Does NZ do enough to promote clean technologies?

By Jonathan Lucas, Associate, James & Wells Intellectual Property – Oct 2010

Many overseas governments are rewarding innovation in clean, green technologies through the patent system. But is New Zealand keeping up?

It is difficult to find an area of society that the issue of climate change does not impact. Intellectual property is no exception. By offering fast-track opportunities in the patent system, many foreign governments are increasingly rewarding and promoting innovation in 'green' or 'clean' energy technologies (CETs) to help the fight against climate change. New Zealand prides itself on its "100% Pure" image, but it has work to do if it is to be a leader in clean technologies. While some "clean" energies such as biofuels are currently provided with government tax incentives, more can be done to encourage innovation using our natural resources at a base level.

Climate change drives technological innovation

The threat of climate change caused by anthropogenic interference has been in the public awareness for many years. The extent of humankind's likely influence on our planet's future climate is still the subject of hot debate, but the world's governments have decided that action needs to be taken.

A variety of measures to fight global warming have been introduced in different countries and many more are planned. These range from campaigns designed to increase public awareness of the issues, to political frameworks like the Kyoto Protocol that, at the time of writing, has been ratified by 192 countries including New Zealand.

The Kyoto Protocol, in common with similar agreements, essentially places constraints on the industrial activities of nations in terms of their impact on the environment. For example, targets are set for the reduction of greenhouse gas emissions. To be able to conform to these agreements while still satisfying the economic needs of the population (such as energy and food requirements), new methods and technologies are required.

Ester Boserup, a Danish economist, argued in the 1960s that population pressures determined agricultural methods. She believed increased demand for food would lead to advances in production. Her theory can be summarised as "necessity is the mother of invention". Analogously, it seems technological innovations have responded to the pressures of constraints placed on industry as a result of the threat of climate change. A recent study conducted by the European Patent Office, United Nations Environment Programme and the International Centre for Trade and Sustainable Development has shown that innovation in the clean energy sector has significantly increased in the last 20 years.

Trends in clean technologies

Patents serve as a convenient guide to assess technological trends. For example, since the Kyoto Protocol was adopted in 1997, the number of patent applications filed for inventions in certain CETs has increased annually by 20 per cent. The leading area for innovation seems to be solar photovoltaics, which has seen the most growth in terms of patent filings for CETs, with wind energy, carbon capture and biofuel technologies also having shown much activity. In contrast, the rate of patenting in fossil fuel technologies has remained generally constant, even slightly decreasing since 2001.

In terms of countries, Japan leads the way in terms of patenting activity for CETs with 4,672 accepted patents in this area between 1988 and 2007. The US and Germany follow with around 2,500 patents each, followed by Korea, France and the UK. In comparison, the study states that New Zealand has just 13 accepted CET patents in this date range, although this figure only relates to accepted patents filed in multiple countries.

Some quick research by the author shows that around 500 CET patent applications were filed in New Zealand in the same period, of which around 200 were granted as patents. The difference between these figures and the figure in the study (which relates to accepted patents filed in multiple countries) may indicate that much of the CET developed in New Zealand is not being commercialised overseas.

Fast-track patenting for clean technologies

Another measure taken by governments in the fight against global warming is to assist innovation in the clean energy sector through changes in practice at respective patent offices. In some countries, patent applications for CET inventions are given the option of prioritisation, cutting down the long waiting times endured by many applications. Canada is the latest country whose patent office has introduced such a system. The UK, the US, Australia, Japan, China and Korea also have similar programmes in place.

The idea is that by fast-tracking CET applications, investment in CETs is encouraged and commercialisation will be advanced, thus bringing forward their environmental benefits. Also, the commercial gains of the innovators of CETs may be realised sooner. This reward of innovation, which in turn encourages further innovation, is one of the important benefits of the patent system as a whole.

New Zealand is generally regarded as an environmentally friendly country and its clean, green image is cultivated carefully for the benefit of the tourism industry. However, in terms of technological innovation in the clean energy sector, we are lagging behind many other countries, even taking into account population differences.

So what has to change?

If we are to be competitive on the global CET stage, as a bare minimum the Intellectual Property Office of New Zealand (IPONZ) should follow the example of those countries listed above who have given the option of a fast-track process to CET patent applicants. It would not be suitable for all, and applicants should consult a patent attorney who can advise of the best course of action to suit their needs. But providing a fast-track option can only incentivise innovation in this area and sends out the right signals to support this country's image.

However, New Zealand should not be content with belatedly following the example of other countries less known for their environmental friendliness. If we are serious about being seen as a leader in green matters, we should be leading the way with new initiatives. In the interests of healthy debate we suggest the following as possibilities:

- Official fees could be reduced for patent applications relating to CET;

- Official fees for patent applications could be generally increased, with the proceeds being made available as grants to CET companies. IPONZ has had higher fees in the past, and most applicants were happy to pay reasonable official fees. Instead of IPONZ profits going into the general Government coffers, we suspect most applicants would be happy with a small fee increase in the knowledge this would be benefiting both New Zealand's economy and the environment;

- Following the example of USA and Canada, patent filing fees could operate on a two-tier basis, with increased fees for larger companies. Again the proceeds could be used to provide grants or incentives for the commercialisation of CET; and

- Patent applications relating to CET could be processed in a similar way to innovation patents in Australia. For example, the applications would be accepted without examination, allowing commercialisation of the technology to proceed faster. The patent would only be able to be enforced if an examination process is undertaken, and other parties would be able to request examination at any time. Such a system might well provide an incentive for businesses to locate research and development centres for CET in New Zealand.

By actively promoting the development and commercialisation of CETs and by providing suitable incentives New Zealand could become a haven for many green businesses to operate in. Our country has abundant natural resources and a relatively low population placing demand on those resources, which means we should be well placed to lead the way in innovation to satisfy energy and food requirements in an environmentally friendly way. There would be benefits to many aspects of the country's economy, including paying more than "me too" service to the "100% Pure" tourism brand.