

**CCLI's 2011 Action Project**

**Cool the Climate**



**[www.takeresponsibility.us](http://www.takeresponsibility.us)**

**Cool the Climate means using the Montreal Protocol as a model and vehicle for sensible action (i.e. using natural coolants over HFCs) → We must raise awareness & generate action for efficient, pollution free refrigeration & air conditioning;**

## **USE THE MONTREAL PROTOCOL AS A MODEL & VEHICLE FOR SENSIBLE CLIMATE ACTION**

The Montreal Protocol, a pathway for protecting our ozone layer by phasing out dangerous ozone depleting chemicals (Chlorofluorocarbons-CFCs, Halons, Methyl Bromide, and others used as coolants and aerosols) is known as one of the most successful and effective international treaties the world has seen. 196 countries signed and ratified it (this means full ratification which is extraordinary). The United States in 1987 during the Reagan Administration no less signed the Treaty and is an active, instrumental participant to this day.

There are many reasons why this international pollution controlling mechanism has been so successful including:

- It has always been *science based* (In 1973 Chemists [Frank Sherwood Rowland](#) and [Mario Molina](#) began studying the impacts of CFCs in the Earth's atmosphere, and Crutzen, Molina and Rowland were awarded the 1995 [Nobel Prize for Chemistry](#) for their work on this problem); it *actively involves industry*; through the Multilateral Fund (MLF) and other vehicles, it *fairly enlists action from developing and developed countries alike*; it has *spurred economic opportunity and better efficiency*; and most importantly, *it has been effective in solving the problem*. As Molina said "The Montreal Protocol is widely considered the most successful environmental treaty [by] phasing out almost ozone-depleting chemicals [and] placing the ozone layer on the path to recovery by mid-century.

### **Lessons for Climate Action:**

- Not only should we model the evolving Framework Convention on Climate Change (FCC) and subsequent Kyoto Treaty on the Montreal Protocol by phasing out dangerous greenhouse gas emissions that are causing [anthropogenic global warming](#) in the same way the Montreal Protocol phases out the chemicals causing ozone depletion;

- We should also increasingly and most rapidly integrate the two efforts because chlorofluorocarbons (CFCs) and most other ozone depleting substances (ODS) that the Montreal Protocol has phased out or substituted in the case of Hydrochlorofluorocarbons (HCFCs) are also powerful Greenhouse Gases (GHGs).
- In addition to reducing global consumption of Ozone Depleting Substances (ODS) by 97 per cent, the Montreal Protocol lowered greenhouse gas emissions by the equivalent of 135 gigatonnes of CO<sub>2</sub> during the period 1990-2010. This can be translated to 11 gigatonnes a year, four to five times the reductions targeted in the first commitment period of the Kyoto Protocol. This unprecedented achievement is even more remarkable given that global GHG emissions have increased by more than 35 per cent since 1990.
- Unfortunately the prime replacement to the ozone depleting CFCs is Hydro-fluorocarbons (HFCs) which is a most potent greenhouse gas, up to 10,000 times more potent greenhouse gases than carbon dioxide. The Montreal Protocol and the Climate Treaty needs to rapidly place restrictions on HFCs. Since the CFCs themselves are equally powerful as greenhouse gases, the mere substitution of HFCs for CFCs does not significantly increase the rate of anthropogenic global warming, but over time a steady increase in their use could increase the danger that human activity will change the climate.
- It is also important to collect and destroy ozone depleting substances (ODS) and Hydro-fluorocarbons (HFCs) in the ‘banks’ of discarded products and equipment.

For more information on the above or below go to:

[http://www.uneptie.org/ozonaction/information/mmcfiles/3139-e-OASi2010\\_OutOfTheMaze.pdf](http://www.uneptie.org/ozonaction/information/mmcfiles/3139-e-OASi2010_OutOfTheMaze.pdf)

## Globally to locally raise awareness & generate action for efficient, pollution free refrigeration & air conditioning as well as conservation

**Internationally:** There should be a coordinated effort to organize carbon funding to bridge the gap between ozone and climate investments to leapfrog high-Global Warming Potential (GWP) HFCs while pushing energy efficiency for sustainable development.

### The United States and the world should use natural coolants over HFCs—

accelerate the phase-out of Hydro-fluorocarbons (HFCs) in favor of natural chemicals (such as hydrocarbons), climate-friendly substitutes and more energy efficient technologies will reduce greenhouse gas emissions by an billions of tons over the next several decades, provided that HCFCs are replaced with

**Nationally:** Reward climate protection undertaken by business and citizens. Label, tax, or ban non-essential products and services that have high climate footprints. Start with changing government procurement rules. Have ‘Top Runner’ programs as pioneered in Japan to require that all products achieve the same or higher energy efficiency as the best product sold three years previously. Promote low-GWP HFCs and natural refrigerants, while progressively prohibiting the high-GWP HFCs.

**In the United States:** Note, Lisa Jackson, EPA Administrator commended the science driven successful Montreal Protocol and linked it to the effort to address human induced climate change saying “the U.S., Canada and Mexico has come together in partnership to submit the North American Proposal to amend the Montreal Protocol. Our proposal seeks to bring the treaty’s powerful tools

to the fight against climate change, including adding hydrofluorocarbons to the treaty's control scheme. That change would apply the successful framework of the Montreal Protocol to finding significant, near-term reductions in emissions that are many times more potent climate forcers than carbon dioxide.”

**In environmental NGOs:** Be a bigger part of the solution by advocating technological development that goes beyond (but includes) natural refrigerants and by embracing life-cycle, start-and-strengthen, and fast action as guiding principles.

Natural refrigeration solutions exist today, using hydrocarbons, ammonia and carbon dioxide. In 1992, *Greenpeace* developed the first hydrocarbon refrigerator as a solution to avoid HFCs, since then, 400 million have sold globally. Some natural refrigeration options are in widespread use, others nascent in the marketplace. As countries around the world ban HFCs, these newer technologies are expected to become the standard for cooling.

**In companies:** Be vocal in support for the Multilateral Fund replenishment to leap-frog high GWP HFCs, to finance energy efficiency gains during the transition, and to collect and destroy banks of ODS and HFCs in discarded products and equipment. Demand fast phase-out of high GWP HFCs – in the same way that companies previously promoted phase-out of CFCs – and share technology among both developing and developed countries, on a fair and equitable basis worldwide.

Refrigeration Naturally (<http://www.refrigerantsnaturally.com>) – a group of corporations supporting using HCFC-free and HFC-free insulation material, and by reducing the energy consumption of new refrigeration equipment.— **The key is to use natural refrigerants**, such as hydrocarbons (HCs). Wolfgang Lohbeck of Greenpeace: “We challenge them [companies reducing their emissions} to go the rest of the way now and continue their efforts to become 100 percent HFC-free in their equipment worldwide”. --> pursuing innovative energy-efficient coolers which not only contain HC as natural refrigerant but at the same time use less energy than a 100-watt incandescent light bulb. These coolers are the first HC coolers that have been approved by the EPA --> The widespread introduction of natural refrigerants in refrigerated point-of-sales equipment in the US and in other regions is the major goal for the years to come.

**At Home** (Reduce, conserve and change our usage of refrigerants and air-conditioners per below).

## Local Actions we all can take to make a difference

### Refrigeration

**Kitchen appliances consume 27 percent of the average American household's electricity. More than half of that goes to your refrigerator. So the fridge uses a lot of energy and the older your fridge is, the higher the probability that it will be a big polluter.**

Here are some simple actions you can take that will save greenhouse gases:

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- **When taking things out of the fridge open the door as little as possible.**
  - **Set the thermostat correctly. Fresh food compartments should be set at around 3 °C to 5°C and freezers should be set between -15°C and -18°C.**
  - **Keep the fridges and freezers in a cool, well ventilated spot, away from the oven and sun.**
  - **Pack your refrigerator more tightly to reduce cooled air.**
  - **If you have a second fridge that is mostly empty, turn it off.**
  - **Any fridge more than 10 years old is worth getting rid of.**
  - **Re-cycle your old Fridge.**

## AIR CONDITIONING

At [http://saveenergy.about.com/od/homecooling/tp/ac\\_usage.htm](http://saveenergy.about.com/od/homecooling/tp/ac_usage.htm) and beyond there are many things you can do to reduce air conditioning use:

Here are 10 steps that you can take that will ease the burden on your home's air conditioner to help it run more efficiently and at a great savings on your energy bill.

### 1. Leave the Thermostat Alone

Many people are good about leaving the air conditioner at 78 degrees F. Some even take it upon themselves to set the temperature even higher when there is no one at home. If you make this a practice in your house, make sure that no one drops the temperature below 78 in order to cool the house down faster. The air conditioner cools at the same rate no matter the setting. Adjusting the temperature to 70 degrees will not help your house get to 78 degrees any faster than if it were left at 78.

### 2. Keep The Curtains Closed

Natural light can help reduce your lighting costs, however when no one is in a room it is best to keep the curtains closed during the day. This is especially true for houses with windows on the eastern and western sides. Keeping the sun's direct rays from entering the house helps reduce the amount of effort your air conditioner puts forth to keep the house cool. To maximize this, open the drapes, blinds, or curtains in the evening to allow heat to escape through the windows of your house.

### 3. Turn On a Fan

In some climates, you can turn the air conditioner off at night and just let ceiling or floor fans provide cool air for your comfort. The energy used by a fan is far less than that of the air conditioner. If you live in a warmer climate, fans can still provide a comfortable breeze. Using the fans at night may allow you to set the air conditioner above 78 degrees saving a great deal of energy. Fans can also help move cool air around the house to ease the work load of the air conditioner.

### 4. Get Rid of Hot Air

Use an exhaust fan when cooking to help expel hot air from the house. If you don't have an exhaust fan, cool the room by setting up a floor fan in the kitchen while cooking. The fan not only cools the air, but can also help move it out of the kitchen.

### 5. Use the Dehumidifier

When people say, "it's not the heat, it's the humidity," they are right. If you have a dehumidifier turn it on when the temperature rises. Ridding your house of the humidity will help make your family feel more comfortable. You may even be able to set your air conditioner above 78 degrees when using a dehumidifier combined with fans.

### 6. Keep Your Air Conditioner Out of the Sun

The ideal location for a central air conditioning unit is on the north side of a house. While this may not be practical in every case, the general idea of keeping the unit out of the sun can be achieved in other ways. Landscaping does more than make your yard look nice. By planting shrubs or trees around your air conditioning unit, you can help it cool your home more efficiently. The shade from this landscaping can also be used to keep the sun's direct rays off your home!

### 7. Save Chores for the Right Time

While cooking can heat up the kitchen, so can using the dishwasher to dry the dishes. Clothes dryers located in the house can have the same effect. These tasks are better left for the evening time or, better yet, when no one is home. Taking on labor intensive tasks can also make you feel uncomfortable during the hottest times of the day. If possible, do them in the evening or the early morning when the heat isn't so bad.

**8. Air Conditioning Awareness** -- Almost one kilowatt-hour of electricity out of every five consumed in the United States in a full year goes to cooling – air conditioning. The electricity used annually to air-condition America exceeds the entire electricity consumption of the world's second and fourth most populous nations (India and Indonesia) combined.

**9. Air Conditioning Efficiency** Cooling costs is a big chunk of the home's total energy bill. If your central air conditioning unit is more than 12 years old, replacing it with an ENERGY STAR qualified model could cut your cooling costs by 30%.

**10. Think New** – make a difference by using your imagination and innovating new ways to stay cool without unsustainably polluting and heating up the planet.

## Related Articles

[Air Conditioning - How to Keep Cool Without Air Conditioning](#)