

The Natural Edge: Sustainable Development as an Engine for Technological Innovation

“The future belongs to those businesses who play a proactive role in devising ways in which we can meet our commercial needs by sustaining the world we live in.” Richard Pratt, CEO, Visy Industries

“Eco-efficiency is a catalyst for improved competitiveness, innovation and environmental responsibility” Dr Roland Williams, Chairman and Chief Executive Officer of Shell Australia

A cursory overview of human history will conclude that the last few centuries have witnessed unprecedented change. The world, in large measure, has shifted from local agrarian economies to globalised industrial/post industrial/service economies with instant financial capital flows in the trillions daily. Technologies of science fiction but 100 years ago are now reality. In the last 30 years more scientific papers have been published than all the previous centuries. As Jared Diamond showed in his analysis of the last 13,000 years of civilization “Guns, Germs and Steel”, technological innovation tends to gather momentum rather than stagnate. Far from slowing down, technological change has sped up.

Modern industrialism began in a world completely different from today. It was a world with relatively few people and seemingly endless natural resources. It possessed a poor industrial capacity that struggled to create enough for all.

Today, by contrast in many countries, labour productivity has increased to such an extent that the industrial capacity can produce more than the market can consume. The original mission to improve labour productivity by improved technology to provide enough for all has largely succeeded. Globally, for instance, enough food is being produced to feed the world. The problem now is that not enough people can afford to buy it. Whilst billions starve and 23,000 children die each day, farmers in developed countries have been paid subsidies NOT to farm their land.

More importantly, today we now understand that natural resources are not limitless.

However, much of industry and government still operates on a business-as-usual principle: basing progress largely on labour productivity and GDP. This doesn't take into account additional measures of progress such as poverty reduction or how efficiently we use non-renewable resources. The present wisdom uses more non-renewable resources to make fewer people more productive. The results are all around us a massive waste of people and resources.

This presentation looks at the sustainable development agenda from a different angle, that of using sustainability as a driver for innovation and success in the

knowledge economy of the 21st century. It explores the idea that businesses, communities and governments that shift to sustainable development, create more wealth and employment, protect and enhance natural and human capital, increase profit and competitive advantage, and enjoy many other benefits.

A number of international case studies are presented, which show how a shift to sustainability can positively effect innovation in all areas of the business process, from technological development and human resources, to marketing and capital. In addition the way in which sustainability fits into a country's national system of innovation is investigated. Finally, by placing sustainability directly in the context of an engine for technological innovation the presenter attempts to provide a strong case for investments and policy development in this area.