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19th June 2018

To the department of Environment, Land, Water and Planning,

RE: Submission regarding the draft Victorian Energy Efficiency Target Regulations 2018 ("Draft Regulations")

I write to you today in relation to the Draft Regulations that were presented at the information session held on Thursday 24th May, and further discussions held on Tuesday 12th June with the department representatives.

The proposed changes to the existing regulations, in so far as they relate to water heating activities, came as a complete surprise to us. This is in light of the positive feedback we have regularly received in recent years in relation to the existing incentive scheme from both our customers (particularly those in regional Victoria) and from Victorian Government representatives.

For the reasons set out below, we consider the approach taken by the Draft Regulations to water heating activities to be a major setback for the Victorian Energy Upgrades program. We believe the proposed changes will significantly disadvantage regional Victorian residents who will find it even more difficult to combat increasing energy costs. Not only will the proposed changes fail to promote greater energy efficiencies, they will have a disastrous effect on our business and, in turn, our employees and the substantial network of regional subcontractors that support our Heat Pump installations.

Since the proposed changes have been released for public comment, we have been, with the assistance of our experienced engineering team, trying to understand the rationale behind the changes made to the greenhouse gas equation. We are thankful for the additional clarification and data sources provided by the department. We have, however, found a few gaps in the data references and their alignment with the relevant standards and other commonly used industry data (as we explain in detail in this submission).

The purpose of this submission is to request you contemplate the potential implications highlighted in our feedback and reconsider the Draft Regulations in so far as they relate to water heating activities.

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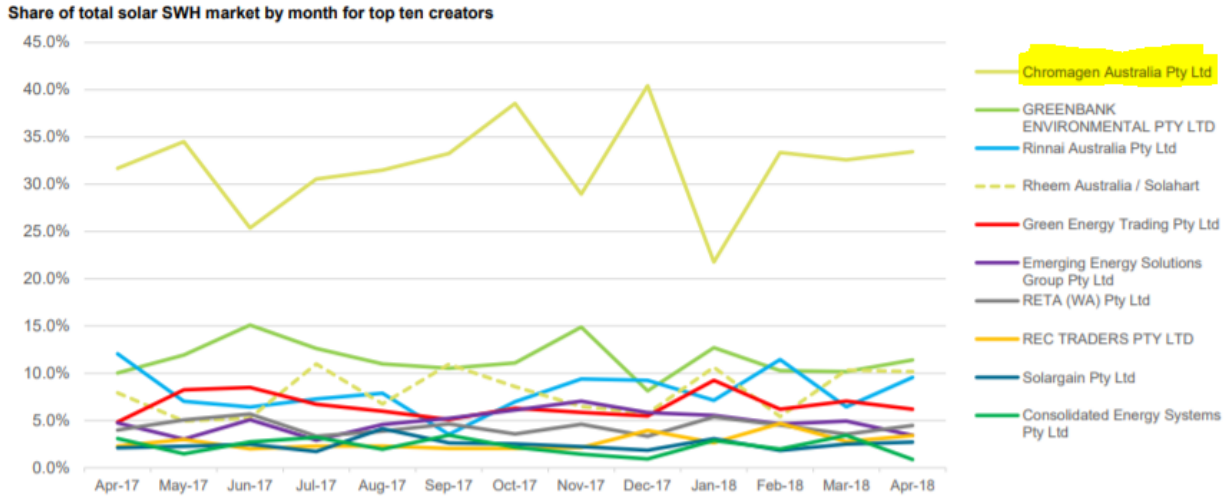
About Chromagen

Our company, Chromagen, has been in operations since 2004 and is the largest supplier of efficient hot water systems in Victoria and nationwide, with an installed base of over 380,000 systems. We currently hold offices in most of the major capitals, with our head office, located in Dingley Village Victoria.

Since our inception, we have been significantly contributing to the Victorian economy via supply and installation of energy efficient hot water systems, along with the employment of over 80 staff and hundreds of sub-contractors, many of which come from low socio-economic regions of Victoria.

We supply and install to most of the top 20 new home builders and are the largest creator of hot water Small-scale Technology Certificates ("STCs") in Victoria and nationwide (refer below).



Since January 2017 we have been the biggest contributor to the VEET Scheme under the water heating category, creating around 60%-70% of all water heating VEECs (refer below table).

Table: VEECS created under the Water Heating Activities (1A-1F)

Number of VEECs created	FY16	FY17	YTD18
Chromagen	96,758	248,618	80,908
Others	226,951	113,393	39,213
Total Water Heating Activity	323,709	362,011	120,121
Chromagen Percentage	**30%**	**69%**	**67%**

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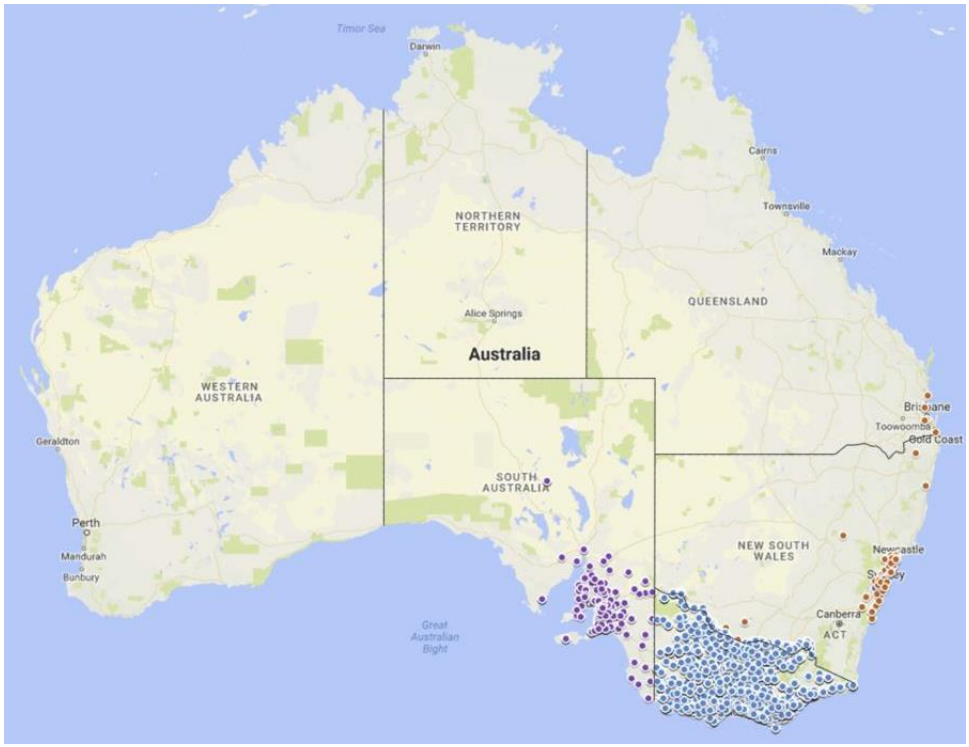
Chromagen & the VEET Scheme

In late 2015, we launched the promotion of an affordable replacement for existing electric water heaters with our highly efficient air sourced Heat Pump (reducing energy usage by up to 65%) in Victoria. The affordability of our heat pump offering was not only a result of the robust VEET and RET schemes, but also a result of our high effective and low-cost operational model across the entire chain.

The demand for our offering was overwhelming from the very start, and since commencement we have been able to assist over 10,000 Victorian home owners, predominantly in regional areas, upgrade their old electric system to a much more efficient water heater.

The map below shows the distribution of our replacements within Victoria and nationwide since January 2016:



With the installation of these 10,000 units, the same number of energy hungry electric water heaters have been retired, resulting in the displacement of approximately 420,000 megawatt hours over their useful lifetime. That equates to a reduction of over 490,000 tonnes of CO_2.

In addition, Chromagen has also provided ongoing support and increased work for many regional small businesses through the creation of new installation work.

Helping our Victorian customers reduce their energy consumption, save on electricity costs and live more efficiently is something we are very proud of. Our mission is however, far from over with so many Victorians still using inefficient electric storage tanks to heat their water.

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Potential implications of Draft Regulations

If the Draft Regulations were to take effect as presently drafted, we would no longer be able to offer an 'affordable' (up to $199) upgrade to those customers wishing to install a highly energy efficient water heater.

We have sent a separate confidential copy of our installation Profit and Loss statement directly from our CFO to Emma Jacobs (Manager, Victorian Energy Upgrades) showing that even at the current number of applicable VEECs for Heat Pumps (44/47), our margin is extremely low.

The proposed reduction in the number of VEECs will definitely require us to significantly increase our prices to Victorian customers.

However, we can confidently say that increased pricing will definitely see an immediate and dramatic reduction in the number of changeovers occurring, resulting in a substantial amount of inefficient electric water heaters remaining in the marketplace.

This observation of ours is based on our experience as presented in the below table, which clearly shows a reduction / void of sales in the 2 following cases:

1. In Victoria: when the VEEC price dropped to around $10-11, forcing us to increase our price to $249 for Victorian customers in July 2017 (this was later reversed once VEECs started to stabilise again). This period of higher prices and lower sales is highlighted in the below table

2. In the non-incentivised states (NSW, QLD): with no state incentives available we provide the same Heat Pump replacement offering at a cost of $999 to the customer. As you can see below, our sales in these states are minimal

Table: Chromagen's 12-month HP replacement sales per State:

Month / State	Jun 2017	Jul 2017	Aug 2017	Sept 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Totals
VIC	465	373	333	370	532	542	244	377	391	368	414	605	5,014
SA	138	125	94	69	86	90	64	68	100	100	161	193	1,288
NSW	5	20	39	39	39	28	12	9	14	12	23	18	258
QLD	0	0	0	0	0	0	0	1	1	2	2	1	7

It is important to note that the Heat Pump replacement activity is discretionary in nature (i.e. not an emergency replacement of a faulty hot water system) by the home owner and is therefore highly sensitive to pricing. In contrary, emergency replacements commonly tend to be a 'like for like' with no thought given to the efficiency of the system (i.e. an existing electric tank will be replaced with a new inefficient electric tank).

Our sales data presented in the table above shows a clear correlation between state incentives and discretionary replacements in the water heating activities.

As noted above, any decline in the rate of installations will not only be a bad outcome for the environment, it will have a profound effect on our business and our installation partners and inevitably result in the reduction of our employed forces.

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Modelling Considerations

On the technical side, we believe there could be a more accurate revision to the parameters and calculation of the relevant factors to better reflect the actual environment, life of the product and to better align with the relevant standards and historical data, in particular (refer to details in appendix):

- Alignment of the Hot Water Consumption values with those determined under the Australian Bureau of Statistics (**Point A**)
- Using the more relevant weather conditions of Zone 4 to better represent the majority of Victorian installations (**Point B**)
- Alignment of Heat Pump lifetime to match other hot water products (**Point C**)

Conclusion

In summary, we believe that the proposed changes will have a dramatic damaging effect on the Victorian hot water market landscape, particularly at a regional level where home owners will be denied the opportunity to live more efficiently and many hot water plumbing businesses will be left with no work.

Furthermore, we note that the water heating category is only very minor to the overall VEET scheme (being less than 4% YTD April 2018) and we question the benefit to the overall VEET scheme to dramatically amend this category. Particularly when the current regulations demonstrate a proven successful format of replacing these existing inefficient products in the marketplace.

At Chromagen, it is our desire, as it always has been, to continue to support the Victorian Government's initiatives for positive environmental change with a view to encouraging the development of energy efficient technologies. We are however, very concerned that the Draft Regulations, in so far as they relate to water heating activities, are a step in the wrong direction and will dramatically affect our successful replacement program.

Thank you for your consideration of our feedback regarding the Draft Victorian Energy Efficiency Target Regulations 2018.

Kind Regards,

Eli Cohenka, CEO
Chromagen Australia

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Appendix

Point A – Alignment of the Hot Water Consumption values with those determined under the Australian Bureau of Statistics

- Based on ABS data, Victorian households increased their annual water consumption by 4% from 2014-15 to 2015-16. Victoria's annual consumption per household increased from 162 kilolitres per household in 2014-15, to 166 kilolitres per household in 2015-16. (Source: Australian Bureau of Statistics)
- Therefore the average daily consumption per household is 454.79 litres.
- If 30% of the total water consumption is used for water heating, then the average hot water consumption per household is 136.43 litres.
- Based on the ABS 2012 -2017 statistics about Victoria, the number of persons per household is 2.6 (Source: Australian Bureau of Statistics)
- Therefore the average daily hot water usage per person should be 52.47L (136.43L ÷ 2.6), as opposed to proposed 45L per person.

Point B – Using the more relevant weather conditions of Zone 4 to better represent the majority of Victorian installations

- Based on Australian Bureau of Statistics (ABS) 2016 Census statistics, the number of residents in Victoria's Zone 5 area is only approximately 456,417; this is just 7.2% of overall Victorian population (detailed figures below). The majority of Victorians residents reside in Zone 4 area, so it is more reasonable to use Zone 4 weather data rather than Zone 5's to represent the whole states weather condition.
  Source : Australian Bureau of Statistics Census Data

Postcode Range	Zone	Population	Postcode Range	Zone	Population	Postcode Range	Zone	Population
3139 - 3140	5	30,249	3444 - 3444	5	9,198	3775 - 3775	5	3,861
3158 - 3158	5	6,652	3446 - 3448	5	2,349	3777 - 3779	5	11,350
3160 - 3160	5	9,014	3450 - 3451	5	12,490	3786 - 3786	5	1,518
3289 - 3289	5	756	3453 - 3453	5	1,723	3788 - 3789	5	2,003
3293 - 3294	5	1,260	3458 - 3458	5	1,945	3793 - 3793	5	3,577
3300 - 3302	5	11,670	3460 - 3463	5	10,340	3795 - 3797	5	14,424
3314 - 3315	5	2,149	3467 - 3469	5	1,759	3799 - 3799	5	5,798
3350 - 3357	5	116,358	3675 - 3678	5	26,263	3816 - 3816	5	2,721
3363 - 3364	5	5,628	3697 - 3701	5	3,132	3818 - 3818	5	14,167
3370 - 3370	5	1,783	3704 - 3705	5	281	3820 - 3825	5	46,977
3373 - 3373	5	2,292	3707 - 3709	5	350	3831 - 3833	5	2,256
3375 - 3375	5	208	3711 - 3715	5	5,685	3835 - 3835	5	471
3377 - 3379	5	10,365	3717 - 3720	5	3,659	3858 - 3858	5	3,025
3381 - 3381	5	1,212	3722 - 3724	5	8,023	3862 - 3862	5	3,156
3407 - 3407	5	420	3732 - 3733	5	803	3885 - 3885	5	1,871
3430 - 3435	5	12,630	3735 - 3741	5	9,508	3893 - 3893	5	23
3437 - 3438	5	12,826	3744 - 3744	5	453	3895 - 3896	5	406
3440 - 3442	5	10,838	3746 - 3746	5	385	3898 - 3898	5	790
			3770 - 3770	5	3,218	3900 - 3900	5	149

Total Population of Victorians in Zone 5	456,417
Total Population of Victoria	6,323,606
Percentage of Victorian in Zone 5 Areas	7.2%

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- Furthermore, from our experience, as a supplier and installer of heat pumps in Victoria for the last 7 years, the heat pump for the majority of Victoria performs to similar climatic characteristics of Zone 4 and not of Zone 5. There are a minimal amount of systems installed in the high country that would present a climate similar to Canberra.
- We believe, in order to fully align with the methodology requirement of AS/NZS 4234, the heat pump modelling should be conducted following separate zone 4 and zone 5 weather data, based on the postcode location. Using only zone 5 modelling results, does not reflect the true greenhouse gas reduction across the whole of Victoria.

Point C – Alignment of Heat Pump lifetime to match other hot water products

- Also, we question the different lifetime periods which have been specified for the different activities under the water heating category.
- As a company that has been at the forefront of selling hot water products for 15 years, we do not believe a Heat Pump's lifetime should be shorter than the other hot water products and that all 3 products should have a lifetime of 15 years.