

DAPAC DISPATCH

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Progressive Call to Action: Global Warming and the Growing Climate Crisis

The Facts of Climate Change

In the hundred years prior to 2000, the average global temperature rose approximately 1.4 degrees Fahrenheit; since that time, the rate of average global temperature increase has more than doubled. This global warming is mostly caused by human usage of fossil fuels, the burning of which releases greenhouse gases, primarily carbon dioxide, into the atmosphere. Greenhouse gases help to insulate the planet, and because humans are adding too much, this creates the rise in global temperatures. This has caused glaciers to melt at an alarming rate, oceans to become more acidic, sea levels to rise, and a significant shift in climates around the world. A rise in average temperature does more than “make it hot;” it creates changes in ocean currents, air currents, and precipitation. It can create floods in one area while creating a drought in others. These changes in climate affect our access to water, agriculture, and ecosystems.

One of the first and most obvious signs of climate change is the melt of glaciers, mountain snow packs, and arctic sea ice. With warmer winters and summers, and earlier springs, glaciers around the world are melting at an alarming rate. In the last 50 years, more than 2,000 cubic miles of glacier ice have been lost worldwide. When glaciers melt they release more water into the oceans, causing sea levels to rise. Mountain snow packs are also affected by these warming temperatures. Snow packs usually build up during the winter and then provide fresh

water for streams through the spring and drier summer months. This fresh water that flows from glaciers and snow packs is used by humans for drinking water, agriculture, and hydro-electric power. The western United States can especially be affected by the changes, as they are heavily dependent on this freshwater flow.

Arctic ice is particularly important for regulating the global climate. The ice is reflective and bounces back light, while land is dark and will absorb the light and its heat. Normally the arctic ice would help to stabilize its own temperature by reflecting light, thus keeping it cooler. As more ice melts, it exposes more land, which in turn retains more light and heat. This raises the temperature and melts more ice, creating a positive feedback loop, all caused by fossil fuel burning and the subsequent carbon dioxide build-up.

The rise in global temperatures also greatly affects the water cycle. The water evaporates at a higher rate, causing droughts in some areas and floods in others. Rivers have unpredictable or restricted flow, thus making crops more difficult or impossible to grow. The change of flow in streams and rivers can also affect how and when fish can spawn.

In the ocean, the water is becoming more acidic, as oceans dissolve carbon dioxide. As the average ocean temperature rises the water is able to dissolve more carbon dioxide from the air. Changes in ocean temperatures and chemical balances can have major effects on fish and other ocean life. These can affect the supply of

fish, affecting food availability and the economy.

There is also new evidence showing that recent climate change is effecting the ozone layer. Ozone is located in the stratosphere; there is helps to block some of the UV radiation from reaching the surface of the Earth. Carbon dioxide in the atmosphere, along with the second most produced greenhouse gas, methane, enhances the uptake of water into the stratosphere. These gases, combined with warmer temperatures and increased water content can break down the ozone molecule. This is actively thinning the ozone layer, and could create more holes.

Global warming is a term that can be misleading. It is more than just warmer weather. It refers to major changes in our access to fresh water, changes to the seas and oceans, changes to vegetation, plant growth and our ability to grow and accesses food, changes in climate and weather with more severe storms, droughts, floods, heat waves, and bitter winters. Global warming will change our society for we have to change behaviors and adapt.

Domestic and World Policies on Global Warming

The general understanding is that human activities are the main cause of global warming and climate change. Many on the Right may have doubts, but those are mostly fears of having to change their own behavior and having to take responsibility for their own actions and greed. The international community is in agreement that global warming is happening and that something needs to be done about it. Time and time again, countries have come together to set up

standards for international control on carbon dioxide emissions, but little progress has been made. Fault lies with the United States as well, in not participating in the Kyoto Protocol and failed bills in the Senate. More needs to be done.

The United Nations Framework Convention on Climate Change is a yearly international event where nations meet to discuss the reduction of emissions and how to reduce climate change and deal with its outcomes. In 1995 the Kyoto Protocol was signed by most of the developed countries to agree to reduce emissions between 2009-2012. The United States did not sign; it failed to pass in the Senate over the exceptions of developing countries. At the 2010 Convention they agreed to set up funding for developing countries for production of cleaner energy, lower emissions, and to deal with issues associated with climate change. What was lacking in this agreement was where this money would come from.

Since the United States did not sign the Kyoto Protocol, we have been highly criticized in the international community. How can we expect others to change if we do not set the example?

The EPA did not determine that carbon dioxide was a pollutant and needed to be regulated under the Clean Air Act until 2009. That is 14 years after the Kyoto Protocol and after the Supreme Court ordered a directive for them to do so in 2007. There were no real regulations imposed by the EPA until 2011, when they started imposing greenhouse gas regulations on new or heavily remodeled plants. These regulations were fought by many energy industries and by 14 states. They tried to state that the regulations were not backed by creditable science. The Supreme Court ruled just last June that the EPA regulations are within their power and deemed the timeline as fair.

President Obama tried to pass the Cap and Trade bill back in 2010. Cap and Trade would put a cap on emissions for a industry. Companies then buy permits that would allow them to increase their limit of emissions. This was unpopular with many, especially those on the right, and it died in the Senate.

The international community and the scientific community have agreed for years now that global warming is real. Global warming is causing climate change, and the root cause is human emissions. How is it that our Senators and Congressmen are not sure? Simple cause and effect seems to be hard for them to understand.

Burning of fossil fuels is a major cause for increased carbon dioxide in the atmosphere. Fossil fuels are big business and have big money that is used to influence politicians in D.C. as well as individual states. Many Republicans at the state and federal level do not want to put restrictions on the industry for fear of losing the money that is donated to them. Remember, "corporations are people too."

Policy Solutions for Climate Change

There are a few things that we can do that could help ease or slow global warming. Policies can be put into place that would discourage more production of greenhouse gases. In addition we can increase natural ways of converting carbon dioxide into other forms of carbon.

What many scientists are saying now is that carbon sequestration can be used to help reduce carbon dioxide in the air. Carbon sequestration is the process of transferring carbon dioxide from the air into other sources of carbon. This can happen in two different ways, man made ways or

natural ways. Carbon dioxide can be physically taken from the air and placed into wells underground. This is already being done in some oil fields as it helps to remove the last bits of hard to get oil. A few problems come in with physically moving the carbon dioxide. One is where to place and store the gas; the right type of geology has to be found so that there are no leaks. Empty oil reservoirs can be used, but there are not enough to hold the amount of emissions. Drilling under the bedrock in deep ocean can contain it, but then we run into our second problem. The carbon dioxide produced during transportation from one place to another tends to cancel out the carbon dioxide being stored.

Another way of carbon sequestration is naturally through plant growth and the oceans. Earlier it was said that the oceans were getting more acidic due to it dissolving carbon dioxide. This happens because of two reasons; there is more carbon dioxide available to be dissolved into the water and the warmer temperatures enable the water to hold more carbon dioxide. More acidic oceans are not good, but they are helping to rid the atmosphere of carbon dioxide. A better way is to increase vegetation by reforestation and changes in farm practices. Plants take in carbon dioxide and then store the carbon in the plant body and release oxygen into the air. In the United States, we pay food producers \$180 billion a year not to plant or produce. This money can be used to pay growers to cultivate plants that would increase carbon storage in the soil.

It is not enough to cut carbon emissions in just the United States because developing countries, like China and India, are increasing emissions at a faster rate. Any reduction in emissions we have accomplished here is counteracted by the emissions produced from the goods and services that have been shipped overseas.

With the outsourcing of goods and services to these developing nations we have also outsourced the emission production. Currently, our import tariffs are one fifth of the percentage of Chinese import tariffs; encouraging the import of their goods since they are at a cheaper price. If we were to put a carbon emission tariff on goods imported into our country, this would encourage the makers to “clean up” their production of goods. This tariff could also influence production of goods with in the U.S., making them better able to compete with the pricing of goods. Joining forces with other developed countries around the world would add weight and strength to this cause, making it more of a push to reduce emissions in production of cheap goods.

Already there is change happening. Just this year Secretary of State Hilary Clinton has helped to launch international reduction of air pollutants, soot or black carbon. Pollutants of this type are believed to be responsible for about forty percent of global warming. The European Union has also put in efforts to regulate emissions from the airline industry. Combining reduction of emissions and carbon subquestion, both in the United States and internationally can help slow and stop global warming.

Statement From a DAPAC Member

The power grid that serves 600,000,000 people in India depends on hydroelectric generation based on Himalayan streams fed by glaciers. With the glaciers retreating, less water is

available to turn the generators. When the grid goes down hospitals, office buildings, wealthy individuals turn on their diesel powered generators which spew greenhouse gases into the air adding to the excess of greenhouse gas in the global atmosphere which is causing the retreat of the mountain glaciers all over the earth. China, too, depends on Himalayan glacial water. We desperately need a strong treaty with China, India, Europe, and Japan to rapidly reduce the use of fossil fuels. Japan is using oil to replace the energy lost by shutting down nuclear power plants which have become extremely unpopular as a result of the nuclear disaster that resulted from a tsunami which was probably intensified indirectly by the excess of greenhouse gas in the air. Even after we get a big reduction in greenhouse gas emission the climate will continue to worsen for decades because the carbon dioxide in the air continues to trap more and more heat. After the climate stabilizes it will take thousands of years for the carbon dioxide levels to return to what they were just 100 years ago. (David Archer, William H. Calvin, David W. Orr and others) Please read chapter 3, “Leadership in the Long Emergence” in Down to the Wire by David Orr.

. . . To several environmental organizations I donate to I say- “none of your great work will last if we don't reduce global greenhouse gas emissions.”

-Dale L. Berry

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