

Innovator Peter Andrews sees future in the tropics

<http://www.theaustralian.com.au/higher-education/innovator-sees-future-in-the-tropics/story-e6frgcjx-1225710267667>

NEVER heard of the tropical economy? That may be because Queensland's chief scientist, Peter Andrews, quietly invented it a couple of years ago.

He had been appointed chairman of the standing committee of then premier Peter Beattie's reinvented Queensland, the Smart State, in 2004. There had been plenty of talk about the tropics and industries, and Australia's proximity to Asian markets. But it took Andrews and his team to crunch the detail of the CIA's The World Factbook and extract from it the concept of a climate-based economic zone, belted around the equator.

"It may exist elsewhere, I don't know," he says of the term. "But we searched for it and couldn't find it, so we did it ourselves."

Tropical Australia, spread across Queensland, the Northern Territory and Western Australia, is 45.8 per cent of the continent's area and tropical Queensland is 72 per cent of the state's area.

Andrews and his office collated gross domestic product growth statistics of the tropical nations and extrapolated the collective economy would be worth \$US40trillion by 2025. He argues Australia should be out for as big a slice as it can take of the benefits that may flow from that growth, emphasising that of this figure, 20 per cent will be in knowledge-intensive industries.

Hence the latest plan, announced a fortnight ago, to harness northern Australia's natural resources and brainpower, a collaboration called TropLinks, of which Andrews is chairman. The idea is to pull together researchers, business, industry groups, economic development organisations and governments to exploit the home-team advantage of being the developed country with what Andrews calls "the largest tropical footprint". "It's been a bit of a hobby horse of mine ever since the 1990s," Andrews says.

The tropics may have been a preoccupation for a decade or so, but his championing of innovation and of the imperative to commercialise goes way back. The son of an industrial chemist father and a microbiologist mother, Andrews's resolve "to do something useful with my education", although "not in a fancy way", was formed soon after he embarked on his chemistry degree at the University of Melbourne. It hardened as he progressed to his PhD on the pharmaceutical applications of quantum chemistry.

He went to the Australian National University's John Curtin School of Medical Research in the mid-1970s and established the first laboratory in the country conducting computer-

assisted drug design. In 1980 he became head of the Victorian College of Pharmacy and, while there, decided the time was right to try to create an opportunity.

It was all very well to cleverly design drugs, "but if you want to finish up making them available to people you need to do that next stage of getting them into development", he says. "In 1984 I organised a meeting trying to find like-minded people. I called it 'Why doesn't Australia have a research-based pharmaceutical industry?'. About 100 people turned up and a group later came up with models for how to start a pharmaceutical company. I was involved in two or three of those efforts including Biota, which is the one that has survived."

Biota is in the news because it is the maker of the anti-flu drugs Relenza and Tamiflu, the first-line defence against new hybrids such as H1N1 or swine flu. Its share price leapt 82 per cent last week as news of the potential pandemic spread.

Those years set the tone for his career in biotechnology, as researcher, teacher and entrepreneur. He is listed as the inventor on two patents, has more than 100 papers to his name and has been a director of more than 10 scientific companies.

Andrews left the college of pharmacy after hearing Bond University's inaugural vice-chancellor Don Watts say on radio in 1987 that the university was going to be responsive to the needs of its clients. "In Australian universities the needs of students and their future employers were not necessarily front-of-mind," Andrews notes, drily. "So I called him up and said I wanted to be part of that."

A few months later he was one of the university's first employees, dean of its science and technology school. The school closed in November 1990 when the university's funding became a casualty of the financial difficulties of co-founders Alan Bond and Harunori Takahashi.

Andrews went on to run the University of Queensland's Centre for Drug Design and Development. While there, in 1995, he and three others founded Alchemia, which makes the anti-bloodclotting drug, Arixtra, due to come to market next year. In 2000, with John Mattick, he established Queensland's Institute for Molecular Bioscience. By then he was jumping up and down in the press about the need for a cultural shift on the part of researchers, investors, industry and government, otherwise, he warned, Australia would miss out on the benefits of the rising biotechnology industry.

Likewise, he has been stressing the urgent requirement to address a critical shortfall in high-quality maths and science teachers in schools. Andrews argues they are the key to gaining and retaining students' interest in the subjects so they will study them at university, then plunge into the workforce ready to innovate and commercialise. He says there has been good news on a couple of fronts. "Researchers are much more inclined to think in terms of patents as well as publications, much more inclined to try to figure out how the ultimate results of research can be exploited for good. So that's a significant change.

"Government has also changed. You see it in a very obvious sense in Queensland."

Andrews admits a bias: it was Beattie who hired him to the chief scientist's position in 2003, six months into what was supposed to be a comfortable retirement spent starting more biotech companies with his daughter, Jane.

Although it was Mattick who sold Beattie on the biotech idea, which is the centrepiece of the Smart State, Andrews's relationship with the former premier was a happy one and his dealings with incumbent Anna Bligh have been no less so.

In his view, there have been strong results, including the Queensland Tropical Health Alliance Bligh launched in October with a \$19million grant, to be topped up to \$50million value in cash and kind by partners including James Cook University, the Queensland University of Technology, Queensland Institute of Medical Research and Griffith University. Another example is the Australian Tropical Forest Institute in the tropical science precinct at JCU established in 2006 with government funding and CSIRO participation.

And so to TropLinks, the latest vehicle to rev up the cause of tropical Australia. Andrews is interim chairman, but the group is on the hunt for a chief executive. "They need good skills with people of all sorts. One of the reasons industry doesn't take up these opportunities as fast as they might is simply because they don't get it.

"This person is going to have to be able to bring together and coach both sides so they can better communicate what they need and what they can offer."

Small entrepreneurial companies will have to be matched to investors in north Queensland and elsewhere, but there will also be a thrust towards international connections, including philanthropists and organisations such as the World Bank. The chief executive also must look for ways to market services as well as products, such as "environmental services to people wanting to learn how to protect coral reefs, an area where we are pre-eminent, finding contacts for the local people here".

When this paragon has been identified and hired Andrews will be able to get on with his next job, helping achieve Queensland's latest goals, enunciated by Bligh last year. Once again it will be congenial work, in line with another of his preoccupations, boosting private sector research and development. The target is a 50per cent hike in the proportion of businesses conducting research and development, or innovating, by 2020.

Related Coverage

- [Selling seaweed to Asia](#) *Courier Mail*, 13 Dec 2009
- [JCU takes a vested interest in safety](#) *The Australian*, 13 Oct 2009
- [Tequila: from bar to biofuel](#) *The Australian*, 8 Sep 2009
- [Court backs inventor's IP claim](#) *The Australian*, 8 Sep 2009
- [The good oil is in the genes](#) *The Australian*, 8 Sep 2009