End-Use Demand-Side Response

Bill Heaps - Session Chair
Transcript

Back to Contents

It was quite interesting, I was looking next door at the size of the audience there compared with the size of the audience in here. It is pretty typical. The other one is about resources and future supply and generally about fossil fuels, I don't know where we are going to get them from. And that is typical of what is going on around the world. There is a bandwagon going on, and it is not a green band wagon at all. You look at every one of the continents and there is another rush to fossil fuel - huge amounts of growth. I was in Beijing a few weeks ago and they are talking about 16% growth, year on year. And they are meeting that with coal-fired power stations and a mixture of hydro in the Three Gorges project. Their electricity demand is growing 10% per year.

The transport demand in China is absolutely massive because they are all getting off their bikes and getting into cars.

Vietnam is a little bit better because they still have bikes. They are talking about over the next 5 - 10 years, installing another 12,000 MW of generation. When you think that our present peak capacity is 6,000 MW, over that time they are going to install twice what we have at the moment. Relative to the world, Vietnam is only a small country, 80 million population at the moment using the same amount of electricity as our three and a half million.

You look around for leadership. In Europe the energy demand is increasing. You look in the US, maybe, for leadership. Supposedly it is the world's most advanced country? The US national energy policy, a very interesting document, can be pulled down from the website. You can see the bandwagon. The policy statement is very similar to ours. There is a bit of lip-service paid to demand-side response, but it is how can we get energy to cover our future growing needs for energy. The US solution of course is to interconnect with Canada to get their hands on Canadian hydro, and also to interconnect with Mexico to see if they can get Mexican gas and oil reserves there.

It is looking as if they may interconnect down to South America. That is a great solution if you are running out of energy or thinking that you might do.

Europe is doing the same, massive interconnection of electrical and gas systems going on right around the world. We are building the biggest machines now that humanity has ever produced. The US electrical network is now connected right across the USA. We are building continental-sized machines. Across the US, as the sun rises in the east all the eastern sea-board cities start to fire up - Philadelphia, Washington, New York, etc. There is a suck of energy and they even feel that in California. As the sun moves across the continent the whole energy tide drifts and moves. You see that whole system operating

as one. It is quite a new phenomenon, a new way to engineer networks. Of course they are more interconnected to Canada and right down into Mexico.

The same is happening in Europe. You can now generate energy in Spain and sell it in Poland. It is quite incredible - huge chains. That is a great solution, when you are part of the continent, you can connect with your neighbour. New Zealand can't do that, not even in our wildest dreams. Maybe at the end of this millennium we may have a cable across to Australia, but we are not going to get one in the near future.

We can't really connect to anybody, we are on our own, unless we import oil and LNG. So we have to find a solution. A lot of talk at the moment is of Maui depleting, which is why a lot of people have moved into the other room - what are we going to do to get our hands on the next bit of fossil fuel.

So, exactly the same is going on in the US, and in Europe. It is going to happen across Asia - China is interconnecting with Russia - how can we get our hands on Siberian energy and bring it down to Beijing. It is a bandwagon, but one that I don't think we really need to get onto. I think that New Zealand has got a unique challenge because we are so distant from all those other energy resources we can't connect. We have to find our own solutions. And really, we have to find the solutions first, before everybody else. When we celebrated the millennium in 2000 we tended to celebrate the achievements of the previous millennium. We celebrated that we don't live in castles any more, we live in houses. We don't have wakas, we have super-tankers. We don't have horses any more, some of us have Porsches. Those were the sort of things we celebrated, the achievements.

We didn't look forward too much because it is very difficult to look forward a thousand years. If you look forward a hundred years you will see that we will not be using fossil fuels, they will be very, very limited. We are really in the stone age in terms of energy use.

I will predict that in the next hundred years, as you walk along the shopping mall, walking across the floor, there are huge amounts of free energy from that, all around the world. If you look at it in cities, just the actual movements of people, the movement of cars. And what do we do, we get fossil fuels, we burn it and turn it into motion. From that motion we create electricity. We don't actually need the fossil fuel bit, there are huge amounts of motion going on around the world. If we could just pick up, pirate some of that energy, I think that will give you an idea of what we can do in the future.

There is huge amounts of free energy and one of the greatest sources of course is to use energy more carefully, more efficiently. That is what this session is about. It is about challenges, looking out, not looking at tomorrow, not really looking at the problems of the past. This session has got to find some solutions. We need to pull those out of your minds. We have got to find some solutions looking out another twenty years. What is this country going to do from the demand-side perspective? How are we going to use energy more efficiently? What sort of environment do we need to create, to make that

happen? I think it is very important, it is the most exciting part of energy. We are not discovering new fossil fuel sources, that is stone age. What we have to do is new age thinking and work out how we can better use the energy resources that are available to us. That is the challenge today.

Back to Contents

===