

**Justice for All 2/1/14 Climate Change Summary**  
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The primary source of information about Climate Change is the Intergovernmental Panel on Climate Change (IPCC), which consists of climatologists, glaciologists, meteorologists, oceanographers and specialists from dozens of other disciplines. This Panel issues a detailed report to the world every six years, the most recent of which was in 2013. Among these reports, scientists frequently produce studies of specific climate conditions.

Ninety-seven percent of the world's climate scientists now agree that Climate Change is real, is caused by we humans and, unless we take radical steps to curtail it, will soon bring on catastrophic conditions (now starting for all to see), likely entailing extreme loss of life, both human and non-human, quite possibly all but a very small percentage of humans, who will be clustered together around the North Pole and a few other spots that are still inhabitable.

The principle cause of the changes is the burning of fossil fuels – coal, oil and natural gas. The burning began to intensify with the start of the Industrial Revolution around 1750 AD, which has brought many benefits to human life, but in these latter decades we are seeing that it may bring doom to almost all of us. The concentration of carbon dioxide in the atmosphere is now at its highest point in the last three million years, and is growing at an unprecedented rate.

The burning produces “greenhouse gases”, the chief of which is carbon dioxide. They rise up and trap in heat which would otherwise escape from the atmosphere, causing the earth's mean temperature to gradually increase.

This increasing heat is producing ever-intensifying results: extreme hurricanes and tornadoes, rising oceans, floods, dying coral reefs, acidic oceans, drought, famine, wildfires, rivers drying up, mass migrations, diseases, extermination of species, melting of glaciers and ice caps.

Bill McKibben in *Earth*: “In the last four decades, the Earth has changed profoundly, in ways that have already taken us out of the sweet spot where we humans so long thrived. The world hasn't ended, but the world as we know it has. We imagine that we still live back on this old planet, that the disturbances that we see around us are the old random and freakish kind. But they're not. It's a different place. A different planet – this is the start of a change far larger and more thoroughgoing than anything we can read in the records of man.”

James Hansen is considered the foremost climate scientist in the U.S. In a recent paper, he points to three groups which are on target to suffer from Climate Change: young people, future generations and nature. If a person is 70 years old and dies in 10-15 years, he/she may escape the ravages of Climate Change. But that person's children probably won't and his/her grandchildren and future generations, along with nature, certainly won't.

What worries James Hansen most are positive feedbacks. To date, we humans have been the cause of the intensification of the conditions mentioned above. We burn coal, oil and natural gas, producing carbon dioxide, which traps in heat and causes those conditions. But now we are seeing positive feedbacks (A produces B; B intensified A, which produces more B and on and on), of which there are several. One is easy to see: The heat that we produce is causing the Arctic sea ice to melt, removing the shiny white mirror that reflects most of the incoming rays of the Sun back out into space. Now, in place of that white surface, we have a dull blue ocean that absorbs most of those rays, warms up and causes more melting of the ice, which produces more warming, and on and on. A similar process is at work for methane, another potent greenhouse gas, frozen in the Arctic tundra and in icy “clathrates” below the sea. Those are just two of several such feedbacks. Destruction of the Amazon rainforests is a third.

What scientists fear is that a certain stage in these processes, our input will no longer be needed and the process will continue to progress of its own accord (tipping points). At which point there will be nothing that we can do. Cutting back on the production of greenhouse gases won't have any effect. All we will be able to do will be to stand by and watch, and regret the departure of the planet that we once knew, taking our loved ones with it.

The obvious question is: how are we humans reacting to these current conditions and the grim prospects of their worsening? Judging by what we are doing and not doing, prospects for the future are bleak. In the words of Elizabeth Kolbert in *Field Notes from a Catastrophe* "It may seem impossible to imagine that a technologically advanced society could choose, in essence, to destroy itself, but that is what we are now in the process of doing."

Two reasons for the insufficient will to promote the conservation of energy and the use of renewables (wind, solar, hydro, and geothermal) needed to halt and reverse Climate Change:

- Group I – those who reap immense profits from the burning of fossil fuels. They are promoting ever more such burning and doing everything possible to thwart the efforts of those who oppose that burning. For them, money is first; money is second; money is everything. Their watchword is: What's good for me now?
- Group II – those who lead the comfortable lives made possible by that burning. They are unwilling to expend the time and energy needed to radically reduce the burning. They can't be bothered. They deceive themselves into believing that they care.

And thus we come to the most important challenge of our time: How should we grapple with these harsh realities, these grim prospects? Is there any hope?

It would be good if the answer was simple and easy, but it isn't. It's hard, and it's time-consuming. It starts with the realization that a strong force, in this case the two Groups above, is overcome only by a stronger force. The first Group will go to any lengths to retain their profits and the second Group has no interest in surrendering any of its spare time or standard of living.

Since a few of us cannot transform the entire country, we must create a process which is attractive to great numbers of the currently uninvolved. This process must be effective, permanent and constantly evolving. If one of these is lacking, we shall be lost.

The primary constituent elements of that process:

- It brings participants together into Small Reflection/Action Groups, for the sake of mutual encouragement and support, with all of these Groups across the country working together.
- It enables the participants to use their economic and political power to bring the U.S. to undertake and sustain a crash program for conservation and renewable, similar in magnitude to that at the start of World War II.
- It brings each participant to modify her/his personal lifestyle to make as great a contribution as possible to the task of countering the advance of Climate Change.