

Brian Leyland: The only way is full steam ahead

By Brian Leyland

5:30 AM Monday Feb 27, 2012

Any attempt to stop growth would have an unequal effect on the poor and retired, writes Bryan Leyland, a power industry consultant.

Like many people living comfortably in developed economies [John Peet is opposed to continued economic growth](#). Unlike John, I have worked extensively in Africa, Asia and the Pacific Islands so I have seen the misery and environmental damage resulting from poverty-stricken people doing their best to scratch a living.



The radiation limits for nuclear power stations could be raised by a factor of 200 without the slightest risk. Photo / Thinkstock

The steam engine freed us from manual labour and expensive and polluting horsepower, and drove the transformation that we have seen in the past 200 years.

As a result of the prosperity it has brought, people in developed countries live longer and are healthier than they have ever been in the past. Access to low-cost energy, engineering and technology have driven this transformation. We have progressed from eking out a living from subsistence agriculture to having plenty of time for recreation and relaxation and living better than a king of 300 years ago.

Sixty years ago, I have clear memories of Auckland being covered in a pall of smoke from chimney pots, railway engines, ferries and the coal-fired power station on Kings Wharf and of raw sewage spewing into the harbour. Since then technology has advanced and we are prosperous enough to afford to look after the environment. Economic growth has benefited us and the environment.

In our prosperous little world, it is all too easy to forget the billions of people who are still scratching a living from subsistence agriculture, suffering chronic illnesses and dying young from entirely preventable diseases. In these countries populations are growing rapidly. History shows us that as a population becomes more prosperous, the reproduction rate declines dramatically because people realise that they no longer need to have lots of children to ensure that a few will survive to support them in their old age.

A primary driver of the economic growth they need is access to affordable energy, electricity and communications. Energy frees people from the burden of manual labour and electricity frees them from the need to cut down forests for firewood. It also provides them with television and cellphones which are a major factor in lifting the economies of many developing countries.

Even in New Zealand, any attempt to stop the economy growing would have a disproportionate effect on the poor and those who have retired.

What we need is economic growth using the best available technology to ensure that goods are supplied at the lowest cost and that energy is used efficiently and wisely. This is what engineers do.

The best definition of an engineer is "someone who can do for 20 cents what any fool can do for a dollar". Another is "the art of directing the great forces of power in nature for the use and convenience of man".

It is widely believed that the world is running out of resources. In fact, we now have more resources available to us than ever before.

When the steam engine was first invented, people were worried that, quite soon, the world would run out of coal.

Now the world is known to have more coal than it is ever likely to use. Two or three years ago, the United States and the United Kingdom were expecting to import more and more gas. The shale gas revolution has turned this around. For the past 100 years, the reserves of oil have steadily increased. For the same 100 years people have been predicting the imminent arrival of "peak oil". They have been wrong every time. Even if oil did start to run out, the immense gas reserves in offshore "methane ice" could easily be turned into liquid fuels.

For electricity, nuclear power and, in particular, reactors burning thorium, promise us a virtually unlimited supply of electricity at a reasonable price.

And for those who believe it is too dangerous to contemplate, recent research into radiation exposure shows, quite clearly, that exposure to low levels of radiation is not harmful and may even give some immunity to cancer. The radiation limits for nuclear power stations could be raised by a factor of 200 without the slightest risk. It would reduce the cost of nuclear power and change the public perception of the danger of nuclear power.

In spite of all the predictions, the world is not running out of food. With the efficient use of irrigation, improved plants and reduction in the enormous wastage that occurs in developing countries, the world could easily feed a much larger population.

I believe that one of the biggest dangers facing the world is well-meaning people who believe that the world is running out of resources, that technology will no longer continue to make our lives better and better and that economic growth is incompatible with the environment. If these people carry the day, our grandchildren will suffer.

The best way of future proofing this country, and the world, is rational and efficient development of our resources to support the economic growth we need so we can continue to do our best for people and the environment. It will also advance the date when the world population stops growing.

By Brian Leyland