



EMSOL UPDATE DECEMBER 2018

Please feel free to forward this newsletter to your financial controller or others who have an interest in energy savings.



Emsol's December 2018 Update includes four important topics:

1. Small businesses make large savings in energy prices
2. Zero Carbon
3. Refrigerant replacement/choice
4. Seasonal Greetings and Happy New Year

1. Small businesses make large savings in energy prices

One of Emsol's clients has recently reduced its electricity bill by 19%. This was achieved by negotiating a competitive electricity contract. Its electricity cost reduced more than \$30,000 per year.



Emsol's office also reduced its electricity bill by 15%. This involved analysing lines fees. Most lines fees have a capacity component, which is based on the size of supply transformer or associated fuse. Emsol reduced its fuse rating from 45 kVA to 28 kVA.

In many cases, lines fees can be reduced more than energy retailer prices. Lines fees should be reviewed every 2 – 4 years. Also, electricity contracts should be renewed at least three months in advance of the end date of the previous contract, especially at times when spot prices are lower than average.

2. Zero Carbon



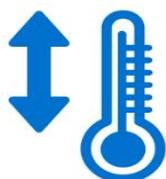
New Zealand Productivity Commission published in April 2018 a discussion paper on a Low-Emissions Economy, which is expected to translate into a Zero Carbon Bill in 2019. This will involve reporting on, and reducing, your Greenhouse Gas emissions (GHG).

For most organisations the majority of their GHG emissions are in the form of carbon emissions from energy use. Similar to energy management, GHG emissions management is an opportunity to save money, increase profits, and improve the environment. A number of energy monitoring and reporting programmes are expanding to include GHG reporting.

There was much discussion at a Net Zero New Zealand workshop held in Wellington this month regarding the future price of carbon. One large NZ organisation advised "we're out of time" regarding avoiding an ambient temperature increase of 1.5°C. A number of large businesses have now set their own internal price of carbon and are using the funds from this to reinvest into carbon reduction projects.

3. Refrigerant replacement/choice

As well as Ozone Depletion Potential (ODP), many common refrigerants exhibit Global Warming Potentials (GWP) thousands of times higher than CO₂. HCFC refrigerants such as R22 are already being phased out and HFC refrigerants will begin to be phased down in 2019. This includes refrigerants such as R134a, R404a, R407F, R507 and others. With carbon prices expected to increase, as well as a change in the surrender ratio to 1:1 in January 2019, the cost of high GWP refrigerants will also increase.



REFRIGERATION FRESH SOLUTIONS, FIT FOR YOU

using a sufficiently large heat exchanger and regularly cleaning it to prevent fouling that inhibits heat transfer.

One cooling solution that is increasing in popularity is glycol.

Glycol itself is not a refrigerant, however it can be cooled by a refrigerant and circulated to evaporators to provide cooling. This significantly reduces the amount of refrigerant required to charge or replenish a system, lowering the cost.

Glycol can offer efficiency benefits as well, particularly when compared to direct expansion systems that rely on discharge pressure to circulate refrigerant. One source of inefficiency with a glycol system is the additional heat exchange from refrigerant to glycol. This efficiency loss can be minimised by

4. Seasonal Greetings and Happy New Year

With the holiday break just around the corner, we would like to thank you for your business this year. It has been a pleasure helping you reach your energy and carbon reduction goals, and we look forward to contributing to your success in 2019.

We wish you, your team and families a prosperous and Happy New Year!



Find Out More

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