

Renewable Energy a must for Australia

There is an urgent need to address the global dependency on fossil energies in order to avoid the biggest crises of modern civilisation - global warming. Unfortunately, our society totally depends on fossil energy for survival. The production of food, from farm machinery to fertilizers, relies on fossil fuels as does the manufacturing, mining and transport sectors. All our plastics, computers, medical equipment, even many drugs and medicines are made using fossil fuels.

The current fossil energy system dominates the world economy, specifically the energy supply chain. This system is not sustainable and its future is limited for two reasons. Firstly, it attacks the existence of mankind through the unabated release of Carbon Dioxide (CO₂) which will make the world less liveable. Secondly, fossil and nuclear fuels, which are the primary basis of the current energy system, will run out. In Australia we have enough coal to supply our own need for only a few hundred years at best. But because the fossil and nuclear energy systems are global systems, our increasing exports will guarantee a much shorter lifespan.

Due to massive traffic and population increases around the world, specifically in China and India, energy consumption in the second half of the last century was two times more than consumption in the history of civilisation. And this process is accelerating.

Although we are aware of the effects of a world climate crisis and its effect on the environment and despite 15 years of world climate conferences, fossil energy consumption has increased by 50 per cent. This trend has to be stopped. An urgent need exists to introduce drastic changes to world energy consumption. We are still waiting for someone on the global political scene to step out of current system and leap into a sustainable, forward-looking energy system.

This task should fall on Australia. It would be much easier to show the viability of a renewable energy system here than anywhere else in the world. The continent of Australia has a very large area and a low population density. The sun radiation is more than twice as much as in Germany and wind conditions at the coast are perfect. Accordingly, the potential for renewable energy is huge.

Sixty years ago the United States was independent from any energy importations. Now they have an energy dependency of about sixty per cent. Even worse, Germany already has an energy dependency of about eighty per cent and Japan has an energy dependency from importations of ninety four per cent.

From day to day forty thousand new cars hit Chinese roads and the number of private cars according to current trends will rise from two million today to more than 200 million in 2020. Nobody has figured out where all the oil for these cars will come from.

If the inexhaustible appetite for fossil fuels continues the world can expect brutal conflicts over energy resources to arise. The time of "energy war" has begun. The Gulf war in 1991, or the Iraq war are examples of this reality.

Currently 150 billion dollars out of the 450 billion dollars military budget of the United States is spent on policing oil producing nations, excluding the cost of the unfinished Iraq war. This



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breaks down to an average of more than 200 dollars of military spending on each barrel of oil that is delivered out of those regions to the USA.

60 per cent of oil production comes from 40 giant fields. 30 of these 40 giant fields are located in the region of Islamic states from central Asia to the Middle East. The Mediterranean Sea is guarded day and night by ten thousand soldiers to protect a new oil pipeline which could be subject to terror attacks.

Even without these conflicts the prices of energy will go up. More and more countries will not be able afford to import coal and oil as it costs more money each year to power the nation than the nation earns. We already have 40 countries, mostly in the developed world, which have to pay more for their imports of oil than their total exporting capacity. Consequently they do not have a chance to grow based on these sources of energy.

In the face of these dire predictions, many leaders still think replacing foreign fossil fuel and nuclear energy with domestic renewable energy is too great an economic burden. They still look for "cheaper" options like nuclear power.

The nuclear question is special because it touches on different problems than the fossil one. Nuclear power does not create the same CO₂ and greenhouse gas problems as fossil fuels, but the nuclear option can never become economically sustainable. The argument that nuclear energy is cheaper than renewable energy is simply untrue. More than one trillion dollars has been spent to subsidise nuclear energy research and development in the last fifty years. That is fifty times what has ever been spent on the promotion of renewable energies. Even the simplest economic comparison shows that all logic and reason speak for renewable energies. Also, the environmental costs are simply too high. An energy option which creates nuclear wastes that linger for thousand of years out of discussion because the legacy passed onto future generations is simply too high

Renewable energies are the best way of reducing greenhouse gases. It is an urgent need and a race against the time. We have to introduce renewable energies on a world- wide scale in the next fifty years. This is the biggest challenge civilisation has ever faced, and we have five decades in which to do it. This is beyond an initiation stage. There needs to be complete implementation. We are in a race against time and much time was wasted in the last four decades. We cannot postpone this shift in paradigm any longer.

There are three main differences between a conventional energy system and a renewable one.

1) On the one hand there is the exhaustible and polluting energy system. On the other there is a renewable system with inexhaustible resources. The sun is capable of providing all our energy needs for another five billion years.

2) Furthermore, this renewable energy is free of pollution.

3) The third difference is a structural one. Whereas energy is consumed all around the globe, the mining and extraction of coal, oil, gas and uranium goes on in a tiny number of remote locations. While the current energy system dominates, there will always be vast distances between the few sources of energy to the billions of customers. Ships, trucks, refineries, and so on, form a long and complicated chain of energy. This energy chain sometimes consists of fifteen to twenty-five elements. Every element is linked. To ensure a steady energy flow, no interruptions are allowed. Even worse, every element is a cashier station. This chain of industry is why there is such a reluctance to let go of the fossil energy system. There is a huge vested interest in businesses that makes money from this process to continue.



In contrast there is the opportunity of renewable energies. Their sources are provided everywhere and cost nothing. To harness wind power or solar radiation, no extraction, no mining, no shipping or pipelines are required, and the adequate infrastructure exists in many countries. In addition, a number of studies conducted in France, the USA, Germany and Japan back up the thesis that a complete energy shift to one hundred per cent renewable energies is viable. So far, however, many people successfully ignore these studies.

Constant arguments are made in support of conventional energy systems. However, most of these arguments are superficial, even when they are put forward by energy experts. Most of these experts are educated by the conventional energy industry and they represent a very specific energy paradigm. With this way of thinking many people have difficulty considering the possibility of a new energy paradigm based on renewable energies.

If we do it right and introduce a new energy system based on renewable energies, the old fossil and atomic systems cannot be maintained.

The only group in the society interested in maintaining the status quo and postponing investment in renewable energies are the large fossil energy companies. However they can only maintain this stance so long as society allows it.

A decoupling of the idea of energy consumption from the idea of energy extraction and mining and the large scale introduction of renewable energies will offer countries around the world the opportunity to link the spaces of energy consumption with the spaces of energy harvesting. The result of this development is energy independence.

By making this fundamental shift in the world economy will create a lot of winners in society by avoiding the environmental cost of the present energy system. We actually have a chance to overcome the negative environmental impact of the conventional energy system and empower communities to take their own energy responsibility seriously.

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