

**Table 10: Production and Atmospheric Release
HFC-134a** (thousand metric tonnes)

Expanded Data

Reporting Companies only

(thousand metric tonnes)

	Cumulative														
	Annual		Total			Short Banking Times			Medium Banking Times			Long Banking Times			
	Production	Released	Production	Released	Unreleased	Sales	Released	Unreleased	Sales	Released	Unreleased	Sales	Released	Unreleased	
1990	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	
1991	2.2	0.2	2.4	0.3	2.1	0.2	0.1	0.0	2.2	0.2	2.0	0.0	0.0	0.0	
1992	6.4	0.8	8.8	1.1	7.7	0.5	0.3	0.2	8.2	0.8	7.4	0.1	0.0	0.1	
1993	26.5	3.6	35.3	4.7	30.6	2.2	1.4	0.9	32.7	3.2	29.4	0.4	0.1	0.3	
1994	50.4	9.1	85.7	13.8	71.9	5.1	3.6	1.4	78.7	9.5	69.2	1.9	0.6	1.3	
1995	73.8	19.8	159.5	33.6	125.9	15.5	10.3	5.2	140.0	21.9	118.0	4.0	1.4	2.6	
1996	83.7	32.4	243.2	65.9	177.2	26.4	20.9	5.4	210.1	42.6	167.5	6.7	2.3	4.4	
1997	97.9	42.3	341.1	108.3	232.8	34.7	30.5	4.2	296.0	74.0	222.0	10.4	3.7	6.6	
1998	112.2	54.3	453.3	162.6	290.7	42.3	38.5	3.8	391.5	117.0	274.5	19.5	7.0	12.5	
1999	131.8	69.7	585.1	232.3	352.8	57.6	50.0	7.6	500.0	172.1	327.8	27.5	10.2	17.3	
2000	129.8	84.6	714.8	316.9	398.0	73.9	65.7	8.1	607.8	238.3	369.5	33.1	12.8	20.3	
2001	134.0	96.4	848.8	413.3	435.5	87.4	80.6	6.8	714.9	314.6	400.4	46.5	18.1	28.3	
2002	157.0	105.9	1005.8	519.2	486.6	103.2	95.3	7.9	845.5	400.9	444.5	57.1	23.0	34.1	
2003	166.9	114.8	1172.7	634.0	538.7	115.6	109.4	6.2	989.7	496.6	493.1	67.4	28.0	39.4	

Notes

In previous reports, from 1997 to 2002 fugitive emissions were incorrectly calculated. This has now been rectified with small changes to the data for the years identified in red.

Emissions are calculated from production and categorised sales using "emission functions".

The emission function for "Long" banking times was changed in 2001 in view of the results of a survey commissioned by AFEAS:

(Ashford P., 1999, Development of a global emission function for blowing agents used in closed cell foam, Final Report to AFEAS and

McCulloch A., P.M. Midgley and P. Ashford, Releases of Refrigerant Gases (CFC-12, HCFC-22 and HFC-134a) to the Atmosphere, Atmos. Environ., 37, 889-902, 2003)

The survey showed that most (99%) of the HFC-134a in closed cell foams was used to blow expanded polystyrene, the emission function for which comprises 32.5% loss in the year of manufacture and 3%/yr thereafter.

Columns affected by this change are shaded pale green/blue.

The emission function for "Short" banking time (e.g. aerosols) is the same as in previous reports (50% emitted in the year of manufacture and 100% the year after).

The emission function for "Medium" banking time (predominantly refrigeration) is the same as in previous reports (normally distributed about a mean of 4.5 years, with a total service lifetime of 10 years).