be crucial to meet growing student demand for training and in successfully delivering the type of training envisaged at the ETW CoE. The Committee questioned the witnesses on the measures TasTAFE would undertake to ensure that sufficient numbers of trained teaching staff could be recruited and retained:

Ms BUTLER *- ……can you run through the strategies TasTAFE would be implementing prior to the potential doubling of the numbers to deal with the recruitment and the retention of staff at TasTAFE to make sure those courses can actually be delivered?*

Mr ADAMS - *There are three key strategies I will mention to start with. The first is the development of a workforce plan. We are taking the education plan being delivered here that looks at the numbers, turning that into what that means in terms of the number of teachers and that is going into our workforce plan so we can see where the areas are that we might be short in and need to recruit for. Once we have identified that, there are a couple of strategies in place.*

We have a thing called 'a teacher under supervision' at TasTAFE which enables us to hire a teacher who is not qualified to teach but might be industry competent and then over a 12-month period with TasTAFE, they get up to speed in terms of their teaching qualifications and their training and assessment requirements. We have an arrangement where we employ them fixed term for 12 months and subject to them achieving those qualifications, they are made permanent.

That opens up a new market for us for those who are not qualified teachers, but are interested in getting into program. That is the existing strategy, and in the workforce plan we have identified some further strategies to develop ways to get industry people to be able to come and teach with TasTAFE but not necessarily in a permanent capacity. A lot of our trade-competent people do not necessarily want to teach full time but they do not want to work in industry full time. We are working with industry on a model that might see them able to do both.

CHAIR *- ……What process will you be going through to recruit staff? We touched on this a bit, but is there an intention to scan for expertise outside Tasmania, or indeed Australia? Or is it all going to be in conjunction with industry and training up the experts in the industry as teachers?*

Mr ADAMS *- Oh no, it will definitely be both. There is training from within and the models I talked about to have people from industry upskill to teaching, but we also recruit nationally, and had quite a bit of success in recent months.*

Mr ELLIS *- ……You noted TasTAFE is looking to be more responsive to student needs of out of hours, weekends and that sort of stuff. A bit more flexibility in terms of getting people who are working part-time on the tools and may be being able to teach at night or on weekends. Would that sort of help improve the delivery and also getting more skilled knowledge into the Tasmanian sector?*

***Mr ADAMS** - Absolutely, it will do exactly those two things. It will help flexibility, so we can deliver the training required when it suits both, students and industry. But it also is very important getting that refresh of what is going on in industry. We can get so much from the design of training packages and our contacts through ASTRA to ask them where that is going, but there is a whole component of what are the things industry is using now such as different crimping tools et cetera. That is very important too, to make sure the training is current, which takes some time to flow through to a training package we designed.*

Is the Project a Good Use of Public Funds?

4.19 In assessing any proposed public work, the Committee seeks an assurance that each project is a good use of public funds, such that it meets an identified need, is fit-for-purpose and provides value for money. The Committee questioned Mr Adams who confirmed that the project met these criteria and was definitely a good use of public money:

***CHAIR** - We have some standard questions that we like to ask. Do the proposed works meet an identified need or needs, or solve a recognised problem?*

***Mr ADAMS** - They most definitely address both a recognised immediate need and emerging needs.*

***CHAIR** - Are the proposed works the best solution to meet identified needs or solve a recognised problem within the allocated budget?*

***Mr ADAMS** - Most definitely. As I've talked about, the location at the existing campus offers a range of advantages and would definitely be the best use of the money.*

***CHAIR** - It does say 'within the allocated budget' but we've had discussion on that, so we're clear about what your intention is. Are the proposed works fit for purpose?*

***Mr ADAMS** - Yes, they most definitely are. We've got the experts with us in terms of the architects who have done this exercise before and we are involving all our existing trainers in the detailed design.*

***CHAIR** - Just to reiterate, do the proposed works provide value for money?*

***Mr ADAMS** - Yes, they most definitely do.*

***CHAIR** - Are the proposed works a good use of public funds?*

***Mr ADAMS** - I believe they are an excellent use of public funds, meeting those existing demands for the Tasmanian workforce.*

5 DOCUMENTS TAKEN INTO EVIDENCE

5.1 The following documents were taken into evidence and considered by the Committee:

- *Energy, Trades and Water Centre of Excellence Project*, Submission to the Parliamentary Standing Committee on Public Works, TasTAFE, February 2021; and
- *Master Plan Report at Clarence Campus, 4a Bounty Street, Warrane, for TasTAFE* – Philp Lighton Architects, November 2019.

6 CONCLUSION AND RECOMMENDATION

6.1 The Committee is satisfied that the need for the proposed works has been established. Once completed, the proposed works are expected to deliver an innovative teaching and learning facility that meets the current and future needs of the Plumbing, Mechanical Services, Water, Hydrogen Electrotechnology and Polymer Processing industries. It is expected to provide an environment where innovation and latest technologies can be showcased and available for teaching, learning, demonstration and applied research.

6.2 The Energy Trades and Water Centre of Excellence is expected to enable TasTAFE to deliver trades-based training that better meets industry needs. It is also expected to provide the flexibility for TasTAFE to adapt its training offerings to respond to both the changing needs of traditional industries and the needs of emerging industries. It will also provide the capacity for TasTAFE to meet current and future anticipated growth in demand for trades-based training.

6.3 Accordingly, the Committee recommends the TasTAFE Energy Trades and Water Centre of Excellence, at an estimated cost of $21 million, in accordance with the evidence received.

Parliament House
Hobart
17 March 2021

Hon Rob Valentine MLC
Chair