

The opt out option should be rejected. It provides a loophole which can become a political protest option, compromising viability of the scheme. If the tool familiar (on every utilities bill) the administrative costs will be low and the compulsory reporting of the normalised score and comparison should not be problematic. The tools intent is to provide a more transparent market, influence user behaviour and provide impetus for change. Even in the case of anticipated demolition, a building may be seen to provide opportunities for renovation and remarketing, or if uninhabitable, the option is to have a category of 'uninhabitable/uninhabited' while still reporting on available data.

Table 4.1

TRANSACTION TYPES REQUIRING DISCLOSURE OF ENERGY, GREENHOUSE AND WATER PERFORMANCE UNDER THE PROPOSED OPTIONS

Point of disclosure
<p>SALE AND LEASE — At the point of advertising For options 1 to 3 — a rating/certificate is to be displayed in all advertising material and the certificate made available on request. If a rating is not displayed or the certificate is not made available, a penalty may be applied and/or orders applied to rectify.</p> <p>For option 4 — information about where a person may obtain a copy of the certificate is to be displayed in all advertising material and the certificate made available on request. If the certificate information is not displayed or the certificate is not made available, a penalty may be applied and/or orders applied to rectify.</p>
<p>SALE AND LEASE — At the point of contract exchange For options 1 to 3 — the certificate is to be provided to a prospective buyer or tenant (or an agent for a prospective buyer/tenant) at all reasonable times when an offer to buy/lease the property may be made to the seller/lessor and/or available for download from the internet. If the certificate is not made available it is not considered a breach of contract, but a penalty may be applied and/or orders applied to rectify.</p> <p>For option 4 — the certificate is to be provided to a prospective buyer/tenant (or an agent for a prospective buyer/tenant) at all reasonable times when an offer to buy/lease the property may be made to the seller/lessor and/or available for download from the internet. If the checklist is not made available it is not considered a breach of contract, but a penalty may be applied and/or orders applied to rectify.</p>

Source: Provided by NFEES BIC.

The proposed options would only apply at time of sale and/or lease of all types of residential buildings (separate houses, semi-detached houses, flats, units and apartments), with the possible exception of the following:

- residential buildings where facilities are communally provided (such as hospices and aged-care facilities);
- caravans;
- improvised homes (includes tents, sleep-outs and other improvised forms of shelter);
- houses or flats attached to a shop or office; and
- remote and social housing (except where sold to private providers).

A noted omission from all options is the proposed tools/assessments ability to provide impetus for influence of inhabitant behaviour or a method of tracking/comparing usage. The proposed energy reporting tools do not encourage behavioural efficiencies, simply focussing on building envelope efficiencies. Further, they do not allow the owners or consumers to be able to predict and track their rating, instead providing a surprise rating at the point of marketing.

Basix/NatHERS/HSA tools all have limitations in their predictive and input driven data (local climate variation, detail assumptions, usage assumptions). These tools also do not give a \$dollar cost value to compare and therefore cannot be used to justify improvements/direct influence on costs. As explored by Randolph and Troy (2007) the Average residential consumer does not understand the implications of units of measure used, nor is able to translate tonnes of CO₂ into a meaningful comparison.

It is believed that a predictive measurement tool will not greatly affect occupation habits and will have a reduced affect on building fabric efficiencies due to the separation from understandable data. It is posited that the best way to affect change in consumer habits and influence investment in efficiency measures is to produce a more informed and more efficient market which with increased sensitivity to pricing controls. This can be achieved through greater feedback and comparison of usage costs and potential real savings achievable in units that the average person can understand and relate to.

The proposed energy reporting tools rely on either accredited assessors or user input through self assessment and are limited by the knowledge of the assessors and accessibility of input data. Randolph and Troy (2007) reveal that the average user is generally unaware and would be prone to making errors in self assessment.

It is posited that another layer of bureaucracy involving trained assessors would actually further distance and mystify the process and outcomes from the users, resulting in a level of pushback from the general public, further malaise over government intervention and further removal of accountability of utilities use from the end user. This in turn would increase the feeling of futility of action generally felt by consumers.

A tool that is used simply as a marketing comparison between unknown units of measure, which the general public cannot readily convert to a recognisable value, is of little practical use. Further, a reliance on data input and interpretation by owners and third parties opens the door to misinformation and will require policing and litigation to avoid corruption.

A tool which directly sources historical usage data from utilities providers and interprets these into a grading structure which regularly reports on anticipated annual operational costs while providing a cost comparison against target usage is the most effective way to both inform and influence the purchasing/tenancy market and influence the consumption behaviour of the Australian Residential property market.

Box 2.3

WHY PROPERTY OWNERS DO NOT TYPICALLY PROVIDE INFORMATION ABOUT THE ENERGY, GREENHOUSE AND WATER PERFORMANCE OF THEIR PROPERTY

The likely reasons for why property owners are typically unlikely to provide information about the energy, greenhouse and water performance of their property to potential buyers and tenants (outside of those jurisdictions where the disclosure of building performance related information is mandatory) are as follows.

- Many property owners have little awareness of the energy, greenhouse and water performance of their building, or that some prospective buyers/tenants may value this information. They are thus not aware of the potential for this attribute to be used in a property transaction.
- Many property owners do not think that providing information about energy, greenhouse and water performance will increase the return from the sale or lease of their property. In other words, property owners may have a good grasp of the concept of energy, greenhouse and water performance, but feel that it is a second- or third-order issue compared to other factors (such as house size and location).
- Many property owners think that, while providing information about energy, greenhouse and water performance will increase the return from the sale or lease of their property, the likely size of the increase will not be offset by the costs associated with acquiring the necessary information. These costs could include the time and effort spent calculating the energy, greenhouse and water performance of their properties themselves, or the financial cost of hiring a third-party assessor to determine this.
- Many property owners think that providing information about energy, greenhouse and water performance will decrease the return from the sale or lease of their property. This may occur if a property owner is concerned that the energy, greenhouse and water performance of their property is below average, and that disclosing this information will deter potential buyers and tenants. Such concerns may not necessarily arise as the result of a formal energy, greenhouse and water performance assessment. However, a property owner may have suspicions about the poor performance of their property based on their experience living in the property, or from feedback received from previous tenants (e.g. large energy bills and extremely cold winters/hot summers).

Source: Allen Consulting Group.

Box 2.5

THE ACT HOUSE ENERGY RATING SCHEME

The mandatory disclosure component of the ACT's House Energy Rating Scheme (ACTHERS) was introduced in 1999. It requires the disclosure of an existing dwelling's energy rating in all advertisements for sale of a residential building, and that the contract of sale include information about the building's Energy Efficiency Rating (EER).

Feedback on the ACTHERS was obtained for 2006 study through a focus group of ACT residents recently involved in either the sale or purchase of a residential property in the ACT. The focus group consisted of 35 participants of whom 31 could comment on buying a property in the ACT, and 12 on selling in the ACT.

Concerns from some about the accuracy of ratings provided by vendors, could have been expected to limited influence on market decisions. However, focus group participants indicated that the information provided by the scheme was of some value.

- All home buyers indicated that they were aware of the EER assessment of the houses they were interested in buying before purchasing.
- Among those buyers for whom the rating was a low priority, the rating would be used to influence the decision between two similar houses.
- 15 per cent of buyers considered the star rating 'important' or 'fairly important.'
- Some buyers anticipated that houses with a higher EER would attract a higher resale value.
- A small majority indicated that the rating would marginally impact on the price they would pay, however it was noted that low ratings were used as negotiating points to argue the price down.
- Real estate agents generally only mentioned the rating as a selling point — when the rating was unusually high.

Source: DEH 2006, pp. 18-21.

Box 2.4

WHY PROSPECTIVE BUYERS/TENANTS MAY NOT ACTIVELY SEEK INFORMATION ABOUT RESIDENTIAL ENERGY, GREENHOUSE AND WATER PERFORMANCE

There are a number of reasons why tenants and prospective buyers and tenants may not actively seek information about the energy, greenhouse and water performance of a property.

- Prospective buyers/tenants may have little awareness about the concept of energy, greenhouse and water performance, and the relationship between building design, major devices (e.g. space conditioners and water heaters) and a property's use of energy and water. They are thus not likely to inquire about the energy, greenhouse and water performance of a prospective property. It is important to note that the relevance of this factor is likely to be diminishing, given growing community concerns over, and increased political attention directed at, climate change.
 - Prospective buyers/tenants may have awareness of residential energy, greenhouse and water performance, but consider the issue one of lower priority than other property attributes, such as location, size, amenity and price. They may thus judge that obtaining information about building performance is not worth the investment of time/money, especially compared with attempts to obtain information about attributes that are seen to be of greater importance.
 - Prospective buyers/tenants may overestimate their ability to determine the energy, greenhouse and water performance of contending properties based on certain 'totem' characteristics (e.g. the presence of a solar hot water system, a rainwater tank or the orientation of the facade) and/or the 'newness' of the buildings. Prospective buyers/tenants may thus perceive the process of acquiring energy, greenhouse and water performance information from property owners as being of little value, except as a means of confirming what they believe they already know.
 - Potential buyers may not actively seek information because they plan to demolish or renovate the building.
 - Prospective buyers/tenants may believe that the costs involved in obtaining information about energy, greenhouse and water performance are greater than the potential savings (from comparatively lower energy/water use). Typically, prospective buyers/tenants could obtain information about energy, greenhouse and water performance by: (1) purchasing the services of a third-party assessor; (2) undertaking assessments themselves; or (3) simply asking questions of the vendor or agent. The first option imposes monetary costs; while the second option imposes time costs (as prospective buyers/tenants would be required to collect information about building design aspects and device performance themselves, and, potentially, negotiate access with property owners to do so). The third option may not be met with accurate or sufficient information. Prospective buyers/tenants may need to incur these monetary/time costs a number of times, if they are attempting to compare the energy and water performance of different properties and thus want to make an 'apples-to-apples' comparison based on information derived from similar assessment techniques. Also, there no guarantee that information would provide consistent, comparable assessments between properties.
- The costs involved with obtaining energy, greenhouse and water performance information may appear to outweigh the potential savings if prospective buyers/tenants:
- are unaware of the full extent of savings associated with energy and water efficient devices and aspects of building design; and/or
 - judge that the potential savings are insufficient to recoup the costs involved in obtaining energy, greenhouse and water performance information over a reasonable time frame. This is especially likely to be the case if prospective buyers/tenants are uncertain about how long they intend to stay at a particular property.

In practice, it is likely that each of these factors has some influence — there will be some tenants and buyers who have no interest in energy, greenhouse and water performance, while others do value the information but have difficulties accessing it.

Source: Allen Consulting Group.

European Union BER reporting

Building Energy Rating (BER)

DEAP Version X.Y

BER for the building detailed below is:

Name of House,
 Street Name One, Street Name Two,
 Town name One, Town Name Two,
 County name One, County name Two,

BER Number: XXXXXXXXXX
 Date of Issue: Day Month Year
 Valid Until: Day Month Year
 BER Assessor No.: XXXX
 Assessor Company No.: XXXX

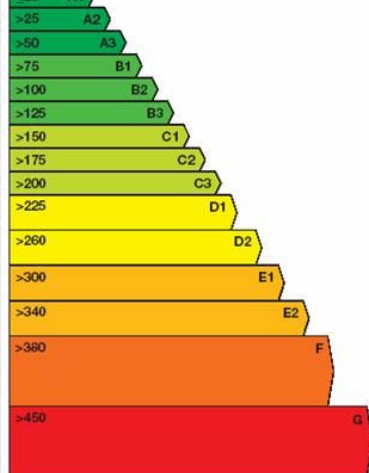
The Building Energy Rating (BER) is an indication of the energy performance of this dwelling. It covers energy use for space heating, water heating, ventilation and lighting, calculated on the basis of standard occupancy. It is expressed as primary energy use per unit floor area per year (kWh/m²/yr).

'A' rated properties are the most energy efficient and will tend to have the lowest energy bills.

Building Energy Rating

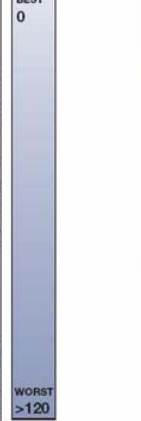
kWh/m²/yr

MOST EFFICIENT



Carbon Dioxide (CO₂) Emissions Indicator

kgCO₂/m²/yr



The less CO₂ produced, the less the dwelling contributes to global warming.

IMPORTANT: This BER is calculated on the basis of data provided to and by the BER Assessor, and using the version of the assessment software quoted above. A future BER assigned to this dwelling may be different, as a result of changes to the dwelling or to the assessment software.

Indicative ratings for typical homes:

House Built in:	Rating	2 Bed Apartment (75m ²)			3 Bed Semi-D (110m ²)		
		kWh	CO ₂	Cost	kWh	CO ₂	Cost
2008+	B1	7,200	1.7	€ 500	10,600	2.5	€ 725
2000s	C1	11,625	2.8	€ 800	17,100	4.1	€ 1,175
1990s	C2	14,250	3.4	€ 1,000	20,900	5.0	€ 1,445
1980s	D1	17,250	4.1	€ 1,200	25,300	6.0	€ 1,745
Pre 1980s	D2/E1*	22,500	5.4	€ 1,600	33,000	7.9	€ 2,280

These ratings are indicative of the levels one might expect for homes built to the prevailing Building Regulations of the period and where no additional remedial measures have been installed.

Indicative CO₂ emissions and running costs for different rating bands:

Rating	2 Bed Apartment (75m ²)		3 Bed Semi-D (110m ²)		3 - 4 Bed Detached (140m ²)	
	CO ₂	Cost	CO ₂	Cost	CO ₂	Cost
A2	0.8	€ 2,00	1.1	€ 295	1.3	€ 375
B1	1.7	€ 5,00	2.5	€ 725	3.2	€ 915
C1	2.8	€ 8,00	4.1	€ 1,175	5.2	€ 1,485
D1	4.1	€ 1,200	6.0	€ 1,745	7.6	€ 2,215
E1*	5.4	€ 1,600	7.9	€ 2,280	10.0	€ 2,895
F*	7.5	€ 2,200	11.0	€ 3,195	14	€ 4,060
G*	9.8	€ 2,900	14.4	€ 4,090	18.3	€ 5,320

* Running costs are estimated on the basis of typical occupancy and heating the entire dwelling to a comfortable level throughout the year

kWh Annual kilowatt hours of primary energy. (Natural gas and electricity are purchased in terms of "units" or kWh. 1 litre of kerosene has an energy content of just over 10 kWh)

Energy Efficiency Rating

	Current	Potential
Very energy efficient – lower running costs		
(92-100) A		
(81-91) B		
(69-80) C		[H11]
(55-68) D	[H10]	
(39-54) E		
(21-38) F		
(1-20) G		
Not energy efficient – higher running costs		
England & Wales	EU Directive 2002/91/EC	

The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills will be.

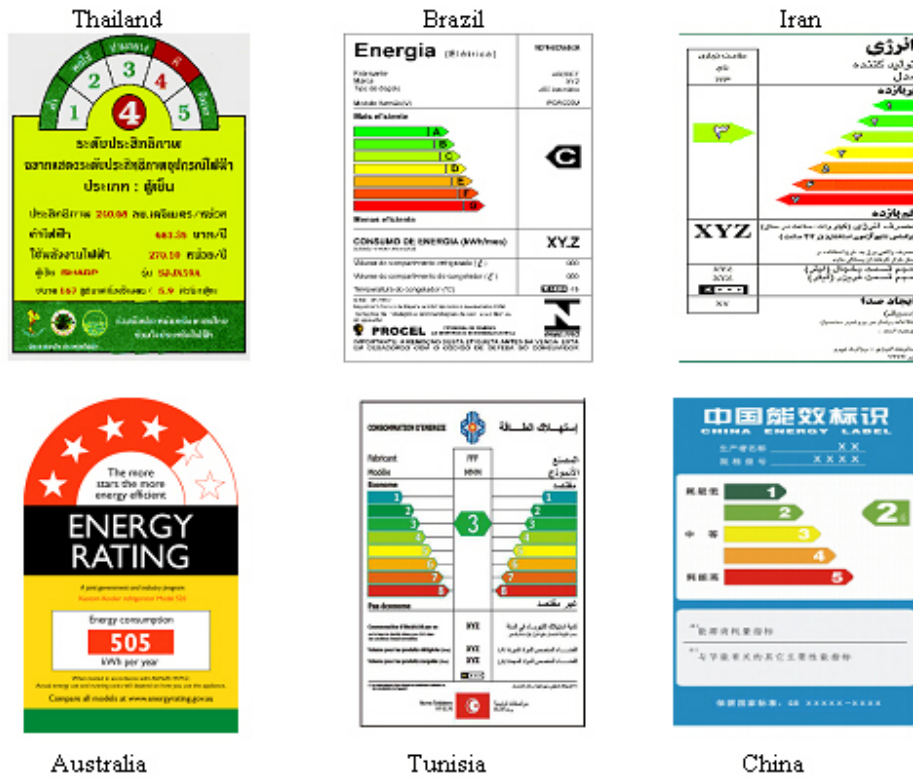
Environmental Impact Rating

	Current	Potential
Very environmentally friendly – lower CO ₂ emissions		
(92-100) A		
(81-91) B		
(69-80) C		
(55-68) D		[H13]
(39-54) E	[H12]	
(21-38) F		
(1-20) G		
Not environmentally friendly – higher CO ₂ emissions		
England & Wales	EU Directive 2002/91/EC	

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO₂) emissions. The higher the rating the less impact it has on the environment.

Global Labeling of appliances

Figure 3.6: Examples of energy labels



http://www.worldenergy.org/images/cm_images/publications/eei08

Readily Available Australian Data

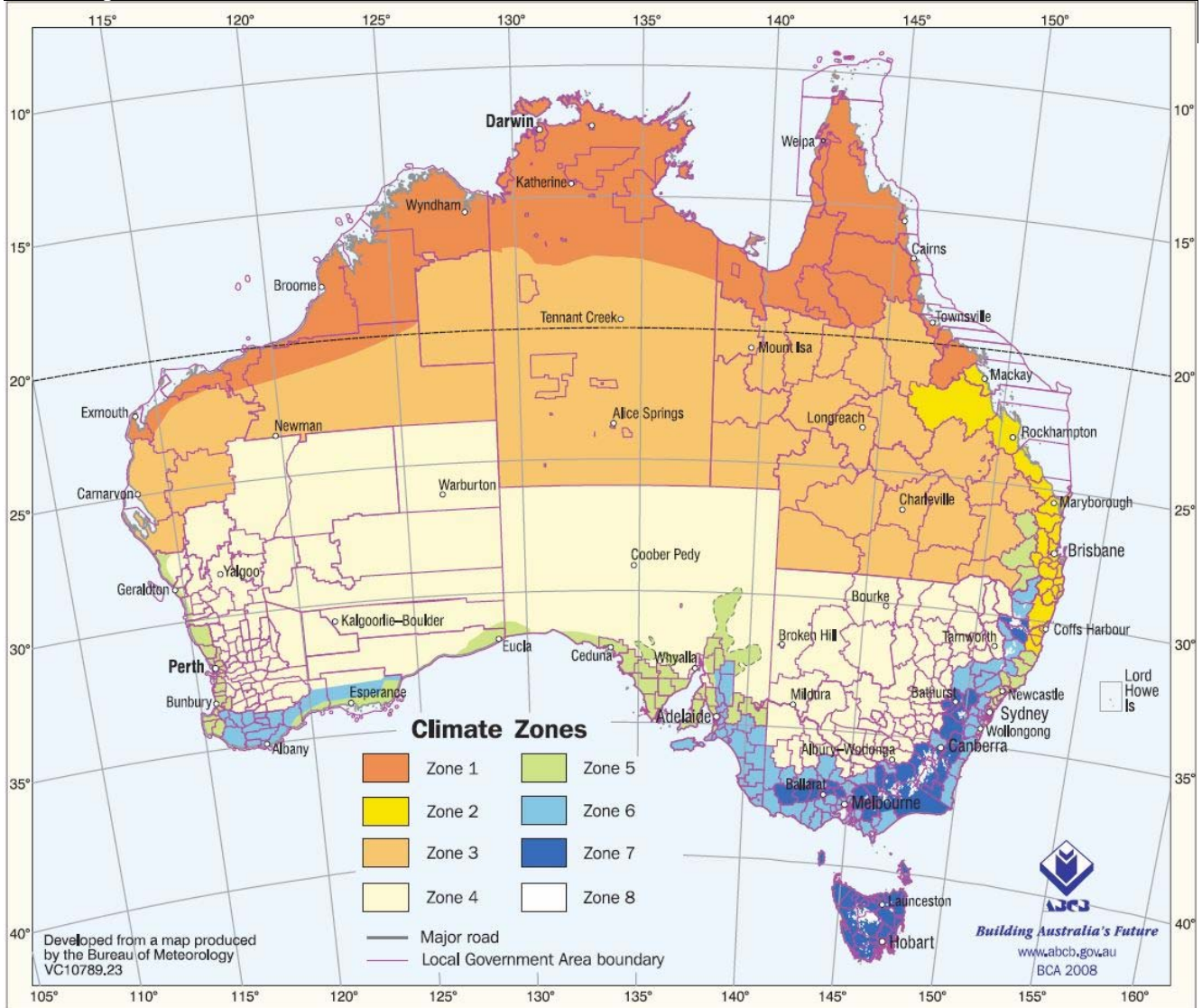


Table C.13
WATER PRICES AND ASSUMED INCREASES

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT
Current water price (c/L)	190	161.84	184	205	86	77	107.88	390
Assumed increase by 2025	40%	44%	75%	75%	96%*	75%	75%	75%

Source: Fuel prices supplied or validated by NFEE BIC.
 Notes: *based on 38% in 2011, 27% in 2012, 21% in 2013 and 2% per annum thereafter.

Table C.12
FUEL PRICES — c/MJ IN 2010

Fuel	NSW	VIC	QLD	SA	WA	TAS	NT	ACT
Electricity peak	5.73	5.56	5.42	6.17	5.78	5.46	5.34	5.35
Electricity off-peak	2.30	2.78	2.21	2.60	2.12	2.65	5.34	2.94
Natural gas	1.73	1.50	3.20	2.00	2.98	1.99	2.45	1.99
LP Gas	4.85	4.41	5.19	4.64	4.41	4.79	4.64	4.64
Wood	0.80	0.49	0.80	0.99	0.62	0.49	N/A	0.93

Source: Fuel prices supplied or validated by NFEE BIC.

Table C.14
GREENHOUSE COEFFICIENTS 2011 (KGCO2-E/MJ OF ENERGY)*

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT
Electricity	0.2616	0.3191	0.2730	0.2610	0.2302	0.0288	0.2195	0.2617
Gas	0.0661	0.0573	0.0573	0.0707	0.0589	0.0600	0.0571	0.0661
LPG	0.0650	0.0650	0.0650	0.0650	0.0650	0.0650	0.0650	0.0650
Firewood Closed	0.0044	0.0044	0.0044	0.0044	0.0044	0.0044	0.0044	0.0044
Firewood Open	0.0577	0.0577	0.0577	0.0577	0.0577	0.0577	0.0577	0.0577

Source: DCC 2009.
 Notes: *For every megajoule of energy produced through fossil fuel sources, a proportion of greenhouse gas emissions (CO₂-e) is emitted to the atmosphere. For example, one megajoule of electricity produced in Victoria will emit approximately 0.32 kilograms of CO₂-e into the atmosphere. Greenhouse coefficients are factors used to convert units of energy (e.g. megajoules) into units of greenhouse gases (e.g. kilograms of CO₂-e). The Australian Greenhouse Office annually determines each State's greenhouse coefficient for different fuel sources.

Climate zone map from: <http://www.abcb.gov.au/>
 Pricing and greenhouse data from: Allen Consulting 2011

Alternative Tool/Application for Australian Residential Market

Aims

- Engage utility users by increased awareness of energy and water consumption;
- Avoid introducing another ambiguous and administration laden system;
- Increase transparency of residential property market;
- Avoid potential for false reporting.

Method

- A tool which includes normalised reporting on utilities company billing over the past 2 years with usage and cost comparison between local properties and within the same climate zone. This will give the consumer (buyer, tenant, occupier) a running indication of how their property is operating and has the potential to operate. Currently billing shows comparison with same time last year, this could be improved if it included comparison with other houses allowing target setting and \$ savings comparison. Allows users to monitor the effect of their changes in behaviour and building fabric in real \$ dollar value terms;
- Summarise the results of the past 2 years Utilities data into a percentile range and provide a summary of predicted utilities costs over the next 12 months. This would be adjusted based on quarterly calendar year reporting and would be accessed and provided to potential buyers/tenants as part of the marketing/contract material.
- Provide a centralised web based access and public information system, backed up by notes in utilities bills (as per current) and certified energy professionals who are able to consult and provide report on expected costs and benefits of fabric modifications on an individual basis.
- Increase market penetration of smart metering and centralise/simplify individuals (registered bill payers) access to their usage data. Provide in place tracking that graphs usage and time (potentially down to minutes) to allow the consumer to better understand usage. Improved accessibility to allow users to determine where there is potential for savings and where savings have been made.
- Aim at motivating tenants through clearly showing potential savings and allowing comparison (only works in a well supplied market); Aim at motivating investors to invest in energy/water saving through tenant market demand; Allows public housing to have minimum ratings (level of surety on outgoings), comparison with market expectations and investment strategies to set targets.
- Provide opportunities for private companies to consult on energy saving results with increased forecast and monitoring opportunities.

Problems

- Normalising use/inhabitation data for comparison;
- Benchmarking and target setting;
- Accessing information;
- Privacy of information (concealing individual users consumption habits) data protection and privacy legislation;
- Normalising between gas connected and not connected;
- Comparison between dwelling types;
- Tenants cannot influence efficiency of base building;
- Usage behaviour is primary influence property utility reporting;
- Units can often pay a utilities levy instead of having a submetered tenancy;
- Does not provide direct recommendations on improvements;

Solutions

- Identify Building Address (street Lot DP/SP) Identify number of bedrooms (Studio, 1, 2, 3, 4, 5+), Identify property type (House, Semi detached, Unit in <4 storeys, Unit in >4 storeys). Identify Utilities connected (electricity, water, gas (NG/LPG). Identify postcode. Postcode is used to generate LGA. From LGA can be generated Climate zone, typical normalised usage, typical target usage, power/water/gas sources and weighting, CO₂ outputs, and average utilities pricing.
- Provide access to HERS certificate through local council (like S194 planning certificate) with authorised applicants signature (owner/real estate agent).
- Currently the NSW State Government has a benchmarking and target setting mechanism embedded in the BASIX tool. This is used in the predictive design phase but is not monitored or used as an ongoing benchmark. It is proposed that a similar mechanism be implemented, with additional weighting for sources of water, power and gas, and flexibility for LGA targets.
- Legislate utilities regulation. Government (CSIRO) to provide software and training/support to the relatively small and centralised sector of utilities providers.
- Provide a central energy/water database consolidator website for quick access based on address with lot/dp/strata. The information is reported directly from the utilities companies and can be accessed only with authorisation of one registered owner/agent. The data would normalised into grading and would not contain any individuals details, simply property address and usage.
- The central database software would normalise comparison results into a percentage band (typically in 10% increments) by reporting average annual consumption over a 2 year period (to eliminate some seasonal variance) with potential to obtain typical electricity base load between 5pm and 8am. Limiting capture period should allow capture of the 'normal' residential usage pattern and establish overnight base load. This will require smart meters to be installed. An alternative would simply place the raw data within a range of usage, averaged across the type and location.
- Houses either built or substantially renovated (requiring a NABERS certificate) in the past 2 years would have access to certification of works carried out and require installation of smart metering. This construction certification and energy assessment would be accessed through the database and used to generate an estimated usage in light of previous data.
- Put the dwelling into a percentile band of consumption and allocate a grade based on a bell curve analysis. The database program then produces a range of comparison Targets similar property types, LGA and utilities connected. Only produce improvement targets for comparison. Do not include lower performing comparisons as evidence suggests that this has potential to de-motivate consumers. Include a comparison between the per annum \$ paid and the potential target per annum \$ paid. This would allow for value engineering.
- Provide updates on each utilities bill as an incentive. These would be seasonally averaged/adjusted from the data set allowing tracking. Include a comment about reducing usage and potential energy assessments/consultations (private industry) – Provide a link to government website/accredited companies targeted at improving efficiency.
- Rewards for tenant usage efficiencies currently lie in the tenants lower utilities bills (outgoings), By them having access to increased ongoing monitoring and ability to see potential cash savings, they will have more direct impetus to change behaviour.
- Landlords will be more motivated to install efficiency measures when there is a potential for the inefficiencies to affect rental/sales returns.
- Recommended that government (CSIRO) invest in the data normalisation and graphic to be displayed on utilities bills to provide a uniform format across the Australia to maximise comparability of data.
- Provide a web portal for the general public to access and compare normalised performance of different housing types and utilities combinations with the potential to show benefits of smaller well designed and constructed dwellings. This has the potential to include case studies illustrating and encouraging the 'low fruit' efficiency options.
- Consumption per sqm has been intentionally left out as it skews the data and can be readily corrupted through misinformation.

Opportunities

- Can give private energy auditors a measured base rate and measurable targeted rate while providing a savings improvement value based on proposed works, strengthening the justification of investment;
- Has potential for the landlord to provide motivation (rent incentives?) for lower usage and disincentives for higher usage.
- Provides a potential market value for utilities comparison. In comparison, a consumer can see the actual out of pocket comparison between two properties and that the pricing of gas heating is cheaper and lower in CO₂ than electrical.
- Does not require the training or ongoing registration and policing of assessors;
- Limits building user input – Randolph and Troy (2007) revealed that user behaviour and knowledge of energy use and initiatives was relatively poor;
- Requires minimal time investment from owner (owner may choose to purchase online or can rely upon solicitor/real estate agent to co-ordinate as part of contract preparation);
- Interprets real data instead of using a predictive model;
- Provides the credibility of historical data, localised comparison and real dollar terms as a reference.
- Can include information checklist for buyer/tenant/owner on best practice which can act as a guide/comparison to indicate where the property can be improved and may include potential areas to target (low input high return). Directs to website/accredited energy professionals. Similar to savings tips produced by the utilities companies on billing.
- Can provide opportunities for cost banding to influence the worst performers/provide an incentive to modify dwelling /behaviour. If the market decides to grade pricing as a disincentive to higher use, or increase taxation on high volume users as a means to encourage investment in efficiency measures, the tool is in place.
- Design rating of new buildings can be input and monitored. Eg. Original BASIX rating embedded in database and used to assess efficacy of tool and usage data used to feedback to improve original predictive design tool.

Constraints

- Tool does not aim to look at embedded energy and offset potentials or look in detail at anomalies caused by usage/physical structure/inclusions (pools, insulation, orientation, glazing, hidden detail/defects). Assumes that these physical differences will be apparent in the inspection of the home and in an ideal situation should be neutralised by efficiency measures. This tool provides raw comparison and opportunity to compare and place a dollar figure on real potential of efficiency. This will become increasingly useful as pricing tools (carbon tax, price increases) begin to play a more prevalent role in the market.
- Data protection and privacy legislation needs to be reviewed in detail and a negotiated outcome achieved.
- Smart metering solution requires rollout of new technology, each individual tenancy/dwelling should be submetered with smart metering, when this occurs 5pm to 7am data normalisation can occur, however this is not immediately necessary.

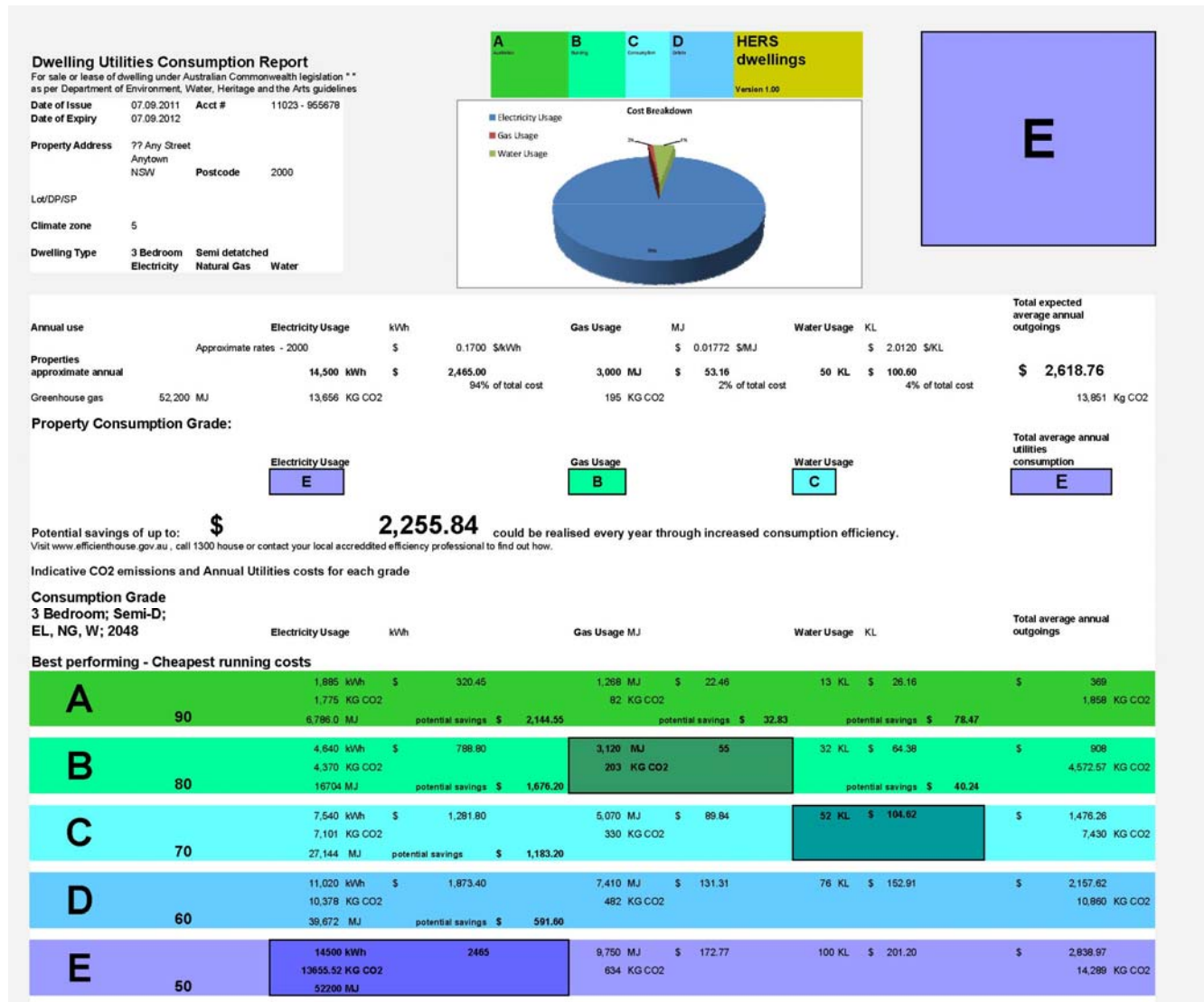
Comparisons

	Option 1 (Full thermal assessment)	Option 2 (Simplified thermal assessment)	Option 3 (Self assessment online tool)	Option 4 (Self assessment checklist)	Proposed Option (Normalised Utilities comparison)
Assessment method	Full thermal performance simulation + other building component information	Simplified thermal performance assessment + other building component information	Simple online thermal performance assessment + other building component information	Checklist of building component information	Normalised comparison of actual utilities usage over the past 2 years
Drawings required?	Full floor plan drawing required ^f	No	No	No	No
Data collection requirement	High complexity & high volume ^g	Mid complexity & mid volume ^h	Low complexity	Limited	Limited – existing utilities – number of bedrooms - postcode
Compliance approach	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory
Rating provided?	Yes	Yes	Yes	No	Yes
Rating type	Quantitative	Quantitative	Quantitative	Binary (present or not present)	Quantitative/Value
Assessor requirements	Approved assessor	Approved assessor	Unskilled (non trained) e.g. householder or agent	Unskilled (non trained) e.g. householder or agent	Utilities Program– automatically accessed by owner /through LGA/solicitor/real estate with S149 certificate
Registration required?	Certificate lodgement required	Certificate lodgement required	Certificate lodgement required	No	Certificate Lodgement required
Assessment cost^a	\$774 – Assessor ^b \$50 – Householder waiting cost ^c	\$172.50 – Assessor ^b \$25 – Householder waiting cost ^c	\$68 – Self-assess ^d \$165 – Assessor ^{b,e} \$18 – Householder waiting cost ^e	\$41 – Self-assess ^d \$150 – Assessor ^{b,e} \$14 – Householder waiting cost ^e	\$40 – Admin charge with S149 \$0 – Householder waiting cost^e <small>costs are broad estimates only</small>
Level of information provided	<ul style="list-style-type: none"> Comprehensive assessment of a building's thermal performance. High level of accuracy about thermal performance of a building's components. Ratings for the various components of the overall building performance. 	<ul style="list-style-type: none"> Simplified assessment of a building's thermal performance. Mid level of accuracy about thermal performance of a building's components. Ratings for the various components of the overall building performance. 	<ul style="list-style-type: none"> Low level of accuracy about thermal performance of a building's components. Ratings for the various components of the overall building performance. 	<ul style="list-style-type: none"> Information about the various components of the overall performance provided in a checklist format without a rating. 	<ul style="list-style-type: none"> Range of expected annual \$ cost of utilities for the property based on historical data \$ value range comparison with similar properties in LGA and target usage No accuracy of thermal performance Alternatively relies on Basix certificate of assessment for properties having recently (within 2 years) undergone renovation works Voluntary private evaluation of potential savings

Prototype of Utilities Consumption Report

To be included in sale and leasing contracts – rating on advertising

Note that lower ratings are generally not included. Figures are predicted only. Disclaimers need to be included.





Proposed draft of Dwelling Utilities Consumption Report – to be included on Electricity Bill

Enquiries
(Mon-Fri: 8am-8pm, Sat 8.30am-12.00noon)
Electricity Emergencies (24 hrs)
Sneaklight Facts
www.energyaustralia.com.au

13 15 35
13 13 88
1800 044 888

Tax Invoice

Account Number [REDACTED]

Due by **27 April 2011**

Amount Payable **\$357.48**

Quarterly Electricity Account

Location: [REDACTED]

Total amount payable of your last Electricity bill issued on **6 January 2011** **308.09**

Payments - Thankyou **-308.09 cr**

Electricity (06/01/2011 to 05/04/2011) **324.98**

Subtotal of charges before GST **324.98**

Total GST payable 10% **32.50**

Total charges including GST **357.48**

Total Amount Payable \$357.48

Energy saving tip
Some televisions use electricity in standby mode. Turning off TV's at the switch or power point rather than by the remote can save money.

Switch to a smarter way to pay
Spend less time paying your bills or make budgeting easier by paying for your electricity with one of our SmarterPay bill payment options. We can arrange everything with one phone call - just call **13 15 35**, or to check out these options online, go to www.energyaustralia.com.au/payyourbill

Electricity price rise
Please note that electricity rates will rise from 1 July 2011, as permitted by the Independent Pricing and Regulatory Tribunal (IPART).

Did you know?

For your Information

- If you are having difficulties paying your bill, we operate a payment plan and a customer hardship program. You may be entitled to a NSW Government energy or life support rebat. For details and to apply call **13 15 35**.
- If you're concerned about the planet, becoming a PureEnergy customer is an opportunity to support the future of renewable electricity generation. Please call us to become a PureEnergy customer today.

Average Daily Usage

Consider reducing your environmental impact. Greenhouse gas released to produce your energy this period = 1856.8kg of CO₂.

Energy Used & Costs

METER ID	THIS READING	LAST READING	ENERGY USED	X RATE	= COST
Off Peak Energy (06/01/11 - 05/04/11)	558.0	0.0	558.0 kWh	8.0000c	\$44.64
Shoulder Energy (06/01/11 - 05/04/11)	869.2	0.0	869.2 kWh	13.0000c	\$113.08
Peak Energy (06/01/11 - 05/04/11)	325.3	0.0	325.3 kWh	36.0000c	\$119.06
SAC: Time of Use			90 Days	49.0000c/day	\$43.20
Total Electricity before GST			1751.5 kWh		\$324.98

How to Pay

SmarterPay
Automatically pay on the due date by direct debit from your bank/building society/credit union account. For details and an application form, call **13 15 35**.

iPAY
Biller Code: 3111 Ref: [REDACTED]

BPAY
Contact your bank, credit union or building society to make payment from your savings or cheque account. **BPAY View** Receive, view and pay this bill using internet banking.

Credit Card By Phone
Automated service available 24 hours. Call **1300 653 343** (Diners excluded).

Overdue accounts may attract a late payment fee
Energy Accounts Payment Assistance (EAPA) may be sought from participating welfare organisations.

NMI# 41036582566

Billpay Code: 0207
Ret: [REDACTED]

Phone **13 15 35** or go to postbillpay.com.au to make a payment using your credit card. Alternatively payments can be made in person using cash or cheque at any Post Office.

By Mail
Post the payment slip with your cheque to: EnergyAustralia, Locked Bag W100 SYDNEY NSW 1251

EnergyAustralia Payment Slip
Please return this section with payment to:
EnergyAustralia, Locked Bag W100
SYDNEY NSW 1291

POST billpay

Tran code User code CNV BSB

Account Number [REDACTED]

Due by **27 April 2011**

Amount Payable **\$357.48**

PowerSmart Home Electricity Usage Summary

Account Number [REDACTED]
Name [REDACTED]
Supply Address [REDACTED]
Supply Period 6 January 2011 to 5 April 2011 - 90 days

USAGE BREAKDOWN

Peak	325 kWh	18.57%
Shoulder	868 kWh	49.57%
Off Peak	558 kWh	31.86%
TOTAL ENERGY	1,752 kWh	

HERS dwellings

Consumption Grade **3 Bedroom; Semi-D; EL, NG, W, 2048**

Estimated Annual use **14,500 kWh**

Potential savings of up to: **\$ 2,144.55**
could be realised every year through electricity consumption efficiency.

Average Daily Usage

Consider reducing your environmental impact. Greenhouse gas released to produce your energy this period = 1856.8kg of CO₂.

Consumption Grade 3 Bedroom; Semi-D; EL, NG, W, 2048

E

Estimated Annual use

Properties approximate annual usage (Does not include service charges/GST) Needs to **14,500 kWh** \$ **2,465.00**

Greenhouse gas output **52,200 MJ** **13,656 KG**

Potential savings of up to: \$ 2,144.55
could be realised every year through electricity consumption efficiency.

Visit www.efficienthouse.gov.au, call 1300 house or contact your local accredited efficiency professional to find out how.

Proposed draft of Dwelling Utilities Consumption Report - to be included on gas and water bills

Your gas account.

MR [REDACTED]

Important notice. See enclosed information on an important change to door-to-door selling law that affects all Australians.

Your account summary

Account name: [REDACTED]
 Supply address: [REDACTED]
 Supply period: 28 Oct 2010 to 28 Jan 2011

Previous balance: \$109.87
 Payment received: \$109.87
 Balance brought forward: \$0.00
 Usage and supply charges: \$108.42
 GST included in new charges: \$9.86

Total amount due: \$108.42

Late payments will incur a fee of \$12.10 (incl GST) if you are unable to pay, call 131 245

Your account number: [REDACTED]

Total amount due: \$108.42

Pay by: 18 Feb 2011

Getting in touch

Call: 131 245
 Visit: agl.com.au

AGL Assist/Emergency Hot Water
 Appliance repair and replacement including solar: 131 766

AGL Energy Shops
 Appliance sales, advice and installation: 132 245

Faults and Emergencies
 Call 131 909 to contact Jemena Gas the distributor responsible for the gas pipes and meters in your area.

TAX INVOICE
 Issued: 31 Jan 2011
 AGL Retail Energy Limited NSW 21 074 839 864

Install a solar energy system and you could watch your electricity bills shrink.

As an AGL customer, we can help you be more energy smart with our solar energy solution. And we can install too. The best part is, you could save on your electricity bill.

Solar energy makes more sense with AGL. So talk to our experts today and let us help you choose the best energy solution for your home.

Visit agl.com.au/Solar or call 133 000 to find out if you're eligible.

Your overall picture

Usage

Average usage per day: 30.35MJ

Same time last year: 31.71MJ

Average cost per day: \$1.17

Greenhouse gas emissions

Total for this bill: 0.19 tonnes

From: 2923kg

For information on how to reduce your greenhouse gas emissions, visit www.energysmart.gov.au

Things you need to know

Payment Assistance: Energy Account Payment Assistance (EAPA) may be sought from participating welfare organisations. Alternatively please contact our Customer Service Centre on 131 245.

Meter accuracy test: The fee for Domestic usage meter accuracy test inclusive of GST is \$49.72 to \$70.94, depending on meter size. AGL will refund the fee if the meter is found to be registering in favour of AGL for more than 2%.

Travelling paying? If you need help with your energy needs, just call 131 245. If you are having difficulty paying this bill, please call us to find out about payment options.

Moving? Take us with you
 Just call us at least three business days before you move on 131 245 and we'll look after all your energy needs for you.

We speak your language
 Interpreter Service 131 245
 Arabic • Spanish • Italian • Greek • Croatian • Vietnamese • Chinese
 ما نحتاج الترجمة على الرقم 131 245
 /Necesita un intérprete? Llame al número indicado arriba.
 Au service des personnes qui parlent une autre langue, appelez le numéro ci-dessus.
 Necesita el servicio de traducción? Llame al número indicado arriba.
 Nếu cần dịch sang tiếng Việt, hãy gọi đến số trên đây.
 如果您需要傳譯員的幫助，請致電以上號碼

Stay Informed
 If you do not wish to receive marketing information about AGL products and services, please call 131 245.

Write to us
 PO Box 14120 MCMC, Melbourne, VIC 3001, or Fax 1300 860 245

Consumption Grade
 2 Bedrooms, Semi-D, EL, NG, W, 3048

HERS dwellings

Potential savings of up to \$32.83
could be realised every year through natural gas consumption efficiency

Page 2 of 2

Your payment options

DIRECT DEBIT
 Save time by having your account paid automatically on the pay by date. Apply online at agl.com.au or phone 131 245 for an application form.

CREDIT CARD
 Visit agl.com.au/payments or phone 1 300 657 386 to pay your bill by Visa or Mastercard. Ref: [REDACTED]. Max \$4,000 per transaction.

POSTBILLPAY
 Pay in person at any Post Office, phone 13 18 16 or go to postbillpay.com.au

Your account number: [REDACTED]

Total amount due: \$108.42

Pay by: 18 Feb 2011

POSTbillpay®

Please see reverse for payment options

Sydney WATER

Telephone Payments ☎ (See below)
 Account Balance ☎ 1300 362 093
 Website: sydneywater.com.au

General Enquiries ☎ 13 20 92
 8.30am to 5.20pm (Mon-Fri)
 Faults and Leaks ☎ 13 20 90
 24 hours

Last bill	Payments	Balance	This bill	Total amount due
\$214.75	\$214.75	\$0.00	\$220.75	\$220.75

Please pay by **08/06/11**

Account number: [REDACTED]

Account for residential property

Item	Period	Rate	Amount
Fixed charges - GST free	1 Apr 11 - 30 Jun 11		\$
Water service			31.30
Wastewater (sewerage) service			129.29
Stormwater drainage area			11.92
Usage charge - GST free	14 Feb 11 - 18 May 11		48.28
Water	14/02 - 18/05	24 kLs at \$2.0120 per kL	See over for details
Other charges and credits			-0.04
Credit			-0.04
Total amount due			\$220.75

Consumption Grade: 3 Bedrooms, Semi-D, EL, NG, W, 3048

Potential savings of up to \$74.44
could be realised every year through water consumption efficiency

TAX INVOICE Date of issue: 18 May 2011

Account for residential property

Your average daily usage

How much water did you use?

Water meter details

Date read	Reading
18 May 11	438 kilolitres
14 Feb 11	414 kilolitres

Total water used in 93 days was 24 kilolitres

Customer information

- The Independent Pricing and Regulatory Tribunal (IPART) has determined increases in service and usage charges from 1 July 2011.
- Pensioners with a Pensioner Concession Card or a Veterans' Affairs Gold Card (FPI / TTL, War Widow / Widower, or EDA) may be entitled to a concession.
- Visit sydneywater.com.au to view the Quarterly Drinking Water Quality report.
- Visit sydneywater.com.au to view the Sydney Water Customer Contract in Brief.
- Interest may be charged on overdue amounts at the current rate of 8.5% a year.
- For customers in financial difficulty, Sydney Water may provide payment assistance including deferred payment, instalment options and hardship relief. Conditions apply. Call 13 20 92 for details.
- Hearing impaired customers can phone via NRS for a TTY service on 13 36 77, quoting 13 20 90.
- We may exchange contact information with local councils to ensure your bills get to you.

Faults and Leaks (available 24 hours)
 Please ring 13 20 90 in cases of service difficulty and emergency.

Payment number	Total amount due
[REDACTED]	\$220.75

Changing your mailing address?
 For changes to your mailing address, please ring general enquiries or email changes to ton.tap@sydneywater.com.au. Be sure to quote your account number.

Interpreter Service 13 14 50
 Arabic • Chinese • Greek • Italian • Korean • Vietnamese
 إذا كنت تحتاج إلى مترجم، يرجى الاتصال بالرقم أعلاه
 如果您需要傳譯員的協助，請致電以上的號碼。
 Αν χρειάζεστε διαμνημό, τηλεφωνήστε στον παραπάνω αριθμό.
 Se vi serve un interprete, telefonate al numero indicato sopra.
 통역사가 필요하시면 위의 번호로 전화하십시오.
 Nếu quý vị cần thông dịch viên, hãy gọi đến số trên đây.

Centrepay payments: Call Centrelink to arrange regular Centrepay deductions. Centrepay Reference No.: 555 052 086C

Sydney WATER

Account for

POSTbillpay: Use cash, cheque or debit card at any Australia Post Office.

Credit card limit: \$1,000 per bill

Payment number: [REDACTED]

Please pay by: 08/06/11

Total amount due: \$220.75

TRAN CODE [REDACTED] **USER CODE** [REDACTED] **CUSTOMER REFERENCE NUMBER** [REDACTED]

POSTbillpay: Internet or phone banking. Biller code: 45435 Ref no.: [REDACTED]

Mail payments: Return slip and cheque payable to Sydney Water (no stamps). Send to: Sydney Water, PO Box 339, Silverwater NSW 2128

Internet payments: Mastercard or Visa: sydneywater.com.au

Telephone payments: Mastercard or Visa. Call 1300 12 34 56 (24 hour service)

Direct debit payments: For more information, please call 13 20 92 or visit sydneywater.com.au

Background data and ratings

Based on comparative percentile bands. Figures are predictive only. Only showing for 3 Bed Semi in 2048 with Electricity, Natural Gas, and Water connected. Variations would be generated on a matrix of number of bedrooms (Studio, 1, 2, 3, 4+), property type (House, Semi detached, Unit in <4 storeys, Unit in >4 storeys), Utilities connected (electricity, water, gas (NG/LPG) and postcode.

Dwelling Utilities Consumption Report

For sale or lease of dwelling under Australian Commonwealth legislation ** as per Department of Environment, Water, Heritage and the Arts guidelines

Date of Issue: 07.09.2011 Acct #: 11023 - 955678
 Date of Expiry: 07.09.2012

Property Address: ?? Any Street, Anytown, NSW Postcode: 2000

Lot/DP/SP: Climate zone: 5

Dwelling Type: 3 Bedroom Semi detached
 Electricity Natural Gas Water

E

Annual use	Electricity Usage	kWh	Gas Usage	MJ	Water Usage	KL	Total expected average annual outgoings
Properties approximate annual	14,500 kWh	\$ 2,465.00	3,000 MJ	\$ 53.16	50 KL	\$ 100.60	\$ 2,618.76
Greenhouse gas	52,200 MJ	13,658 KG CO2	195 KG CO2				13,851 Kg CO2

Property Consumption Grade:

Electricity Usage
E

Gas Usage
B

Water Usage
C

Total average annual utilities consumption
E

Potential savings of up to: **\$ 2,255.84** could be realised every year through increased consumption efficiency.
Visit www.efficienthouse.gov.au, call 1300 house or contact your local accredited efficiency professional to find out how.

Indicative CO2 emissions and Annual Utilities costs for each grade

Consumption Grade	Electricity Usage	kWh	Gas Usage MJ	Water Usage KL	Total average annual outgoings
A	1,885 kWh	\$ 320.45	1,268 MJ	13 KL	\$ 369
B	4,640 kWh	\$ 788.80	3,120 MJ	32 KL	\$ 908
C	7,540 kWh	\$ 1,281.80	5,070 MJ	52 KL	\$ 1,476.26
D	11,020 kWh	\$ 1,873.40	7,410 MJ	76 KL	\$ 2,157.62
E	14,500 kWh	\$ 2,465	9,750 MJ	100 KL	\$ 2,938.97
F	20,300 kWh	\$ 3,451.00	13,650 MJ	140 KL	\$ 3,974.56
G	26,535 kWh	\$ 4,510.95	17,843 MJ	183 KL	\$ 5,195.32
H	30,450 kWh	\$ 5,176.50	20,475 MJ	210 KL	\$ 5,981.84
I	33,350 kWh	\$ 5,689.50	22,425 MJ	230 KL	\$ 6,529.63
J	33,350 kWh	\$ 5,689.50	22,425 MJ	230 KL	\$ 6,529.63

Best performing - Cheapest running costs

Worst performing - Most expensive running costs

Reporting alternatives

Consumption Grade
 3 Bedroom; Semi-D;
 EL, NG, W; 2048

E

Estimated Annual use	Electricity Usage	kWh	Approximate rates	\$	0.1700 \$/kWh
Properties approximate annual usage (Does not include service charges/GST) Needs to	14,500 kWh			\$	2,465.00
Greenhouse gas output	52,200 MJ	13,656 KG			

A Australian **B** Building **C** Consumption **D** Details **HERS dwellings**
 Version 1.00

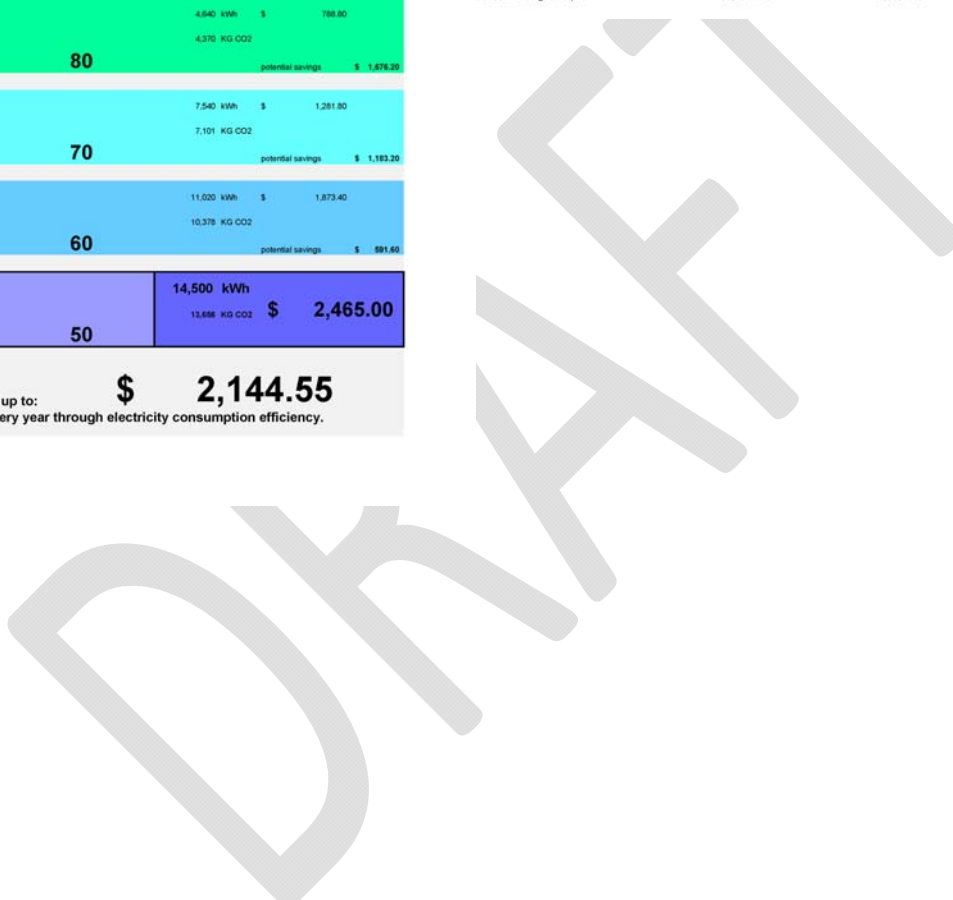
Consumption Grade
 3 Bedroom; Semi-D;
 EL, NG, W; 2048

E

Estimated Annual use	Electricity Usage	kWh	Approximate rates	\$	0.1700 \$/kWh
Properties approximate annual usage (Does not include service charges/GST) Needs to	14,500 kWh			\$	2,465.00
Greenhouse gas output	52,200 MJ	13,656 KG			

Grade	Score	Electricity Usage	kWh	Approximate rates	\$	Potential savings
A	90	1,880 kWh		\$	320.45	\$ 2,144.55
		1,775 KG CO2				
B	80	4,640 kWh		\$	788.80	\$ 1,676.20
		4,370 KG CO2				
C	70	7,540 kWh		\$	1,281.80	\$ 1,183.20
		7,101 KG CO2				
D	60	11,020 kWh		\$	1,873.40	\$ 991.60
		10,378 KG CO2				
E	50	14,500 kWh		\$	2,465.00	
		13,656 KG CO2				

Potential savings of up to: **\$ 2,144.55**
 could be realised every year through electricity consumption efficiency.



Findings/Recommendations/Further Research

The place for reliance upon predictive tools is in the planning and design phase. What is lacking in the built environment, and especially in domestic dwellings, is an open conversation as to the overall environmental performance and costs of actual building operations backed by reliable data. This feedback is needed not only to inform the market and allow natural market forces to preference low consumption dwellings, but also for verification, modification and justification of design tools and modifications to building envelope. There is a need to provide actual comparative operational feedback to building owners and occupiers, both present and future, in a recognisable and readily interpreted format so that a behavioural shift can occur. A tool that is used simply as a marketing comparison between unknown units of measure, which the general public cannot readily convert to a recognisable value, is of little practical use. Further, a reliance on data input and interpretation by owners opens the door to misinformation. Randolph and Troy (2007) show that to the general public the main barriers to energy savings are:

- Poor understanding of the costs and benefits of installing energy saving appliances or adopting energy saving behaviour;
- Saving energy is simply not a priority for many;
- Energy saving alternatives are unappealing or impractical;
- Lack of awareness of how to save energy;
- Particular problems faced by renters and flat dwellers.

And that:

- “Energy consumption figures are not felt to make any sense unless put in dollar terms.” (Randolph 2007:61)
- Consumers “were more interested in how much energy they have used in relative rather than absolute terms.” (Randolph 2007:62)
- “Knowing that their energy use had decreased does not necessarily mean that energy consumption generally had become more efficient. Consumers look for further information to be provided on their bills to enable them to compare their household’s energy use with that of the Sydney average. Such comparative information would enable householders to see how their use compared with the rest of their suburb for example.” (Randolph 2007:63)
- “Few consumers had any concept of the amount of kWhs or dollars that could be saved by undertaking specific energy saving initiatives. Only the dollar saving appear to have the likelihood of creating incentives for the majority of householders to change their behaviour.” (Randolph 2007:64)

It is felt that a tool which reports on normalised actual usage over the previous 2 years and compares this against similar properties on the market and is used for both regular reporting on utilities billing and as a Mandatory Disclosure of Energy, Water and Greenhouse Gas performance at time of sale and leasing has potential to address the general public’s barriers to energy savings above and the ‘information asymmetries and shortfalls’ described by Allen Consulting 2011 and that a tool that requires another level of bureaucracy and administration will lead to a further distancing of the consumer from efficiency targets.

References:

- <http://www.cityofsydney.nsw.gov.au/Environment/LiveGreen/HouseholdEnergyCompTrial.asp>
- <http://www.fbe.unsw.edu.au/cf/publications/journalarticles/attachements/planninghousing.pdf>
- <http://www.smh.com.au/opinion/society-and-culture/conspicuous-conservation-means-less-is-much-more-cool-20110118-19v75.html>
- http://www.energyaustralia.com.au/State/NSW/Residential/Your-account/Payment-difficulty/Community-welfare-workers/Understanding-Energy-Forum/~media/Files/Residential/Payment%20Difficulty/Understanding%20Energy/2010UE_ResidentialEnergyUse_Syd_IPART.ashx
- <http://www.fbe.unsw.edu.au/CityFutures/publications/researchpapers/researchpaper7.pdf>
- http://www.sydneywater.com.au/annualreport/performance/sustainability/optimising_resources_si2.html
- <http://www.abcdiamond.com/australia/average-household-electricity-consumption/>

Appendix 1— Figures/graphs

3419—ELECTRICITY CONSUMPTION²¹

Mr Richard Amery to the Minister for Energy and Utilities, Minister for Science and Medical Research, Minister Assisting the Minister for Health (Cancer), and Minister Assisting the Premier on the Arts—

- (1) What is the current average household consumption for electricity in:
- The Sydney Metropolitan area?
 - The entire State of New South Wales?
- (2) What is the current cost of electricity for these domestic consumers in the above named areas?
- (3) How do these consumption figures and cost compare to each of the previous ten years?

Answer—

- (1) (a) An average Sydney household in 2002/03 consumed 8250 kWh of electricity per annum.
(b) An average New South Wales household in 2002/03 consumed 7790 kWh of electricity per annum.
- (2) The cost of electricity was 9.2 cents/kWh in Sydney and 10 cents/kWh in New South Wales (excluding GST).
- (3) In 1992/93, an average household consumed 7700 kWh of electricity per annum in Sydney and 7260 kWh of electricity per annum in NSW. By 2002/03, this consumption increased by about 7% in both Sydney and NSW. In 1992/93, the cost of electricity was 8.64 cents/kWh in Sydney and 9.64 cents in NSW. In 2002/03, the cost of electricity increased by 7% in Sydney and 4% in NSW (excluding GST).
By comparison the CPI has increased by 31 percent in this period, meaning real prices for electricity have fallen during this period

²¹ <http://www.parliament.nsw.gov.au/prod/la/qala.nsf/0/CA25708400173F67CA25704600244D7C>