

# Supporting Sustainability Initiatives with Temperature-controlled Medical Devices

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## INTRODUCTION

As a global leader in temperature-controlled medical devices, Helmer Scientific maintains focus on international, national, and local initiatives related to environmental sustainability and addressing climate change. The movement toward reducing global warming potential and protecting the earth's ozone layer continues to grow both nationally and globally in response to these concerns. Reducing the production and consumption of hydrofluorocarbons (HFCs) is one area being targeted in this movement. HFCs are commonly used in refrigeration, air conditioning, foam blowing aerosols, fire protection, and solvents. Although this type of refrigerant was adopted by manufacturers because of its lack of impact on ozone depletion, HFC refrigerants have become a target of new regulation in certain product categories due to their high Global Warming Potential (GWP).

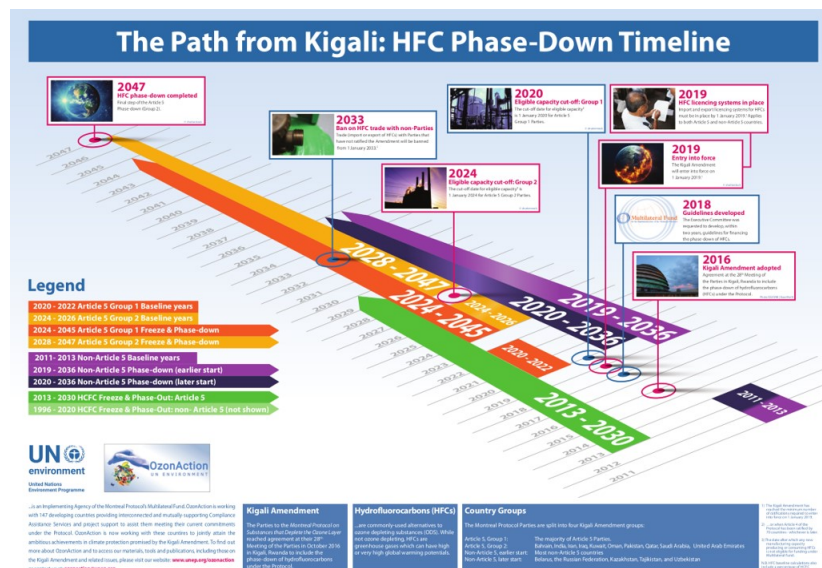
Lawmakers in the US and around the world, as well as a growing number of businesses including Helmer Scientific, are taking major steps toward limiting their impact on global warming and reducing greenhouse gas emissions. According to the Union of Concerned Scientists (UCS), climate change is causing a wide range of impacts which will affect everyone.<sup>1</sup> Whether through international agreements or local legislation, rules and regulations are being put in place to enforce compliance with these new measures. As a global supplier of medical equipment, Helmer Scientific stays abreast of the ever-changing regulations regarding climate change and is embracing these changes to meet the latest protocols when managing equipment portfolios and enhancing product lines.

## GLOBAL SUSTAINABILITY INITIATIVES

Over 30 years ago, the Montreal Protocol, an international treaty designed to gradually eliminate the production and consumption of ozone-depleting substances (ODS), was signed by all the represented sovereign states of the United Nations. It has evolved over time in response to scientific and economic changes as well as changes in technology. The most recent development in the Montreal Protocol is the Kigali Amendment which

focuses on phasing down hydrofluorocarbons by reducing their production and consumption. The goal of this amendment is to achieve a greater than 80% reduction of HFC consumption by 2047 (see Figure 1).

**Figure 1** Kigali Amendment HFC Phase-Down Timeline (adopted from Ozonaction)<sup>2</sup>



Another recent worldwide effort targeting global warming potential and bolstering the efforts to reduce the threat of climate change was the Paris Agreement which came into effect on November 4, 2016. Currently, 189 sovereign states of the United Nations have endorsed this agreement and have put policies in place to meet its goal of limiting the global temperature increase to below 2 degrees Celsius above pre-industrial levels, while pursuing endeavors to limit the increase to 1.5 degrees Celsius.<sup>3</sup> This accord requires participating countries to devise increasingly more ambitious climate targets which are consistent with the goal. In accordance with the Paris Agreement, the current US administration recently announced its intent to reduce greenhouse gas emissions 50%-52% below 2005 emissions levels by 2030.

Ozone-depleting substances are also a target in national legislation. The Environmental Protection Agency’s (EPA) Significant New Alternatives Policy (SNAP) introduced in 1994 and established under Section 612 of the Clean Air Act, was sanctioned to identify, and evaluate substitutes for certain ozone-depleting substances. Under the SNAP program, the EPA is authorized to identify and publish comprehensive lists of acceptable and unacceptable alternatives for class I and class II ozone-depleting substances. These lists are revised frequently as the EPA makes informed decisions based on its overall understanding of environmental and human health impacts in addition to its current knowledge about available substitutes.<sup>4</sup>

SNAP rules 20 and 21 address alternatives for the use of HFCs which affect global warming. These rules were contested, and at the time of this article, are not currently

being imposed though the EPA still provides low GWP refrigerant recommendations. A growing number of states are pursuing regulation, or have announced an intent to pursue regulation, related to HFCs to support initiatives to prevent Global Warming. These efforts are being made to fill gaps created by delays of full implementation of SNAP rules 20 and 21 at the federal level.

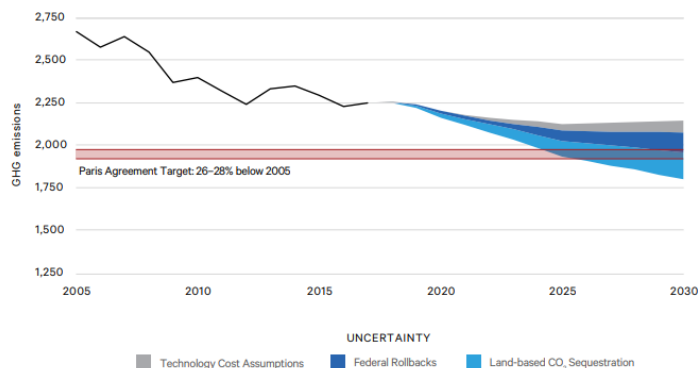
## EVOLVING SUSTAINABILITY INITIATIVES IN THE UNITED STATES

Helmer Scientific diligently monitors measures put in place to reduce global warming potential and ozone depletion. The American Innovation and Manufacturing Act of 2020 (AIM Act) was recently enacted by Congress on December 27, 2020.<sup>5</sup> The AIM Act enables the EPA to address HFCs through new phase-down targets, by maximizing recovery of used HFC gases, and helping specified industry sectors facilitate change to new, lower GWP technologies. This new regulation provides for aggressive cutoff dates for commercial refrigeration and chiller equipment categories that may be as early as 2022.<sup>6</sup>

As the EPA navigates through new federal regulations to reduce global warming potential, several states are already in action. The US Climate Alliance is a state coalition created in harmony with the Paris Agreement. The primary purpose of the Alliance is to establish policies which further the objectives outlined in the Paris Agreement. Currently 24 states and Puerto Rico have joined the Alliance setting aggressive goals to reduce greenhouse gas emissions by at least 26-28 percent below 2005 levels by 2025.<sup>7</sup>

An independent assessment performed by Resources for the Future (RFF), which was based on already-adopted strategies, indicated Alliance states are on track to lower their emissions by at least 20-27 percent below 2005 levels by 2025. (see Figure 2)

**FIGURE 2** Net GHG emissions from Alliance States, million metric tons carbon dioxide equivalent (MMT<sub>CO2e</sub>)(adopted from U.S. Climate Alliance Website)<sup>8</sup>





Helmer Scientific continues to innovate temperature-controlled medical devices to reduce potential impact to the environment and support new and proposed sustainability legislation. Significant headway has been made in replacing HFCs with low GWP technologies. We will continue to monitor and respond to evolving regulations to ensure our products meet the needs of our customers across global regions and to be good stewards of the environment.

## REFERENCES

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