

# India to phase out ozone-harming gases by 2023; industry says ready

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The Indian government has taken a major step towards phasing out the use of ozone-depleting gases in the cooling industry, with the Cabinet ratifying the Kigali Amendment to the Montreal Protocol that aims to reduce consumption of such environmentally harmful substances.

The Kigali Amendment is the first and only legally binding treaty on climate change. The air conditioning and refrigeration market that use hydrofluorocarbons (HFCs) has over the years moved to relatively environmentally friendly technology. According to the cooling industry, companies have already been complying with the aim to cut HFC usage and most leading players do not even use such gases.

The move by the Union Cabinet on Wednesday would ensure compliance and time-bound action on phase-down of HFCs. The use of air conditioners is expected to grow over 10 million units a year by 2022, eight years before the HFC production freeze will kick in.

The Union Cabinet decided to develop a national strategy for phasing down HFCs by 2023, so that industries can draw a roadmap for action.

The Kigali Amendment was adopted in October 2016 at the 28th Meeting of the Parties held at Kigali, Rwanda, to phase down HFCs. These HFCs would be replaced with low-global warming potential (GWP) refrigerants.

Chandra Bhushan, CEO of iFOREST, who contributed towards the framing of the Kigali Amendment, said the ratification means India will have an HFC consumption and production freeze in



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2028, a 10 per cent reduction in 2032, and an 85 per cent reduction by 2047. "In doing so, India alone will reduce 2 to 6 billion tonne of carbon equivalent emissions through 2050. This is equal to two years of India's current annual emissions," he said.

In 2016, when the Kigali Amendment was first adopted, India had to cut down HFC by 10 per cent by 2032. Leading players had then said it gives the industry a lot of time to shift. Several AC companies had even shifted compressor manufacturing to India to take advantage of less stringent environmental norms, back then.

B Thiagarajan, managing director, Blue Star, said the transition already happened in the past five years. "There is hardly any player left with old generation HFCs," he said. Blue Star is one of the top five AC players in the country, controlling over 10 per cent of the market.

Most players that Business

Standard spoke with said they have moved on to R32, a low GWP gas. "For larger units, such as VRF and large ducted splits, globally work is on for change from R410a. The biggest challenge on this will be for the US, which continues to use R410a. Most other countries have already moved to R32," said Krishan Sachdeva, chairman, Carrier Midea India.

R-600A is commonly used in small-size refrigerators in India. It is one of the greenest refrigerant options available because it has zero ODP (ozone depletion potential) and close to zero GWP (global warming Potential) levels.

R134A is a good advancement in refrigerants after phasing out CFCs (chlorofluorocarbons) as it has a zero ODP level. This feature makes it an ozone-friendly gas. But, it does contribute to global warming. It is one of the most used gases in the refrig-

erator today, due to its non-toxic and non-flammable properties.

Over the past five years, all leading AC makers, like Daikin, Godrej, Hitachi, Carrier and Blue Star, among others, have phased out the older generations of refrigerants like R22. Relatively newer generations of refrigerants like R410A are still being used for cheaper products but on a much smaller scale, said top executives from the industry. R22 affects the Ozone layer directly while R410A is an HFC that has high global warming potential.

According to industry estimates, currently, over 90 per cent of the 7 million ACs used in India use non-HFC technology gases like R32.

"We took the first step back in 2013 to move on to using R32 refrigerant. Today, the majority of the AC players are using the same to make their products reliable, safe and eco-friendly", said Kanwal Jeet Jawa, MD & CEO, Daikin India.

According to Kamal Nandi, business head & executive vice president, Godrej Appliances, since R32 and R290 are available for free as they are not under any royalty agreement, using such refrigerants are cost-effective options and have helped Indian AC makers smoothly transition towards non-HFC technology.

"India's decision on ratification comes at an opportune time as this will give a boost to the industry to invest in developing alternative refrigerants and energy-efficient appliances. If India successfully enhances energy efficiency with HFC phase-down, the residential air-conditioning sector alone can abate about 0.4 billion tons of carbon equivalent emissions per year in 2030 and lead to billions of dollars in savings," said Bhushan.