

Mechanical Room Update

**The outlook for
HCFC-22**



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The Outlook For HCFC-22

On December 12, 1995 the Montreal Protocol was amended to limit the use of HCFC refrigerants in the global market. In 1992 the Protocol placed a cap of 3.1% on the production growth of HCFCs in developing countries. In addition, a stepped phaseout through 2030 was allowed. In December 1995 this 3.1% cap was reduced to 2.8% with a phaseout in new designs in 2020 leaving a small 1/2% service tail to 2030. For developing countries HCFC consumption will be capped at 2016 with a total phaseout by 2040.

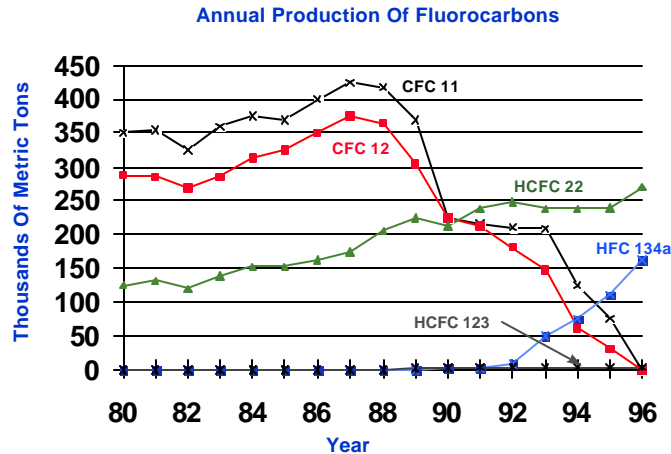


Fig # 1

Source: Reported to Alternative Fluorocarbons
Environmental Acceptability Study Group

What is the outlook for refrigerant HCFC-22 with this phaseout schedule? Consider the following:

- The past and projected production of a refrigerant type is as shown in Fig. 1. In the case of HCFCs that base will be the future supply of reclaimed and recycled refrigerants for installed equipment.
- In most countries, you cannot vent HCFC-22 into the atmosphere by law. (i.e. U.S. Clean Air Act - no venting of CFCs / HCFCs after 7/1/92, HFCs 11/15/95). No venting means the supply remains constant.
- In reaction to laws such as the Clean Air Act, HCFC-22 designs have undergone design modifications to greatly reduce the leak rates in some cases to less than 0.5% annually. This maintains a constant supply of HCFC-22 in equipment. Previous to these design changes the leak rates were 15% to 18% annually.
- The U.S. Clean Air Act mandates that, HCFC-22 must be reclaimed or recycled by law to a purity standard prior to being returned into the market (i.e. ARI-700 Standard and Industrial Recycling Guide, IRG-2) thus ensuring such a large supply well beyond 2020.

- As the residential air conditioning market moves to refrigerants such as R-410a and large centrifugal chillers move to HFC-134a, the reclaimed/recycled supply stock of HCFC-22 will actually increase and add to the supply stock .
- The availability of replacement components such as compressors for the HCFC-22 market should be considered. Unless the new designs, focused on the new blended refrigerants, are being supplied by a major manufacturer. That supply of unique, new compressors and coil designs may not be available from your local dealer. This is especially critical for applications in mobile commercial cooling such as truck and trailer refrigeration where globally service is required virtually at every major city in the world.

National Shares Of HCFC 22 Production

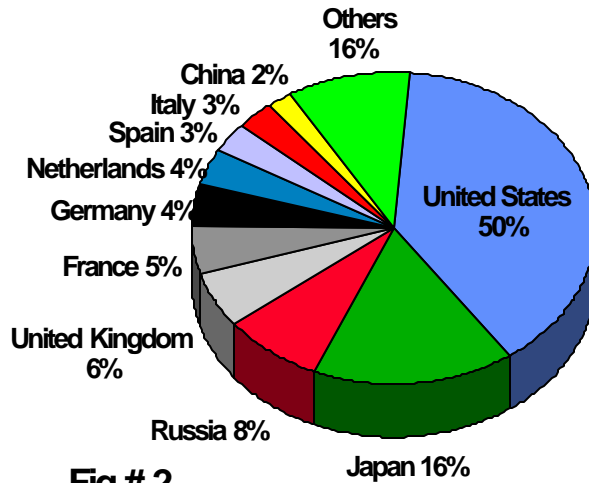


Fig # 2

Source: AFEAS

When considering the outlook for outlook for HCFC-22 -- There appears to be one large problem when HCFC-22 will no longer be manufactured in 2030, there will be such a large quantity remaining that a good environmental means of destroying the stock will be required.

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