

Estimated virgin R-22 demand for servicing equipment during remainder of phaseout based on USEPA data.

**Table Error! No text of specified style in document.-1: Baseline Recovery Rate Scenario
(from EP Service Tail Report)**

Summary of Projected HCFC-22 Supply and Servicing Need (Metric Tons)^a

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total HCFC-22 Servicing Need	46,100	41,600	36,700	32,300	27,700	22,500	17,900	13,700	10,100	6,900	5,500
Modeled HCFC-22 Supplied from Recovery or Reuse	21,300	20,800	21,800	21,100	21,800	23,100	20,700	18,100	17,000	15,600	10,800
Estimated Supply Needed to Satisfy Remaining Servicing Need	24,800	20,700	14,900	11,300	5,900	0	0	0	0	0	0
% of Total Servicing Need Supplied by Modeled Recovery/Reuse	46%	50%	59%	65%	79%	>100%	>100%	>100%	>100%	>100%	>100%

^a Based on analysis using EPA (2012).

Note: Totals may not sum due to independent rounding.

Total EPA estimated virgin R-22 demand 2015-2025 not accounting for the use of R-22 alternatives = 184,400MT assuming no reclamation/recovery of used R-22 and 77,600MT at projected rates of reclamation/recovery.

Box Error! No text of specified style in document.-1: Sensitivity Analysis on Key Assumptions Affecting HCFC-22 Servicing Demand (from EPA Service Tail Report)

System Charge Sizes: This sensitivity analysis explores the impacts of a lower 4 kg charge size for 13 SEER HCFC-22 residential unitary AC equipment rather than the current assumption of approximately 4.8 kg. This change reduces HCFC-22 servicing need by about 2-7 percent per year from 2015 to 2023.

Leak Rates: Leak rates for residential unitary AC, large and medium retail food refrigeration, and cold storage units may be lower as a result of partnership programs such as GreenChill and more careful servicing. Lower loss rates can reduce HCFC-22 servicing need by about 10-23 percent per year between 2015 and 2025.

Lifetimes: The ban on HCFC-22 in new equipment manufactured after 2010 and price increases for HCFC-22 are likely to have prompted some end-users to transition away from HCFC-22 equipment earlier than the end of the equipment's lifetime. This sensitivity analysis explores the impact on servicing need if 20 percent of residential unitary AC, industrial process refrigeration units, and retail food equipment transitions out of HCFC-22 five years earlier. These changes can reduce HCFC-22 servicing need by 9-14 percent per year between 2015 and 2025.

EPA sensitivity analyses indicate all factors tested would reduce virgin R-22 demand. Averaging the midpoint of these factors for years 2015-2019 suggest demand could readily be lower by about 1/3, or a total virgin R-22 demand of 121,704 - 51,216MT, depending upon reclamation assumptions.

Based on recent market experience the use of retrofit alternatives to R-22 as R-22 prices rise will be on the order of 20-30% of virgin R-22 demand, reducing virgin R-22 demand to approximately 91,278 - 38,412MT.

2008-2013 HCFC-22 Aggregate Inventory Data (From USEPA)

March 27, 2014

Amount of virgin and reclaimed HCFC-22 owned and held in inventory (as of December 31 of each year) in metric tons (MT), as reported by nine entities in the HCFC-22 market.

Aggregate HCFC-22 Inventory (MT)

2008	2009	2010	2011	2012	2013
58,464	62,120	63,143	61,968	51,124	53,925

EPA requested HCFC-22 inventory data from 2008-2012 in August 2013. In February 2014, EPA asked the same nine entities for their HCFC-22 inventory at the end of 2013. Both of these requests were under the authority of section 114 of the Clean Air Act. The nine entities comprise major producers, importers, distributors and reclaimers of HCFC-22.

EPA surveyed the 9 largest allowance holders and is reporting 53,925MT in inventory. The total inventory, including that held by other parties not included in the survey, is likely somewhat higher. If this inventory is subtracted from the virgin R-22 demand estimates above it results in a newly produced virgin R-22 demand on the order of 37,353MT (assuming no recovery/reclaim of used R-22) to a surplus of 15,513MT.

EPA's proposed five year accelerated allocation would add an additional total of 30,000MT of virgin R-22 supply. Assuming some reasonable degree of used R-22 recycle/reclaim and transition to alternative retrofit products the five year accelerated linear draw down allocation

proposal appears to best fit the anticipated virgin R-22 market demand, ensuring sufficient supply to service market needs while creating an adequate signal of market tightness to incent needed market transitions.