ENVIRONMENT AND NATURAL RESOURCES COMMITTEE

Inquiry into energy services industry

Bendigo — 6 February 2006

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Mr A. Walker, Manager Assets and Property, Bendigo Regional Institute of TAFE.
The CHAIR — I would like to welcome Andrew Walker and thank him for his time today and for coming to see us. All evidence taken by the committee is taken under the provisions of the Parliamentary Committees Act and is protected from judicial review. However, if you make comments outside the precincts of the hearing, they are not covered by parliamentary privilege. Hansard is recording all evidence taken today and in a couple of weeks you will receive a proof version of the transcript. It would be appreciated if you could leave a couple of minutes at the end of your presentation so that the committee members can ask some questions.

Mr WALKER — I was not too sure how far you wanted me to go in this presentation. In regard to energy reduction in TAFE, I do not know whether or not you are aware that we have an executive directive that we must reduce or attempt to reduce our energy consumption by 15 per cent by mid-2006. When that came out it meant we had to get our heads together and think about ways that we could do this. Just to frame it up, we initially formed a working party of a number of facility managers from other TAFEs along with a couple of members from OTTE, and in that we looked at ways that we could go about reducing our energy consumption. We looked mainly at what was our high use, and it was electricity. Trying not to be everything to everyone, for 2005 we decided that we would concentrate on trying to reduce our energy consumption in power.

With the group we formed a partnership with SEAV which at the time had a little bit of money or resource available and gave us some great support at the start. We dragged on a number of experienced facility managers across other institutes. We conducted a number of workshops because you have to remember, you have facility managers out there who are bricks and mortar type people and all of a sudden they have to look at ways they can reduce energy consumption. They are the people who have the controls in their hands, I suppose you could say.

We ran a number of workshops. SEAV supported that. They also conducted some energy audits and helped with the facility managers on the types of works they could do and what our high energy use was — what was sucking all our petrol, I suppose. From there we developed for each institute a number of small projects to be done in 2005. Some of the bigger institutes did some bigger stuff because they were further up the track, they had the time and the resources. That is how we got to that point. In Bendigo we probably looked at the bottom end of the scale a bit. We looked at not so much the easy things, but the things that we could achieve, and if people know our buildings, some of our buildings date back to the 1800’s. They are pretty old, high, big and hard to heat, light and cool. What we looked at in Bendigo TAFE itself was doing a re-tubing program by removing or replacing old tubes, the old type with triphosphate tubes — not that they use a lot less power but sometimes in passageways and classrooms you only need half the amount of tubes, so we reduced the amount of tubes that we use. We fitted time switches to all the classrooms, or we are attempting to, so that each classroom has a time switch. We have a booking system now that we can cross reference classroom times against the timers and we can adjust those timers to suit, knowing that most of the classrooms operate to a certain time.

Mr DRUM — The tubes you mentioned, are they heating tubes?

Mr WALKER — No, this is for lights only. I am only talking about lights at the moment.

Mr DRUM — So you are talking about the conduits and the wiring system?

Mr WALKER — No, just your normal fluoro tubes.

Mr DRUM — The fluoro tubes.

Mr WALKER — The fluoro tubes chew up a lot of energy and we have a heap of them on. By doing that, by reducing the amount of tubes, we then put time switches on all our classrooms and other areas, and it meant something like by the time our cleaner got to clean a classroom at 10.30 at night, sometimes those classrooms could have been on since 8 o’clock in the morning. It meant that they had probably gone off at 6 o’clock at night, if that makes sense, just by having the timers on. We are attempting to fit sensor switches to areas that we can, to toilet areas, sometimes offices or other areas, but we have got to be a little bit careful there. That is what we did with all our lighting. With our heating and cooling, which was an enormous energy guzzler, we started a program of upgrading time clocks, so we could control our heating and cooling more effectively. When we wanted it to go off at 6 o’clock it did go off at 6.00 and not at 8.00, and it was not going on Saturdays and Sundays and we could bring it on at certain times.

We reduced the amount of time both the heating and cooling could stay on. We agreed that we did not have to bring the building up to a perfect temperature at 8 o’clock in the morning, that it could come on at 7.30 and people
would have to put up with a little bit of not pain or discomfort, but that meant we could reduce the time it was on by a couple of hours a day. We agreed on an acceptable temperature range with the staff and students, so that if it did get to 20 or 25 it was not the end of the earth, that they could put up with that. That is an educational-type process.

One of the better things we will do this winter is an audit and we will remove every fan, blow or electric heater that there is in the institute and they will be taken away. They are enormous energy eaters. With all that we have tried to educate people. There is an educational-type program happening within the institute with the formation of a green team which addresses those types of things, which is getting staff back on board, publications and that type of stuff to keep promoting energy reduction. That is what we have done with existing buildings. We also look at now, and we have just completed a building down there. When we do capital works and major refurbs, we look at it including all ESD principles, that we have smart lighting, we can control temperature, we can zone areas off, that buildings are positioned properly and that will become a big part of our tender documentation in the future.

We have attempted to do a bit. This year we have received some more funding to do some more works. We will look at zoning controls on airconditioning and heating areas on our big buildings. Where we have close-up periods where we might only have six people in the building, we do not have to aircondition 6000 square metres of building, that we can reduce that type of stuff. We will also in the future look at that when we design office space or do minor refurbs; that helps us to do that. That is the sort of stuff we have done and we will keep on with that.

One of the other things mentioned here is: were there adequate services or resources to help? Probably not. SEAV was a great support to us in the initial period but it was very hard to get an energy audit or someone up here to do that. That was not its fault, it was just time and travel that we could not meet. I am not too sure of many other resources within Bendigo itself or this region that can help us on that, to give us advice on an energy audit or what the next best thing to do is, or the payback period of this. That is maybe something that I have not investigated further.

The other problem that we have is confusion when we sign up these power contracts. It is a minefield out there if you are not part of it or if you do not know it, and whether we are getting value for money and a good deal. When they start talking about all different rates, this off-peak and this peak, it is very hard for a person like me who runs other things there and who does not have someone who can actually look at that to determine whether are. We do employ an organisation called Maps in Melbourne which supports us a bit with that. They give us recommendations on the way we should go. To deal with something like that is quite hard in an area like this.

The other question that was asked was: what can be done to assist people or organisations to improve their energy efficiency? We have probably got to form better partnerships with SEAV, the EPA, and institutes like us, so they can give us the expertise, advice and support, because we cannot do it on our own. We also need them to support us in doing energy audits and making appropriate recommendations on where the value for our money is. There is also the area of capital works. When we do capital works, all works have to be signed off by a consultant, whether they be electrical, mechanical or anything like that. We should be looking at — and we are talking about it — the energy efficiency of that building; getting it signed off before it is approved. That can be done by an energy consultant of some sort, to make sure that we have addressed a number of areas. We also need dollars and resources to support those types of things because they do add costs. That is probably where Bendigo Regional Institute of TAFE is. But it is on the agenda. We are doing a little bit about it, and we will be doing a lot more this year in regard to further energy reduction. At this stage we are only small and we are only new at this, like most TAFEs, and we have only looked at power at this stage; the use of electricity and gas, too, a bit. We have also recorded the last five years of our energy consumption to see where we are so that we can reach that figure of 15 per cent reduction.

Mr DRUM — In your very last sentence you said you hoped to look back in five years and work out whether or not you have achieved your goal. Have you done a cost-benefit analysis on what all this retrofitting is actually going to cost you, how much less energy you are likely to use and what you are likely to save? Have you done that exercise?

Mr WALKER — Yes, part of the condition of the funding is that you do have that before you receive the funding. It just cannot be throwing money at something that looks nice and sexy. We have got to come up with some idea of what our reduction would be and what our savings would be. We did that for the work that we did last year. At this stage we have only just received our funding. We will start that. We are with a consultant now to tell us, ‘If you did X, this is what I could imagine would be the saving for you over a 12-month period, over a 3-year
period, or for the rest of the life of that airconditioner’. That is something else we need to take into account: what is the viable life of that appliance? As an overall cost analysis, no, we have only done it individually on certain things.

Mr DRUM — Project by project?

Mr WALKER — A big energy audit would say, ‘These are your big things, then you could start to do some facts and figures here’. Supply agencies offer deals where you do not have to have the money up front; they will support you in putting smart meters on, or doing this or doing that, and you pay it off eventually. But unless you know exactly what you need to do it is hard to negotiate with them and determine what is the way to go.

Mr DRUM — In regard to the position of that energy expert you are looking for, someone who could come in and do an accurate audit on, say, the specific BRIT situation, BRIT, whilst it is a little bit unique, would not be vastly different to what is over at Ballarat; it was built in the same era and a lot of Melbourne’s retrofitting would be of similar architecture. It surprised me that you were not able to find 1, 2 or 3 genuine experts who were able to come into town and say, ‘Righto’.

Mr WALKER — It is not that we did not find them; they were not asked for as part of this project, I suppose. This is a two-year-old project. There was no real process about identifying how that building would rate.

Mr DRUM — But was not that process left up to you guys?

Mr WALKER — Between us and OTTE, I suppose, yes. But it was not really pushed or thought of at the time. Now we are starting to talk about the fact that it is important. We did apply some principles, but it was not a process like you would go through for your mechanical system or something like that.

Mr DRUM — So if you were going to do it again you would do it differently?

Mr WALKER — Yes. Architects now are governed by the legislation now that they have to design buildings that conform to a certain star rating, so it comes back on them as well.

Mr DRUM — Have the students accepted the grade of variance in temperature now — 20 degrees not too cold and 25 degrees not too hot?

Mr WALKER — Yes, they have. I think students accept it a lot easier that staff, so it is probably the education of staff more so.

Mr DRUM — You were giving evidence last year that a lot of households have a 1 degree variance if they have got efficient heating and efficient cooling. They set it on whatever — 23 — and that is it. It stays on 23. Any colder than that and it heats up. I commend you on trying to broaden that gap with variance.

Mr WALKER — We are trying to work within 4 or 5 degrees which allows us a little bit.

Mr DRUM — Okay, thanks.

Mr SEITZ — You were talking about the fans. Were you talking about heating fans or just oscillating fans to move air?

Mr WALKER — No, I am saying that we would remove the fan heaters. We are talking about individual little blow fan heaters that sit on the office floor underneath their desk. It is those things, because five of them could have them in an office area of 50 square metres. all blowing, and they affect your thermostats and you have people turning thermostats up and everything else, so those are the type of fan we would be looking at removing. It is the small things.

Mr SEITZ — When you are making the changes and buying the equipment that you need to change it, are they readily available on the market?

Mr WALKER — With the work we have done at the moment, yes, things like the light switches and time clocks and things like that are. We will see what is on the market with regard to trying to zone off old heating and cooling systems, whether it is software or hardware, but we are just starting that process now. The other stuff is quite easily on the market.
Mr SEITZ — You said you had your staff and students involved with consultants in the first place on temperature. Do you think any of the work that has been done in the colleges has been transferred to make the students and staff conscious of it and take it home and look at their own living environment?

Mr WALKER — It has been discussed.

Mr SEITZ — And try to apply the same methodology?

Mr WALKER — We hope so. I do not know. I cannot speak on behalf of the thousands of people who come through the institute.

Mr SEITZ — Is it being encouraged through the staff newsletter and things like that?

Mr WALKER — It might happen like that. They talk about how recycling happens that way. Where you start it at work it can help at home.

Mr SEITZ — It would have a benefit, not only to the college itself, but in a broader sense. You have mentioned a 15 per cent reduction. How do you see recovering the costs of the changes you have made, on a time frame of how many years or ever?

Mr WALKER — The last project we did — you have to remember we are only new at this; we have only just started. Last year was the first real small project that we did. I have not got the facts and figures on me about what the payback period was, but for this one we will have those. It depends. I suppose you have to look at every building and every service or equipment in isolation. It depends on the age of the building and the age of the cooling tower. If it is brand new, or if it is a couple of years old and you can do some work and you are going to get another 25 years out of it, your payback period could be quite easy. Also it depends on the use of the building. If the building is 20 years old and so is the airconditioning and the heating, then you have really got to make a decision: is it viable to spend a lot of money on it? Your payback on it will be undermined because you might be doing a refurbishment there in a couple of years or five years time and as part of the refurbishment you would be looking at upgrading the existing cooling to be more efficient. I cannot really answer that question. Whether it is one year, two years, three years or four years depends on the project itself.

Mr SEITZ — We just had a look during the lunch break at a house with a solar panel for electricity. Have your colleagues or your board of management looked at subsidising solar panels?

Mr WALKER — We will not go down that path until we employ an energy consultant to do a proper energy audit for us to look at where we could do those types of things. A whole job program needs to be put together so that it can be done that way, not just someone trying to sell me half a dozen solar panels because they will work well and we can put them in there; then we do something there and something completely different here. We want a whole plan for how we do it over 5 to 10 years.

Mr SEITZ — In what you have done so far, have you used any federal or state government tools or information or literature that have been produced as references?

Mr WALKER — Only in the work that we did with SEAV and our working group. As I said, last year the work that came out of that was through the workshops and the advice of SEAV and some other consultants.

The CHAIR — With the first part of your work — the re-tubing, the time switching, fitting the sensor switches — what sort of reduction do you think you have?

Mr WALKER — I have not got those figures on me. We have a document on that. It suggests that of what we have done last year we would expect to reduce our energy consumption by X amount. I have not got that on me, but I do have it.

The CHAIR — It would be great if you could supply that to us.

Mr WALKER — OTTE has that. We had to send that down to them. They have it on every institute that undertook these works, but I can forward that to you.

The CHAIR — That is all part of the government’s mandated 15 per cent reduction?
Mr WALKER — The way I understand it, it is.

The CHAIR — When you were talking about the power contracts, you mentioned Maps. That is a consultancy that negotiates with the power company for the price you pay for your electricity; is that right?

Mr WALKER — Yes.

The CHAIR — Now you are looking for a more formalised engagement of an energy contracting service?

Mr WALKER — What I need at TAFE is someone with expertise who could do a complete energy audit and energy performance on every building I have and give me some recommendations or a path that I could then go down to investigate, either through another type of energy consultant or an electrical consultant who manages these types of works, or an airconditioning consultant, so that I have that ability to be able to say, ‘This is what we can do; this is what we can achieve; this is what we can expect to reduce. You come back to me on how we go about that and whether it is feasible or not.’.

The CHAIR — Are you free to choose that person yourself, or does OTTE say —

Mr WALKER — No, we would be free as an institute to choose that person outside.

The CHAIR — So you would just go into the marketplace and build a relationship with an energy —

Mr WALKER — Consultant, yes.

The CHAIR — If that consultant is engaged by you, it does its work and comes back to you and says, ‘Option A would be to carry out this; that will cost you $50 000 and the payback period will be five years. Option B would be to do something else; the payback period will be 10 years, but it is only going to cost you $20 000.’. You actually want to have a list of options.

Mr WALKER — Yes.

The CHAIR — Then you need somewhere to access that up-front money?

Mr WALKER — That is where you would negotiate with OTTE. It is no different from our capital works or our deferred maintenance programs that we develop and continually update. Here is a list of our sustainable energy projects that will reduce our energy consumption, either through power, gas, water, that type of stuff; how can they be funded; if they can be funded?

The CHAIR — It is not your understanding that OTTE has that fund?

Mr WALKER — We received money last year. I do not work down at OTTE; I do not know how it works. We received money to do some energy reduction works and we have just received, last week, some extra funding to do some more energy reduction works, given certain guidelines. We have already identified some projects, we then come back to OTTE and say, ‘Here are our projects we have identified, these are the types of works that we are intending to do, here is our reduction, or here is our benefit’, but it would be great to have an energy consultant that has actually ticked off on that first and we know that we are doing the right thing for sure because, as I said, we are new at it and we are trying to find our way through this maze as well. Does that make sense?

The CHAIR — Yes.

Mr DRUM — On the sheer practicalities of that, if you were able to have the overall assessment done in one project, and then it might mean a substantial amount of money up front to do it all properly and to do it all very efficiently, whereas if you were going to be drip-fed it means you might end up going over work you have already done in order to get a greater good?

Mr WALKER — Yes.

Mr BENJAMIN — That touches on my question, if I could just quickly butt in. Have you examined energy performance contracts or is there a policy against using energy performance contracts?
Mr WALKER — Not that I am aware of.

Mr BENJAMIN — It seems like that is a good avenue for the group to go down to explore this.

Mr WALKER — In what way? How do you mean energy performance contracts?

Mr BENJAMIN — Energy performance contracts — basically they come in to do the audit, establish what needs to be done, and you actually pay them back through your savings, so it does not cost you any money from the outset.

Mr WALKER — Are you talking about your power companies or your gas companies?

The CHAIR — No, they are private companies.

Mr BENJAMIN — They are private companies. I will have a chat to you about it afterwards, if you like.

Mr WALKER — Yes.

The CHAIR — Is there an end to how much energy you can save?

Mr WALKER — I do not know. I really cannot say. We have just built a new capital works down there — it is a new wine training centre with plaza, bistro and everything else. We will use a lot more energy through that new building. But on the other hand we are working towards reducing or using other buildings that are high in energy use. There may be some years where you will peak a bit more and then when it all comes together over a three-year plan at the end of the third year, then you start to reduce it again, and we purchase more specific equipment that may use some. Who knows; it is hard to say.

The CHAIR — My last question is right out of your field but you may know just because of who you work for. What sorts of programs is the TAFE undertaking in its training of the next generation of trades people.

Mr WALKER — With regard to energy reduction?

The CHAIR — Yes, with regards to sustainability full stop. Educating plumbers that they are working primarily with a very valuable public resource and the things they do impact directly. The same with the electricians.

Mr WALKER — I cannot answer that for sure. I know, talking about plumbing, that they deliver some type of green plumbing awareness up at Charleston Road. Whether sustainability and environmental issues are linked into all the other training modules, I could not tell you that for sure. You will have to speak to the educational side for that.

The CHAIR — Thank you very much, Andrew.

Witness withdrew.