



Institute for Governance & Sustainable Development

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GM Scores Global First with New Climate Protection Technology

Washington, DC, July 26, 2010 – General Motors (GM) scored a global first by being the first company worldwide to introduce a climate-friendly refrigerant to replace the super greenhouse gas currently used in auto air conditioning. The new refrigerant, called an HFO, has a global warming potential of just 4 compared to over 1,400 for the current refrigerant, HFC-134a. Use of the new refrigerant will start in 2013, with Chevrolet, Buick, GMC and Cadillac models sold in the U.S.

GM's new refrigerant remains in the atmosphere for just 11 days, according to Honeywell, its producer. Honeywell calculates that the low global warming potential (GWP) and the short lifetime of its HFO achieve a 99.7 percent improvement in the climate impact of its refrigerant compared to the current HFC-134a it replaces. HFCs are considered super greenhouse gases, and are the fastest growing part of the U.S. climate emissions, estimated to grow more than 140% by 2020 compared to 4% growth for all U.S. climate emissions.

“GM should be congratulated for leading the way with an innovative refrigerant that can drastically cut the use of super greenhouse gases in the auto air conditioning sector,” said Durwood Zaelke, President of the Institute for Governance & Sustainable Development (IGSD). “Eliminating super greenhouse gases is a top priority for climate protection.”

The technology announced by GM is the culmination of more than a decade of cooperation among industry, government, and standard-setting organizations. The transition to low-GWP refrigerants is being driven by regulation in the European Union that will phase out auto air conditioning refrigerants with GWPs higher than 150 between 2011 and 2017, and similar regulation in California with the same 2017 deadline. In the United States, the improved environmental performance of the new refrigerant helps car makers achieve the 40 percent improvement in average vehicle fuel economy required by 2016. An additional incentive for a rapid refrigerant transition is the pending petition before the U.S. EPA to remove HFC-134a from the list of acceptable motor vehicle air conditioning refrigerants. The petition was filed by the Natural Resources Defense Council, the Environmental Investigation Agency, and IGSD.

“GM has taken a major step forward in climate protection,” said Dr. Stephen O. Andersen, Co-Chair of the Montreal Protocol ozone treaty’s Technology & Economic Assessment Panel (TEAP). “TEAP estimates that one-third of the most damaging high-GWP greenhouse gases known as HFCs are being used in motor vehicle air conditioning and that motivated industry can

make a complete transition to environmentally-superior technology in 7 years or less.”

“GM’s announcement sends a powerful signal to other car companies that it’s time to abandon unsustainable super greenhouse gases and move to next generation climate-friendly technology that also delivers high energy efficiency and reliable service,” said Zaelke.

“The challenge is to get chemical suppliers to make this critical technology available quickly in all countries at an affordable price,” Zaelke added. There is a growing fear that chemical companies producing HFOs could extract what some would consider monopoly profits, though that seems unlikely, as governments and car companies proceed with commercialization of this vital chemical.

“The more enlightened position would be for the chemical companies to donate their climate-friendly and ozone-friendly technology to the public domain as compensation for the health and economic damage caused by the ozone-depleting and climate-warming gases they marketed in the past,” said Zaelke.

A proposal to phase down HFCs in the U.S. is part of the Kerry-Lieberman climate bill and the Waxman-Markey bill. The proposal is one of the few provisions with bipartisan support. The HFC phase-down could still be part of the oil spill legislation that Senate Majority Leader Harry Reid plans to move in the coming days.

Proposals also are pending under the Montreal Protocol to phase out the use of all high-GWP HFCs in all sectors. The proposals will be addressed at the treaty’s annual meeting in November. Last year, 41 Parties joined a declaration by two small island States, Micronesia and Mauritius, calling for the HFC phase-out. This year, the United States, Canada, and Mexico submitted a joint proposal to eliminate high-GWP HFCs, following a similar proposal submitted by Micronesia.

Phasing out high-GWP HFCs under the Montreal Protocol will provide climate mitigation of 5 to 8 billion tonnes of CO₂-equivalent per year, for a cumulative total of 88 to 145 billion tonnes of CO₂-equivalent by 2050.

“This is the single biggest climate opportunity anywhere in the world this year,” said Zaelke. “An aggressive campaign to promote the use of the new HFO at an affordable price would add momentum to the effort to phase out HFCs under the Montreal Protocol,” added Zaelke. “This would virtually eliminate one of the six greenhouse gases in the Kyoto Protocol basket.”

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