Assessing impacts of changes to the Tasmanian Annual Electricity Concession

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ALVISS CONSULTING

Assessing impacts of changes to the Tasmanian Annual Electricity Concession
A report prepared by Alviss Consulting for the Tasmanian Council of Social Service (TasCOSS)

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Contents

Key findings
1. Purpose and approach 1
2. Concession card holders receiving the Annual Electricity Concession 2
    Households on Tariff 31+41 4
    Households on Tariff 31 9
    Households with solar 14
    Households on PAYG 18
3. Current concession 23
4. Current concession 25
    Percentage based concession 25
    Hybrid concession 27
5. “Winners and losers” 31
6. Budget implications 37
7. Summary 41
Appendix 42

Assessing impacts of changes to the Tasmanian electricity concession - Foreword

TasCOSS commissioned this research report on the Tasmanian electricity concession in response to the final report of the Australian Comeptition and Consumer Commission's *Retail Electricity Pricing Inquiry*, which concluded that state and territory concession schemes are not fit for purpose and that changes are required.

The purpose of this research report was to understand the impacts of changes to the Tasmanian concessions scheme. The research modelled scenarios of applying a flat, percentage-based and hybrid concessions model to different customer cohorts. The report does not identify a preferred option or advocate an ideal model for a concessions scheme.

This research report is a valuable input to understanding and assessing the impacts of changes to the current concessions arrangement in Tasmania. TasCOSS is interested to progress concessions reform to ensure Tasmania has in place an adequate, equitable, accessible and well-targeted scheme. We will continue to research and review concessions arrangements in Tasmania to evaluate their effectiveness and need for reform.

This research report was funded by Energy Consumers Australia (www.energyconsumersaustralia.com.au) as part of its grants process for consumer advocacy and research projects for the benefit of consumers of electricity and natural gas. The views expressed in this document do not necessarily reflect the views of Energy Consumers Australia or TasCOSS.

Key findings

- As the current concession is a flat amount of $504 per annum, it will naturally account for a greater proportion of the annual bill for households with lower consumption levels and thus lower annual bills. Furthermore, as annual average consumption for customers on Tariff 31 is lower compared to customers on Tariff 31+41, the concession accounts for a greater proportion of Tariff 31 customers with a medium consumption than it does for Tariff 31+41 customers with medium consumption. Similarly, solar customers have lower import rates of electricity, compared to Tariff 31 customers without solar, due to generation of electricity for own use as well as exporting electricity that attracts a feed-in-tariff (FIT) resulting in lower bills. As such, the concession covers 83.4% of the annual bill for solar households with medium consumption compared to 34% for non-solar households with the same consumption level. **See section 3.**

- For medium consumption households on Tariff 31, the value of the current concession is greater than a percentage concession of up to 34%. A percentage concession of 20%, for example, would increase the annual bill by $207 while a 25% discount would increase the annual bill by $133. For medium consumption households on Tariff 31 + 41, the value of the current concession is greater than a percentage concession of up to 26%. For households with rooftop solar (medium consumption and Tariff 31), on the other hand, the value of the current concession is significantly greater than any percentage-based concession modelled (5 to 35%). A percentage concession of 20%, for example, would increase the annual bill by $371. **See section 4.**

- The modelling of a hybrid concession consisting of $10 to $310 off the annual supply charge, and 5% to 35% off usage charges shows that the current concession produces a lower annual bill than any of these hybrid combinations for medium consumption households on Tariff 31. For medium consumption households on Tariff 31+41, the current concession produces a higher annual bill than the hybrid combinations if the usage concession is 25% or more (combined with an annual supply charge concession of $110). For households with rooftop solar (medium consumption and Tariff 31), the current concession produces a significantly lower annual bill than any of these hybrid combinations for households with average consumption. If the concession consisted of a flat annual discount of $160 for the fixed supply charge and 20% reduction off usage charges, for example, an average consumption household's annual bill would increase by $366. **See section 4.**

- A postcode analysis of "winners and losers" if the current concession was to be replaced by a hybrid concession of $160/annum and 20% off usage charges for households on Tariff 31 shows that households in areas with low average consumption are likely to be worse off while households in postcodes with high average consumption may be better off. It shows that postcode 7306 (Kentish) and 7141 (Sorell) are the only two postcodes where Tariff 31 customers are likely to be better off on this hybrid concession model compared to the current arrangement.[1] Furthermore, these two

1 Note that postcode 7141 (Sorell) has very few customers on Tariff 31 and that one postcode has been excluded from this analysis as it only has one customer on Tariff 31 and this customer has a relatively high consumption level.

postcodes only have 1.5% of all Tasmanian concession recipients on Tariff 31. By comparison, the postcodes where customers are likely to be between $132 to $185 worse off contain approximately 55% of concession recipients on Tariff 31. The postcodes where customers are likely to be worse off by $79 to $132 per annum also have a significant share of Tariff 31 concession recipients (at just over 26%). For households on Tariff 31+41, the analysis shows that again households in areas with low average consumption are likely to be worse off while households in postcodes with high average consumption may be better off. In terms of the postcodes where customers are likely to be worse off, these postcodes contain approximately 74% of all concession recipients on Tariff 31+41. **See section 5.**

- Furthermore, the analysis shows that postcodes where customers are more likely to be worse off with a hybrid model have a lower average income, a higher proportion of families with weekly income below $650, a higher average unemployment rate and a higher median age compared to the postcodes where customers are more likely to be better off. The 'better off' postcodes, however, have a higher proportion of one parent families as well as proportion of dwellings that are owned with a mortgage. Both groups have a relatively low proportion of renters (on average) compared to the state average. This indicates that the 'family cohort' is prevalent in the 'better off' group which can also explain their higher consumption. The 'elderly/pensioner cohort', on the other hand, is prevalent in the 'worse off' group. **See sections 5 and 6.**
- In order to assess whether a move from the current concession model to a hybrid concession model is warranted, research into customer groups experiencing energy affordability issues would be required. As energy affordability issues are both income and expenditure related, a concession model that reduces benefits for some low income/low consumption households to assist higher income/higher consumption households may be warranted if the higher income/higher consumption households face greater energy affordability issues compared to the other group. **See section. 7.**

1. Purpose and approach

In its final report for the Retail Electricity Pricing Inquiry, the ACCC concluded that the state and territory concession schemes are not fit for purpose and that urgent changes are required.[1] In particular, the ACCC stated that the current schemes, which either offer a flat dollar amount or a percentage-based discount, result in disproportionate support for low and high consumption households. This is the key reason for the ACCC recommendation to ensure that concession schemes include a fixed dollar component as well as a percentage-based usage concession. This concession arrangement is referred to as a hybrid concession model in this report.

The purpose of this project is thus to examine what a shift from a flat concession amount to a hybrid model would mean to Tasmanian concession recipients.

We obtained data from Aurora Energy in order to undertake this analysis. The dataset shows the number of concession card holders on Tariff 31, number of concession card holders on Tariff 31+41, number of concession card holders on Aurora's prepayment product PAYG as well as the number of concession card holders with rooftop solar installed. All this data was presented at postcode level. The data was also broken down by concession card types. Centrelink Pensioner is the most common concession type followed by Healthcare Card and Department of Veterans Affairs (DVA) cards (typically a DVA Pension Card). Furthermore, the data shows average consumption for Tariff 31 and Tariff 31+41 customers, as well as concession card type, by postcode.

In **Section 2** we present a detailed analysis of Aurora Energy's concession data. It examines type of concession cards, metering types, consumption levels and solar uptake. Some of this data has also been mapped by postcode to highlight differences within the state.

In **Section 3** we calculate the relative value of the current concession for five customer classes:

1. Tariff 31 with medium consumption,
2. Tariff 31+41 with low consumption
3. Tariff 31+41 with medium consumption,
4. Tariff 31+41 with high consumption, and
5. Solar customers on Tariff 31 with medium consumption.

Section 4 compares the current flat concession to a percentage-based concession and a hybrid concession. For the percentage-based concession, we apply discounts from 5 to 35 percent to compare bills to the status quo. For the hybrid model, we apply discounts from 5 to 35 percent to energy consumption, as well as a fixed flat amount off supply charges (from $5 to $310), to compare bills to the status quo.

Section 5 analyses where concession recipients are most likely to be better or worse off if moved from a flat concession to a hybrid concession of $160 and 20% off usage charges. The analysis also examines key socio-economic characteristics of these areas.

In **Section 6** we estimate potential state budget implications from changes to the concession model and develop a budget neutral hybrid model with the aim to minimise the number of concession recipients that are negatively impacted as well as the severity of the impact

Section 7 presents a brief summary of the findings.

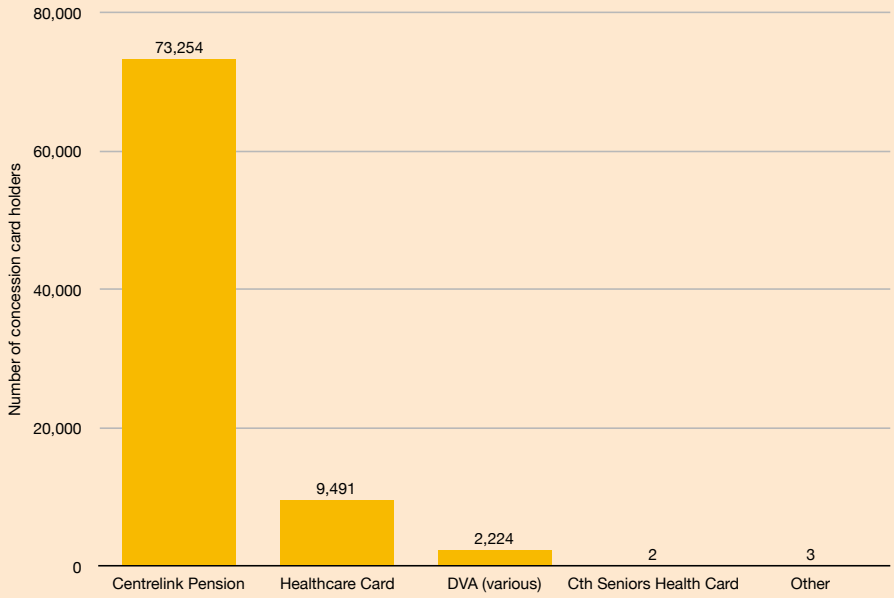
1 ACCC, Restoring Electricity Affordability and Australia's competitive Advantage, Retail Electricity Pricing Enquiry, Final Report, June 2018

2. Concession card holders receiving the Annual Electricity Concession

As of April 2019, there are 88,240 concession card holders that receive the annual electricity concession in Tasmania.[2] The below analysis, however, is based on 86,184 concession card holders as some customers were excluded from the dataset due to having joint accounts. Furthermore, as the consumption data presented below is based on Tariff 31 and Tariff 31+41 customers only, the averages are based on a lower customer number (73,142) than the overall number of concession recipients.[3]

The vast majority of recipients of the Annual Electricity Concession are Centrelink Pension Card holders.[4] See chart 1 below.

CHART 1 | Electricity concession recipients by category/card (count)



Map 1 below shows the number (count) of concession card holders that receive the Annual Electricity Concession in each postcode.[5] It shows that the regional towns of Launceston (postcode 7250) and Devonport (postcode 7310) have the highest number of concession card holders together with the Hobart suburbs of Glenorchy (postcode 7010) and Clarence (postcode 7018). Rural postcodes such as the Sorell postcode of 7176, the Tasman postcodes 7185 and 7183, the West Coast postcode of 7466 and postcode 7119 in the Southern Midlands all have less than 20 concession card recipients.

2 There are an additional 4,019 recipients of the Life Support Concession and 506 recipients of the Medical Cooling and Heating Concession.
3 This is because some concession recipients have a different tariff combination (e.g. not on tariff 31 or tariff 31/41) as well as there being new concession recipients without consumption data.
4 The "DVA (various) category is mostly made up of customers with a DVA Pension but may also include some DVA Gold Repatriation Health Card holders (e.g. war widows). The "Other" category includes Tas Concession Card and Immigration Card Holders.
5 Note there is one postcode that does not have any concession recipients. This postcode is registered under "no data".

MAP 1 | Number (count) of concession card holders by postcode

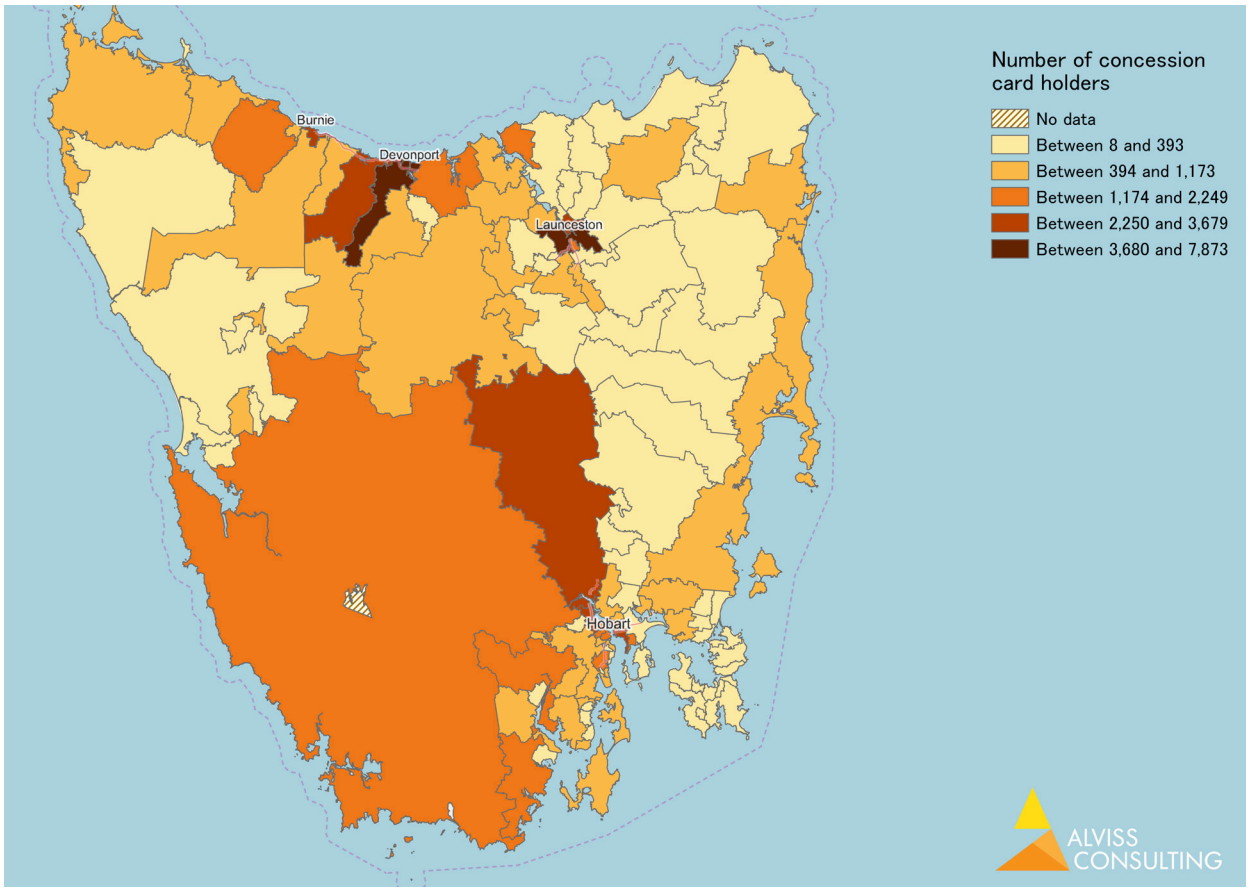


Table 1 below lists all postcodes with more than 1,173 concession recipients (shown in the three darkest shades in the map above).

TABLE 1 | Postcodes with more than 1,173 concession card holders

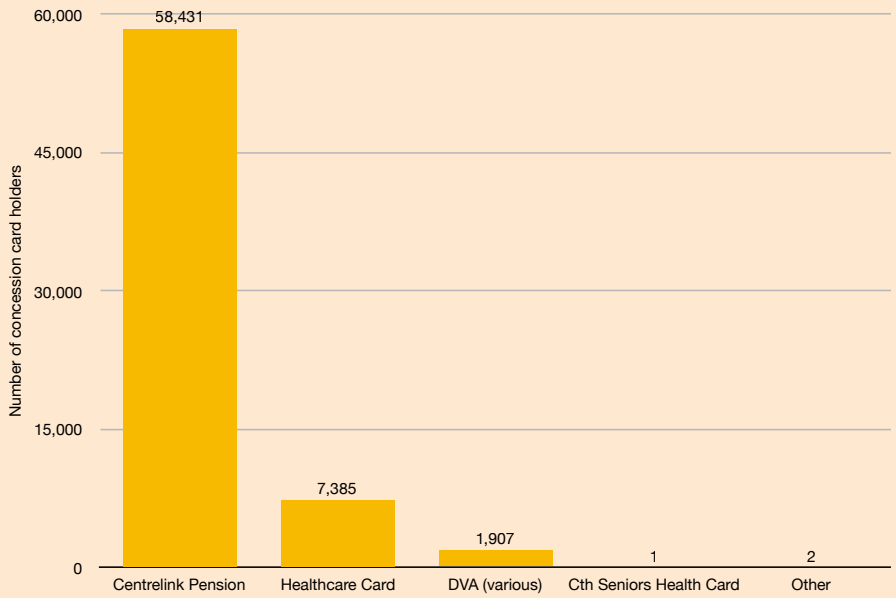
Postcode	Place	Number of concession card holders
7250	Launceston (C)	7,873
7310	Devonport (C)	5,662
7010	Glenorchy (C)	3,679
7018	Clarence (C)	3,565
7320	Burnie (C)	3,455
7248	Launceston (C)	3,267
7030	Brighton (M)	3,219
7315	Central Coast (M) (Tas.)	3,046
7011	Glenorchy (C)	2,919
7249	Launceston (C)	2,249
7140	Derwent Valley (M)	2,133
7009	Glenorchy (C)	2,045
7050	Kingborough (M)	1,986
7307	Latrobe (M) (Tas.)	1,949
7325	Waratah/Wynyard (M)	1,767
7008	Hobart (C)	1,534

Postcode	Place	Number of concession card holders
7015	Clarence (C)	1,499
7000	Hobart (C)	1,413
7253	George Town (M)	1,305
7019	Clarence (C)	1,301
7109	Huon Valley (M)	1,256
7173	Sorell (M)	1,172

Households on Tariff 31+41

A very high proportion of concession recipients are on Tariff 31+41 with the latter (Tariff 41) being a controlled tariff for hot water and heating. Charts 2 to 4 below show the number of Tariff 31+41 customers by card type (Chart 2), proportion of concession card holders of Tariff 31+41 by card type (Chart 3), and average annual consumption for concession card holders on Tariff 31+41 by card type (Chart 4).[6] Chart 4 also shows that Healthcare Card holders have a higher average annual consumption than Centrelink Pension and DVA card holders.

CHART 2 | Electricity concession recipients on Tariff 31+41 by category/card (count)



6 Note average consumption for Commonwealth Seniors Health Card and "Other" card types have not been included due to the very low customer numbers.

CHART 3 | Proportion (%) of concession recipients on Tariff 31+41 by category/card

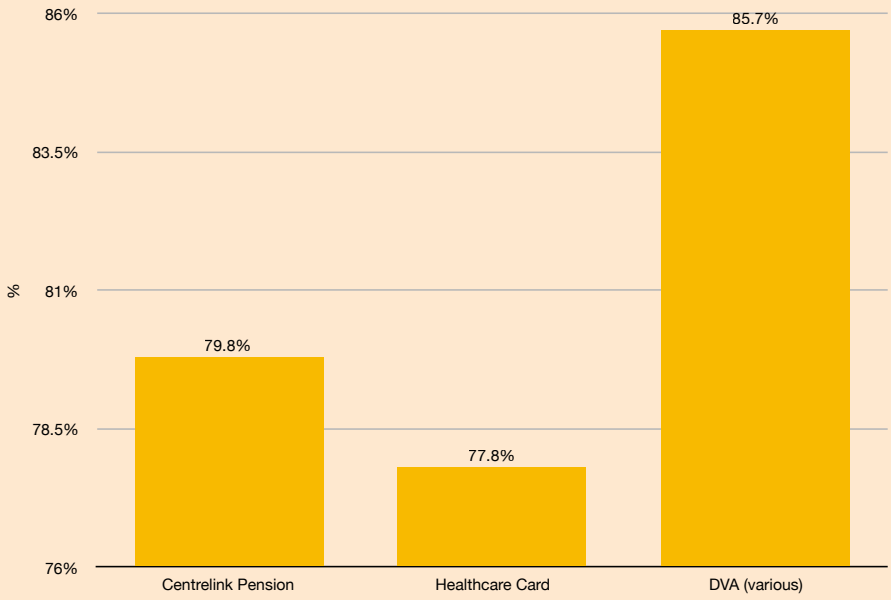
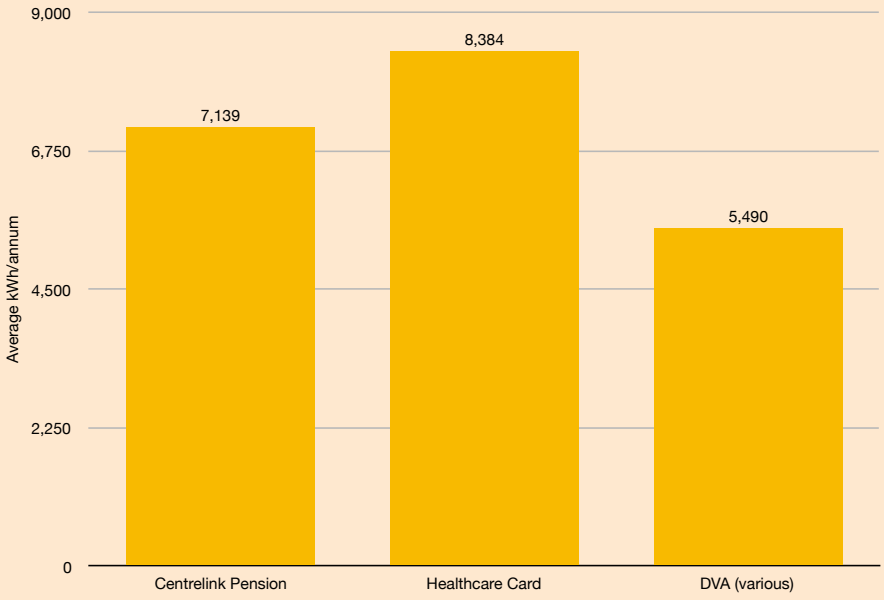


CHART 4 | Average annual electricity consumption for concession recipients on Tariff 31+41 by category/card



Map 2 below shows the number (count) of concession card holders on Tariff 31+41 in each postcode. It shows that postcode 7250 (Launceston) has the highest number of concession card holders on this tariff combination.

MAP 2 | Number (count) of concession card holders on Tariff 31+41 by postcode

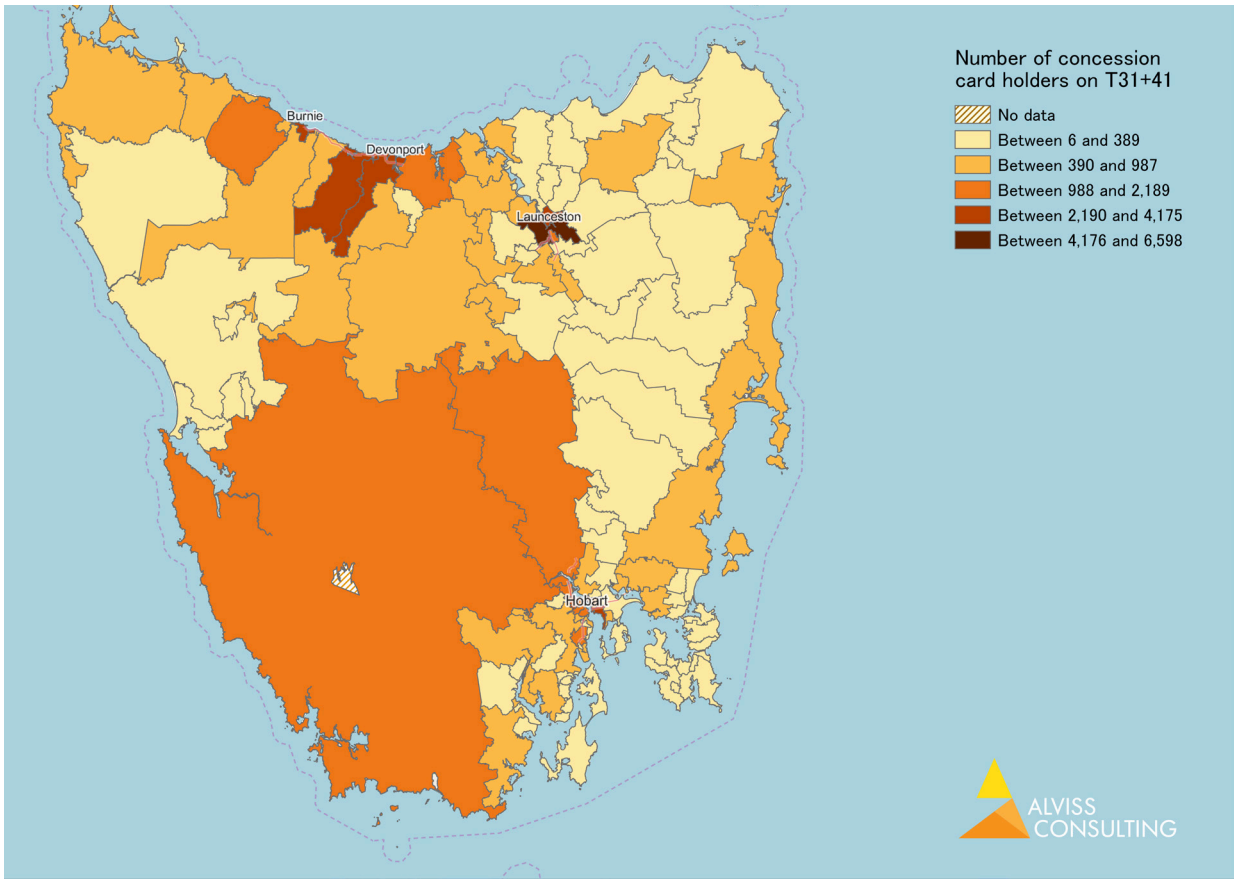


Table 2 below lists all postcodes with more than 987 concession recipients on Tariff 31+41 (shown as the three darkest shades in the map above).

TABLE 2 | Postcodes with more than 987 concession card holders on Tariff 31+41

Postcode	Place	Number of concession card holders on T31+41
7250	Launceston (C)	6,598
7310	Devonport (C)	4,175
7018	Clarence (C)	3,080
7010	Glenorchy (C)	2,717
7315	Central Coast (M) (Tas.)	2,542
7320	Burnie (C)	2,432
7248	Launceston (C)	2,390
7011	Glenorchy (C)	2,189
7030	Brighton (M)	2,072
7249	Launceston (C)	1,911
7050	Kingborough (M)	1,737
7307	Latrobe (M) (Tas.)	1,674
7140	Derwent Valley (M)	1,580
7009	Glenorchy (C)	1,523
7325	Waratah/Wynyard (M)	1,368

Postcode	Place	Number of concession card holders on T31+41
7015	Clarence (C)	1,347
7008	Hobart (C)	1,309
7000	Hobart (C)	1,211

In terms of the proportion of concession card holders that are on Tariff 31+41 (instead of the less common Tariff 31 or other tariff combinations), map 3 below shows that the Clarence postcodes of 7021, 7022, 7024, 7025 and 7170, the West Coast postcodes of 7466, 7468, 7469 and 7470, the West Tamar postcode of 7277, the Kingsborough postcodes of 7052, 7053, 7054 and 7155, and the Meander Valley postcode of 7291 are highest. More than 90% of concession card holders in these 15 postcodes are on Tariff 31+41. In the Tasman postcodes of 7185 and 7187, on the other hand, the proportion of concession card recipients on Tariff 31+41 is 41% and 44% respectively.

MAP 3 | Proportion (%) of concession card holders on Tariff 31+41 by postcode

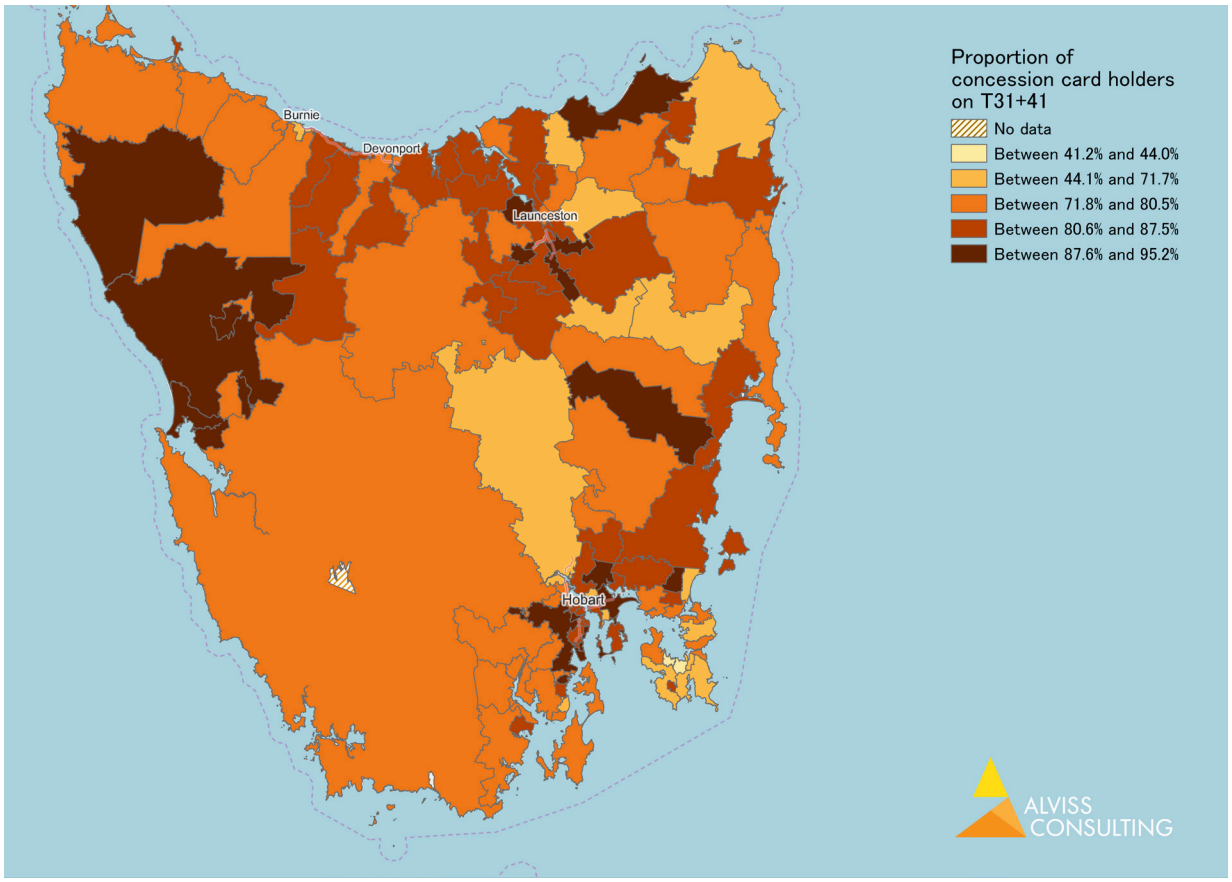


Table 3 below lists all postcodes where more than 87.5% of concession recipients are on Tariff 31+41 (shown as the darkest shade in the map above).

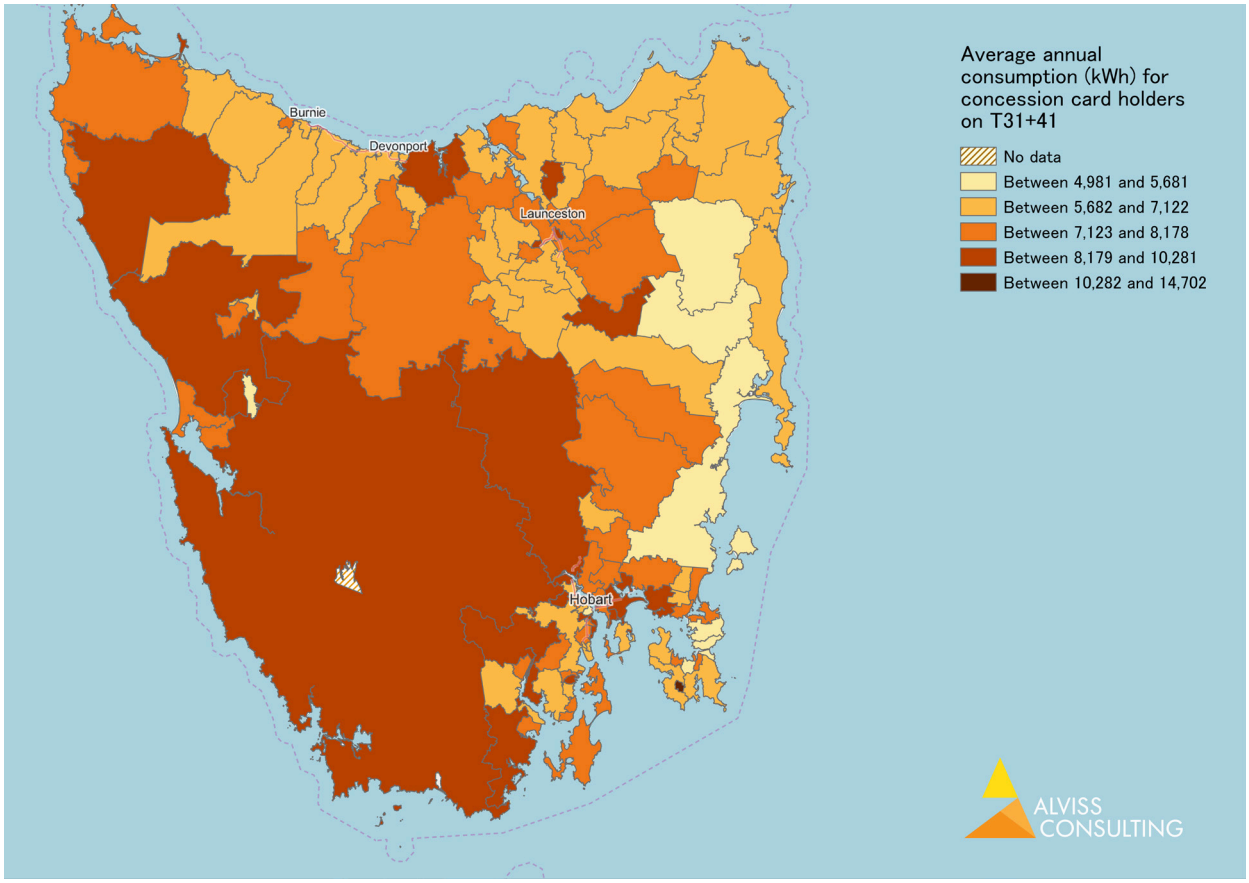
TABLE 3 | Postcodes where more than 87.5% of concession card holders are on Tariff 31+41

Postcode	Place	Proportion (%) of concession card holders on T31+41
7024	Clarence (C)	95.2%
7022	Clarence (C)	93.2%
7468	West Coast (M)	92.7%

Postcode	Place	Proportion (%) of concession card holders on T31+41
7470	West Coast (M)	92.1%
7277	West Tamar (M)	91.8%
7025	Clarence (C)	91.7%
7469	West Coast (M)	91.6%
7053	Kingborough (M)	91.4%
7054	Kingborough (M)	91.0%
7466	West Coast (M)	90.9%
7170	Clarence (C)	90.6%
7155	Kingborough (M)	90.4%
7052	Kingborough (M)	90.3%
7021	Clarence (C)	90.3%
7291	Meander Valley (M)	90.1%
7015	Clarence (C)	89.9%
7176	Sorell (M)	89.5%
7300	Northern Midlands (M)	88.9%
7258	Launceston (C)	88.5%
7290	Meander Valley (M)	88.3%
7262	Dorset (M)	88.0%
7004	Hobart (C)	87.8%
7209	Northern Midlands (M)	87.8%

Map 4 below shows average annual consumption for concession card holders on Tariff 31+41 by postcode. Postcode 7015 in Clarence, 7183 in Tasman, 7109 in the Huon Valley and 7030 in Brighton have the highest average consumption. All four postcodes have an average consumption of more than 10,000 kWh per annum. Postcodes with low average consumption include 7178, 7179 and 7187 (Tasman), 7190 (Glamorgan/Spring Bay), 7213 (Northern Midlands) and 7000 (Hobart), all of which have an annual average consumption of less than 5,500 kWh/annum.

MAP 4 | Average annual consumption (kWh) for concession card holders on Tariff 31+41 by postcode



Households on Tariff 31

The other main tariff category is Tariff 31 (flat/single rate). Charts 5 to 7 below show the number of Tariff 31 customers by card type (Chart 5), proportion of concession card holders of Tariff 31 by card type (Chart 6), and average annual consumption for concession card holders on Tariff 31 by card type (Chart 7).[7] Chart 6 also shows that there is very little difference between the different concession cards/categories' average consumption on Tariff 31.

7 Note average consumption for Commonwealth Seniors Health Card and "Other" card types have not been included due to the very low customer numbers.

CHART 5 | Electricity concession recipients on Tariff 31 by category/card (count)

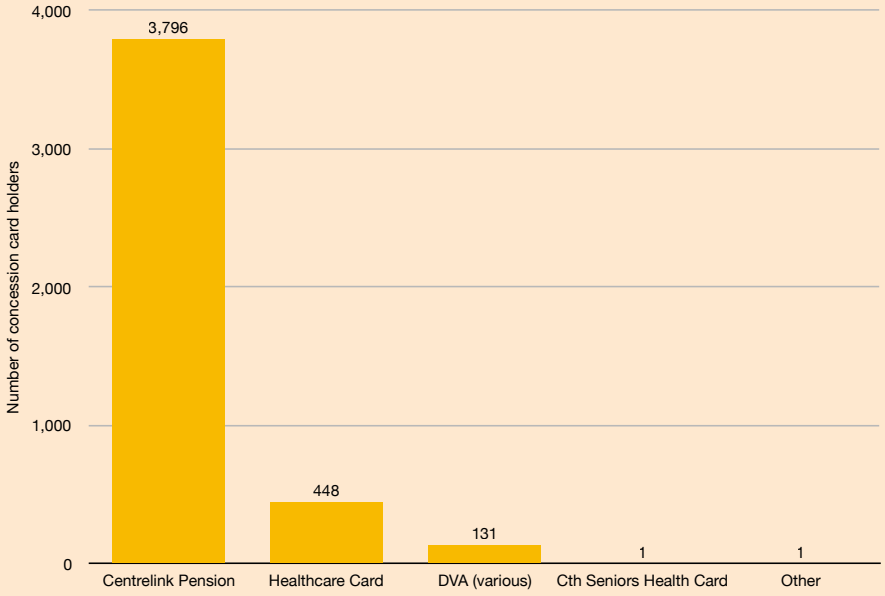


CHART 6 | Proportion (%) of concession recipients on Tariff 31 by category/card

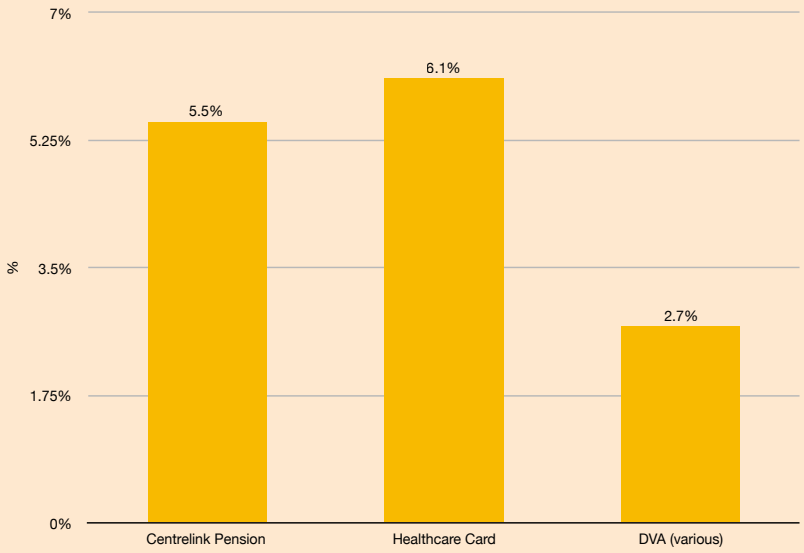
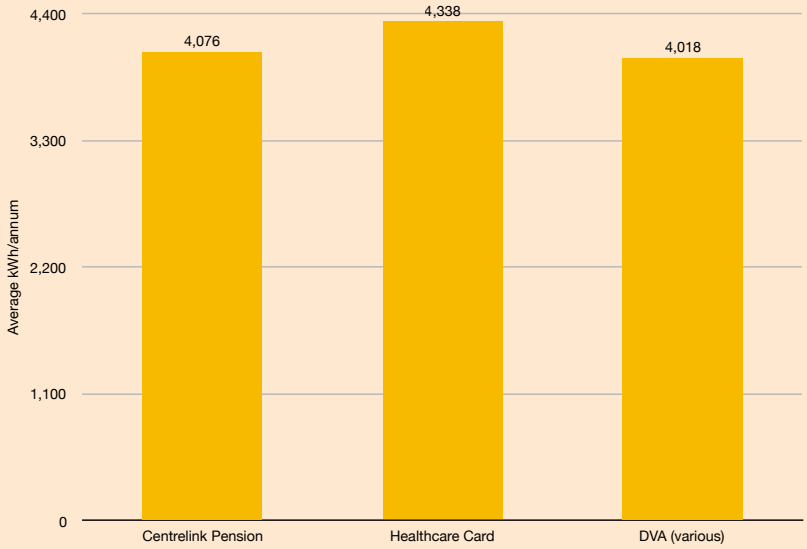


CHART 7 | Average annual electricity consumption for concession recipients on Tariff 31 by category/card



Map 5 below shows the number (count) of concession card holders on Tariff 31 (single/flat rate tariff) in each postcode.[8] It shows that Devonport has the highest number of concession recipients on Tariff 31, followed by Launceston, Glenorchy, Hobart and Burnie. The West Coast postcode of 7466 and 7024 in Clarence, as well as Kingsborough (postcode 7055) near Kingston, on the other hand, do not have any concession recipients on Tariff 31.[9]

MAP 5 | Number (count) of concession card holders on Tariff 31 by postcode

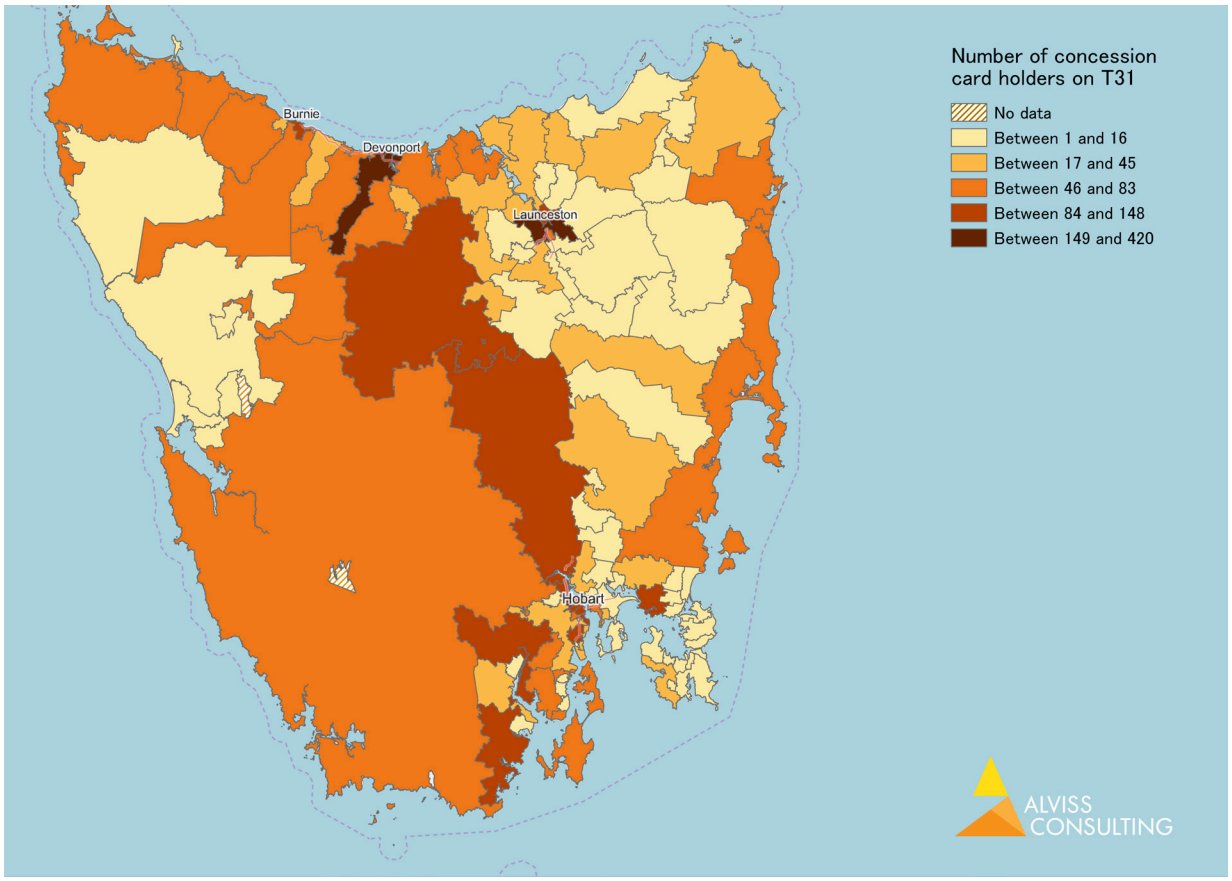


Table 4 below lists all postcodes with more than 83 concession recipients on Tariff 31 (shown as the two darkest shades in the map above).

TABLE 4 | Postcodes with more than 83 concession card holders on Tariff 31

Postcode	Place	Number of concession card holders on T31
7310	Devonport (C)	420
7250	Launceston (C)	268
7010	Glenorchy (C)	229
7000	Hobart (C)	148
7248	Launceston (C)	144
7320	Burnie (C)	137
7008	Hobart (C)	124
7011	Glenorchy (C)	112
7030	Brighton (M)	105
7050	Kingborough (M)	104

8 "No data" means there are no concession recipients on tariff 31 in the postcode
9 Note that another Kingsborough (postcode 7050), however, have 104 concession recipients on Tariff 31.

Postcode	Place	Number of concession card holders on T31
7109	Huon Valley (M)	101
7005	Hobart (C)	98
7304	Meander Valley (M)	96
7173	Sorell (M)	95

In terms of the proportion of concession card holders that are on Tariff 31 (instead of the more common Tariff 31+41 or other tariff combinations), Map 6 below shows that the Tasman postcodes of 7187 and 7185 are highest. In most postcodes, however, the proportion of concession card recipients on tariff 31 is less than 7%.

MAP 6 | Proportion (%) of concession card holders on Tariff 31 by postcode

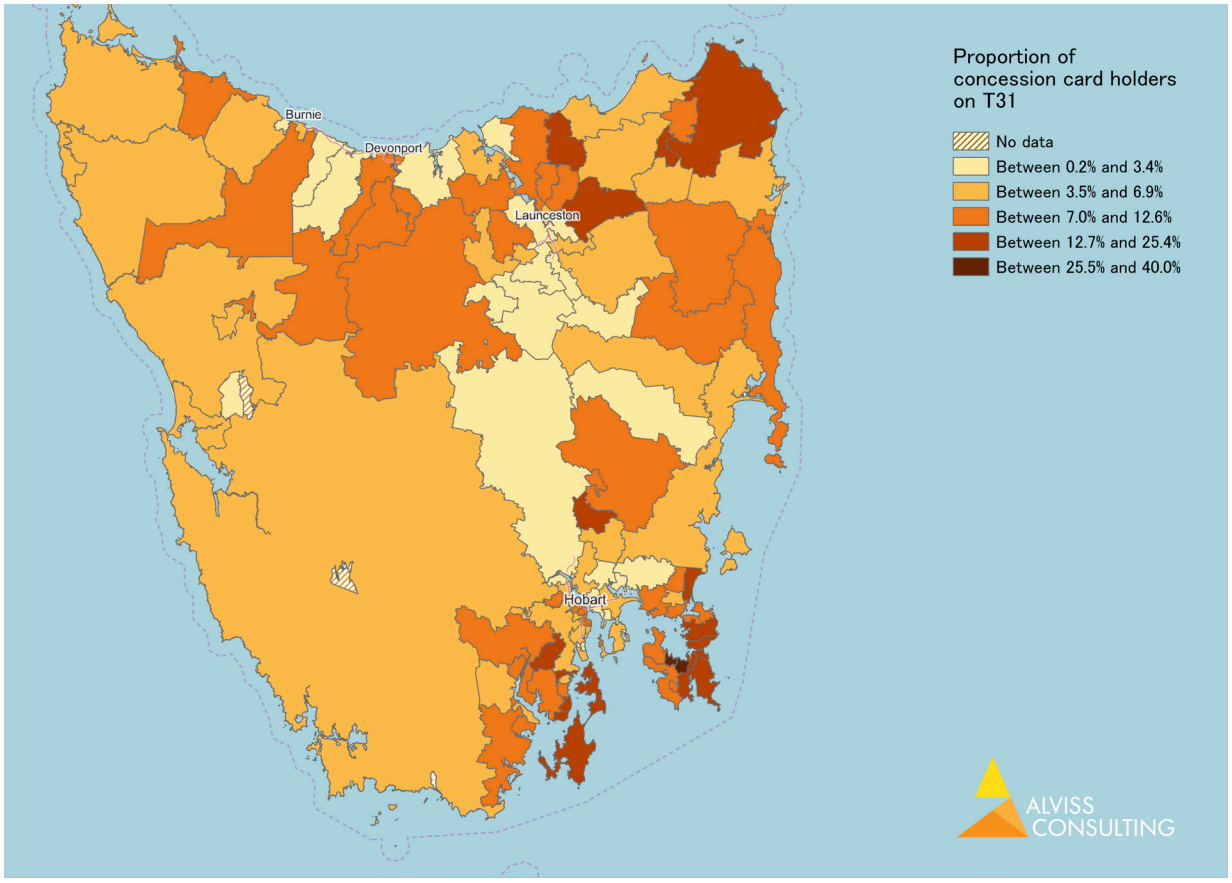


Table 5 below lists all postcodes where more than 12.6% of concession recipients are on Tariff 31 (shown as the two darkest shades in the map above).

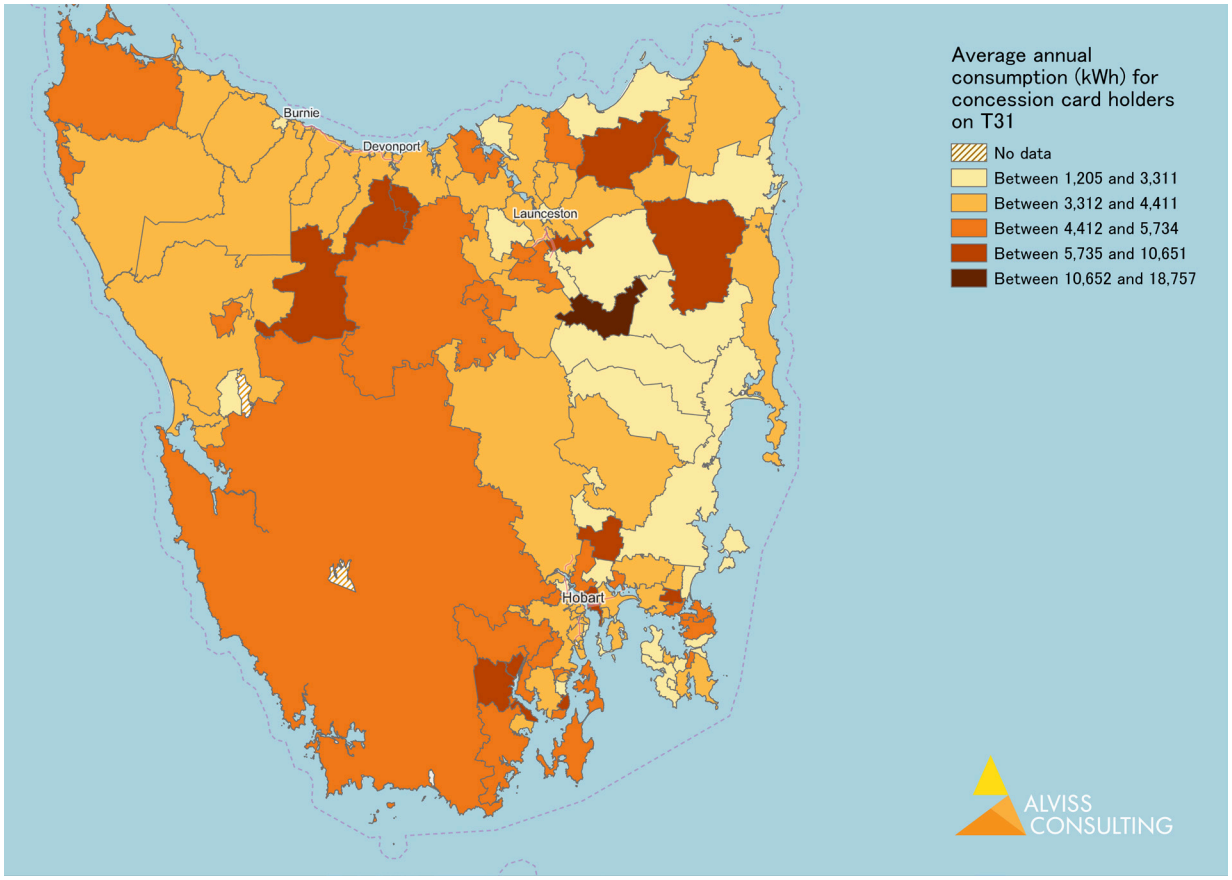
TABLE 5 | Postcodes where more than 12.6% of concession card holders are on Tariff 31

Postcode	Place	Proportion (%) of concession card holders on T31
7187	Tasman (M)	40.0%
7185	Tasman (M)	35.3%
7254	George Town (M)	25.4%
7178	Tasman (M)	18.1%
7182	Tasman (M)	17.9%

Postcode	Place	Proportion (%) of concession card holders on T31
7175	Sorell (M)	17.9%
7264	Dorset (M)	17.7%
7259	Launceston (C)	17.5%
7150	Kingborough (M)	17.4%
7163	Kingborough (M)	16.7%
7180	Tasman (M)	16.7%
7179	Tasman (M)	16.0%
7261	Dorset (M)	14.5%
7027	Southern Midlands (M)	14.5%
7268	Launceston (C)	12.6%

Map 7 below shows average annual consumption for concession card holders on Tariff 31 by postcode. Postcode 7211 in the Northern Midlands, 7174 in Sorell and 7214 in Break O'Day have the highest average consumption. It should be noted, however, that these postcodes have very few concession card holders on Tariff 31. Postcodes with low average consumption include 7023 (Clarence), 7175 (Sorell), 7187 (Tasman), 7210 (Northern Midlands) and 7253 (George Town), all of which have an annual average consumption of less than 2,400 kWh/annum.

MAP 7 | Average annual consumption (kWh) for concession card holders on Tariff 31 by postcode



Households with solar

There are approximately 33,700 Small Generation Unit (SGU) solar panels installed in Tasmania.[10] Amongst concession recipients, 8,974 households have rooftop solar. Charts 8 and 9 show the number of solar customers by card type (Chart 8) and proportion of concession card holders with solar by card type (Chart 9).

CHART 8 | Electricity concession recipients with solar by category/card (count)

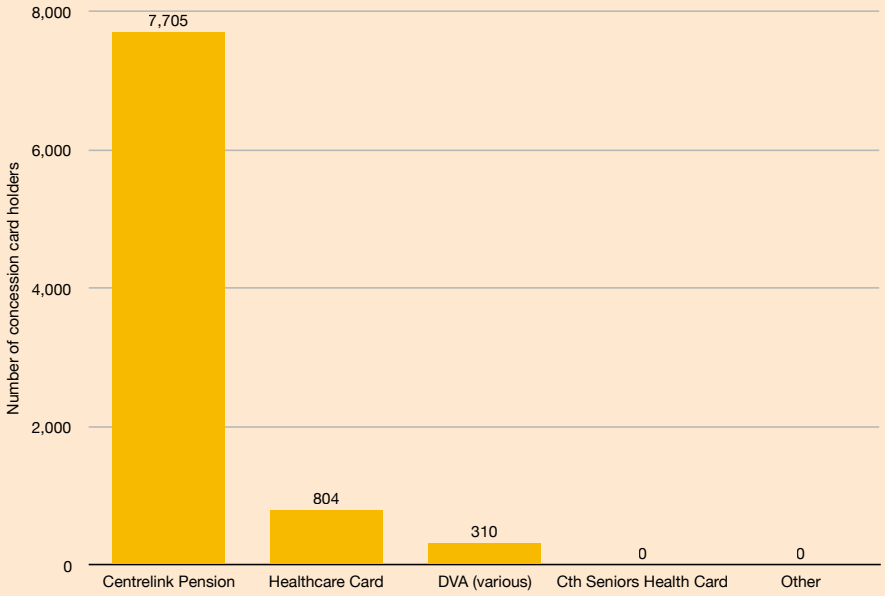
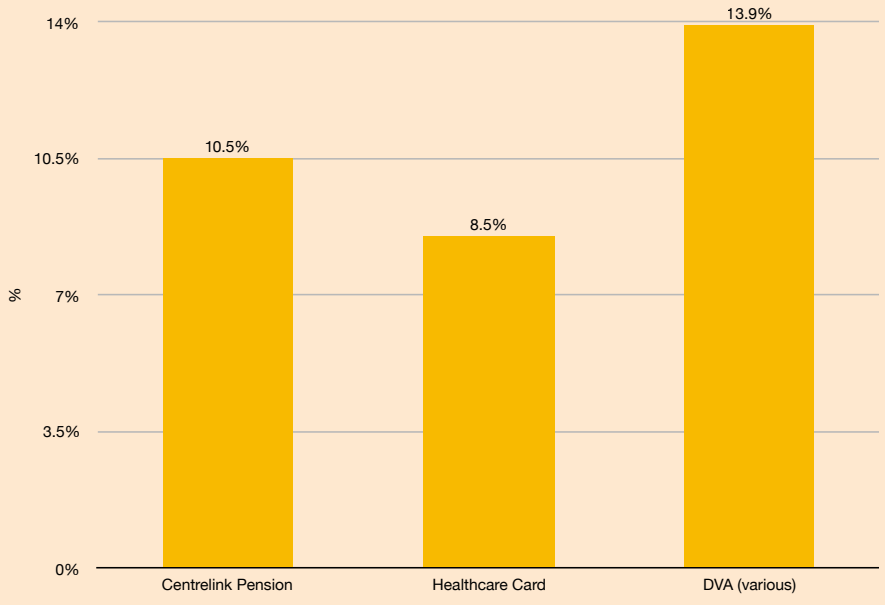


CHART 9 | Proportion (%) of concession recipients with solar by category/card



Map 8 below shows the number (count) of concession card holders with rooftop solar in each postcode. It shows that postcode 7250 (Launceston) and 7310 (Devonport) have the highest numbers of concession card holders with rooftop solar.[11]

10 Based on data published by the Clean Energy Regulator (CER) and available at http://www.cleanenergyregulator.gov.au/RET/Forms-and-resources/Postcode-data-for-small-scale-installations

11 "No data" means there are no concession recipients with rooftop solar in the postcode.

MAP 8 | Number (count) of concession card holders with solar by postcode

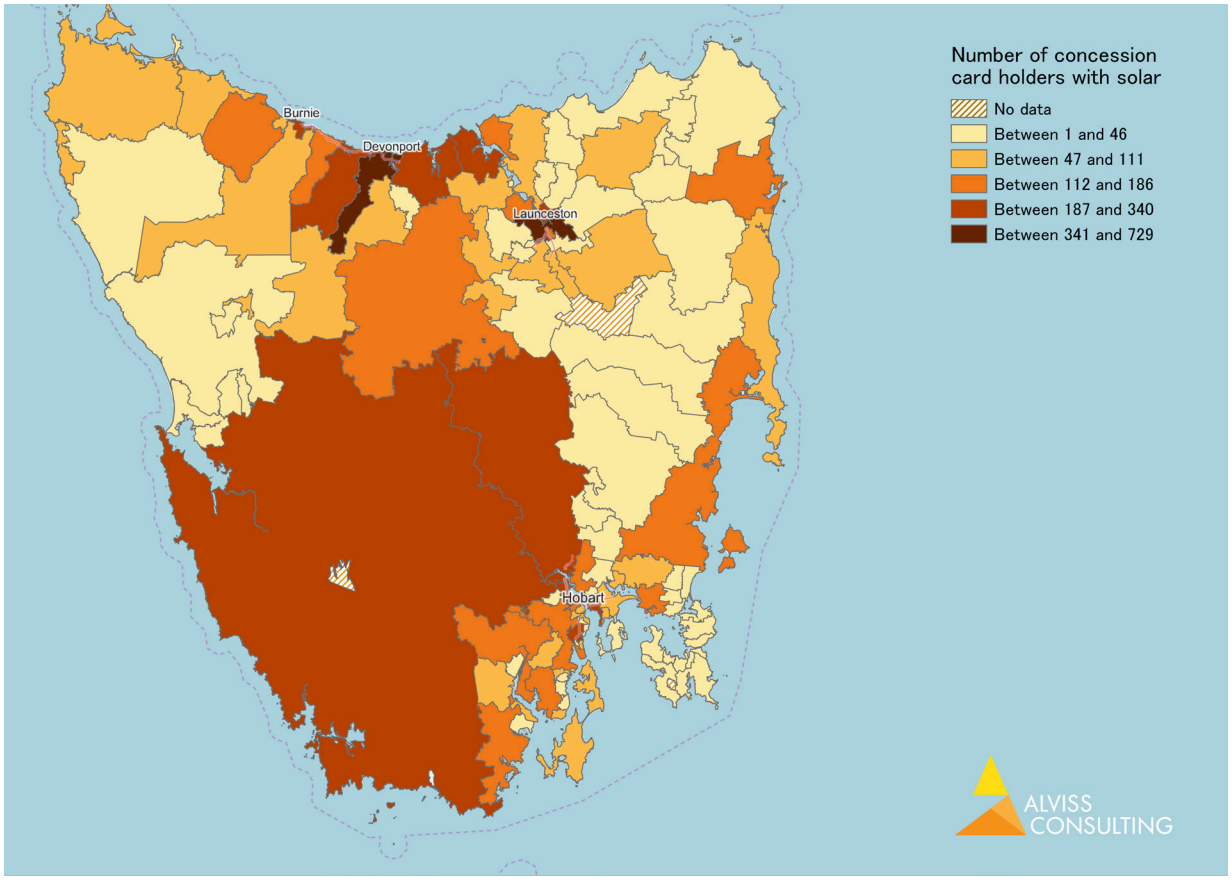


Table 6 below lists all postcodes with more than 186 concession recipients with rooftop solar (shown as the two darkest shades in the map above).

TABLE 6 | Postcodes where more than 186 of concession card holders have rooftop solar

Postcode	Place	Number of concession card holders with solar
7250	Launceston (C)	729
7310	Devonport (C)	482
7018	Clarence (C)	340
7315	Central Coast (M) (Tas.)	316
7030	Brighton (M)	267
7011	Glenorchy (C)	252
7010	Glenorchy (C)	243
7307	Latrobe (M) (Tas.)	243
7248	Launceston (C)	240
7050	Kingborough (M)	214
7320	Burnie (C)	214
7140	Derwent Valley (M)	211
7270	West Tamar (M)	202

In terms of the proportion of concession card holders that have solar, map 9 below shows that the Kingborough postcodes of 7054, 7155 and 7162, the Clarence postcode of 7020, the Glenorchy postcode of 7012, the Tasman postcodes of 7179 and 7180, the Launceston

postcodes of 7259 and 7267, the West Tamar postcodes of 7270 and 7276, the Brighton postcode of 7017, the Meander Vale postcode of 7291, and the George Town postcode of 7252 are the highest. Between 19.6% and 35.6% of concession card holders in these postcodes have solar. In the Circular Head postcode of 7331, the West Coast postcode of 7468, and the Tasman postcode of 7187, on the other hand, the proportion of concession card recipients with solar is between 2.4% and 4%.

MAP 9 | Proportion (%) of concession card holders with rooftop solar by postcode

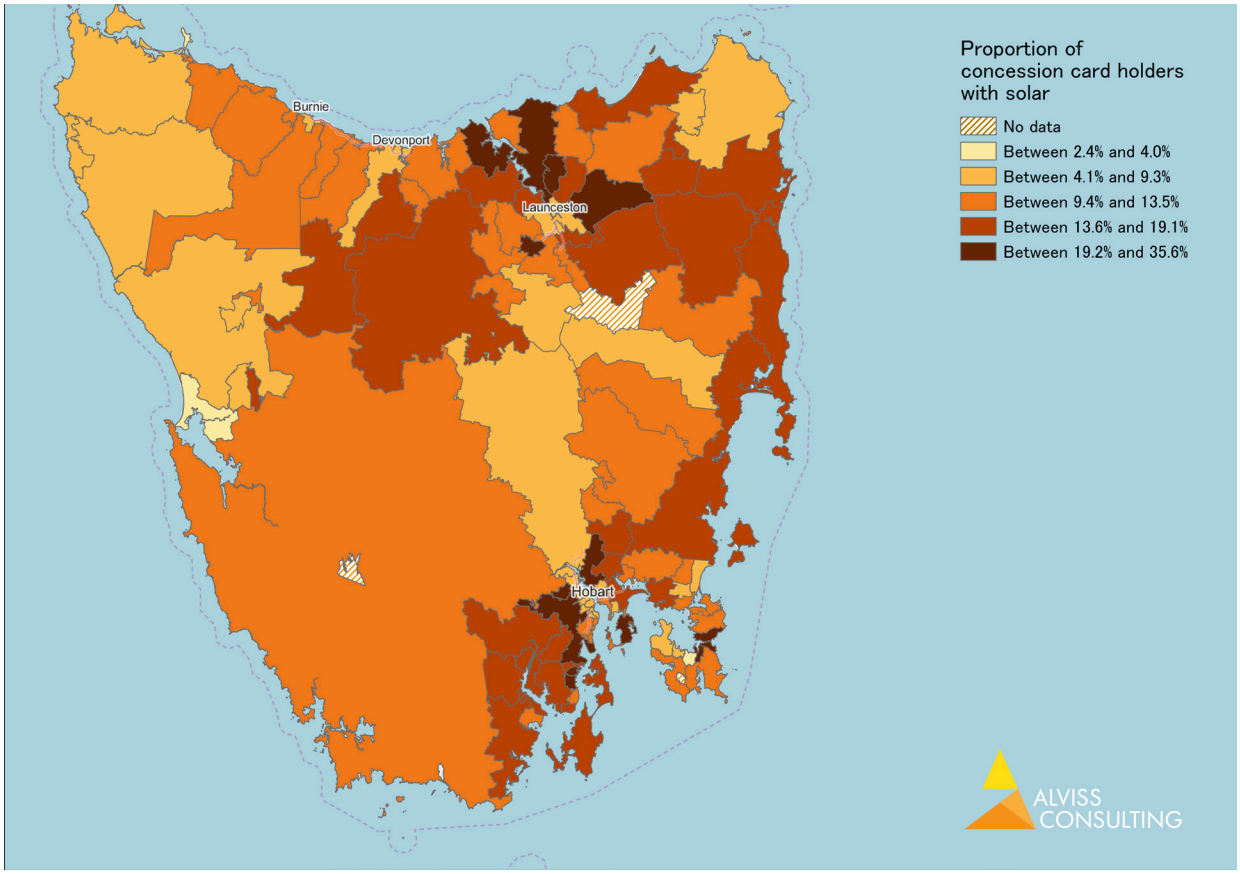


Table 7 below lists all postcodes where more than 19.1% of concession recipients have solar (shown as the darkest shade in the map above).

TABLE 7 | Postcodes where more than 19.1% of concession card holders have rooftop solar

Postcode	Place	Proportion (%) of concession card holders with solar
7155	Kingborough (M)	35.6%
7020	Clarence (C)	27.0%
7012	Glenorchy (C)	23.5%
7179	Tasman (M)	23.5%
7259	Launceston (C)	22.8%
7276	West Tamar (M)	22.4%
7017	Brighton (M)	22.1%
7180	Tasman (M)	21.4%
7291	Meander Valley (M)	21.1%
7162	Kingborough (M)	20.9%

Postcode	Place	Proportion (%) of concession card holders with solar
7270	West Tamar (M)	20.4%
7252	George Town (M)	20.1%
7267	Launceston (C)	19.7%
7054	Kingborough (M)	19.6%

Map 10 below shows concession card holders with solar as a proportion of all homes with solar in each postcode. It shows that over 37.6% of homes with solar installed are concession card holders in the following postcodes: 7466, 7467 and 7470 on the West Coast, 7214 in Break O'Day, 7180 in Tasman, 7263 in Dorset, 7276 in West Tamar, 7209 in the Northern Midlands, and 7253 in George Town. In the Tasman postcodes of 7185 and 7187, as well as Circular Head postcode 7331, however, less than 10% of households with solar are concession card holders.

MAP 10 | Proportion (%) of all homes with rooftop solar that are concession card holders in each postcode

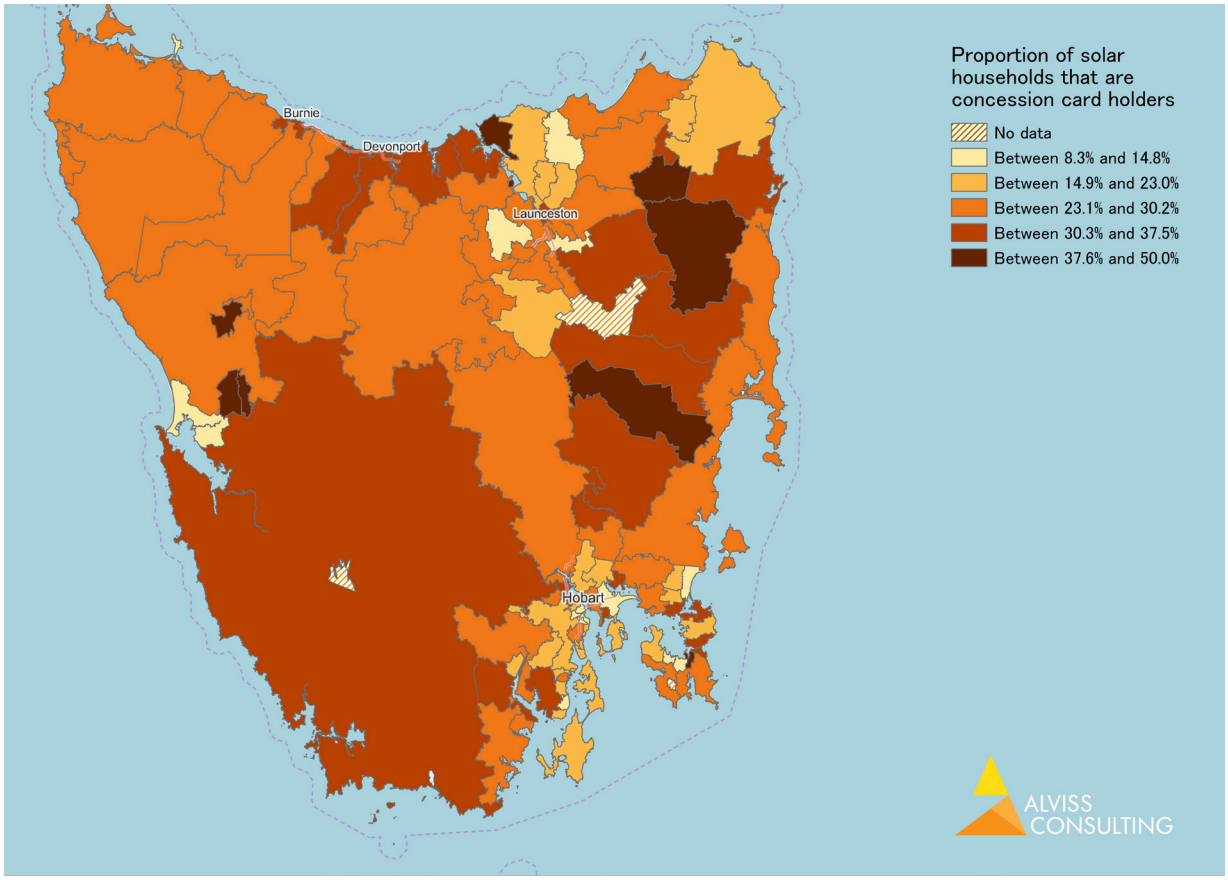


Table 8 below lists all postcodes where more than 30.2% of households with solar are concession recipients (shown as the two darkest shades in the map above).

TABLE 8 | Postcodes where more than 30.2% of homes with rooftop solar are concession card holders

Postcode	Place	Proportion (%) of all homes with solar that are concession card holders
7466	West Coast (M)	50.0%
7214	Break O'Day (M)	47.1%

Postcode	Place	Proportion (%) of all homes with solar that are concession card holders
7180	Tasman (M)	45.0%
7470	West Coast (M)	44.4%
7263	Dorset (M)	44.2%
7276	West Tamar (M)	43.6%
7467	West Coast (M)	42.2%
7209	Northern Midlands (M)	40.7%
7253	George Town (M)	39.8%
7019	Clarence (C)	37.5%
7171	Sorell (M)	37.4%
7177	Sorell (M)	36.7%
7261	Dorset (M)	36.7%
7270	West Tamar (M)	36.6%
7248	Launceston (C)	35.0%
7010	Glenorchy (C)	34.9%
7322	Waratah/Wynyard (M)	34.8%
7216	Break O'Day (M)	34.8%
7179	Tasman (M)	34.5%
7112	Huon Valley (M)	34.4%
7210	Northern Midlands (M)	33.8%
7140	Derwent Valley (M)	33.5%
7027	Southern Midlands (M)	33.3%
7119	Southern Midlands (M)	33.3%
7213	Northern Midlands (M)	33.3%
7011	Glenorchy (C)	33.2%
7116	Huon Valley (M)	32.9%
7310	Devonport (C)	32.5%
7315	Central Coast (M) (Tas.)	32.4%
7307	Latrobe (M) (Tas.)	32.1%
7320	Burnie (C)	32.0%
7212	Northern Midlands (M)	31.3%
7120	Southern Midlands (M)	30.9%

Households on PAYG

Aurora Energy's Pay as You Go (PAYG) product require households to have a prepayment meter installed and concession card holders are exempt from paying the daily supply charge (currently 143.84 c/day). There are 4,700 concession recipients on Aurora Energy's PAYG product. These customers prepay for the electricity consumed and concession recipients do not pay a daily supply charge. Charts 10 and 11 show the number of PAYG customers by card type (Chart 10) and proportion of concession card holders on PAYG by card type (Chart 11).

CHART 10 | Proportion (%) of concession recipients with solar by category/card

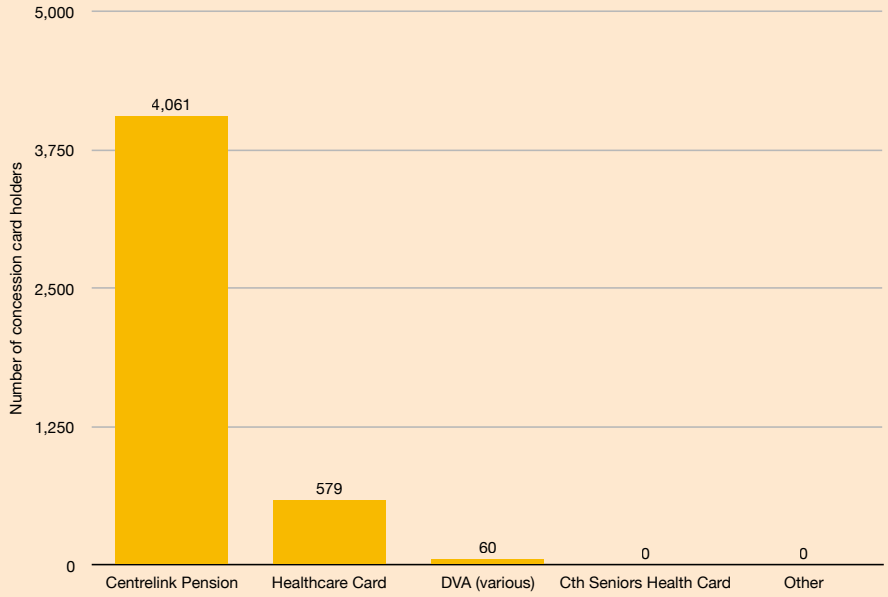
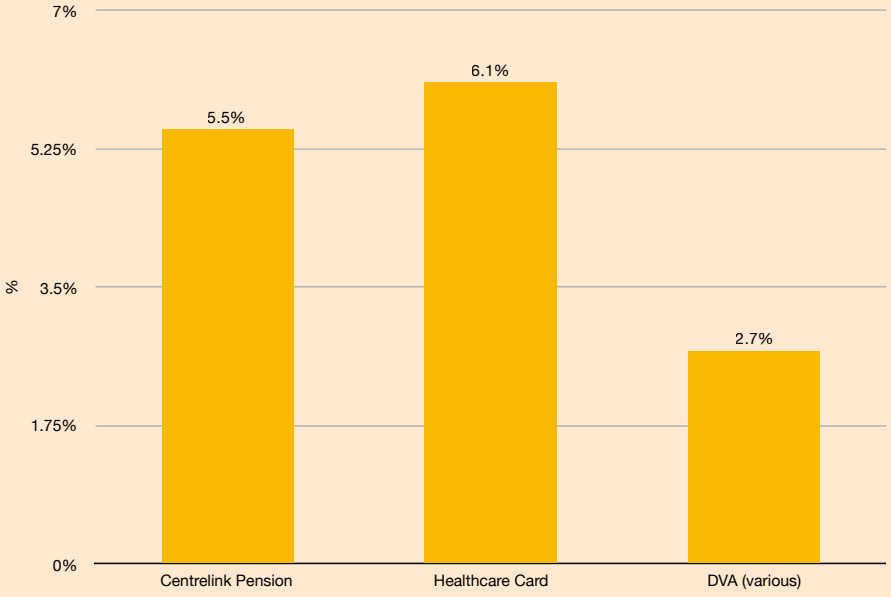


CHART 11 | Proportion (%) of concession recipients on PAYG by category/card



Map 11 below shows the number (count) of concession card holders on the PAYG product in each postcode. It shows that postcodes 7248 and 7250 (Launceston) have the highest number of concession card holders on the PAYG product.[12]

12 "No data" means there are no concession recipients on the PAYG in the postcode

MAP 11 | Number (count) of concession card holders on Tariff PAYG by postcode

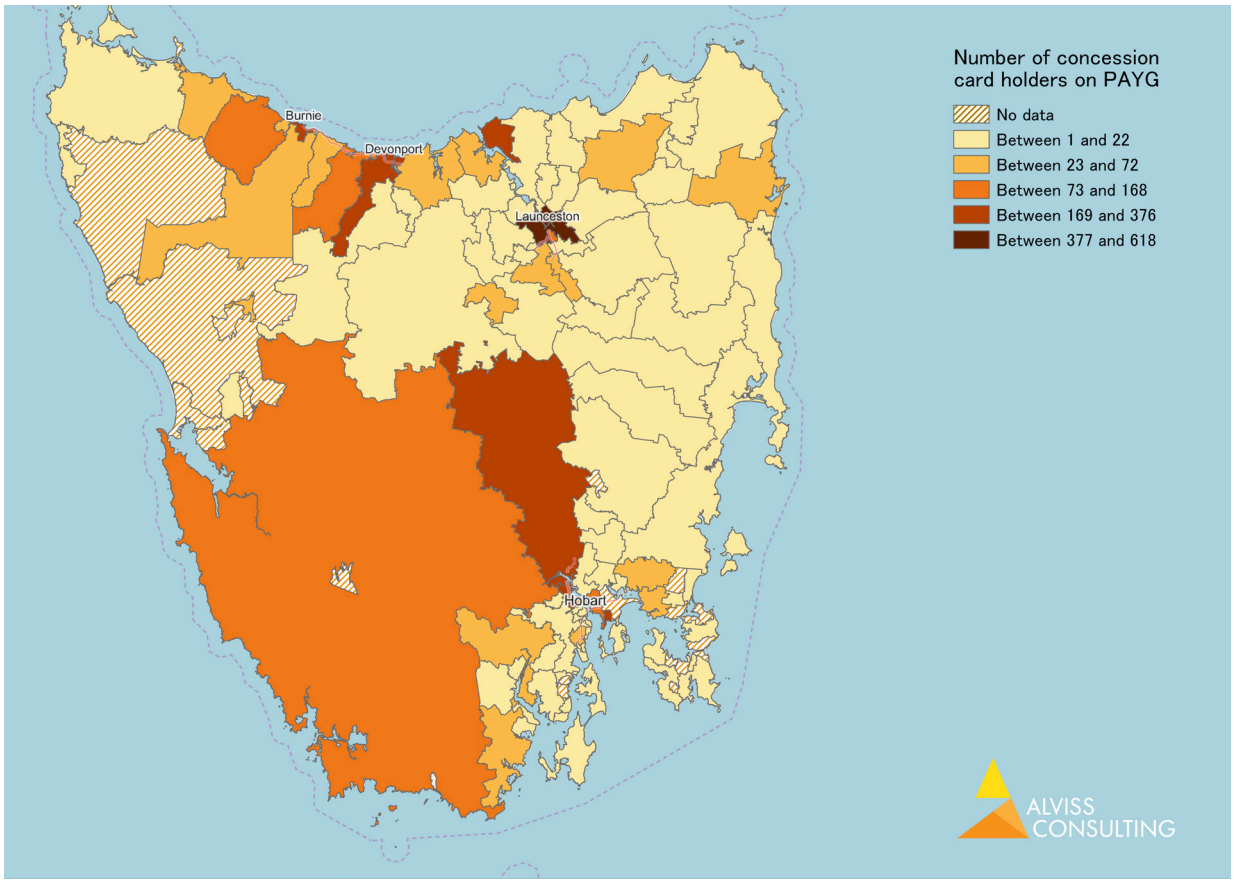


Table 9 below lists all postcodes with more than 72 concession recipients on PAYG (shown as the three darkest shades in the map above).

TABLE 9 | Postcodes where more than 72 of concession card holders are on PAYG

Postcode	Place	Number of concession card holders on PAYG
7250	Launceston (C)	618
7248	Launceston (C)	487
7320	Burnie (C)	376
7030	Brighton (M)	281
7310	Devonport (C)	260
7019	Clarence (C)	254
7011	Glenorchy (C)	214
7253	George Town (M)	202
7010	Glenorchy (C)	194
7018	Clarence (C)	168
7249	Launceston (C)	140
7009	Glenorchy (C)	101
7140	Derwent Valley (M)	100
7315	Central Coast (M) (Tas.)	97
7325	Waratah/Wynyard (M)	92
7016	Clarence (C)	81

In terms of the proportion of concession card holders that are on PAYG, map 12 below shows that the Northern Midlands postcode of 7211, the Clarence postcodes of 7016 and 7019, the George Town postcode of 7253, and the Launceston postcode of 7248 are the highest. Between 15% and 26% of concession card holders in these postcodes are on the PAYG product. In the Hobart postcodes of 7000, 7005 and 7007, the Kingborough postcodes of 7053, 7054 and 7150, the Glamorgan/Spring Bay postcode of 7190, the Meander Valley postcode of 7303 and the Break O'Day postcode of 7215, on the other hand, the proportion of concession card recipients on PAYG is between 0.2% and 1.2%.

MAP 12 | Proportion (%) of concession card holders on PAYG by postcode

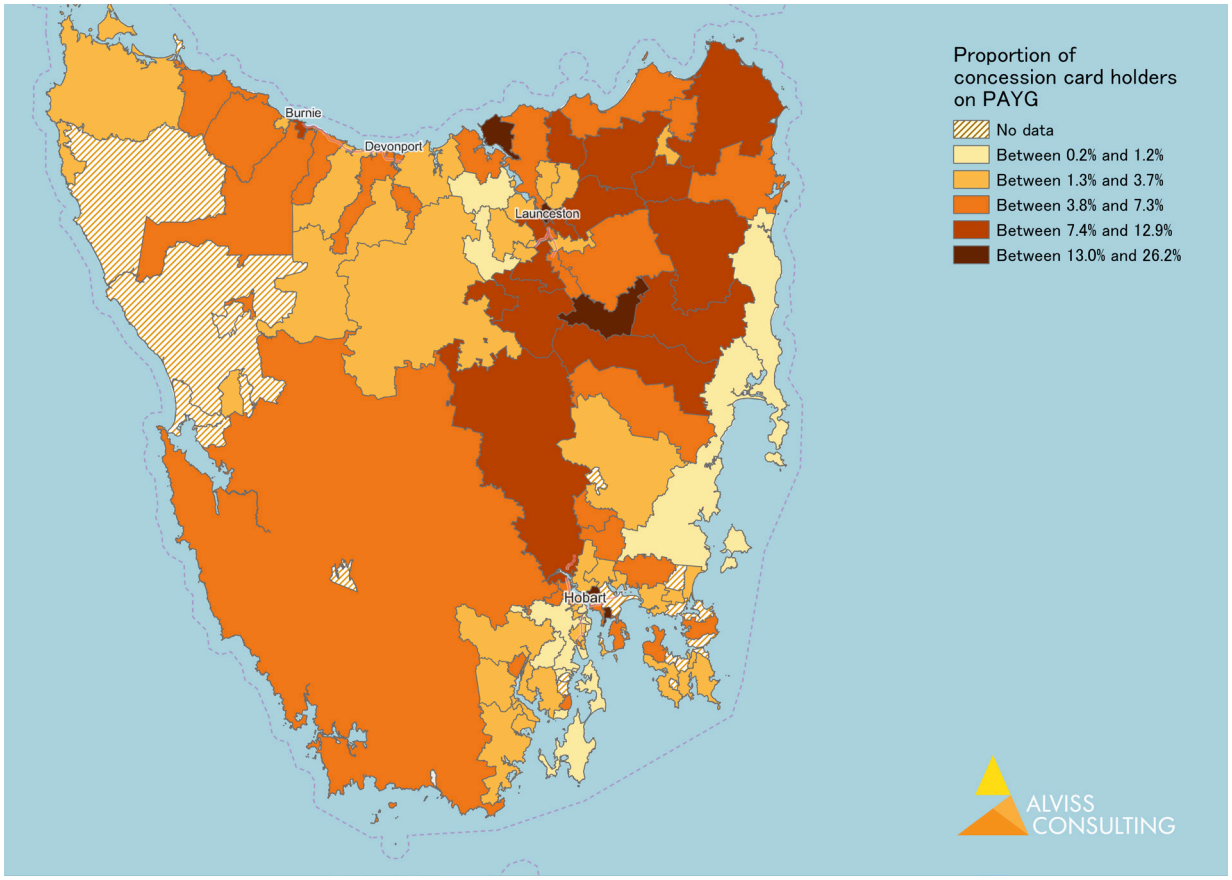


Table 10 below lists all postcodes where more than 7.4% of concession recipients are on PAYG (shown as the two darkest shades in the map above).

TABLE 10 | Postcodes where more than 7.4% of concession card holders are on PAYG

Postcode	Place	Proportion (%) of concession card holders on PAYG
7211	Northern Midlands (M)	26.2
7019	Clarence (C)	19.5
7016	Clarence (C)	16.1
7253	George Town (M)	15.5
7248	Launceston (C)	14.9
7213	Northern Midlands (M)	12.9
7254	George Town (M)	11.3
7320	Burnie (C)	10.9
7263	Dorset (M)	10.8

Postcode	Place	Proportion (%) of concession card holders on PAYG
7259	Launceston (C)	10.5
7302	Northern Midlands (M)	10.1
7214	Break O'Day (M)	10.0
7260	Dorset (M)	9.3
7301	Northern Midlands (M)	8.8
7030	Brighton (M)	8.7
7264	Dorset (M)	8.5
7210	Northern Midlands (M)	7.9
7250	Launceston (C)	7.8

3. Current concession

This section shows the percentage reduction that the current Annual Electricity Concession provides to standing offer customers with average consumption levels.[13] As the majority of customers are on Tariff 31+41, the analysis also includes low and high consumption households for this customer type. High consumption has been defined as 50% higher usage than average while low consumption has been defined as 50% lower than average. Furthermore, the calculations have allocated 55% of overall usage to Tariff 41 for all three consumption levels. The 45/55% split between Tariff 31 and Tariff 41 is based on the figures presented in a report by the Office of the Tasmanian Economic Regulator into typical electricity customers.[14] As we do not have consumption data for solar households, we have based the solar analysis on average consumption for Tariff 31, assumed that the households have a 3kW system installed and that they export 30% of the electricity generated.

The consumption levels used for this analysis are:

- **Typical (average) consumption on Tariff 31 (category 1)**
  - 4,300 Kwh/annum
- **Low consumption on Tariff 31+41 (category 2)**
  - 1,680 kWh/annum T31 and 2,050 kWh/annum T41 (approximately 55% of overall usage allocated to T41)
- **Typical (average) consumption on Tariff 31+41 (category 3)**
  - 3,360 kWh/annum T31 and 4,100 kWh/annum T41 (approximately 55% of overall usage allocated to T41)
- **High consumption on Tariff 31+41 (category 4)**
  - 5,040 kWh/annum T31 and 6,160 kWh/annum T41 (approximately 55% of overall usage allocated to T41)
- **Solar with typical (medium) consumption on Tariff 31 (category 5)**
  - 4,300 kWh/annum, 3kW system and 30% export

Table 11 below outlines the annual bills (inclusive of the Annual Electricity Concession) for customers on different tariff types and consumption levels.[15]

It also shows the Annual Electricity Concession as proportion of annual bill for each customer type. As the current concession is a flat amount of $504 per annum, it will naturally account for a greater proportion of the annual bill for households with lower consumption levels and thus lower annual bills. Furthermore, as annual average consumption for customers on Tariff 31 is lower compared to customers on Tariff 31+41, the concession accounts for a greater proportion of Tariff 31 customers with a medium consumption than it does for Tariff 31+41 customers with medium consumption. Similarly, solar customers have lower import rates of

13 All averages are based on data provided by Aurora Energy and is as of 30 April 2019. Note that for Tariff 31, two customers have a very high consumption level and that has affected the average. If we were to exclude these two customers from the average, the average consumption would have been 4,100 kWh instead of 4,300 kWh. However, as some customers also have a very low consumption level, we decided to base the analysis on the average for all Tariff 31 customers rather than excluding some outliers from this analysis. Also, note that PAYG customers have not been included in this analysis as we do not have consumption data or data showing when these households typically consume electricity. As the PAYG product is a based on a Time of Use tariff structure, consumption data is necessary to undertake meaningful analysis.

14 See Office of the Tasmanian Economic Regulator (OTTER), Typical Electricity Customers 2017, Table 3 at https://www.economicregulator.tas.gov.au/Documents/Typical%20Electricity%20Customers%20Report%202017.PDF

15 Based on electricity prices and Annual Electricity Concession as of January 2019.

electricity, compared to Tariff 31 customers without solar, due to generation of electricity for own use as well as exporting electricity that attracts a feed-in-tariff (FIT) resulting in lower bills. As such, the concession covers 83.4% of the annual bill for solar households with medium consumption compared to 34% for non-solar households with the same consumption level.

TABLE 11 | Current concession - Annual bill and concession as proportion of bill

Category	Tariff	Consumption	Annual bill including concession and GST	Concession as proportion of bill
1	T31	Medium (average)	$977	34.0%
2	T31+41	Low	$701	41.8%
3	T31+41	Medium (average)	$1,497	25.2%
4	T31+41	High	$2,295	18.0%
5	T31 + solar	Medium (average)	$160	83.4%

4. Current concession

In this section we apply a percentage-based concession as well as a flat/percentage hybrid model to customer bills (January 2019 prices) to analyse the impact of these concession models compared to the current concession arrangement. This analysis is applied to the same five tariff/consumption categories analysed in section 3 above.

For the percentage-based concession, we apply discounts from 5 to 35 percent to compare bills to the status quo.

For the hybrid model, we apply discounts from 5 to 35 percent to energy consumption, as well as a fixed flat amount off supply charges, to compare bills to the status quo.

Percentage based concession

Chart 12 below compares annual bills for medium consumption households on Tariff 31 inclusive of the current concession to annual bills with a percentage concession of between 5% and 35%. It shows that the value of the current concession is greater than a percentage concession of up to 34%. A percentage concession of 20%, for example, would increase the annual bill by $207 while a 25% discount would increase the annual bill by $133.

CHART 12 | Annual bills including a percentage-based concession compared to the current concession. Tariff 31, Medium/average consumption

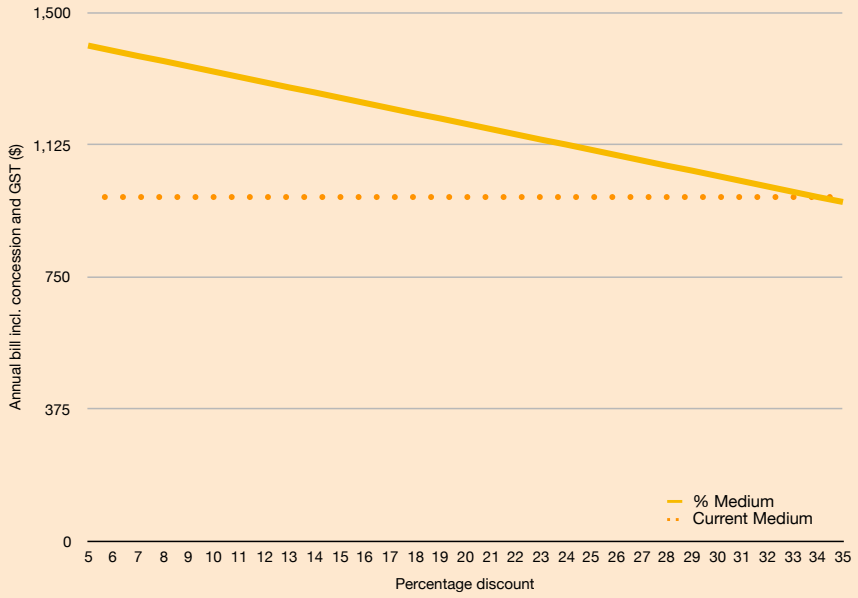
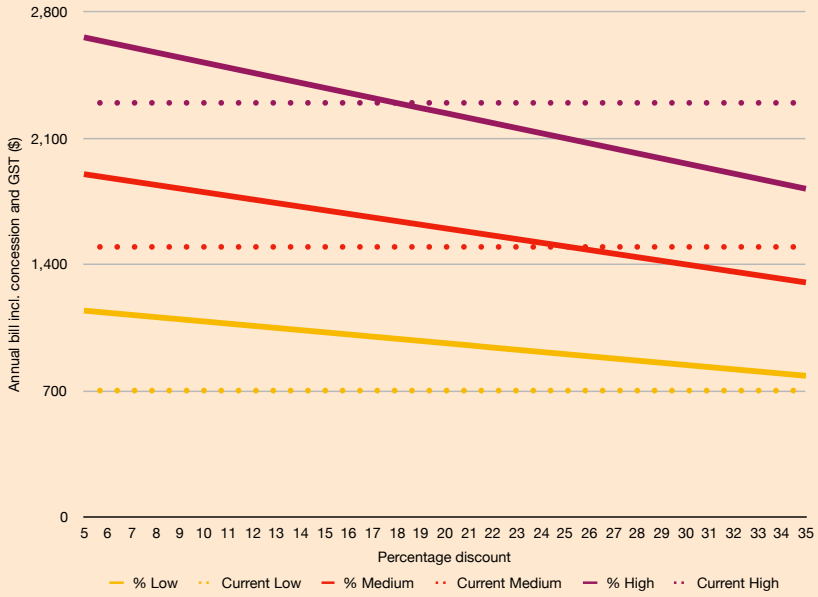


Chart 13 below compares annual bills for low, medium and high consumption households on Tariff 31/41 inclusive of the current concession to annual bills with a percentage concession of between 5% and 35%. It shows that high consumption households would be better off on a 19% concession compared to status quo while a medium consumption household would need a percentage concession of 26% or more in order to be better off. For low consumption households, the current concession is greater than any of these percentage concessions.

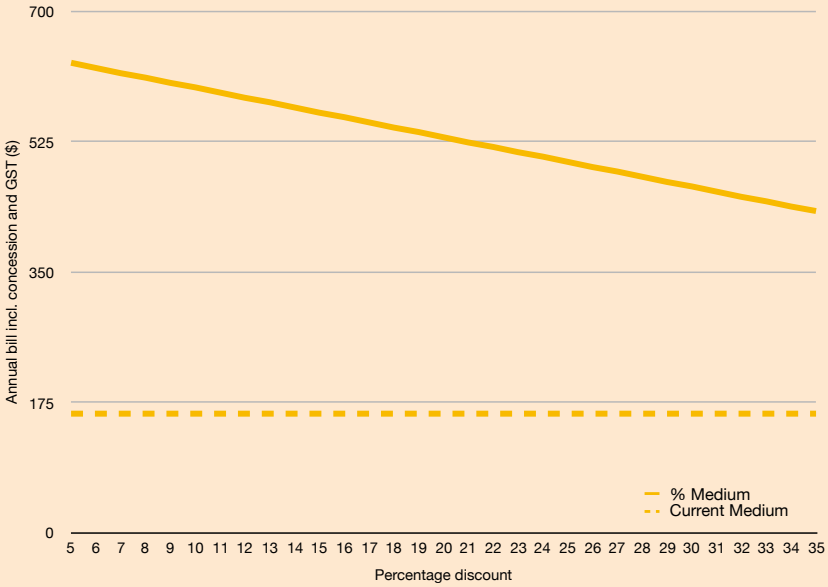
CHART 13 | Annual bills including a percentage-based concession compared to the current concession. Tariff 31+41, High, Medium and Low consumption



The above chart also shows that a 20% concession would increase low consumption households' annual bill by $263, medium consumption households' bills would increase by $104 while high consumption households' annual bills would decrease by $56.[16]

Chart 14 below compares annual bills (inclusive of current concession) for medium consumption households with rooftop solar installed and on Tariff 31 to annual bills with a percentage concession of between 5% and 35%.[17] It shows that the value of the current concession is significantly greater than any percentage based. A percentage concession of 20%, for example, would increase the annual bill by $371.

CHART 14 | Annual bills including a percentage-based concession compared to the current concession. Solar households (3kW system installed and 30% export), Tariff 31, Medium/average consumption



16 Households on Tariff 31+41

17 The annual bill calculations for solar households assume that the household is on Tariff 31 and has the same average consumption as other Tariff 31 households. The calculations are based on a 3kW solar system, that the sun shines 3.5 hours/day and that the households export 30% of all electricity generated.

Table 12 below outlines estimated changes to annual bills for the five categories of concession recipients if the concession model changed from the current flat concession to a percentage-based concession where recipients receive a 20%, 25% or 30% discount off their annual bill. It shows that only high consumption households on Tariff 31+41 would benefit from a move to these percentage-based concessions.

TABLE 12 | Percentage concession – Changes to annual bills

Category	Tariff	Consumption	Concession: 20% off total bill. Change to annual bill ($)	Concession: 25% off total bill. Change to annual bill ($)	Concession: 30% off total bill. Change to annual bill ($)
1	T31	Medium (average)	+ $207	+ $133	+ $59
2	T31+41	Low	+ $263	+ $203	+ $142
3	T31+41	Medium (average)	+ $104	+ $4	-$96
4	T31+41	High	- $56	- $196	-$336
5	T31 + solar	Medium (average)	+$371	+$331	+$271

Hybrid concession

Chart 15 below compares annual bills for medium consumption households on Tariff 31 inclusive of the current concession to annual bills with a hybrid concession of between $10 and $310 off the annual supply charge, and 5% and 35% off usage charges. It shows that the current concession (dotted line) produces a lower annual bill than any of these hybrid combinations (grey columns) for households with average consumption. If the concession consisted of a flat annual discount of $160 for the fixed supply charge and 20% reduction off usage charges, for example, an average consumption household's annual bill would increase by $116.

CHART 15 | Annual bills including a hybrid concession compared to the current concession. Tariff 31, Medium/average consumption

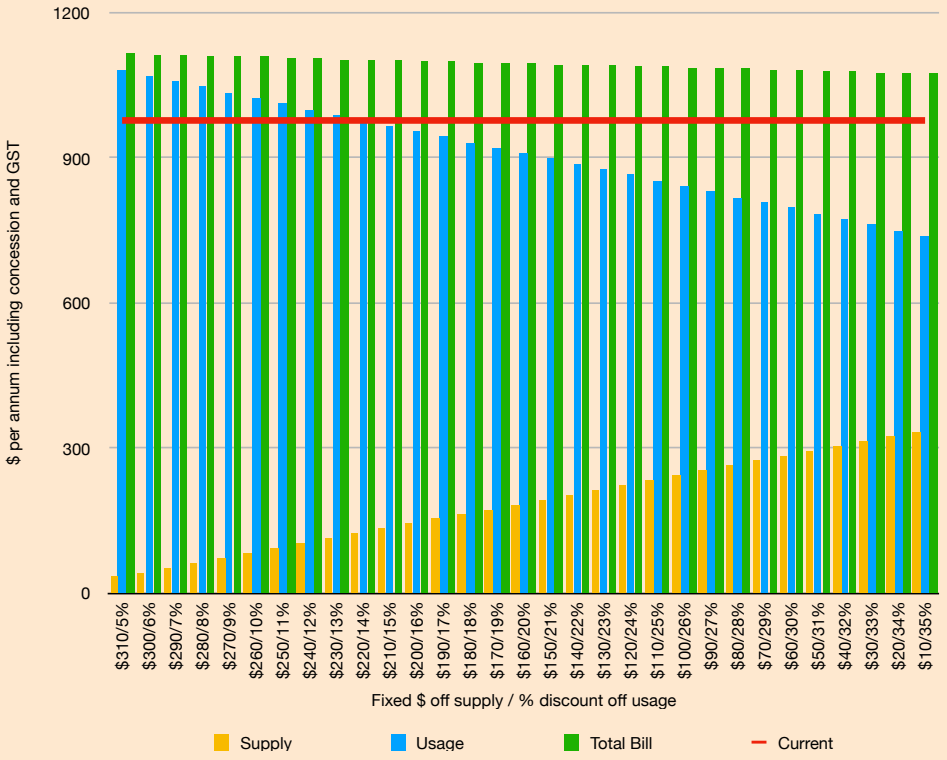


Chart 16 below compares annual bills for medium consumption households on Tariff 31+41 inclusive of the current concession to annual bills with a hybrid concession of between $10 and $310 off the annual supply charge and 5% and 35% off usage charges. The current concession (dotted line) produces a higher annual bill than the hybrid combinations (grey columns) if the usage concession is 25% or more. If the concession consisted of a flat annual discount of $160 for the fixed supply charge and 20% reduction off usage charges, however, a household with average consumption would receive an annual increase of $25 if converted to the hybrid model.

CHART 16 | Annual bills including a hybrid concession compared to the current concession. Tariff 31+41, Medium/average consumption

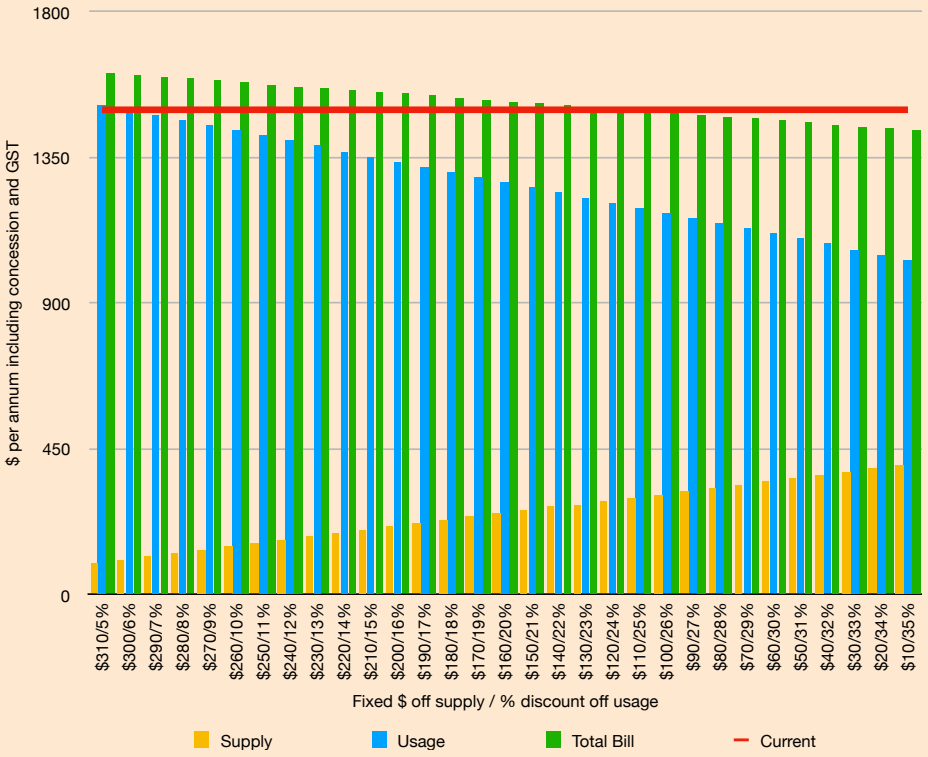


Chart 17 below compares annual bills for low consumption households on Tariff 31+41 inclusive of the current concession to annual bills with a hybrid concession of between $10 and $310 off the annual supply charge and 5% and 35% off usage charges. The current concession (dotted line) produces a lower annual bill than any of these hybrid combinations (grey columns) for households with a low consumption. If the concession consisted of a flat annual discount of $160 for the fixed supply charge and 20% reduction off usage charges, for example, an average consumption household's annual bill would increase by $184.

CHART 17 | Annual bills including a hybrid concession compared to the current concession. Tariff 31 + 41, Low consumption

Chart 18 below compares annual bills for high consumption households on Tariff 31+41 inclusive of the current concession to annual bills with a hybrid concession of between $10 and $310 off the annual supply charge and 5% and 35% off usage charges. The current concession (dotted line) produces a higher annual bill than the hybrid combinations (grey columns) if the usage concession is 11% or more. If the concession consisted of a flat annual discount of $160 for the fixed supply charge and 20% reduction off usage charges, a high consumption household's annual bill would decrease by $134 if converted to the hybrid model.

CHART 18 | Annual bills including a hybrid concession compared to the current concession. Tariff 31+41, High consumption

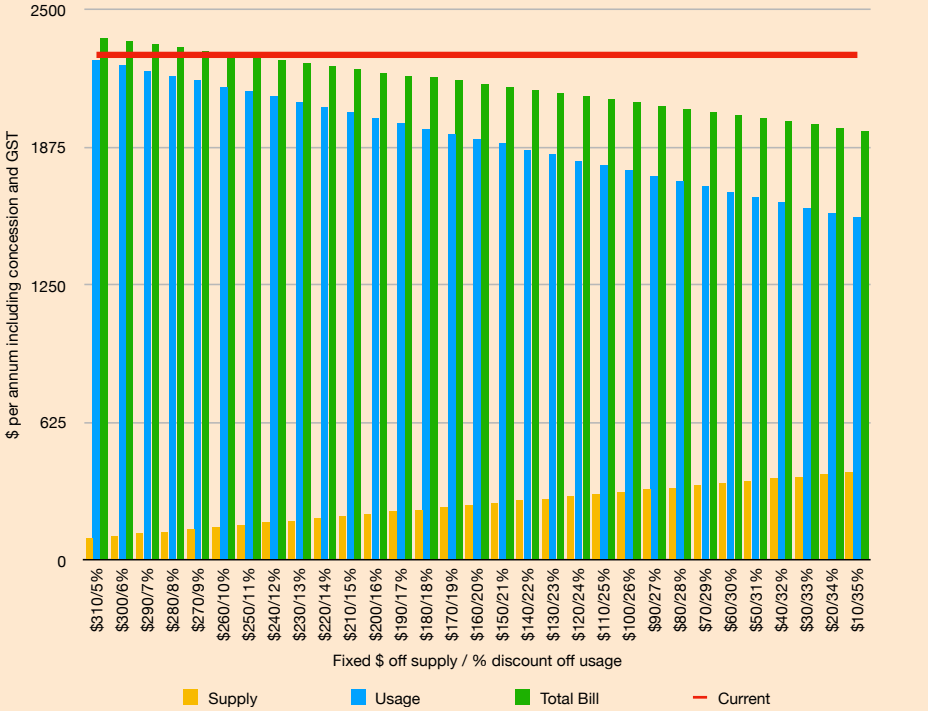


Chart 19 below compares annual bills (inclusive of the current concession) for medium consumption households with rooftop solar installed and on Tariff 31 to annual bills with a hybrid concession of between $10 and $310 off the annual supply charge and 5% and 35% off usage charges.[18] It shows that the current concession (dotted line) produces a significantly lower annual bill than any of these hybrid combinations (grey columns) for households with average consumption. If the concession consisted of a flat annual discount of $160 for the fixed supply charge and 20% reduction off usage charges, for example, an average consumption household's annual bill would increase by $366.

CHART 19 | Annual bills including a hybrid concession compared to the current concession. Solar households (3kW system installed and 30% export), Tariff 31, Medium/average consumption

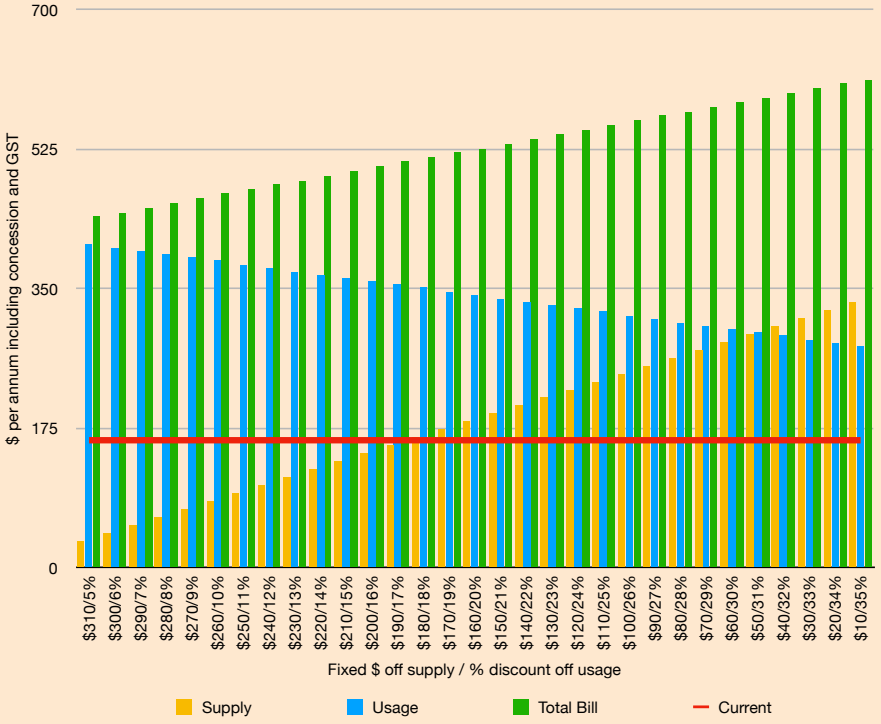


Table 13 below shows that only high consumption households on Tariff 31+41 would be better off on a hybrid concession consisting of $160 off supply charges and 20% off usage charges. The difference to Tariff 31+41 customers with medium consumption is quite minimal while the three other customer groups are likely to be significantly worse off.

TABLE 13 | Hybrid concession – Changes to annual bills

Category	Tariff	Consumption	Concession: $160 off supply charge and 20% off usage charges. Change to annual bill ($)
1	T31	Medium (average)	+ $116
2	T31+41	Low	+ $184
3	T31+41	Medium (average)	+ $25
4	T31+41	High	- $134
5	T31 + solar	Medium (average)	+$366

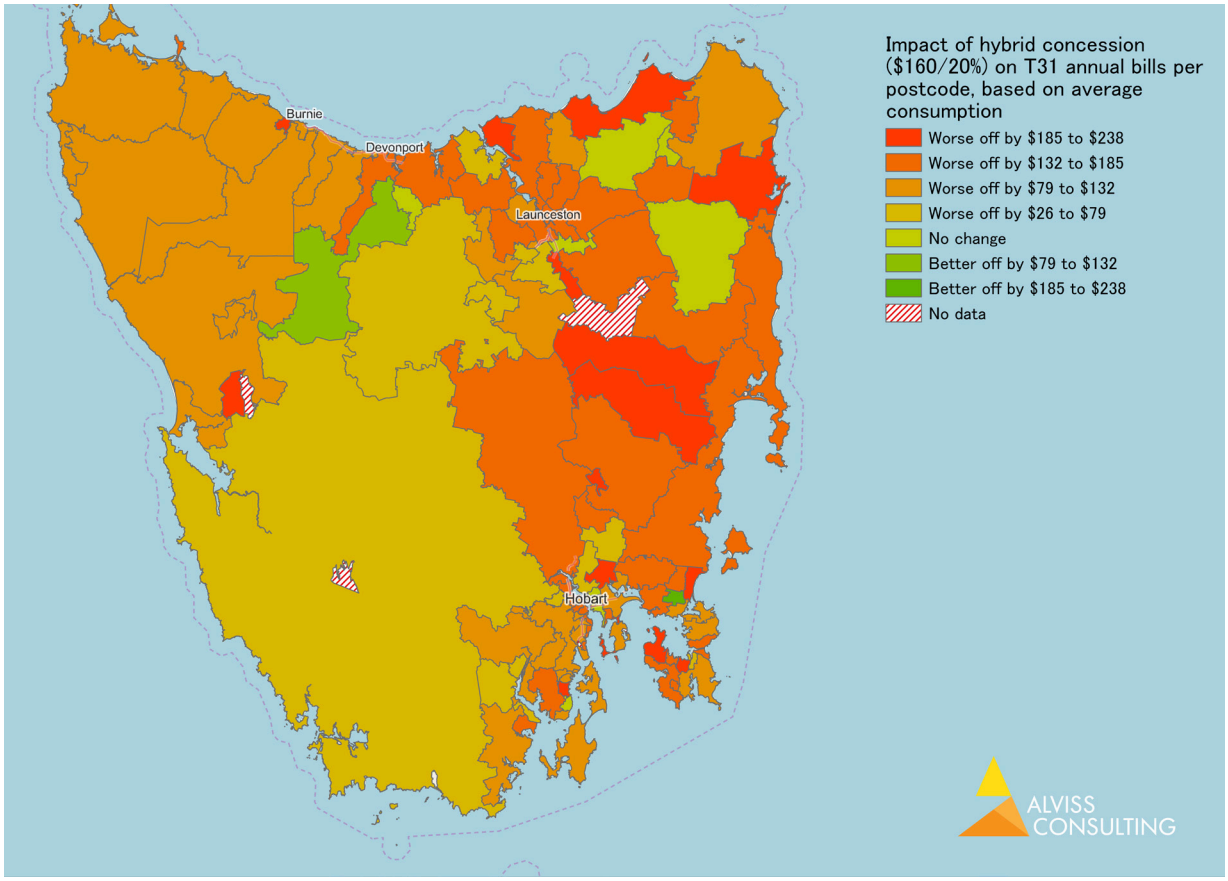
18 The annual bill calculations for solar households assume that the household is on Tariff 31 and has the same average consumption as other Tariff 31 households. The calculations are based on a 3kW solar system, that the sun shines 3.5 hours/day and that the households export 30% of all electricity generated.

5. “Winners and losers”

Section 4 above shows that a hybrid concession with a percentage discount off the usage charges typically benefit concession card holders with high consumption. While the above analysed potential impact on customers with various consumption levels, this section takes a more in-depth look at where the “winners and losers” from potential changes to the concession arrangements are (at postcode level) as well as some of the key socio-economic indicators for each area.[19]

Map 13 below shows “winners and losers” by postcode if the current concession was to be replaced by a hybrid concession of $160/annum and 20% off usage charges for households on Tariff 31. It shows that households in areas with low average consumption are likely to be worse off while households in postcodes with high average consumption may be better off. It shows that postcode 7306 (Kentish) and 7141 (Sorell) are the only two postcodes where Tariff 31 customers are likely to be better off on this hybrid concession model compared to the current arrangement.[20] These two postcodes have only 1.5% of all Tasmanian concession recipients on Tariff 31. By comparison, the postcodes where customers are likely to be between $132 to $185 worse off contain approximately 55% of concession recipients on Tariff 31. The postcodes where customers are likely to be worse off by $79 to $132 per annum also have a significant share of Tariff 31 concession recipients (at just over 26%).

MAP 13 | Impact of a hybrid concession ($160/annum + 20% off usage) on T31 customers based on average consumption in each postcode



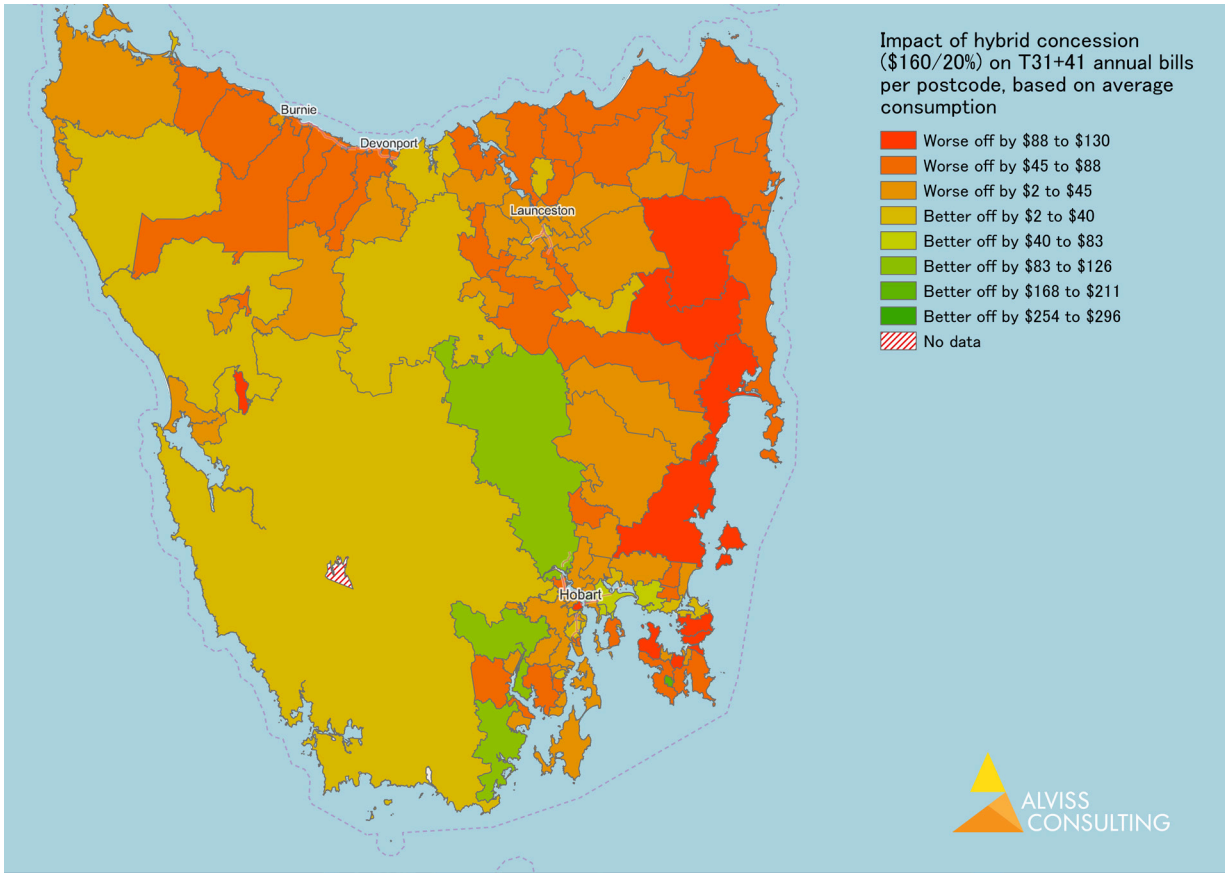
19 As we do not have detailed consumption data for solar and PAYG customers, this analysis includes Tariff 31 and Tariff 31+41 customers only.

20 Note that postcode 7141 (Sorell) has very few customers on Tariff 31 and that one postcode has been excluded from this analysis as it only has one customer on Tariff 31 and this customer has a relatively high consumption level.

Map 14 below shows "winners and losers" by postcode if the current concession was to be replaced by a hybrid concession of $160/annum and 20% off usage charges for households on Tariff 31+41. Again, it shows that households in areas with low average consumption are likely to be worse off while households in postcodes with high average consumption may be better off. In terms of the postcodes where customers are likely to be worse off, these postcodes contain approximately 74% of all concession recipients on Tariff 31+41.

Map 14 shows that Tariff 31+41 customers are likely to be better off (by between $40 and $296 per annum) on this hybrid concession model compared to the current arrangement in the Clarence postcodes of 7015, 7019, 7021 and 7170, the Tasman postcode of 7183, the Huon Valley postcode of 7109, the Brighton postcode of 7030 and the Sorell postcode of 7173.[21] These eight postcodes have just under 10% of all concession recipients on Tariff 31+41. Customers in nine postcodes are likely to be worse off (by $88 to $130 per annum) if the current concession was to be replaced by this hybrid model. These postcodes are: 7178, 7179, 7186 and 7187 in Tasman, 7190 in Glamorgan/Spring Bay, 7213 in the Northern Midlands, 7466 on the West Coast, 7214 in Break O'Day and 7000 in inner-city Hobart.[22] These nine postcodes have just over 3% of all concession recipients on Tariff 31+41.

MAP 14 | Impact of a hybrid concession ($160/annum + 20% off usage) on T31 + 41 customers based on average consumption in each postcode



Worse off

Out of the 52 postcodes where Tariff 31 and Tariff 31+41 customers are likely to be significantly worse off ($132 to $238 per annum for Tariff 31 and $88 to $130 for Tariff 31+41), 34 postcodes, or 65%, have a median household income that is lower than the Tasmanian average. Furthermore, 32, or 61.5%, of the postcodes have a higher proportion of families with a weekly income of less than $650 compared to the Tasmanian average.

21 Note that postcode 7183 (Tasman) has relatively few customers on Tariff 31+41.
22 Note that postcode 7466 (West Coast) has relatively few customers on Tariff 31+41.

In terms of unemployment, 21, or 40%, of the postcodes have an unemployment rate that is greater than the Tasmanian average. Five postcodes, 7467 on the West Coast, 7253 in George Town, 7187 in Tasman, 7213 in the Northern Midlands and 7248 in Launceston have an unemployment rate that is significantly higher than the state's average (at 7%).

On average, across all 52 postcodes, 70% of homes have one or two people living there. In the Tasman postcode of 7185, for example, 91% of homes comprise one or two people. Only 18% of the homes, on average across the 52 postcodes, have four or more people living in them. 14 of the 52, or 27%, of postcodes have a higher proportion of sole parents than the state's average.

20 postcodes, or 38%, have a higher proportion of dwellings owned with a mortgage compared to the state average. 13, or 25% of postcodes, have a greater proportion of dwellings being rented compared to the Tasmanian average. In the Launceston postcode of 7248, 45% of the homes are privately rented (compared to the state average of 27%).

The median age across these 52 postcodes is 47, which is higher than the state median of 42.

Table 14 below lists postcodes where customers are likely to be significantly worse off on this hybrid concession model as well as some key socio-economic indicators from the 2016 census.[23]

TABLE 14 | Postcodes and key socio-economic indicators for where customers are more likely to be significantly worse off on a hybrid concession model based on $160 per annum and 20% off usage charges

Postcode	Place	Median total household income ($/weekly)	Proportion of families with <$650/week /total count of families	Unemployment rate	Percentage of one parent family with children under 15 in occupied private dwellings vs. total of families and persons in families	Percentage of occupied private dwellings owned with a mortgage/all occupied private dwellings	Percentage of rented occupied dwellings/all occupied private dwellings	Median age of persons
7022	Clarence	$1,200	19.08%	6.2%	9.50%	40.92%	16.14%	47
7023	Clarence	$1,055	34.40%	4.7%	17.71%	36.43%	16.43%	55
7025	Clarence	$1,434	20.27%	4%	9.22%	38.95%	15.64%	47
7162	Kingborough	$1,286	17.79%	6.5%	12.83%	33.04%	11.45%	51
7186	Tasman	$784	29.41%	5.9%	13.21%	15.79%	11.84%	55
7209	Northern Midlands	$821	32.45%	2.9%	10.71%	23.84%	23.84%	50
7210	Northern Midlands	$767	39.18%	6%	14.18%	21.75%	31.39%	50
7216	Break O'Day	$745	39.95%	9.5%	15.55%	21.21%	26.29%	55
7262	Dorset	$957	28.62%	4%	13.77%	28.01%	25.25%	49
7300	Northern Midlands	$1,253	20.03%	5.3%	10.88%	44.07%	17.82%	43
7322	Waratah/Wynyard	$922	31.45%	7.6%	18.24%	30.82%	27.16%	45
7467	West Coast	$764	41.68%	17.2%	18.98%	22.29%	26.16%	45
7175	Sorell	$1,024	24.53%	6.1%	12.96%	32.84%	25.37%	44
7253	George Town	$784	37.46%	15.5%	21.07%	25.65%	36.71%	45
7000	Hobart	$1,450	21.70%	6.4%	15.58%	26.29%	42.58%	37

23 Note that socio-economic data has not been included for postcodes with less than 40 occupied private dwellings

Postcode	Place	Median total household income ($/weekly)	Proportion of families with <$650/week /total count of families	Unemployment rate	Percentage of one parent family with children under 15 in occupied private dwellings vs. total of families and persons in families	Percentage of occupied private dwellings owned with a mortgage/all occupied private dwellings	Percentage of rented occupied dwellings/all occupied private dwellings	Median age of persons
7178	Tasman	$794	26.88%	9.5%	9.21%	33.63%	9.73%	53
7179	Tasman	$942	31.88%	6.2%	4.90%	25.79%	14.47%	58
7187	Tasman	$866	38.30%	16.7%	0.00%	14.89%	21.28%	59
7190	Glamorgan/Spring Bay	$841	33.36%	5.1%	12.89%	23.16%	21.43%	57
7213	Northern Midlands	$640	46.88%	13.1%	19.05%	25.23%	26.13%	45
7005	Hobart	$1,458	20.54%	8.2%	9.51%	23.21%	33.67%	37
7008	Hobart	$1,354	22.52%	5.8%	16.39%	33.65%	31.61%	40
7010	Glenorchy	$943	31.91%	8.4%	26.08%	29.95%	37.25%	41
7011	Glenorchy	$1,024	27.44%	7.4%	25.19%	36.18%	30.78%	39
7027	Southern Midlands	$784	38.53%	9.9%	16.05%	41.32%	13.22%	51
7052	Kingborough	$1,443	15.58%	5.5%	17.17%	37.82%	21.64%	42
7053	Kingborough	$1,678	17.21%	5.2%	13.27%	36.50%	14.89%	46
7112	Huon Valley	$863	34.18%	7.2%	17.75%	31.05%	20.13%	47
7117	Huon Valley	$855	30.15%	5.8%	14.85%	29.13%	19.61%	54
7120	Southern Midlands	$796	36.04%	6.2%	16.31%	27.25%	20.84%	49
7172	Sorell	$1,127	24.60%	6.2%	16.28%	38.56%	22.59%	42
7176	Sorell	$1,187	20.00%	9%	10.00%	55.56%	5.56%	43
7184	Tasman	$754	38.02%	5.6%	19.70%	31.27%	18.89%	52
7185	Tasman	$833	35.71%	0%	30.30%	22.22%	33.33%	57
7212	Northern Midlands	$1,104	23.82%	5.9%	14.97%	32.86%	20.23%	47
7215	Break O'Day	$795	36.82%	9.3%	11.65%	25.76%	20.52%	53
7248	Launceston	$843	36.53%	13.2%	24.81%	25.73%	45.32%	33
7249	Launceston	$1,086	26.77%	7%	19.43%	33.43%	32.47%	39
7250	Launceston	$1,142	25.28%	6.6%	18.11%	33.38%	29.47%	41
7252	George Town	$1,260	20.35%	5.2%	10.35%	38.61%	10.79%	47
7259	Launceston	$1,104	30.61%	8.7%	15.52%	41.21%	10.91%	45
7263	Dorset	$813	32.06%	8.8%	15.03%	25.00%	24.58%	44
7265	Dorset	$782	35.29%	3.2%	11.29%	21.30%	30.56%	50
7267	Launceston	$1,290	18.44%	5.9%	10.86%	52.14%	7.14%	45
7268	Launceston	$1,214	22.99%	9.2%	11.07%	39.32%	13.02%	45
7275	West Tamar	$1,021	24.23%	7.1%	13.74%	37.59%	15.46%	48
7292	Meander Valley	$1,226	22.66%	3.4%	7.27%	37.33%	20.28%	43
7307	Latrobe	$1,067	25.23%	6.4%	14.55%	31.60%	24.07%	47
7310	Devonport	$967	30.41%	8.4%	20.07%	30.36%	30.96%	43
7331	Circular Head	$1,010	29.69%	4.9%	14.69%	27.19%	23.96%	49
7466	West Coast	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7119	Southern Midlands	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Tasmania	**$1,100**	**26.30%**	**7%**	**17.40%**	**33.50%**	**27.30%**	**42**

Better off

Out of the 10 postcodes where Tariff 31 and Tariff 31+41 customers are likely to be better off on this hybrid concession model ($79 to $238 per annum for Tariff 31 and $40 to $296 for Tariff 31+41), 4 postcodes, or 40%, have a median household income that is lower than the Tasmanian average. Furthermore, 3, or 30%, of the postcodes have a higher proportion of families with a weekly income of less than $650 compared to the Tasmanian average.

In terms of unemployment, 3, or 30%, of the postcodes have an unemployment rate that is greater than the Tasmanian average. However, none of these postcodes have significantly higher unemployment rates compared to the state average (7%). The Clarence postcode of 7019 is the postcode with the highest unemployment rate at 9.4%.

On average, across all 10 postcodes, 62% of homes have one or two people living there. 21% of the homes, on average across the 10 postcodes, have four or more people living in them. In the Clarence postcode of 7170, for example, 31% of homes comprise four or more people. 4 of the 10 postcodes, or 40%, have a higher proportion of sole parents than the state's average. In the Clarence postcode of 7019, for example, 33.4% of families are one parent families compared to a state average of 17.4%.

All 10 postcodes have a higher proportion of dwellings owned with a mortgage compared to the state average. In the outer suburban Clarence postcode of 7170, for example, over 50% of dwellings are owned with a mortgage. By comparison, only 2 out of 10 postcodes have a greater proportion of dwellings being rented compared to the Tasmanian average.

The median age across these 10 postcodes is 42.7, which is just slightly higher than the state median of 42.

Table 15 below lists postcodes where customers are likely to be better off on this hybrid concession model as well as some key socio-economic indicators from the 2016 census.[24]

TABLE 15 | Postcodes and key socio-economic indicators for where customers are more likely to be better off on a hybrid concession model based on $160 per annum and 20% off usage charges

Postcode	Place	Median total household income ($/weekly)	Proportion of families with <$650/ week /total count of families	Unemployment rate	Percentage of one parent family with children under 15 in occupied private dwellings vs. total of families and persons in families	Percentage of occupied private dwellings owned with a mortgage/ all occupied private dwellings	Percentage of rented occupied dwellings/all occupied private dwellings	Median age of persons
7306	Kentish	$992	28.47%	6.4%	12.25%	34.24%	16.68%	47
7174	Sorell	$1,125	22.64%	4%	19.23%	40.00%	6.67%	43
7015	Clarence	$1,366	19.90%	4.2%	14.82%	35.27%	20.41%	47
7019	Clarence	$964	28.52%	9.4%	33.44%	36.19%	41.26%	32
7021	Clarence	$1,562	14.47%	2.7%	16.11%	45.18%	12.18%	42
7170	Clarence	$1,960	8.84%	3.6%	9.64%	50.84%	6.85%	43
7173	Sorell	$1,100	25.86%	7.5%	19.81%	46.41%	18.14%	43
7030	Brighton	$1,042	26.56%	8.1%	25.50%	38.53%	32.24%	35
7109	Huon Valley	$1,112	24.98%	6%	13.55%	40.18%	18.16%	43
7183	Tasman	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tasmania		**$1,100**	**26.30%**	**7%**	**17.40%**	**33.50%**	**27.30%**	**42**

24 Note that socio-economic data has not been included for postcodes with less than 40 occupied private dwellings

Table 16 below shows that postcodes where customers are more likely to be worse off on this hybrid model have a lower average income, a higher proportion of families with weekly income below $650, a higher average unemployment rate and a higher median age compared to the postcodes where customers are more likely to be better off. The 'better off' postcodes, however, have a higher proportion of one parent families as well as proportion of dwellings that are owned with a mortgage. Both groups have a relatively low proportion of renters (on average) compared to the state average. This indicates that the 'family cohort' is prevalent in the 'better off' group which can also explain their higher consumption. The 'elderly/pensioner cohort', on the other hand, is prevalent in the 'worse off' group.

TABLE 16 | Postcodes and key socio-economic indicators for where customers are more likely to be better off on a hybrid concession model based on $160 per annum and 20% off usage charges

	Median total household income ($/ weekly)	Proportion of families with <$650/ week / total count of families	Unemploy-ment rate	Percentage of one parent family with children under 15 in occupied private dwellings vs. total of families and persons in families	Percentage of occupied private dwellings owned with a mortgage/ all occupied private dwellings	Percentage of rented occupied dwellings/ all occupied private dwellings	Median age of persons
Worse off (average)	$1,023	28.98%	7.2%	14.85%	31.42%	22.62%	47
Better off (average)	$1,247	22.25%	5.7%	18.26%	40.76%	19.18%	42
Tasmania	$1,100	26.30%	7%	17.40%	33.50%	27.30%	42

6. Budget implications

As of April 2019, there are 88,240 concession card holders that receive the Annual Electricity Concession in Tasmania.[25] Assuming that all these customers receive the full concession, the Annual Electricity Concession costs the Tasmanian Government $44,472,960 per annum. We do note, however, that the concession is GST inclusive, so the State Government would get the GST component back.[26]

As the majority of customers are on Tariff 31 or the combination Tariff 31+41, and we have obtained average consumption levels as well as customer numbers for these two tariff types, this section compares the cost of the current concession to a hybrid concession for customers on these tariffs.

Tariff 31 – Hybrid concession of $160 and 20%

There are 4,383 Tariff 31 customers currently receiving the Annual Electricity Concession. This means that the concession payments currently provided to Tariff 31 customers cost the Tasmanian Government approximately $2,209,000.

> 4,383 concession recipients X $504 in annual concession = $2,209,032

If these customers received an annual flat concession of $160 towards the fixed supply charge as well as 20% off consumption, however, the annual concession cost for concession recipients on Tariff 31 would be approximately $1,648,000.

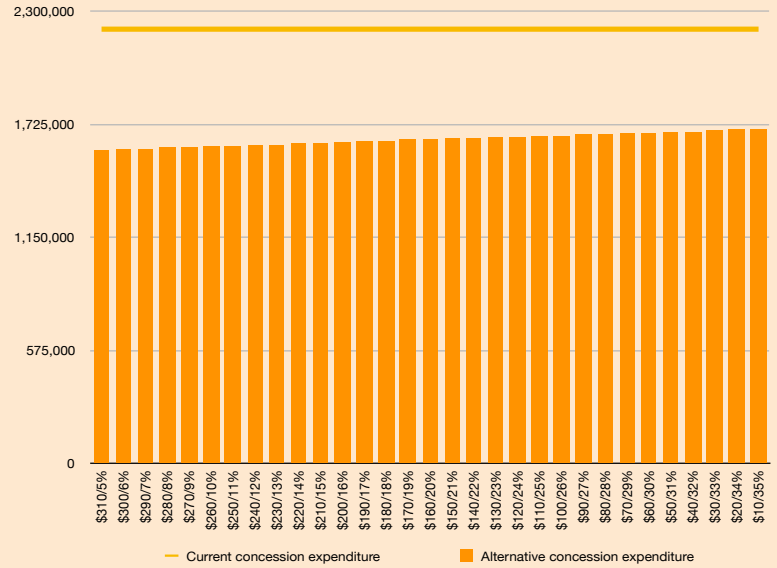
> 4,383 concession recipients on T31 use a total of 17,906,780 kWh/annum at 26.431 c/kWh including GST.
> *17,906,780 kWh X 26.431 c/kWh = $4,732,941*
>
> They receive a 20% discount off the usage charges, so the percentage-based concession off usage charges will cost $946,588 per annum.
>
> In addition, each concession recipients receive a flat annual concession of $160 off their fixed supply charges.
> *4,383 concession recipients X $160 = $701,280*
>
> The total cost of this hybrid concession for T31 customers would therefore be $1,647,868.
> *Percentage concession off usage $946,588 + flat supply charge concession $701,280 = $1,647,868*

On this hybrid model, the Tasmanian Government would save approximately $561,000 per annum in concession payments to Tariff 31 customers.

Chart 20 below shows that all of the hybrid concession combinations (from $310/5% to $10/35%) would result in lower concession expenditure for Tariff 31 customers compared to current expenditure.

25 There are an additional 4,019 recipients of the Life Support Concession and 506 recipients of the Medical Cooling and Heating Concession.
26 In Tasmania, the Annual Electricity Concession of $502 is inclusive of GST and applied to bills inclusive of GST.

CHART 20 | Annual concession budget for T31 customers on a hybrid concession compared to the current concession.



Current concession payments to T31 customers of $2,209,032 – hybrid concession payments to T31 customers of $1,647,868 = $561,164

Tariff 31+41 – Hybrid concession of $160 and 20%

There are 68,759 Tariff 31+41 customers currently receiving the Annual Electricity Concession. This means that the concession payments currently provided to Tariff 31+41 customers costs the Tasmanian Government approximately $34,655,000.

68,759 concession recipients X $504 in annual concession = $34,654,536

If these customers received an annual flat concession of $160 towards the fixed supply charge as well as 20% off consumption, however, the annual concession cost for concession recipients on Tariff 31+41 would be approximately $33,490,000.

68,759 concession recipients on T31+41 use a total of 527,054,406 kWh/annum. If we assume that 45% of total consumption is T31 and 55% is T41, there are 237,174,483 kWh at 26.431 c/kWh including GST and 289,879,923 kWh at 17.164 c/kWh including GST.
(237,174,483 kWh X 26.431 c/kWh) + (289,879,923 kWh X 17.164 c/kWh) = $112,442,577

They receive a 20% discount off the usage charges, so the percentage-based concession off usage charges will cost $22,488,515 per annum.

In addition, each concession recipients receive a flat annual concession of $160 off their fixed supply charges.
68,759 concession recipients X $160 = $11,001,440

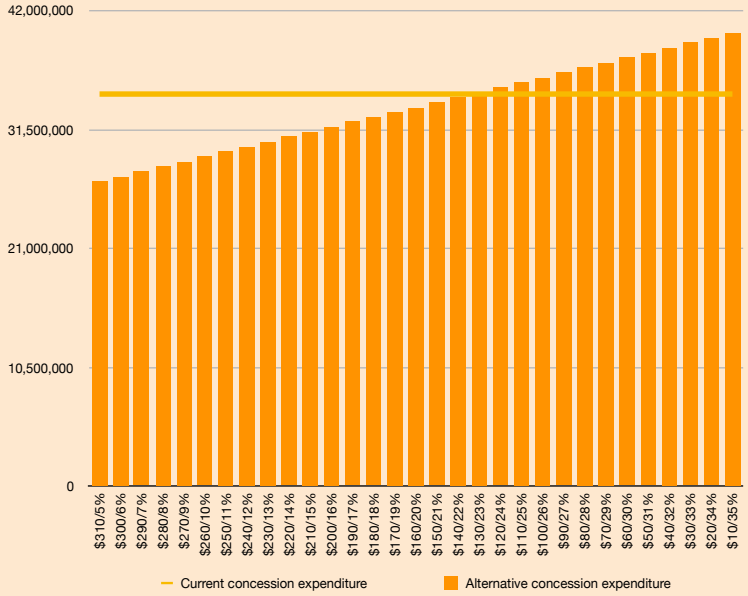
The total cost of this hybrid concession for T31+41 customers would therefore be $33,489,955.
Percentage concession off usage $22,488,515 + flat supply charge concession $11,001,440 = $33,489,955

On this hybrid model, the Tasmanian Government would save approximately $1,165,000 per annum in concession payments to Tariff 31+41 customers.

Current concession payments to T31+41 customers of $34,654,536 – hybrid concession payments to T31+41 customers of $33,489,955 = $1,164,581

Chart 21 below shows that hybrid concession combinations of up to $140/22% would result in lower concession expenditure for Tariff 31+41 customers compared to current expenditure.

CHART 21 | Annual concession budget for T31+41 customers on a hybrid concession compared to the current concession.



As Tariff 31 customers typically have lower consumption than Tariff 31+41 customers, they are more likely to be disadvantaged by a move from a flat concession amount to a hybrid version. This could potentially be addressed through introducing different hybrid models for different metering types. The below assesses the impact on a Tariff 31 hybrid concession model consisting of a $210 flat supply charge concession and a 20% concession off usage charges, and a Tariff 31+41 concession model consisting of a $100 flat supply charge concession and a 25% concession off usage charges. We have estimated that these concession levels for 4,383 concession recipients on Tariff 31 and 68,759 concession recipients on Tariff 31+41 will not have a negative impact on the Tasmanian Government's concession budget compared to the current payments.[27] Table 17 below outlines the percentage of concession recipients (on Tariff 31 and Tariff 31+41) that are likely to be significantly worse off, worse off, unchanged, better off and significantly better off on this hybrid version as well as the indicative changes to annual bills (these amounts vary between tariff types).

TABLE 17 | Proportional impact on concession recipients if changing to hybrid concession models based on $210 per annum and 20% off usage charges for Tariff 31 and $100 per annum and 25% off usage charges for Tariff 31+41

	Tariff 31	Tariff 31+41	Total	Tariff 31	Tariff 31+41
	% of concession recipients	% of concession recipients	% of concession recipients	Approx. $ per annum	Approx. $ per annum
Significantly worse off	3.57	2.99	6.56	$82 to $135	$84 to $137
Worse off	1.57	28.97	30.54	$29 to $82	$30 to $84
No change	0.53	37.35	37.88	$29 to -$24	$30 to -$23
Better off	0.23	18.66	18.89	$24 to $76	$23 to $130
Significantly better off	0.09	6.04	6.13	$129 to $288	$130 to $396
	5.99	**94.01**	**100**		

27 Compared the current expenditure outlined above, these changes would save the Tasmanian Government approximately $10,000 per annum. The expenditure on the T31+41 concession would increase by approximately $332,000 while the expenditure on the T31 concession would decrease by $342,000.

Table 18 below shows that the difference in key socio-economic indicators is similar for those that are likely to be significantly worse off and significantly better off under this model compared to the model above. Again, the households likely to benefit from a change away from the current concession model to this hybrid model, tend to earn more, be younger, more likely to have a mortgage and less likely unemployed.

TABLE 18 | Key socio-economic indicators (averages) for postcodes where customers are more likely to be significantly better off versus where customers are more likely to be significantly worse off on a hybrid concession model based on $210 per annum and 20% off usage charges for Tariff 31 and $100 per annum and 25% off usage charges for Tariff 31+41

	Median total household income ($/ weekly)	Proportion of families with <$650/ week /total count of families	Unem-ployment rate	Percentage of one parent family with children under 15 in occupied private dwellings vs. total of families and persons in families	Percentage of occupied private dwellings owned with a mortgage/ all occupied private dwellings	Percentage of rented occupied dwellings/ all occupied private dwellings	Median age of persons
Significantly worse off (average)	$1,017	29.07%	8.3%	14.95%	32.67%	21.83%	46.5
Significantly better off (average)	$1,231	21.60%	5.0%	17.94%	41.23%	18.62%	43
Tasmania	$1,100	26.30%	7%	17.40%	33.50%	27.30%	42

7. Summary

The relative value of the flat concession payment is greatest for households with lower bills, due to lower energy consumption and/or own generation (e.g. rooftop solar).

This report has demonstrated that customers more likely to benefit from a hybrid concession model are typically on Tariff 31+41, have higher than average consumption and are likely to live in areas characterised by a higher than average income, a high proportion of dwellings being owned with a mortgage, the median age being similar to the Tasmanian median and unemployment being lower. By contrast, customers more likely to be disadvantaged are typically on Tariff 31 (or Tariff 31+41 but with very low consumption), tend to live in areas where the average income is below average, unemployment is greater, and the median age is higher.

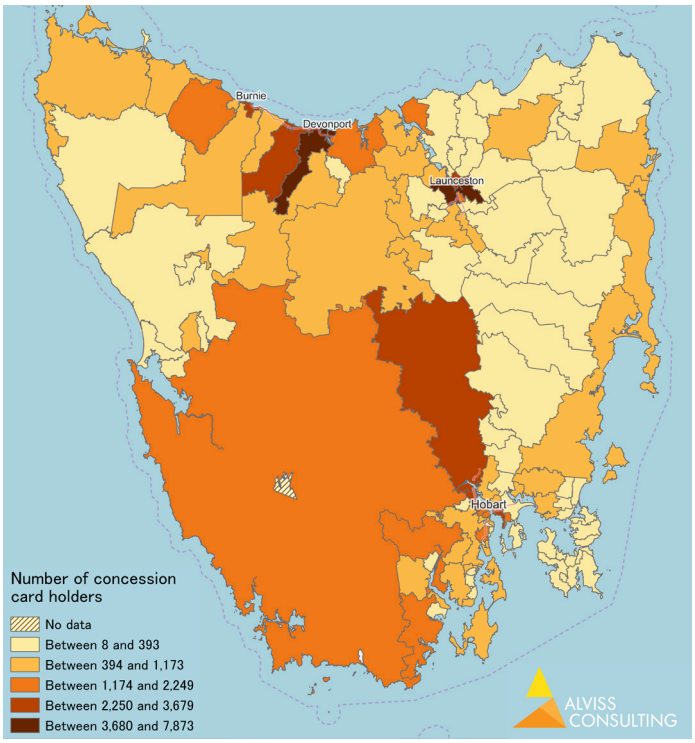
Prior to considering major changes to the concession framework, it is important to consider the scheme's objectives. Is the energy concession merely a cost reduction tool for households identified as low income, irrespective of the actual costs they are facing? If so, the concession scheme is a bill assistance scheme that recognises that low income households are likely to spend a higher proportion of their income on essential services compared to non-low-income households. The aim of the concession would then be to make energy more affordable to low-income households because their income is low compared to other households. Alternatively, the concession scheme is a tool to ensure that households have access to affordable energy. The aim of the concession would then be to make energy more affordable to households that are struggling to pay their bills because of the size of the bill compared to their income.

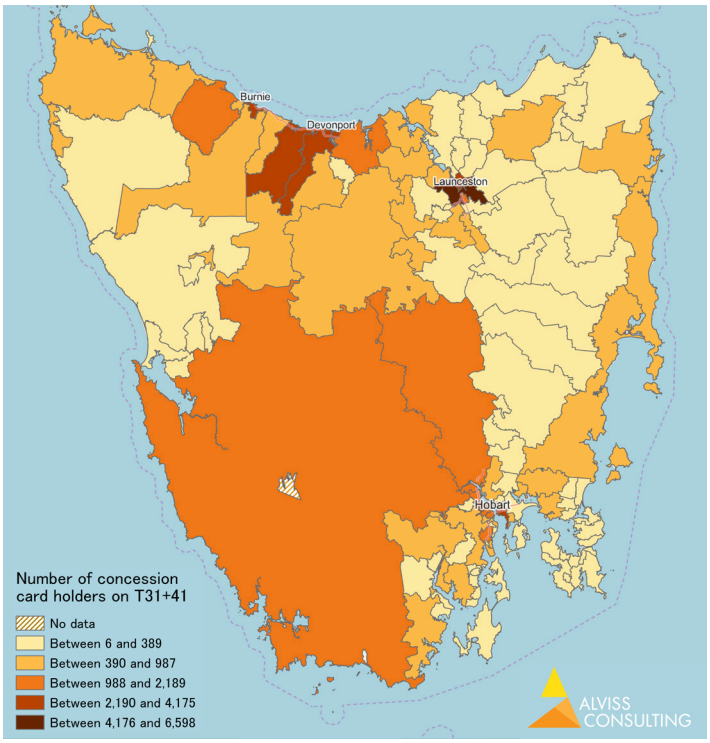
As the cost of electricity has increased significantly in recent years, households with higher consumption needs and modest income levels may experience energy related hardship more frequently to those on lower incomes and lower consumption. While there are few policy documents highlighting the rationale behind concession arrangements, we note that the Tasmanian Government appears to take a broader view on the role of concessions. Its website states: "The discounts and concessions aim to achieve a balance in the standard of living and access to essential services for all members of the Tasmanian community".[28]

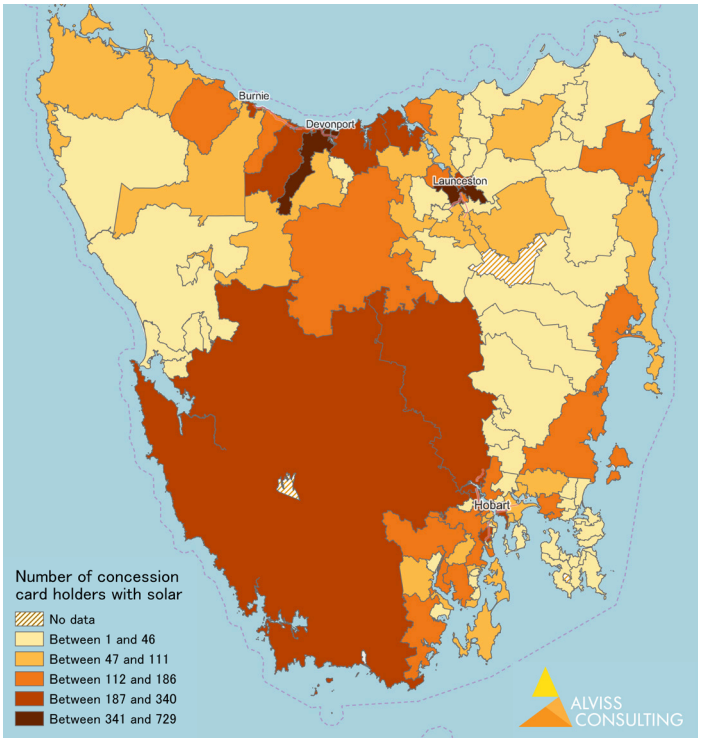
In order to assess whether a move from the current concession model to a hybrid concession model is warranted, research into customer groups experiencing energy affordability issues would be required. As energy affordability issues are both income and expenditure related, a concession model that reduces benefits for some low income/low consumption households to assist higher income/higher consumption households may be warranted if the higher income/higher consumption households face greater energy affordability issues compared to the other group. Such research could be conducted with data on payment extensions and disconnections for non-payment from Aurora Energy.

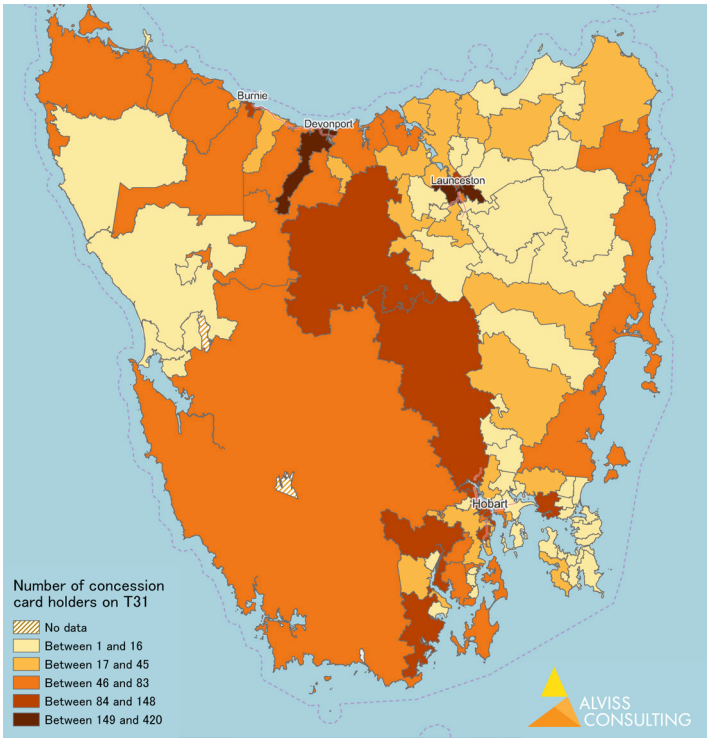
28 See http://www.concessions.tas.gov.au

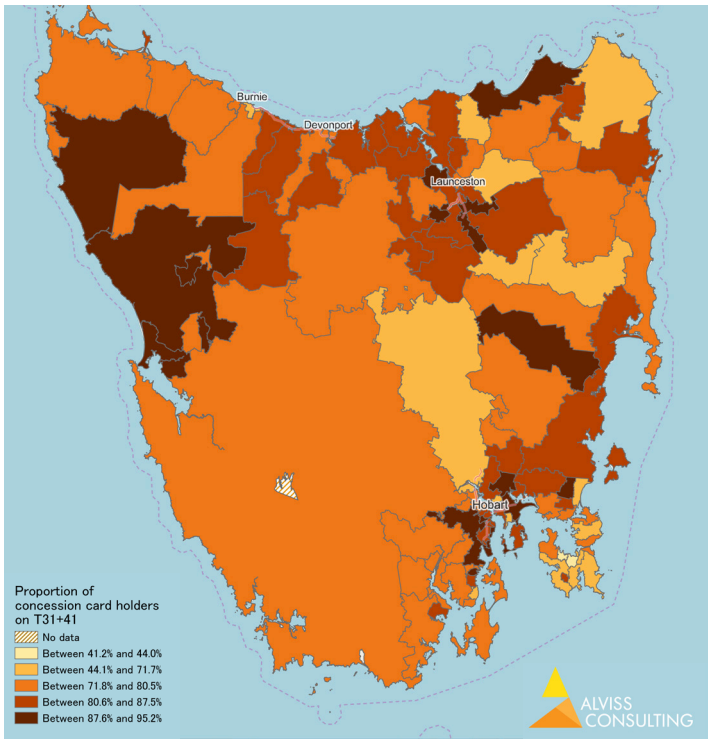
Appendix

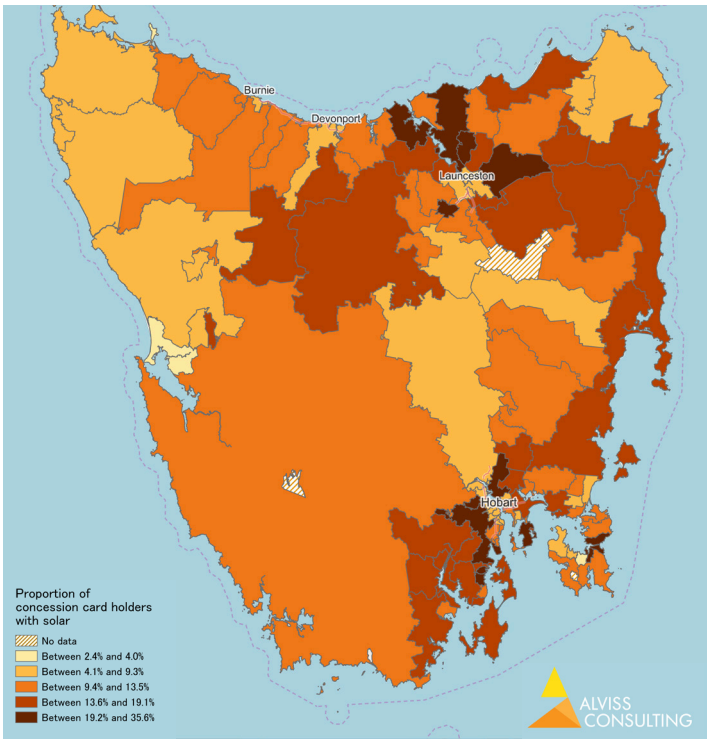

Burnie
Devonport
Launceston
Hobart
Number of concession card holders
No data
Between 8 and 393
Between 394 and 1,173
Between 1,174 and 2,249
Between 2,250 and 3,679
Between 3,680 and 7,873
ALVISS CONSULTING

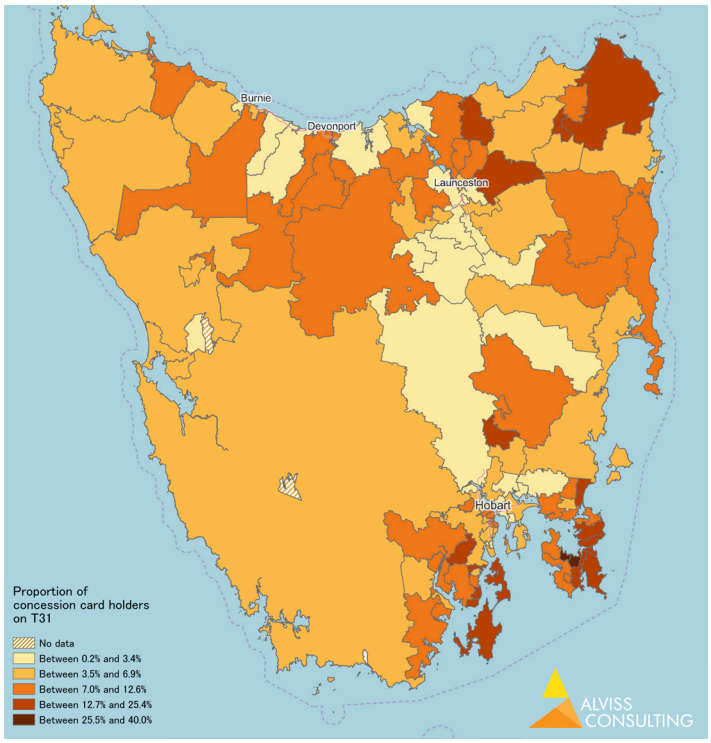

Burnie
Devonport
Launceston
Hobart
Number of concession card holders on T31+41
No data
Between 6 and 389
Between 390 and 987
Between 988 and 2,189
Between 2,190 and 4,175
Between 4,176 and 6,598
ALVISS CONSULTING

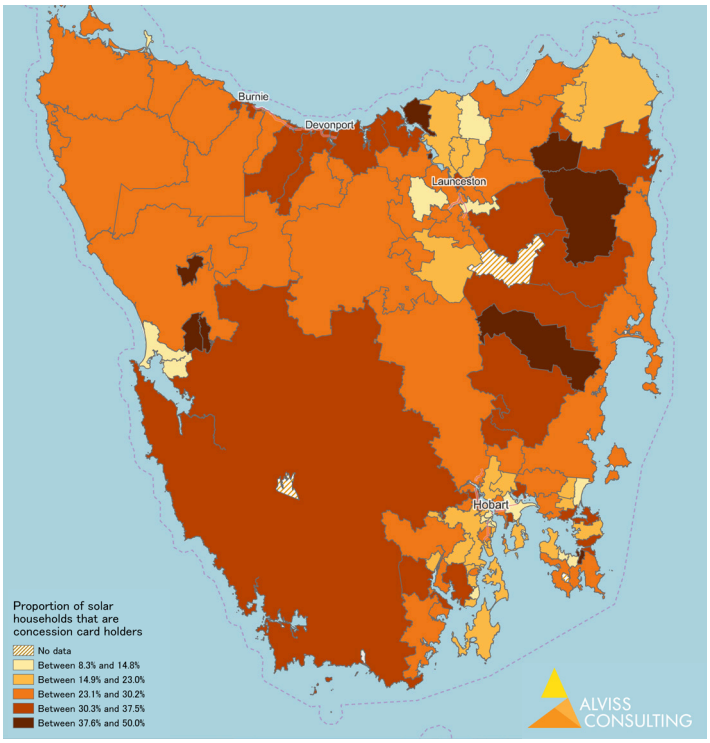

Burnie
Devonport
Launceston
Hobart
Number of concession card holders with solar
No data
Between 1 and 46
Between 47 and 111
Between 112 and 186
Between 187 and 340
Between 341 and 729
ALVISS CONSULTING

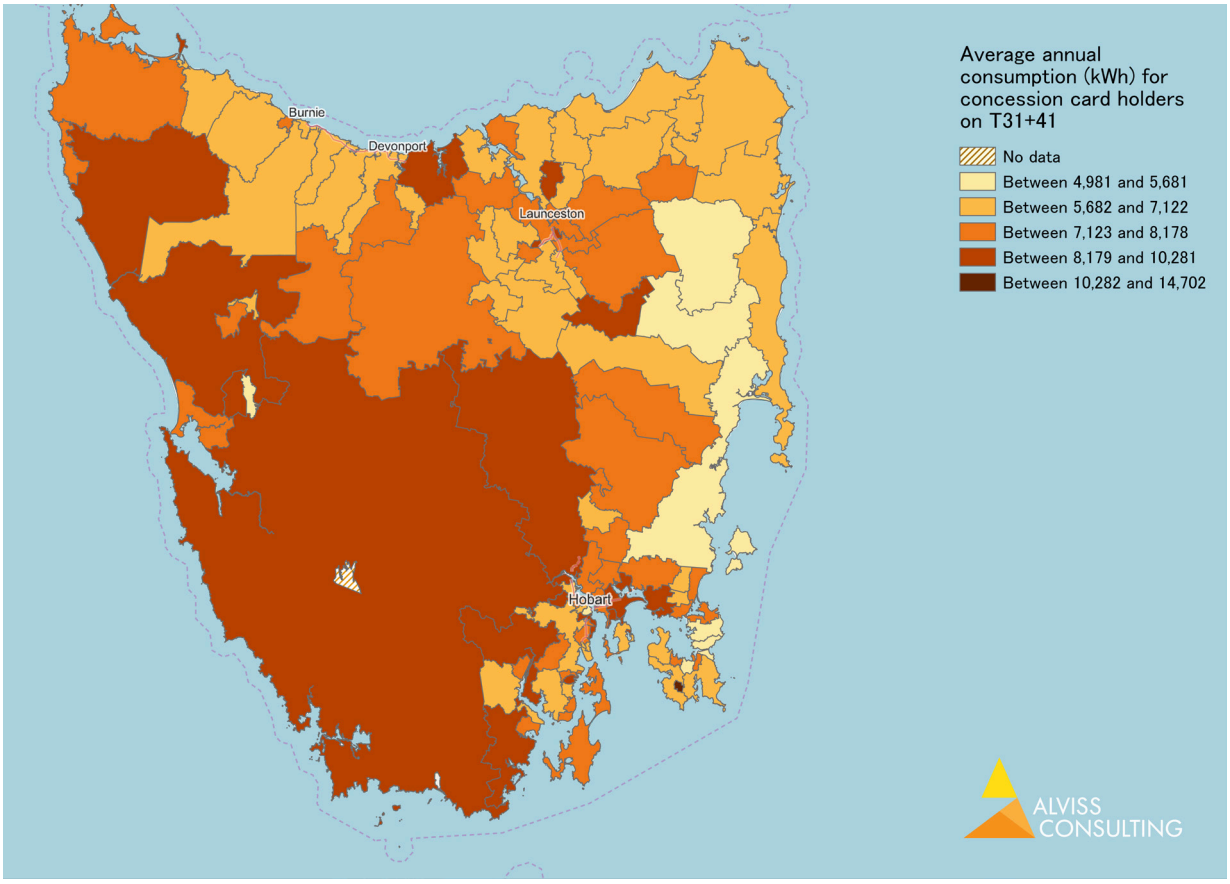

Burnie
Devonport
Launceston
Hobart
Number of concession card holders on T31
No data
Between 1 and 16
Between 17 and 45
Between 46 and 83
Between 84 and 148
Between 149 and 420
ALVISS CONSULTING

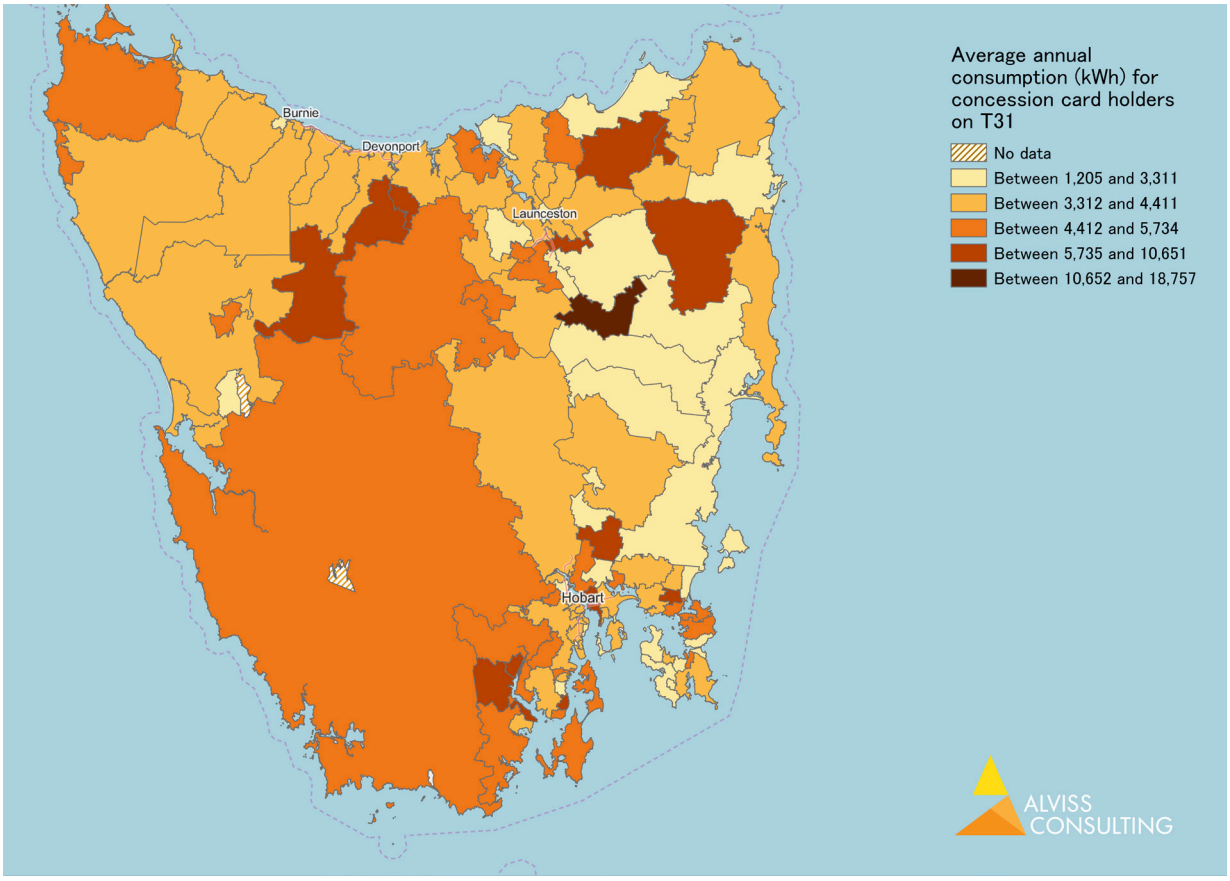

Burnie
Devonport
Launceston
Hobart
Proportion of concession card holders on T31+41
No data
Between 41.2% and 44.0%
Between 44.1% and 71.7%
Between 71.8% and 80.5%
Between 80.6% and 87.5%
Between 87.6% and 95.2%
ALVISS CONSULTING

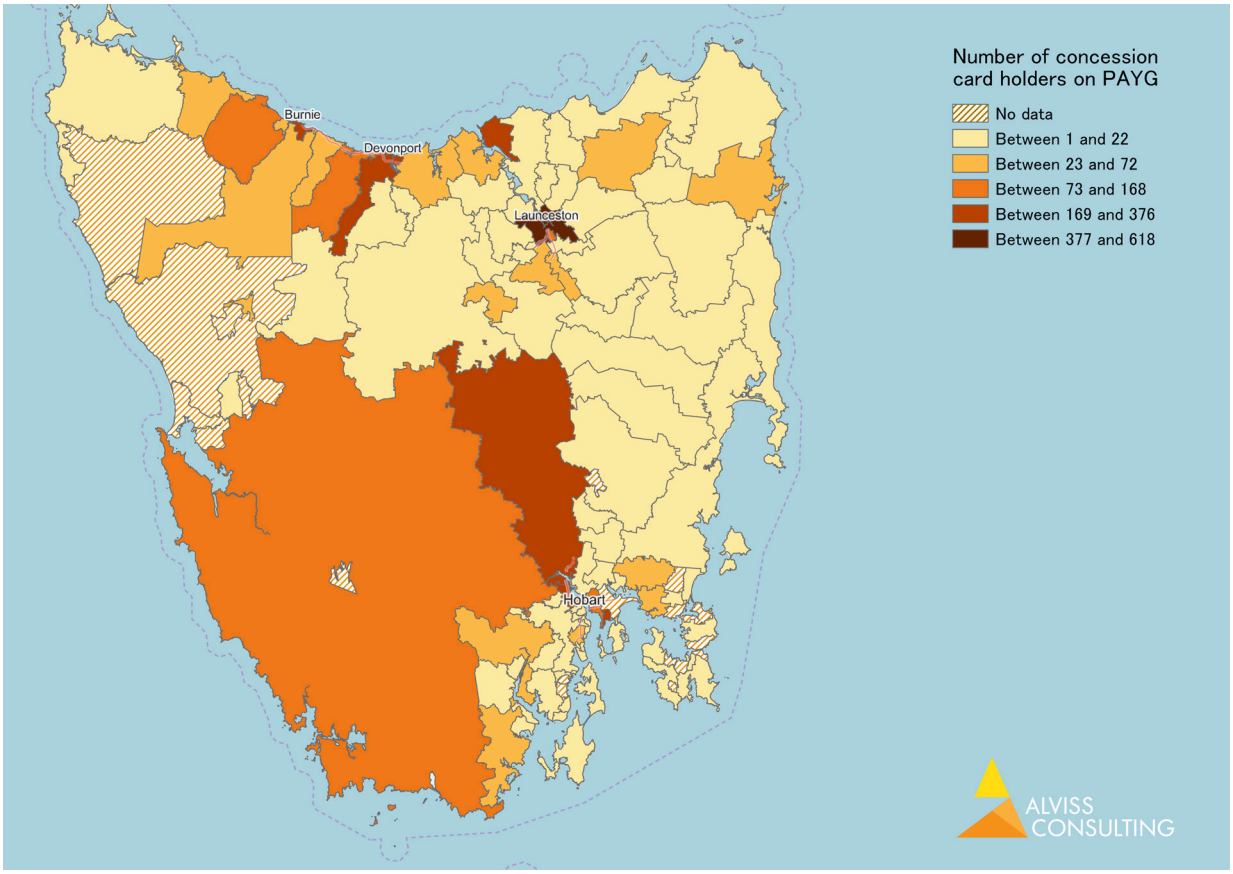

Burnie
Devonport
Launceston
Hobart
Proportion of concession card holders with solar
No data
Between 2.4% and 4.0%
Between 4.1% and 9.3%
Between 9.4% and 13.5%
Between 13.6% and 19.1%
Between 19.2% and 35.6%
ALVISS CONSULTING

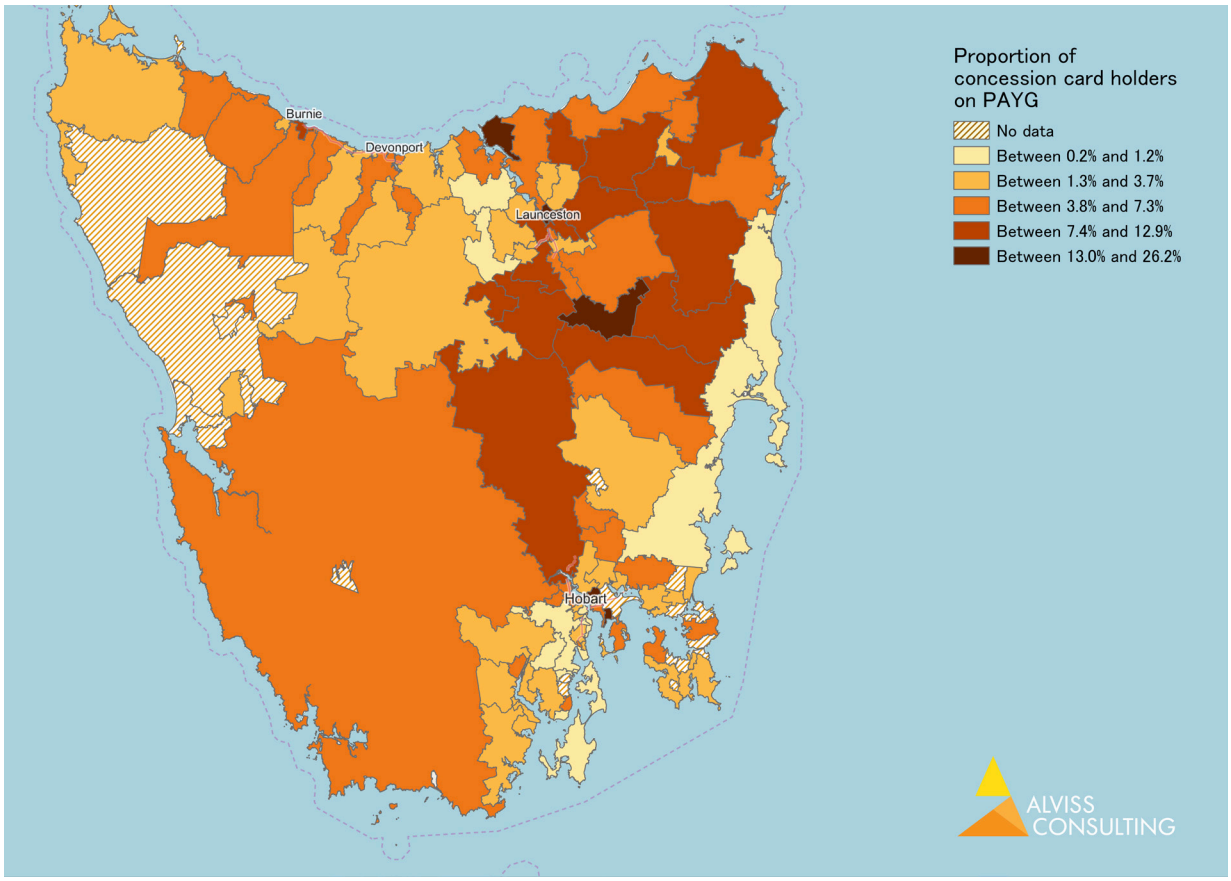

Burnie
Devonport
Launceston
Hobart
Proportion of concession card holders on T31
No data
Between 0.2% and 3.4%
Between 3.5% and 6.9%
Between 7.0% and 12.6%
Between 12.7% and 25.4%
Between 25.5% and 40.0%
ALVISS CONSULTING

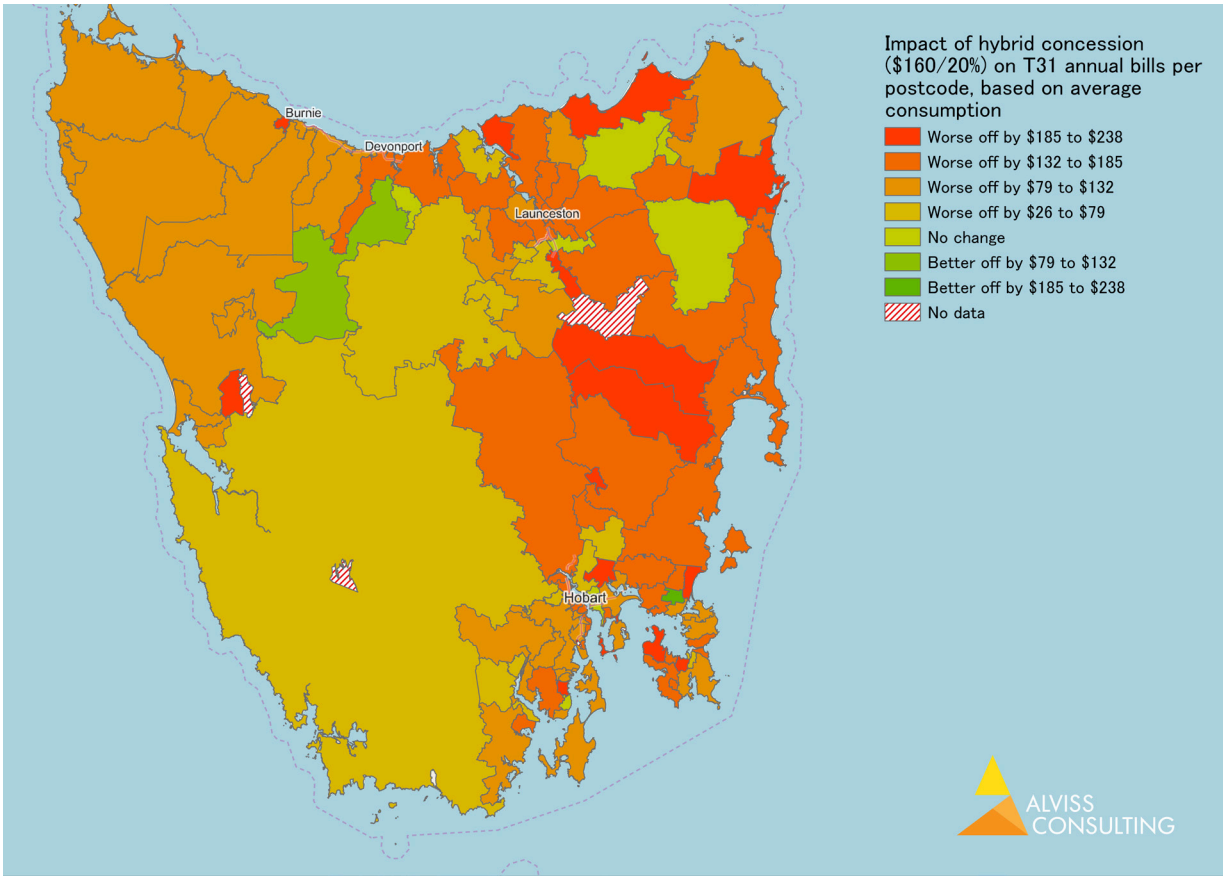

Burnie
Devonport
Launceston
Hobart
Proportion of solar households that are concession card holders
No data
Between 8.3% and 14.8%
Between 14.9% and 23.0%
Between 23.1% and 30.2%
Between 30.3% and 37.5%
Between 37.6% and 50.0%
ALVISS CONSULTING

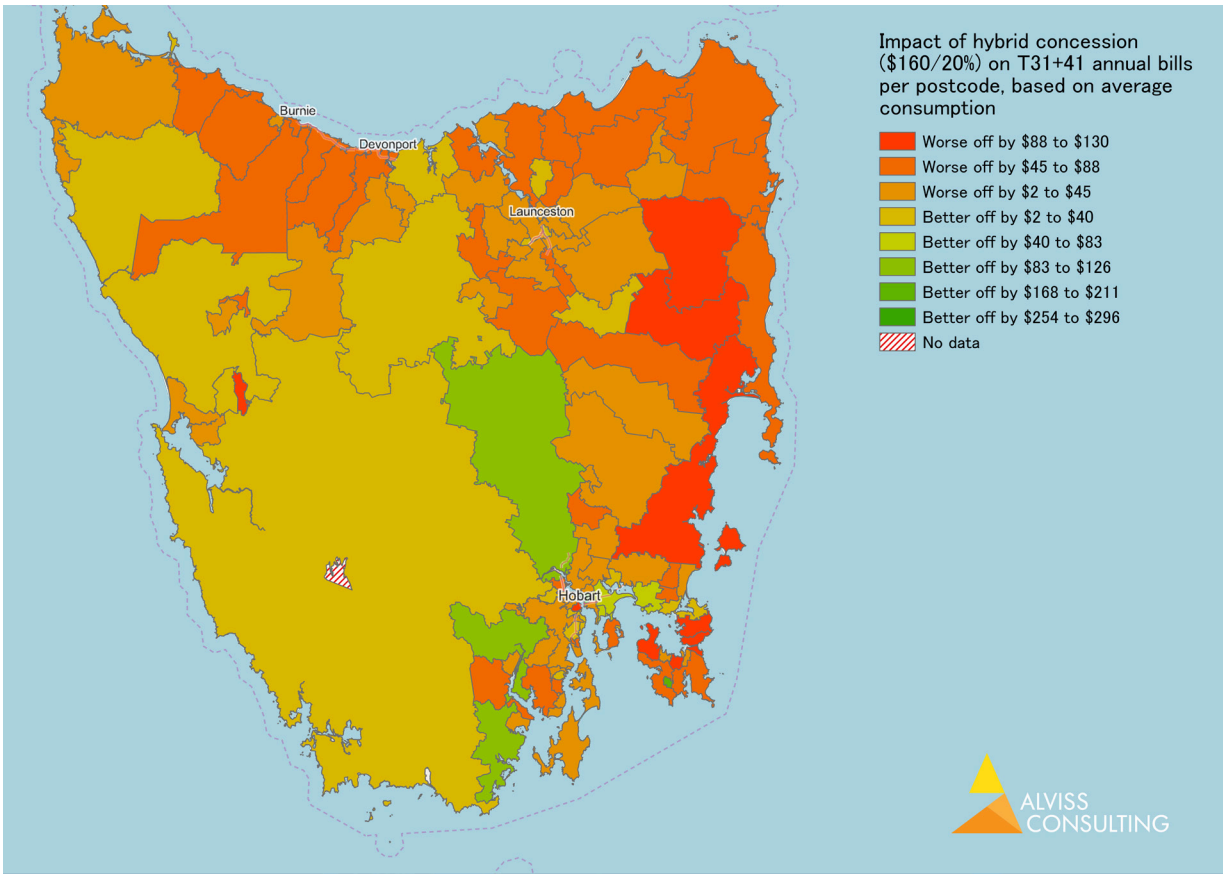

Burnie
Devonport
Launceston
Hobart
Average annual consumption (kWh) for concession card holders on T31+41
No data
Between 4,981 and 5,681
Between 5,682 and 7,122
Between 7,123 and 8,178
Between 8,179 and 10,281
Between 10,282 and 14,702
ALVISS CONSULTING


Burnie
Devonport
Launceston
Hobart
Average annual consumption (kWh) for concession card holders on T31
No data
Between 1,205 and 3,311
Between 3,312 and 4,411
Between 4,412 and 5,734
Between 5,735 and 10,651
Between 10,652 and 18,757
ALVISS CONSULTING


Number of concession card holders on PAYG
No data
Between 1 and 22
Between 23 and 72
Between 73 and 168
Between 169 and 376
Between 377 and 618
Burnie
Devonport
Launceston
Hobart
ALVISS CONSULTING


Proportion of concession card holders on PAYG
No data
Between 0.2% and 1.2%
Between 1.3% and 3.7%
Between 3.8% and 7.3%
Between 7.4% and 12.9%
Between 13.0% and 26.2%
Burnie
Devonport
Launceston
Hobart
ALVISS CONSULTING


Impact of hybrid concession ($160/20%) on T31 annual bills per postcode, based on average consumption
Worse off by $185 to $238
Worse off by $132 to $185
Worse off by $79 to $132
Worse off by $26 to $79
No change
Better off by $79 to $132
Better off by $185 to $238
No data
Burnie
Devonport
Launceston
Hobart
ALVISS CONSULTING


Impact of hybrid concession ($160/20%) on T31+41 annual bills per postcode, based on average consumption
Worse off by $88 to $130
Worse off by $45 to $88
Worse off by $2 to $45
Better off by $2 to $40
Better off by $40 to $83
Better off by $83 to $126
Better off by $168 to $211
Better off by $254 to $296
No data
Burnie
Devonport
Launceston
Hobart
ALVISS CONSULTING