

1. Conspectus

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1. INTRODUCTION

Expectations were high with respect to the COP15, Climate Change Conference to be held in Copenhagen in December, 2009.² Many hoped that it might resolve a number of the varied problems associated with the implementation of the Kyoto Protocol (COP3). The Kyoto Protocol was

¹ For the purposes of this book (and the conference on which it is based), we have used the term *green taxation* as a shorthand expression to include: taxes, fees and charges – similar to traditional taxes, fees and charges – which are directed (at least in part) at generating improved environmental outcomes (some chapter authors have used slightly modified versions of this terminology). By East Asia we mean that part of Asia including China, Japan, Korea and South East Asia – but not including the nations of the former USSR, the Middle East and South Asia (India, Pakistan, Sri Lanka and adjacent smaller States). We have concentrated on particular key jurisdictions in East Asia for this book: China, Hong Kong and Singapore. China due to its combination of extraordinary size and even more extraordinary, long-term economic development is self-evidently crucial in any discussion such as this. Hong Kong and Singapore provide examples of highly developed jurisdictions in East Asia which both face major environmental challenges. Each of them has, in its way (and for various reasons, not least, ethnic linkages and economic investment), been deeply influential in shaping aspects of development policy in Mainland China over several decades. (Limitations of space meant we needed to make certain jurisdictional choices.) The other jurisdictions discussed have been included: (A) to provide a representative, comparative picture of the state of green taxation today; and (B) to let the experience from those jurisdictions inform the ongoing policy discussion about green taxation in East Asia.

² “COP15” is an acronym for “Conference of Parties, Number 15”. The “United Nations Framework Convention on Climate Change” (UNFCCC or FCCC) is an international environmental treaty produced at the United Nations Conference on Environment and Development (UNCED), informally known as the Earth Summit held in Rio de Janeiro from June 3 to 14, 1992. The objective of the treaty is to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic change within the world climate system, http://unfccc.int/essential_background/convention/background/items/1353.php, June 3, 2010. A continuing series of Conference of Parties has run since the Earth Summit.

concluded in 1997. It established binding obligations on all those countries which signed up to limit greenhouse gas (GHG) emissions.³ Mostly it affected developed countries plus a range of “post-1989” Central-Eastern European countries.⁴

The major feature of the Kyoto Protocol was that it set binding targets for 37 industrialized countries and the European Community for reducing GHG emissions. These amounted to an average of five per cent against 1990 levels over the five-year period 2008–2012.

The Kyoto Protocol was generally seen as an important first step towards a truly global emission reduction regime that would stabilize GHG emissions, and provide the essential architecture for any future international agreement on climate change.

By the end of the first commitment period of the Kyoto Protocol in 2012, a new international framework needed to be negotiated and ratified which could deliver the stringent emission reductions the Intergovernmental Panel on Climate Change (IPCC) has clearly indicated were needed.⁵

The Kyoto Protocol placed a special burden on developed nations (Annex 1 Countries (which includes Economies-in-Transition from Central-Eastern Europe)). The Industrial Revolution had begun in these nations over 150 years ago and heavy industrialization was seen as the primary cause of the growth in GHGs, which, in turn, were seen as the primary drivers of dangerous anthropogenic (man-made) global climate change.⁶

Developing nations, including large rapidly industrializing developing nations like China and India, were not subjected to the same sort of obligations under the Kyoto Protocol. Certain developed nations, including the USA and Australia refused to sign up to the Kyoto Protocol – although Australia finally signed the Protocol, after a change of government, in 2007.⁷

The primary means by which the Kyoto Protocol sought to reduce GHG levels were: Emissions Trading (the carbon market), the Clean Development Mechanism (CDM) and Joint Implementation (JI).⁸ There

³ The key details of the Kyoto Protocol are summarized at http://unfccc.int/kyoto_protocol/items/2830.php, June 6, 2010 (henceforth “KP Key Details”).

⁴ After the fall of the Berlin Wall and the collapse of the USSR these economies began re-engaging with the world in new ways.

⁵ KP Key Details, *op. cit.*

⁶ *Ibid.*

⁷ McGuirk, R., “Australia Signs Kyoto Protocol; US Now Only Holdout”, December 3, 2007, <http://news.nationalgeographic.com/news/2007/12/071203-AP-aus-kyoto.html>, June 6, 2010.

⁸ KP Key Details, *op. cit.*

was only limited focus on the potential direct role of taxation as these primary means of, inter alia, allocating carbon-usage costs were being resolved. The primary means have, as it has turned out, not proved to be very effective in reducing GHG emissions since 1998 – not least because emission levels from major developing nations not covered by the Kyoto Protocol, such as China and India, have increased significantly.⁹ The arguably huge “fiscal moral hazard” problems associated with these UN or government-run, “market-based” mechanisms aimed at reducing GHGs have also increasingly been argued. We use the term fiscal moral hazard to mean the way in which markets (or market-related systems) created using formal legislative or similar instruments, in particular, are prone to being exploited for financial advantage in ways usually technically “within the rules” but also often contrary to the aims of the created market.¹⁰

Great, indeed excessive expectations were placed on the COP15 Meeting in Copenhagen in December, 2010. The serious, continuing impact of climate change (accelerated by massive and increasing carbon-based energy consumption along with a range of other aggravating factors) was widely acknowledged. The “first commitment” period under the Kyoto Protocol (for Annex I countries) is also due to expire in 2012.¹¹

The COP15 Meeting brought together the widest range of key world leaders. The hope was that the seriousness of the problems and the presence of key decision-makers could lead to real progress towards crafting a new multi-lateral agreement on tackling climate change.¹² This did not happen.

⁹ World Bank, *World Development Report 2010 – Overview*, <http://siteresources.worldbank.org/INTWDR2010/Resources/5287678-1226014527953/Overview.pdf>, June 6, 2010.

¹⁰ See, for example, Ng, E., “UN Probes Claim Firms are Faking Carbon Credits”, *Sunday Morning Post*, October 10, 2010. A detailed argument of this view was presented on November 3, 2009 at the Hong Kong University (Campbell, I. D., “After Kyoto: International Welfarism and the Impossibility of Global Carbon Trading”, notes on file with Richard Cullen). Supporters of the CDM also acknowledge these moral hazard problems, see Nigoff, M. G., “The Clean Development Mechanism: Does the Current Structure Facilitate Kyoto Protocol Compliance?”, *Georgetown International Environmental Law Review*, Volume 18, 2006, page 249.

¹¹ KP Key Details, *op. cit.*

¹² See, for example, “Great Expectations for COP15 Climate Change Conference”, http://www.caricom.org/jsp/pressreleases/pres97_09.jsp, June 7, 2010. The UN climate change negotiating process seems to have made some modest steps towards restored relevance at the UN Climate Conference in Cancun, Mexico, in December, 2010. See “Back from the Brink”, *The Economist*, December 18, 2010, page 113.

Serious critics of the mainstream approach to tackling climate change, like Bjorn Lomborg both predicted and noted what they said was the failure of the COP15 Meeting.¹³ Christine Loh, whilst acknowledging the severe disappointments arising out of the COP15 Meeting, also notes the way in which the COP15 process has potentially helped to create a new “tipping point”. In particular the event showed, first that there is now a wide consensus that economies do need to become far less carbon-reliant and secondly, that the seriousness of climate change as a primary global issue was evidenced by the presence of all key world leaders at the COP15 Meeting. She goes on to analyze why the outcomes at COP15 were so below par and notes, for example, entrenched (“locally vital”) views and the cumbersome UN discussion system. She also sets out the now clarified negotiating positions post-COP15. There is a basic three-way tension between: (A) vulnerable smaller countries; (B) larger developing countries; and (C) the developed world.¹⁴

One other consequence of the COP15 process is the way that use of taxation as one key means to tackle the manifest problems associated with climate change has begun to rise up the climate change, serious-discussion-agenda. The Kyoto Protocol itself and what followed from it – not least the very lengthy debate about the position of “stand-outs” like the US and Australia – consumed much climate change political energy. Much of that energy, in turn, was then directed towards the quest of drawing a measurable success from the COP15 Meeting. Despite the post-COP15 disappointment, one benefit of having gotten past this process is that the policy-options discussion has opened up.

Lomborg makes essentially the same point (rather more polemically) when he says:

After 20 years of wasted effort, we can no longer afford to squander more time continuing on this road to nowhere. We can only hope that December’s [COP15] failure will be the jolt we need to once and for all drop the Rio-Kyoto-Copenhagen approach and start tackling climate change effectively.

His primary point is that the best way to tackle climate change is by making a very major effort – significantly public-funded at the outset – to

¹³ See Lomborg, B., “Technology not Talks will Save the Planet”, *Finance and Development – International Monetary Fund*, December, 2009, page 13; and Lomborg, B., “Climate Strategy on a Road to Nowhere”, *Globe and Mail*, February 1, 2010.

¹⁴ Loh, C., “Copenhagen is not Over”, December, 2009, http://www.caricom.org/jsp/pressreleases/pres97_09.jsp, June 7, 2010.

stimulate the highest level of research and development aimed at generating a green-energy technological revolution. This, he argues, would be far more effective – and far less costly – than the mainstream approach, which he characterizes as imposing crippling costs on carbon usage in a likely doomed quest to achieve breakthrough GHG emission reduction targets.¹⁵

As it happens, Lomborg does support, as part of his program, increased taxation of carbon usage – but at a far lower level than levels suggested by serious supporters of the Kyoto approach to allocating costs to carbon usage.¹⁶

When we decided to organize the Green Taxation in East Asia Conference (GTC) a core concern was to focus on the potential use of taxation (and related) measures to foster climate-helpful, large-scale, behaviour change. The true quotidian impact of climate awfulness is more apparent in East Asia than any other region of the world. Greater China confronts severe environmental degradation problems as a direct product of several decades of remarkable economic growth. In 2005 it was reported that 16 of the 20 most polluted cities in the world, where “you could chew the air”, were in Mainland China.¹⁷ Since then the position has tended to grow worse.¹⁸

No one before COP15 honestly believed that any sort of “magic bullet” solution existed. But many were persuaded that the fundamentals of the Kyoto Protocol comprised the core of the any “right approach” and alternatives outside that core were thought to be more marginal. In the post-COP15 world, it seems clear that we will see a wider variety of measures designed to tackle climate change problems being seriously studied.

¹⁵ Lomborg, *op. cit.* Numbers of commentators have argued that Lomborg, in his new (edited) book (*Smart Solutions to Climate Change: Comparing Costs and Benefits*, Cambridge University Press, 2010) has changed his views so that he is now notably less sceptical about the argued consequences flowing from climate change. Lomborg himself claims his position remains that we need to focus on practical remedies – rather than reaching for (vastly expensive) grand solutions. See, for example, Rundle G., “Bjorn Again? Reshaping the Climate Change Debate”, *Crikey E-Newsletter*, September 1, 2010, <http://www.crikey.com.au/2010/09/01/rundle-bj%C3%B8rn-again-reshaping-the-climate-change-debate/>, December 28, 2010.

¹⁶ “Frequently Asked Questions”, <http://www.lomborg.com/faq/>, June 7, 2010.

¹⁷ Watts, J., “Satellite Data Reveals Beijing as Air Pollution Capital of World”, the *Guardian*, October 31, 2005, <http://www.guardian.co.uk/news/2005/oct/31/china.pollution>, June 7, 2010.

¹⁸ Lee, H. Y., “Air Pollution Worsens from World’s Biggest Emitter Nation”, *World Focus*, March 29, 2010, <http://worldfocus.org/blog/2010/03/29/air-pollution-worsens-from-worlds-biggest-emitter-nation/10170/>, June 7, 2010.

As this openness to a more multi-factor process unfolds, it is particularly timely to reconsider the role that taxation-related measures can play.

For the purposes of the GTC and this book, we have used the term *green taxation* as a shorthand expression to include: taxes, fees and charges – similar to traditional taxes, fees and charges – which are directed (at least in part) at generating improved environmental outcomes.

A primary aim of the GTC was to generate an academically well-grounded comparative study of the use and misuse of fiscal measures – especially green taxation to:

- encourage environmental protection and improvement in particular jurisdictions (and across jurisdictional borders);
- discourage behaviour leading to environmental damage and degradation in particular jurisdictions (and across jurisdictional borders).

We were also interested in the revenue outcomes of such measures – and the way such outcomes can, in turn, shape later tax and related policy – and social behaviour. Our aim was for the GTC to explore the scope – and limits – of green taxation in depth.

Since 2000, a widely attended and well-respected annual Global Conference on Environmental Taxation (GCET) has been held. To date, the GCET has mainly focused on environmental taxation issues arising in the Americas, the EU and Australia.¹⁹ Thus far, there has been no serious, detailed, comparative study primarily focused on the good – and bad – ways in which green taxation can be utilized in East Asia as one important means to try and shape collective environment-affecting behaviour. The aim of the GTC was to address this space in the public policy debate.

The GTC – and this book – are fundamentally comparative. Our aim is to inform the debate (as it relates to the use of tax and related measures) on meeting environmental challenges in East Asia by drawing on relevant world-wide experience.

2. JURISDICTION CHAPTERS

2.1 Introduction

We invited a number of tax policy specialists and public policy commentators to attend the GTC. They wrote and presented their papers at the

¹⁹ See further, re the GCET: <http://www.worldcotax.org/>.

conference and then revised them in the light of conference discussion and further research. Each of the following chapters offers a jurisdiction-based perspective on the development and operation of green taxation measures. Each chapter highlights aspects of jurisdictional experience with green taxation, which relate to key, usually long-term, political-economy considerations particular to the jurisdiction. In sum, the chapters address most of all the positive prospects – and limitations – in developing and applying green taxation measures, today.

Our primary aim is to use a strong comparative discussion to help inform the ongoing policy debate about green taxation in East Asia. For the purposes of the GTC and this book, we have chosen to focus, in East Asia, first on China and next on Hong Kong and Singapore. Limitations of space have meant we have had to make choices.

China, in view of its sheer size and remarkable economic growth – and extraordinary potential – is once again the fundamental key jurisdiction in East Asia. Hong Kong and Singapore are tiny by comparison. But these two very successful jurisdictions face major environmental challenges and they present interesting cases of differing approaches to using green taxation measures. Moreover, they have each had a crucial influence on aspects of public policy development in Mainland China especially since the start of China's "open door" policy around 1978.

In the next part of the book, we have included chapters from North America (the US and Canada); the EU; and Australasia (Australia and New Zealand). These jurisdictions have been incorporated: (A) to provide a representative, comparative picture of the state of green taxation today; and (B) to let the experience from those jurisdictions inform the ongoing policy discussion about green taxation in East Asia.

2.2 China

Dr Yan Xu, from the Faculty of Law at Hong Kong University, faced some major decisions as she began writing her paper for the GTC. China, the most populous nation in the world with a population of some 1.3 billion, has so many environmental challenges (and ongoing, regular instances of environmental calamities) it was hard to know where to focus a single chapter for a book like this. Ultimately, she has concentrated her focus on the development of what she identifies as a consolidated fuel tax for China. This discussion is placed within the context of a quite comprehensive review of the use of taxation and other, related, public policy instruments to address China's manifest and always growing environmental problems.

Dr Xu also notes some of the key "headwind factors" holding back a fully committed public policy assault on environment-damaging

behaviour, not least, local government economic growth zealotry and the manifest problems related to central–local, public revenue distribution in China.²⁰

Dr Xu bases much of the analysis in her chapter on an essentially Pigouvian understanding of green taxation.²¹ Briefly Pigou argued powerfully for the need to “internalize the externalities” of economic actors. By using taxes (and subsidies) market failures which allow economic actors “to pollute and forget” could be corrected. Notwithstanding significant criticism from other economic thinkers, Pigou’s key insights remain convincing for many. These insights, as Dr Xu explains, laid the theoretical foundations for the application of green taxation in many countries around the world today.

The focus on fuel taxation arises from several considerations including the key role of fuel, especially for transportation, in the growth of China’s vast new economy. Fuel is also vital in terms of energy production. Dr Xu has, however, taken a pragmatic policy review approach: she has narrowed her research attention so as to allow her time and space to develop a prescriptive investigation of how a consolidated fuel tax might be crafted and applied in China. As she points out, direct and indirect taxation of fuel for transport is an area of public policy permeated by much ad hoc complexity. Yet the fundamental need to build a more systematic consolidated system is deeply apparent – not least because of the prodigious growth in car ownership in China over the last decade.²²

Key elements in the recommended reform of (transport) fuel taxation include: higher rates of taxation (to discourage excessive use and wastage and to encourage much greater fuel-use efficiency); environmen-

²⁰ As Dr Xu explains, in the Chinese unitary state, one has, based in Beijing, the central government. All governments below this level – from provincial governments down to county governments are typically referred to, collectively, as “local governments”. The Mainland PRC has long been beset by major problems – especially as between the central government and provincial governments – related to distribution of rights to tax (and charge) and rights to share centrally collected revenues.

²¹ Pigou, A. C., *The Economics of Welfare*, (4th ed.), Macmillan, 1932.

²² Some estimates are that there will be 75 million cars in China by 2011 – up from about 6 million in 2000. China now has more operating motorways than anywhere outside the US. The growth in car ownership – and motorway construction – are set to continue at high rates. Meanwhile air transport and rail transport also are growing at remarkable rates. See “Car ownership in China expected to overtake Japan next year”, *People’s Daily Online*, May 31, 2010, <http://english.peopledaily.com.cn/90001/90778/90860/7006415.html>, June 10, 2010; and “China Transportation Growth”, *Early Warning*, <http://earlywarn.blogspot.com/2010/01/chinese-transportation-growth.html>, June 10, 2010.

tally targeted taxation (to encourage the use of cleaner, less scarce carbon-based fuels); market-tracking taxation (to ensure world market prices rises are swiftly passed on to consumers in China); and greater harmonization (and elimination of loopholes and anomalies) in the taxation of fuel. Dr Xu also recommends studying how road-tolling – recently mainly abolished in China (see details in Chapter 2) – could be re-introduced using electronic systems to build an efficient nation-wide congestion charging system.

Dr Xu also discusses the spending side of the above new taxation equation: she recommends that strong consideration be given to at least partial “ear-marking” or hypothecation of funds raised, for example, to redress environmental degradation; and to fund public transport infrastructure. Increased revenues could also be used to reduce economically inefficient taxation.

2.3 Hong Kong

British Hong Kong was first established in 1841. It became the Hong Kong Special Administrative Region (HKSAR) of the People’s Republic of China (PRC) on July 1, 1997. The reversion of sovereignty to the PRC proceeded under the Beijing-proclaimed doctrine of “One Country – Two Systems”. Under this doctrine, the HKSAR has been maintained as, essentially, a separate first world, remarkably free, “City-State”, within the fast-developing but still heavily impoverished PRC with its deeply entrenched, one party, authoritarian system of government.²³ The HKSAR has retained its British common law legal system and a wide array of civic freedoms. The HKSAR, Beijing-enacted mini-Constitution, the Basic Law, does, however, attempt to retain (subject to a slow process of political reform) the essence of the largely non-democratic, “executive-led” system of government perfected by the British in Hong Kong. The One Country – Two Systems doctrine – and the Basic Law – thus combine great economic (and civil society)

²³ City-States are typically defined as “an independent political unit consisting of a city and surrounding countryside”. They reached their peak in ancient Greece, although a number, like Florence, Venice and Genoa endured in Italy until the middle of the 19th century. Bremen and Hamburg also retained this status until they were absorbed into the modern German State. See <http://www.answers.com/topic/city-state>, July 31, 2010. See also Glotz, G., *The Greek City and Its Institutions*, Knopf, 1951 (reprinted 1969); and Ehrenberg, V., *The Greek State* (2nd ed.), Methuen, 1969 (reprinted 1972). Hong Kong is clearly not a separate sovereign State (like, for example, the City-State Singapore). As the HKSAR, it is now plainly a part of the PRC and subject to the sovereignty of Beijing. Such is the level of effective political and economic separation of the HKSAR from the PRC Mainland it retains the appearance and de facto face of a City-State, however.

independence with significant political restraint.²⁴ A crucial aspect of the separation of the two systems is the way in which the Basic Law has built a “fiscal firewall” between the Mainland PRC and the HKSAR. Basically, the HKSAR is to maintain its low rate, simple tax system; no PRC Mainland taxes are ever to be imposed within the HKSAR; and no HKSAR public revenues are ever to be transferred to Beijing.²⁵

The HKSAR has a population of around 7 million. The total land area is approximately 1000 square kilometers. For a range of policy and topographical reasons the heavily built-up area of Hong Kong has remained at around 200 square kilometers. The result is a particularly high density conurbation in those built-up areas.²⁶

Professor Jefferson VanderWolk, from the Chinese University of Hong Kong, explains in the introduction to Chapter 3 that:

After surveying the relevant legal and tax landscape, I will turn to policy proposals for the immediate future. Specifically, I will argue that the Hong Kong government should consider introducing well-designed tax measures related to the use of fossil fuels in the energy and transport sectors, and to the use of water. The benefits of these measures could be significant, including the broadening of Hong Kong’s tax base, a reduction of taxes on desirable economic activity, enhancement of Hong Kong’s competitive position in the region, and improvement of the environment.

Once more the analysis draws on Pigouvian insights. It also stresses (drawing, *inter alia*, on considered arguments from the Organisation for Economic Co-operation and Development (OECD)) the way in which carbon taxes (or green taxation) can be deployed to achieve positive environmental outcomes. Well-designed green taxes can operate both efficiently and flexibly. Other well-trying adjustment measures can also be used, as the OECD notes, to address problems of regressivity.

Professor VanderWolk notes the well-recognized narrowness of the tax base in Hong Kong; there are no formal consumption or capital gains taxes

²⁴ The remarkable experiment of maintaining an energetic capitalist enclave within the largest (and most successful and durable) one party state in the modern world is a matter of long established and ongoing discussion: the literature is extensive. For a comprehensive review of the legal implementation of the One Country – Two Systems doctrine – and its political-economy consequences – see Ghai, Y., *Hong Kong’s New Constitutional Order*, (2nd ed.), Hong Kong University Press, 1999. See also Cullen, R., “Hong Kong: The Making of a Modern City-State”, *Murdoch E-Law Journal*, Volume 1, 2006, page 24.

²⁵ See Articles 106, 107 and 108 of the Basic Law.

²⁶ See “Hong Kong: The Facts”, <http://www.gov.hk/en/about/abouthk/factsheets/docs/population.pdf>, June 11, 2010.

and the income tax regime is source-based; that is, confined to the territory of the HKSAR. Transaction taxes are generally low and the majority of wage and salary earners are exempt from income tax. The HKSAR Government relies heavily, directly and indirectly, on revenues related to land-transactions. Especially in the post-1997 period, this income source has proved to be highly volatile.²⁷ Base broadening measures have been more actively considered – in particular, the introduction of a Goods and Services Tax (GST). But, as Professor VanderWolk explains, that initiative now seems to have been removed from the policy-agenda altogether, at least for the foreseeable future.

This chapter moves on from the review of the existing tax regime to consider what existing green taxation measures exist in the HKSAR prior to contemplating the sort of smarter, future green taxation measures Hong Kong should be implementing, including: a comprehensive carbon duty (affecting energy supplies, especially); enhanced taxation of motor fuels; and revised water and sewage charges.

2.4 Singapore

The other outstandingly durable and successful City-State established in East Asia, as part of the British Empire, is Singapore. It was founded as a British enclave, more than 20 years before Hong Kong, in 1819. Today, as the Republic of Singapore, it is, unlike Hong Kong, a fully independent (City-State) jurisdiction – and has been so, since 1965. Both the population and area of Singapore are about 70 per cent of that of the HKSAR, at around 5 million and 700 square kilometers respectively. Like the HKSAR, Singapore is a high-density, small, first-world city-state.

Singapore is a unicameral, parliamentary democracy which has been dominated since independence by a single party, the People's Action Party (PAP). The parliament is made up of a combination of elected and some nominated members. Only the PAP has ever held government since independence. Singapore retains much of the essence of the common law legal system introduced by the British but with some significant modifications – for example, trial by jury has been abolished. Singapore consistently ranks very highly in world-wide comparisons in terms of its infrastructure and stability but less well (including compared to Hong Kong) in terms of civic and political freedom and cultural diversity and the living environment.²⁸

²⁷ Cullen, *op. cit.*

²⁸ Lim, J., “‘Software’ Areas Hurt Singapore Ranking in Global City Poll”, *Straits Times*, February 13, 2010, <http://wildsingaporenews.blogspot.com/2010/02/>

One area where Singapore does excel is in the way in which it can mobilize and coordinate the resources of the State to drive new public policy development and implementation. It, perhaps better than any other jurisdiction, has shown how to marry political will with effective policy action. Its compact size, strongly perceived need for self-reliance, strong (and continuous single party) political leadership and extensive experience in facing and overcoming an array of governance challenges over more than four decades help to explain this.²⁹

As Professor Stephen Phua from the National University of Singapore notes in Chapter 4, Singapore determined some time ago that it must take GHG emissions seriously. Having made that decision, the City-State has put a major effort into developing and implementing an array of medium- to long-term, responsive policies. Thus, policies have been developed to secure long-term, sustainable supplies of water and gas (for electricity) from Malaysia and Indonesia, respectively. Major initiatives have been launched, too, to enhance the “greening” of Singapore’s built environment: new building codes governing current developments and the upgrading of existing buildings have also been targeted. These changes are noted in Chapter 4, below, but the main focus in the chapter is on the variety of ways the City-State has set about reforming the mix and operation of its entire approach to regulating internal transportation.

Briefly, Singapore has crafted (and is still creating) a strong mix of often inter-linked policies designed: to limit the growth in private car ownership; encourage low-emission commercial and private road vehicles, reduce road congestion; and rapidly expand the public rail and road transportation system. Serious funding research modeling has been undertaken to show how these programs can be paid for. Additional research on tax and charging systems has been done to show where to target fees so that they produce the greatest (green-friendly) behaviour change.

Although Singapore’s per capita car ownership rate is only about 20 per cent of that in Australia, it is still around double the rate in Hong Kong.³⁰ High initial purchase-related charges and a (usually) expensive

software-areas-hurt-singapore-ranking.html, June 11, 2010. This article refers to recent detailed comparative by organizations such as The Economist Intelligence Unit and International Living.

²⁹ See Vasil, R., *Governing Singapore: A History of National Development and Democracy*, Allen & Unwin Academic, 2001; and “Economic History”, Ministry of Trade and Industry, Singapore, <http://app.mti.gov.sg/default.asp?id=545>, July 28, 2010.

³⁰ See “Passenger Cars per 1,000 People”, World Bank, <http://data.worldbank.org/indicator/IS.VEH.PCAR.P3>, July 28, 2010.

“Certificate of Entitlement” (COE) scheme have, however, helped to hold that annual ownership growth rate to less than 2 per cent in Singapore. A combination of prohibitions on high-pollution vehicles and fuel pricing and other schemes have made the use of cleaner fuels, especially for commercial vehicles, all but mandatory. “Off peak” registration of private cars has been introduced, too, to encourage non-use during peak periods.

Most effective of all, perhaps, in shaping better road usage behaviour has been the extensive deployment of Electronic Road Pricing (ERP). ERP currently applies to the busiest areas in the City-State but the system appears to have been so successful in reducing congestion (and modifying usage patterns) that it looks set to be expanded, perhaps right across Singapore.

Unlike Hong Kong, Singapore has a Goods and Services Tax (GST) which has become a key revenue source. Funds flowing from the GST and a number of other sources, including the COE scheme, are now “quasi-ear-marked” to fund the planned massive increase in the public transport system (which includes a doubling of rail-based, public transport service provision). Singapore’s integrated policy implementation process does not just envision increased public transport as a “fuzzy green plus” – it sees this as a “must have” factor to complement the transition to a notably lower level of private car usage (if not ownership). The aim is that by 2020, individual daily transits will average 70 per cent by public transport systems – up from 59 per cent today. Singapore is also trying to foster increased bicycle usage as part of the reform mix. Given the compact nature of the city, the generally flat terrain plus the health benefits arising from the exercise involved in cycling, this makes sense. The plans so far include creating dedicated cycling paths on a limited scale.³¹

Another crucial aspect of such integrated policy-making is that significant commercial opportunities are envisaged from this mass transition – across the economy – to much enhanced energy efficiency. The sorts of systems, technical hardware, manufacturing processes, and so on, being developed, can, it is reasoned, be packaged for export. A key substantial, export market – where some Singapore energy-enhancing systems are already being tested – is Mainland China.

Singapore’s particular combination of political, economic, social and geographic factors set it apart. That said, the City-State does seem to provide some serious guidance on how, where there is real political will coupled with adequate resources, strong, considered policy making can

³¹ See “Cycling in Singapore”, July 23, 2010, <http://cyclingsingapore.blogspot.com/>, July 29, 2010.

tackle, at a local level, the huge challenge of GHG emissions, using a multi-factor approach. And it can do so in a way which offers the potential to build a robust platform for developing an array of sturdy commercial applications.

2.5 United States of America

The United States of America (US), population over 300 million, is the single most dominant economy in the world and also the world's second greatest contributor to GHG emissions overall (after China) and the most significant contributor on a per capita basis.³² As with the case of China, it is basically mandatory to include in a book of this type, a review of the experience of green taxation in the US. First, the US is simply so economically and environmentally important according to any global measure. Next due to its long-term, extensive policy development experience, the US is in a special position to offer lessons (both good and bad) based on its own policy building history.

Professor Janet Milne, from Vermont Law School in the US, like many of our authors, begins her chapter with an analysis of the influence of Pigouvian theory on the use of public policy instruments to shape environment-affecting behaviour. As she makes clear, much public policy aimed at rectifying particular sorts of "market failure" with market economies, builds on the key Pigouvian insight that:

[It is] possible for the State, if it so chooses, to remove the divergence in any field [between trade and social net product] by "extraordinary encouragements" or "extraordinary restraints" upon investment in that field [giving taxation is an example].³³

Professor Milne concentrates on the "main game in town" – the federal tax regime. She spends considerable time usefully reviewing the US experience of green taxation. She pays particular attention to the use of "tax expenditures" as well as the imposition of taxes and charges and the uses of revenues derived therefrom. Environmental tax expenditures – that is, system-granted tax concessions aimed at prompting certain kinds of environmentally positive, economic activity – have, as she explains, regularly

³² Netherlands Environmental Assessment Agency, "Which are the Top-20 CO₂ or GHG Emitting Countries?", <http://www.pbl.nl/en/dossiers/Climatechange/FAQs/index.html?vraag=10&title=Which%20are%20the%20top-20%20CO2%20or%20GHG%20emitting%20countries%3F#10>, June 11, 2010.

³³ Pigou, *op.cit.*, page 168.

been deployed in the US. Large scale environment-based taxation measures have often proved difficult to enact. The example of President Clinton's failed attempt to introduce a broad-based energy tax in 1993 is mentioned. Other measures, introduced at a particularly "ripe time", perhaps, such as the 1978 tax on "gas guzzling" cars have become law, however.

The US, as the world's largest, richest and most diverse, fully federal system presents itself as a very special case, in many ways. Private wealth, great diversity, multitudes of energized special interests and a federally divided power structure are some of the factors which need to be taken account of when considering major policy changes in the US. These many factors rarely make for smooth implementation of new policy initiatives.

Yet, out of this very rich political experience some strong lessons emerge. Professor Milne summarizes these well. Firstly, taxation-based measures – and especially taxation impositions – are almost always the hardest of all policy instruments to use in a day-to-day political sense. *Prima facie*, the voting public does not like new or increased taxes. This maxim applies to environmental taxes, too. Although, as Professor Milne notes, there are various aspects of green taxes which can be used to help persuade citizens towards acceptance, including the direct environmental good they may secure and the way green taxation revenue can be earmarked for spending to generate positive environmental outcomes.

Environmental tax expenditures are notably less transparent and their fiscal impact is much more obscure to the average citizen. But these "advantages", as Professor Milne notes, often makes their positive impact much more difficult to judge. They can also readily lead to adverse "unforeseen consequences" as taxpayers "game the system" (as taxpayers are inclined to do). Next, once they are in place, a (self-serving) constituency can swiftly grow to lobby for their retention even if their policy impact is limited or negative.

Professor Milne notes that environmentally focused, direct regulatory instruments outside of the tax system altogether are the most likely to leave their full range of impacts disguised.

He also stresses the need to test the effectiveness of all policy measures which set off into the real world waving an environment-friendly flag: whether they comprise direct environmental regulation, tax expenditures or tax impositions. She also notes the need to recognize that environmental problems are often multi-faceted. It follows that solutions will often need to deploy multiple instruments. These lessons do seem to have genuine universal resonance.

Professor Milne concludes by suggesting that green taxation is likely to play a role as the world tackles the task of reducing GHG emissions

– but that the scope of that role is yet to be resolved. In Chapter 5 she makes clear that given the immense difficulties associated with using increased or new taxation measures, generally, in America, the role of green taxation looks set to be heavily constrained in future US policy development. This lesson may, however, be more a lesson for the US than a message of more universal significance. Taxpayers everywhere are usually hostile to new or more taxation. But modern experience *outside of the US* shows that advanced democracies can be persuaded to accept major new taxation initiatives as the introduction of new GST regimes in New Zealand (1986), Canada (1991), and Australia (2000) over the last 25 years demonstrates.

2.6 Canada

Canada is the second largest economy in North America. Canada joined the Group of Seven (G7) (as it became) in 1976.³⁴ Notwithstanding this international standing, Professor Arthur Cockfield, of Queen's University in Canada, identifies Canada as a "small open economy". This is an accurate characterization. With a population of around 35 million it is less than 12 per cent of the size of the US. Canada is also comfortably the smallest member of the (now) G8 in terms of population.

Professor Cockfield argues that small open economies are best advised to seek and foster international collective action in the quest to reduce GHG emissions and lessen the adverse impact of climate change. Canada, however, has, he argues, failed, on the whole, to adopt such an approach. Canada is a comparatively resource-rich country and it is, within the Western World, well endowed with carbon-based natural resources. The drive to exploit those resources both for domestic use and export has, thus far, tended to dominate the policy-setting agenda.

Professor Cockfield writes in his conclusion that Canada continues to struggle to find an appropriate response to concerns about global warming (notwithstanding certain green taxation initiatives at the provincial level of government). Implicit in this observation is the supposition that Canada is

³⁴ The Group of Six (G6) countries was initially an ad hoc forum established by France in 1975 for the governments of France, Germany, Italy, Japan, the UK and the US. It was subsequently institutionalized. It became the G7 when Canada joined in 1976 and the G8 when Russia joined in 1998. It was conceived as a forum comprising the major advanced democracies formed after the first "oil shock" in 1973. See further "The History of the G7 Summit: The Importance of American Leadership", <http://www.g7.utoronto.ca/annual/bayne1997/document.html>, June 11, 2010.

also constrained in its approach to green taxation in general. The factors which explain this include:

[F]ears that a significant curtailment of emissions by, say, a carbon tax will reduce economic growth and employment. Moreover, there are reasons fairly unique to the Canadian situation that may help to explain Canadian reluctance to enact a broad-based carbon tax. For example, Canada is a northern country and the second largest country in the world with significant exploitable carbon resources. As a result, despite the growing academic and policy views that carbon taxes are best suited to reducing these emissions, the Canadian government is currently supporting a cap and trade system (similar to the proposed U.S. approach) that will likely permit certain firms to maintain high emissions for some time.

Canada, like the US, also has a federal system of government. Canada's much smaller size reduces the complexity arising therefrom compared to the US. But Canada's federal system adds a special complexity of its own related, primarily, to the presence of the Province of Quebec within that system. Quebec has a strong sense of separate identity bolstered, not least, from having French as its first language. Other Provinces in Canada, in both the west and east of the country have not infrequently, taking a lead from Quebec, tended to stress their own separate identities. Historically, this has often predisposed Canada to special difficulties in crafting taxation and other policies related to energy resources.³⁵

Professor Cockfield further demonstrates how yet more limits are placed on what may be possible in terms of green taxation initiatives because of the way the Canadian economy is so closely intertwined with the US economy. Many mainstream Canadian policy makers believe that in order to maintain the vital cross-border trade and investment with the US, the Canadian tax system, *inter alia*, cannot move significantly away from the fundamental tax framework obtaining in the US.

2.7 European Union

The European Union (EU) was established by the Treaty of Maastricht in 1993, building upon the long process of post World War II, cross-national political-community building which began in Western Europe with the establishment of the European Coal and Steel Community in 1951.³⁶ The

³⁵ See, for example, Cullen, R., "Canada and Australia: A Federal Parting of Ways," *Federal Law Review*, Volume 18, 1989, page 53.

³⁶ "European Union", *CIA – The World Fact Book*, <https://www.cia.gov/library/publications/the-world-factbook/geos/ee.html>, June 12, 2010.

EU does not qualify to be called a federation as this term is commonly understood. Yet it is far more than a free trade association or some type of purely international association of Nation States. It has its own array of significant executive, legislative and judicial institutions, its own currency and anthem and flag, for example.³⁷

The EU is a unique political entity, one which now has 27 distinct Nation States as members, a population of over 500 million and, if taken in totality, it comprises the single largest economy in the world. The EU is, to an extent, a single economy but, even more so, it remains an agglomeration of 27 still separated economies.³⁸

In Chapter 7, looking at the EU experience with green taxation, Mattias Derlén and Johan Lindholm, from Umea University in Sweden, provide a clear analysis of why the evolved EU structure has, to a significant extent, reduced the role which taxation can play in addressing environmental challenges. The problem, as they describe it, is, first, that the highly complex EU structure largely places direct taxation measures outside the scope of (centralized) EU decision-making: control of taxation is primarily left with the EU Member States.

Next, however, the EU has an overarching commitment to maximizing economic harmonization within the EU as one of its core functions. The quest to achieve this imposes real restrictions on how Member States may deploy their taxation powers. Thus, there is an EU-wide ban on discriminatory or protective taxes which could adversely affect the EU internal free market. Taxes which might be introduced at the national level with the best intentions in terms of environment-enhancement can still readily be challenged in court, with a real risk that they may be struck down in part or altogether for violating the EU-wide harmonizing exhortations just noted.

Non-tax measures directly aimed at environment protection can also swiftly fall foul of the stipulation that, *prima facie*, trade must not be impeded. Thus, in the *Danish Bottles* case, the European Court of Justice found that environmental protection could justify imposing certain obstacles to trade – but any such obstacles had to be proportionate and, in this case, they were not.³⁹

The two authors provide an array of examples in Chapter 7 of the genuine difficulties which the EU's constitutional structure has imposed

³⁷ *Ibid.*

³⁸ *Ibid.*

³⁹ Case 302/86, *Commission of the European Communities v Kingdom of Denmark* [1988] ECR, 4607.

on both taxation-based and other regulatory measures designed to achieve environment-friendly outcomes. They conclude by noting that, without question, implementing green taxes at the EU level is notably more difficult than using non-tax-based EU measures to foster stronger protection of the environment.

At the national level, the reverse is generally true; the EU Member States can develop and apply green taxes. But they still will need to be well crafted and administered to ensure that they do not breach any aspects of the wide assortment of EU directives aimed at preventing discriminatory or protective taxation. The authors note, in this regard, that Sweden's own carbon tax, which has operated since 1991, has proved that national green taxes can work within the EU constitutional framework. This tax has survived Sweden's admission to the EU in 1995. (In fact, the impact of this relatively early carbon tax has, overall, been reduced over the time since its inception through the introduction of special exemptions for certain export-focused industries.)

After reading the chapters on the EU and the US, there is a similar impression that the EU and the US are rather special cases where the deployment of green taxation measures may be more constrained than elsewhere in the developed world – fundamentally because of the political, size-complexity factors applying.

2.8 Australia

Australia, like the US and Canada, has what can be termed a classical federal system of government. The central or federal government is based in Canberra. Both the federal government and the six constituent States with which it co-exists are constitutionally entrenched entities. However, Australia has a federal system where the central government is the overwhelmingly dominant political entity within the federation. This centralizing tendency gathered serious momentum as the nation – and the High Court of Australia – responded to the impact of World War I and its immediate aftermath.⁴⁰ It is a process which has been steadily sustained since that time.⁴¹ In 2006, in the *Work Choices* case, certain remaining major constraints on federal government power (the limitation of what

⁴⁰ Galligan, B., *Politics of the High Court*, University of Queensland Press, 1987.

⁴¹ *Ibid.* See also Cullen, R., “Australian Federalism: Its Provenance and Its Prognosis” in P. Häberle, *Jahrbuch des Öffentlichen Rechts der Gegenwart*, J.C.B. Mohr (Paul Siebeck), 1992, page 723.

sort of activities undertaken by corporations could be federally regulated) were largely lifted.⁴²

One commentator put the standing of the Australian federal system in the *Work Choices* case in this way:

In conclusion, the Court's endorsement [in the *Work Choices* case] of an object of command test, the support it gives to laws that regulate the activities of constitutional corporations, and the expansive approach which it adopted to the validity of laws that regulate those whose conduct is or "is capable of affecting" the activities, functions, relationships or business of a constitutional corporation equips the Commonwealth with power to regulate across an enormous range of subject matters, given the ubiquitous role of corporations in our daily lives. The issue is not whether the Commonwealth has the constitutional power to regulate, but whether it has the political desire and will to do so.⁴³

Australia is, then, notably less beset by the division of power complexities evident in the federal systems in Canada and the US, discussed above. As the joint authors of Chapter 8 on Australia (Professor Natalie Stoianoff (University of Technology, Sydney) and Wayne Gumley (Monash University, Melbourne) show, however, this comparative enhancement of central power has not produced a well-focused, environmentally positive approach to green taxation.

To be fair, the very complex tax (and tax expenditure) infrastructure put in place in Australia has taken decades to construct. And for much of the time that this rather amazing fiscal and related policy matrix was evolving, the powers of the federal government were circumscribed by a division of power regime then more favourable to the States.

In a comprehensive chapter, Gumley and Stoianoff set a strongly detailed discussion of the relevant Australian experience within a helpful outline of the major international agreements related to GHG emissions and climate change. The chapter also includes an informing discussion of the long-debated comparative merits of Pigouvian-tax-based systems compared to Coase-based emissions-trading systems.⁴⁴ The chapter also

⁴² *New South Wales v Commonwealth of Australia* [2006] HCA 52.

⁴³ Applegarth, P., "The Work Choices Case: Corporations Power Aspects", (paper presented at Constitutional Law Conference 2007, Gilbert & Tobin Centre of Public Law, University of New South Wales), http://www.gtcentre.unsw.edu.au/publications/papers/docs/2007/153_PeterApplegarth.pdf, June 13, 2010.

⁴⁴ Pigouvian systems (already discussed) simply put, aim to internalize "external costs" by imposing a balancing tax or charge on, for example, polluting externalities, see Pigou, *op.cit.*; and Baumol, W. J. and Oates, W. E., "The Use of Standards and Prices for Protection of the Environment", *Swedish Journal of Economics*, Volume 73, 1971, page 42. The foundations for a property rights/

discusses the basic market-based trading systems: cap and trade versus baseline and credit.

The history of Australia's initial sceptical approach to the Kyoto Protocol is explained as is Australia's later ratification of the Kyoto Protocol, following a change of federal government, in 2007. Within a year of this ratification, the new Rudd Government had released the "Garnaut Report" and then a White Paper which set out the design features for a comprehensive emissions trading scheme. From this emerged, in May 2009, a set of bills to enact the Carbon Pollution Reduction Scheme (CPRS). The Upper House of the Australian Parliament (the Senate) where the Rudd Government did not have a majority, rejected the CPRS twice – in August 2009 and again in December 2009. Subsequently the government announced that further consideration of the CPRS would be postponed until 2012 – until after the expiry of the Kyoto Protocol commitment period.

The authors explain that the CPRS had broad coverage and sound international integration. But it was also noteworthy (and heavily criticized by many) for its significant concessions to major existing CO₂ generators.

In the latter part of the chapter, the authors set out the astonishing assortment of entrenched – mainly tax-related – impediments to any reforms designed to deal with GHG emissions in Australia. What emerges is an immensely complex mix of primarily federal but also State-sourced taxes, charges and tax expenditures which all have, at least in part, environment-related impact. The Garnaut Report flagged that it was important that this thicket of barriers to reform be addressed. Briefly, special concessions in the tax regime for real estate investment; employer-provided cars and rural fuel tax credits have created tax-driven incentives for activities which all bolster GHG emissions. Predictably, most of these long-established concessions have well-organized, politically vocal, lobby groups focused on resisting all measures which might reduce the perceived benefits.

Tax expenditures, measures embodied in tax legislation which reduce or forgo certain taxes to encourage certain behaviour have been with us for many decades. A long-standing example which can be found in most tax systems is allowing a deduction from income for gifts made to certain, recognized charities. As the authors explain, tax expenditures in Australia

trading-based system for addressing the problem of externalities is commonly traced to the 1960 seminal article by Robert Coase where he urges reliance on market-based mechanisms, *see* Coase, R., "The Problem of Social Cost", *Journal of Law and Economics*, Volume 3, 1960, page 1.

now cost the public purse over A\$100 billion – or 8.5 per cent of GDP. Worse still, Australia continues to lack robust institutional means to highlight – and provoke proper examination of – the detailed high cost of these massive concessions.

A generous view of the tale told in Chapter 8 is that tackling GHG emissions in Australia remains a work in progress. A less charitable view is that reforms designed to tackle climate change in Australia are very badly bogged down in a rather vast swamp which marries a complex (and combative) political system with a tax system notable for its awesome intricacy.

The authors conclude with an outline of some lessons which can be drawn from the relevant Australian experience in the area of green taxation. First, the attempts to achieve GHG reductions using voluntary or persuasive mechanisms simply have not worked in Australia. Next, introducing market-based measures (such as the CPRS) can be extremely difficult where one is trying to mesh that with a complex tax system. Almost certainly, highly organized and numerous vested interests will organize to protect their favoured patch within the existing tax regime. Finally, few parts of any given tax system are more deserving of forensic scrutiny than tax expenditures – yet, for the most part, such expenditures thrive year after year far removed from mainstream political scrutiny. Specific measures, noted in the chapter, can tackle this quite central tax design problem, however.

In summary, Australia stands out more than it should, perhaps, as an example of how to build a tax regime that combines high compliance costs, immense complexity and deeply embedded barriers to reform. It is worth remembering, however, that, despite this reality, Australia still managed to achieve a high degree of comprehensive tax reform based around the introduction of GST just over a decade ago.

2.9 New Zealand

In certain ways, the final chapter in this book is particularly significant. New Zealand is comparatively small in terms of both population (4.3 million approximately) and also area (around 270,000 square kilometers) and it is more geographically isolated than any other part of the developed world.⁴⁵ Yet as Shelley Griffiths (University of Otago) shows in her

⁴⁵ New Zealand is located some 2000 kilometres southeast of Australia – which itself is regarded as being comparatively separated from the rest of the developed world, especially.

informative Chapter 9, New Zealand has, since the 1980s, completed a remarkable level of taxation policy reflection *and reform* and this process has included significant deliberation about the role of green taxation. Although, once again, local political-economy factors have deeply shaped this reform process, the ongoing New Zealand “fiscal experiment” has produced statements of policy principle and broad policy commentary which are of general significance.

No other developed jurisdiction has completed so much recent remaking of their tax regime as New Zealand. Being small, stable and relatively homogenous helps to explain some of why this is so. Some key political-economic turning points also need to be noted, however. In the immediate post World War II period, New Zealand grew increasingly prosperous – but off a narrow base. Most of all, it relied on its highly efficient agricultural export sector to power the economy – plus (like in Australia) a raft of protectionist subsidies and other measures which helped to spread the prosperity within a highly controlled, internal economy.

The economic wheels began to “wobble badly”, however, when the largest export market, the UK, finally joined the European Common Market (EEC) in 1973.⁴⁶ To make matters worse, this happened just as the First Oil Shock, arising from the Arab Oil Embargo hit, following the Yom Kippur War in 1973.⁴⁷ New Zealand was severely distressed by the resulting huge increase in the price of oil: it had no significant, known petroleum resources and its geographic isolation made it heavily reliant on access to long-distance transportation. These and related experiences fairly swiftly (in political-time) led to a radical rethinking of the fundamentals of the New Zealand economy.⁴⁸

⁴⁶ Nixon, C. and Yeabsley, J., “Overseas Trade Policy – New Zealand, Britain and the EEC” in *Te Ara – the Encyclopedia of New Zealand*, <http://www.teara.govt.nz/en/overseas-trade-policy/4>, June 14, 2010. Various initial concessions were negotiated with the EEC (a predecessor of the EU) but these faded with time: the UK took 53 per cent of all New Zealand (almost all agricultural) exports in 1960. This figure dropped to 36 per cent in 1970 and around 5 per cent by 2007. *Ibid.*

⁴⁷ For a well-regarded account of the political and economic history of the global oil industry, see Yergin D., *The Prize: The Epic Quest for Oil, Money, and Power*, Simon & Schuster, 1991. This book covers the period from 1850 to 1990, with significant analysis of both the First Oil Shock brought on by the unsuccessful Arab Coalition attack on Israel in the Yom Kippur War in 1973 and the Second Oil Shock in 1979, which followed from the overthrow of the Shah of Iran in early 1979.

⁴⁸ The Treasury, “Final Report – Tax Review 2001”, October 24, 2001, <http://www.treasury.govt.nz/publications/reviews-consultation/taxreview2001/taxreview2001-report.pdf>, June 14, 2010. Pages 5–17 describe the pre-1984 regime and the changes to it.

The old (UK-dependent) economic model was almost entirely rejected. This had wide-ranging effects, not least for the New Zealand taxation system. The new “tax mantra” which remains determinative today is that New Zealand should stay committed to a “broad-based, low-rate” tax system. The main focus of the reform process was on broadening the tax base and lowering marginal rates of tax, as Shelley Griffiths notes. The three main tax bases were defined as personal income, company income and goods and services consumption (New Zealand introduced a GST in 1986 as a component in the process of fundamental economic reform). New Zealand still has no Capital Gains Tax. Griffiths goes on to make a critical point: a key feature of the old, explicitly rejected system was that the tax system had been widely used, over time, to provide incentives or concessions for activities which were seen, over the longer term, to have social or economic merit. But as the reform process gathered momentum, a powerful belief established itself, that any use of the tax system as a primary policy tool to try and foster or reward particular behaviour had, in future to be approached with extreme caution. Almost all such past measures were seen to have failed the now critical test of “tax efficiency”. They also did not measure up well according to the modern tests of tax simplicity and tax equity.

There have been two major government-initiated, committee-based reviews of the New Zealand tax system, post reform in 2001 and 2009. The first committee, the McLeod Committee, released its final report in 2001, shortly before New Zealand ratified the Kyoto Protocol (in 2002). The committee knew that ratification was likely and it recommended the introduction of a broad-based carbon tax, as the key measure to allow New Zealand to meet its Kyoto Protocol obligations (related to controlling GHG emissions). The carbon tax, which was to be revenue neutral, was felt to provide a better approach than relying on a cap and trade, Emissions Trading System (ETS). As it happens, the committee specifically rejected the use of widely applied eco-taxes and behaviour modification taxes in general. They failed, above all, the crucial tax efficiency test, it was argued. Such taxes were, by now, seen to be “tainted” by their close association with the pre-1980s policies which, over several decades, had help to create an economy which grimly evolved, in the eyes of many, into a complex, protected, failure.

The government, acting on this recommendation, finalized the details of the proposed new, general carbon tax by 2005. Serious difficulties with implementation swiftly emerged. Because of the continuing high efficiency (and international competitiveness) of the agriculture sector, New Zealand relies more than most of any other developed economy, on

animal-based exports. The very high populations of sheep (33 million) and cattle (10 million) mean that animal-generated methane makes up a remarkably high, 35 per cent of all New Zealand's GHG emissions. The fervent opposition of the powerful farming industry resulted in the carbon tax proposal being modified to exempt methane emissions from animals.

A new, inter-departmental review committee was formed in 2005. Its deliberations led it to conclude that, for a range of reasons, the previously rejected ETS option was now the best way forward. By the end of 2005, the government announced that they were not going to proceed with the carbon tax after all. Since the enactment of the ETS in 2008, it, too, has come in for much review and criticism. Now a number of significant stakeholders are arguing for a carbon tax once more: a tax-based system is more certain and predictable, they say.

New Zealand is a unitary (non-federal) state. It has a British-style, parliamentary system of government. It also only has a single house within the parliament. All these features suggest that, institutionally, policy development and implementation should be able to proceed more smoothly than in other jurisdictions with more complex, democratic political structures. However, in 1996 (following a referendum) the previously used "First Past the Post" (FPP) voting system (which strongly favoured the two largest parties) was replaced by what is known as a Mixed Member Proportional (MMP) voting system. Since then, New Zealand has had a series of coalition governments. This has made policy implementation subject to much greater negotiation and, normally, significantly more difficult to implement than was the case when the FPP system prevailed. A further referendum asking whether the current MMP system should continue and, if not, what might replace it is now planned.

New Zealand has, over the last three decades, provided a "working laboratory study" of real tax reform being developed and applied – and revised. One thing the New Zealand, real-life tax policy experience suggests is that you can always rely on the "Law of Unintended Consequences" to apply itself to any and every reform initiative. In other words, those pursuing reform should expect outcomes (both adverse and sometimes positive) not originally planned for and be ready to react in a sound and timely way.

There looks, also, to be a message about the wisdom of using past experience to close off, too quickly, options for today and a possible further message about the need to allow sufficient time for reform initiatives to take full root and have a settled effect.

3. PRELIMINARY OBSERVATIONS

It is clear both from the comparative input and direct discussion in this book that Mainland China and Hong Kong each badly need to build and deploy superior policies to deal with an array of immense environmental challenges including GHG emissions.

The serious faltering of the globalized, emissions trading model favoured in the Kyoto Protocol, especially post-Copenhagen, has led to policy makers around the world taking a fresh look at alternative strategies for tackling massive and serious, environmentally bad behaviour.⁴⁹

Green taxation does not provide any sort of one-stop solution for dealing with GHG emissions. Nor can we hope that it will single-handedly stop and then reverse the collective human behaviour responsible for degradation of air and water quality, for example, across the globe. Green taxation can play a significant role in helping to meet these challenges, however. That this is now more widely recognized, after Copenhagen, is a good thing.

The jurisdictional reviews in the following chapters are valuable and varied. They offer a wide range of comparative perspectives which can help to inform green taxation policy development and implementation in East Asia.

It is worth noting that our authors show how, ultimately, tax policy is always closely shaped by local political, economic and social circumstances. For example:

- What sort of basic political structure is in place – to what degree does it add layers of complexity to high-level decision making?
- What are the embedded economic interests – and how strong are they in terms of shaping overall public policy?
- What sort of timeframes are realistic for testing out new green taxation policies?
- What sort of green taxes look to be core required taxes?
- How can green taxation policies best be integrated with other, related, regulatory measures?

⁴⁹ Following the completion of the UN Climate Conference in Cancun, Mexico, in December, 2010, restrained optimism has emerged that the UN negotiating process related to GHGs and climate change has regained some level of rehabilitated acceptance. See, for example: “Back from the Brink”, *The Economist*, December 18, 2010, page 113, and “China Plays a Quiet Hand but Some Good Cards at Cancun”, *Sunday Examiner*, December 24, 2010, page 4.

- What sort of earmarking or hypothecation of green taxation revenues should be looked at?

The following chapters present many good lessons about what to do – and what not to do – as these and other related questions are being addressed. The ensuing deliberations also often foreshadow a need to expect the unexpected once new green taxation policies are put into place – and make ready to respond swiftly and thoughtfully when this happens.