# New Perspectives on Institutional Change: The Case of Changing Energy Management Practices in Australia

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# Certificate of Original Authorship

I certify that the work in this thesis has not previously been submitted for a degree, nor has it been submitted as part of the requirements for a degree, except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

The research presented in this thesis was approved by the University of Technology, Sydney Human Research Ethics Committee, Approval Number: 2013000126.

Signature of Student:

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# List of Acronyms and Abbreviations

| | |
|---|---|
| AUD | Australian Dollar |
| Btu | British Thermal Units |
| CCS | Carbon Capture and Storage |
| CDP | Carbon Disclosure Project |
| $CO_2$ | Carbon dioxide |
| CPRS | Carbon Pollution Reduction Scheme |
| Department of RET | Australian Government Department of Resources, Energy and Tourism * |
| Department of Industry | Australian Government Department of Industry * |
| Department of ITR | Australian Government Department of Industry, Tourism and Resources * |
| EEBP program | Energy Efficiency Best Practice program |
| EEO legislation | *Energy Efficiency Opportunities Act 2006* (Cth)<br>Energy Efficiency Opportunities Regulations 2006 (Cth) |
| ENGO | Environmental non-governmental organisation |
| EPA | U.S. Environmental Protection Authority |
| ESCO | Energy service company |
| ESG | Environmental, social and corporate governance |
| ETS | Emissions Trading Scheme |
| $GtCO_2$ | Gigatonnes of $CO_2$ |
| GBCA | Green Building Council of Australia |
| G8 | Group of Eight (of the largest global economies) |
| IAC | Industrial Assessment Center |
| IEA | International Energy Agency |
| IMF | International Monetary Fund |
| IPCC | Intergovernmental Panel on Climate Change |
| IPMVPC | International Performance Measurement & Verification Protocol Committee |
| ISO | International Organization for Standardization |
| KPI | Key Performance Indicator |

| | |
|---|---|
| NABERS | National Australian Built Environment Rating System |
| NGER Act | *National Greenhouse and Energy Reporting Act 2007* (Cth) |
| NGER Scheme | National Greenhouse and Energy Reporting Scheme |
| NGO | Non-governmental organisation |
| OECD | Organisation for Economic Co-operation and Development |
| PJ | Petajoule |
| Q&A | Question and answer |
| SCOTS | Social construction of technological systems |
| SMEs | Small and medium enterprises |
| USD | United States Dollar |
| U.S. DOE | United States Department of Energy |
| White Paper | Australian Government White Paper – *Securing Australia's Energy Future* |

*Refer to the glossary for an explanation of the historical name changes associated with these Australian government departments

# Abstract

This thesis provides new perspectives on the dynamics of institutional change by examining the case of changing energy management practices in large energy consuming organisations in Australia between 2006–2012. Effective energy management practices can deliver cost savings, greenhouse gas reductions and a range of benefits to organisations and society more widely through energy efficiency improvements. However, there is evidence to suggest that there is a gap between the availability of profitable energy efficiency projects in organisations and the extent to which such projects are implemented. Researchers refer to this phenomenon as 'the energy efficiency gap'.

The thesis builds on contemporary developments in the institutional entrepreneurship literature by developing a multi-level model to conduct the research. Due to the complexity of interrelated issues and events, case study method is applied to analyse and report on the dynamics of changing energy management practices over the study period. The primary research question is: *How* and *why* do energy management practices change?

The research finds that energy management practices evolved over the study period through a process of 'collaborative co-creation'; that is, multiple organisations were involved in experimentation, negotiation and consensus-building processes. These disrupted previously established energy management practices and informed the development and maintenance of new and more effective practices. The thesis contributes to the institutional theory literature by offering original and empirically tested insights into the conditions that support institutional change as a dynamic process involving interactions between multiple organisations. These conditions are that stakeholders with varying degrees of attachment to established management practices are engaged in the change process, roles emerge for institutional entrepreneurs and collaboration is facilitated through the enactment of constructive social skills. Change is further reinforced through shifts in the underlying beliefs about the energy management practices that are considered to be legitimate within a

community of corporate energy practitioners.

Based on the findings, it is concluded that energy efficiency policymakers can encourage the adoption of more effective energy management practices in organisations by developing and refining policies based on three key principles. First, energy efficiency policies should encourage a wide range of organisational stakeholders to engage in the process of energy efficiency improvement. Second, policies should be enduring in order to support learning and institutional change across business cycles. Third, policies should be flexible in order to align with the capability, needs and readiness of organisations in order to accelerate energy efficiency improvement.