

BRA Fact finders

Number 3 (4/95)



SAVE MONEY AND THE ENVIRONMENT AT THE SAME TIME

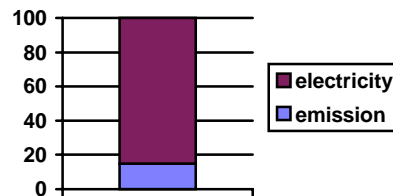
You don't have to go far nowadays in the industry before you hear talk of Environmental issues, CFC phase out, ozone depletion and all the other Green terms that are bandied about. Of all the issues faced by the refrigeration industry, possibly the most important one is that of Energy.

Energy costs money and adds to global warming. We can't stop using it, but we can use it carefully, wisely and EFFICIENTLY. The Global Warming Potential (GWP) of refrigerant gases is a useful tool for showing the relative importance of each gas. However, the greatest contribution to global warming is from the emission of CO₂ into the atmosphere. CO₂ is a by-product of generating the electricity to run the refrigeration plant during its lifetime.

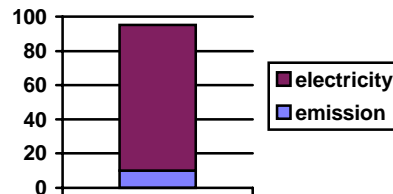
So, Global Warming arises from

1. Direct emissions of refrigerant gas.
(No leaks + 100% recovery means no direct global warming)
2. Indirect effects due to emission of the CO₂

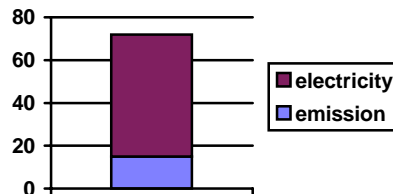
In a typical refrigeration installation 85% of the global warming could come from electricity generation. Only 15% would come from direct refrigerant emissions. **This total 100% of direct and indirect emissions is known as TEWI (Total Equivalent Warming Impact)**



Reducing the direct emissions, by use of a slightly lower GWP gas makes little change to the TEWI (100% to 95%) Direct emissions would have to be reduced by 30% to achieve this.



However, we can make a dramatic change in the TEWI (100% to 74%) by making a 30% reduction in the energy consumption



Note that direct emissions remained the same.

The message is that direct emissions must be reduced to as near zero as possible, and that a very efficient system, but with a higher GWP refrigerant, may be more environmentally friendly. A low GWP refrigerant gas will not help the environment if the resulting system is inefficient.

The priorities are to

- ✓ Go for high efficiency equipment and systems
- ✓ Reduce emissions
- ✓ Maintain equipment and reduce leaks
- ✓ Recover refrigerant

BRITISH REFRIGERATION ASSOCIATION Henley Road, Medmenham, Marlow. Bucks SL7 2ER Tel (01491) 578674. Fax (01491) 575024

BRA does not guarantee, certify or assure the safety or performance of any products, components or systems tested, installed or operated in accordance with BRA's Standards or Guidelines or that any tests conducted under its Standards or Guidelines will be nonhazardous or free from risk. BRA disclaims all liability to any person for anything or for the consequences of anything done or omitted to be done wholly or partly in reliance upon the whole or any part of the contents of this Factfinder.

Reproduced with permission