Winery Energy Use and Energy Related GHG Emissions

Winery Summary

Vintage	2021
Winery name	Mission Estate Winery
Winery ID	2009
Winery type	Processing with and without bottling
Winery size	1m - 4m L
Region	Hawkes Bay

1 Quantity of Production and Electricity Use

2021 Vintage	2020 Vintage
1,382 tonnes	1,129 tonnes
2,286,260 litres	2,065,230 litres

How does this affect me?

Electricity intensity has increased this season to an industry average of 250 kWh/kL wine from 180 kWh/kL in 2020. However, analysed as a 2-year rolling average winery industry electricity intensity has decreased by 14% since the 2012 season.

This season has also seen the incorporation of estimates of greenhouse gas (GHG) emission from electricity and fossil fuel use.

Two energy efficiency action sheets are available to members. One on refrigeration and the other looking at further opportunities, like compressed air, heating, peak load etc. See http://tinyurl.com/y95zdtzb and http://tinyurl.com/y7s5y8e8

2021 Vintage		2020 Vintage
290,000	Electricity (kWh/year)	253,988
127	Electricity (kWh/kL wine)	123
460	Electricity (MJ/kL wine)	440
0	Fossil Fuels [1] (MJ/kL wine)	-
460	Energy [2] (MJ/kL Wine)	440

1. Fossil fuels = Natural gas, LPG, Petrol, and Diesel, reported in megajoules per 1,000 litres of wine
2. Energy = Electricity plus fossil fuels, reported in megajoules

33.2	Total energy emissions (t CO_2e)	29.4
14.5	Total energy emissions (kg CO_2e/kL wine)	13.6
14.1	Electricity emissions (kg CO_2e/kL wine)	13.6
0.5	Fossil Fuel emissions (kg CO_2e/kL wine)	-

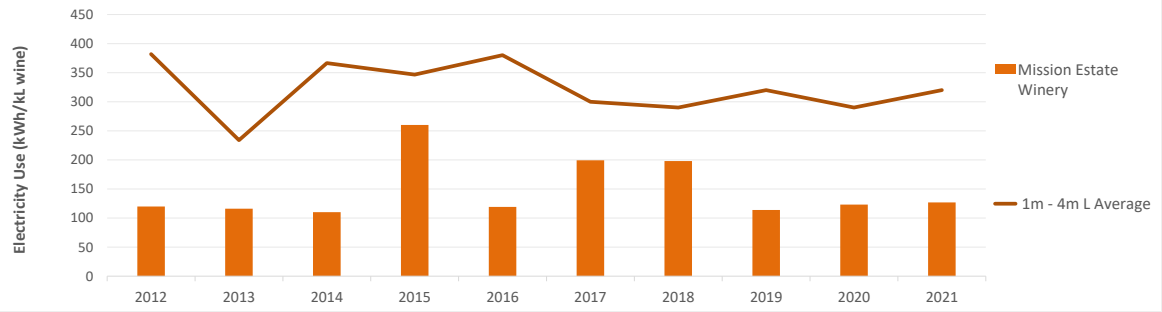
Emission factors are derived from Fuel LCA Emission Factors 2021 (Agrilink)

Electricity data entered into WiSE ✓

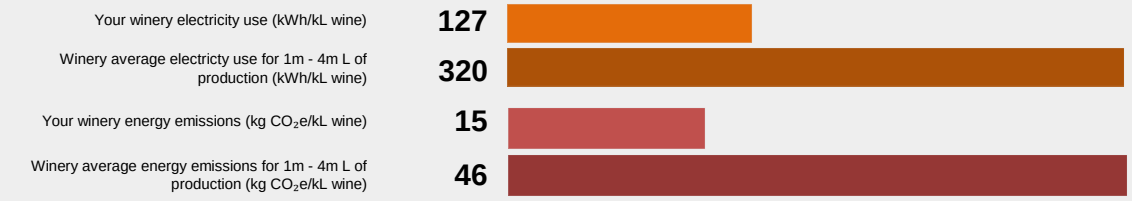
Electricity data included in analysis ✓
(Anticipated range is 50 - 2,000 kWh/kL wine)

Other energy data included in analysis ✓
(LPG, Natural gas, Petrol, and Diesel use data is excluded if outside anticipated ranges)

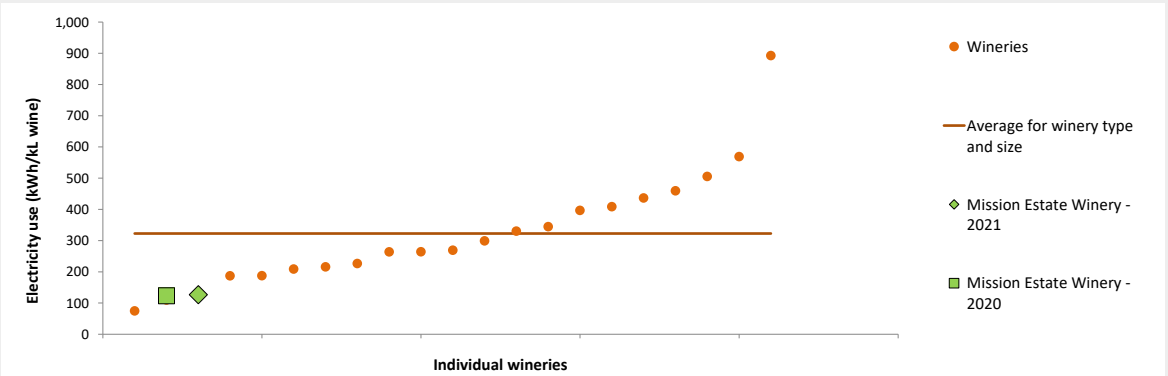
2 Historical Winery Average Electricity Use by Production Volume: 1m - 4m L



3 Winery Comparisons by Production Volume: 1m - 4m L



Electricity use - Winery size 1m - 4m L wineries (kWh/kL)



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25/11/2021 Version: WineryReports2021 (3

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Creating a Sustainable Legacy

SUSTAINABLE NEW ZEALAND WINEGROWING

Winery Electricity Report

Winery Summary

Vintage	2020
Winery name	Mission Estate Winery
Winery ID	2009
Winery type	Processing with and without bottling
Winery size	1m - 4m L
Region	Hawkes Bay

How does this affect me?

Between 2012 and 2020 electricity use on average decreased by 31% from 260 kWh/kL wine to 180 kWh/kL across the whole industry. When analysed as a 2 year rolling average, electricity use decreased by 22% in the same period.

Two energy efficiency action sheets are available to members. One on refrigeration and the other looking at further opportunities, like compressed air, heating, peak load etc. See http://tinyurl.com/y95zdtzb and http://tinyurl.com/y7s5y8e8

Electricity data entered into WiSE ✓

Data included in analysis ✓
(Anticipated range is 50 - 2,000 kWh/kL wine)

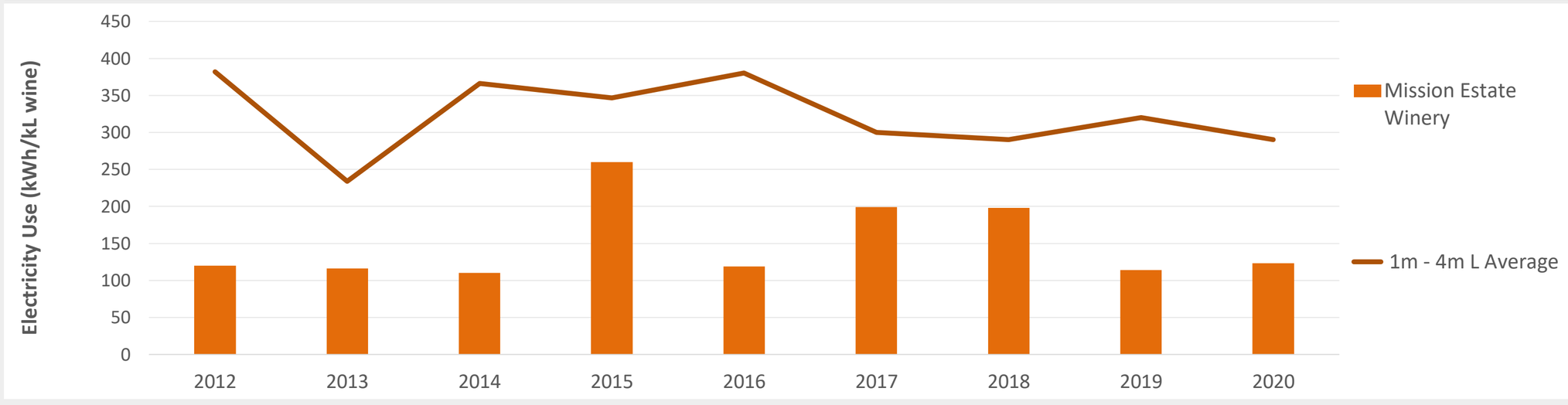
1 Quantity of Production and Electricity Use

2020 Vintage		2019 Vintage
1,129 tonnes		1,129 tonnes
2,065,230 litres		2,127,520 litres
253,988	Electricity (kWh/year)	**242,334**
123	Electricity (kWh/kL wine)	**114**
440	Electricity (MJ/kL wine)	**410**
10	Gas [1] (MJ/kL wine)	**10**
450	Energy [2] (MJ/kL Wine)	**420**

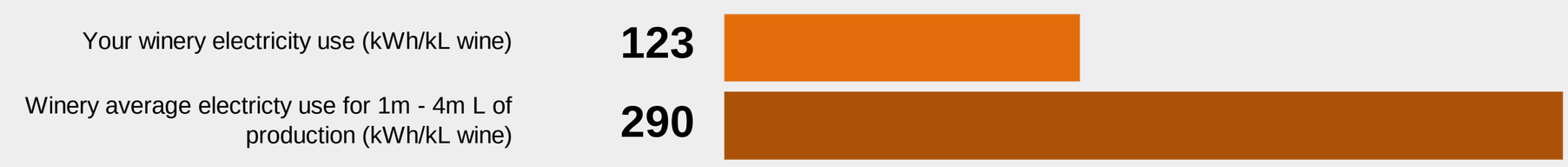
1. Gas = Natural gas plus LPG, reported in megajoules per 1,000 litres of wine
2. Energy = Electricity plus gas, reported in megajoules

Comment:

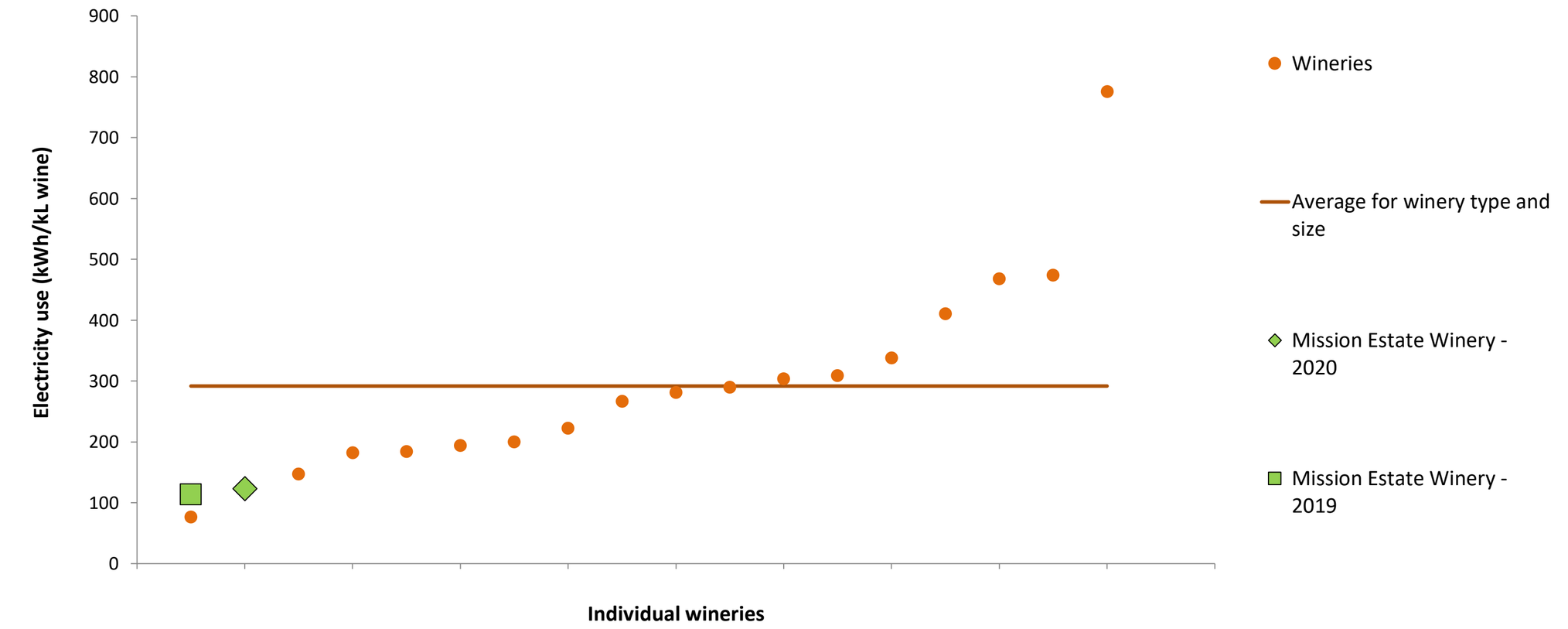
2 Historical Winery Average Electricity Use by Production Volume: 1m - 4m L



3 Winery Comparisons by Production Volume: 1m - 4m L



Electricity use - Winery size 1m - 4m L wineries (kWh/kL)



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17-08-20 Version: WineryReports2020 (2)

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Creating a Sustainable Legacy

SUSTAINABLE NEW ZEALAND WINEGROWING

Winery Electricity Report

Winery Summary

Vintage	2019
Winery name	Mission Estate Winery
Winery ID	2009
Winery type	Processing with and without bottling
Winery size	1m - 4m L
Region	Hawkes Bay

How does this affect me?

Between 2012 and 2019 electricity use on average decreased by 23% from 260 kWh/kL wine to 200 kWh/kL across the whole industry. When analysed as a 2 year rolling average, electricity use decreased by 10% in the same period.

Two energy efficiency action sheets are available to members. One on refrigeration and the other looking at further opportunities, like compressed air, heating, peak load etc. See http://tinyurl.com/y95zdtzb and http://tinyurl.com/y7s5y8e8

Electricity data entered into WiSE ✓

Data included in analysis ✓
(Anticipated range is 50 - 2,000 kWh/kL wine)

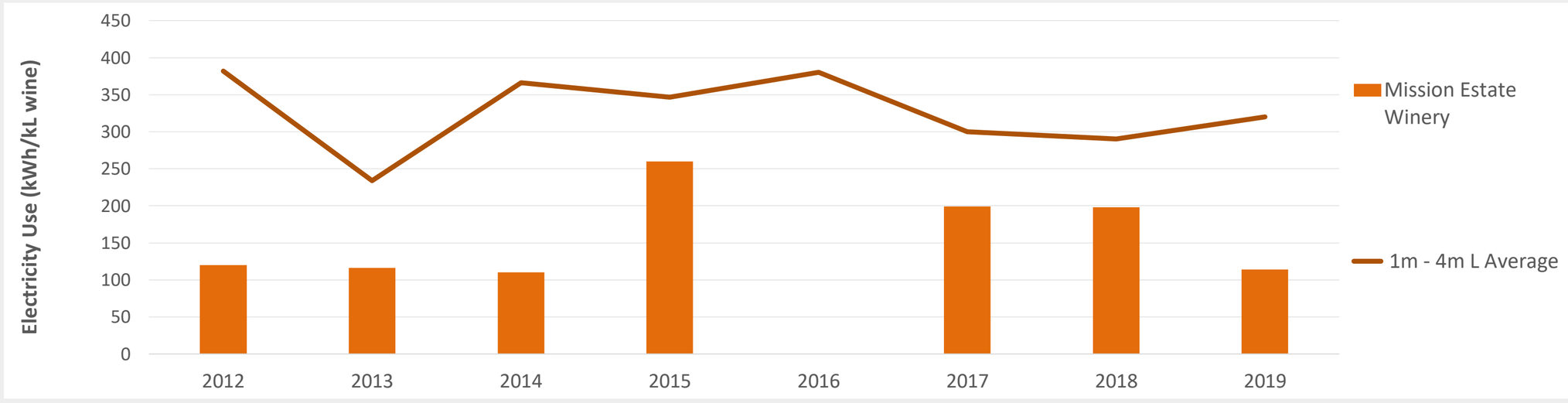
1 Quantity of Production and Electricity Use

2019 Vintage		2018 Vintage
1,129 tonnes		1,650 tonnes
2,127,520 litres		1,224,000 litres
242,334	Electricity (kWh/year)	242,278
114	Electricity (kWh/kL wine)	198
410	Electricity (MJ/kL wine)	710
10	Gas [1] (MJ/kL wine)	20
420	Energy [2] (MJ/kL Wine)	730

1. Gas = Natural gas plus LPG, reported in megajoules per 1,000 litres of wine
2. Energy = Electricity plus gas, reported in megajoules

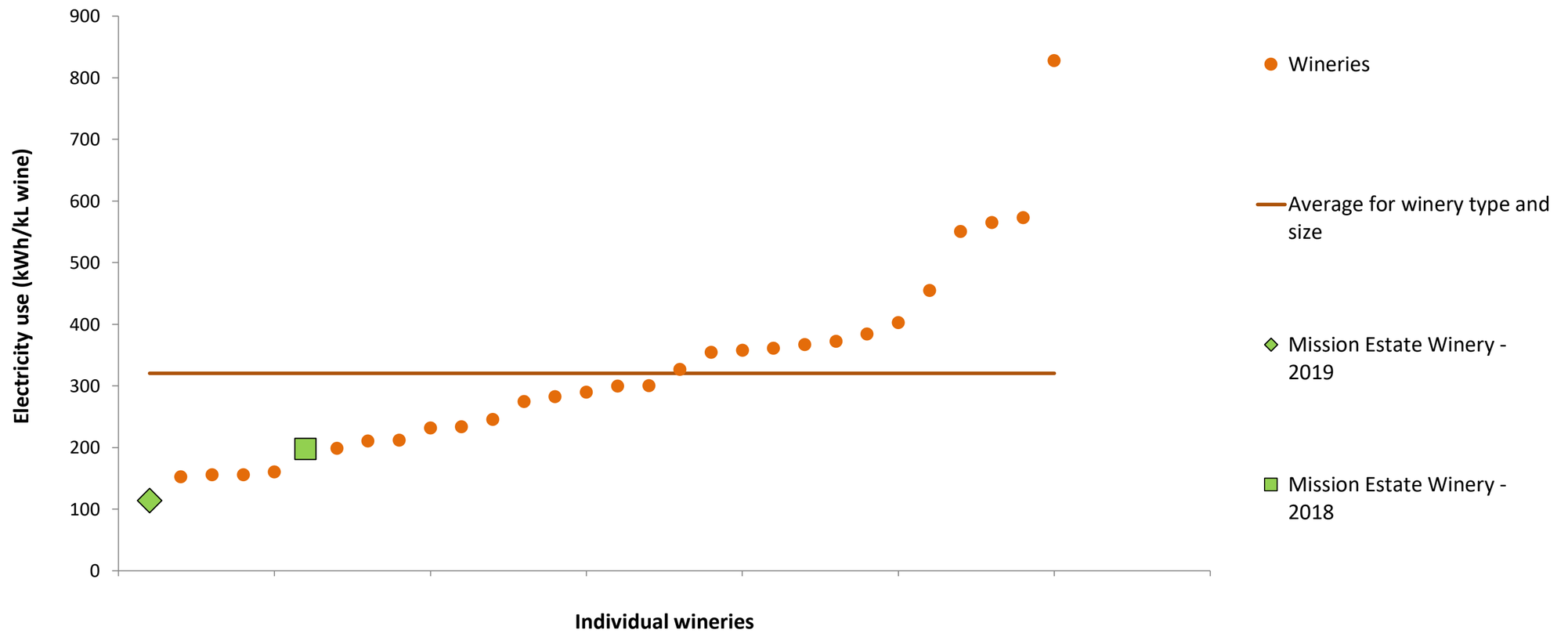
Comment:

2 Historical Winery Average Electricity Use by Production Volume: 1m - 4m L



3 Winery Comparisons by Production Volume: 1m - 4m L

Electricity use - Winery size 1m - 4m L wineries (kWh/kL)



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21-08-19 Version: WineryReports2019 (5)

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NZI Sustainable Business Network AWARDS 2017 FINALIST

Creating a Sustainable Legacy

SUSTAINABLE NEW ZEALAND WINEGROWING

Winery Electricity Report

Winery Summary

Vintage	2018
Winery name	Mission Estate Winery
Winery ID	2009
Winery type	Processing with and without bottling
Winery size	1m - 4m L
Region	Hawkes Bay

How does this affect me?

Between 2012 and 2018 electricity use on average decreased by 12% from 260 kWh/kL wine to 230 kWh/kL across the whole industry. However 2018 represents a 15% increase on the 2017 average of 200 kWh/kL.

Two energy efficiency action sheets are available to members. One on refrigeration and the other looking at further opportunities, like compressed air, heating, peak load etc. See http://tinyurl.com/y95zdtzb and http://tinyurl.com/y7s5y8e8

Electricity data entered into WiSE ✓

Data included in analysis ✓
(Anticipated range is 50 - 2,000 kWh/kL wine)

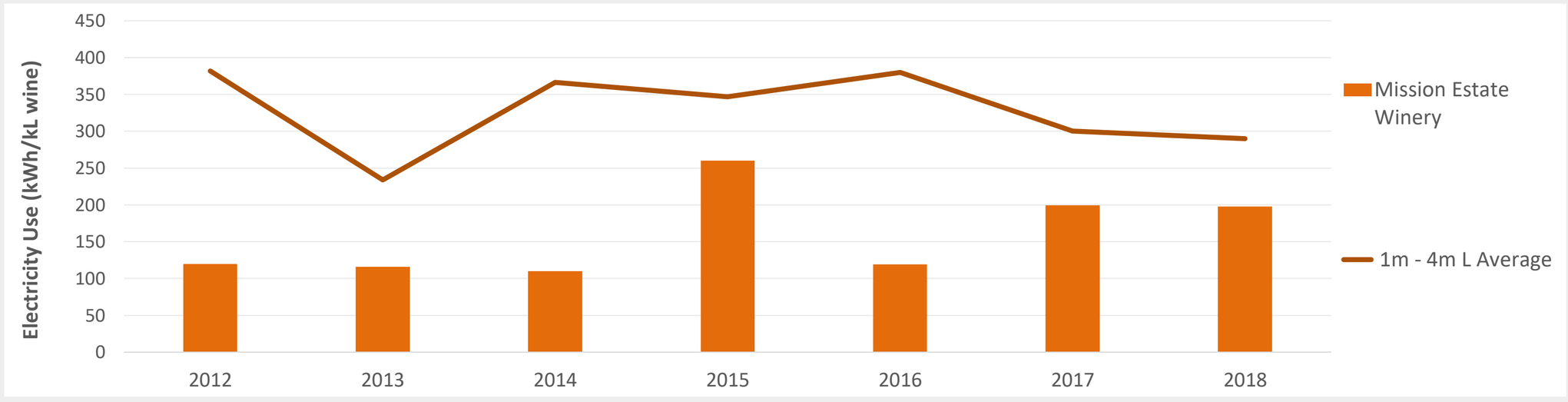
1 Quantity of Production and Electricity Use

2018 Vintage		2017 Vintage
1,650 tonnes		811 tonnes
1,224,000 litres		1,119,250 litres
242,278	Electricity (kWh/year)	223,087
198	Electricity (kWh/kL wine)	199
710	Electricity (MJ/kL wine)	720
20	Gas [1] (MJ/kL wine)	10
730	Energy [2] (MJ/kL Wine)	730

1. Gas = Natural gas plus LPG, reported in megajoules per 1,000 litres of wine
2. Energy = Electricity plus gas, reported in megajoules

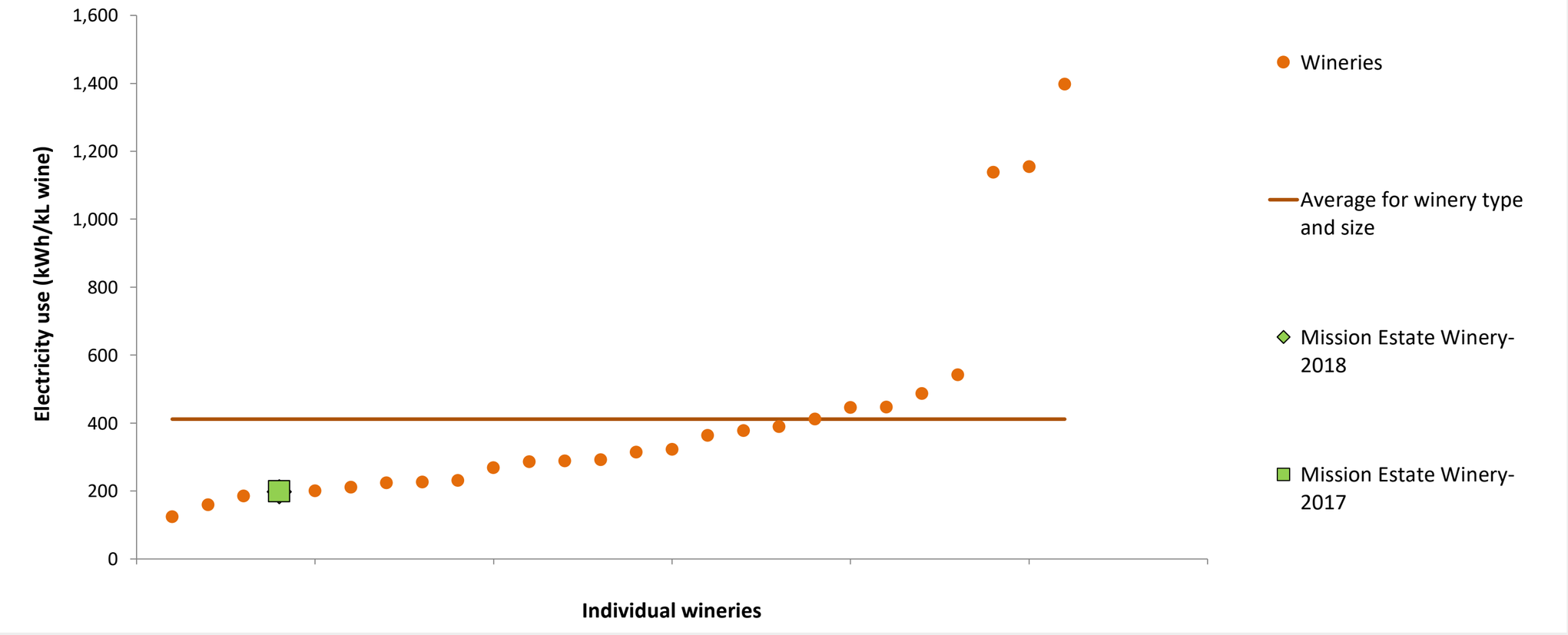
Comment:

2 Historical Winery Average Electricity Use by Production Volume: 1m - 4m L



3 Winery Comparisons by Production Volume: 1m - 4m L

Electricity use - Winery size 1m - 4m L wineries (kWh/kL)



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03-10-18 Version: WineryReports2018 (7)

The New Zealand Sustainability Dashboard

NZI Sustainable Business Network AWARDS 2017 FINALIST

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SUSTAINABLE NEW ZEALAND WINEGROWING

Winery Electricity Report

Winery Summary

Vintage	2017
Winery name	Mission Estate Winery
Winery ID	2009
Winery type	Processing with and without bottling
Winery size	1m - 4m L
Region	Hawkes Bay

How does this affect me?

Between 2012 and 2017 electricity use on average decreased by 23% from 260 kWh/kL wine to 200 kWh/kL across the whole industry.

Two energy efficiency action sheets are available to members. One on refrigeration and the other looking at further opportunities, like compressed air, heating, peak load etc. See http://tinyurl.com/y95zdtzb and http://tinyurl.com/y7s5y8e8

Electricity data entered into WiSE ✓

Data included in analysis ✓

1 Quantity of Production and Electricity Use

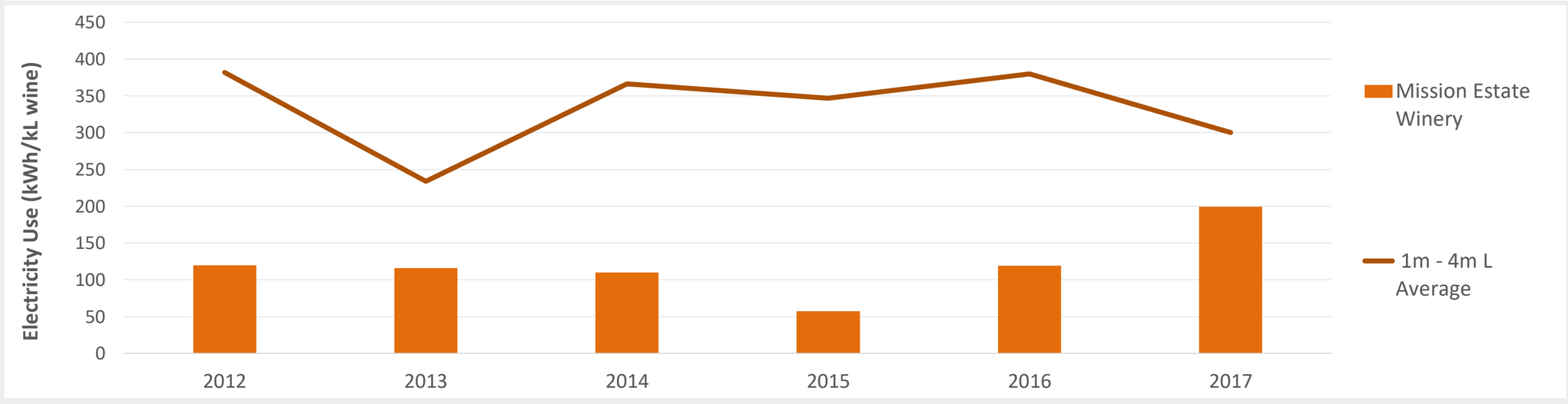
2017 Vintage	2016 Vintage
811 tonnes	1,055 tonnes
1,119,250 litres	1,719,067 litres

2017 Vintage		2016 Vintage
223,087	Electricity (kWh/year)	204,647
200	Electricity (kWh/kL wine)	120
720	Electricity (MJ/kL wine)	430
10	Gas [1] (MJ/kL wine)	10
730	Energy [2] (MJ/kL Wine)	440

1. Gas = Natural gas plus LPG, reported in megajoules per 1,000 litres of wine
2. Energy = Electricity plus gas, reported in megajoules

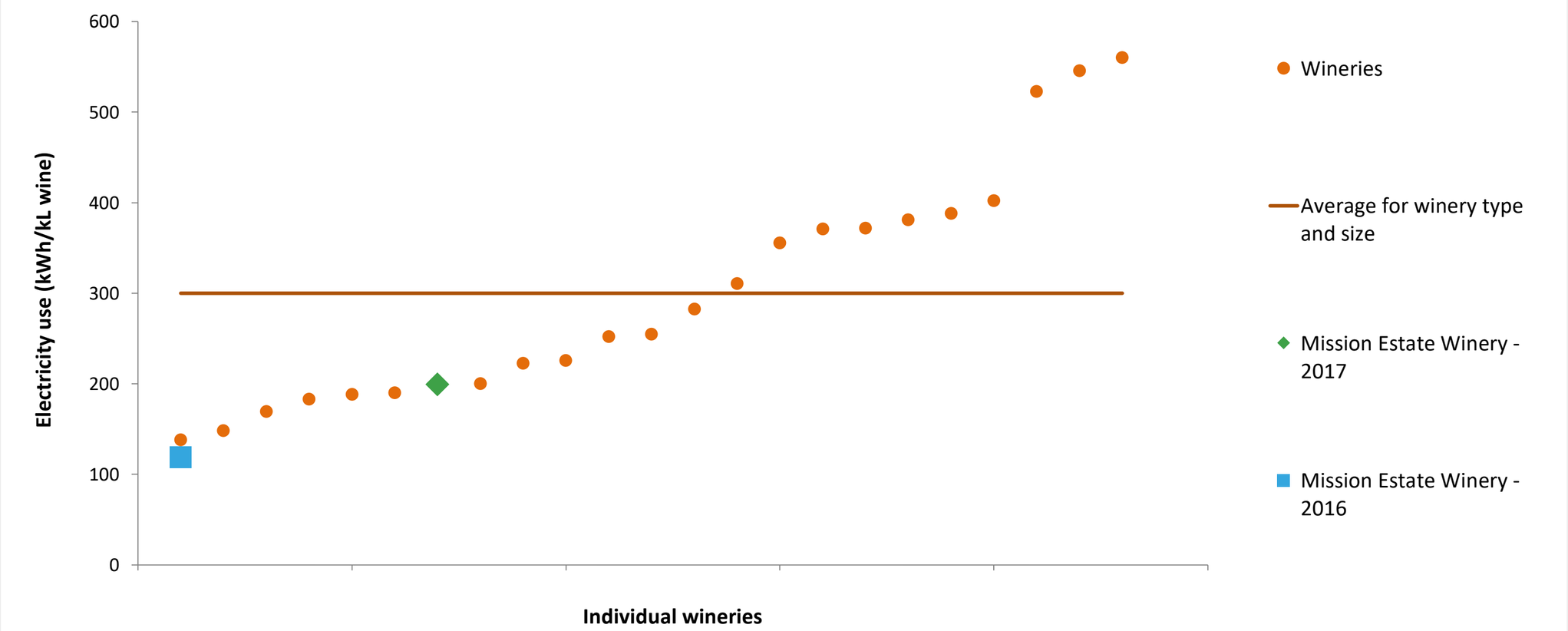
Comment:
-

2 Historical Winery Average Electricity Use by Production Volume: 1m - 4m L



3 Winery Comparisons by Production Volume: 1m - 4m L

Electricity use - Winery size 1m - 4m L wineries (kWh/kL)



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15-11-17 Version: WineryReports2017a

The New Zealand Sustainability Dashboard

NZI Sustainable Business Network AWARDS 2017 FINALIST

Creating a Sustainable Legacy

SUSTAINABLE NEW ZEALAND WINEGROWING

Winery Electricity Report

Winery Summary

Vintage	2016
Winery name	Mission Estate Winery
Winery ID	2009
Winery type	Processing with and without bottling
Winery size	1m - 4m L
Region	Hawkes Bay

How does this affect me?

Review your electricity usage to see how you have performed compared to the industry trend. Between 2011 and 2016 electricity use on average decreased by 28% from 250 kWh/kL wine to 180 kWh/kL across the whole industry.

Some wineries appear to have underreported electricity use. Wineries with less than 50 kWh/kL wine have been excluded from the analysis. This has mainly occurred where wineries have moved to monthly reporting. See the comments on the right if this applies to you.

Two energy efficiency action sheets are available to members. One on refrigeration and the other looking at further opportunities, like compressed air, heating, peak load etc. See http://tinyurl.com/lvvkmoh and http://tinyurl.com/qbfuosw

Electricity data entered into WiSE ✓

Data included in analysis ✓

1 Quantity of Production and Electricity Use

2016 Vintage		2015 Vintage
1,055 tonnes		762 tonnes
1,719,067 litres		780,000 litres
2016 Vintage		**2015 Vintage**
204,647	Electricity (kWh/year)	44,831
120	Electricity (kWh/kL wine)	60
430	Electricity (MJ/kL wine)	216
10	Gas [1] (MJ/kL wine)	10
440	Energy [2] (MJ/kL Wine)	210

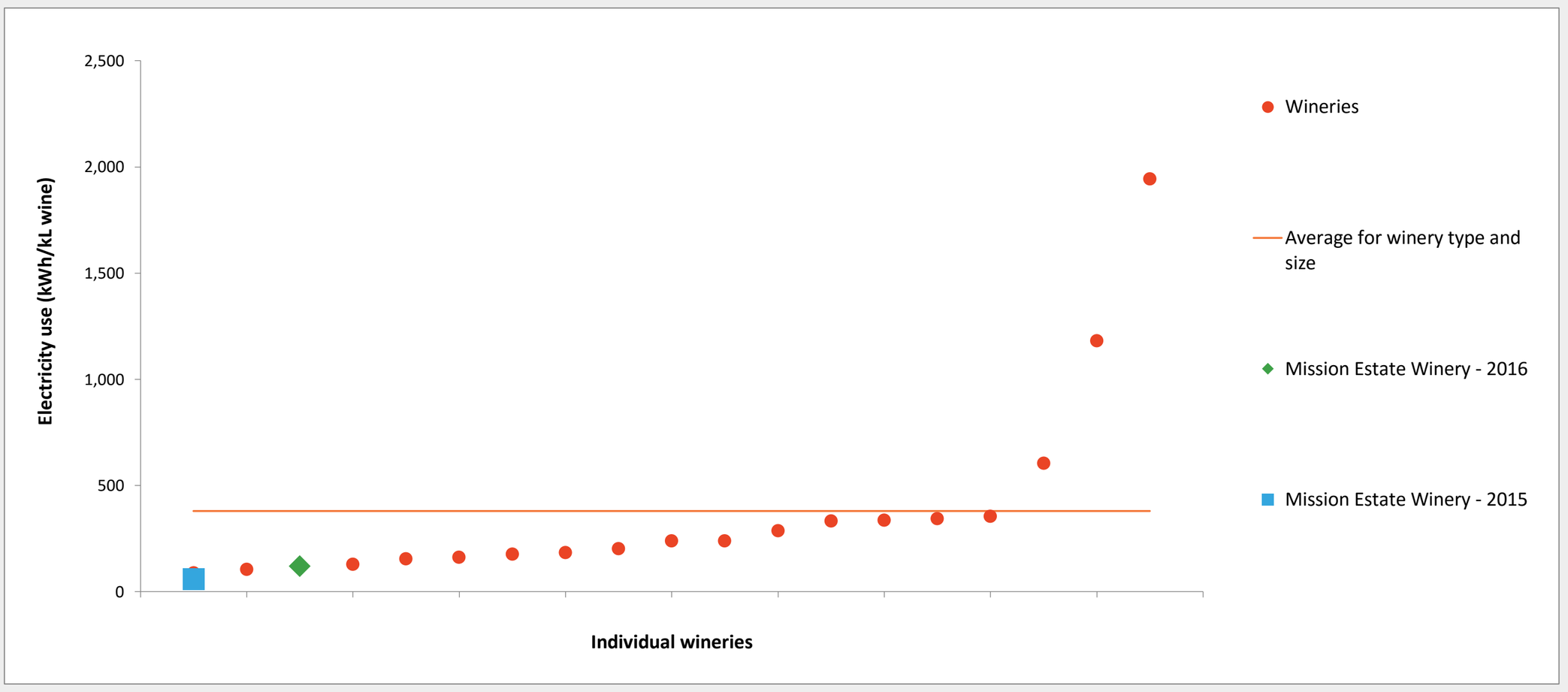
1. Gas = Natural gas plus LPG, reported in megajoules per 1,000 litres of wine
2. Energy = Electricity plus gas, reported in megajoules

Comment:
-

3 Winery Comparisons by Production Volume: 1m - 4m L

Your winery electricity use (kWh/kL wine)	120
Winery average electricty use for 1m - 4m L of production (kWh/kL wine)	380

Electricity use - Winery size 1m - 4m L wineries (kWh/kL)



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The New Zealand Sustainability Dashboard

Creating a Sustainable Legacy

SUSTAINABLE NEW ZEALAND WINEGROWING

Winery Electricity Report

Winery Summary

Vintage	2015
Winery name	Mission Estate Winery
Winery ID	2009
Winery type	Processing with and without bottling
Winery size	200k - 1m L
Region	Hawkes Bay

How does this affect me?

Review your electricity usage to see how you have performed compared to the industry trend. Between 2011 and 2014 electricity use on average decreased by almost 25% from 250 kWh/kL wine to 190 kWh/kL across the whole industry. However in 2015 there has been an increase to 230 kWh/kL.

For 2015 some wineries appear to have underreported electricity use. Wineries with less than 50 kWh/kL wine have been excluded from the analysis. This has mainly occurred where wineries have moved to monthly reporting. See the comments on the right if this applies to you.

Two energy efficiency action sheets are available to members. One on refrigeration and the other looking at further opportunities, like compressed air, heating, peak load etc. See http://tinyurl.com/lvvkmoh and http://tinyurl.com/qbfuosw

Electricity data entered into WiSE ✓

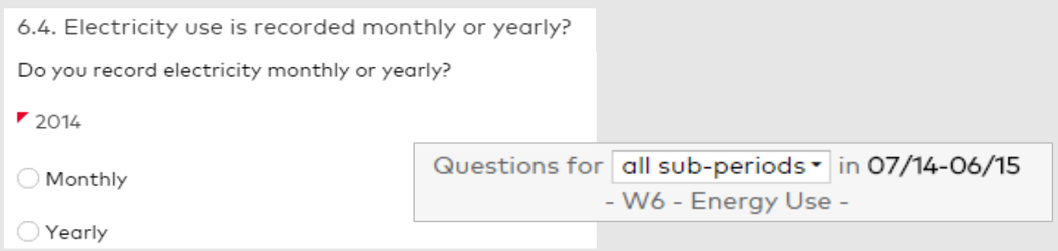
Data included in analysis ✓

1 Quantity of Production and Electricity Use

2015 Vintage		2014 Vintage
762 tonnes		1,944 tonnes
780,000 litres		1,826,598 litres
2015 Vintage		**2014 Vintage**
44,831	Electricity (kWh/year)	200,945
60	Electricity (kWh/kL wine)	110
210	Electricity (MJ/kL wine)	396
10	Gas [1] (MJ/kL wine)	a
210	Energy [2] (MJ/kL Wine)	a

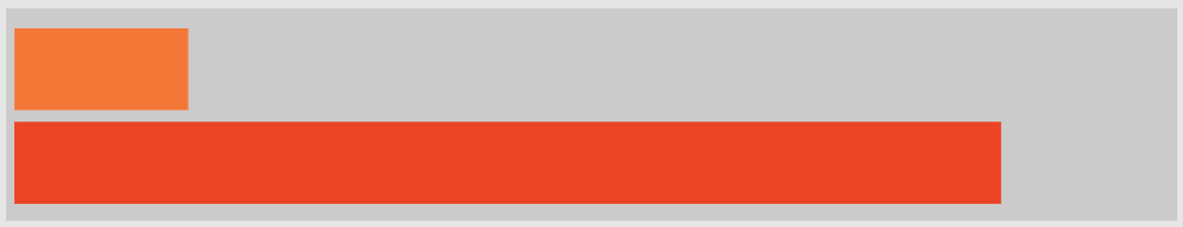
1. Gas = Natural gas plus LPG, reported in megajoules per 1,000 litres of wine
2. Energy = Electricity plus gas, reported in megajoules
a. Gas and energy were not reported for the 2014 vintage

Comment:
Monthly electricity records was selected but not every months usage was provided. If entering monthly data, set to 'all sub-periods' and submit electricty usage figures for EVERY month. Alternatively select yearly records (see pictures below). If you would like to correct your records please email membership@swnz.org.nz

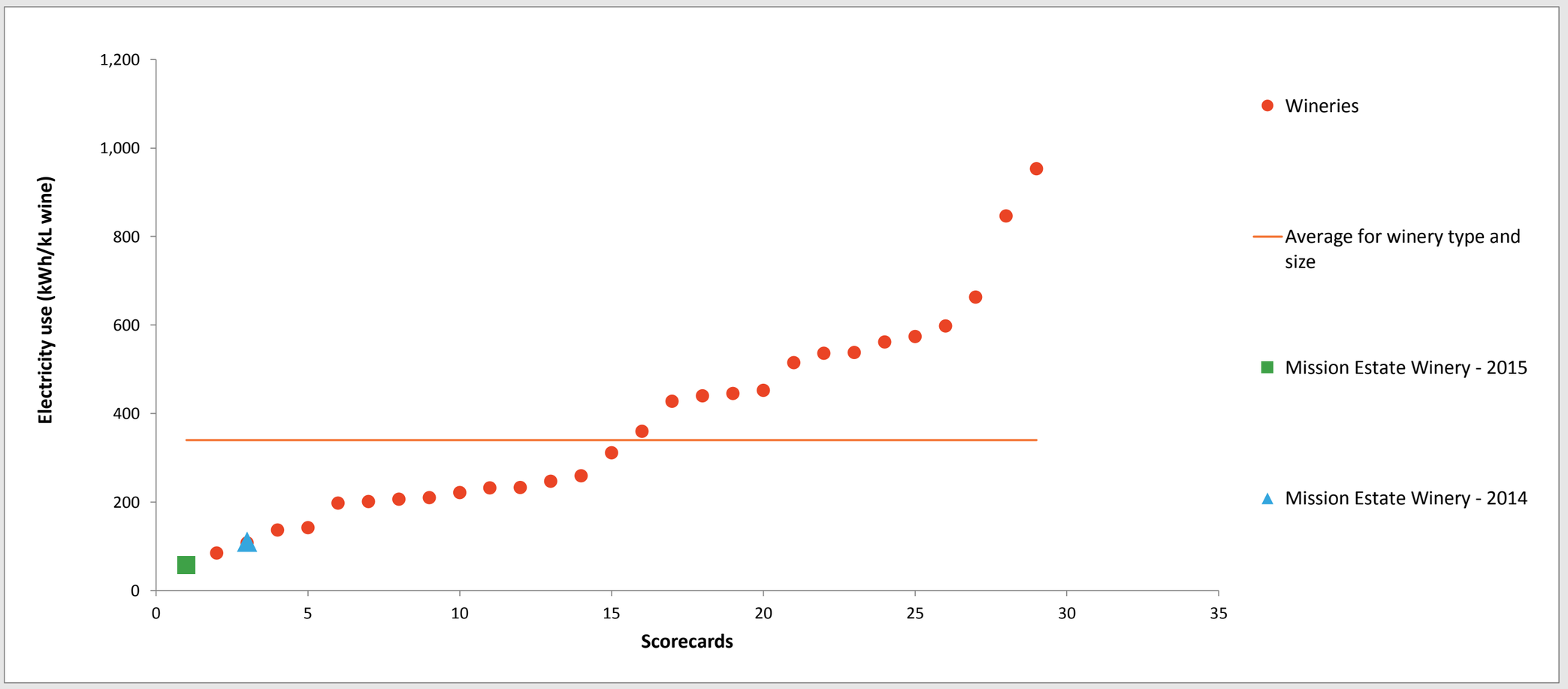


3 Winery Comparisons by Production Volume: 200k - 1m L

Your winery electricity use (kWh/kL wine)	60
Winery average electricty use for 200k - 1m L of production (kWh/kL wine)	340



Electricity use - Winery size 200k - 1m L wineries (kWh/kL)



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Creating a Sustainable Legacy

NEW ZEALAND SUSTAINABLE WINEGROWING

Winery Electricity Report

Winery Summary

Vintage	2014
Winery name	Mission Estate Winery
Winery ID	2009
Winery type	Crush to bottling & Crush to finished wine
Winery size	1m - 4m L
Region	Hawkes Bay

How does this affect me?

Review your electricity usage to see how you have performed compared to the industry trend. Over the last 4 years electricity use on average has decreased by almost 25% from 230 kWh/kL wine to 175 kWh/kL in 2014 across the whole industry.

For 2014 some wineries appear to have underreported electricity use. Wineries with less than 50 kWh/kL wine have been excluded from the analysis. This has mainly occurred where wineries have moved to monthly reporting. See the comments on the right if this applies to you.

Two energy efficiency action sheets are available to members. One on refrigeration and the other looking at further opportunities, like compressed air, heating, peak load etc. See http://tinyurl.com/lvvkmoh and http://tinyurl.com/qbfuosw

Electricity data entered into WiSE ✓

Data included in analysis ✓

1 Quantity of Production and Electricity Use

2014 Vintage		2013 Vintage
1,944 tonnes		1,524 tonnes
1,826,598 litres		1,478,622 litres
200,945	Electricity (kWh/year)	171,649
110	Electricity (kWh/kL wine)	120

Comment:
-

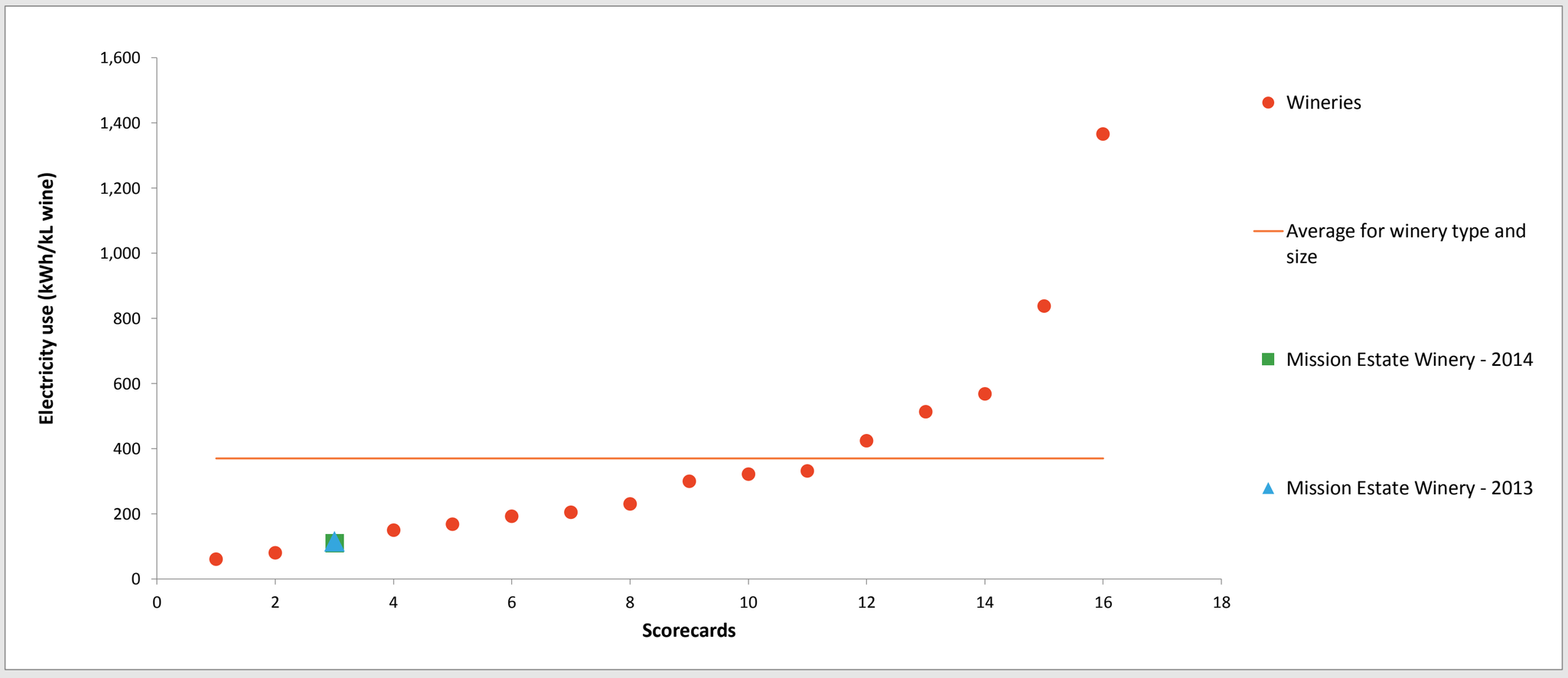
2 Number of Full Production Wineries

Wineries with recorded electricity use	107
Total number of wineries	153

3 Winery Comparisons by Production Type (Full Production) and Volume

Your winery electricity use (kWh/kL wine)	110
Winery average electricty use for 1m - 4m L of production (kWh/kL wine)	370

Electricity use - Winery size 1m - 4m L wineries (kWh/kL)



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The New Zealand Sustainability Dashboard

New Zealand Sustainable Winegrowing