

# 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
- Examining building industry through a cultural lens

## 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
Study the building sector through the lens of <i>culture</i>	<i>Building the Culture</i>	Literature review Stakeholder interviews

The research methodology for this project is classified 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, 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 element of my research resulting in findings that there are a number of 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:
  - Lock in regular updates of energy provisions in line with the triennial code amendment cycle
  - Include comprehensive monitoring and reporting of outcomes to national Building Ministers
  - Enhance resources provided by the Commonwealth in support of market transformation using the US DOE model as a template
  - Articulate a visionary objective for the NCC in the same vein as the EU's "near zero emissions" target

- Extend mandatory disclosure and energy performance certification to all building classes
- Upgrade the compliance regime through in a national collaborative exercise involving the ABCB, State & Territory building administrations

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

Table 2: Greenhouse emissions for selected cities.

City	Country	tCO2e/capita/yr
Sydney	Australia	20.3
Shanghai	China	12.9
Frankfurt	Germany	13.7
Los Angeles	USA	13.0
Toronto	Canada	11.6
Bangkok	Thailand	10.7
London	UK	9.6
New York	USA	7.9
Tokyo	Japan	4.9

## Conclusions

Findings at this mid stage of my PhD program lead to the conclusion that progressive energy standards which raise the performance of Australia's urban 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 certainly achievable while simultaneously delivering economic benefits at both a societal and an individual consumer level without detrimental impact on the affordability of new homes.

## 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
- Bring Australia's building energy code up to international standards

## Key statement

The key message from my research this far is that building regulation has considerable potential for use by Australian governments to reduce greenhouse gas emissions from a pivotal sector of the economy. At the same time as delivering triple bottom line economic, social and environmental benefits. Regulation also assists in achieving these outcomes with the sense of urgency demanded by the climate change crisis we are facing.

## Further information:

[www.lowcarbonlivingcrc.com.au](http://www.lowcarbonlivingcrc.com.au)

## Contact

Robert Enker  
 Curtin University  
 Email: [robert.enker@curtin.edu.au](mailto:robert.enker@curtin.edu.au)