# Why This Work Matters Now

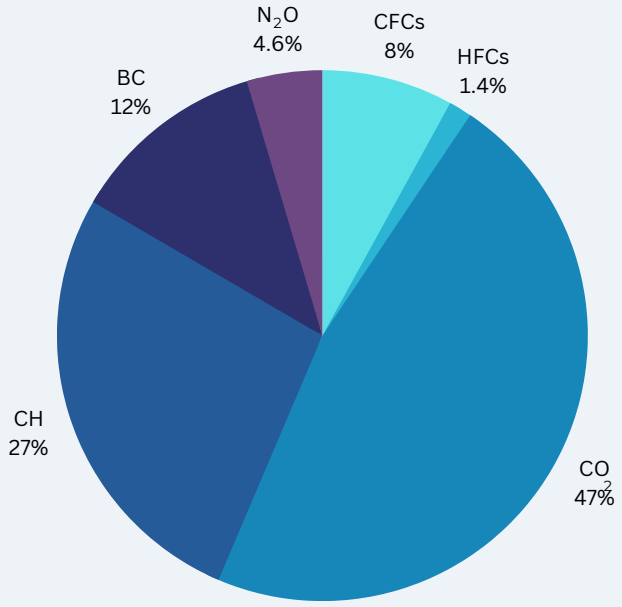
Tradewater is a mission-based company in business to prevent catastrophic climate change. We concentrate our efforts on scalable strategies to collect, control, and destroy potent greenhouse gases. Our goal is to make the biggest difference we can in the fight against climate change, and to do so as fast as we can.

The Intergovernmental Panel on Climate Change (IPCC), the leading organization of scientists studying climate change, has determined that we must limit global warming to no more than 1.5° C above pre-industrial times to prevent catastrophic climate change.[1] There are three pathways that must be pursued simultaneously to achieve this goal. One is to dramatically curb the release of carbon dioxide ($CO_2$) emissions from the burning of fossil fuels. The second is to remove $CO_2$ from the atmosphere through nature-based solutions and other $CO_2$ removal technologies. The third is to prevent the release of non-$CO_2$ gases that accelerate global warming in the short term.[1]

At Tradewater, we are focused on this third pathway – preventing the release of non-$CO_2$ gases. Non-$CO_2$ gases account for nearly half of all global warming from human activity since 1970.[2] Once non-$CO_2$ gases are released into the atmosphere, they quickly do their damage and cannot be removed through nature-based solutions or other technologies. This is why every scenario for achieving the 1.5° C target requires an immediate reduction of non-$CO_2$ gases.[3]

Stopping the release of these gases buys more time for longer-term strategies focused on $CO_2$ reductions and removals to be developed, adopted, and implemented globally.

**GHG Contributions to Warming Since 1750**




*Contributions to warming since 1750 from carbon dioxide ($CO_2$), methane ($CH_4$), black carbon (BC), nitrous oxide ($N_2O$), chlorofluorocarbons (CFCs), and hydrofluorocarbons (HFCs), adapted from Dreyfus, et al.*[2]

**Tradewater is focused on two categories of non-$CO_2$ gases: halocarbons and methane.**

Tradewater finds, collects, and destroys halocarbons from equipment and stockpiles all over the world. We permanently stop methane emissions by finding and plugging leaking orphaned oil and gas wells. By focusing on these two potent non-$CO_2$ gases, Tradewater will prevent the equivalent of millions of tons of $CO_2$ from being released into the atmosphere.

## Halocarbons

Halocarbons include refrigerants and halons. Some of these gases are ozone-depleting substances, including chlorofluorocarbon (CFC) and hydrochlorofluorocarbon (HCFC) refrigerants, and halons. The global warming potential of ozone-depleting gases is up to 10,200 times that of $CO_2$.[4] Hydrofluorocarbon (HFC) refrigerants are also halocarbons and were manufactured to replace ozone-depleting CFC and HCFC refrigerants. HFCs are also potent greenhouse gases—up to 2,000 times that of $CO_2$. The Montreal Protocol has placed bans or phase out targets on the manufacture of all these halocarbon gases.[5] While the bans have been effective in stopping new production of halocarbons, there are large volumes that were produced before the ban and are broadly distributed around the world, and are at risk of being released into the atmosphere.

HCFC and HFC refrigerants are short-lived climate pollutants that rapidly accelerate climate change in the near-term.[6] CFC refrigerants and halons break down much more slowly in the atmosphere (taking up to 100 years) and are therefore critical long-term targets.[7]

In addition to having a direct impact on climate on their own, CFCs, HCFCs, and halons also deplete atmospheric ozone. Recent studies suggest that ozone depletion damages plants and substantially reduces their ability to sequester carbon, hindering long-term natural efforts to remove $CO_2$ from the atmosphere. Finding and destroying remaining stocks of ozone-depleting gases will help maintain the ability of natural systems to sequester carbon. In fact, reducing the release of ozone-depleting substances and thereby allowing the hole in the ozone layer to heal has already prevented 0.5-1°C of warming.[8, 9]

The amount of CFC refrigerants at large in the world and at risk of leaking is equivalent to 11 billion tons of $CO_2$, and the amount of HCFC refrigerants is equivalent to 5 billion tons of $CO_2$. Halons still in use globally equals more than 420 million tons of $CO_2$.[10]

**Tradewater's work to collect and destroy the remaining halocarbons that were made before the Montreal Protocol production bans went into effect is an essential step in the fight against climate change.**

## Methane

The other non-$CO_2$ gas Tradewater targets is methane. Methane has a global warming potential of 84 times that of $CO_2$ over 20 years and is responsible for at least 25% of the global warming we are experiencing today.[3, 11] It is also a short-lived climate pollutant, meaning that it does the most damage in the first years following its release into the atmosphere. For these reasons, the IPCC recognizes the reduction of methane emissions as the most effective immediate strategy for slowing down warming.[11] With atmospheric methane levels[12] already above those needed to limit warming to 1.5°C,[2] additional methane-specific strategies are desperately needed. Indeed, according to the Global Methane Assessment, a 40% reduction in global methane emissions over the next 10 years could prevent 0.3°C of additional warming by 2040.[3]

**In the United States alone, the EPA estimates that there are over 3 million abandoned and orphaned oil and gas wells.[13]**

While regulations require oil and gas companies to plug wells after they are produced, many companies go bankrupt or abandon their wells before plugging them. The unplugged orphaned wells that Tradewater targets are uncontrolled sources of methane that lack a responsible operator to plug and mitigate them. Further, these wells can emit other harmful gases into the atmosphere, leach contaminants into drinking water and natural habitats, and are a safety hazard for the local community.

Tradewater is finding these wells, measuring their methane emissions, and permanently plugging them to stop current leaks and prevent future releases of methane from these sources.

## Impact

To date, Tradewater has collected, controlled, and destroyed halocarbons and methane equivalent to more than 6 million metric tons of $CO_2$.

The magnitude of this impact is often difficult to grasp, but it is equivalent to planting nearly 100 million trees or preventing more than 6.7 billion pounds of coal from being burned—either way, it is a massive impact.[14] Tradewater is dedicated to increasing its impact by preventing at least 22 million tons of $CO_2$equivalent from being released into the atmosphere through 2027.

**This work matters now because it has a massive, permanent impact, and as we increase the scale of impact, it gives us all a fighting chance to prevent catastrophic climate change.**

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