Making electricity affordable: a four point action plan

Anglicare & the Tasmanian Council of Social Service

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Introduction: Why do we need a plan?

Tasmania is facing a crisis in the affordability of electricity. Prices have risen by nearly 30% since January 2008, and a further increase of nearly 9% will occur in December 2010. In the long term, prices are expected to rise even further, with more than $42 billion worth of infrastructure nationally that must be funded over the next five years.[1] As Tasmania is part of the national electricity market, we will be affected by this, as well as by the price increases that will result from the price on carbon needed to effectively respond to climate change. Rising prices are already causing financial crisis for some Tasmanians and the problem will only grow along with the cost of electricity.

However, there are things that the Tasmanian Government can do. This Action Plan from Anglicare and TasCOSS contains solutions — four specific actions that the Government can take that will make a big difference to how much impact these rising prices have on all Tasmanians and especially on low income earners. There will also be long-term gains for the whole community. If implemented, this plan will ensure a fairer pricing system that will encourage people to reduce their use of electricity to sustainable levels but will also protect people from having to ration electricity so much that they reduce their quality of life. It will improve the energy efficiency of Tasmania's poor-quality housing stock, which will reduce the cost of living in those homes and have important environmental benefits. Importantly, the plan also provides immediate relief for people in crisis now.

Some Tasmanian households will be able to cope with the increase in prices. But others are not so fortunate. One in three households (34%) depend on income support payments as their main source of income.[2] Others are earning only the minimum wage. A 2009 survey of clients of emergency relief services found that 57% had gone without heating in the previous year due to a shortage of money and 28% had been disconnected from their electricity supply because they could not afford to pay.[3] This included both households using Pay As You Go and households using ordinary billing methods.

More recently, emergency relief services have reported growing demand for assistance with electricity bills, and bills of $1000 a quarter are no longer uncommon. Aurora Energy provides funding to emergency relief services for people in crisis due to electricity bills (the funding was worth $270,000 in 2008-09, and is indexed to increases in electricity prices). However, services report that the demand for assistance and the size of the bills mean that they must carefully ration this funding to share it around as many people as possible, which means the support provided to each household is not enough to make a difference. As one service provider said, 'How far does $100 go when the bill is $1000?' But the alternative is to provide meaningful assistance to some households, and turn the rest away.

The four point plan is simple:

1. **Affordable prices for everyone.**
2. **Concessions that target those in need.**
3. **Making houses energy efficient.**
4. **More emergency relief for households in crisis now.**

Each of these proposals, with costing where appropriate, is discussed in more detail below. Together they provide a solution to the crisis. Anglicare and TasCOSS call on the State Government, working with Aurora Energy and the Office of the Economic Regulator where appropriate, to implement the four point plan without delay.

Proposal 1: Affordable prices for everyone

Background: how electricity prices work

The amount you pay for electricity depends on what tariff you are on. 'Tariffs' are the arrangements that determine what price people pay for electricity, with different tariffs depending on how the electricity is used and who is using it. Each tariff includes two parts, which together make up the total on the bill.

The first part is the 'fixed charge', also called the 'connection fee' or the 'standing charge'. This is the cost of being connected to the electricity supply, and it is calculated at a certain price per day. What that price is varies depending on what tariff a person is on.

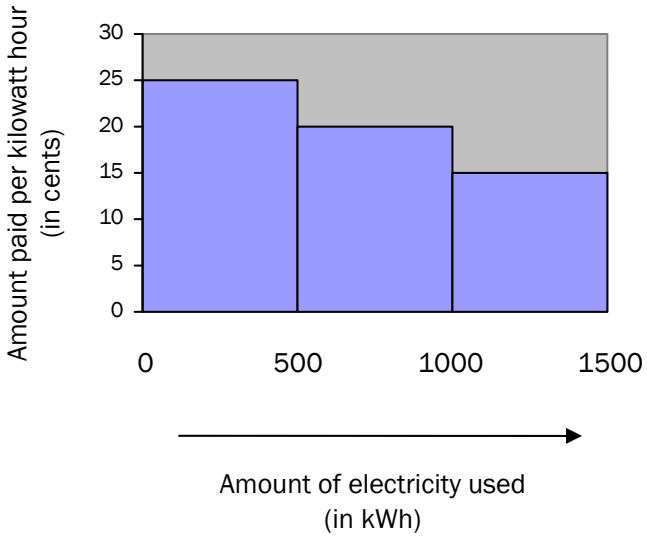
The second part is the 'usage charge', also called the 'variable charge' or the 'consumption charge'. This is the cost of the electricity you have used, and it is calculated at a certain price per kilowatt hour (a kilowatt hour is the unit of measurement used for electricity).

Some of the common tariffs used by Aurora are Tariff 31 or 'Residential light and power', Tariff 41 or 'Hot water supply system' and Tariff 42 or 'Residential hot water and space heating' ('Hydroheat'). Most people would be on at least two of these tariffs — perhaps using Tariff 31 to pay for the electricity used by their lights and appliances and using Tariff 41 to pay for the electricity used by their hot water cylinder. There are also special tariffs for nursing homes, businesses, industrial use and customers on King and Flinders Islands. Prepayment meter (Aurora Pay As You Go or APAYG) customers are on a 'time of use tariff', where the amount the electricity costs changes depending on the time of day and season. Each tariff has a different price for the electricity used, as well as a different standing charge.

Different ways of structuring tariffs

There is a range of ways in which the usage part of tariffs can be calculated. Three of them, an 'inclining block' (or 'inclining step') tariff, a 'declining block' tariff and a 'flat tariff' are explained in the diagrams below. Please note that the numbers used in these diagrams are examples only and they do not reflect the actual price Aurora or other electricity providers charge for electricity.

Diagram 1: A declining block tariff

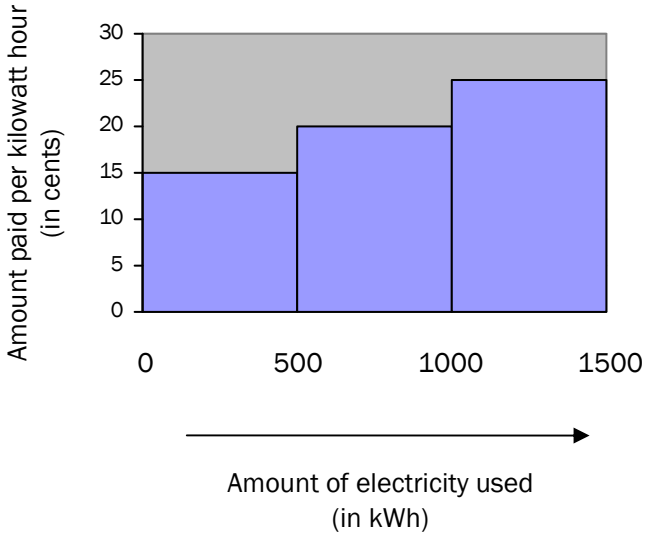


Under a declining block (or step) tariff, the more electricity a person uses above a certain amount, the less they pay per kWh for the extra.

In this example, a person using 475 kWh of electricity would pay 25 cents per kWh (a total of $118.75).

A person using 650 kWh of electricity would pay 25 cents per kWh for the first 500 kWh, and 20 cents per kWh for the remaining 150 kWh (a total of $155).

Diagram 2: An inclining block tariff

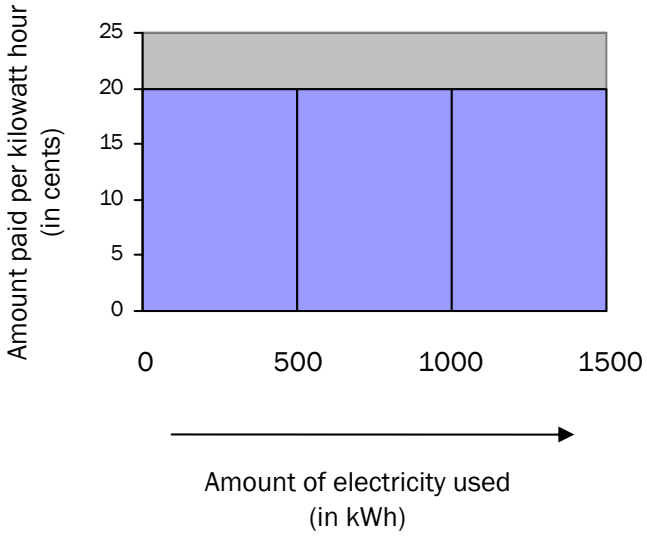


Under an inclining block (or step) tariff, the more electricity a person uses above a certain amount, the more they pay per kWh for the extra.

In this example, a person using 475 kWh of electricity would pay 15 cents per kWh (a total of $71.25).

A person using 650 kWh of electricity would pay 15 cents per kWh for the first 500 kWh, and 20 cents per kWh for the remaining 150 kWh (a total of $105).

Diagram 3: An flat tariff



Under a flat tariff, a person pays the same amount per kWh for electricity, regardless of how much they use.

In this example, a person using 475 kWh of electricity would pay 20 cents per kWh (a total of $95).

A person using 650 kWh of electricity would pay 20 cents per kWh for the first 500 kWh, and 20 cents per kWh for the remaining 150 kWh (a total of $130).

Currently, Aurora uses a flat tariff structure for the usage component of most of its ordinary (non-APAYG) tariffs, although until recently it used a declining block (or 'step') tariff.

Which tariff is best?

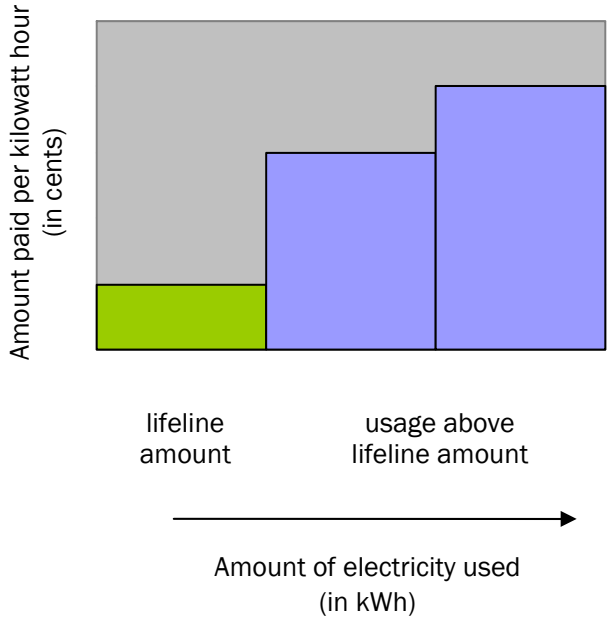
Inclining block tariffs are usually considered to be fairer for people on very low incomes, because most people on low incomes use lower than average amounts of electricity. An inclining block tariff rewards low users by charging them less. Inclining block tariffs also give people an incentive to reduce the amount of electricity they use, which reduces the demand on electricity infrastructure and, where electricity is from non-renewable sources, reduces carbon emissions.

The solution: An inclining block (or step) tariff, with the first block kept at a very low cost to ensure everyone has access to a basic amount of electricity at an affordable price.

Anglicare and TasCOSS are calling this part of the Action Plan a 'lifeline tariff'. We have called it this because the word underlines the essential nature of electricity services. In some parts of the US, arrangements similar in spirit to this proposal are used to prevent people from dying from the cold in winter because they are unable to afford electricity. In Tasmania, it is generally not a life or death issue, but electricity is still essential if people are to have dignity and quality of life.

What is a lifeline tariff? Firstly, it is an **inclining block tariff**. The first block is quite a small amount of usage, a 'lifeline', which would be priced at a very low rate and excluded from any future price rises beyond the general increase in the Consumer Price Index (CPI). Electricity consumption above the lifeline amount would be priced using an inclining block tariff structure.

Diagram 4: The lifeline tariff



The amount of electricity included in the lifeline would be the amount needed each day to run an average fridge, prepare a hot meal, heat and light a single room (assuming average energy efficiency) and provide hot water for bathing for an average household. The price for the lifeline amount would be set at a level that is genuinely affordable for Tasmanians on low incomes. According to the Australian Bureau of Statistics, such households are on average incomes of between $278 and $418 per week.[4] These very low incomes may mean that to be affordable, the lifeline amount will need to be provided at or below cost, which may require a subsidy from the State Government.

Secondly, under the lifeline tariff, **fixed charges would be kept low**. Currently Tasmania's fixed charges can represent quite a high proportion of a household's electricity bill, higher than in other states, especially for customers who use smaller amounts of electricity. If the fixed charge component is high, then any changes a customer makes to reduce their electricity consumption have a limited impact because they are only able to affect a small amount of their bill.

What would this achieve?

Our present tariffs are designed around the needs of middle and high income earners. Low income earners find themselves regularly plunged into financial crisis and must either rely on emergency relief services or, in order to avoid large bills, move over to other forms of payment that charge a higher price and provide a lower level of customer protection, such as Aurora Pay As You Go.

The lifeline tariff Anglicare and TasCOSS are calling for is a fairer pricing system which is designed around the needs of *all* Tasmanians, including low income earners.

The benefits of the lifeline tariff include:

- **Improved access to electricity.** By setting a low fixed charge, and ensuring that the lifeline block is priced at a genuinely affordable amount, the lifeline tariff allows low income earners (and other Tasmanians who might temporarily fall on hard times) the dignity of being able to store and prepare food at home, have at least one room of their house warm enough for recreation, homework or socialising, and keep themselves clean.

  Of course, many people will use more than the lifeline amount. An inclining block tariff will ensure these people pay a fair price for this usage. Other people may need to restrict their usage to the lifeline amount. While this severely limits lifestyle and activities, many people in Tasmania are living this way already — and they still can't afford their electricity bills. At least with a lifeline price, these people will have money left over for food and rent.

- **Protection from unexpected price increases.** The price of the lifeline amount of electricity would not be permitted to increase by more than the general Hobart Consumer Price Index (CPI). That is, it would rise by overall CPI, not by the electricity component of CPI. (This is important, because electricity prices have been rising at a much higher rate than general CPI. In the June quarter alone, the national CPI rose 0.6%, but electricity prices rose 18.2%[5]). Even if the price of electricity rises due to costs incurred by any of the electricity companies — perhaps due to changes in the national energy market, the introduction of a carbon tax or increased investment in infrastructure by Aurora, Transend or Hydro — the lifeline price would not be allowed to increase to accommodate the changes. Any price increases necessary would need to be incorporated into the inclining blocks above the lifeline amount.

- **Reduced carbon emissions.** Although electricity generated by Hydro Tasmania is from a renewable source, Tasmania relies on energy imported through the Basslink cable to meet demand and to protect Hydro storages from falling below critical levels. Electricity coming to Tasmania through Basslink is generally not from renewable sources, which means it contributes to carbon emissions. As an inclining block tariff, the lifeline tariff, when combined with a low fixed charge, would provide an incentive for people to reduce their consumption of electricity, or combine electricity and other sources of energy, such as solar panels, to take advantage of the low lifeline price. This would contribute to a reduction in carbon emissions. Another side-effect would be that for households with large electricity consumption, other strategies to reduce electricity use, such as retro-fitting or installation of solar panels, would become more cost-effective.

- **Less upward pressure on electricity prices in the long-term.** One of the reasons electricity prices continue to rise is the need for electricity providers to improve their infrastructure to cope with rising demand for electricity. Ensuring that the network is able to manage this demand means maintenance and upgrades, and the cost of these is passed on to the price paid by customers. By encouraging people to find ways to use less electricity, the lifeline tariff will contribute to containing demand into the future, and therefore assist in keeping the infrastructure costs lower than they might otherwise be. This will benefit all electricity customers.

Acknowledgements

Anglicare and TasCOSS have drawn heavily on the work of Gavin Dufty of the St Vincent de Paul Society in developing our lifeline tariff proposal, especially Dufty, G 2007, 'Electricity pricing — delivering social justice and environmental equity', *Proceedings of Consumer Utilities Advocacy Centre expert forum on electricity pricing*, Consumer Utilities Advocacy Centre, Melbourne, 16 August, pp. 61-72.

Proposal 2: Concessions that target those in need

Background: the current concession system

Tasmanian electricity customers who are on low incomes currently receive a State Government funded concession on their electricity bills of 92.55 cents per day, which adds up to $338.04 per annum (slightly more for APAYG customers). The concession is administered by Aurora, and is available year round to all households where the account-holder has a Pension Concession Card or Health Care Card. The concession is indexed to increases in the cost of electricity, which means if the price increases by 10% (for example), so does the concession.

As the State Government has frequently stated, Tasmania's electricity concessions are higher than those provided in other states. Given our climate and reliance on electricity to heat our homes, the concession *needs* to be higher than in other states. Even so, the system is clearly not working — more and more Tasmanians who are receiving the full concession are unable to afford electricity. Even though the concession increases each time the price goes up, this is not enough to remove the increasing burden electricity is putting on household budgets.

Anglicare and TasCOSS have identified the following problems with Tasmania's concession:

- The concession rate is arbitrary — it has not really been set according to what it would take to make electricity affordable. The flat rate of 92.55 cents a day was based on a historical concession rate set in 1994. The rate remained the same for over a decade, with the exception of an adjustment in 2000 for GST, despite electricity prices increasing by more than 50% in that time. In 2007 the rate was finally increased, by over 70%, and was then increased regularly in line with CPI and now with price rises.
- The concession is a flat rate, which means that everyone on a low income gets the same amount of assistance (i.e. a pensioner couple living in a small, well-constructed flat will get the same amount as a large family living in an old, run-down house).

The solution: A two-part concession, with a flat rate concession applied to the fixed charge and a capped percentage rate concession applied to consumption above the 'lifeline' block.

The concessions system needs to be adjusted to take into account the fact that some people have to use more electricity than others because of their circumstances. This might be because their house is uninsulated, because they have inefficient appliances but cannot afford to replace them, because there are a lot of people living in their household or because they have someone in their household with a disability who needs to keep warm 24 hours a day. It is of course important that households are encouraged to keep their electricity consumption at sensible levels, but electricity is an essential service and some use of electricity is not discretionary.

Anglicare and TasCOSS are proposing a two-part concession, or a concession on each part of the bill (the fixed or connection charge and the charge for electricity used). The concession on the amount of electricity used would be capped in order to ensure that people were not being encouraged to use more electricity than they need.

The new concession would be combined with the lifeline tariff proposal outlined above. The concession for usage would not apply to the 'lifeline' element of the tariff, but to any usage above this.

We have conducted an indicative costing process, which suggests that when combined with the lifeline tariff, the concession component of this proposal is likely to cost the Tasmanian Government about the same as it currently spends on concessions (approximately $25 million a year).[6] It is possible that the lifeline tariff proposal might require a subsidy from Government to ensure that the lifeline block is genuinely affordable to people on low incomes, which would add to the State Government's costs. The

indicative costing does not provide an exact figure as we do not have access to detailed information. However, overall, the amount required is not unrealistic and it is needed to ensure that all Tasmanian households have access to electricity for cooking, bathing and heating. This will lead to savings in other areas of the Tasmanian Government's Budget, such as in expenditure on health services.

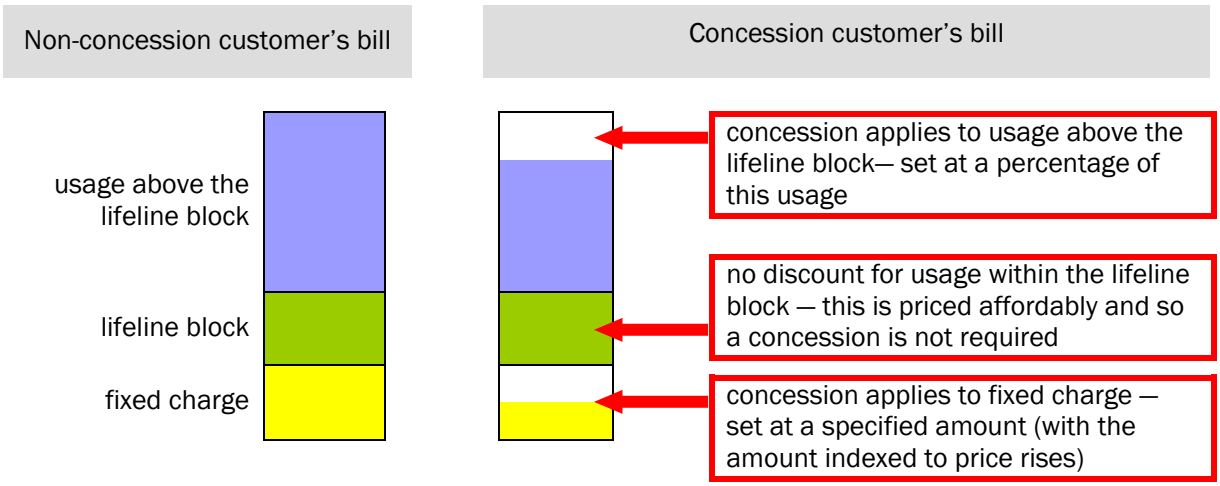
How would the concession work?

Under this proposal, the two-part concession would be applied as follows:

- A 'flat rate' concession (a certain amount per day) would apply to the fixed charge.
- There would be no concession on the lifeline block in the tariff because the price of this block (or 'step') would be set at a genuinely affordable level.
- A 'percentage rate' concession would apply to any usage above the lifeline block — that is, a concession customer would receive a percentage discount on any usage above the lifeline block.
- A cap would apply to the usage concession — that is, once the discount reached a certain amount, the customer would get no further concession, even if they used more electricity. This cap would be set at a fair level, to ensure people receive enough assistance, but it is essential to have a cap so that the Government, which will need to allocate funds in the budget to cover the cost of the concession, can have some certainty about the overall cost.
- The concession on the fixed charge would be indexed, as is currently the case, to increases in the price of electricity. The cap on the concession for usage would also be indexed to increases in price rises. This means that the whole concession would maintain its value over time.

The new concession has been designed to fit with the lifeline tariff also included in this Action Plan. Diagram 5 illustrates how it would work by comparing the bill of a non-concession customer with that of a concession customer. The proportions shown in the diagram are for illustration purposes only and do not relate to what price would actually be charged for the electricity.

Diagram 5: How the concession will apply to different customers



Designing Tasmania's electricity concession in this way and combining it with a lifeline tariff would ensure households that needed to use more electricity due to their circumstances would be provided with extra assistance. It would however preserve the inclining block tariff structure which encourages households to reduce their usage where they can, and the amount of assistance each household could receive would be capped to ensure certainty in Government budgets.

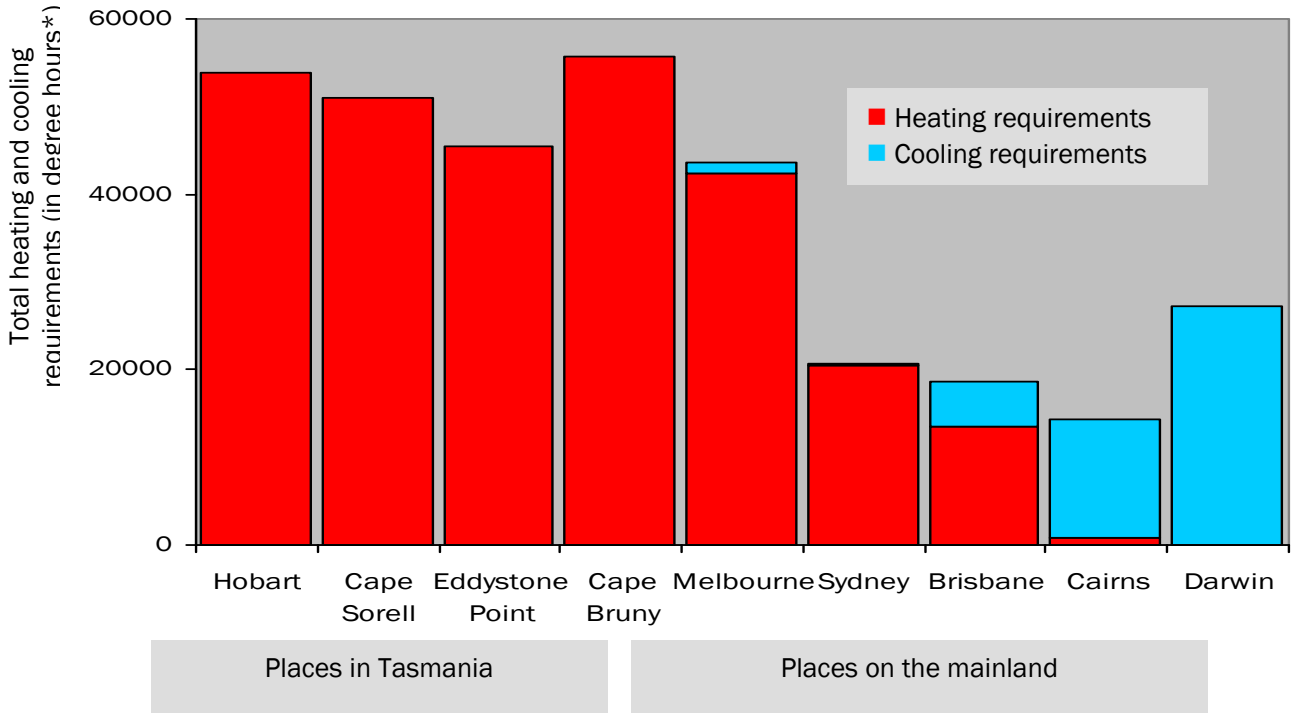
Background: Why we need to consider energy efficiency

Tasmania has the oldest housing stock in the country, with 23% of homes having been constructed before 1955.[7] With the highest proportion of timber homes in the country (27% compared with the national average of 13%), Tasmanian houses have a particularly low energy rating overall. Tasmanians use more heating than the rest of the country as well, with around 85% of Tasmanian homes using heaters for more than three months of the year, well ahead of all other states, and around a quarter of Tasmanian homes are still uninsulated — worse than insulation levels in the ACT, South Australia and Victoria — despite having the coolest climate in the country. Tasmanians also use fewer energy saving lights than other Australians.[8]

These problems are all relevant to discussions about electricity prices because Tasmanians are more likely than people in other parts of the country to use electricity for heating. Two thirds (65%) of Tasmanian households use electricity for space heating (i.e. for heating rooms), which is almost twice the national average, and 79% of Tasmanian households use electricity to heat hot water, compared to a national average of 46%. Tasmanian households are also four times more likely to be using peak electricity for hot water heating.[9]

It is sometimes argued that Tasmania's need for more heating is offset by the need in other parts of the country for air-conditioning to keep cool. The chart below compares the combined heating and cooling requirements of various places in Tasmania with places on the mainland. It shows that, even when cooling requirements in other parts of the country are taken into account, Tasmanian households need to use more energy than other places on the mainland in order to maintain a comfortable, healthy indoor temperature.

Diagram 6: Total heating and cooling requirements of selected places in Australia (in degree hours*)[10]



**A 'degree hour' is a unit of measurement used in discussions about heating and cooling. It refers to the departure in ºF of the hourly temperature from a standard temperature of 32ºF. In the table above, a higher number of degree hours means a greater need for energy to either heat (in red) or cool (in blue).*

Despite the links between poor housing stock and high usage of electricity for essential heating, there are very few programs in Tasmania to improve energy efficiency in existing houses. There are a small number of local government programs, and Housing Tasmania is working to improve insulation in public housing properties. Tasmanians are certainly eligible for national programs, but Tasmania's climate means that some national initiatives have not been effective. For example, the program to support solar panel installation disadvantages people in colder climates and the insulation rebate which was provided as part of the stimulus program was set at a flat rate across the country, even though Tasmania has higher insulation requirements than other places. Overall, Tasmanian households with limited financial resources have few sources of assistance to help them improve the energy efficiency of their homes, especially if they are not home-owners.

The solution: A statewide energy efficiency retrofitting and support program targeting low income households in home ownership, private rental and public housing.

This program would deliver for relatively little cost changes that would make a significant difference to the amount of electricity people use, and hence the size of their bills.

The program has two components:

- An assessment of the house, in consultation with the occupants, which would decide the appropriate measures needed for that particular property, followed by retrofitting, including the purchase, supply and installation of low-cost goods.
- Mentoring and support for the people living in the house so that they can adjust their behaviour in order to save energy. This mentoring and support would be designed to meet the needs of the household, which could include the provision of visual (rather than written) information for people who have difficulties with literacy.

This program would not impose a major cost on the Government. A fully developed business case costed it at $4.02 million over 18 months (including materials and evaluation costs). This expenditure would mean the program could reach 7000 households across Tasmania.

What would be done?

When it comes to the installation of appliances and retrofitting, it is easy to focus on more visible strategies with high upfront costs such as solar panel or solar hot water heater installation, but there are significant gains to be made by less visible and less costly changes. While the changes chosen for each house would depend on the needs of the occupants and the characteristics of the property, the options include:

- reducing hot water heating costs by ensuring hot water service temperatures are set at 60°C, installing insulation wraps around external hot water systems, insulating outlet pipes, and installing water-efficient fittings to reduce hot water use (e.g. flow restrictors, water-efficient showerheads or tap aerators);
- reducing heating costs by identifying and blocking gaps through which heat is escaping (e.g. by blocking draughts with tape around windows and doors and door 'sausages'), installing simple pelmets and (where need is great) providing curtains;
- reducing lighting costs by replacing incandescent globes and 240 volt halogen globes with CFL/LED globes in high usage fittings; and
- reducing general power costs due to appliances being in 'standby' mode by installing standby-deactivation devices or foot-operated power boards to help people change their behaviour.

These physical changes to the housing would be accompanied by support for the occupants to better understand their electricity usage and, where possible, change their behaviour to reduce the amount they use — by having shorter showers, heating only rooms that are being used or turning off appliances at the power point rather than leaving them in stand-by mode. While this behaviour is fairly common-sense, the experience of people working in this area is that almost everyone needs support to understand these issues — even people living in very energy efficient demonstration houses need to be 'taught' how to live in the house to obtain the maximum benefit.

Support also needs to be appropriate — it needs to recognise that some people, including many people on low incomes, struggle with literacy or have limited English skills, or face complex personal problems which make it hard to focus on change.

Who would benefit?

Although every Tasmanian could benefit from this kind of assistance, many Tasmanians have the financial resources and personal capacity to obtain it without government support. This proposal targets Tasmanians on low incomes or otherwise disadvantaged who would not be able to afford this kind of assistance on their own and who are the most severely affected by rising electricity prices. Low income earners in all types of housing would be eligible, including people living in their own home, people in private rental, people in public housing and people in transitional accommodation provided by crisis and homelessness services.

Potential recipients could be identified through community service organisations and through government services (especially Housing Tasmania). An assessment process would ensure that households most in need were prioritised.

This program would be efficient and effective. For an amount of money ($4.02 million) that is small in comparison to many other areas of government expenditure, the Tasmanian Government would assist 7000 of Tasmania's most vulnerable and disadvantaged households to make significant changes to their lives and improvements to their housing that would result in less electricity being used, and therefore lower electricity bills.

Acknowledgements

This proposal is based upon one developed by Anglicare Tasmania, the Tasmanian Climate Change Office and Sustainable Living Tasmania. The proposal was to be submitted to the Australian Government's Green Start program, which was funded by the Department of Environment, Water, Heritage and the Arts. A fully developed business plan and costing supports the proposal.

Proposal 4: More emergency relief for households in crisis now

This Action Plan contains measures to make electricity more affordable for households in the long-term. But there are Tasmanian households in crisis because of electricity costs right now, before the December price increase is introduced. These households need immediate assistance.

The solution: $1 million in State Government funding for emergency relief services.

Tasmanian emergency relief services were previously funded entirely by the Australian Government. However, in 2009 the Tasmanian Government provided a one-off allocation of $1 million to supplement this federal funding, in recognition of the effect the global financial crisis was likely to have on Tasmanian households. This funding is now almost exhausted, at a time when services are reporting increased demand. Anglicare and TasCOSS are calling on the Tasmanian Government to allocate another $1 million to emergency relief services for disbursement to households in crisis.

It is true that the funding which Aurora provides for electricity customers in crisis is indexed to price increases and so will increase as prices go up, but this funding is barely scratching the surface of the need that exists. It is also provided by Aurora by choice — there is no legislative or regulatory requirement for Aurora to do so or to increase the funding to meet demand. Finally, it must be spent on electricity costs.

The $1 million which the Tasmanian Government provided during the global financial crisis was for general emergency relief — that is, services could use it to provide food, clothing, petrol to get to medical appointments, assistance with the cost of prescriptions and help with the cost of utilities such as electricity, water and telephones. This flexibility is important because different households have different ways of coping with rising prices in one area of their budget. A recent survey of emergency relief clients found that households where there were children were less likely than people without children to go without meals or heating due to a shortage of money.[11] This may be because parents prioritise feeding their children and keeping them warm over other demands on their budget. A person might choose to pay their electricity bill and go to emergency relief for assistance with petrol costs to get to a doctor's appointment, but the crisis itself might be caused by the size of the electricity bill.

Anglicare and TasCOSS believe that providing $1 million in general funding will meet the needs of all households, including those households which choose different coping strategies. It will complement the more targeted funding provided by Aurora and will reach people facing the greatest levels of hardship. Consideration should be given to continuing this commitment of $1 million annually.

Conclusion

The Tasmanian Government needs to adopt this Action Plan. Electricity prices will continue to rise, but there are solutions. This plan outlines four practical, meaningful steps that the Tasmanian Government can take that will result in more affordable electricity for all Tasmanians. Achieving this will require investment and significant reform to the way things are done at the moment. But electricity is an essential service that everyone should have access to, not just those people who can afford to pay.

Investment will also benefit other areas of the State's budget and economy. More affordable electricity and better quality housing mean that people's physical health will improve. It means that children will be able to do their homework (something that is very difficult now in some households as the whole family crowds together into one room to try and keep warm) and therefore perform better at school, with flow-on effects for education retention rates and employment later in life. It means that more families will be able to find stable, appropriate housing (rather than being forced out of their homes by unaffordable electricity bills and constant financial crisis), and will be better able to settle into their neighbourhoods and participate in the wider community.

This Action Plan will be good for all Tasmanians. The State Government needs to implement it now.

Endnotes

1 The Climate Institute 2010, *Electricity prices*, fact sheet, The Climate Institute, Sydney, viewed 8 November 2010, <http://www.climateinstitute.org.au/images/tcielectricitypricesfactsheet.pdf>.

2 Australian Bureau of Statistics 2009, *Household income and income distribution: Australia*, cat. no. 6523.0, Australian Bureau of Statistics, Canberra, p. 33.

3 Flanagan, K 2010, *Hard times: Tasmanians in financial crisis*, Anglicare Tasmania, Hobart, pp. 97-8.

4 Australian Bureau of Statistics 2009, *Household income and income distribution, Australia — detailed tables, 2007-08*, cat. no. 6523.0, Australian Bureau of Statistics, Canberra, table 1.1F. These figures are the average incomes for the households in the bottom 20% of incomes and the households in the next 20% of incomes respectively.

5 Australian Bureau of Statistics 2010, *Consumer price index: June quarter 2010*, cat. no. 6401.0, Australian Bureau of Statistics, Canberra.

6 The indicative costing process assumed a mix of low, medium and high consumption customers, and the same level of concession take-up — approximately 80,000 customers — as in the current system. The levels of usage were taken from the Office of the Economic Regulator's typical customer methodology (Office of the Economic Regulator 2010, *Information paper: typical electricity customers*, Office of the Economic Regulator, Hobart). More information about the indicative modelling is available on request.

7 Australian Bureau of Statistics 2000, *Australian housing survey 1999 — housing characteristics, costs and conditions*, cat. no. 4182.0, Australian Bureau of Statistics, Canberra, p. 7.

8 Australian Bureau of Statistics 2008, *Environmental issues: energy use and conservation — Australia*, cat. no. 4602.0.55.001, Australian Bureau of Statistics, Canberra.

9 Australian Bureau of Statistics 2008, *Environmental issues: energy use and conservation — Australia*, cat. no. 4602.0.55.001, Australian Bureau of Statistics, Canberra.

10 Chart adapted from data in Szokoloy, SV 1988, *Climatic data and its use in design*, RAIA Education Division, Canberra.

11 Flanagan, K 2010, *Hard times: Tasmanians in financial crisis*, Anglicare Tasmania, Hobart, p. 53.