RP1021

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*.

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

The research methodology for this project is *Action Research,* based on my experience as an Environmental Professional coupled with a decade of experience in developing and implementing building policy, regulations.

Results

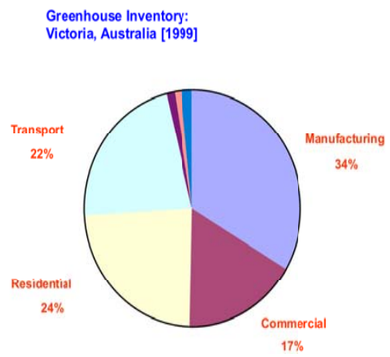
Latest research findings were presented at the CESB2016 Conference in Prague last June; my topic was:

Energy Policy for Buildings: why Economic Interventions are Ineffective*.*

Key findings of this research paper are as follows.

1. **Buildings' crucial role in GHG abatement**
   - The building sector is responsible for 25-40% of global emissions
   - Sectoral abatement is highly cost-effective using proven technologies
   - Analysis by McKinsey et al demonstrates that abatement has a negative cost/tonne

Victorian building emissions are particularly significant:



2. **Energy policy instruments/options:**
   - Economic measures – penalties or incentives
   - Direct regulation –standards
   - Public information campaigns
   - Industry capacity building

3. **Evidence of extensive market failures in the building sector is found in national Regulatory Impact Statements that reveal:**
   - Externalities [greenhouse pollution] are not accounted for by the market
   - Information failures: lifecycle energy costs inaccessible
   - Split incentives: tenant vs landlord, owner vs builder/developer
   - Information asymmetries
   - Bounded rationality: energy efficiency not a priority

RIS Report	Market failure mechanisms
Regulatory Information Bulletin: [9/2002]	• Public goods Natural monopolies • Information failures
BCA: Energy Efficiency for Residential Buildings other than Housing [2/2004]	• Externalities not factored into market decisions • Aggregation of private decisions not socially optimal
Energy Efficiency for BCA Class 5-9 Buildings [3/2005]	• Externalities not accounted • Split incentives • Inadequate market information
Increased energy efficiency requirements for housing [4/2005]	• National energy policy measures complement BCA mandatory standards
Increase energy efficiency for housing [3/2006]	• Consumers don't pay full cost of energy production • Market complexities obstruct rational decision making
Revised Requirements for Residential Buildings [9/2009]	• Inelastic Energy demand: not responsive to market signals • Market barriers not addressed by carbon price
Requirements for Commercial Buildings [12/2009]	• Split incentives • Capital constraints • Excessive transaction costs

4. **Conventional economic instruments used for energy policy are flawed**
   - Efficient resource allocation depends on defined property rights and the inclusion of externalities
   - Internalizing externalities [viz the *Coase Theorem*] assumes idealized market operation
   - The Pigouvian Theory on which pollution taxes are based also requires market information that is unobtainable in practice

Discussion

A decade of RIS analyses demonstrate the economic benefits of setting minimum building energy performance standards:

ABCB RIS Report	CBA Economic benefits as Benefit/Cost Ratio [BCR]
9/2002	NPV $570M
2/2004	BCR 1.66:1
3/2005	BCR 4.6:1
4/2005	BCR 1.53:1
3/2006	BCR 1.27:1 Abatement cost -3.6c/kg CO_2
9/2009	BCR 0.88 NPV -$259M
12/2009	BCR 1.6:1 Abatement cost - 70c/kg CO_2

Key statement

Building regulation has great potential for use by Australian governments to reduce greenhouse emissions from a pivotal sector of the national economy. While simultaneously delivering *triple bottom line* economic, social and environmental benefits.

Regulation can drive these policy outcomes with the *urgency* needed to address the challenge of climate change facing us today.

Further information:

www.lowcarbonlivingcrc.com.au

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