Fact Sheet

Insulate refrigerant piping for cool rooms.

Introduction
Refrigeration is consistently one of the largest energy consuming loads on farms that we have assessed. Keeping the refrigerant cool between the compressor and the cool room evaporators using insulation is a very cost effective way of reducing refrigeration related energy costs.

Situation
Figures 1 below shows uninsulated and exposed refrigerant piping (highlighted in red) on the external wall of a building. Figure 2 shows the same piping when viewed using a thermal imaging camera. While not noticeable with the naked eye. This shows an elevated refrigerant temperature where it is exposed to the ambient air.

Figure 1: Exposed refrigerant piping running alongside shed

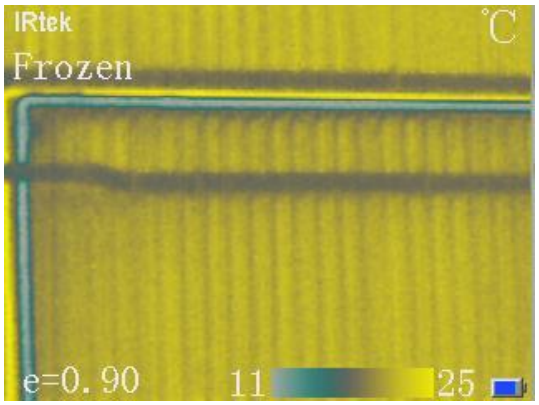

Figure 2: Thermal image of refrigerant piping showing effect of ambient air exposure

Potential savings
Insulating all exposed refrigerant pipework is inexpensive and cost effective as shown by a recent example below.

Electricity savings (kWh p.a.)	3,470
Cost savings ($ p.a.)	$555
Estimated Capex ($ ex GST)	$500

Similarly, exposed short lengths internal refrigerant pipework can also be a source of energy losses. Figure 3 below shows a short length of exposed refrigerant piping showing significant icing.

Figure 3: Exposed and uninsulated refrigerant piping

Potential savings
The savings while small are cost effective

Electricity savings (kWh p.a.)	890
Cost savings ($ p.a.)	$140
Estimated Capex ($ ex GST)	<$200

Further information
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