A policy design framework to identify the characteristics of robust energy efficiency policies

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Abstract

Although public energy efficiency policy is ultimately set by government, it arises via a complex social process involving interactions between potentially numerous different groups. The final policy design is altered according to the aims of the various groups involved and how well each manages to influence the process. Governments can employ various strategies to navigate this process, one of which is the choice and detailed design of the policy instrument itself.

This paper presents a framework that aims to identify the characteristics of energy efficiency policies that affect firstly their likelihood of introduction, and then their robustness against adverse changes during the policy development process. We apply this framework to eight different Australian energy efficiency policies that can be divided into three different types: Support mechanisms (Energy Efficiency Opportunities and the Australian Carbon Trust Energy Efficiency Program); Command and control (Minimum Energy Performance Standards and the Building Sustainability Index); and Price-based mechanisms (New South Wales (NSW) Home Saver Rebates and three State-based white certificate schemes).

This assessment can help explain why some types of energy efficiency policies are implemented and are more effective than others. It may therefore provide guidance not only regarding the types of policies that governments could favour, but how to design them so they are more likely to be effective after emerging from the policy development process.

Introduction

Although public policy[1] is ultimately set by governments of the day, it generally arises via a complex social process involving interactions between a potentially large number of different groups (Moran et al, 2008). Initial policy proposals may originate from politicians, party platforms, or individuals and groups within the public service. Various interest groups that are either affected themselves and so are considered direct stakeholders, or who represent wider stakeholders groups,[2] then try to influence the final policy outcome. Such interest groups may also

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[1] A note on the use of terminology: One approach is that 'policies' represent government objectives (eg. encouraging the construction of energy efficient buildings), 'policy mechanisms' are particular approaches to carry out such policies (eg. building energy performance ratings) while 'policy programs' are actual implementations (eg. a Government requirement that all new buildings achieve 5 star ratings). Another approach is to simply differentiate between policies and instruments. Here, for simplicity's sake, we use only the term 'policy'.

[2] Either as chosen representatives (eg. some trade associations) or as advocates (eg. some non-government organisations).

be responsible for developing and proposing an original public policy concept which they may introduce into the political process via a sympathetic politician or bureaucrat. In many countries various processes, potentially involving the release of Discussion Papers, Green Papers and White Papers, with invitations for public comment at each stage, may be used by governments to obtain feedback regarding policy design. These processes may eventually culminate in draft legislation or administrative rule changes, then typically after further negotiations, final rules and legislation. The final policy design is altered according to the aims of the various groups involved and how well each manages to influence this process.

There is a considerable body of literature on the mechanisms and strategies that governments can use to minimise stakeholder opposition to policies they wish to introduce, as well as attempts to alter them in ways that reduce their effectiveness (e.g. Bailey and Compston, 2010 and references therein). Those most relevant to this paper can be categorised according to whether they relate to the broader political landscape, to the policy development process, or to the design details of the policy itself. Although it is likely that all three types of strategies are required for effective policies to be implemented, here we focus and expand only on the use of particular policy designs.

The rest of this paper is divided into five sections. We first present a possible assessment framework based on the design characteristics of policies that affect their likelihood of introduction as well as alteration by the policy development process. This framework is illustrated using examples of some key Australian energy efficiency policies. The paper then discusses how these characteristics could be incorporated into a policy's design, both in ways that placate powerful incumbent stakeholders as well as ways that elicit support from other stakeholders such as members of the energy efficiency industry. The paper also briefly discusses how governments can use broader political tactics to support stakeholders that may in turn support particular energy efficiency policies. Finally, we use this framework to assess the most recent and most significant energy efficiency policy initiative to come out of Australia: the Prime Minister's Task Group on Energy Efficiency Report.

The use of policy design to negotiate the policy development process

It can be expected, and history highlights, that different types of policies are more or less likely to be introduced and altered in different ways during the policy development process. An improved understanding of how the policy development process affects the final policy design might therefore be valuable in identifying the types of policies most likely to retain their effectiveness after emerging from this process. Such an understanding can be based on:

1. Whether the policy is likely to be introduced into the policy development process in the first place.

2. Whether the policy is likely to be attacked by key stakeholders, whether those stakeholders will be powerful enough to alter it, and if so, how it may be changed.

3. Whether the policy is likely to be defended by other stakeholders (either in current or modified form), whether those stakeholders will be powerful enough to defend it, and how they may change it.

4. Whether the policy is likely to be robust against such attacks.

Table 1 summarises the characteristics of policies that, in our view, provide a possible framework to assess whether they are likely to be introduced and retain their intended outcomes. It was essentially developed based on our personal experiences with the Australian policy development landscape and processes, and as such, may have an Australian bias. Note there is a certain amount of overlap: for example, policies may not get introduced in the first place because they are likely to be attacked and/or unlikely to be defended. It may also be possible that policies that are not robust are more likely to be introduced if the aim is to provide something that incumbent stakeholders can develop to their advantage.

Table 1: Assessment framework based on policy characteristics that influence the likelihood of introduction and resilience

Characteristics that …
Increase likelihood of introduction
- clear evidence of a policy need
- facilitate political prestige, vote capture
- supported by advisors and bureaucracy
- advantages key incumbent stakeholders
- modest change from Business As Usual
- similar to types of policies used before and so more familiar
- limited alternative approaches
Decrease likelihood of introduction

	- counter to party/personal ideology - disadvantages key stakeholders - very significant changes to current arrangements
Increase chance of effective attack	
	- significant adverse impact on powerful, motivated and coordinated stakeholders that might lose money/influence - has a wide scope and so impacts on a broad group of stakeholders who may form a coalition
Reduce chance of effective attack	
	- impacts on weak or poorly organised or 'diffuse' stakeholders, or on stakeholders with conflicting aims - has limited, indirect and/or gradual (and perhaps uncertain) adverse impact on powerful stakeholders - if is easy for some key powerful stakeholders to be protected from impacts
Increase chance of defence	
	- favourably impacts on relatively powerful stakeholders (organised, motivated, numerous)
Reduce chance of defence	
	- complex policies are less likely to be supported by less organised/powerful stakeholders that may not be able to understand them - if the benefit it provides is perceived as relatively small, diffuse, intangible or in the future
Impart robustness	
	- simplicity, clear and measurable outcomes directly linked to desired actions
Impart weakness	
	- complexity and abstraction make it difficult to assess if the scheme is actually being effective, as well as assess the impacts of changes

The following illustrates the impact of the various characteristics in Table 1 using examples of three different types of policies intended to drive energy efficiency in Australia:

- Support mechanisms (Energy Efficiency Opportunities and the Australian Carbon Trust Energy Efficiency Program);

- Command and control (Minimum Energy Performance Standards and the Building Sustainability Index); and

- Price-based mechanisms (NSW Home Saver Rebates and three state-based white certificate schemes).

Support mechanisms are typically voluntary and have been the most widely implemented energy efficiency policy measures to date, and indeed make up the bulk of the recommendations in the Australian Prime Minister's Task Group on Energy Efficiency's Report – discussed below. They can provide useful learning experiences for early-mover individuals and firms, and a 'policy frontier' for policy makers.

'Command and control' regulatory mechanisms can reduce the transaction costs and effort required by individual decision-makers to choose optimal levels of energy use by effectively taking some energy efficiency decisions at the societal level (ie. government makes the decision on society's behalf) - and so bypass some of the existing market failures in energy-related decision-making (EST, 2002).

Price-based mechanisms can contribute to coherent and effective policy development by encouraging participants to choose energy efficiency options beyond mandatory standards. They may change the effective price of undertaking energy efficiency options in a number of ways:

- by directly pricing energy efficiency itself – this can include reducing the supply costs of energy efficiency options through subsidies or increasing the demand benefits of energy efficiency using, for example, tax credits; and

- by mandating some target level of energy efficiency on suitable market participants and providing a means by which achievement of such targets is demonstrated, for example, white certificate schemes.

-   by changing energy prices - for example, using market design choices, energy taxes, or environmental instruments such as emissions trading schemes (ETS);

Energy Efficiency Opportunities

The Energy Efficiency Opportunities (EEO) program[3] encourages businesses that use more than 0.5 PJ per year to improve their energy efficiency (excluding those in the electricity sector). This includes about 220 businesses who collectively are responsible for 45% of Australia's final energy use. It requires them to evaluate at least 80% of their energy use and identify and report publicly on energy savings opportunities with a simple payback time of 4 years or less. Thus, while participation in EEO is mandatory, businesses are not required to implement any of the identified savings.

According to the criteria outlined in Table 1, this program was likely to be introduced because it: (i) facilitated political prestige because it can be presented as a 'big impact' policy since it addresses the businesses responsible for 45% of Australia's final energy use; (ii) was supported by advisors and bureaucracy because even if it does not reduce energy use (because of potential rebound effects) it should increase the efficiency of the economy; and (iii) doesn't disadvantage key incumbent stakeholders and results in a modest change from BAU because implementation of energy efficiency opportunities is optional. The EEO program was unlikely to be strongly attacked because although it affected a broad group of stakeholders, it had relatively little impact on them.[4] It also has a simple design and obligations on liable parties[5]. The simple design made the policy easy to understand and helped impart robustness of design[6] (because the consequences of any changes to the design are relatively easy to identify and understand).

Australian Carbon Trust Energy Efficiency Program

The Australian Carbon Trust consists of two components, the Energy Efficiency Program (EEP)[7] and the Carbon Neutral Program. The EEP was established to provide advice to build knowledge and capacity in projects for energy efficiency retrofits of existing buildings. It aims to prove-up and demonstrate a range of innovative financing and delivery models for energy-efficiency improvements across multiple business types and locations. It also has $87.6 million in funding to make co-investments to stimulate private sector investment. Because it is entirely voluntary, this program was simply announced along with other measures intended to strengthen the Carbon Pollution Reduction Scheme (which has since been cancelled). It possesses all the qualities of a program likely to be introduced and has not been attacked. The funding comes from consolidated revenue (ie. general government revenue derived from all sources), and so does not adversely effect any particular group that might then object. In Nov 2010 the first tranche of projects were announced, receiving funding of up to AUD 23.7 million, intending to leverage AUD 300 million.[8]

Minimum Energy Performance Standards

The Minimum Energy Performance Standards (MEPS)[9] specify a number of performance requirements that affect the energy use of electric appliances. Appliances that fail these requirements can not be sold in Australia. MEPS in Australia were introduced because although they do not facilitate political prestige or advantage key incumbents, the government and administration considered them necessary to remove the worst performers from the market. MEPS also has excellent administrative cost-effectiveness, and doesn't require voters to actively do anything. They also initially result in a small change from BAU as the targets are generally set at some time in the future. However, in terms of policy development, they do suffer from the fact that they negatively impact on a particular group of stakeholders while their benefits are spread across the general population – who are unlikely to be aware of them. The benefits also accrue over time and appliances may have higher upfront costs (although the buyers of appliances are unlikely be aware of either the MEPS or their impact on costs). As a result, more stringent MEPS have often been opposed by importers and retailers of appliances, with their defence being left to interested academics and consumer groups. It has been argued that this has resulted in the Australian MEPS being relatively weak, even

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[3] http://www.ret.gov.au/energy/efficiency/eeo/Pages/default.aspx
[4] Indeed, the EEO companies were responsible for 178.8 MtCO$_2$-e in 2007/08 (about 1/3 of Australia's total emissions) and, as a result of the program, have *committed* to reducing their emissions by only 1.6 MtCO$_2$-e in 2010 or 0.9%, which is about 0.3% of Australia's 2007/08 emissions (DCC, 2008) and 3.9 MtCO$_2$-e in 2020 (DRET, 2010).
[5] Although implementation has since proven to be difficult for some businesses who had little experience in energy efficiency.
[6] Note that robustness simply means resistance to change, and so an ineffective policy can still be robust.
[7] http://www.australiancarbontrust.com.au/page/energy-efficiency-program
[8] http://www.australiancarbontrust.com.au/media-release/australian-carbon-trust-first-energy-efficiency-program-investments-announced
[9] http://www.energyrating.gov.au/meps1.html

compared to the countries of the appliances' origin. For MEPS to be weak, the targets need not be altered, just delayed, with the result that some of the target is achieved by BAU improvements in efficiency (Pears, 2006). However, it should be noted that despite these failings, the MEPS have been the most effective Australian energy efficiency policy to date, estimated to result in reductions of 7.7 $MtCO_2$-e in 2010 (compared to what they would have been otherwise), almost 5 times what the EEO is expected to achieve, and 18.4 $MtCO_2$-e by 2020 (DCC, 2008). It is likely that more stringent MEPS targets would have achieved significantly more abatement. The effectiveness of measures such as MEPS is consistent with the findings of the UK Energy Savings Trust, which notes that "Price based mechanisms, in general, will not address the information and consumer related barriers to energy efficiency investment – here regulatory solutions tend to be more effective." In particular, "Neo-classical economic conceptions of regulation as inherently less efficient than market based instruments cannot be applied to energy efficiency, because of the extent of market failure… In practice, some examples of regulation have proved very cost-effective" (EST, 2002).

Building Sustainability Index

The Building Sustainability Index (BASIX)[10] is an online program that is used in the state of New South Wales (NSW) that aims to ensure houses are designed to use less water and produce fewer greenhouse gas emissions. The house design must pass specific targets before the BASIX Certificate is issued and the development application can be processed. BASIX was first introduced in 2004 with much fanfare as a policy that would both reduce greenhouse emissions and improve the quality of voter's homes – and so fulfilled the requirement for political capital. Its scope has been steadily increased – starting with new buildings in a select area in and around Sydney and now covering all residential developments in NSW that have a total estimated cost of works of AUD 50,000. On the 1 July 2006 the greenhouse gas reduction target was increased from 25% to 40%. As for the MEPS, BASIX negatively impacts on a particular group of stakeholders (housing developers), it may result in higher upfront costs and the benefits accrue to the general population over the longer term. This resulted in significant opposition from housing developers, in particular the Housing Industry Association, to the greenhouse gas reduction target being increased to 40%. Although unlike MEPS, BASIX also benefits a particular group of stakeholders, namely the water/energy efficiency businesses, these businesses are relatively fragmented and lack a coherent and politically powerful voice. Thus, while the 40% increase was successful, apartment buildings greater than 6 stories were exempted.

NSW Home Saver Rebates

The NSW Home Saver Rebates[11] are provided by the NSW government to offset the higher upfront cost of more efficient and water-saving appliances eg. rainwater tanks, hot water systems, hot water circulators, washing machines, dual flush toilets and ceiling insulation. As expected, there was no real opposition to them being implemented as they don't demand that homeowners take action but provides cash to those that do. However, the ceiling insulation rebate was recently discontinued because it resulted in the deaths of insulation installers as well as house fires (Combet, 2010). It is likely this occurred because a large amount of money was suddenly made available to an industry that lacked appropriate checks and balances to ensure safety standards were maintained. Thus, while it may be politically attractive to send money to voters, this puts the effectiveness of the policy in their hands as well as in the hands of the often decentralised, poorly regulated organisations that serve them. This policy serves to highlight the fact that good policy design includes enabling measures such as training, accreditation and standards.

White certificate schemes

There are three white certificate (WC) schemes in Australia: the NSW Energy Savings Scheme (ESS), the South Australian Residential Energy Efficiency Scheme (REES)[12] and the Victorian Energy Efficiency Target (VEET) scheme. WC schemes are interesting psychologically in that, rather than focusing on reductions, they instead promote the creation of EE certificates that have a financial value, framed in terms of targets that increase over time.[13] Like BASIX, the Australian WC schemes have created a focused group of stakeholders that have provided support, but unlike BASIX, they did not create opposition from housing developers because the activities that create certificates are retrofitted at the owner's request. Electricity retailers are the liable parties and also face reduced electricity sales and so were the main source of opposition, however the relatively low targets (eg. ESS; 0.4% of NSW electricity sales in 2009 increasing to 4% in 2014: REES; 155,000 tonnes in 2009 increasing to 255,000 in 2011: VEET; 2.7 million tonnes GHG in each year 2009 to 2011[14]) enabled the schemes to be passed. The major

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[10] http://www.basix.nsw.gov.au/information/about.jsp

[11] http://www.environment.nsw.gov.au/rebates/

[12] The SA REES isn't strictly a WC scheme as it doesn't involve the creation of certificates but instead simply credits retailers with abatement activities they have undertaken themselves or paid abatement providers for.

[13] This is the same approach taken for baseline and credit GHG abatement schemes.

[14] In 2010 this was doubled to 5.4 million tonnes for the three year period 2012 to 2014.

electricity retailers in NSW were also owned by the NSW government, creating an interesting conflict of interest. Another source of potential opposition, energy-intensive trade-exposed businesses, were exempted from the schemes. As a result, and despite potential problems with additionality (eg. Passey et al., 2008; and references therein), they have proven very popular in Australia. The South Australian and Victorian WC schemes are also relatively simple in that they have a limited list of prescribed activities that are eligible to create certificates – which increases the likelihood they'll drive real reductions in emissions.

Incorporating influences into policy design

The examples discussed above can be used to identify a list of favourable characteristics that result in a policy being introduced and passing successfully through the development process. Some of these are obvious: for example, a policy is likely to be easy to implement if it facilitates political prestige, if participation is voluntary, if it involves government providing money and/or other resources, and if mandatory, has relatively weak targets and exempts politically powerful stakeholders. This explains why support mechanisms are so popular and helps explain why the MEPS and WC targets may be weak.

However, the above examples also provide insights into policy design characteristics that increase the likelihood of implementation yet are effective in driving uptake of energy efficiency. Such characteristics can be divided into those that increase the chance of robust defence by emerging stakeholders and those that reduce the likelihood of attack by incumbent stakeholders. Policies are more likely to be successful if they are of direct benefit to emerging stakeholders that have some power and are willing and able to use it. This was apparent when the proposal to increase the BASIX target to 40% was supported by the water/energy efficiency industries (in contrast to MEPS, where the only beneficiaries are diffuse and may not even be aware of the policy). Support by these industries would also have helped the WC schemes be implemented, although at this stage the incumbent retailers are relatively powerful – hence the weak initial targets. As the water/energy efficiency industries expand over time and so increase their political influence, this may help the WC and BASIX targets to be strengthened.

This approach, of gradually increasing stringency, is one of the design characteristics that can be used to aid introduction and reduce the chance of attack by incumbents. Another way to reduce opposition by incumbents, at least in theory, is to design the policy so that costs can be passed through. However this approach is not always successful – for example, developers of large apartment blocks may not be able to pass through the full costs of BASIX because the prices of such buildings are often more affected by fundamental factors such as interest rates, land prices, and the availability of skilled trade personnel. The passing through of costs can also affect the relative competitiveness of different businesses differently (eg. the degree to which businesses are exposed to other businesses not facing the same requirements) which can lead to complex claims for differential treatment and compensation.

It is clear that the use of policy design alone will be insufficient to ensure that energy efficiency policies retain their effectiveness after passing through the policy development process. Moving beyond policy design into broader political tactics, governments can provide support to stakeholders that may support particular energy efficiency policies. Such support can include enabling access to government decision-makers, processes and information, thereby increasing their influence. It can also include facilitating interactions between these stakeholders through committees, networking events, and other formalised types of processes (Bailey and Compston, 2010). One of the problems here for energy efficiency is that there isn't a clearly identified energy efficiency industry. Many key companies make a range of equipment, some of which is efficient and some of which isn't (eg. appliances) while others may be involved is selling a wider range of unrelated products (eg. insulation manufacturers may provide a range of other building products). Broader political tactics can also be used to reduce opposition by incumbents, for example by providing transitional assistance. However, it is important that such assistance does not just maintain the status quo and does not incur unfair costs to the rest of society. As well as direct financial imposts, such costs can include a policy being delayed or made less effective, resulting in the societal benefits of transitioning to a cleaner economy being delayed and potential climate impacts increased.

Assessing the Australian Prime Minister's Task Group on Energy Efficiency's Recommendations

The Australian Prime Minister's Task Group on Energy Efficiency was established in Nov 2009. Its role is to consult with industry and community groups and report on the most economically and environmentally effective mechanisms to deliver major improvements in Australia's energy efficiency. In early 2010 the Task Group released an Issues Paper that set out key ideas for comment and received over 200 submissions. In July 2010 the Task Group then released a Report detailing recommendations to "deliver a step-change improvement in energy efficiency and

place Australia at the forefront of OECD energy efficiency improvement by 2020".[15] The following briefly assesses the Task Group Report's recommendations for stationary energy using the framework described above. With such an auspicious start and claims of 'step-change improvements', the Task Group's Report could be expected to deliver major policy developments that would have a significant impact. Of course, of most interest will be an assessment of the policies that are actually announced by government, as these will better reflect the influences of the full policy development process. However as yet, none of the Task Group's recommendations have been brought forth into policy.

The Report recommends five 'Foundation measures' and a number of 'Supporting options'.[16] The five 'Foundation measures' are:

1. Setting an aspirational national energy efficiency target of improving Australia's primary energy intensity by 30 per cent between now and 2020.

2. Establishing a transitional national energy savings initiative that would replace existing and planned state energy efficiency schemes and be phased down as a carbon price matures.

3. Resetting the governance framework of energy efficiency so that responsibility for its delivery, coordination and implementation is clear.

4. Providing a stronger enabling environment for energy efficiency innovation by improving information, data and analysis—noting that for something to be managed, it must be measured.

5. Building an energy efficiency culture in Australia through a long-term, nationally integrated strategy.

Thus, four of the 'Foundation measures' are general support mechanisms (not necessarily financial support) and one is price-based (the national energy savings initiative is likely to be a white certificate (WC) scheme). All four of the support mechanisms satisfy criteria outlined in Table 1 that are required for them to be introduced. They are already supported by advisors and bureaucracy (who were on the Task Group), they are very general and so don't necessarily disadvantage key incumbent stakeholders and don't necessarily result in a significant change from BAU. For similar reasons the four support mechanisms are unlikely to be attacked – although it is highly likely that incumbent stakeholders with a vested interest will seek to establish themselves on any related committees or working groups.

The national energy savings initiative also fulfills the criteria for it to be introduced in that it can be a 'big' announcement, and doesn't necessarily result in a significant change from BAU and is similar to types of policies used already (it replaces existing and planned WC schemes). It is also described as 'transitional' as it would be 'phased down as a carbon price matures'. Although the government has previously said it was not in favour of WC schemes (in response to a report released by the Productivity Commission (PC, 2005)), they can be said to be currently supported by advisors and bureaucracy because they are one of the Task Group's recommendations, and the government has said it will engage with industry and the community on all of the proposals in the Report (Dreyfus, 2010). Assuming that a national energy savings initiative is introduced, it will be very interesting to see how it moves through the policy development process. As has occurred for the state-based WC schemes, it is possible that the electricity retailers may succeed in lobbying for small targets and the large energy users will be exempted. The water and energy efficiency industry is now more established yet still relatively fragmented and so is unlikely to have sufficient political influence to oppose the electricity retailers and large energy users. If the government truly wishes a strong national energy savings initiative it could provide the type of support described above to increase the political power of these industries.

Of the 'Supporting options' relevant to the stationary energy sector, 17 are support measures, 5 are command and control and none are price-based.

The support measures are to:

i)   Expand the EEO program for large energy users and include electricity generators and electricity and gas transmission and distribution companies networks

ii)   Introduce a large energy users demonstration incentive

iii)   Develop a pathway towards zero-emissions buildings

iv)   Strengthen Australia's capacity to assess building energy use

v)   Trial:

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[15] http://www.climatechange.gov.au/government/submissions/pm-task-group.aspx

[16] If the national energy savings initiative was implemented then some of the 'Supporting options' could be foregone.

<ol type="a" start="1">
industrial hubs that could demonstrate energy synergies (and energy efficiency/distributed generation technologies),
net zero-emissions urban hubs that could showcase new high-technology and low-emissions residential buildings and precincts, and
Central business district hubs that could trial retrofits for highly energy-efficient commercial buildings and district-scale energy solutions

<ol type="i" start="6">
Implement seven measures aimed at improving governance arrangements
Develop a revolving financing mechanism to support building energy efficiency improvements across community facilities
Establish a revolving building fund for Commonwealth government portfolios to bid for retrofit upgrades to help achieve new aspirational targets for government buildings
Develop and promote an accreditation and training regime for energy service companies
Introduce high energy performance standards (HEPS, which just labels the most efficient products) and develop an endorsement label

The command and control measures are:

<ol type="i">
Streamline, accelerate and widen minimum energy performance standards (MEPS), and develop standards for priority systems (eg. appliances that use a lot of energy such as plasma televisions)
Mandate the procurement of HEPS-rated products for Australian government operations and encourage jurisdictions to do the same.
Introduce mandatory disclosure of the energy efficiency of a range of products and services in advertising and promotional material.

With the bulk of the 'Supporting options' being support measures, they fulfill the criteria outlined in Table 1 and so their introduction is unlikely to be opposed, nor are they likely to be attacked. A possible exception is the expansion of the EEO program to include electricity generators and electricity and gas transmission and distribution companies networks. Although implementation of identified savings is not compulsory, the process of auditing energy use and identifying energy efficiency options will take up resources and may be seen as the precursor to mandatory measures. Thus, it is possible they will be opposed and watered down or delayed. There is unlikely to be any opposition to the other support measures, especially where money is made available.

The command and control measures are either just extensions of existing programs (MEPS), relate to the provision of information or affect governments' own operations. As such, they are unlikely to be significantly opposed although the standard opposition to MEPS is likely to be in place.

That the majority of the measures proposed in the Task Group's Report are voluntary, and the only price-based mechanism is essentially just an aggregation of existing state-based schemes and the command and control measures are relatively weak, is entirely consistent with the politically safest options according to the assessment framework outlined in Table 1. This isn't to say that they aren't worthwhile policies, just that they aren't the types of policies likely to "deliver a step-change improvement in energy efficiency and place Australia at the forefront of OECD energy efficiency improvement by 2020". Indeed, back in 2004 the IEA questioned whether it was time to review the effectiveness of 'softer' policy models such as voluntary agreements (Harrington, 2004). More recently, the Adaptation and Mitigation Strategies project, that aimed to research strategies for mitigating and adapting to climate change, concluded that "Voluntary action generally tends to be ineffective in climate policy" (ADAM, 2009).

Conclusion

The policy development process, complete with stakeholder input, has a significant impact on the design of policies that eventually pass into legislation. Governments can employ various strategies to help navigate policies through this process. Such strategies can be categorised according to whether they relate to the broader political landscape, to the policy development process or to the design details of the policy itself.

This paper has developed an assessment framework based on the characteristics of policies that affect their likelihood of introduction as well as alteration by the policy development process. It can therefore be used to identify the characteristics of policies most likely to retain their effectiveness after emerging from this process.

The most important of these is the need to design effective policies so that they benefit stakeholders who are willing and able to provide political support. Other design characteristics that can be used to reduce opposition from incumbent stakeholders include gradually increasing stringency and the ability to pass through costs. Governments can build on these characteristics by providing support for supportive stakeholders and transitional assistance to others likely to be negatively affected.

The most recent and most significant energy efficiency policy initiative to come out of Australia is the Prime Minister's Task Group on Energy Efficiency Report, which aims to deliver a step-change improvement in energy efficiency. An analysis of the recommendations of this report using the assessment framework described here indicates they have been chosen in order to avoid significant political opposition. It remains to be seen whether the policies that may be opposed by incumbent stakeholders will be watered down or abandoned, and whether the resultant policy mix will indeed place Australia at the forefront of OECD energy efficiency improvement by 2020.

As discussed above, the framework applied here is likely to have an Australian bias. One area of further work could be to assess how well this framework applies to other countries, especially those with either more and less rigorous policies. Different countries are likely to have different political cultures and so may provide different lessons, not only for policy design but also for broader political tactics.

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