



Exploring issues and options for an energy efficiency disclosure program for residential tenancies in the ACT

Consultation Paper

Prepared for:

ACT Environment and Sustainable Development Directorate

September 2013



pitt&sherry

sustainable *thinking*®

Invitation for stakeholder input

The purpose of this document is to introduce issues and seek feedback on the feasibility and implications of improving information on the relative energy efficiency of properties available for residential tenancy in the ACT.

The ACT Environment and Sustainable Development Directorate (ESDD) is seeking input from stakeholders (individuals and organisations) on the issues and possible approaches for disclosing energy efficiency information to potential tenants. This information will be used to inform the next stage of the policy development process.

Specific questions have been provided at the start of Sections 2 to 5 to assist stakeholders prepare written submissions. Where feasible, it would be appreciated if written submissions could contain data or other evidence to support a view.

We would welcome written submissions that can be published on the ESDD website. Submissions clearly marked as 'confidential', or are judged to be inappropriate for publication, will not be released, but the author may be listed separately.

All those making a submission should provide full contact details.

A round of public workshops will also be held in the coming weeks to provide a chance to discuss issues and gather views and feedback.

To register your interest in attending these workshops, to join the stakeholder list for any follow-up discussions that may occur, or to enter a written submission, please email us at:

tenant-info-ACT@pittsh.com.au

Registration for the stakeholder list can also be completed by calling us on **02 6295 2100** and leaving your contact details—name, organisation, email address and phone number (mobile preferred for SMS alerts).

The aim of the submission and workshop process is to facilitate stakeholder input to policy development and design in this area. The rationale for policies and programs needs to be well founded, and action needs to take account of views, expertise and experience across the broadest possible spectrum.

The pages that follow discuss the issues, obstacles and possible outcomes associated with promoting greater transparency and comparability of the energy efficiency of rental housing in the ACT.

*The discussion and views expressed in this paper are those of **pitt&sherry's** Carbon and Energy Team, and do not necessarily represent those of ESDD or the ACT Government.*

Contents

1	Background: ACT GHG Action Plan 2	1
1.1	A focus on rental properties	1
1.2	Aims of this paper	2
2	Revealing hidden costs, and hidden value	4
2.1	Nature of the problem	4
2.2	Addressing the problem	5
2.3	Residential property and energy efficiency in the ACT	6
2.4	Energy performance disclosure in other jurisdictions and international experience	7
2.5	Broad observations	10
3	Delivering reliable and meaningful information	11
3.1	Filling the information gap	11
3.2	Suitability of existing assessment tools and information sources	12
3.3	How best to convey energy efficiency information	14
4	Assessing the likely benefits	15
4.1	What are the potential benefits?	15
4.2	How will information provision reduce energy consumption?	16
4.3	Impact of information provision on renters and landlords	16
5	Potential approaches, and costs	17
5.1	Extending existing approaches and information sources	17
5.2	New approaches	18
5.3	Considering costs – and their distribution	19

1 Background: ACT GHG Action Plan 2

The ACT community is pursuing greenhouse gas reduction targets of 40% below 1990 levels by 2020, 80% below 1990 levels by 2050 and zero net greenhouse gas emissions by 2060. A comprehensive plan to achieve those targets is contained in the Government's Climate Change *Action Plan Two* (AP2)¹. The plan includes 18 actions, several of which focus on energy efficiency improvements to reduce emissions at low cost. Household energy efficiency is a major focus.

At the time of the 2011 census, the population of the ACT was approaching 357,000 people living in about 129,000 dwellings. By far the most common form of dwelling in the ACT is a separate house (72.8%) followed by semi-detached/townhouse style residences (14.5%) and then flats/apartments (12.4%)².

1.1 A focus on rental properties

Close to one-third of the occupied dwellings in the ACT are rented (30.6%), with about half of renters occupying a free-standing house and the balance living in semi-detached (28%) or apartment style (22%) dwellings. In 2011 the median rent was \$380 per week³. In 8% of households rent accounts for 30% or more of income⁴.

Residents of the ACT are also among the greatest users of energy on a per capita basis in Australia, at around 25 GJ annually compared to an average of about 13 GJ in NSW. This is influenced by the cold climate, with 58% of energy use going to space conditioning (heating and cooling), 21% to appliances (fridges, TVs, etc.), 18% to hot water and 3% to cooking⁵. The energy bill of a typical three-person household consuming average quantities of gas and electricity is shown in the Table 1.

Table 1 Indicative annual energy bill in the ACT

Three-person household estimated energy bill				
	Annual supply fees	Annual use	Annual usage (\$)	Total
Electricity	\$ 242.91	kWh 8706	\$ 1,714.21	\$ 1,957.12
Gas	\$ 227.61	MJ 49226	\$ 1,242.17	\$ 1,469.78
Total				\$ 3,426.90

Source: % based upon data from <http://www.energymadeeasy.gov.au/bill-benchmark/results/2601/4>, *Energy use in the Australian residential sector 1986–2020*, Commonwealth of Australia, 2008, *ACT Natural gas: Schedule of charges from 1 July 2012* and *ACT Standard retail electricity supply: Schedule of charges from 1 July 2012* from ActewAGL

¹ Environment and Sustainable Development Directorate 2012, *AP2: A new climate change strategy and action plan for the Australian Capital Territory*, ACT Government, Canberra

² ABS 2011, Census QuickStats accessed at http://www.censusdata.abs.gov.au/census_services/getproduct/census/2011/quickstat/8ACTE

³ ABS 2011, Census QuickStats

⁴ ABS 2011, Census QuickStats

⁵ Commonwealth of Australia 2008, *Energy use in the Australian residential sector 1986–2020*

This significant level of energy consumption, coupled with scope for poorly informed decisions and unnecessarily high living costs being borne by tenants, has made this a prime area for policy interest and community action.

Action 3 of AP2 focuses on supporting the provision of information on residential energy efficiency to tenants in the ACT.

AP2 Action 3 – Subject to a regulatory impact assessment, the ACT Government will introduce legislation to require landlords to provide information to tenants on the energy efficiency of homes and fixed appliances and major energy uses. Regulatory impact assessment and stakeholder consultation will be completed in 2013.

Although the paper discusses the existing ACT legislation that mandates the disclosure of the energy efficiency of homes at the time of sale and, under specific circumstances the time of lease, Action 3 does not invite a review of this legislation. Its intention—and that of this consultation paper—is to explore the scope for providing would-be tenants with useful comparative information on the energy efficiency of homes available in the rental market and open a discussion of the likely cost, benefits and feasibility of developing an effective policy response in this area.

Options in this paper are considered in the context of current regulatory requirements.

Improved information has the potential to improve the operation of the rental market by allowing tenants to include energy efficiency in their decision making more effectively and with greater confidence. Consequently:

1. Renters will be more able to act on preferences for better performing homes and make rent/energy cost trade-offs.
2. Landlords may recognise an improved opportunity to get a return (e.g. higher rent or renter preference) on past or future works to improve energy efficiency.
3. There will be enhanced economic incentives and scope for rental properties to be priced and compared on the basis of their energy efficiency characteristics.

Ultimately, this would support investment in improving the energy efficiency of the ACT's rental housing stock, deliver cost and energy savings for tenants, reduce emissions from energy use and deliver economic benefits to the ACT.

1.2 Aims of this paper

The principle that markets work best when prospective customers have easy access to high quality information is widely accepted. Nevertheless delivering on this principle—providing quality information on the energy efficiency of homes at a reasonable cost—is not entirely straightforward.

Therefore, the ACT Government wishes to consult with stakeholders to help determine a practical and cost-effective energy efficiency information delivery mechanism.

This paper is part of the consultation process. It unpacks some of the key issues, challenges and options, and invites stakeholder feedback and input.

The next stage of the policy development process will be to undertake a detailed regulatory impact assessment, drawing on the outcomes of these stakeholder consultations and opportunities for cost effective action in this area.

2 Revealing hidden costs, and hidden value

Important issues for stakeholder input

1. To what extent do you think tenants and potential tenants would see value in information on the energy efficiency of rental properties they are considering?
2. Are there successful information based solutions relating to energy efficiency in the rental sector already in use in other jurisdictions or overseas that would be appropriate to the ACT? What are the characteristics of these schemes?
3. While ABS data provides some information on the socio-economic distribution of renters in the ACT, more information is needed. What are the typical rents paid by low-income families, and what share of income does this represent?
4. What are the costs of energy consumption in rental properties with low efficiency, and how do these impact on the household budget, in particular for low income renters?

There is an obvious disconnect between the building that we see and the properties of that building that become apparent after we move in. While ‘buyer (or renter) beware!’ is a longstanding maxim of any market, governments can sometimes play a beneficial role in eliminating, or signposting, the most common and costly pitfalls.

2.1 Nature of the problem

Although there is an increasing proportion of properties in the market that are built to new energy efficiency standards, there is reason to believe that the average energy efficiency of older rental properties in the ACT is relatively low. Tenants in properties with poor efficiency are likely to use more energy and face higher energy bills to service their needs, and GHG emissions are likely to be higher as a result. Meanwhile landlords have diminished incentives to improve the energy efficiency of their properties or discount the rental price of housing that offers low energy performance compared to similar—and more efficient—properties. There are three key causes.

The first is the problem of split incentives (commonly, and pointedly, referred to as the landlord-tenant problem). This is a particular form of a principal-agent problem where the renter pays the landlord for the service of long-term accommodation. The landlord owns the dwelling and some of the key energy using equipment. The renter lives in the dwelling, and pays for the energy required to heat and cool the household, provide hot water, and power appliances in the household. The investment (in insulation, high efficiency hot water, window coverings, etc.) to improve energy performance in the property would, in most circumstances, be made by the landlord. Yet the direct running costs savings associated with such investment would go to the tenant. As a consequence of this split incentive, investment in energy efficiency in rental accommodation can generally be expected to be below that observed if the owner was also the occupier.

The second problem is a lack of reliable information. Renters have fairly limited information about a property. A short visual inspection is a common method of assessing the overall quality of a property. However, in a quick walk through a typical prospective tenant seldom inspects or makes an informed judgement on the quality of wall or ceiling insulation, the significance of construction materials or window orientation or how fixtures will affect comfort or energy performance through the summer heat and the winter cold. A specifically trained and competent energy assessor, builder or engineer could advise on the energy efficiency of the dwelling, within limits, but few would-be tenants would be prepared to bear this expense on their own, even though important information could be revealed. Further, even if such a report is undertaken, negative findings have no established way of being communicated to other prospective tenants. Houses with poor energy performance are the major beneficiaries of this communication breakdown. These building owners are also the least likely to have the energy performance of their premises voluntarily assessed and disclosed.

With rising energy prices, the impact of inefficient energy use in low-income households, many of whom are renters, becomes an increasingly important issue. Low-income households spend a much greater proportion of their budget—nearly double—on energy than wealthier households⁶. The opportunity for these households to invest in energy efficiency measures and/or to be selective about the properties they rent is also reduced, compounding the issue. Given that energy is an essential service, when the prices of these services increase, householders are left with little option but to pay the extra cost or to suffer discomfort and lack of amenity in their homes. Dwellings with poor energy efficiency performance generally deliver poorer comfort, health and social outcomes, especially for vulnerable groups such as infants and the elderly.⁷

The absence of easily accessible and reliable information on energy efficiency means that many prospective tenants will not be able to compare housing options on the basis of their likely relative energy performance, or make informed trade offs regarding rent versus running costs. The extra rental value of improving the energy efficiency of property is also eroded.

2.2 Addressing the problem

Providing information to prospective tenants on the energy efficiency of rental properties can help correct information gaps in the rental market. The problem of split incentives will not be directly solved by the provision of information, but the impact can be reduced. Revealing a property's energy efficiency allows the market to put a more accurate value on the potential future stream of energy costs or savings associated with that property, and allows properties to compete more effectively on the basis of their energy performance. All else being equal, more efficient premises should be able to command higher rents than those that are less efficient—and have a higher resale value as well.

However, providing timely, reliable and relevant information on energy efficiency is a challenging task. The opportunities, options and obstacles for improving energy efficiency information to tenants are discussed in more detail throughout this paper.

⁶ ACOSS 2009, Energy and equity, http://acoss.org.au/images/uploads/4204__EnergyEquity_low_res.pdf

⁷ See the NZ study by Philippa Howeden-Chapman et al. (2007), 'Effect of insulating existing houses on health inequality: cluster randomised study in the community', *British Medical Journal* 334:460, <http://dx.doi.org/10.1136/bmj.39070.573032.80>

2.3 Residential property and energy efficiency in the ACT

The ACT has significant experience with disclosure of residential energy efficiency ratings (EERs) and energy efficiency standards.

Under ACT legislation any newly built or substantially altered dwelling must meet energy efficiency standards. The majority of people choose to comply with the standards by obtaining an energy star rating. If this option is chosen the proposed dwelling must demonstrate the design obtains a minimum of six stars as assessed by a licensed building assessor using approved rating software. Further, the government legislated that from 1999 all homes being sold in the ACT were required to carry an energy rating, thereby allowing their passive energy performance characteristics to be compared with other ACT homes being offered for sale in the market.

The *Energy Efficiency Ratings (Sale of Premises) Act* came into effect in the ACT in December 1997. This Act was superseded by the *Civil Law (Sale of Residential Property) Act 2003*. All sellers of certain dwellings in the ACT⁸ have a mandatory obligation to obtain an EER and publish it in any advertisements relating to the sale of that property.

A study of the impact of the EER system on prices in the ACT property market was undertaken by the Australian Bureau of Statistics (ABS) in 2008. The ABS analysis focused on detached houses constructed prior to 1996 (when whole-of-home energy efficiency standards were introduced) and sold in the ACT in 2005 and 2006.⁹ The sample comprised over 5000 houses with EERs in the range of 0–6 stars, and an average EER of 1.7.

The study found that when other key characteristics were controlled for (e.g. location, number of bedrooms, etc.) the EER star rating for a house was found to be a (statistically) significant factor in 'explaining' observed differences in house prices. It concluded that:

...holding all other house characteristics constant, for a detached house in ACT in 2005 with a price value of \$365,000 (i.e. median price), increasing the EER star rating by 0.5 would be associated with an additional \$4489 in its price...

...consumers who know little about EER may add a value of between 0.5 and 1 percent of the house price if the EER is disclosed to them when buying a house. In contrast, for a consumer with a comprehensive knowledge of strategies to improve the thermal performance of a home (e.g. a builder), EER disclosure may not be significantly associated with increased house price, as any value associated with EER may have already been added to the house price. (p. 25)⁹

⁸ An EER must be disclosed for all premises that may lawfully be used for residential purposes other than caravans, mobile homes, hotels, motels, premises used for the purposes of a club, premises on the campus of an educational institution, retirement villages, some nursing homes and hostels for aged people or people with a disability.

⁹ ABS 2008, *Energy efficiency rating and house price in the ACT*, ABS Analytical Services Branch for the Department of the Environment, Water, Heritage and the Arts, Canberra.

Did the EER rating add value to a house, as distinct from the key physical design and construction features that went into calculating the EER and which are an integral (and inherently valuable) part of the house itself? The ABS provides some evidence to suggest that—at least among home buyers—this might be the case.¹⁰

However, the value that renters might attribute to energy efficiency information is a different question. They are not making a long-term commitment to the property, and can generally reverse their property choice quicker and at a lower cost than a home buyer. But information that can help them estimate or rank the likely day-to-day running costs of a property could be more important to them given that they do not have a major interest in potential future maintenance costs or capital values.

The ACT *Residential Tenancies Act 1997* was amended in 1997 in an effort to address energy efficiency issues for rental properties. The Act requires that any existing rating be disclosed in any advertisement to rent a dwelling, and that the rating must not be false or misleading. A residential tenancies agreement must also include the following:

- (i) a copy of an EER statement (if any) for the habitable part of the premises; or
- (ii) a copy of a fresh EER statement for the habitable part of the premises if:
 - (A) building work under *the Building Act 2004, section 6* has been carried out on the premises that affects the EER of the habitable part of the premises; and
 - (B) before the building work was carried out, an EER statement had been prepared for the habitable part of the premises.

While there are differences in definitions of premises between the two Acts and a number of properties cannot be assessed using the software mandated for EERs, the intent of the provisions was that over time the vast majority of the housing stock would be subject to a disclosure requirement. However, there are no designated resources for enforcement of the obligations and it is likely that the number of rental properties advertised with an EER in the ACT falls short of that required under the *Residential Tenancies Act*.

2.4 Energy performance disclosure in other jurisdictions and international experience

Under policies supported by the Council of Australian Governments, a national energy performance disclosure scheme for commercial buildings was introduced in 2011. The ACT remains the only Australian jurisdiction that requires energy performance disclosure for residential dwellings, and was a world leader in introducing this policy. Examples of programs requiring energy efficiency disclosure for residential rental properties are rare in Australia but are more common overseas. A number of self-rating tools that can be used by buyers, renters or occupiers are also available.

¹⁰ Model 3 results cited in Table 2 of the report (ABS 2008, p. 22) seek to separate the impact of key features (e.g. double glazing, insulation, etc.) from the impact of the EER on house prices. Under this expanded set of variables, the contribution of an EER star drops to around 38% of its 'unadjusted' value, and (statistical) confidence in its 'significance' as an explanatory variable drops to around 90%.

In **Queensland** between January 2010 and June 2012 a sustainability declaration was required when selling a residential property—termination of the program was an election commitment in 2012. The declaration covered 19 energy and water issues, with examples of potential savings in electricity costs and water. The declaration needed to be signed and provided if requested. Most of the questions were very simple and involved ticking a box if an obvious feature were present. Though opposed by the real estate industry, an independent survey in December 2010 commissioned by the government indicated degrees of community support from both buyers and sellers for the usefulness of the declaration.

New Zealand currently has an online sustainability rating scheme (HomestarTM), that can be undertaken on a self-assessment basis, with support (Homecoach assessment), or independently by a fully accredited professional (certified assessment).¹¹ Energy is one of six items reported against, and contributes 25% of the total rating score.

The **European Union** (EU) implemented the Energy Performance of Buildings Directive (EPBD) in 2003, which required all member countries to develop national energy performance certificates (EPC) for all residential dwelling (and other buildings) by 2009. The EPC must be made available, when buildings are constructed, sold or rented, to the owner, buyer or tenant, respectively. While the direct goal of EPC is to reduce CO₂ emissions, intermediate objectives include increasing the rate and level of energy performance improvements through improved understanding of options, and increasing the market capitalisation of energy efficiency investments by providing reliable and trusted information to market participants.

The **Netherlands** introduced EPC in 2008 (ahead of the EU requirement), and a study was undertaken of some 177,000 housing transactions between January 2008 and August 2009.¹² The EPC is not fully mandatory in the Netherlands as buyers are able to sign a declaration that obviates the seller's obligation to certify the dwelling. In the first three months, some 25% of transactions had an energy label, but this had declined to less than 10% by the end of the study period. The decline was attributed to negative sentiment created by the main real estate industry bodies. The study concluded that the opt-out provisions eroded the intent of the disclosure legislation as all dwellings needed to have an energy performance label to support meaningful comparison within the residential stock.

The problems with the early design of the program (methodological issues, complaints procedure, issues around accreditation of inspectors and absence of enforcement) have been flagged in a qualitative assessment of the building energy efficiency policy instruments in the Netherlands.¹³ A new EPC was introduced in 2010, and there are further plans for an enforcement scheme for disclosure in line with revised EU requirements.

In 2011, a survey of **German** home owners was undertaken to examine the impact of EPCs with the aim of identifying how they had helped buyers to reflect energy efficiency in purchasing decisions.¹⁴ The study was directed at one of the EPC intermediary goals—to increase the market capitalisation of energy efficiency investments by providing reliable information on the energy performance of buildings to potential buyers and tenants.

¹¹ <http://www.homestar.org.nz>

¹² Dirk Brounen and Nils Kok 2011, 'On the economics of energy labels in the housing market', *Journal of Environmental Economics and Management*, 62 (2011), 166–79.

¹³ Lorraine Murphy, Frits Meijer and Henk Visscher 2012, 'A qualitative evaluation of policy instruments used to improve energy performance of existing private dwellings in the Netherlands', *Energy Policy*, 45 (2012), 459–68.

¹⁴ Hermann Amecke, 'The impact of energy performance certificates: A survey of German home owners', *Energy Policy*, 46 (2012), 4–14.

In Germany, the EPC can be based on an operational rating (past energy consumption of inhabitants) or an asset rating based on building characteristics (i.e. energy modelling). A further regulatory distinction arises between new buildings and existing buildings. The display of EPC is mandatory for new buildings, but for existing buildings it is only required *if* requested by the prospective purchaser or tenant.

For this jurisdiction:

- The conditional requirement was identified as a barrier—some prospective buyers were hesitant to ask for an EPC and risk alienating the seller.
- Despite high awareness of EPCs, effectiveness was reduced in purchase decisions because:
 - EPCs were not helpful in understanding the financial implications of energy efficiency;
 - the legal status of EPCs meant that they were not sought for most buildings; and
 - energy efficiency tends to be a secondary criterion for dwelling decisions—location, price and overall condition are more important.

In the **United Kingdom**, EPCs became mandatory in October 2008 as part of explicit government policies to reduce GHG emissions from the built environment with a focus on the existing stock. A survey of 350 homeowners who purchased properties in the first year of the scheme indicated awareness but highlighted that EPCs and their recommendations were not seen as a priority.¹⁵ As with other EU experience the results indicated that the scheme requires modification to improve understanding of energy efficiency opportunities.

In June 2013, the UK Government published the results of an investigation of the effect of EPC ratings on house prices based on 325,950 dwellings sold between 1995 and 2011.¹⁶ Like the ACT study, the results indicate a positive relationship between energy rating and selling price, with higher ratings tending to boost market valuations.

A new law is to be introduced requiring a minimum energy efficiency standard for rental houses from 2018, with measures from 2016 to allow councils and tenants to demand efficiency measures from landlords.¹⁷ The UK government has also introduced a range of programs to fund energy efficiency (e.g. *Green Deal*, a ‘pay-as-you-save’ funding mechanism), including programs specific to landlords (Landlord Energy Savings Allowance, reduced VAT for energy efficiency improvements).

In the **USA** there is no equivalent to the EU approach, but all states to a greater or lesser extent have minimum energy performance standards for new dwellings. A recent study of the **Californian** housing market explored the value that can be ascribed to the voluntary disclosure of ‘green’ labels.¹⁸

¹⁵ Watts, C, Jentsch, MF and James, PAB 2011, *Implications of energy performance certificates for the UK domestic building stock – Feedback from Southampton homeowner survey*, CIBSE Technical Symposium, DeMonfort University, Leicester, UK, September 2011.

¹⁶ Franz Fuerst, Pat McAllister, Anupam Nanda and Peter Wyatt 2013, *Final project report – An investigation of the effect of EPC ratings on house prices*, Department of Energy and Climate Change, June 2013.

¹⁷ British Property Federation 2013, *Energy efficiency and the private rented sector*, British Property Federation, April 2013.

¹⁸ Nils Kok and Matthew Kahn 2012, *The value of green labels in the California housing market*, UCLA Institute of the Environment and Sustainability Los Angeles, California, 2012.

Californian dwellings with green labels were compared with a sample of 1.6 million non-certified dwellings, controlling for geographic location and time of the sale. The analysis showed a 9% price premium (~US\$35,000) for green homes. The voluntary nature of green labels could also be expected to result in 'self-selection' of a premium housing stock. Nevertheless, the study demonstrates the common alignment of construction quality, capital value and energy efficiency—and the preparedness of the market to recognise these qualities in its valuations.

2.5 Broad observations

Experience of energy performance disclosure in the ACT and other parts of the world suggests that:

- residential energy ratings and assessments can make the value of energy efficiency more transparent;
- improved energy performance is recognised in the market valuation of dwellings—although the value of ratings and disclosure (as distinct from the value of the energy efficiency investments and capital improvements themselves) is harder to discern;
- energy ratings and assessments are most influential when they are understood, trusted and supported by all stakeholders;
- the benefits of disclosure are maximised when all dwellings in sales and rental markets are assessed and their relative performance can be compared.

3 Delivering reliable and meaningful information

Important issues for stakeholder input

1. What type of information on household energy performance would be of use to renters—e.g. ways to calculate potential cost savings, relative comfort or efficiency of the dwelling, or how to better manage energy and comfort?
2. Are buyers, renters and other stakeholders aware and satisfied that current EER relates to building envelope performance, and therefore to space heating/cooling energy alone?
3. Should information tools for renters include fixed appliances such as water heaters and space heaters, to give a better indication of the likely operational energy performance of a dwelling?
4. How well can different options for energy efficiency disclosure support more informed dwelling comparisons and help prospective tenants assess differences in rental costs and likely energy expenditures?
5. What rating and assessment tools could be used or adapted to support an effective approach to mandatory disclosure?

The scope for assessing the value of energy efficiency is well established and applied in many countries in the context of labelling advice and minimum energy performance standards. For simple appliances, such as refrigerators, engineering calculations and actual performance can be readily tested.

Dwellings, however, are much more complex ‘systems’. Energy performance varies according to construction, orientation, location and occupant behaviour. At present, regulatory building EERs relate to the thermal properties of the building envelope—that is, its capacity to achieve and maintain a comfortable internal temperature. But this only describes its ‘potential’ to deliver this outcome. Poor usage can easily deliver poor energy performance. And the type of energy using appliances and fixtures that are not captured in the regulatory energy ratings currently used for assessing residential premises can also have a major bearing on annual household running costs.

3.1 Filling the information gap

Mandatory disclosure is meant to provide information to potential buyers and renters regarding the energy efficiency of a dwelling. This means that if operated as assumed, the property in question should perform in a given way. All regulatory software tools used for regulated EERs are required to assess the same minimum set of design features, and must produce a consistent rating for building thermal performance. However, the complexity, cost and user friendliness of tools can differ. Further, the level of skill and diligence with which assessors apply these tools can vary significantly, and inaccurate ratings can lead to a loss of credibility for the assessors and their assessments as a whole. This dynamic can quickly erode the ability of ‘quality’ service providers to compete.

Typically, the rating tools used to produce EERs take account of:

- layout of the home
- construction of its roof, walls, windows and floor
- orientation of windows and shading to the sun's path and local breezes
- how well these suit the local climate.

Space heating is the most important component of the average ACT household energy bill. Fixtures within a house such as heaters, coolers, hot water systems and cooking appliances can also have a major impact on energy use depending on their own efficiencies and occupant use. Under current regulatory ratings the implications of these 'fixtures' for energy consumption are not captured in the overall assessment of energy efficiency. And some energy use is highly independent of thermal efficiency. For example, energy use for water heating and cooking may relate in part to the climate and but also to household size and occupant lifestyle. A highly efficient building full of very inefficient heating and cooling technologies used frequently can still be costly to run.

Typically, there is no readily observable set of factors that can reliably predict the total energy performance of a household. However, a short list of 'negative' factors can be readily developed. These include a lack of insulation, draughty and unsealed windows, doors and chimneys, and holes and breaks in the floor and walls. Inefficient fixtures such as hot water systems, cookers and dishwashers can also be key culprits in excessive household energy use.

3.2 Suitability of existing assessment tools and information sources

In the ACT, FirstRate 4 is used as the EER tool for established residential premises being sold. It is a first generation tool developed under the Nationwide House Energy Ratings Scheme (NatHERS), which is collectively run by Australian governments. While based on the original NatHERS energy modelling software, FirstRate provides a simpler approach by assigning points to design features, with the points total then linked to a star (EER) value approximating the star rating that would have been achieved had the design been directly modelled by NatHERS. The tool provides an assessment of thermal performance and also has a module that provides upgrade options for the dwelling. These options are generally configured for houses at the design stage, but can be modified for an existing dwelling and form part of the disclosure requirement in the ACT. It is not able to provide ratings above the 6-star level.

Alongside FirstRate 4, there are a number of second generation accredited NatHERS tools recognised under the Building Code of Australia and National Construction Code for the purposes of rating new dwellings (AccuRate, BERS Pro, FirstRate 5). The second generation tools do not provide built-in upgrade information, but allow alternative design solutions and materials to be simply and quickly modelled once the original plan and material details are entered into the software.

These tools provide rankings expressed as star ratings based on the total annual energy input (measured as MJ/m²) required to maintain a comfortable temperature within a dwelling (generally between 18°C and 24°C) in the range of 0-star (very poor) to 10-star (no heating or cooling energy required).

The second generation tools use a more sophisticated modelling method; comfort is based on temperature, humidity and air speed rather than on temperature alone, as in first generation NatHERS and FirstRate 4. They require more data (full plans) and more assessor effort than FirstRate 4 to produce an assessment. Second generation tools were designed to give very similar results at the 4 and 5-star levels to the first generation tools. However, there are differences in approach and, coupled with assessor errors, it is possible to achieve differing results across dwellings, though variations tend to be small and infrequent.

The reliability and comparability of these tools and their suitability for assessing rental property energy efficiency is an important issue. Assessors for both mandatory disclosure and building code compliance are licensed by the ACT Government, so that divergences should be reduced. In the longer term, the growing share of higher rated houses (in 1996, the ACT implemented energy efficiency standards for new houses equivalent to a 4-star energy rating, and increasing over time to the equivalent of a 6 star EER) means that second generation tools will remain relevant for rating the performance of higher efficiency houses in future.

In terms of rating all houses for sale and rent, it is most helpful to community understanding of energy ratings if ratings are reliable and generate consistent and comparable results. However, there are other forms of assessment and information that may be of use to tenants that do not need an EER or can be used in conjunction with an EER if it is available. In any instance, people need to be aware of what is being disclosed and what the rating or assessment outcome implies.

It is important to appreciate that successive star ratings represent an approximate 30% reduction in thermal energy requirements for each star against the last star, so that the incremental amount of energy needed to maintain comfort levels in the home declines as the star rating increases. This is illustrated in Figure 1. This translates to a saving on the energy bill. However, boosting the insulating properties of a home to achieve higher and higher star ratings (and greater thermal efficiency) can involve increasing cost and effort (e.g. more and better insulation and window treatments). Generally, bigger energy savings (and higher star ratings) are achievable at low cost at the lower star levels.

This suggests that, although occupant behaviour will always be critical irrespective of whether it is a 1-star or 7-star house, the focus for significant energy (and overall cost) savings for dwellings is likely to be in the 0 to 3-star range. While the rating of any house can be improved, the steps required beyond 4-star performance become more expensive for relatively small additional energy savings. Reliability and comparability of rating tools in the lower star range becomes an issue because this is where low cost energy savings can most readily be achieved.

To put this into perspective (using a documented real world example) a recent re-build of a Canberra home resulting in an upgrade from 1-star (with electric storage hot water) to 7-stars (plus the addition of solar hot water) yielded a saving to the annual energy bill (comprising electricity and gas) of over \$2100 per year for the two occupants—with about 70% of this saving coming from the reduction in gas space heating required, and the balance mainly from reduced electricity demand due the solar hot water.

A more modest improvement from 1 to 2 stars for this house would have yielded a likely annual energy saving of at least \$520 from reduced gas heating demand—and would have been possible for a very modest capital outlay. A couple considering renting a similar old property might find it useful to know which property is likely to cost them an extra \$10 per week or so in energy costs.

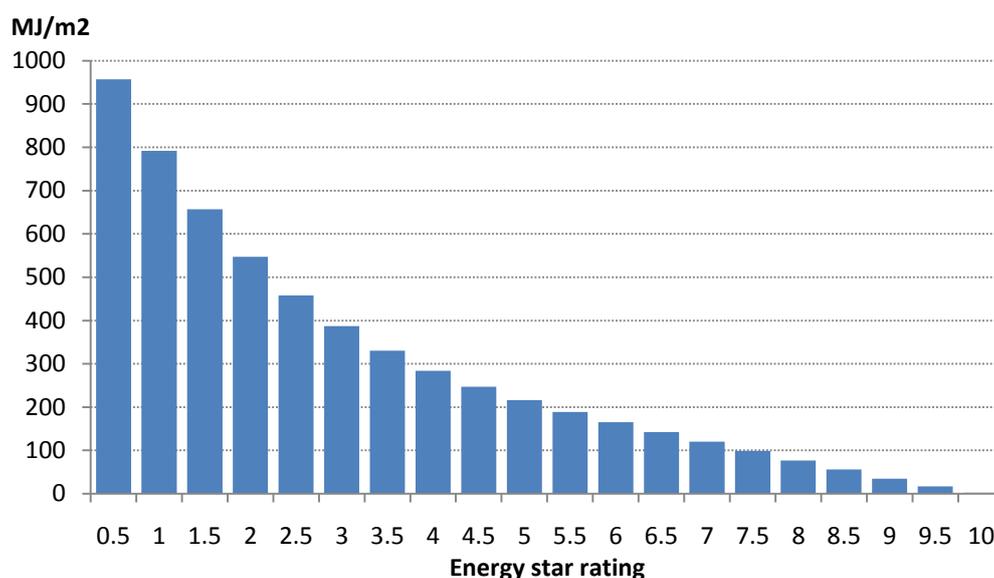


Figure 1

Relationship between annual conditioning energy and AccuRate ratings for the ACT

3.3 How best to convey energy efficiency information

At present, household EERs appear as a star rating, provided in half-star increments and calculated from software using a specialised algorithm. This allows comparisons across dwellings, indicating that for the same usage pattern, appliance fit-out and climate zone (the entire ACT housing stock is covered by a single climate zone) a higher rated building will use less energy than a lower rated building. There can be confusion around what is being communicated by the star rating system and what it is likely to imply for household energy bills. Star ratings (i.e. EER) relate to heating and cooling energy costs, not total energy costs. And stars provide little information on the likely energy savings achievable on an annual basis—or the potential value of those savings in dollar terms.

Expected monthly or annual costs are likely to be a key focus for renters. In an ideal world it would be useful to compare—in a reliable and consistent way—the rental costs of different properties with their expected operating costs. That is, their explicit and ‘hidden’ costs. For renters, energy is the dominant cost in this latter category. It is a significant difference from rating the thermal efficiency of the building envelope to providing comprehensive advice on the major energy costs that are likely to confront a family if they chose to live in a particular dwelling.

A key focus of the consultation process is to explore what information is most useful and reliable to help tenants understand the trade-offs between rent and energy costs, and opportunities for bridging that gap. None of the existing Australian tools have been specifically designed for this purpose, and the cost of adapting or developing complex assessment tools to cover energy efficiency beyond the building envelope—or help would-be renters recognise dwelling fixtures and features that can significantly add to their energy bill—would need to be considered. Options beyond the existing Australian rating tools are also relevant. These might include promoting the use of low-cost self-assessment tools and checklists, or approaches that allow comparative information on actual annual household energy costs (and occupancy) to be available to prospective tenants.

4 Assessing the likely benefits

Important issues for stakeholder input

1. How important are energy efficiency and associated energy costs to tenants in their preference and choice of dwellings?
2. Might the nature and scale of benefits differ between voluntary and self-assessment approaches and those requiring expert assessments or explicit energy ratings to be available for properties entering the rental market?
3. How influential is energy efficiency information likely to be in changing property choices and driving down demand (and prices) for the least efficient dwellings?
4. How significant is the pool of landlords who would see a benefit in being able to establish the comparative energy efficiency of their property in the market place?

If an energy efficiency information program can be operationalised, it would generate a range of new information for tenants. But the value tenants (and landlords) place on the information, and the savings and other benefits that can be expected to flow from its availability and use, are key issues.

4.1 What are the potential benefits?

There are several types of benefit that can flow from the provision of energy efficiency information on properties for rent. The benefits include:

- supporting ongoing energy and cost savings for tenants;
- delivering greenhouse gas savings in line with ACT targets;
- improved resource allocation (when tenants and/or owners are undertaking cost-effective energy efficiency improvements and can reap the value of these);
- allowing tenants to make better informed and more confident choices about home selection and value for money.

Other benefits that are not so readily quantified can relate to:

- increased well-being of tenants – improved thermal comfort, health and consequential benefits to the ACT health system and labour productivity;
- increased rental returns for efficient housing (a benefit to the landlord);
- reductions in energy infrastructure expenditure (less investment in generation and transmission and distribution of energy is required over the long term if demand is lower).

4.2 How will information provision reduce energy consumption?

Enhanced availability of energy efficiency information may change the behaviour of renters and landlords in two key ways. The first relates to renters' enhanced ability to weight energy efficiency more heavily in their decision making criteria and discussions with landlords. In circumstances where renters are considering two or three properties, they would have the ability to identify the property with the best energy efficiency, and perhaps (under some possible approaches) develop an understanding of the key reasons for these differences. The second relates to landlords responding to a clearer market signal of the value that renters place on energy efficient homes. When landlords react by improving the energy efficiency of their properties, the overall energy efficiency of the ACT rental stock is increased. Alternatively, energy inefficient homes might face downward pressure on the rents they attract, or more efficient homes could justify higher rents. The net impact of energy efficiency information could therefore be uncertain - depending on the preferences and priorities of landlords and tenants and the interplay of supply and demand.

In recent years, rental accommodation in the ACT has tended to be a 'seller's market'. This is evidenced by low vacancy rates and rents that are relatively high in an Australian capital city context. The supply of land for new construction, higher income levels and demand from population growth are likely to be key factors underpinning this outcome.

In a tight rental market there are real questions about the extent that improved energy efficiency information will drive changes in rental prices and house choices. There is likely to be a short and longer term dimension to this issue, and commensurate energy and greenhouse pay-offs.

4.3 Impact of information provision on renters and landlords

The energy efficiency of a property is likely to be a second order consideration for most renters. First tier considerations are likely to include location, size, and general dwelling quality and appeal.

The share of renters that are likely to change their rental decisions in response to better information on energy efficiency is a question for further consideration. Similarly, the ability of prospective tenants to apply information on energy efficiency to squeeze out (or force rent reductions for) energy inefficient dwellings or encourage the provision of more efficient dwellings is a critical issue.

These interactions and the forces of supply and demand that underlie them will have a major bearing on the energy efficiency, choice and cost outcomes that can be expected in the ACT rental market if measures that enhance the quantity and quality of information proceed.

5 Potential approaches, and costs

Important issues for stakeholder input

1. To what extent can enforcement of existing programs and regulatory requirements deliver potential benefits to renters through energy efficiency improvements and cost savings?
2. What proportion of rental properties coming onto the market already have an EER?
3. How significant are the risks of duplication of effort, inaccuracy and lack of comparability under voluntary and self-assessment approaches?
4. What scope is there to use information sharing and benchmarking by energy retailers to enhance the ability of tenants to compare the energy efficiency of rental properties?
5. What costs would be involved in applying a mandatory ratings-based approach to all rental properties being advertised? What design features could minimise this burden?
6. Would a package of targeted approaches work best? If so, what would it look like?

Detailing the nature and possible scale of costs and benefits of an energy efficiency information scheme for ACT tenancies is a logical precursor to any further design work. However, even if the potential savings are thought to be significant, policymakers must confront the challenge of developing a scheme that works well. Good public policy is about delivering community benefits cost effectively, and avoiding significant levels of intrusiveness, inconvenience, uncertainty and risk. These factors must all be weighed in the mix as part of a practical consideration of the options for delivering a workable and efficient tenancy energy efficiency information scheme for residential tenancies.

5.1 Extending existing approaches and information sources

Under current ACT legislation, advertisements for rental properties are required to display any *existing* EER. This means that dwellings built after 1996 that acquired an energy rating via building standard requirements, or acquired an EER as a result of being sold in the period since 1999 (i.e. when EER requirements for dwellings for sale came into force) should be advertised with an EER if they enter the rental market. These requirements provide for disclosure of EERs for rental properties built or sold within the last 17 years or so. But what of other dwellings in the rental stock? It could well be the case that a significant share of the rental stock was built prior to 1996 and have not changed owners in the last 14 years or so. Prospective tenants for these properties would be likely to derive little benefit from the current regulations even if they were rigorously adhered to.

However, this requirement could be used as a base for further action. An extension option that could be considered might involve:

1. more rigorous enforcement of requirements to reveal existing EERs when a residential property is put on the rental market, supplemented by development of a comprehensive database of all available dwellings with an EER.

Energy retailers also offer a parallel stream of information on energy use and relative performance. Following the implementation of the National Energy Customer Framework in the ACT from 1 July 2012, electricity bills must carry information on the electrical energy use of each household relative to other households in the local area, categorised by the number of people in the household¹⁹. The usefulness of this information for comparative purposes is obviously reduced where other sources of energy (e.g. gas, solar or wood) are a significant part of total household consumption. In this case, the bill is no longer conveying reliable information on how the total energy use (or efficiency) of one household compares with another.

However, if this gap could be plugged, benchmarked household energy bill information could represent a useful indicator of the actual realised energy performance of a property—in terms of both energy use and also differences in annual running costs. With additional information on household size and occupancy levels, it would be possible to ‘benchmark’ a household’s quarterly or annual energy consumption within the spectrum of comparable households in the local area.

Many energy retailers now service both electricity and gas needs. In the ACT, ActewAGL dominates supply of these services. There may be merit in exploring options around:

2. provision of comparative energy consumption information for a rental property, provided by ACT energy retailers and accessible by landlords. This information, supplemented by information on occupancy levels, could be provided to prospective tenants. Issues of practicality and privacy would need to be explored.

Energy retailers in the ACT have also recently become subject to explicit greenhouse reduction targets under the Energy Efficiency Improvement Scheme (EEIS). Retailers’ targets under the EEIS are achieved by undertaking a range of specific energy efficiency improvement measures²⁰. Eligible measures under the scheme cover a wide range of possible activities, and the measures pursued are at the retailer’s discretion. While activities being undertaken by retailers in the first year of the EEIS currently focus on lighting, draft sealing and standby power control, it is expected that retailers will move into bigger ticket items as the EEIS progresses and targets increase. It is feasible that more directed action around comparing household energy performance—and identifying poor performers in particular—could yield benefits in terms of targeting EEIS activities and expanding the scope of energy services to customers.

It is also important to note that nothing precludes landlords or tenants from offering or acquiring information on energy efficiency or performance on a voluntary basis. Certainly, landlords are free to promote the energy efficiency of their premises and have assessments done to provide evidence of this. In principle, the way is clear for landlords wishing to ‘sell’ energy efficiency to connect with renters wishing to ‘buy’ it. However, problems can still attach to the lower end of the market where the hidden costs of gross energy inefficiency remain invisible to the tenant until the energy bills start

¹⁹ Part 11 of the *National energy retail rules* <http://www.aemc.gov.au/retail/national-energy-retail-rules/current-rules.html>

²⁰ http://www.environment.act.gov.au/energy/energy_efficiency_improvement_scheme_eeis/eligible_activities_under_the_eeis

to arrive—long after the lease has been signed. And prospective tenants can commission an energy review if they wished (though an inability to share this cost with others interested in the property would inhibit this) or conduct a walk through assessment of their own—if appropriate guidance was available and they had the motivation. However, a core challenge in the area of energy efficiency policy is that many householders and tenants seriously underestimate the benefits of such an inspection, and poor performing properties are most likely to find a set of ready clients among those that lack both the skills and resources to tackle energy efficiency on their own.

5.2 New approaches

To improve energy (and greenhouse) performance, and deliver optimal economic outcomes, it may be necessary to consider options built around new obligations and approaches. These may be used in combination and could draw on or complement existing processes and resources. Options of a voluntary nature need to be fully considered because they offer the best protection against imposing unanticipated and unwanted costs. In fact, government policy dictates that the adequacy of voluntary approaches needs to be fully explored before policymakers consider regulatory options. However, voluntary approaches can sometimes fail to adequately address costs and benefits that have a strong social or environmental dimension, or arise when there are major power or information imbalances in markets.

Examples of possible voluntary approaches that could be encouraged include:

3. Greater promotion of energy-efficient housing by real estate agents and landlords, with scope for specialisation in this area.
4. Greater information ‘pooling’ by tenants (via, for example, the Tenant’s Union), agents or landlords to help develop a register of property energy performance or a ‘positive list’ of property choices.
5. Coordination between progressive landlords and tenants to promote greater transparency of the energy performance of inspected properties.
6. Development of a user-friendly tool or checklist that prospective tenants could use to make their own assessment of likely energy efficiency of properties they are considering.

However, given that the worst performing properties are those with the most to lose from greater comparability and transparency, regulatory options that can achieve more consistent and comprehensive action may also need to be considered. Options here might include one or more of:

7. As a supplement to Option 1 above, require non-rated dwellings to be advertised as such.
8. Require the provision of a simplified assessment (such as a checklist) to tenants at the time of inspecting a property.
9. Require all properties without a formal energy rating to obtain one prior to being placed on the rental market, with ALL rental properties being required to share the EER with prospective tenants.

Options 1 and 7 (i.e. advertising existing EERs, or a default) have the advantage of imposing minimal additional costs on landlords, although greater enforcement and coordination of EER information will add to costs for government. However, EU studies emphasise the importance to buyers/renters of comprehensive coverage of energy ratings across properties in the market as a means of boosting comparability. Option 9 would achieve this, but would clearly involve additional costs for some

landlords and therefore the possibility of slightly higher rents for those properties. Residential ratings using FirstRate 4 are reported to cost in the vicinity of \$150 to \$200, while an AccuRate rating is reported to cost in the vicinity of \$400. Older properties coming onto the market would be a focus, with potential ramifications for low income renters. Other options involve varying degrees of cooperation and coercion across stakeholders, but their cost and feasibility is difficult to estimate in the absence of stakeholder input.

Over time, these approaches could be expected to improve choice and reward energy efficiency in the range of rental accommodation. But the extent to which this occurs will crucially depend on the value that renters put on better energy performance—among the suite of other factors that are important to them in choosing a rental property and their ability to negotiate rents and better outcomes on that basis. It would be critical to accompany any change with an information campaign for all stakeholders, particularly renters, to improve understanding of the inherent trade-offs between rental costs and energy costs.

5.3 Considering costs – and their distribution

Identifying key costs and benefits and how these are likely to be distributed is critical to comparing different options. There is always uncertainty attached to the implications of a new policy measure. And the more substantive the change from the status quo, the greater that uncertainty (and the scope for unanticipated outcomes) tends to be.

In working through the pros and cons of any options that emerge as a result of these consultations, it will be important to address the likely impacts on the various stakeholders involved. Any requirements that involve new or extra costs for stakeholders will tend to be reflected in subsequent prices. In a tight rental market, a proportion of any extra costs associated with preparing and marketing a property in the ACT is likely to be passed on in the form of a higher rent asking price. Where these costs apply to all new tenancies, a commensurate increase in rents is in prospect. Nevertheless, prospective tenants considering equally priced and equally fancied properties could be expected to prefer those offering higher energy efficiency and reap a future stream of energy savings as a result.

Determining the relative cost of different scheme options, and ways to keep these costs down is a core task for the consultations. Costs will vary according to what is asked of landlords, tenants, energy retailers and other stakeholders—and how often it is asked of them. What is the reasonable shelf life of an energy rating, and are low cost rating approaches sufficient to provide the information required to make the initiative work? Further, what are the likely costs of developing and enforcing any scheme? Will voluntary approaches result in duplication of effort, and how might this impact total costs?

Finally, the impact on disadvantaged and low income renters is critical. These people are likely to be among the most vulnerable to high energy prices and increased rents. Policies that risk increasing their weekly living costs must be clearly identified, as must those with the greatest prospect of lowering them and adding to their overall comfort and welfare.