

## **Cuban Energy Expert Visits Australia**

I have been most fortunate to host energy expert Prof Mario Arrastia Avila. Last night I attended his lecture and was very impressed with Cuba's attitude to alternative energy, energy efficiency and reducing energy use.

This should not have surprised me having spent time in Cuba ten years ago. Education and food production was seen as the first target of the revolution fifty years ago. They then targeted improving health, followed by electrification then improving access to water. Cuba prioritizes and then works to solve issues with creativity and resourcefulness that is, I believe, unprecedented in the world today. The Blockade by the US Government against Cuba should have destroyed this small island nation, but instead it galvanized the country to remain independent and overcome all obstacles. Then there have also been the huge natural disasters caused by hurricanes that have sorely tested their resilience.

Producing enough energy for the country has always been a problem as the Blockade, especially with the collapse of the Soviet Union, has meant access to affordable oil and gas has not been available. Many of their white goods like fridges, washing machines and electric fans were inefficient. Their power plants were centralized and susceptible to hurricanes and overload at peak periods.

They tackled these issues with a national program called The Energy Revolution of Cuba launched in 2005. Firstly, they would educate people as to what the problem was and how they intended to solve it. Television and radio around the country daily airs advertisements and round table discussions, newspapers regularly print articles that can occupy the whole page and neighborhoods host information forums. As any teacher knows, you can not give a message once and expect it to be learnt. For learning to occur you need to repeat and repeat the information. You can not rely on everyone watching or reading an advertisement or hearing a discussion that happens once. You have to constantly reach out to people and keep the discussion alive.

Firstly, years before we did it in Australia, Cuba replaced all their incandescent light bulbs with compact fluorescent lamps. This was a voluntary scheme. They then worked on old fridges and fans (similarly with a voluntary scheme). The fridges were safely degassed and then sent to recycling plants. To encourage people to reduce energy consumption the bills are price stepped. There was also a scheme to assist people to buy hot plates and rice cookers as 85% of cooking used kerosene which is bad for people's health and the environment.

As to their power plants, they began decentralization and building ones that could withstand hurricanes by changing their shape and size. French windmills were used that fold in on themselves to withstand hurricanes. Then there is the huge push to photo voltaic and evacuated tubes for hot water heating. They are investigating what non edible plants might produce bio fuel. They do not support using edible plants for fuel when so many countries do not have sufficient food supplies.

They now use more electricity than ten years ago, but produce less greenhouse gas per gig watt hour produced.

Even though Cuba was suffering an energy shortage in 1990's they never failed the environment. The government developed a plan to produce a hydro electric plant in the Guantanamo region, but when scientists and the community pointed out that the area was environmentally significant they changed their minds as they believed the environment was unique and it had to come first.

Cuba has never been interested in keeping their information or talents to themselves. They have taught people to read and educated doctors from all over the world. Now we have their environmental educator Professor Avila spreading the word on energy efficiency and renewable resources. In April 2012 Santiago de Cuba is hosting an international environment conference.

Greens Councillor for Canterbury City, Linda Eisler