

Why does energy efficiency of installed equipment base matter?

In Australia, about 22% of electricity use for cooling

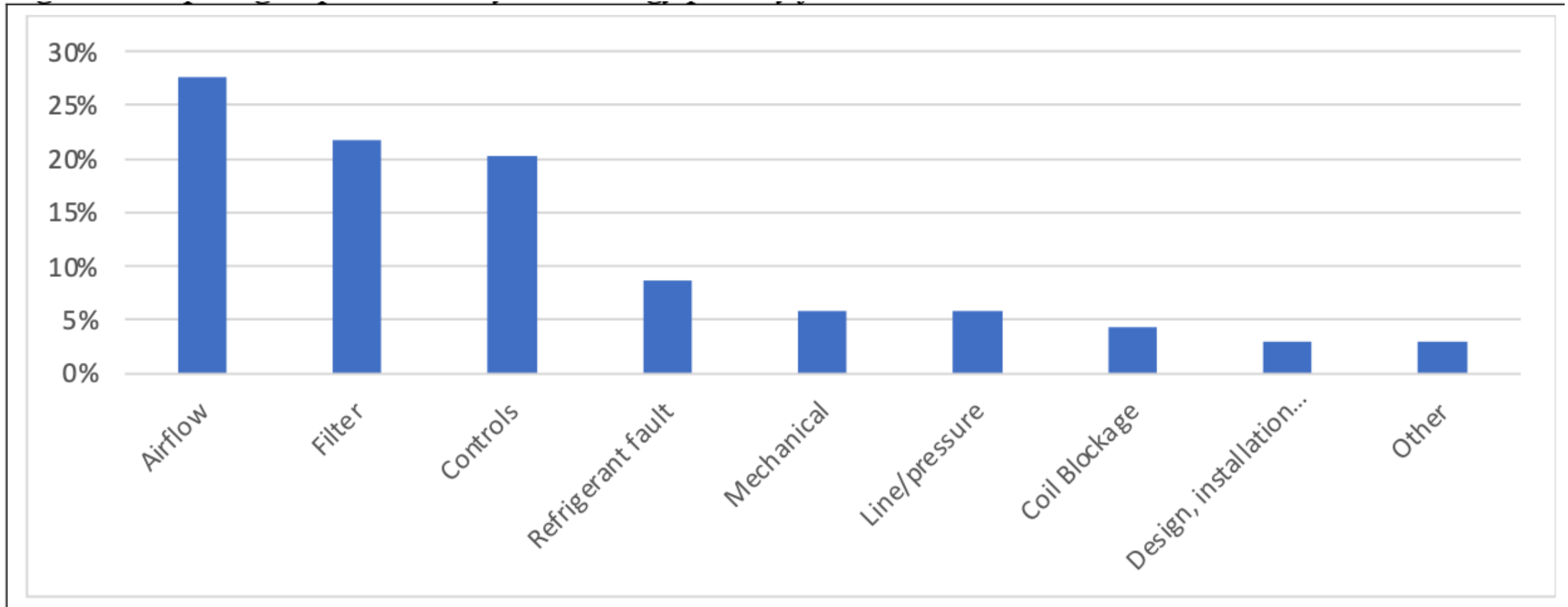
If 20% of equipment has a 20% reduction in efficiency, then

More than 1% of our total electricity use is wasted due to poor maintenance of RAC equipment (conservative estimate)

With increase in deployment of heat pumps this problem will grow if not addressed

Poorly maintained equipment tends to breakdown more frequently and have a reduced operating life, with increased refrigerant emissions and costs

Frequency of energy faults for single head split system AC



Energy losses from poorly maintained equipment

- Four common faults tested across 4 types of equipment:
 - Blocked condenser
 - Blocked evaporator
 - Refrigerant undercharge and overcharge – Leak testing
 - Contaminated refrigerant

Two main Findings:

1. Efficiency losses or increased energy consumption for most fault test conditions - on average, there was between 14% to 20% energy losses across most tests.
2. When several faults or maintenance issues co-exist in a system, it was quite likely that energy use could increase substantially and/or result in system failure