

December 22, 2016

To whom it may concern,

RE: Energy Makeovers' response to the draft ESS Rule 2016-17 and consultation paper

Thank you for the opportunity to respond to the NSW Government's current proposal to change the ESS Rule.

We are committed to the ESS and believe it will continue to make an important contribution to energy productivity and carbon abatement in NSW. We applaud the NSW Government's aspirational target that NSW should achieve zero net emissions by 2050.

Our submission is in two parts:

1. Energy Makeovers' response to the questions posed in the consultation paper
2. Additional changes to the ESS Rule we believe should be made

We would welcome a request to provide further information about anything provided below and/or to participate in any workshop discussions pertaining to the consultation process vis-à-vis the proposed changes to the ESS Rule.

1 RESPONSE TO THE QUESTIONS POSED IN THE CONSULTATION PAPER

Q1: Is the proposal to require Electricity and Gas Savings data at an Activity Definition level for the HEER and HEAB sub-methods reasonable?

Yes, we believe that it is reasonable to require the provision of electricity and gas savings data along with other clause 6.8 data under the HEER and HEAB methods. This data will need to be collected and used to determine MWh saved and ESCs created. Little administrative effort is required to tabulate the data and supply it along with other data on the 6.8 submission form.

Q2: Do you think Electricity Savings and Gas Savings data should be reported at an Activity Definition level for the SONA and ROOA sub-methods?

In respect of reporting electricity and gas savings and the activity definition level, the consultation paper states: "As the End-User Equipment is an appliance that reduces electricity consumption, and as this is already reported, it is considered that no additional data is required for the SONA and ROOA sub-methods." EECCA agrees that it should not be necessary to report gas and electricity savings at the activity definition level for the SONA and ROOA methods.

Q8: Are there changes to ESS Rule requirements around the purchaser co-payment that could meet the objectives of consumer engagement and quality lighting outcomes while reducing red-tape and compliance costs?

Removing the co-payment requirement in the Commercial Lighting method and the Home Energy Efficiency Retrofit (HEER) method will accelerate the uptake of energy efficiency

implementations, greatly assisting the NSW Government to achieve its aspirational target of zero net emissions by 2050.



In the residential sector, the 21C activity under the VEET (swapping halogen downlights with LEDs) grew to 1,000 site implementations a day (at its peak), resulting in an estimated 0.75% reduction in household consumption in the first 6 months of 2016. In contrast, there has been little activity in the residential sector in NSW. We believe that removing the co-payment requirement from HEER method of the ESS, especially for low income households, will positively impact uptake.

Should the NSW Government decide to replace the co-payment requirement with some other requirement, Energy Makeovers would welcome the opportunity to participate in a workshop to identify suitable candidates.

Q9: Do you agree with the proposal to update the SONA Equipment Energy Savings tables?

We note that the ESS Rule Change 2016-17 Consultation Paper proposes "...to adjust the Equipment Energy Savings to use a baseline that reflects the sales weighted average star rating of appliance sales in 2016". Also, that it is proposed to continue the practice of discounting the baseline by 0.5 energy stars so as to provide an incentive to retailers such that they are only rewarded where they go above-and-beyond.

We believe these two measures, especially when taken together, are excessive and that the impact on the ability of the SONA method to change the long-term behaviour of retailers will be subsequently degraded.

These are the forecasted category impacts on the energy savings realised (using retailer data collected by Energy Makeovers from its customers between 1-3-16 and 30-9-16) should the proposed changes be made:

CURRENT RULE	ESS	Records	ESC
Washing Machine	B1	43,503	35,386
Clothes Dryer	B2	16,669	506
Dishwasher	B3	13,500	482
1Refrigerator	B4	5,389	1,286
2Refrigerator	B5	36,273	23,652
Freezer	B6	5,876	2,888
Television	B7	63,963	10,764
TOTAL		185,173	74,963

DRAFT RULE	ESS	Records	ESC
Washing Machine	B1	43,503	28,147
Clothes Dryer	B2	16,669	502
Dishwasher	B3	13,500	502
1Refrigerator	B4	5,389	1,067
2Refrigerator	B5	36,273	9,116
Freezer	B6	5,876	650
Television	B7	63,963	11,627
TOTAL		185,173	51,611

IMPACT	ESS	Records	ESC
Washing Machine	B1	43,503	-20.5%
Clothes Dryer	B2	16,669	-0.6%
Dishwasher	B3	13,500	4.2%
1Refrigerator	B4	5,389	-17.0%
2Refrigerator	B5	36,273	-61.5%
Freezer	B6	5,876	-77.5%
Television	B7	63,963	8.0%
TOTAL		185,173	-31.2%

We estimate a 30% reduction in the incentive retailers will have to continue actively promoting appliances more energy efficient than baseline.

We would like the NSW Government to consider an annual adjustment methodology that would have a less deleterious impact on the incentives retailers need to bring about enduring behaviour change.

Q11: Do you agree with the proposed amendments to Table A9.2?

Yes, we support the clarification of control gear classification in Table A9.2.

Q12: Do you wish to be part of a targeted consultation on potential rewording of Clause 5.4(c) in order to make this clear?

Yes, we would like to be part of a targeted consultation on potential rewording of Clause 5.4(c) as we are interested in participating in this method in the near future. This year, in consideration of applying for accreditation under the Public Lighting method, we received independent legal advice that which found that 5.4(c) made determining the eligibility of DBs to participate in the ESS difficult to reliably ascertain; that participating under the method was inherently risky for a DB; that upgrading public lighting might actually pass a regulatory investment test and therefore be ineligible under the ESS. This was borne out in a subsequent discussions with a DB.

Q13: Do you agree with amending the definition for Small Business Building to allow Energy Savings to be calculated for BCA class 5, 7b and 8 buildings? If not please indicate why and provide us with an evidence base to support your justification.

Yes, this is welcome change that will lead to implementations in many business premises too small to attract special interest from ACPs active under the commercial lighting method.

Q14: Do you agree with amending the definition for Residential Building to allow Energy Savings to be calculated for BCA class 4 buildings? If not please indicate why and provide us with an evidence base to support your justification

Yes, this is welcome change that will lead to implementations in many business premises too small to attract special interest from ACPs active under the commercial lighting method.

Q15: Do you agree with the following? If not please indicate why and provide us with an evidence base to support your justification...

Yes, these are welcome changes that will lead to implementations in many business premises too small to attract special interest from ACPs active under the commercial lighting method.

Q16: Do you agree with the proposal to expand Activity E1 to allow Energy Savings to be calculated when replacing an ELV halogen downlight with a 240V LED?

Yes, this change is welcome and will create greater flexibility for ACPs active in the HEER method, and lead to better and more efficient outcomes for the OES.

Q17: Is the proposal to replace the 10W banding in Table E5.1 with 5W banding appropriate?

Yes, the new 5W banding will allow for a more accurate calculation of energy savings.

2 ADDITIONAL CHANGES TO THE ESS RULE WE BELIEVE SHOULD BE MADE

2.1 Washer-dryer clarification

B1 has been revised in the draft ESS Rule to clarify that, when calculating the energy saving, combination washer-dryers may only count the wash cycle, i.e. an ACP can't claim Energy Savings for the drying function.

We support this clarification.

2.2 Clothes Dryers Purchase Activity B2

We note that the ESS Rule Change 2016-17 Consultation Paper states: "It is proposed that the Equipment Energy Savings tables be updated to provide Energy Savings factors for appliances with ratings up to 10 stars and 6 stars, depending on the appliance category."

We also note that the draft ESS Rule doesn't propose modifying B2 (dryers) so that energy savings calculations might be made for dryers over 6 stars. We believe the ESS Rule should be modified to recognise clothes dryers up to 10 stars. There are now 65 dryer models achieving between 6 and 10 stars in the GEM database

http://reg.energyrating.gov.au/comparator/product_types/35/search/. All of these are condenser dryers. A purchaser will typically replace a vented dryer when they purchase a condenser dryer, and in so doing, dramatically reduce energy consumption. These energy savings should be recognised by B2.

As it stands in the draft ESS Rule, B2 actively discourages appliance retailers (energy savers under the SONA method) from selling condenser dryers, as no ESCs can be created. We do not believe it was the intention of the NSW Government to use the ESS to discourage to the uptake of a significantly more energy efficient technology. Therefore, we believe the NSW Government should modify the table in B2 to recognise energy star ratings 7 to 10.

2.3 Insulation Installation Activity D6-D9

We make these observations and recommendations about the insulation activities D6-D9 of the Home Energy Efficiency Retrofit (HEER) method.

We believe that the insulation activities D6-D9 should commence immediately under the Home Energy Efficiency Retrofit (HEER) method. A large percentage of houses have insufficient or no insulation and are instead using electricity and/or gas to heat and/or cool. Consequently, there exists a large abatement opportunity which could be realised relatively quickly.

We believe that the installation of insulation under D6-D9 could be performed safely and that the development of compliance guidelines to control for what risk exists would be a relatively straight forward matter; that the activity is no less safe than many other activities currently allowed in the ESS.

We believe allowing D6-D9 activities under the HEER method would significantly stimulate uptake by ACPs of the HEER method generally, with householders directly benefiting.

We would welcome an invitation to participate in a working group to consider ways of quickly and safely activating the insulation installation activities D6-D9 currently dormant under the HEER method, or at least exploring what would need to be in place for the NSW Government to consider activating it in the near future.

2.4 Pool Pump Replacement Activity D5

We make these observations and recommendations about the pool pump replacement activity D5.

2.4.1 HEER vs SONA

Swimming pools, in particular pool pumps, can easily represent a third of a household's energy consumption and can be found in approximately 15% of NSW homes (extrapolated from ABS data.)

The report "Pool Pumps: An Investigation of Swimming Pool Pumps in Australian and New Zealand, A research report prepared for the Department of the Environment and Energy, August 2016" made these observations (in summary):

- a) Price appears to be the main driver in the purchasing decisions of consumers.
- b) Many consumers do not know the types of pumps they have in their pool and show a lack of engagement.
- c) Consumers are seeking advice from pool professionals to help them in their purchasing decisions showing the importance of these professionals in influencing the decision making in relation to pool and spa pumps.

Energy savings are currently calculated under the Home Energy Efficiency Retrofit (HEER) method. We believe there are several reasons why the pool pump replacement activity D5 should instead be calculated under the Sale of New Appliances (SONA) method, including:

- a) Administrative Streamlining
Evidence and validation requirements of the HEER method represents too greater a cost and time impediment to support largescale uptake of pool pump replacement under the HEER. On the other hand, data collection and validation under the SONA method would be relatively low cost and streamlined.
- b) Reliance on Expert Advice
Consumers typically rely on expert advice when choosing between pool pump technologies. This advice typically comes from sellers, usually pool shop retailers. The SONA method will provide a financial incentive to retailers if their advice leads to a customer purchasing a more efficient pool pump technology, the HEER method won't. Purchasers of pool pumps typically follow the advice of retailers and will therefore purchase more efficient pool pumps if they're recommended by retailers.
- c) Disincentive of Multiple Trades
Pool pumps are not usually replaced by electricians (simply a matter of plugging it in) or plumbers (there's no mains water connection and often no cutting and gluing of pipes), but by swimming pool contractors usually working for a pool shop. Under the

HEER method an ACP interested in the pool pump replacement activity will be faced with the prospect of engaging multiple trades, a strong disincentive to taking up the activity. Under the SONA method, no such disincentive exists.

2.4.2 Working Condition or Not

The pool pump replacement activity D5 requires a pool pump to be in working condition at the time of implementation. The failure of a pool pump represents the best time to incentivise the purchase of a more efficient replacement. We believe that the pool pump activity should be treated in the same way as the hot water replacement activities D10 and D11, which do not require that the hot water service be in working condition. We believe that requiring that a pool pump should be in working condition is an unhelpful and unnecessary requirement.

2.4.3 Single phase motors only

Equipment requirements in D5 states that that the pump should be "...single phase, single speed, dual speed, multiple speed or variable speed pump..." We think this should instead read that the pump should be "a single phase motor and of any of the following types of pool pumps: single speed, dual speed, multiple speed or variable speed..."

2.4.4 Validation data required

D5 states that "The new End-User Equipment must be listed as part of a labelling scheme determined in accordance with the Equipment Energy Efficiency (E3) Committee's Voluntary Energy Rating Labelling Program for Swimming Pool Pump-units..." The committee's data published at <http://www.energyrating.gov.au/products/verlp-participating-products> is insufficient to calculate energy savings using D5, table D5.1 as the table does not list the flow rate. It may be that sufficient data is collected by the committee but not published. If so, the NSW Government could request that the data necessary to calculate energy savings under D5 be published.

2.4.5 More than one flow rate

Under D5, the new pump can be a single speed, dual speed, multiple speed or variable speed pump. The speed setting (where this can be changed) is a major determiner of the flow rate used by the energy savings calculation in D5, table 5.1. Because D5 does not specify which flow rate to use, where multiple are possible, the calculation method can lead to more than one possible energy saving. For example, Astral promotes three flow rates for its multiple speed pool pump "Viron eVo P600". The energy savings calculated in D5, table 5.1 can be 3.2m 4.7 or 6.2.

Brand	Astral	Astral	Astral
Model	Viron eVo P600	Viron eVo P600	Viron eVo P600
Type	VSP	VSP	VSP
Setting	Low	Med	High
W	147.5	587.1	1582.1
I/m	122	216	307
I/w	49.6	22.1	11.6
PF	0.73	0.9	0.91
Total Head (m)	2.7	8.4	16.9

Energy Star	8	8	8
MWh saved	3.2	4.7	6.2

Note: D5 excludes the energy savings calculation for the Viron eVo P600 Pump when the pump is set to “low” speed because the pumps draws less than 300W.

The NSW Government should consider modifying D5 to require that where a dual speed, multiple speed or variable speed pump is used, the flow rate used to should be same as used to calculate the energy star rating under the labelling scheme.

Alternatively, the NSW Government could consider modifying D5 to align with the calculation methodology for pool pumps energy savings used in 26A of the VEET regulations, as per:

$$0.00674 \times (1622 - \text{PAEC})$$

where PAEC is the projected annual energy consumption (kWh/y) listed on the energy rating label.

Applying this alternative calculation methodology to the Astral, Viron eVo P600 referred to above would recognise this energy saving:

Brand	Astral
Model	Viron eVo P600
Type	VSP
Setting	High
W	1582.1
I/m	307
I/w	11.6
PF	0.91
Total Head (m)	16.9
Energy Star	8
MWh saved	8.5

We note that the Projected Annual Energy Consumption (PAEC) is already published by the committee at <http://www.energyrating.gov.au/products/verlp-participating-products>.

2.5 Minimum of 4 ESCs for HEER

In respect of the Home Energy Efficiency Retrofit (HEER) method, the ESS Rule states that:

“9.8.1 The Energy Savings for an Implementation may be calculated using Equation 16, provided that: (f) the Accredited Certificate Provider has implemented sufficient activities from Schedule D or Schedule E or both, to create a minimum of: (i) four Energy Savings Certificates if activities have been implemented at the Site...”

...and that:

“(g) the Purchaser has paid a net amount of at least \$90, excluding GST, which must not be reimbursed, for the Implementation...”

...and, in clause 10.1, that:

“Implementation” means the delivery of a Recognised Energy Saving Activity at a Site...

We envisage that there will be many circumstances under the HEER method where an ACP will visit a site several times, e.g. first to upgrade the lighting, then later that year, the air-conditioning, then the next year, the hot water service (when it fails).

The HEER method rules appear to have been written in the assumption that an ACP will undertake all the activities at the same time, then create the ESCs. Where this is the case, it is no inconvenience to achieve the minimum 4 ESCs per implementation and \$90 co-contribution requirement.

However, should an ACP undertake several “implementations” over time (which we think will be the norm), the 4 ESCs per implementation and \$90 co-contribution requirements will become an unnecessary barrier and burden to the OES and the ACP such that they may not choose to engage a second and third time in the HEER method.

We believe that the NSW Government should modify the wording in clause 9.8 and/or the definition of “Implementation” in clause 10.1 to require only that the OES achieve the 4 ESCs per implementation and \$90 co-contribution requirement the first time an ACP implements its RESA at the site and that thereafter, these requirements are deemed to have been met.

Please contact me should you require any further information about our response.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark Wilson', is positioned above the printed name.

Mark Wilson
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