



ESE HEALTH SAFE

Natural Refrigerant

 PIONEER INTERNATIONAL	 Competitors
PI60-486kj/kg Non-Toxic	R410A-256kj/kg Toxic R32-360kj/kg Toxic

ESE HEALTH SAFE NATURAL REFRIGERANT

Pioneer International is an Australian manufacturer that uses Natural Refrigerants in their Patented range of HVAC air conditioning units and systems.

ESE **HEALTH SAFE** has a Master distribution agreement with Pioneer International Pty Ltd and the manufacturer of Engas Pty Ltd to market, sell, distribute, service, maintain, re-gas, educate and train personnel throughout Australia.

This technology WILL minimise and mitigate OH&S risk for ESE Clients, allowing them to be environmentally responsible and SAVE money in energy use and electricity wastage

Chemical refrigerants also suffer many limitations, including:

Reduced performance in hot weather due to low critical temperature of the refrigerant

Toxicity – One gram of the by-product hydrogen fluoride can be lethal upon human contact

Reduced equipment life – if moisture mixes with the chemical refrigerants acid is produced which attacks the motor windings and reduces compressor life

High operating pressures which are required to change the state of the refrigerant – these increase the likelihood of leaks, consume more electricity, and increases wear and tear

Increasing costs of replacement gas due to its phasing out

MOST IMPORTANTLY – Chemical refrigerant can be explosive

The Australian Government is phasing out bulk hydrofluorocarbon (HFC's such as R410a and R32) imports from 2018 in accordance with the Montreal Protocol agreement – see enclosed Amendment Bill 2017

Toxicity

When R32 and R410a decompose they produce to deadly chemicals.

- 1) Hydrogen Fluoride
- 2) Carbonyl halides

Note less than 1 gram of hydrogen fluoride can be lethal!



Benefits of ESE HEALTH SAFE Pioneer Units with Natural Refrigerant



- Reduce Electricity usage by up to 38% compared to other new A/C units
- A 5 year PARTS and LABOUR warranty
- **Natural refrigerant is SAFE and NON-TOXIC**
- Reduced Carbon Emissions
- Improved operating performance in hot climates
- Lower operating pressures reduce wear and tear on equipment longevity
- Not being phased down and phased out
- Not acid producing therefore will not cause internal motor damage.

What is Refrigerant Poisoning?

Refrigerant poisoning happens when someone is exposed to the chemicals used to cool appliances. Refrigerant contains chemicals called fluorinated hydrocarbons (often referred to by a common brand name “Freon”). Freon is a tasteless, mostly odourless gas. When it is deeply inhaled it can cut off vital oxygen to your cells and lungs.

Limited exposure – for example, a spill on your skin or breathing near an open container – is only mildly harmful. However you should try to avoid all contact with these types of chemicals. Even small amounts can cause symptoms including headache, nausea, vomiting, dizziness, seizures and irritation of the eyes, ears and throat.

CHEMICAL REFRIGERANT IS BEING PHASED OUT BY AUSTRALIAN GOVERNMENT LEGISLATION. WOULD YOU BUY A BLACK & WHITE TV?

- On 20 March 2017, the Minister for Environment and Energy, the Hon Josh Frydenberg MP, introduced the Ozone Protection and Synthetic Greenhouse Management Legislation Amendment Bill 2017 to Parliament, which will implement the key outcomes of the 2014-2016 Program Review (details below)
- The key measure proposed in the Amendment Bill is the introduction of a phase-down of hydrofluorocarbon (HFC) imports from 1 January 2018 as announced by Government in June 2016. The Bill will also enable Australia to meet the HFC phase-down obligations of the Kigali Amendment to the Montreal Protocol (starting 2019) should Australia decide to ratify the amendment.
- It also includes most of the efficiency measures announced in the review, including streamlining of licensing provisions, waiving uneconomic levy debts and reduce reporting frequency.
- Changes recommended by the 2014-2016 OSGG Program review have been incorporated into the Ozone Protection and Synthetic Greenhouse Gas Management Act 1989, the Ozone Protection and Synthetic Greenhouse Gas (Import Levy) Act 1995, and the Ozone Protection and Synthetic Greenhouse Gas (Manufacture Levy) Act 1995.

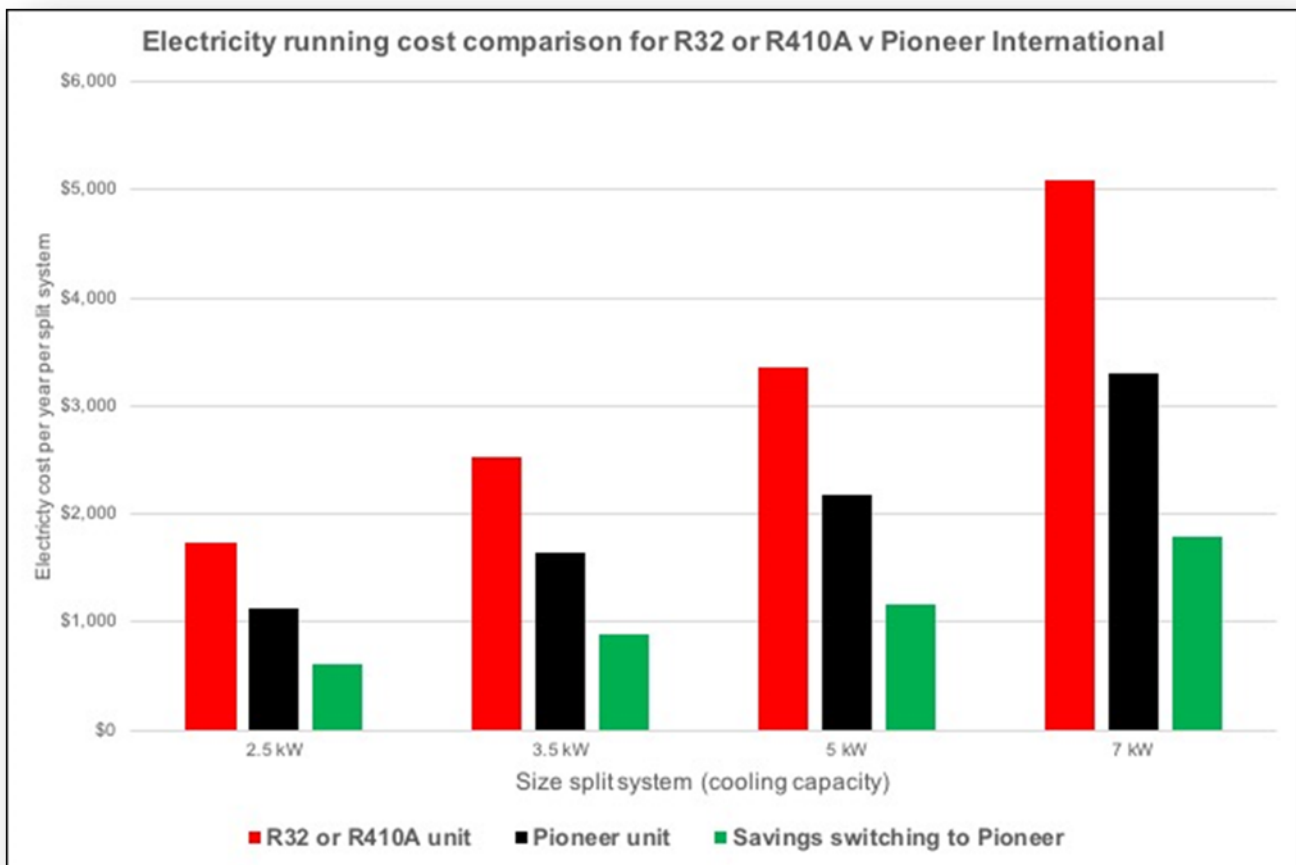
EXAMPLE ANALYSIS OF ELECTRICITY RUNNING COSTS

Calculations based on information provided by an ESE National Client:

- A/C on time 24/7
- Cycle time with compressor at full speed = 75%
- A/C temperature set point at 18° C
- Electricity costs = \$0.34 per kWh

Comparison of yearly electricity expenditure between 1 x new R32 or R410A A/C unit and Pioneer International

Cooling Capacity	2.5 kW	3.5 kW	5 kW	7 kW
R32 or R410A unit	\$1,743	\$2,524	\$3,350	\$5,093
Pioneer unit	\$1,133	\$1,641	\$2,178	\$3,310
Savings switching to Pioneer	\$610	\$883	\$1,172	\$1,783



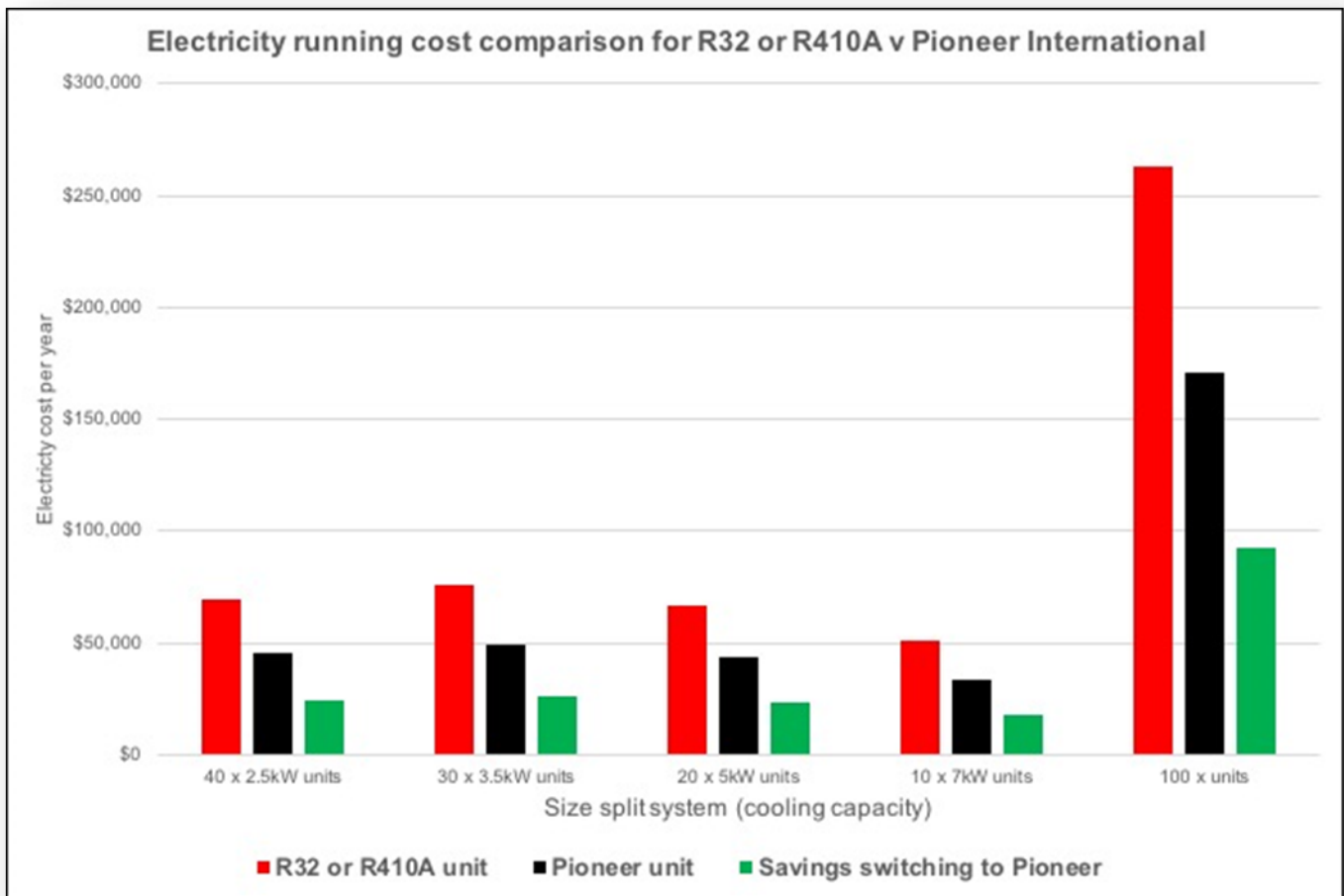
ANALYSIS OF ELECTRICITY RUNNING COSTS

Calculations based on same input data, with a selection of A/C unit sizes

- 40 x 2.5kW cooling capacity units
- 30 x 3.5kW cooling capacity units
- 20 x 5kW cooling capacity units
- 10 x 7kW cooling capacity units

Comparison of yearly electricity expenditure between new R32 or R410A unit with Chemical Refrigerant and **HEALTH SAFE** Pioneer International A/C units

Cooling Capacity	40 x 2.5kW units	30 x 3.5kW units	20 x 5kW units	10 x 7kW units	100 x units
R32 or R410A unit	\$69,720	\$75,720	\$67,000	\$50,930	\$263,370
Pioneer unit	\$45,318	\$49,218	\$43,550	\$33,105	\$171,191
Savings switching to Pioneer	\$24,402	\$26,502	\$23,450	\$17,826	\$92,180



CONTACT DETAILS

Norm McPherson General Manager – ph: 0403 019 358 e: norm@everybodysavingenergy.com.au

Helping Government and Business meet their social impact targets

The lower socio-economic statuses of Indigenous people in general throughout Australia are well known. Education, life expectancy, employment, and equal opportunity are all below national averages with Governments, and good Corporate citizens developing programs and strategies to do their part in [closing the gap](#).

Everybody Saving Energy Pty Ltd ABN: 36 166 476 446 (ESE) is a proudly 100% owned Indigenous business with proprietor Norm McPherson a descendant of the Wadawurrung Nation in Western Victoria.

By choosing to work with ESE you not only get great products, service, and savings on your energy needs you're also working with a Supply Nation registered business that can help your company or department meet its Reconciliation Action Plan targets or Indigenous Procurement Policy goals.

If you'd like to know more about how ESE can assist in meeting your social responsibility targets contact Norm on the above details.

Please take time to watch these video links,

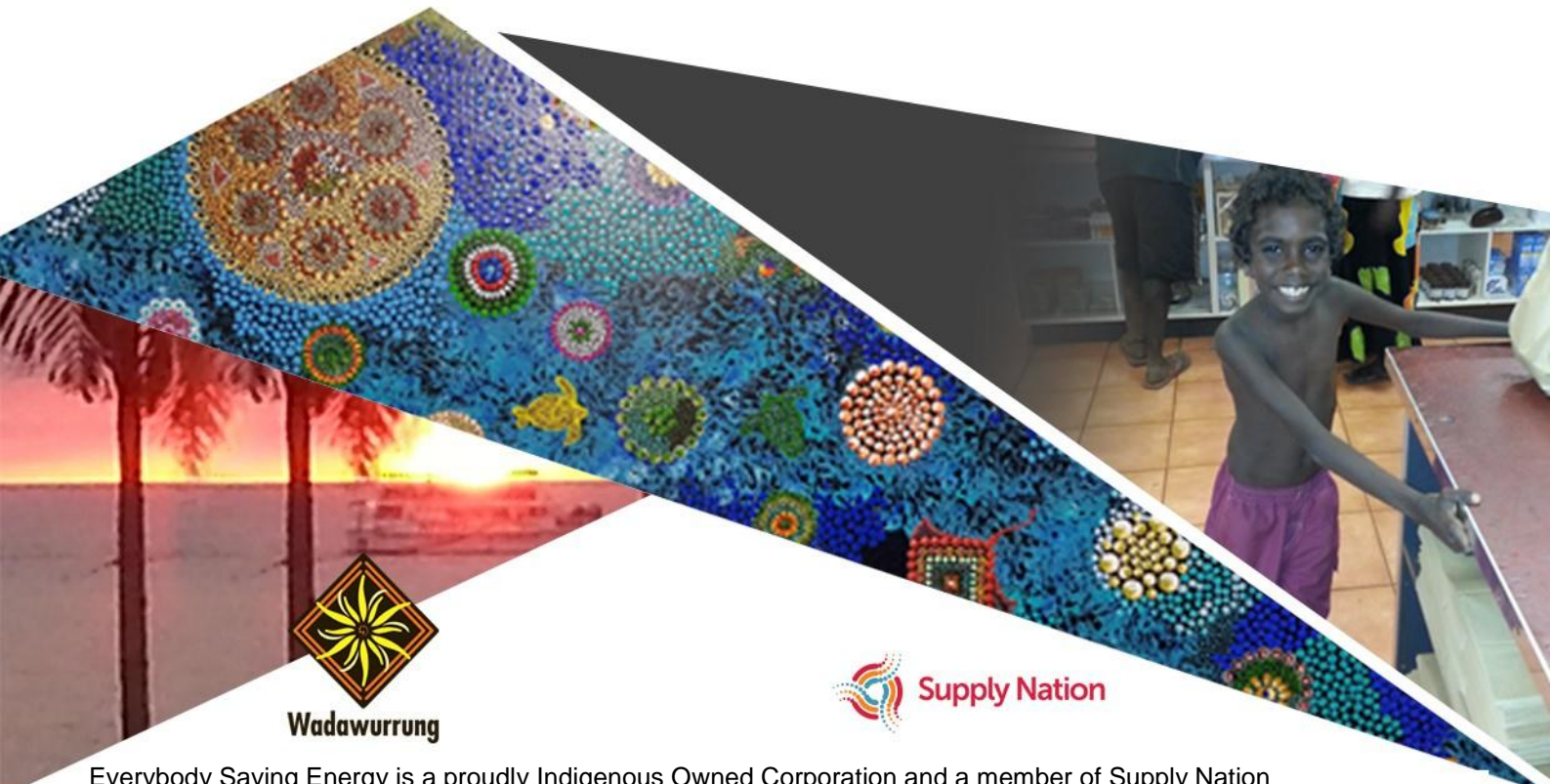
Many thanks,

Norm.

Click on these links below

[ESE Natural Refrigerant Solutions](#)

[ESE Health Safe](#)



Wadawurrung



Everybody Saving Energy is a proudly Indigenous Owned Corporation and a member of Supply Nation

We pay our respects to our elders past, present and emerging and acknowledge those Nations on whose land we do business

ESE-it's easy to save Energy > everybodysavingenergy.com.au