

BUILDING REGULATION AS A GOVERNMENT POLICY INSTRUMENT

Research Question

What is the role of Regulation as a Policy Instrument for Transitioning to a Low Carbon Built Environment?

- Impact of regulatory intervention on housing affordability
- Relative effectiveness of economic instruments compared with others
- Benchmarking Australian building energy standards
- Operation of consumer choice in the property market

Methodology

The research project consists of *five interconnected modules* comprising thematically linked research papers to be published in scholarly journals as required by Curtin University for *PhD by Publication*.

Table 1: research objectives & methodology

Objectives	Module:	Approach
Role of building regulation as a policy instrument	<i>The 5 Star Building Standard</i>	Literature review; data analysis; cost benefit
Investigate policy role of <i>The Market</i>	<i>Economic Review</i>	Literature review; economic analyses
National building standards of Best Practice	<i>Benchmark the Codes</i>	Literature review: – building codes in EU, USA
Test assumptions of consumer rationality	<i>Rationality of Consumer Choice</i>	Apply theories of <i>Behavioural Economics</i> for evidence base

The research methodology for this project may be seen as *Action Research*. It is based on my 30 years' experience as an Environmental Professional. Coupled with a decade of experience in developing and implementing building policy, regulations.

My *Reflection* will involve literature search, data analysis, cost-benefit analysis, industry

stakeholder interviews, and reflective writing.

Results

Research to date covers two of my five planned thesis topics:

1. **Reform of residential energy standards**
This paper concluded that the national 5 Star Standard delivered the desired government policy objectives in the areas of energy saving, cost savings and greenhouse gas abatement. These gains in building performance were achieved with out detriment to housing affordability or negative impact on new home sales in Victoria where the regulation was first introduced.

2. **Benchmarking Australia's building energy code against best practice**
This analysis found significant gaps between world's best practice and the current structure and development processes for Australia's National Construction Code. A series of recommendations were made to raise the code to international standards.

In examining the potential contribution of building energy codes to overall urban sustainability this study has also yielded pertinent findings in relation to the sustainability of Australian urban development:

- Among the world's most urbanized countries
- Higher population growth rate than any other OECD member country
- Cities' carbon footprint among the world's greatest in per capita terms

This research was developed into a paper published in the leading academic journal *Energy & Buildings* whose title is

Analysis of the transition effects of building codes and regulations on the

emergence of a low carbon residential building sector.

This paper breaks new ground by tapping into an extensive body of contemporary socio-economic transition theory in order to inform the process of energy policy formulation. Transition theory provides pertinent case studies of the role of government interventions (eg direct regulation) being deployed to modify socio-economic systems such as the residential construction industry.

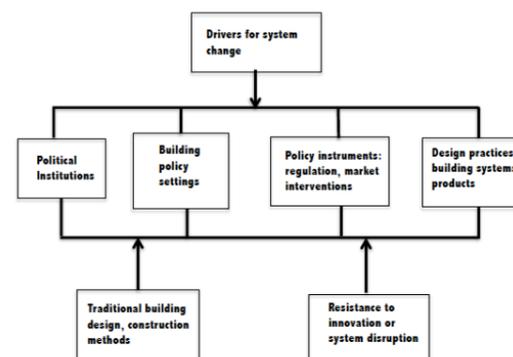


Figure 1 Socio-technical factors applicable to the transition to sustainable building practice

3. Relative effectiveness of economic instruments

A draft manuscript prepared on this topic is currently being finalized prior to journal submission. By drawing upon cost-benefit analyses conducted nationally for regulatory impact assessment purposes this investigation identified substantial market failures in the building sector. Hence deployment of economic analysis such as carbon pricing to drive emission reductions in the building sector would be of limited effectiveness compared to other interventions such as building energy codes and information campaigns.

Conclusions

Findings at this stage lead to the conclusion that progressive energy standards that raise the performance of Australia's building infrastructure to international best practice

levels could make a major contribution to the sustainability of the cities where most Australians live and work. This outcome is achievable while simultaneously delivering economic benefits at both a societal and an individual consumer level - without detrimental impacts on housing affordability.

Anticipated impacts

It is hoped that my research will ultimately provide an evidence base for progressive reforms by the nation's senior policy makers that will aim to:

- Recognize the contribution that reducing emissions from the building sector can play in achieving national climate change targets
- Recognize that a full suite of policy instruments needs to be deployed to reduce these sectoral emissions, with building standards a priority
- Bring Australia's building energy code up to international standards

Key statement

The key message from my research is that building regulation has clear potential to reduce greenhouse gas emissions from a pivotal sector of the Australian economy. While delivering triple bottom line economic, social and environmental benefits. Regulation also assists in achieving these outcomes with the sense of urgency demanded by the Paris Climate Change Agreement.

Further information:

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