PREFACE

In 1978 a small group of final 5th year students at the Auckland Architectural School completed an undergraduate sub-thesis study of Low Energy Settlement Patterns in New Zealand under the supervision of Associate Professor Cameron McClean. Each student concentrated on a particular aspect of human settlements while simultaneously participating in a group 'think tank'. Some areas of study led to conventional conclusions while others – in particular Leslie Matthew's chosen topic of agriculture, a key factor – led to a group consensus that existing spatial patterns of settlements in New Zealand would ultimately need to change with the advent of a diminishing supply of easily accessible fossil fuels. My own sub-thesis, *In Search of Steady State*, concentrated on the overriding context of low energy settlement patterns in New Zealand.

In 1978 my background included a Bachelor of Science degree with an A+ major in physics. My background and the time available to write a sub-thesis were both too limited to do full justice to an in-depth study of steady state settlements. I relied heavily on research that had been carried out by others in a number of disparate disciplines. My contribution was a summary of that research in the form of a table which compared the attributes of growth and steady state settlements and the direction of change required for a transition. In 1979 this table was published in the international journal *Urban Ecology* as part of a short communication titled *Ekistics and Energetics: A Sustainable Future Planning Approach*. In this short communication I advocated the integration of the two separate disciplines of Energetics and Ekistics and I foresaw Ekistics, a taxonomic system, as being the structure within which to apply the established tools of systems ecology. An outcome of this integration would be the development of a Growth and Steady State settlement pattern matrix in which future planners would quantify the extent of change required for transition. Parallel planning strategies would be based on this matrix with checks that each strategy was consistent with other strategies.

It is now 40 years ago since I wrote my sub-thesis, and progress towards planning and preparing for a sustainable future in New Zealand has been limited. In 2017 the ecological footprint of New Zealanders was one of the highest in the world and the New Zealand agricultural sector has one of the highest per capita contributions of greenhouse gases to the atmosphere. New Zealand also has one of the highest per capita hydroelectricity production, but no electrified national railway system which links towns and cities. The opportunity for New Zealand to become a leader in adopting well established principles of sustainability has been largely ignored and wasted.

Globally and in New Zealand It has taken decades for early warnings of climate change to be taken heed of and climate change deniers have much to blame for this delay. But even when finally there was general global acceptance that climate change was a reality and the first commitment to abide by the Kyoto Protocol started in 2008, there have been delays in commitment by New Zealand due to the lack of political will and influence by lobbyists with vested interests. The You-Tube documentary, *Hot Air: The Politics of Climate Change in New Zealand,* is an indictment of how "big business recruited climate change deniers and spin doctors to manipulate public opinion, frighten politicians and remove climate change from voters' attention and governments' agendas."

Although the general public is now better aware of climate change and that it is a reality, in New Zealand and elsewhere the term "sustainability" has been hijacked and bastardised to the extent that many politicians and business leaders still use the phrase "sustainable growth". Even government department's which should

know better use this phrase. For example, New Zealand's Ministry of Business Innovation & Employment (MBIE) uses this phrase on its website:

> "MBIE's purpose is to Grow New Zealand for all.
>
> 'Grow' relates to the economy. To achieve the standard of living and quality of life we aspire to, we need a better-performing economy that delivers sustainable growth."

Use of the "sustainable growth" oxymoron by the MBIE demonstrates an abysmal ignorance of the true import of sustainability and the impact of continued economic growth on climate change. MBIE's Purpose Statement directly clashes with New Zealand's commitment to abide by the Kyoto Protocol to curb and reduce its greenhouse gas emissions to the atmosphere.

Continuing obfuscation as to the long-term feasibility and viability of a growth versus a steady state economy has motivated me to write an in-depth update of my sub-thesis with a focus and emphasis on New Zealand. My background to do so is now much greater than in 1978. After I graduated with a Bachelor of Architecture degree with Honours in 1978, I then worked as a registered Architect until 1990. In 1993 I completed a PhD, *The Mortality of New Zealand Housing Stock,* a dynamic simulation of the housing stock from 1857 to 1980. From 1994 to 2005 I worked as a Senior Lecturer in the Department of Property at the University of Auckland teaching Building Economics and Property Economics after which I then re-joined the private sector. In August 2014 I took up semi-retirement and in October 2015, I started to update myself on broader issues of sustainability and progress made over the past 40 years. This process has involved collecting and reading relevant journal publications and books, and viewing videos, documentaries, and lecture series that address the multi-faceted and interwoven issues of sustainability. Some of the resources that I have collected and links to other sources can be viewed and downloaded from my website www.insearchofsteadystate.org