



PARLIAMENT OF WESTERN AUSTRALIA

INAUGURAL SPEECH



Hon Paul Llewellyn MLC
(Member for South West)

Address-in-Reply Debate

Legislative Council

Wednesday, 25 May 2005

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ADDRESS-IN-REPLY

Motion

HON PAUL LLEWELLYN (South West) [3.18 pm]: I address this chamber for the first time. However, the year is not 2005. In fact, the year is 2055. It is the forty-ninth Western Australian Parliament. That is just 50 years from now.

VISION FOR A SUSTAINABLE FUTURE

Members, please imagine that this house is being addressed not by me, but by one of your great-grandchildren, probably via virtual telecommunication conferencing technology. By 2055 the population of the South West Region that I represent has trebled to more than 800 000, while the population of Perth has decreased significantly. World oil prices skyrocketed in the first decade of the century, and that has driven extraordinary investment in energy-efficient technologies, with more efficient cars, more efficient appliances and more efficient industrial processes. Imagine it.

Economy

As the transport costs have increased, there is a trend towards the re-localisation of population centres, industry and agriculture. An explosion of new technologies, innovation and adaptation, combined with forward-thinking government policy, has drought-proofed the Western Australian economy from global energy shortages. All the major centres throughout the South West Region - Northam, Bunbury, Margaret River, Narrogin, Pemberton and Walpole - have been linked by high-speed electrified rail networks. Those centres are well-serviced and compact urban areas, with light rail and public transport systems. Fuel cell electric powered vehicles have replaced the "infernal" combustion motors of the last century. Cities have become clean, safe, quiet and people-friendly places in which to live and work. Imagine that.

Industry

Agroforestry, integrated with water catchment management, has revitalised rural communities and secured regional water supplies. I am talking about 50 years from now. The south west has become a largely self-reliant agricultural region. Western Australia is exporting bio-safe chemical-free agricultural produce as a

result of an extensive program of research and development into clean and safe organic agricultural systems introduced by Hon Kim Chance early in the new century.

Hon Kim Chance: Hear, hear!

Hon PAUL LLEWELLYN: The South West Region's renowned native forests and extraordinary biodiversity - which has been protected by conservationists - has become the basis of an internationally recognised tourism industry based on sail and solar powered ocean liner technology. Timber is sourced exclusively from farm forestry programs.

Renewable Energy and Energy Efficiency

Cities, towns and many households actually produce their own power, process their own sewage locally and supply their own water on site. Power transmission lines, and massive sewerage and water reticulation infrastructure, all of which were showing signs of disintegration early in the century, are now almost entirely a thing of the past as households and regions become more self-reliant. Western Australia has regained world leadership in solar power technology after the silicon smelter near Bunbury, which produced nearly one-fifth of the world's high-grade silicon in the first decade of the century, was converted into a centre of excellence for renewable energy technology. Western Australia in 2055 is now producing one-fifth of the world's photovoltaic electricity, rather than one-fifth of the world's silicon.

The Western Australian ministry of energy and resource efficiency, fondly known by friends as MERee, was established following the 2005 commonwealth Productivity Commission inquiry into energy efficiency, and following a major oil price hike just a few years later as world oil production peaked. Western Australia has been weaned off its economic dependence on mineral and energy exports to become a more self-reliant, balanced and robust economy. The energy-guzzling alumina industry in the south west has died a natural death as international carbon trading for greenhouse gas emissions bit hard into the Western Australian economy, which had become one of the world's worst greenhouse gas polluters. Aluminium and even steel were replaced by the superior carbon fibre technology by 2030. Composite materials have come into their own.

The state's zero waste policy, which targeted recycling and resource efficiency through investment, research and innovation, achieved its goal of zero waste by about 2035.

I now come back to the thirty-seventh Parliament. Mr President and fellow members, I look forward to our working together to expand this vision over the coming four years as we deal with the power, water and energy crises this state is facing. My central contention is that the technology to build a clean, safe and smart economy is already with us. However, it will take intention and not just hope to realise the vision of ecologically sustainable development.

Energy Use to Date

We now need to take a journey back in time. In 1891 the Legislative Assembly, which was located not in this building but on St Georges Terrace, was lit by electric power for the first time. That power was supplied by the WA Electric Light Co, a private company. The lights were dim and flickered and faded, but they were a powerful symbol of modernity. Today, barely 100 years later, we have Internet, extranet and wireless connection to the World Wide Web, our words are recorded and processed, and video images can be beamed into the houses of people in our electorates. From the time the Legislative Assembly chamber was first lit by electric light until now, there has been a technological revolution in almost every area of life. The rate of change is getting faster and faster.

Electric power in the state of Western Australia has remained a creature of the steam age. It has been frozen in time. We still choose to burn fossil fuels, preferably coal, to boil water, produce steam and turn

shafts to generate electricity that is transmitted along long, thin wires on power poles to appliances in homes hundreds of kilometres away. One could not think of a worse system.

Renewable Alternatives

Electricity has become an essential service. We can hardly imagine a modern world without electricity. As a matter of fact, although power is still generated from coal, gas and steam, there has been a revolution in power generation technology. However, that has not taken off in Western Australia. Solar panels can now be put on a person's roof and be plugged directly into the household electricity network, pumping power back into the grid. Just 12 modern wind turbines located at Albany on the south coast produce the equivalent of 75 per cent of that city's electrical power. I implore members and Mr President to go and look at that if they have not already done so. Some modern industrial economies in Europe are now getting 20 per cent of their power generation from clean, safe electrical energy.

Current Issues - Infrastructure, Supply and Demand

Western Australia is suffering from an electrical infrastructure crisis. To understand how we can remedy that crisis, we need to understand how our electricity system was built and how we got to the point at which hundreds of kilometres of fragile powerlines are delivering power in this state. In the 1900s many small privately-owned or local-government run power generators were dotted throughout the regions. They were set up suburb by suburb and town by town, in places like Claremont, East Perth, Fremantle, Northam, Bunbury, Collie and Albany. Isolated local networks were running the streetlights, the local iceworks and a few small factories. The power was unreliable and of poor quality, but hell, it was modern and convenient.

As time went by, we got bolder and bigger power plants and turbines and longer wires. There were more consumers and more appliances. There were even electric trams. After the war, the big state takeover happened in earnest. Suburb by suburb, town by town, local generation networks were taken over and connected to the state grid. That consisted of main power stations with long, thin wires. It can be seen what was in the making. In 1951 Harvey, Waroona and Mandurah joined the grid. In 1964 it was Narrogin, Kendenup, Kojonup, Brookton and Pingelly. Fridges, washing machines and lights were being used by everyone. Reliability and quality of supply was only just good enough. When the power went down, the Simpson washing machine just went a bit slower! That was okay.

By the 1970s we all had two fridges, televisions, automatic washing machines and dishwashers. There were big industrial expansion plans and the power system was reasonably stable because all the poles and wires were relatively new. We then come to the 1990s to 2005. Enter personal computers, laptops, airconditioning, heaters, coolers, three televisions, two fridges, king-size freezers, computer games, EFTPOS, security systems, videos and VCRs, all of which are highly sensitive to power quality. That creates a problem. Let us look at that. They all demand high-quality power supply. That is the case even in the bush where it might be expected that people could get by with a little less power.

The features of the system are giant-size generators located hundreds of kilometres away that supply highly sensitive micro loads through long wires - wires that have reached their use-by date. It is an infrastructure nightmare in the making. Cascading system-wide failures become common. The system is unstable, inflexible and brittle with little room to move. When one major generator goes down, the system cascades and there are major failures. There is a collision of the public interest and environmental and occupational health and safety.

There are a lot of unsatisfied customers out there and they vote. We are charged with making the decision about how to remedy that situation. The solution on offer from our utilities is more of the same - another coal-fired power station, please, more transmission lines and more energy-guzzling industries. At the same

time we are experiencing climate changes that bring the state to a standstill. They include record hot days, record rainfall events and even tornadoes. I wonder what that is related to? Could it possibly be climate? That is not to mention failed water pipes that bring the entire city to a halt. There are infrastructure problems, but they are all part of the same problem. When will we learn that when we are in a hole, we should stop digging? When will we learn that when the temperature gauge in the car gets into the red, we should stop the car to work out the problem? I tried that one day coming back from Manjimup. The gauge was in the red and I put my foot down because I thought it would help. It did not.

Planning for Future Energy Requirements - New Technology, Decentralisation and Community Participation

There is another way we can resolve this infrastructure crisis. We need to go back to the future. We should look at the way our infrastructure was developed from small-scale generators that were located within local networks. If we do, we can start reconstructing the infrastructure from the outside by using modern, efficient power-generating technology. We can build the infrastructure to what it was. We have to locate the generation and the control at the local level, where it all started.

This was what I was up to in my former life before being elected to this house. Using four modern turbines, we aimed to inject power into the local grid to meet all the electricity needs of the township of Denmark and the surrounding district. By locating the generator at the extremity of the grid, we would be able to reinforce it. Not only that, the wind farm was to be community owned and driven. The economic benefits of generating that power were to go straight back to the local community. It was in the public interest.

One of the great energy experts of our time, Amory Lovins, in a recent book titled *Small is Profitable - The Hidden Economic Benefits of Making Electrical Resources the Right Size* states that there are three critical ingredients to electrical power planning. The first is an understanding of the technology. We need to become energy literate at this time. We need to understand markets and the role of markets and equity and fairness in those markets. There is also a need for good government and policies. All those factors must act in the public interest.

There is a technological revolution in power generation that is no different from what has happened in telecommunications. The mobile telephone I am holding has no wires. Renewable energy technology will do to the power generation industry what laptop computers and memory sticks have done to the information technology industry. The device I am holding is a memory stick. It contains the entire library of this place. It uses smart technology that will be able to replace some of the steam-age technology that we are using. That is the upshot.

I advise members of a small device called a micro gas turbine. It is a good device. When electricity is generated, most of what is produced is waste heat with only a small amount of electricity. Honda and Osaka Gas in Japan have invented a micro gas turbine that is the size of a domestic gas heater. Picture coming home on one of those days in the dead of winter. Everyone switches on their television, lights, heaters and reverse cycle airconditioners. The power demand peaks and an infrastructure crisis begins as the system becomes unstable.

That would not happen to us. When we get home we would turn on our gas turbine, which has an electrical cord that is connected to the electrical harness of the house. It used to drive a fan, but now the micro gas turbine sends one kilowatt of electricity back into the grid at the very time when the grid is at its most vulnerable. Fifty thousand such devices could produce 50 megawatts of power back into the grid. There is no market for that type of technology. The only thing on the agenda is large-scale, coal-fired and gas turbines.

We need to transform the market structures of this economy so that we can bring on line technology that is intelligent and powerful; technology that is equivalent to mobile phones and memory sticks. Fifty thousand

turbines on line create 50 megawatts of power. If even 10 per cent of them are not working, only five megawatts of power would not be on line. If one of our gas turbines or coal-fired turbines goes down, the system goes into a state of shock. We should decentralise power generation and control systems. The domestic gas turbines would have an intelligent switch that can be switched on by the substation. Of course, it can be turned off if need be, but it can be brought on line on demand. That kind of infrastructure design is highly intelligent and of the technological world that we live in, not of the steam age.

This is the way forward - small, profitable and in the public interest. It is inherently more democratic. The community directly participates in its own power generation and we resolve the infrastructure crises that we are having right now - just like rainwater tanks contribute somewhat to our water supply now.

CONCLUSION

I will be working in this house to promote energy and resource efficiency like this; to remove the barriers to these technologies, which are clean, safe and in job-rich industries; to promote government leadership, mandated power procurement policies - are Hon Kim Chance and others listening?

Hon Kim Chance: I am taking notes.

Hon PAUL LLEWELLYN: I refer to power procurement by government departments of some or all of their electricity from clean, safe, renewable technologies. I will be working to ensure that markets are fair and equitable and that these efficient technologies get a fair go. I will be working to achieve feed-in laws for renewable energy so that the barriers we are experiencing now in Denmark and other places are taken away and that that technology can find its place where it belongs now, not in the past, not with steam-age technology.

Mr President, members and friends, I look forward to working together with you to unleash the full potential of sustainable technologies so that we can build a safe, secure and sustainable future for our state.

I have to thank all members but I must also thank some other people.

Family

I thank my mum, Dulcie Elizabeth Obery, and my dad, Gerald Vincent Llewellyn, who were in South Africa in the 1950s, in love across racial boundaries in the midst of the apartheid regime. They fled to Australia 20 years later, having feared for their lives, for a new life. I have had that new life and I have had the education. I am profoundly indebted for the steady, tolerant and generous nature of my mum and dad. I am indebted to this country for providing me with those opportunities. It is my turn to repay and to return that generosity. Pamela Rumble, my partner and friend, is responsible for my being here. If members have any complaints, Pamela Rumble lives in Denmark - call her! She is the brains trust and she is steady, so I will have a lot of support. My son, Tsepo, and my daughter, Manda, have put up with having a greenie for a dad.

The Greens

I need to thank the previous members of the Greens (WA), the people who were in this house, and I will do it in the order in which I met them when I first came to Australia. Hon Dee Margetts I met at Curtin University of Technology around 1972. We went to school together. She is an extraordinary person, who has taken an extraordinary leadership in the whole of Australia as a senator and led the antinuclear movement for quite a period of time. She has made a great contribution to the Agricultural Region of this state. Hon Giz Watson is my partner in crime, and will continue to be so. Since Murdoch University in 1975, we have travelled a few miles together; so look out; we are organised. Hon Christine Sharp made her first dashing entry into the campus of Murdoch University in 1975 as the first PhD student - looking at what? She was looking at the politics of the forestry industry. She has achieved an extraordinary amount in the past 35 years or however long it is. I am very grateful to have been associated with Hon Christine

Sharp. I will come back to her, as a matter of fact. Hon Jim Scott and Hon Robin Chapple were early Greens members, forerunners and extremely hardworking people. I am very proud to be following them in this house. However, the last word is really for Hon Christine Sharp, from whom I will take over representing the South West Region in this house, and her partner, Andrew Thamo, and their family, Tosh and Lara, who have had to put up with their mum being a greenie. I wish them all the very best in their future lives. I take on the challenge of representing the South West Region and all of its magnificent forests, rivers and flowers, knowing that Hon Christine Sharp has laid a solid foundation.

[Applause.]
