
SPECIAL REPORT
Our Planet Is In
DANGER!
Are You Part of the Cause... or Part of the SOLUTION?
The Consequences
REVEALED!

OUR PLANET IS IN DANGER:

SOME CLIMATE CHANGE CONSEQUENCES FOR ALL LIFE ON EARTH

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INTRODUCTION

Regardless of some claims to fairness as seen on some Sunday morning political chat shows, there is no longer any real debate over climate change. Most in North America have realized that the picture they were given of how quickly climate change was accelerating faster than they'd been led to believe.

Whether there is a natural cycle at work, causing the even faster-than-predicted acceleration of events linked to a more energetic atmosphere is irrelevant. Human activity relating to burning of organic materials to make energy is causing chaotic weather that threatens the entire world in countless ways.

But the great, powerhouse economies of the world (such as those in North America) are heavily reliant upon cheap energy. Throughout the 20th century, the most prosperous nations have had the most reliable access to the great resource of easy to extract oil.

But, why has it taken so long to do anything, and what can be done to turn things around?

EARLY WARNINGS FROM CLIMATE SCIENTISTS

Though it may seem to many that the information and dire warnings about climate change have just turned up since the turn of the 21st century, they'd be several decades off. As early as the 1960s, climate researchers and meteorologists were noticing a detectable increase in the amount of carbon dioxide in the atmosphere.

The ability to look at millions of years of climate information was perfected in the form of polar ice cores. These up to several thousand foot (800m+) bore samples taken from scientific bases at both the arctic and antarctic represent over 400,000 years of climatological data.

While very long and cycles of carbon dioxide accumulation are shown in the ice core record. But, when you look at the recent data, it seems clear after

taking in those graphs that something unusual has been going on in “geologically recent” years.

That these conclusions were ignored by for so many years is a testament to just how radical a change fixing the problem is going to require. That the effects are so gradual is exactly how those who are reluctant to make these changes were able to pretend it wasn't a problem.

By using scientific terminology as rhetorical terms, critics were able to call climate change or “global warming” an “untested theory.” Serious public consideration was delayed for decades, despite the overwhelming and increasingly serious warnings from experts worldwide.

Now that many of their predictions are coming true – some sooner than expected – this false “debate” that results in fear of a changing economy is nearing an end.

CARBON EMISSIONS AND RATES OF EXPANSION

There are many problems with the carbon emissions that threaten the precarious balance of Earth's climate. For starters, most everyone has waited nearly too long to do something to really avoid trouble. Emissions would have to go down to almost nothing in a very short about of time to actually stop some of the more dire consequences of climate change. Even so, it's just “damage control.”

If something had been done with the advances in renewable energy technologies in the 1970s when the last “gas crisis” hit, the adjustment time would have been longer. But, new discoveries were made in the 1980s, and oil became “cheap” again. Even though it settled between three and five times as high as it was before, people were glad it wasn't quite so high, and settled down to a quarter century of forgetfulness.

A cheap energy policy is thought to encourage the expansion of industry and business, and economies go through a panic whenever the price rises. There are only a few islands that have ever gotten off cheap oil entirely, and none of them without hardship and major public upheaval.

Delaying this inevitable change is not unlike a drug addict avoiding the very difficult and very real withdrawal they will inevitably go through. This time, everyone is involved, the drug is oil and the unbridled use of energy is the party that no one wants to leave first.

DANGEROUS SIGNS OF CLIMATE CHANGE

Island nations are very good examples of the sort of challenges that everyone will face in the coming century. They are among the most threatened places on the planet, under siege from storms and sea rises as well as disruptions in trade.

As many as 40% of the people on Earth live in coastal or low areas that are likely to be impacted by the melting and increased storminess brought on by climate change in the next century. In fact, the first island in the world to be abandoned due to rising levels was evacuated in 2008 in the South Pacific. Rising sea levels have put major cities in danger such as London and Venice, which is being rapidly submerged.

Though New Orleans wasn't abandoned, cities in traditional hurricane areas can expect a larger number of large, damaging storms. These disrupt entire ecosystems and displace people. After the storms, less affluent populations that remain are displaced inland. This has already happened in the critically endangered area of Florida where property insurance is now part of the state budget.

Droughts are also more common in areas that aren't being pummeled by severe storms. Many of the traditional growing regions of the world are being subjected to drought and flood cycles that have traditionally occurred every few hundred years.

As a result of droughts, fires have become a common threat throughout the arid North American West. Areas that are not commonly prone to wildfire activity are being threatened with increasing regularity. Places where wildfires are common are now on constant alert.

SECONDARY EFFECTS OF CLIMATE CHAOS

All these primary effects of climate change cost money. Unfortunately, this is occurring just when fuel prices are causing money problems elsewhere, slowing the transition to a new economy. The increased cost of fighting

these disasters indirectly causes increases in the price of everyday goods and services. This may be one of the first things that many people notice, but there are a great many other secondary effects of climate change on both the human and natural worlds.

Every time a hurricane threatens oil platforms and coastal refineries, the price of oil increases and cost of living increases reverberate across the economy. As the cost of items like rent and groceries make it that much more likely that people will walk away from their mortgages, as evidenced by the "housing crisis" in the United States.

As coastal areas become impossible to live in, the cost of living in inland areas increases greatly and economies move into new areas, causing extra pressure on already stressed ecosystems as well as the people who lived there first.

Much of the European continent would become difficult to live in if the Gulf Stream were interrupted or significantly weakened as could happen if the melting of polar ice caps continues to accelerate. A decrease in the amount of mixing in the ocean would dramatically increase the amount anaerobic activity and resulting acid that would cause even more die-offs.

Such "irreversible" changes would alter life on Earth for many thousands (if not millions) of years. They also have a 50% chance of impacting most of the world by 2100.

In the natural world, the interrelated chain of life that characterizes many unique eco-systems are subject to extinction with temperature shifts of even just a few degrees. It is even odds that the average temperature will rise six times that amount in the next century. Even well-established ecosystems that are not protected or able to be established elsewhere may face extinction in the face of climate change. Human beings wouldn't have a very good time of it, either.

The oceans are also subject to problems including acidification and dramatically changing currents. The "bleaching" of corals worldwide is another sign of how the unfortunate confluence of pollution, rising sea levels and changing sea chemistry is the point where species go extinct.

In the case of the many that haven't even been described by science yet, much less conserved in zoos or seed collections, they will simply be gone forever. This makes the world a less diverse place, indirectly more vulnerable to continued ecological disaster with the disappearance of each animal or plant.

FACTORS THAT ACCELERATE CLIMATE CHANGE

The most obvious contributor to accelerating climate change are all the things that continue to directly pump carbon dioxide into the atmosphere. This includes all the cars, trucks and buses that carry both goods and people. Though trains and other more efficient methods of delivering goods across country are in the works, changing to them is hindered by an unfavorable economic climate.

To make matters worse, some of the solutions proposed, such as some types of bio-diesel and ethanol, actually contribute more carbon to the atmosphere. This is especially true when turning forested areas into farmland to grow corn or even beef for export. Great care is needed in selecting a new way of generating energy, especially when using less energy isn't part of the solution.

This model of transporting the raw materials of American-style fast food at low prices relies upon cheap oil, economies of scale and predatory agricultural practices. It also contributes a large percentage of North American carbon emissions. While localism has gained a following in urban areas, much of the suburban landscape is not currently suited to conservation or even walking.

Deforestation, itself, is a major contributor to the increasing levels of carbon dioxide. The rain forests found on nearly all continents, but especially prevalent in South America, are often called the “lungs of the world.” The characterization is apt. All plants use carbon dioxide and big ones use even more. Phytoplankton in the ocean are also a major source of carbon dioxide usage. Their efficiency is negatively impacted by storms and the emergent pollution problems, again, just when needed most.

The massive forests found in South and Central America, for instance, take about 400 years to return to a steady state, but they're not the only forests being cut down to accommodate new farmland to feed an internally migrating population. Changes in agriculture practices and eating habits are both required to really make a difference.

As countries that spent most of the 20th century using far less oil are increasing their usage. Even in places where this transition is to “green” or even entirely renewable resources, a tremendous amount of carbon is released into the atmosphere during the implementation phase.

Billions of pounds of carbon are released into the atmosphere when even a hydro-electric dam is built, as exemplified by China's Three Gorges Project. Closer to home, wind farms and solar panels all have an associated “oil-cost” of implementation, in materials, processing or transport.

To meet the challenge of climate change and avert some of the more dramatic and irreversible changes, there are many powerful forces that must be aligned to do something about it. Worldwide, changes are required in:

- physical population distribution
- continued geometric population growth
- energy intensive usage patterns in developed nations
- increases in energy intensity in developing nations
- distribution methods for tangible goods
- agricultural production methods
- social reluctance to change
- perceived standards of affluence
- institutional commitment to community well-being
- worldwide economic interconnectedness
- well-connected beneficiaries of the current, wasteful system

Without such changes, the situation will get worse even faster than the already alarmingly fast and serious predictions.

INTERNATIONAL REACTION TO CLIMATE CHANGE CONCERNS

Given the ramifications of one nation's irresponsible energy usage on the world as a whole, there have been international tensions over contributions to climate change. Governments, indigenous people and concerned organizations of people all have a stake in policy actions regarding climate change. They also bring a slightly different perspective on recommended action to the table.

A contemporary concern is the harsh diplomatic language sometimes delivered regarding treaty obligations. Water wars are beginning to emerge and are poised to be one of the gravest political concerns of the 21st century. As nations battle over the last of this water, citizens of the poorest nations are likely to be caught up in the tragedy.

National policies that impact migration have already been strained by the migration of climate-displaced persons. There are many likely climate change scenarios that might cause people to want or need to move. Many end up moving to areas where making a new start is complicated by language or cultural barriers that threaten one's livelihood.

SOCIAL MOVEMENTS RELATED TO CLIMATE CHANGE ISSUES

There are certainly those who already identify climate change as the sort of important political issue that will influence their vote. Even candidates who have not been a friend to any part of the environment other than that of their contributor's stocks are now touting how “green” they are. For the first time in American politics, both sides of the debate are presenting themselves as the conservation candidates.

The recent awarding of the Nobel Peace Prize to Al Gore for bringing his climate change show on the road in the early 2000s is an example of how the public profile of this looming disaster has been raised.

The profile of some indigenous groups has increased, especially since many are banding together to demand equal rights as well as action be taken on their behalf as the first people to suffer the potentially lifestyle-ending effects of climate change.

OTHER RESOURCES THAT ARE IN DANGER AS A RESULT OF CLIMATE CHANGE

Perhaps the most important resource that will suffer as a result of climate change is the human potential that will likely be lost to disaster, disorder and disadvantage. It is possible that entire generations will spend their best years and resources just trying to cope with an unpredictable climate and a rapidly declining quality of life.

Money will be in short supply for most people, as an indirect consequence of climate change. Migration and disasters take a toll on the public coffers. It's like fighting a war at home. Monies that have been used to protect North American interests abroad may (to the relief of many) bring those interests back home to domestic projects.

Biodiversity is another resource in danger due to the changes that are likely to result from unbridled carbon emissions. Species that contribute to very important parts of the ecosystems that keep us alive. They may be driven to the brink of extinction as a result of our pollution being washed away into the oceans and changing weather extremes.

The recent troubles with bee populations are an example of one pest creature that has an advantage when attacking an insect that is responsible for much of North America's fruit and vegetable production. This event alone has increased reliance upon produce delivered from further away, increasing carbon emissions.

Fresh water, as mentioned above, is a resource that is already in short supply. With overall temperature increases, evaporation increases. Areas that rely upon spring run-off will have to rely upon limited ground water resources. The same is true of areas where increased numbers of drought events are also increased in severity.

In oil producing countries fresh water is used to push the oil to the surface, sometimes diverting it from populations who don't take kindly to their profits going overseas. African and Western Asian oil reserves have already been affected by popular uprisings that affect the cost of living in more developed nations. This economic impact also has more fundamental impacts when wars erupt.

THE SPECTRE OF WAR

Wars have already broken out over water and oil resources. The likelihood of nations taking up arms over climate issues is an unfortunate possibility. It is more likely that nations that have extended debt will call that in on North America when the challenges of climate change are just beginning to be felt.

Nations with nothing to lose have certainly been known to start much larger conflicts.

URBAN VS. SUBURBAN VS. RURAL AREAS IN NORTH AMERICA

North America is very well spread out. Population densities in the arid western regions are among the lowest in the world. Part of what has made these areas as prosperous as they are is cheap energy. Weaning such communities off the current line-up of carbon emitting fuels is a challenge, to say the least.

Suburban North America suffers from many of the same problems, with un-sustainable development patterns that make it difficult to walk or bike to basic services. This makes some kind of alternative transport option a necessity when public funding dollars are likely to be nearing short supply.

Urban areas are especially at risk of resource shortages and sensitive to the increase in the price of goods. They are, however, good places for people to abandon their cars and take to more local living. Urban agriculture could conceivably meet the fruit and vegetable needs for over half the urban dwellers in North America.

TEMPORARY SOLUTIONS

If everyone in North America were driving a 50mpg hybrid vehicle to work tomorrow morning, a potential one quarter or, about 20 barrels of oil per person, could be saved each year. The slower petroleum energy is used in the developed and developing world, the slower the effects of climate change will be upon us. But more fundamental and lasting is replacing our relationship with cars.

Anything that can be done to conserve fuels that are used in transport and manufacturing can help hold back climate change, but its already too late for many places. The relatively long time-scale by which the effects of climate change have been delayed. What we have been living through is the result of the early industrial revolution and the use of coal.

The ramping up of petroleum use in the early to mid-20th century is what we are about to atone for in the form of climate changes.

CHANGING SOCIAL PARADIGMS

The lives of ordinary people anywhere in North American have already been affected by climate change. Not only have attitudes changed in the voting booth, but people have begun to address the issue as a problem. Whether they grasp the severity of the problem is debatable.

Social paradigms certainly will need to change is climate change is to be halted at its current levels. Zero emissions is the only way to stop the changes that are already in motion toward a very dangerous conclusion. However, just getting back down to 1990 levels has proven difficult for many of the most developed nations, including those who've signed on to the Kyoto Protocol.

Kyoto was designed to go into effect in 2004, reducing greenhouse gas emissions (mostly carbon dioxide) by 5% from 1990 levels. By the time it was ratified by almost every nation on Earth in 1997, Kyoto compliance represented a nearly 30% drop from 1997 world-levels. That demand has increased so much in that short of time is an indication of the danger of exponential growth in energy usage.

CLIMATE CHANGE OPPORTUNITIES

There are both short and long-term opportunities to make money as a result of climate change and the technologies that will spring up to become consumer replacement items in the future. With private investment and public support, the very big business of installing a transitional infrastructure can be implemented while we still have “carbon credits” to work with. Signing on to the Kyoto Protocol, or something very much like it is absolutely necessary for the United States.

Canada, a nation that emits slightly more carbon dioxide per citizen than the United States did not sign on in 1997, either. Nearly all the most developed nations that didn't sign immediately have since signed on in the mid 'aughts to take advantage of the second qualifying period to the treaty that begins in 2008.

A new US administration entering the White House will be under a great deal of public pressure to sign on to the Kyoto treaty, committing to reducing to pre-1990 levels by 2012. Even without the treaty, carbon emissions in the US have grown by less than in Canada. Achieving compliance from any North American country by 2012 would require a real, concerted effort by the government and populace. A "green boom" would be underway in an even bigger way than it already is.

The solar panel business, for instance, is a good one to be in, especially with a new idea for making the product cheaper. In fact, any business that allows access to cheap, renewable power will do very well as people try to refit their lives in an effort to get off the oil. Renewable energy consultancy has become a viable career.

Money will also be made in construction, or more accurately, domestic reconstruction. Builders who are able to travel in a nomadic fashion can clean up with a steady stream of bids while other areas may be in a home construction slump.

CONCLUSION

There are quite a few challenges awaiting anyone who will be coping with climate change in even the next 20 years. It helps to be fully aware of the dire consequences that could await plenty of places on Earth, including yours. But, it also helps to be aware of the impact that can be made in reducing the impact by beginning the transition to a carbon-free economy.

Taking action can increase the amount of time to allow for the transition and increases the chances of success. While this will take a sustained commitment to fundamentally change the way people are living in North America to pre-20th century levels.

Technology will allow low power applications such as communications and lighting, but travel and transport will be limited. Planning your lifestyle according to these future trends will save you valuable money in potentially very difficult times – the likes of which North Americans have been lucky enough not to see for a very long time.

To Our Planet's Good Health!