

Auckland University of Technology's comments on Low-emissions economy, draft report, New Zealand Productivity Commission

The **Auckland University of Technology (AUT)** is an outward-facing and engaged university, focused on student success, with strong links to industry, community and the global economy. The University has become a key contributor to higher education in New Zealand and, as such, an important factor in maintaining and building New Zealand's intellectual capital and national capability.

AUT now has 29,000 students comprising 20,000 EFTS (Equivalent Full-time Students) making it New Zealand's second largest university. With growing capacity and status, AUT is now ranked in the top 2% of universities in the world.

AUT appreciates the opportunity to comment on the draft report of the NZ Productivity Commission. We welcome the overall thrust of the very comprehensive document and specifically contained in it

- a low emissions strategy with a possible zero net emissions target by 2050,
- the establishment of a climate change commission,
- and the recommendations around afforestation.

In order to achieve the goals of the report, we are of the opinion a number of topics are missing and should therefore be added. They are:

1. The report talks uncritically about economic growth including productivity growth. While productivity growth is generally accepted as desirable, economic growth in a finite environment can be problematic. It is universally acknowledged, that we have exceeded the capacity of the planet to provide us with resources and to cope with our emissions. While our resources are finite on this planet, it is not an advisable concept to rely on unlimited growth. There exists also an unbroken trend in developed countries, that growth increases emissions.

In addition, GDP growth is not a good indicator of wellbeing and happiness of a nation, since it increases with every economic activity like building prisons and global warming related mitigations. Instead of growing in absolute terms, economic activities should strive to be more productive. This means industrial process should be more efficient and our goods and services should include more added value. Treasury's Living Standards Framework is partially based on this approach.

We recommend therefore a dialog about an economy that flourishes in a no growth environment and the development of strategies to be prosperous in such an environment. A reference document can be Tim Jackson, *Prosperity without Growth*, Earthscan, 2009.

2. A change to a low-emissions economy might be quite disruptive to the working population. From a number of trials around the world a universal basic income scheme seems to be beneficial in providing a certain income security and more freedom to choose different ways of employment including setting up a new business. We recommend a basic universal income trial in New Zealand in a confined area like Kaitaia or Kawerau, with the intention to extent it across the country, if it proofs to be successful.

3. Chapter 10, Land use, refers to reducing emissions by reallocating land use. In this process, we suggest to switch from high emitting agriculture with its related high water usage to more horticulture. A more plant and fruit based diet has not only the benefit of being less pollutant, it provides also additional health benefits in terms of rates of diabetes, heart disease, osteoporosis and cancers. According to epidemiological studies published in T.C. Campbell and T.M. Campbell, *The China Study*, BenBella Books, 2006, New Zealanders are unfortunately within the leading group of countries in the world for breast cancer, colon cancer and osteoporosis (graphs in the appendix). This seems to be correlated with our high consumption of meat and dairy products, while countries, where a more plant based diet is present, feature more positively in the statistics.
4. Chapter 10, Land use, refers also to afforestation. We recommend an industry development centred on the many logs to be harvested in the future. An industry, which processes these logs further within the country will increase the productivity overall. The residential construction industry can improve its productivity by a changeover to industrial style kit-set housings. With architectural and design input a flexible series of styles can be developed to serve the varying requirements of many. Instead of importing such houses from overseas, the industry can become an exporter. From a scientific point of view, logs ending up as houses count beneficial for the country's CO₂ emissions.
A further industry development should be in hemp. In some countries, including Australia, a medicinal hemp industry has been started and New Zealand should not miss this opportunity. Hemp as a seed and a fibre has also many applications in nutrition, textiles and building materials. Initial hemp trials have proven that it grows very well in the New Zealand climate with limited need for pesticides and herbicides.
5. Chapter 12, Electricity, is missing an important milestone. We recommend the country should be powered by 100% renewable electricity by 2030. Sustained progress towards this goal is a prerequisite for and is required to facilitate other goals of the draft report in transport and the processing industry. Only if the electricity comes from 100% renewable resources, electric cars and the conversion of coal fired processing plants to electricity will then not increase our emissions.
New Zealand, with its already high percentage of renewable energy generation is uniquely placed to be one of the first countries in the world to be powered 100% from renewable resources, with its added marketing advantage for exporters and tourism. We are also quite fortunate with our above average wind speeds (roaring forties) and relatively low latitude beneficial for sun irradiation.

As it is discussed in the draft report, the transition has to be affordable. We are recommending therefore the development of a smart electricity grid, where daytime renewable resources like solar and wind are offset by less usage of hydro and geothermal energy with little reliance on battery technology apart from electric cars. Again, New Zealand with its currently installed generation is in a comparatively fortunate position to other developed countries. The installation of private as well as commercial solar photovoltaic panels should be enabled by at least fair if not overcompensating feed-in tariffs.



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Appendix – Effect of dairy and meat based diet on health



