ENVIRONMENT AND NATURAL RESOURCES COMMITTEE

Energy Services Industry Subcommittee

Inquiry into energy services industry

Chadstone — 12 December 2005

Members

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Mr D. K. Drum  
Ms J. T. Duncan  

Mr J. G. Hilton  
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Witness

Mr B. Scheen, Manager, Enterprise Development, Building Industry Training Centre, Holmesglen Institute of TAFE.
The CHAIR — I declare open the Environment and Natural Resources Committee hearing on the energy services industry. I note that Mrs Coote and Ms Duncan have sent their apologies for today. Welcome Bart, and thank you for your tour and the information on the sustainable house that you have built. I advise that all evidence taken this afternoon is being recorded by Hansard. In about a week you will receive a transcript and if you have any corrections you may send them back to the committee. All evidence taken by the committee is taken under the provisions of the Parliamentary Committees Act and is protected from judicial review. However, any comments made outside the precincts of the hearing are not covered by parliamentary privilege. I will hand over to you to make your presentation, and we will then ask some general questions.

Overheads shown.

Mr SCHEEN — I have looked at what we do in relation to training that has an impact on sustainable building practice materials. The information I am providing is relevant to point 5 of your terms of reference, which relates to training. The information I give comes from the perspective of Holmesglen Institute of TAFE and my role as manager of enterprise development in the Building Industry Training Centre, so it is from my perspective and that of the institute rather than the TAFE’s perspective in general. I also speak as a representative of the building industry.

I mentioned previously that Holmesglen Institute of TAFE is the largest stand-alone TAFE institute in Victoria, delivering in excess of 10 million student contact hours and 52 000 enrolments in 2005. The institute trains in one form or another approximately 20 per cent of Victoria’s building apprentices. The institute’s programs that contain a building focus cover pathways, which are courses for secondary students who wish to experience a learning activity; VCAL, in this case is themed to the building area — we have a number of other VCALs as well; pre-apprenticeships in all the trade areas; apprenticeships; certificate IVs in building; and diplomas, advanced diplomas, degrees and graduate certificates — and in this case they all have some building focus.

In relation to the sustainable principles contained in these programs I will go through the programs and provide some information about the sustainable principles. In relation to secondary schools and our pathways, schools are invited to visit the BuildSmart sustainable show house to investigate the principles of sustainability. Students view the design guidelines and investigate how the show house addresses those guidelines. In relation to our VCAL building, and our vocational college from 2007 onwards, students undertaking the VCAL studies in building will study the BuildSmart show house and undertake activities relating to the sustainable design and energy conservation set out in that home. They will do that as part of the team-building project when they first start their VCAL program.

Our pre-apprenticeship programs, which cover the areas of carpentry, joinery, plumbing, bricklaying, plastering, floor and wall tiling, electrical and painting, largely focus on the development of hand and technical skills with the view of gaining employment in the construction industry and do not really cover any aspects of sustainability as such. It is really about developing hand skills, understanding the materials industry and the focus of the industry, and those types of things.

In relation to our trade courses, all apprenticeship programs deliver nationally accredited training and comply with those requirements. The level of study of sustainable principles varies with each apprenticeship. What we cover in relation to sustainability depends on what is in the national curriculum. However, all apprenticeships cover the selection and application of building materials, the efficient use of materials to reduce waste and the use of newly emerging technology materials. So all apprentices study that.

Some areas of note that specifically relate to sustainable principles and materials are in the area of plumbing, where subjects cover solar hot water installation, energy rating of appliances, grey water installation, rainwater tank installation and septic tank installation, and in our electrical area, photovoltaic panels and alternate energy sources. In the plumbing area we also have a certificate IV subject called ‘sustainable practices’ that specifically looks at sustainable building practices and materials in plumbing.

In our advanced building technology area courses cover from certificate IV to degree programs and graduate certificate programs. They cover a wide range of subjects that relate to the building process or the built environment. Many subjects directly relate to sustainable building practices and materials, and I will go through some of them. In our diploma of building, incorporating certificate IV, we have subjects called materials 1 and 2, and construction 1, 2, 3 and 4. They look at current building materials and current construction practices. Where
those building materials relate to sustainable principles, they will cover them. We look at sustainable practices such as the orientation of buildings and new appliances that are covered as construction subjects.

In the diploma and advanced diploma of building surveying we have a subject dealing with applying ecologically sustainable development principles to the built environment. This unit covers the development of strategies for applying ecologically sustainable development principles to the built environment. So it looks at the development of housing developments with building in sustainable features — water reticulation on site, drainage, those types of things.

The program in our diploma of built environment, which articulates in to the bachelor of technology at Monash, has a subject called environmentally sustainable building. That unit relates to the application of environmental sustainability to building design principles and materials selection. We also have a number of bachelor programs: bachelor of applied science — built environment, bachelor of built environment — building surveying, bachelor of built environment — housing, and bachelor of built environment — property. There are three areas in our bachelor programs which look at sustainable practices specifically. In year 1 there is a subject called sustainable building services; in year 3 there is large-scale mixed use sustainable development; and also in year 3, sustainable housing development.

We also run a graduate certificate in environmentally sustainable building design. The units covered in that are: building fabric design; principles of waste management and minimisation; selection and specification of environmentally sustainable materials; sustainable building concepts; sustainable energy concepts; and water collecting, recycling and conservation concepts.

At Holmesglen we also have a number of short courses which relate to sustainable practices. They are in: waste water treatment; five-star energy rating accreditation; solar system design — both water and photovoltaic; absorbing airconditioning and heating systems; backflow prevention; builders registration awareness; and building legislation update 2005 BCA, which deals with changes in relation to the Building Code of Australia.

From an industry perspective, the housing industry is driven largely by the consumer and perceptions offered by developers. As I mentioned earlier, at the moment the consumer focus is value for money — the biggest size for their dollar. You only need to look at the papers to see how they advertise homes — $150 000 for 34 squares, and that is in very large print, and the home as a showcase of individual wealth. High-cost items that do not directly relate to those are difficult to sell to the consuming public. As I mentioned before, when faced with the choice of $8000 spent on a grid interactive photovoltaic system or granite bench tops, most consumers will choose the latter. From my discussions with builders, changes relating to the 5-star energy rating of houses are seen as an impost on the consumer and therefore are more easily implemented as they are at the moment, supported by appropriate legislation.

From the perspective of a registered training organisation, Holmesglen, the state training system is instrumental in delivering the training needs of the industry it represents. While there is a requirement for institutes to provide the very best on offer in regard to learning resources, facilities and staff, it is the industry drivers that dictate the content of our programs. Training packages developed nationally and implemented at the state level establish outcomes and levels of performance of the graduates. It is the role of the training system to deliver those outcomes in the most efficient and cost-effective manner. The nature of learning and skills development provided by the state training systems gives the graduates the ability to apply learning to new and emerging materials and technical practices. This is due to the focus on developing transferable skills and knowledge and exposing students and staff to a wide range of new and emerging materials and technologies through strong relationships with industry partners. That is my presentation in relation to that.

The CHAIR — Thank you very much.

Mr DRUM — Who in the building industry is in fact doing the sums to work out the economic viability of introducing some of these products into the building industry? Is it left to the manufacturer, someone who manufactures a PV system, double-glazed windows or aerated cavity slab floors, to do all the economic rationalisation or viability to try to initiate it in the industry, or is it someone else out there? We are trying to gauge the effectiveness of the energy services industry. We need to see where the gaps are and where the drivers are at the moment — where they are driving and whether it is left simply to the manufacturer, so that someone who invents something and manufactures it has to come up with the economics.
Mr SCHEEN — I think there are two parts to that, from my perspective in the construction industry. One certainly is the manufacturers or suppliers of the product. In the sustainable show home we have a product called the Venmar air system, which is an air quality system which takes air from the kitchen, laundry and toilet areas and passes that through a heat exchanger. It puts that stale air outside and brings fresh air from outside back through the heat exchanger, where it picks up 80 per cent of the heat or the cooling effect of the air that is already in the home and puts fresh air into the lounge room and bedroom areas. That is very much a product that has been introduced to the market.

The provider has obviously looked at the value of that product and at how much he can get back to enable a consumer to put that product into the home. That product costs about $6000 to put into a home. What he is trying to say is, ‘If that is the case, is there $6000 of heat saving and airconditioning saving that I can pass on to the consumer if they buy this product?’ What he is saying is, ‘You can leave your windows closed — you can get your heat from the sun in through your windows, but leave your windows closed and I can still provide a comfortable and healthy environment in your home if you buy my product’. In that case it is very much the supplier seeing what is acceptable in the marketplace. It is also illustrated at the moment by rain tanks. Plastic rain tanks are fairly cost effective — they are really not expensive. People can see themselves getting a small one quite economically.

The other part of that is the builders and developers. Certainly from my work with Burbank Homes and Metricon Homes, where they are faced with legislation about 5-star energy rating of their homes, they are saying, ‘How can we meet these requirements at a cost that the consumer will more easily accept?’ After all, they are competing with each other in relation to winning the client to their design or their homes. So I think it is twofold. One is the builder very much looking at how they can cost effectively meet the legislative requirements, and the other is the supplier of products looking at what the market will actually bear. That goes back to your point about what is the payback time for those sorts of things. I think with solar hot water a lot of people are now saying, ‘I really should start thinking about that’, because the cost has come down.

Mr DRUM — We have been told, though, that while 5-star is one of the nation’s best programs, along with the system in New South Wales, it is quite easy to achieve. If you put in a rainwater tank and put on the solar hot water service, you do not have to do much more to achieve 5-star rating.

Mr SCHEEN — No.

Mr DRUM — What you were also saying in your previous answer was that it is effectively left to private industry to actually inform the everyday consumer who is in the process of buying or the people in general about what products are out there. It is also left up to the industry to try to convince them of the financial benefit or cost.

Mr SCHEEN — Yes, I agree with that. I think that is the way it runs. That is symptomatic of our private enterprise system, I guess, that people see there is an opportunity there. You can see that with water conservation at the moment. Through government advertising on saving water there has been a huge upspringing of these small companies. I got information from a company called Green Taps the other day which was launching a place in Altona where people specifically go and learn about how they can introduce water-saving technologies into the home. That is the result of a government advertising campaign in relation to needing to think about how we save water. Private enterprise has seen that as an opportunity and said, ‘While people think about saving water, I will introduce a range of products in the market so that people can say, “Yes, I can see how I can save water by using that product”‘.

The trick of course is for private enterprise, and it has always been the same, to choose a product at a price that means consumers will buy it either because of their citizenship, saying they are going to do it because they are good citizens, or because they see a way of saving money themselves and they adopt that technology. From my perspective the trick is to get people to go beyond just the economics in choosing those products and designs. Some of it is very simple. In relation to sustainability it does not cost much extra to orientate your house to take advantage of our winter sun. Those things we should be really pushing hard, because that is an easy thing to get across to people. The design of the house does not have to have a huge effect. Other things we need to probably legislate for because they are things that are really tough to do.

Mr HILTON — You mentioned the number of components of the various courses you run here which have this environmental sustainability aspect. Sustainability Victoria, when we had a briefing from it last week,
seemed to indicate that there were very few courses across a variety of the trades which were actually promoting the sustainability message. Is what you said in conflict with that evidence?

Mr SCHEEN — No, I do not think it is, because I think what Sustainability Victoria is indicating is at the trade level. We certainly do it at our apprenticeship and pre-apprenticeship level. At the trade level I agree with it that we do not do a huge amount in relation to their understanding of sustainable principles and the effect on the environment of what they actually do. One of the things the institute would like to see — and we put an application in two years ago now, and we were not successful in it — is to put together a package for each trade area informing those students about the impact on the environment of their practices. I will use the example of a bricklaying apprentice — I know it is not energy conservation, but it is in relation to the same sort of thing — a bricklayer who gets into the practice of grabbing a full brick and cutting it back to put in next to a doorway because it is easier to take one that is just there rather than taking two steps to pick up a half brick needs to understand the impact on the environment of that decision. The brick has to be made, for starters, get transported to the site and then be disposed of.

In the trade areas we do not do as much as we probably should, but again we are really dictated to by the level of our ability to service what the industry wants us to do. If the industry came to us and said, ‘This training package now has 80 hours of sustainable building practices built into the program’, then the trade areas would deliver that. At the moment it does not, and we are funded on the hours that are in the training package. When the training package says, ‘You will do 40 hours of framing and 40 hours of electrical installation’, which is wiring up electrical components, that is what we are obliged to deliver. It is not up to us to decide what we deliver in the trade areas. In the post-trade areas in advanced plumbing and those areas, we actually do quite a lot, because we talk about the design aspects of sustainability, which is what we are training in. In the trade areas it is probably right; in the post-trade areas, I would say we are not doing too badly.

The CHAIR — I will follow up on that, Bart. You said you had put in a submission for funding but it was unsuccessful.

Mr SCHEEN — Yes.

The CHAIR — Where did you go to?

Mr SCHEEN — We went to the Office of Training and Tertiary Education, at that stage, OTTE, and the response was that we should be doing resources anyway; we should find it within our own funds. Unfortunately what happens is that our funds are allocated to developing resources for the programs we actually deliver, which are linked into the training packages, not additional programs.

The CHAIR — So this would have actually been an additional thing; it was not that you went to the national training body and said it should be in; you went to OTTE and said it was something you should be funded to do?

Mr SCHEEN — It was something we should be putting into our programs. We do that in a number of areas. Another quick example is that in scaffolding, for instance, in the training packages it is required to be at limited height, below 4 metres. What we do at Holmesglen is to provide training for the basic level, which is the ticketed level, which is over 4 metres. We see that as a service to our apprentices; we do that through our own department. We go beyond what the training package actually requires us to do, which we can do, but we can only do it if we see a way through it.

The CHAIR — Through the building of the BuildSmart home did you find competencies that are lacking, that we would need to have inbuilt into our tradies to be able to make that home a sort of a standard build — that there really is not anything extra in that home that most people would not expect in their home if they were buying?

Mr SCHEEN — I think the only thing that was brought up with that was the level of knowledge of sustainable practices and stuff in the trade areas. Because we concentrate on the hand skills and the general skills, I think all apprentices and pre-apprentices should come through with a very good understanding of what sustainability actually means. If that were the case, then when they then actually go and talk to their clients or talk to their bosses, and someone says they want them to build a carport, then they think ‘Okay, the BuildSmart home, I should not be using rainforest timber, I should be looking at things that do not have a high inbuilt energy cost’.
The CHAIR — So it is more on the principle and awareness of what is happening?

Mr SCHEEN — Yes, the building skills are not really any different.

Mr DRUM — In building the BuildSmart home you obviously touched on a lot of areas that are pretty exciting and energy efficient, but if you were limited to three, where would you be pushing us? If you were saying, ‘If you can impact in the building industry, then it is with these three areas that you are going to get the best bang for your buck’, where would you push us?

Mr SCHEEN — When I think about where I would push, one area would certainly be the design aspect. Even our apprentices understand what sustainable design really means. Water is something that is critical, so we need to start looking at how we inform our plumbing and even our carpentry apprentices about how we catch that water better and how we can design homes to catch water better and those types of things. Waste minimisation is something we need to look at. I would like to say electrical, but it is really just different appliances in that sort of area. Waste in the building industry is still a massive area I believe. Just as an example, in the BuildSmart home we had an issue where we were trying to cut down the waste and KNS Environmental came and monitored all our waste and how much waste we produced. We still had suppliers who provided product to us and said, ‘Look, we’ll give you an extra 10 per cent of volume, just so you don’t have to come back to us then’. We had all this product left over, and that is not what sustainable building is really about. It is about trying to cut that back a bit. Certainly there are such things as water conservation, water usage and general design, such as understanding the use of airlocks in external doorways, which is very cost-effective, because design does not cost a huge amount.

Mr DRUM — If you think design is the big-ticket item, how do we then get the average person to have a great understanding of how much they can save by having exactly the same house but better designed? How do we get that to the average potential home builder?

Mr SCHEEN — We like to think we are doing it with a BuildSmart home, so that people can walk in and say, ‘I can see this as a standard home. It does not look any different to any other home that I have walked into, and yet you do not warm it in winter or cool it in summer. How is that? Why is that?’. There are those sorts of things. We could have examples and encourage the school system to become involved in the sustainable areas. In the school system we tend to look at the way we live in our environment — saving water and electricity and those things — but we do not tend to look at the built environment as much in the school system.

Mr BENJAMIN — On accreditation, suppose someone from the plumbing industry comes up and says, ‘I want to get something on the proper installation of tempering valves’, how does the accreditation for that course proceed? Do you have to go to a national body or a state body?

Mr SCHEEN — There are two ways you can do that. If we want the government to provide funding for that program, then we have to go through an accreditation process, and that is done initially through our curriculum maintenance manager. Each area has a curriculum maintenance manager, so we have one for the building industry. We might go to that person with, ‘There is a real need for this type of course in the industry’. Through that we will go from there to the national system and say, ‘There is a real need’. If there is a state need, then it might develop at a state level through OTTE. If there is a national need, it might be developed at a national level — that is, if you want to fund it through a state body — if you want the government to fund that program. If you want a program developed that is funded by industry and you say, ‘There is a real need for this program, and we believe the industry will pay for it, so that people will pay to come and do the course’, then each TAFE institute can develop its own course in partnership with an industry and deliver that course on its own with no accreditation as such. There would only be institute-based accreditation, which looks at the quality outcomes and those things, but it does not rely on government funding to develop one of those things. We have done a number of those programs. One example is a plastic program developed a little while ago for the plumbing area, which looked at the installation of PVC mains, to make sure that they were installed properly and did not crack and waste water and those sorts of things. That was developed in conjunction with Melbourne Water, Holmesglen Institute of TAFE and plumbing bodies — I am not sure which ones. They develop a course, put the costing together and then organise people to come and do the course. It was done because the industry saw that as important, and they believe that industry attendance will pay for that. It depends on where you want the funding to come from.

The CHAIR — Thank you very much, Bart.

Witness withdrew.