



COMMONWEALTH OF AUSTRALIA

Official Committee Hansard

**HOUSE OF  
REPRESENTATIVES**

STANDING COMMITTEE ON ENVIRONMENT AND HERITAGE

**Reference: Employment in the environment sector**

THURSDAY, 17 OCTOBER 2002

CANBERRA

BY AUTHORITY OF THE HOUSE OF REPRESENTATIVES

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**HOUSE OF REPRESENTATIVES  
STANDING COMMITTEE ON ENVIRONMENT AND HERITAGE**

**Thursday, 17 October 2002**

**Members:** Mr Billson (*Chair*), Ms George (*Deputy Chair*), Mr Barresi, Mr Cobb, Mr Hunt, Mr Jenkins, Mr Kerr, Mr Lindsay, Ms Livermore and Mr McArthur.

**Members in attendance:** Mr Barresi, Mr Billson, Mr Cobb, Ms George, Mr Jenkins, Mr Kerr, Ms Livermore and Mr McArthur.

**Terms of reference for the inquiry:**

To inquire into and report on:

- The current contribution of environmental goods and services to employment in Australia;
- The future potential growth, including barriers and opportunities for growth, of environmental goods and services and impact on employment;
- Current status and future requirements for an appropriately skilled workforce;
- Appropriate policy measure that could encourage the further development of the environmental goods and services sector; and
- Information and reporting systems that would support the uptake of environmental goods and services to enhance overall business performance and development of the sector.

**WITNESSES**

**ARNOLD, Mr Bruce, Strategic Development Manager, Environment Technology Information Centre..... 1**

**BERGMAN, Mr Ian Donald, General Manager, Environment Technology Information Centre ..... 1**



**Committee met at 11.07 a.m.****ARNOLD, Mr Bruce, Strategic Development Manager, Environment Technology Information Centre****BERGMAN, Mr Ian Donald, General Manager, Environment Technology Information Centre**

**CHAIR**—Welcome. I declare open this public hearing of the House of Representatives Standing Committee on Environment and Heritage on our inquiry into employment in the environment sector. Thank you for coming. A number of our colleagues are doing other things right now, but it is good that this is a public hearing and that your evidence will be recorded, and so we can make sure our colleagues have the benefit of your input.

The request for this inquiry has come from the Minister for the Environment and Heritage. We have called for submissions, and about 26 have been received to date. We are now starting a series of public hearings and informal discussions. This is the first one, and so you are opening the batting, at which we draw out further information from people who have made submissions and others of interest that we also wish to talk to.

Today, the committee will receive evidence from the Environment Industry Development Network, represented by Mr Ian Bergman and Mr Bruce Arnold. Although the committee does not require you to give evidence under oath, I should advise you that these hearings are formal proceedings of the parliament and consequently warrant the same respect as proceedings of the House itself. It is customary to remind witnesses before they provide testimony that the giving of false or misleading evidence is a serious matter and may be regarded as a contempt of parliament. I invite you to make a brief statement in relation to your submission or some introductory remarks before we ask some questions of you.

**Mr Bergman**—I am pleased to do that. You all have a copy of our submission, and we will refer to it throughout our discussion. There is a one-page cover note to the submission on which we have tried to summarise half-a-dozen key points, which I will go through briefly.

The fact is that there is a big global market for environmental goods and services, and this does provide opportunities; there is no doubt about that. This is reinforced by a range of reports not only in Australia but also globally about the current and the potential market for environmental goods and services. For example, in Europe and Eastern Europe, there are some tremendous environmental problems to be overcome, and in Asia as well. It is clear that there is tremendous scope for the industry. That is the first key point.

The second point is that one problem is the lack of resources. With regard to some of the problems that are slowing the growth of the sector in Australia, we have referred to the need for better information systems and the need to get involved in the global industry. In the next point we cover some other impediments to growth, including managerial expertise and the need to commercialise public and private sector research. So those first three points are general points.

The last three points on the summary page go into more specifics, so that you understand where we are coming from. We operate the Environment Technology Information Centre out of Canberra. It was established and commenced early this year with the support of a funding grant

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from AusIndustry, which you would be aware of, and we are very appreciative of them for that. It is an example of how the federal government funding programs can provide seed funding that can be built upon for such initiatives such as this. That \$50,000 grant from AusIndustry had the specific aim of establishing an entity—that is, the Environment Technology Information Centre—to promote the growth of the industry.

The fifth point explains that the centre is a specific place where we have computers and information systems. We have an office, and people can come there physically or they can call us. That centre forms part of a broader network, the Environment Industry Development Network, which has been operating for many years now. Like many networks, it does not actually operate so much as a physical entity; it is a network of people and companies that share information and resources. The last point on the front page is that the Environment Industry Development Network is playing an important role in helping companies in this sector to market their goods and services into markets offshore, through showcasing such events as trade shows and general exhibitions, particularly in Europe.

Those are some key points, and that will probably do as an introduction. Just summing those up, we have explained that centre has a key role in promoting information systems; and then the network itself helps to facilitate companies getting into the global marketplace.

**CHAIR**—Thank you. Mr Arnold, is there anything you would like to add at this stage?

**Mr Arnold**—No; that is fine.

**CHAIR**—We have found it difficult getting reliable data on the size of the sector. Is yours a projection on the 1996-97 ABS information, or did you use some other method? Could you inform us of the source of your information?

**Mr Bergman**—I have been in the industry for almost 20 years now. There is a whole range of sources that we have drawn on. I would suggest that one of the primary sources of information has come about from the initiative of the Environment Industry Action Agenda. The secretariat for that action agenda, which was a small team of people from two departments—the Department of Industry, Tourism and Resources and the Department of the Environment and Heritage—put together a very good document, which probably pulled together the best information that is available. That particular document is on our systems, and we will track down the exact reference for it.

**CHAIR**—We have had it circulated to committee members.

**Mr Bergman**—I would like to compliment the team that did that for the Environment Industry Action Agenda, because it really pulled together all the information that is around. There is no doubt that there is an urgent need for more information and more analysis in this sector, and it can be done now, quickly and strategically.

**CHAIR**—So the sense is that there is some information out there but that it is fragmented?

**Mr Bergman**—Certainly fragmented.

**CHAIR**—And there is a need for some additional information to be collected. What kind of areas would you point to?

**Mr Bergman**—It is more about how you go about getting that information. I would strongly suggest that, depending on your approach, you could spend a long time getting not much information. Taking it strategically, I think the information is out there and can be gathered quite quickly by a small team. We work closely with the Barton Group, with a couple of key people there. That information could be gathered very quickly, whereas you could take the conventional approach and start to undertake broad scale surveys and the like, which I think has been done. The Bureau of Statistics has a rolling program over many years. But what is needed is a small industry group that could, in a very short period of time, get some extremely accurate insights, using its knowledge and a very strategic approach to obtaining that information.

**CHAIR**—What is your involvement with the Barton Group that implements the action agenda or oversees some of the consultancies?

**Mr Bergman**—Our involvement with the Barton Group is simply that we recognise their role, and we are trying to assist them in achieving their role. I can refer to a few of the initiatives we are undertaking to help them.

**CHAIR**—Yes, please.

**Mr Bergman**—One of the key issues that the Barton Group and the Environment Industry Action Agenda covered was the need for information about the value of online systems and information systems, primarily the Internet. A key question was how this new world of IT can help the environment industry

**Mr Arnold**—And particularly with the global market.

**Mr Bergman**—Exactly. That is a key point. It does allow you to access the global market. Just simply having something on the Internet means that someone from anywhere in the world can find you, whereas that was absolutely impossible a few years ago. A specific requirement for the Environment Industry Action Agenda to address is the value of environment databases and directories.

We set up an online conference, which is actually running today and tomorrow at [www.environmentindustry.net](http://www.environmentindustry.net). I note that your people here have already logged in to that, and so you are obviously right on the ball there. That is just a first step. We think that is going to be a useful exercise and we have promoted that pretty broadly. You might not get thousands of people logging in, but we hope to pick up some key people with a few key insights. We will see where that takes us. That is something that we are doing, and we are very comfortable with that.

You could do the same thing for other issues. We could, for example, run something similar on employment in this sector. It is a very good, cost-effective way of obtaining information. We will produce a small report on the online conference that is going on now and will run today and tomorrow, and we will pass that to the Barton Group and the action agenda team. It is that type of thinking, that type of initiative, that can be used in other ways. As I suggest, there is the idea of doing something similar to find out about employment opportunities in this industry. You set

up the site, you promote it widely, and it allows people all around Australia to have their say without having to travel too far. It is not a bad idea.

**Mr Arnold**—Without having to take the day off work; that is particularly important. There is uncertainty about the shape of the industry, but it appears there are lots of small- and medium-sized enterprises that do not have the resources to do extensive marketing on their own overseas. That is why some of these linkages are important. They do not have the time to take the day off work to go to a conference that will be, in a lot of cases, interstate. So some sort of electronic contact can be quite useful. Accessing electronic resources during business hours and after business hours can also be useful.

**Ms GEORGE**—In regard to the issue of commercialising new technologies, I have a local company that is developing a prototype that would stop the loss of electricity through the transmission grids. They have a bit of a stumbling block at the moment, in terms of the lack of venture capital or government assistance to be able to develop that technology further. Yet it seems that it is a very viable technology, in the context of the greenhouse reduction issue. Could you comment about where small companies like that get assistance to be able to commercialise their innovation without going offshore?

**Mr Bergman**—I would have to say that, in my experience, every effort has been made that could possibly be made to assist companies like this. Being very objective about it, the federal government has initiated many programs to try to assist in this way. I would refer to the COMET program, the Commercialisation of Emerging Technologies program, which was established by AusIndustry. I cannot imagine that anything more could be done. In terms of their providing assistance, I give them 100 per cent support. AusIndustry have funded people in each state, and we have a person here in Canberra, working out of Manuka. They are very dynamic and very focused; and they are there to help these companies.

The second point is that the government has done its best to facilitate venture capital funds. They have set up a range of venture capital funds in the energy sector and given all sorts of support. The problem is not there; the problem is in just the fact that it is a difficult thing to take an SME with some sort of idea and make that idea a commercial success. It is just fundamentally difficult. We have to be careful, because sometimes these technologies can look very promising but, in my experience, there are a lot of difficulties along the way. Probably the biggest success was the START scheme of funding through the Industry Research and Development Board, that was providing generally \$200 million a year of support for companies. I would have to say that that scheme—which for various reasons was temporarily halted, but which we hope re-emerges shortly—was very successful.

To give you an example off the top of my head, in 1993, when I was involved with that scheme working in the industry department, one of the companies that applied, Lochard Environment Systems—[www.LOCHARD.com.au](http://www.LOCHARD.com.au)—was given a grant of \$800,000 to help develop its environmental monitoring units at airports. That company is extremely successful. It is a multimillion-dollar company operating out of Melbourne. There are plenty of case studies which show that the federal government's programs of providing large-scale funding—and \$800,000 is no small beer for anybody—can have a significant effect.

The scheme was successful was because the systems in place were very good. They have committees of independent experts that assess submissions from the various companies. The

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problem is that not all of these technologies outlined by the companies stack up, even if sometimes they do appear to be very promising. But if they fill out the form and they put all the information down and that goes in to be assessed by the committee of experts, the committee of experts generally gets it right and says, 'Unfortunately, this just does not stack up.'

In summary, I am saying that some of the SMEs have great ideas and others have pretty ordinary ideas that might at first appear to the general person to have a lot of scope. The system is in place—but, as I say, unfortunately temporarily suspended—to separate these out. There are some great systems in place at the moment. I do not think there is any inhibition there on the industry—albeit that the scheme is temporarily suspended, which actually is a real problem.

**Ms GEORGE**—You do make it sound a lot easier than the company has recounted to me. They have been to both state and federal sources for assistance.

**Mr Bergman**—Have they filled out any of the forms?

**Ms GEORGE**—Yes; it is my understanding that they have been through AusIndustry. Anyhow, I will make sure that they get in touch with your network, because there might be other avenues.

**Mr Bergman**—We would be very happy to talk to them about that.

**Ms GEORGE**—Thank you.

**Mr Arnold**—One of the issues is that there is no single magic bullet for funding for, say, technical support for advice about intellectual property or whatever. There are a range of incubators, business angels, venture capital funds and so on. One of the issues is actually making contact with those entities. The other one is the general problem with innovation in Australia—persuading people with the money to put the money into your innovation and keep it there long enough, with the supporting expertise, to build markets within Australia and overseas. Australia, in many ways, is a small market. You have to go overseas.

**Ms LIVERMORE**—I have a question about your online directory.

**Mr Bergman**—In that regard, could I pass these sheets out to the committee? That little document will help people involved here to understand that, because it is a summary of the online directory. So, as we are discussing it, you can get a bit of a feel for what we are discussing.

**Ms LIVERMORE**—Thank you. Do you do any evaluation of the kinds of companies that use the directory? I am thinking more from the point of view of purchasers. I understand the motivation of suppliers in wanting to be a part of it, but do you do any evaluation of the companies looking for that information?

**Mr Arnold**—We are doing a basic sort of matrix but we are not necessarily doing detailed profiling of individual consumers.

**Mr Bergman**—However, I can say that on the site we do have are a few little clicking buttons through which people can send requests for information. They are actually buried deep into the site, but people seem to be finding them. I am getting an average of one a day from Australia and around the world—which might not seem a lot, but they are buried pretty deep in the site—of specific requests from people. They simply fill out the form and write their request saying, ‘We want further information from this company.’ I have a record of those. We have on average one request a day, and so clearly they are using that facility.

We are now starting the process of finding out how valuable this is. The online conference today and tomorrow is one of the ways we are trying to find out about that. I would mention that this is not the only sort of information system. There are a few others, such as the directory run by the environment department known as EnviroNET, which I think commenced in 1996. That is a government backed directory. One of the issues that we are all grappling with at the moment is that it is probably preferable to have one central portal. Where do we go with things like EnviroNET and our directory?

**Ms LIVERMORE**—Maybe you need to answer anecdotally, based on your experience rather than on any hard data. I am trying to get an understanding of what is driving the demand for environmental goods and services. What would motivate companies to go looking for your information or attend your technology seminars? What is driving demand in the sector?

**Mr Bergman**—I can answer that—because, as I say, I get an average of one a day of people that are filling out these little forms and sending them to me. I read them and I refer them. Generally, I think to myself, ‘Why do you not go straight to the company?’ but, anyway, it is nice to get that sort of feedback. I am drawing on maybe 100 or 200 direct inquiries from real people, real companies, that are coming to us from our site.

I can tell you now that what is driving it is very simple: people have very big problems they have to deal with on the environmental side. We get requests from companies around the world who have problems with their waste water streams or need a geomembrane lining, and they are simply casting around for what is around. With a lot of these environmental problems, there is no packaged solution.

Companies in such industries as mining, agriculture and food all have someone in their organisation that is responsible for minimising waste and solving environmental problems. Those people are scratching around to find out what is out there. That is simply reinforced by all these people coming to me. A lot of the questions would be, for example, ‘We have a problem. This is our effluent flow. It has so many parts of some particular metal and suspended solids. How can we solve this problem?’ We then refer that request on to a few of the companies that we are aware of that can perhaps help.

There is plenty of scope for us to improve this. For example, the Barton Group has noted this. A lot of people talking about this have said, ‘It would be nice to have a system that was able to answer these questions more directly, but we do not have the resources to do that.’ If we did, I think we could probably do a lot more. As it is, at the moment, we pass these requests on to companies. If we got a few more resources in, we could probably set up a system that was far more proactive. We would get these requests in, and each day we would do more than simply flick them on to a few companies. We would actually analyse them and work closely with the

companies, respond ourselves to these people who are requesting, and get more involved and possibly generate some new business.

**Ms LIVERMORE**—I will round off this area. What would the balance be, just from your impression, between environmental standards or regulations being the impetus and companies seeing that there might be some commercial advantage or doing it as a business?

**Mr Bergman**—I am sorry; what are you asking?

**Ms LIVERMORE**—Are people doing it because they are responding to environmental standards and environmental regulations? Or is there any sense that companies are seeking out this information because they are starting to discern a commercial advantage?

**Mr Bergman**—The two go hand in hand, really. It is very much on the same track. Environmental standards are getting tighter all the time and more focused, and simultaneously companies are realising that there is advantage for them. First of all, they have to start to look at these standards, but also they can see a competitive advantage.

If I had to choose, I would say that the increasing environmental standards are the primary driver. As an example, in Germany—where we spend a fair bit of our time—the standards are really cracking down. At our international trade shows—we take companies over to the environmental shows in Germany, including Entsorga and Envitec—we get approached by German firms that are looking for a solution. They say, ‘We have 18 months to solve this or we are out of business.’ They completely finish up their business. They might be a manufacturing company that is doing very well, but their effluent is unable to be treated. So it is environmental standards—primarily in Europe, but in Australia of course—driving this.

**CHAIR**—I would like to bring us back to ISONET and those fragmentation issues. You touched on your own existence and the \$50,000 earlier. Clearly, there is more to it. I know Mr Kerr had some queries around the genesis of your organisation and how it is operating.

**Mr KERR**—I noted from the back of your submission that you seemed to emerge out of a wholly owned subsidiary of one of the cooperative research centres.

**Mr Bergman**—Correct.

**Mr KERR**—Hitherto there has been a bit of a debate about how cooperative research centres have to commercialise themselves. I am wondering how you yourselves commercialise your activities. How do you pay for yourself?

**Mr Bergman**—That is a very good question. It is difficult, because we are operating in a public good area. The second challenge we have is that we are operating very broadly. We are trying to facilitate outcomes for a whole range of companies and for an industry sector. How we operate commercially is that we have established some ongoing income streams. We charge companies to be on the directory. That is problematic, but we have some ideas about how we can provide a greater inducement for companies to be listed. We also generate income from running Australian country stands at environment fairs around the world. But it is scratchy. If we can keep going and achieve it, I think it will be a very good thing. We have a range of

income sources, primarily from information systems and from running international trade shows.

I would mention that we do get support from the federal government. The Department of Education, Science and Training is providing funding for showcasing of Australian industry, technologies and science at targeted events around the world. That is being initiated now. We are applying to be on the panel that they are selecting. Those events will be in a range of industry sectors, but we would hope that one or more of them would be in the environment sector. So again we do make use, as best we can, of government support for the activities that we are doing. We feel that that is a reasonable approach, because we are working very much in the public good arena.

**Mr KERR**—Thank you for your answer. I am not sure it is directly relevant to our inquiry, but obviously there is a subset of arguments about the degree to which the key centre program ought to be entirely dependent on its capacity to commercialise—particularly in some areas where there is a public good component that might otherwise be lost. However, I do not think that is directly relevant to the specifics we are addressing today.

**Mr Arnold**—Commercialisation gives you a great focus. One of our strengths is that we have kept our costs very low. I have dealt with a number of CRCs in different sectors, certainly in the last 10 years, and money can on occasion be spent quite inappropriately on infrastructure, salaries and buildings—you can lose sight of why you are there.

**Mr Bergman**—I would just add that, in terms of commercialisation, the Cooperative Research Centre program has certainly had many successes. We are a spin-off company from the CRC for Waste Management and Pollution Control and we still keep closely in touch with them.

**Mr KERR**—It says here that you are wholly owned by them.

**Mr Bergman**—That is right. That was at November 2000.

**Mr KERR**—If you are wholly owned by them, I am not surprised that you keep closely in touch.

**Mr Bergman**—That is right. However, we have spun off since then; and so we had better reissue that document. The CRC for Waste Management and Pollution Control has been an important player in this industry, in terms of taking technologies from the research sector and commercialising them. They took 10 of their best technologies and put them into a company structure called Waste Technologies Australia. That company is being progressively bought out by Zeolite Australia, with some substantial funding, and that is a listed company.

**Mr KERR**—Do you think there is any room for strategic industry policy in Australia? For example, I keep hearing comment from many people in the scientific research establishment that the future is hydrogen cell technologies for motor vehicles. Yet we do not seem to be developing any significant industry sector around what everyone says is going to be the largest shift in generating capacity, motor vehicle transport, home generation of electricity and what have you. I do not know, maybe we should not be and maybe we should leave this to the market and the market might say, 'We are not players in this.' If that is the case and if the corridor

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gossip about this is correct, it simply means that, like computer technology, we will be a net purchaser of all this stuff rather than one of the players in the genesis of it.

**Mr Bergman**—Let me respond briefly that, as a small country, we obviously have to recognise our place in the world. My perception is that we—we being Australian industry, and looking particularly at the environment industry sector—are doing extremely well in some selected niche areas. Photovoltaics is a good example. There seem to have been some very powerful clusters created in Australia around key individuals who have attracted some support and are creating some world-leading expertise and are being very successful.

Professor Martin Green at the University of New South Wales was targeted quite a long time ago. I heard on the radio the other day Vicki Sara being interviewed, and she pointed out that they had targeted him at a very young age as being up-and-coming in the energy sector. They have thrown him a lot of support, and he has created a very powerful cluster around him at the University of New South Wales. He has the CRC framework there. There is no doubt that that is now a very successful, commercially well-established group that is a major player on the world scene.

One more example I will give you in the biotechnology sector is the group that came out of Macquarie University in proteomics. They have floated and now they are valued at about \$200 million, and about 18 months ago they spun off from Macquarie University. This is where we are successful. We have a few powerful groups, and they are the ones that have to be backed as much as possible. We cannot expect to do brilliantly well everywhere. For example, there is a group at the University of New South Wales trying to work on hydrogen power. They are great people but they just do not have the resources. There are people all around the world looking at that. I will give one last example.

**CHAIR**—And then we might need to move on. Time is against us and we have some territory to cover.

**Mr Bergman**—Let us move straight on, then.

**CHAIR**—Mr Barresi was interested in the composition of the industry and employment opportunities.

**Mr BARRESI**—In your submission, you have the 80-20 concept, with 80 per cent of the companies being SMEs and the other 20 per cent being larger ones. First, can you give me an idea of who the main players are that comprise the 20 per cent? Second, what are the emerging sectors of the environment industry that are coming on board? It might be useful for us as a committee to make contact with some of those.

**Mr Bergman**—In the emerging sectors, SMEs are focusing on instrumentation and monitoring equipment. I think that is a great sector. Structurally, the strengths in Australian industry are SMEs of perhaps 10 to 30 people, often revolving around a few key people.

**Mr BARRESI**—It is very much a niche area, though, if it is instrumentation. It has low employment levels.

**Mr Bergman**—You are saying it is low employment?

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**Mr BARRESI**—You are not talking about large work forces.

**Mr Bergman**—No.

**Mr BARRESI**—And at the scientific elite level?

**Mr Arnold**—Yes.

**Mr Bergman**—We might not be talking large numbers, but it is something that is very sustainable and it is growing. You will find in some of the big areas that a lot of people are employed in the environment sector doing basic tasks. The environment sector includes general movement of waste, which employs a lot of people. But I do not think it is going to shift too much. In fact, let us be realistic: the introduction of technologies, such as trucks that can be managed by one person, is—

**Mr BARRESI**—Just go back to the instrumentation industries you talked about. Where are they sourcing their work forces from? Is it principally from Australia?

**Mr Bergman**—Absolutely.

**Mr BARRESI**—Where are they coming out of?

**Mr Bergman**—It is just the general Australian work force, a mixture of technical people out of TAFEs, one or two university trained people, and general support staff.

**Mr BARRESI**—These are new courses that have been developed?

**Mr Bergman**—Often they are just general skilled people who are then brought in. I would summarise it by saying that these SMEs—they might sound small but there are a lot of them—are creating new instruments to be used around the world, and there is an export market in Australia in this industry for instruments. They are instruments that measure simple things like water flow and rainfall—and we have a competitive advantage there—but also some slightly more high-tech instruments, such as things that monitor gases and the like.

**Mr BARRESI**—From the feedback you are getting, perhaps from some of these organisations, is the quality and the breadth of the curriculum and training that their staff have gone through adequate?

**Mr Bergman**—I think so, yes.

**Mr BARRESI**—I am wondering whether our vocational education system and our university sector have kept up with the changing technology.

**Mr Bergman**—Certainly, in my experience, yes. The TAFE courses are all fairly focused now. You have specific courses that address these things. I do not think there is any impediment there.

**Mr Arnold**—The tech side seems to be fine. The feedback I have had is about what is the problem with small entrepreneurs generally: in a lot of cases, they are state-of-the-art in their area of specialisation, but where they would like some support and where they are not necessarily getting the training—and perhaps it is not appropriate—is business skills. It is difficult to do a PhD in, say, biological sciences and do an MBA at the same time.

**Mr BARRESI**—That is interesting. In the sports field, for example, which is a totally different industry, for years and years we had sports people going into running businesses which were sports based and they were having flops. In the last 10 years we are seeing an emergence of sports management programs, sports management degrees and masters in sports management. Are you saying that perhaps there is a necessity to have an environment business program for the industry?

**Mr Bergman**—No, I do not see it, really. Environmental science is well established. I do not see any real problems in the environment sector at all. There is plenty of environmental training there.

**CHAIR**—We have had some feedback from others in the industry about a shortage in the professions. At the Tumut pulp and paper mill, a lot of the professional horsepower to make that project happen had to be brought in from overseas, and the visa categories of employer-sponsored skills was important to those projects and some of the higher-end work. You are not seeing that?

**Mr Bergman**—No, I am not seeing that. That is something that perhaps your resource people can check on.

**CHAIR**—Okay.

**Mr Bergman**—This is one of the risks. We have to be careful because that might be an isolated incident. I would not have thought that is really a problem. In my experience, which is considerable in dealing with a range of SMEs across Australia in a whole range of areas, I have never noticed too much of a problem.

**CHAIR**—So you are quite optimistic about the skills base?

**Mr Bergman**—Very.

**Mr BARRESI**—Has there been a skills audit done within the industry?

**Mr Bergman**—I am unaware of it.

**CHAIR**—I come back to an earlier point regarding optimism around the technologies, the competitive advantages, the collaboration starting to take place and the international interest in what we do here: notwithstanding this, in your paper you conclude that we are not going to get a proportionate share of the global growing action. Why is that your conclusion? What are the barriers holding us back from getting more than our share?

**Mr Bergman**—It is primarily our distance from the global markets: our general isolation, which I imagine affects most although not all industries. Our well-established industries in agriculture and mining do not have a problem. We have well-established markets into Japan and other places. There is no problem there. But for this sort of slightly bitty industry which is still growing, it is a long way to go to break into the markets.

**CHAIR**—You are seeing the main markets as being in Western Europe and North America, not so much in the Asia-Pacific region?

**Mr Bergman**—No. The Asia-Pacific region is a very good market as well. But we have to be very clear here: a large proportion of the environment sector is basic technology and basic tasks. For example, if a big firm such as Collex wins a contract offshore, a lot of that employment will go to local people. My focus is on that part of this industry sector involving instrumentation and monitoring products and small-scale technologies that can actually be marketed and promoted overseas to generate a return to Australia and provide ongoing and slowly growing employment in the sector. The focus is on providing a sustainable base of employment.

**CHAIR**—Serviced out of Australia, rather than just—

**Mr Bergman**—A quick example would be a firm that maybe had five or six people a few years ago and now has 20 or 30. Manufacturing is the key area that I would be looking at. There are lots of SMEs right across Australia manufacturing products which have a permanent supply overseas because we have a reasonably competitive dollar and because of our very high quality. Our manufacturing sector is recognised around the world as being of very high quality. Our products can compete with German technology, because they are at least as good and they are about one-third of the price.

Although it might sound like a small part of the environment sector, if we are not going to be caught up with the scale of the sector and get lost in it, we need to focus on that particular part of the sector—small-scale manufacturing, which may be only 10 or 20 per cent—and carve out a few initiatives to help that sector. We take those companies offshore to environmental shows in Germany. We are also looking at going to Poland and other places like that. They are the firms that are small and dynamic enough to be able to take advantage of it. If they can get their export markets going, then they have to pick up employment back in Australia. You might be talking three or four people per firm, which sounds like small beer, but there are a heck of a lot of those firms out there. This industry has hundreds of these SMEs in it.

**CHAIR**—In terms of the collaboration that you are talking about, and your work sat alongside ISONET and others doing similar things in that area, is there a pathway to bring all that effort together so that we overcome some of the fragmentation both in the information supply and marketplace contact role that you and ISONET and even the City of Melbourne's environment register play?

**Mr Bergman**—And EnviroNET.

**CHAIR**—There is a bunch of them.

**Mr Bergman**—I think you have hit on the point. We do need more focus. Perhaps the Barton Group will look to their outcomes. It does need more of a focal point. Obviously, we are trying

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to help provide that by providing a cohesive package of such information systems as our directories, together with activities such as marketing offshore. Yes, it is about trying to get a bit more cohesion there.

**Mr KERR**—One of the issues that you raise is commercialisation. I have sat on previous inquiries where people have said that there is a 10-scale system. If you develop an idea, it costs \$1 to get to that first stage; to the next stage of prototype, you have a factor of \$10 again; and then to the first step of commercialisation there is another factor of \$10. So you have a cost jump-up of at least \$100 to the first opportunity to put a product to market.

You identify one of the weaknesses as being the business management side. Has there ever been any thought given to trying to develop a public good provision of expertise in the management of small to medium enterprises? Certainly there are people in the venture capital private sector who will, for a slice of your business, come in and take it over and run it for you or share it with you, with various different pricing mechanisms. Has anyone really tried to develop a key centre or a process of trying to do the things we do not do well? Every inquiry I go to, everyone says, 'We are full of ideas. We have great entrepreneurship in innovation, but we are not very good at commercialising it.' Yet we put no effort, in a public sense, into training, enhancing or facilitating that particular defect that we always identify.

**Mr Bergman**—The reality is that there is a lot of effort made, but it is all over the place. There are an enormous number of efforts made by government particularly, because everyone else is just focused on—

**Mr KERR**—Their own patch.

**Mr Bergman**—Yes; their own patch. It would be difficult to try to have government support for a general thing like the business angels that come in: it is just too vague. You just have to rely on the fairly commercially focused groups. For example, I had a coffee meeting this morning with Peter Fritz from the TPG group. That is a commercially focused group that works very hard to help companies to commercialise their technologies—for a fairly substantial slice of the action. You cannot get away from that.

**CHAIR**—This is a question that comes out of your comments about drivers for demand out of Europe and the like. Is it your sense that insufficient rigour around pricing pollution and market signals around the cost of natural system degradation could play a role in encouraging the take-up of your technology? Do you have any views about whether we need to do some work in that area or not?

**Mr Bergman**—Could you explain that a bit more?

**CHAIR**—If there is no downside to your polluting the water, you are not likely to spend money on water rehab and cleaning technology. Is that something that is coming through as a concern amongst your membership?

**Mr Bergman**—I do not think so, because it is a fact that all that legislation is happening. It is happening in the developed world but it is also coming in in Asia. I see that as a major driver. As I say, I speak to companies at these events that say, 'We are really under the hammer here.' Germany is a great example. So that is the main driver, and it is definitely happening.

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**CHAIR**—Domestically, are our policy settings complementary to those?

**Mr Bergman**—Yes.

**CHAIR**—So there is no lost opportunity there, in your eyes?

**Mr Bergman**—No.

**CHAIR**—This is a cluster of questions around the same theme. With regard to environmental accounting and asset degradation around natural systems, are there any issues there?

**Mr Bergman**—I am probably not qualified to comment on that. I know that Bill Leane, who is one of your witnesses next week, is highly qualified in that area. I am far more involved in the technology area.

**CHAIR**—Information available to the marketplace, SRI and issues of that kind also carry over to who gets into your directory. I could front up saying, ‘I am the bee’s knees in environmentally responsible public advocacy. Put me in your directory.’ What filters do you have to validate the bona fides of people on your directory?

**Mr Bergman**—That has been an issue that we have grappled with for many years. We cannot do much, other than take a fairly careful view about it. We have basic filters. The point is that, if somebody is promoting a technology, we simply act as a conduit to that, and that technology or system has to stand or fall because it is very variable.

**CHAIR**—Buyer beware.

**Mr Bergman**—You can get a technology that works one minute and does not in a situation that is slightly different.

**Mr Arnold**—The expertise required for in-depth evaluation of individual products and individual companies, as well as the validation or giving a tick of approval, is a whole new ballgame.

**CHAIR**—An area you think you should work on?

**Mr KERR**—Are you requiring ISO14000 series, or anything of that type?

**Mr Bergman**—No; we are not too involved with that. But in that area, I know the industry department has done an enormous amount of work on environmental technology verification. There are systems operating all around the world, and at one stage a few years ago we were wondering whether we should bring a system like that into Australia.

**CHAIR**—Any closing remarks?

**Mr Bergman**—Yes, I would like to make a few closing remarks. Probably the challenge for you is that the environment industry is very, very large. It is a bit like trying to hold onto water. Wherever you go, it is very hard to get a focus. If I were to focus very carefully on what you are

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trying to achieve—you are looking at employment in the environment sector—I would say that in the environment sector technology is, in certain areas and ways, reducing employment. The introduction of kerbside recycling has generated employment but, at the same time, we do not need three garbos any more. We have one guy with one truck going around.

The focus is employment in the environment sector, in the area where Australia really does well—and that is in the manufacturing sector. So you can say that within the environment sector there is a component part, which is manufacturing. We have very high standards. Australian manufactured technology is well regarded around the world. If we can increase exports, that will then strengthen those companies and create more employment for skilled people. We are saying that we have to generate increased employment of skilled people in the environment sector. That is what the focal point should be.

**CHAIR**—Thanks, Mr Bergman. Do you have any closing remarks, Mr Arnold?

**Mr Arnold**—The only comment I would make is that we are talking about value added manufacturing—

**CHAIR**—Telemetry and instrumentation.

**Mr Arnold**—rather than straight heavy industry.

**CHAIR**—On behalf of the committee, I thank Mr Bergman and Mr Arnold from the Environment Technology Information Centre. If you have any further comments that arise out of our conversation today and that you would like to feed in, I encourage you to do so.

Resolved (on motion by **Mr Kerr**):

That the committee authorises publication of the proof transcript of the evidence given before it at public hearing this day.

**Committee adjourned at 12.07 p.m.**