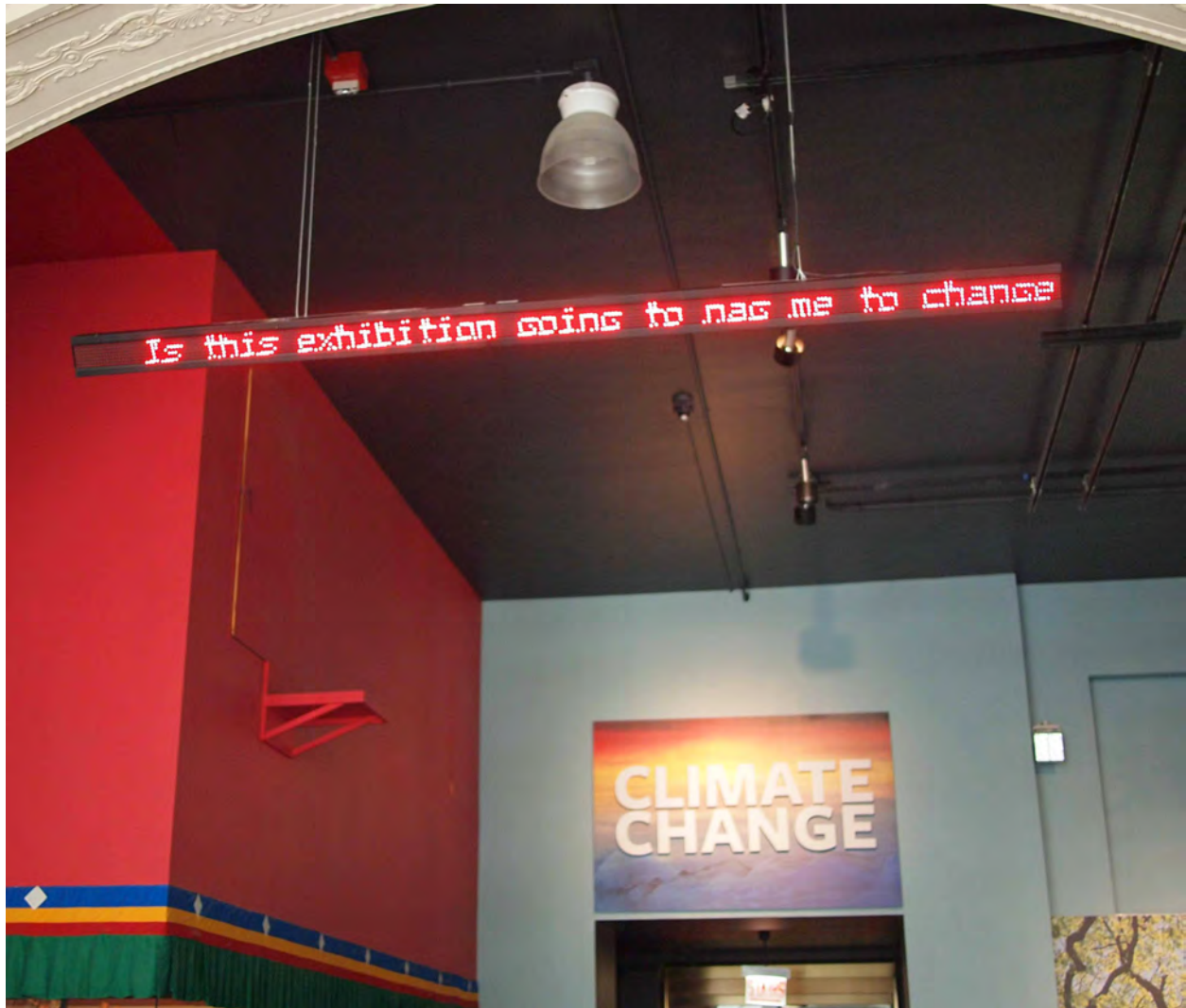


Chicago Field Museum Climate Exhibit

July 5, 2010 by Norman Rogers

At the entry to the exhibit there is an electronic sign shown in the photo below.



Text of the message on the sign:

Is this exhibition going to nag me to change my lightbulbs? What does a SEA SNAKE GENERATOR do by bobbing on ocean waves? You can post your thoughts on climate change inside the exhibition. Goodbye to maple syrup-- since Illinois sugar maples are disappearing? In our region, robins are no longer signs of spring: WHY NOT? How do forests soak up CO₂? Saving faraway tropical forests is nice, but WHAT IS IN IT FOR ME?

No more Robins? A Chicago bird watcher announces early arrival of a 2010 robin:

The text in the photo says that this sea level rise is “a scenario experts consider unlikely to happen anytime soon.” So, why is this exhibit even present? What do they mean by “anytime soon?”

The blatant effort to propagandize children is one of the most disagreeable aspects of the exhibit.



The school children are bombarded with alarmist propaganda and then encouraged to post notes pledging to take actions to stop climate change. Children don't have the sophistication to recognize propaganda.

A long time propaganda device of the global warming alarmists is to claim that global warming will cause a lot of strong hurricanes. The truth is that nobody knows if global warming will increase hurricanes. Even the Intergovernmental Panel on Climate Change (IPCC a United Nations organization) takes a “don't know” position on this. The IPCC is one of the most prominent climate alarmist propaganda organizations. Yet the Field exhibit features hurricanes:



Notice the question mark after “Changing Hurricanes?” This is the acknowledgement that no one knows if global warming would increase hurricanes. (Neither does anyone know if global warming is going to continue in the 21st century.) Pictures of hurricane damage are shown. The text says “It is difficult to predict how much more intense hurricanes could become.” So why is this display present? To give the impression that global warming will create a lot of hurricanes even though evidence is lacking? We can give the authors credit for not engaging in obvious lies. Instead they cover themselves by making visual suggestions and then retracting the impression they created in the fine print.

The Field exhibit treatment of electricity production is extremely deceptive. Solar and wind energy are the darlings of the greenies. The Field exhibit papers over the reality to make it seem that solar and wind energy are practical solutions for providing the nation’s electricity. Solar electricity costs about 5-10 times as much as coal electricity not counting the necessity of new distribution grids and backup plants for energy storage because the power produced is limited to the day and because of the necessity of locating the plants in sunny areas like the southwest. Wind energy is less

SOLAR

Workers Cleaning Solar Panels
WORLD AGRI-TECH, CHINA

From Sun to Salt to You
INTERNET PROJECT, CALIFORNIA, U.S.A.
The enormous mirror arrays used in this photo concentrate sunlight onto one point (that with further aid, that heat that's 100 times hotter than the sun) — in order to heat water into a brine and generate an ionic electricity as a small red glow, without the assistance. The fluid can also be stored and is heat attracted for use at night.

Personal Power

INDIAN CAMPING SOLAR PANEL, U.S.A.
Solar panels are extremely portable and efficient, where they are readily used to power TVs, charge cell phones and run other small appliances. These flat surface solar panels are sold across the U.S. economy and about a third of a pound, making them solar power systems.

PLUG INTO THE SUN

The Sun is Earth's biggest power plant, sending us more sunlight—solar power—than we could ever use. Fortunately, we have a variety of ways of using solar power: In one process, solar panels capture sunlight and convert it directly into electricity. In another, solar concentrators use mirrors to focus sunlight to heat fluid, which can then be used to boil water, turn a turbine and generate electricity.

100%

OF GLOBAL
ELECTRICITY NEEDS
COULD BE MET BY
SOLAR POWER

In principle, the Sun could eventually provide all the world's electricity. At present, solar power makes up only a minuscule portion of the global electricity supply, but it is growing rapidly.

Solar Power Plant
Mojave Desert, California, United States

CLEAN

Solar power produces no greenhouse gases, and a pollution-free.

UNLIMITED

Every hour, the Sun provides Earth with as much energy as the world uses in an entire year.

FLEXIBLE

Solar panels are particularly useful for providing electricity to individual structures or limited communities. Solar concentrators work best on large power plants.

GETTING CHEAPER

The price of electricity from large power plants using solar concentrators may soon approach that from coal-fired power plants. Solar panels are still expensive, but costs will drop if they become more efficient and widespread.

HERE TODAY


Solar technology works. Large-scale solar power plants have been in operation in California since the 1980s, and the use of solar panels is expanding quickly and broadly in Japan and Germany.

SITE-SPECIFIC

Solar panels and concentrators work best in sunny spots—deserts, for instance—so solar power is not practical in some countries. High-voltage electrical transmission, which makes solar more practical for generating electricity from remote solar farms to consumers.

INTERMITTENT

Solar panels only provide power when the Sun is shining. Solar concentrators can store power for "seasons" before, but long-term energy storage systems are still needed.



EXPENSIVE

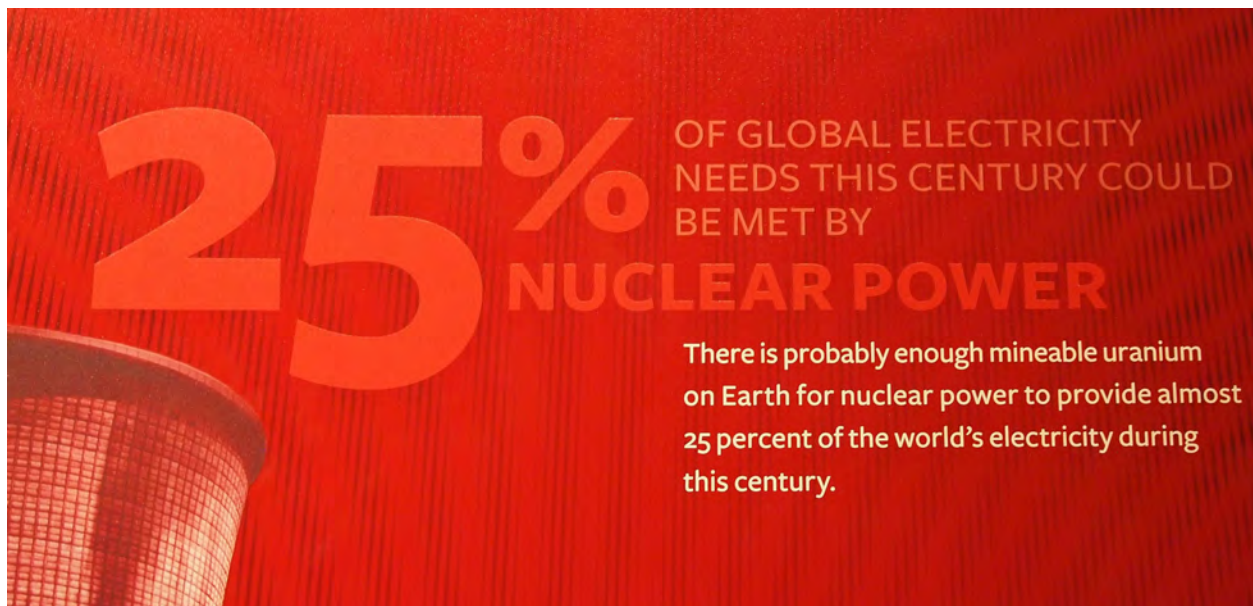
Electricity from modern nuclear power plants, which are expensive to build and operate, costs about two to three times as much as electricity from coal- or gas-fired plants.

GETTING CHEAPER

The price of electricity from large power plants using solar concentrators may soon approach that from coal-fired power plants. Solar panels are still expensive, but costs will drop if they become more efficient and widespread.

The facts are that nuclear electricity is competitive with coal and natural gas, the main alternatives. Twenty percent of our electricity comes from nuclear. In France it is 80%. However notice that they say “modern nuclear plants.” In the U.S. modern nuclear plants probably are very expensive. There aren’t any because no new plants have been started for 30 years. No new plants have been built because armies of environmental lawyers have destroyed the industry in the U.S. by a legal and political assault. Meanwhile in many other countries they are happily building new nuclear plants. The “getting cheaper” solar plants cost easily 5 times more than nuclear plants if you include the cost of backup power and new grids and if you didn’t have the lawyer armies raising the cost of nuclear. Yet the exhibit depicts nuclear as “expensive” and solar as “getting cheaper.” Yeah, hamburger is expensive and caviar is getting cheaper.

A further distortion of the facts about nuclear power is the following:



It’s hard to know how they came up with this misleading information. Why is nuclear only good enough to supply 25% of our electricity but according to the exhibit solar is good for 100%? Even though solar is far more expensive and has unsolved problems like cloudy weather? The text implies that only limited supplies of nuclear fuel exist. The authors probably would support this conclusion by pointing to the known or estimated reserves of uranium U235 that could be mined at some arbitrary price. However another type of uranium, U238, is more than 100 times as abundant and can be used to fuel reactors of a different type. Further, another radioactive element, thorium, could also be used to fuel reactors. There is every reason to suppose that new sources of uranium will be discovered, either new deposits or new methods of extracting it from low grade deposits. For practical purposes the supplies of nuclear fuel are unlimited.

Nuclear energy has many advantages that the greenies should love: no CO2 emissions, no long trains carrying coal, no smokestacks spewing sulfur. But they hate it because it makes their beloved wind and solar redundant. In fact I was once told by a sophisticated environmentalist that he opposed nuclear power because it was too easy and if allowed would kill wind and solar.

Amazingly the Field exhibit said that nuclear reactors are “relatively safe.” This is a rather startling statement for environmentalists. They usually condemn reactors as highly dangerous. This stance may be related to the fact that Exelon, a large and mainly nuclear electrical utility is one of their sponsors. Why would Exelon sponsor global warming propaganda? It’s not that they are mentally slow. I have the reason why they support global warming propaganda from the horse’s mouth, the horse being a vice president in the investor relations department. Exelon believes that if the government taxes emissions of CO2 the price of electricity will go much higher and since their reactors don’t emit CO2 they won’t have to pay the tax. That will greatly improve their profit margins, making the stockholders a whole lot of money. I think they are optimistic on several counts.

Firstly the government probably won’t ever tax CO2. That would be foolish, hardly a reason to stop the government, but the reason the government won’t do it is that it would be unpopular to raise the cost of electricity. If they actually do tax CO2, then they very likely they will devise a special nuclear tax so that Exelon doesn’t reap “windfall profits.”



The supposed solid science behind global warming is rapidly collapsing. There are a number of reasons for this. Ever since the global warming scare started, in the 1980’s, there have been many skeptical scientists. The “scientific consensus” has always been about not killing the goose that lays golden eggs. Even though most scientists conversant with the field know that the evidence for man-caused global warming is weak, they don’t want to rock the boat by voicing their doubts. Global warming alarmism has encouraged huge increases in research funding. It’s a story that is too good to check.

Recently the opponents of global warming alarmism have become better organized and more effective. The fact that the recent warming trend stopped around 12 years ago has helped. The alarmists have a hard time explaining why the warming has stopped while CO2 has continued to increase. That’s not to say that their fertile minds have not come up with explanations.

The wild exaggerations of the environmental groups riding the global warming band wagon only help the global warming skeptics. Environmental organizations constantly keep claiming that the sea will flood the coast, we will be deluged with hurricanes and

old people will be dying like flies in heat waves. The evidence for these claims is non-existent. Wild exaggeration reflects badly on the more restrained apostles of global warming, the more so because they fail to correct the exaggerators. The recent publication of hundreds of private emails between big name climate scientists has also disillusioned global warming believers. It turned out the the scientists were engaging in heavy-handed political activities designed to discredit their opponents and hide facts that that contradict the global warming dogma.

A big problem with global warming is that projections of future disaster depend almost exclusively on computer climate models. The models disagree among themselves by large amounts and the creators of the models freely admit that the models have severe deficiencies. This is a very shaky foundation for predicting global disaster and proposing that we be taxed trillions of dollars to prevent the supposed disaster.

There was a warming in the early 20th century quite similar to the warming that took place in the late 20th century from 1970 to 1997. The late century warming was supposedly caused by greenhouse gases. The early century warming can't be blamed on greenhouse gases because there was little greenhouse gas increase during the early 20th century, due to the comparative lack of industry back then. This raises the possibility that the late century warming was not caused by greenhouse gases but by the same thing that caused the early century warming. But we don't know what caused the early century warming. All we have is speculation as to the causes.

There are many more technical facts that cast grave doubt on the global warming edifice. My website:

<http://www.climateviews.com>

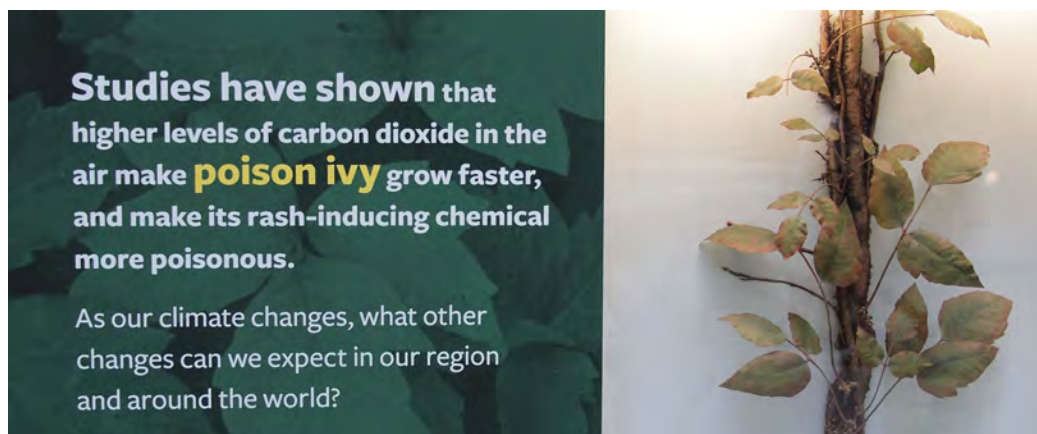
as well as many other skeptical sites, covers some of them.

Continue to Part 2...

Chicago Field Museum Climate Exhibit Part 2

July 8, 2010 by Norman Rogers

I decided to revisit the Field Museum in order to take a closer look at the exhibit. This time I noticed a teaser for the climate exhibit in the main hall of the museum.



The impression given is that we will be deluged with poison ivy if carbon dioxide in the atmosphere continues to increase. This is a fine example of a biased presentation that tells only one side of the story. It is not surprising that poison ivy grows faster with increased CO₂. Plants need CO₂. Photosynthesis takes the carbon from the CO₂ in order to construct plant tissue. Not only do plants grow faster with more CO₂ but they need less water. They need less water because plants have small openings in their leaves called stomata. The stomata take in CO₂ but lose water via evaporation. If there is more CO₂ in the atmosphere the stomata can partially close and the plant will still get its CO₂ ration but lose less water. CO₂ is a powerful fertilizer that makes plants grow better with less water; not just poison ivy but trees, corn, wheat and soybeans too.

The information about poison ivy growth apparently comes from a paper in the July, 2007 journal *Weed Science*. The plants were grown in chambers with varying amounts of CO₂. This is of course different than naturally growing poison ivy that has to compete with other plants whose growth is also enhanced by increased CO₂.

The Field Museum is now selling carbon offsets. The following sign was near the ticket counter.



The person selling a carbon offset is promising to reduce emissions of CO₂. Visitors are asked to pay \$1 to purchase carbon offsets on the Chicago Climate Exchange. The Chicago Climate Exchange has been attacked as [corrupt](#) because well-connected insiders who are also promoters of global warming stand to make money, the more so if a cap and trade law is passed as desired by the Obama administration. If cap and trade

is passed many businesses will be legally required to purchase carbon offsets and the Chicago Climate Exchange will presumably make a lot of money. Cap and trade is a tax on fossil fuel energy. It is also a device to give politicians the power to reward their friends and punish their enemies. Real cap and trade systems as devised by politicians have subsidies and special exemptions to please politically powerful groups.

Cap and trade is promoted as a free market solution to reducing CO2 emissions. The idea is that a cap on carbon emissions is set each year and permits to emit CO2 are auctioned to companies, such as electric companies, that need to emit carbon dioxide. Other parties can create permits by reducing CO2 emissions that would otherwise take place. For example someone in China might build a wind generation farm instead of a coal plant and then be able to sell carbon offsets to a company in Italy that burns coal. The pure cap and trade tax would cause the price of all fossil fuels - natural gas, petroleum, coal - to skyrocket as the cap is squeezed down over time. A problem is that coal is so cheap that the price of the permits would have to be extremely high to discourage the use of coal. If the consumption of gasoline were to be reduced by 80% by 2050, a common goal, gasoline would probably end up costing \$40 per gallon¹. The cap and trade bill now being considered in Washington is full of exceptions and gives great discretionary power to government bureaucrats and politicians.

The political manipulation of a real word cap and trade scheme is illustrated by the Kyoto Protocol, a treaty subscribed to by many European countries. Companies can create and sell carbon credits by reducing emissions. However no credit is allowed for building nuclear power plants to replace fossil fuel plants, even though nuclear power plants don't emit CO2. This illogical provision was inserted due to environmentalist anti-nuclear lobbying. That's an example of how environmental true believers can get their ideas forced on everyone else via political manipulation.

Why is the field museum promoting, actually marketing, carbon offsets? Is this an appropriate activity for a non-profit educational organization?

Propaganda

The poster below is an example of global warming alarmist propaganda. The first paragraph says we can't predict the future climate - if you can't predict the degree (severity) of climate change or the place or time of the climate change, then you can't predict anything concerning climate.

Then the second paragraph says that human societies are facing the consequences of climate change. But we always have to face the consequences of climate change. What other choice is there? It says that plants and animals are threatened by climate

¹ The figure of \$40 per gallon can be estimated by looking at published studies of the price elasticity of gasoline and assume a reduction in consumption of 80%, a goal often mentioned by global warming believers. Of course in this case those who could still afford to drive would have cars getting 100 miles per gallon, a technical possibility. Electric cars could be an alternative but that requires battery technology that does not currently exist, especially at reasonable cost. Hydrogen powered cars also face formidable problems.

change, but of course they always would be affected by climate change, right? Then it says that humans are causing the climate change. But what climate change is that? Is it the climate change that we can't predict? If you say that humans are causing climate change, aren't you predicting climate change?

The final paragraph asks if we can avoid disastrous climate change by altering the way we live. Then in the last two sentences it is suggested that we need a worldwide crash program to prevent climate change.

This is a propaganda poster. It says little concrete, but has a menacing tone and ends with an urgent call for a quasi-religious crusade.

The Future of Coal

The Field exhibit has a lot to say about coal. There is even a large coal rock at the entrance to the exhibit. Coal is extremely plentiful and cheap. The U.S. has enough coal to last for hundreds of years. Almost the entire state of Illinois has coal under the ground. Compared to natural gas or petroleum coal is between 5 and 20 times cheaper for the same amount of energy. Half of our electricity comes from coal. Coal can be converted to natural gas or diesel fuel, something that China is starting to do on a large scale. Potentially we could use our coal to replace imported oil at a net savings. Currently we import 2/3 of our oil. The environmental lobby hates coal. The coal scare of the 1980's was "acid rain" from smokestack emissions of sulfur. Although the danger of acid rain turned out to be mostly imaginary the environmentalists managed to impose extensive regulation on the electric generation industry. But they were unable to completely kill coal, as they did with nuclear. Currently the Sierra Club, a powerful environmental

EARTH'S CLIMATE IS CHANGING

Global temperature is rising, weather patterns are shifting and other effects may be on our horizon. While we can't predict the severity of those impacts in a particular place or time, we can nonetheless see—and measure—many changes.

Yes, climate has changed throughout Earth's long history, but **THIS TIME IS DIFFERENT.**

For the first time, complex human societies are facing the consequences of climate change worldwide. Plant and animal species already threatened by fragmented habitats are feeling the impact. And for the first time, **HUMANS ARE CAUSING IT.**

Can we avoid disastrous climate change by altering the way we live? **THERE IS STILL TIME.** But it will take a worldwide effort, lasting generations. And it needs to start now.

extremist group, has an aggressive political campaign to prevent the construction of new coal plants.

“Stopping one hundred coal plants is a huge milestone in our fight to end global warming,” said Bruce Nilles, Director of the Sierra Club’s Beyond Coal Campaign. (planetsave.com)

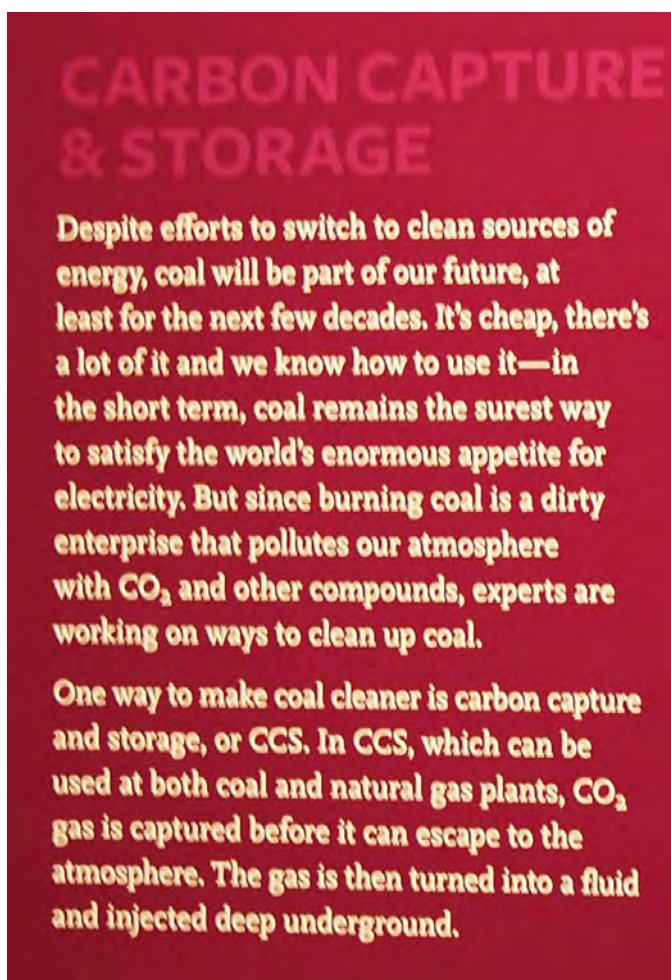
The only electric power sources approved by the Sierra Club are wind and solar.

Of all the hydrocarbon based fuels, coal generates the most CO₂ emissions for a given amount of energy. That is because it is mostly carbon with little hydrogen. Carbon when burned turns into CO₂ while hydrogen turns into water.

The solution put forth to burn coal without CO₂ emissions is carbon sequestration or carbon capture and storage (CCS). The idea is to pump the CO₂ resulting from burning coal underground where it will supposedly remain indefinitely.

I believe that CCS is a sham solution put forth by the environmental lobby to defuse opposition to cap and trade and the global warming agenda. In all probability is is extremely impractical and if it ever is made practical it can be easily stopped by scare stories.

The stack gases from a generating plant cannot be simply pumped underground because they are mostly nitrogen that passes through the combustion process unchanged. The atmosphere is 80% nitrogen. Unlike CO₂ nitrogen cannot be highly compressed into a liquid-like state. So either the CO₂ must be separated from the stack gases or the combustion must be fed with pure oxygen. Neither is an easy task. A substantial part of the energy generated by the plant would be wasted in compressing the CO₂. Finally a suitable underground formation must be found for storing the CO₂. Some places, such as Florida, don’t have suitable sites. If the expense and complication don’t kill CCS then it can be killed by suggesting



CARBON CAPTURE & STORAGE

Despite efforts to switch to clean sources of energy, coal will be part of our future, at least for the next few decades. It's cheap, there's a lot of it and we know how to use it—in the short term, coal remains the surest way to satisfy the world's enormous appetite for electricity. But since burning coal is a dirty enterprise that pollutes our atmosphere with CO₂ and other compounds, experts are working on ways to clean up coal.

One way to make coal cleaner is carbon capture and storage, or CCS. In CCS, which can be used at both coal and natural gas plants, CO₂ gas is captured before it can escape to the atmosphere. The gas is then turned into a fluid and injected deep underground.

that the CO₂ may escape from underground and suffocate thousands of people. Something similar to this actually happened at lake Nyos in Africa in 1986 when CO₂ was suddenly released from CO₂ saturated water unstably resident on the bottom of the lake and suffocated 1700 people. The CO₂ seeped into the bottom of the lake in ground water that was saturated with CO₂.

The environmental lobby has aggressively blocked the long term storage of nuclear waste from reactors for many years. This has been done by endless lawsuits and scare stories to generate political opposition. There would be billions of tons of sequestered CO₂ compared to thousands of tons of nuclear waste. Nuclear waste is not highly compressed and trying to escape through any path. It won't suffocate you in 5 minutes. Killing CO₂ storage politically would be child's play.

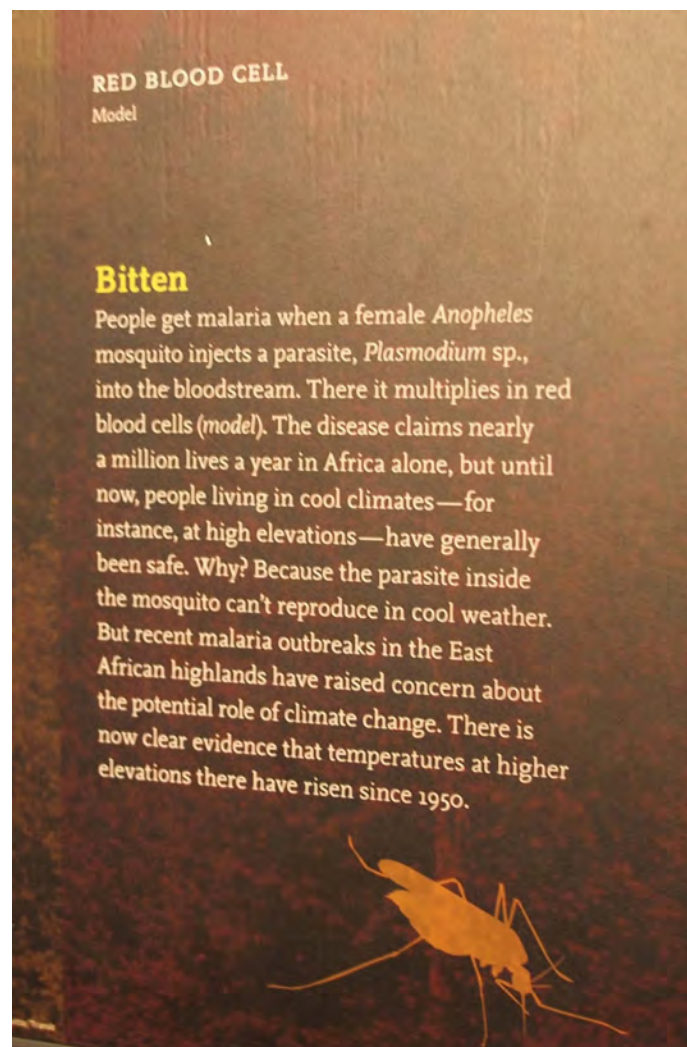
Malaria Myths

The Field exhibit promotes the theory that global warming will cause increased incidence of malaria. That's a powerful scare story - global warming, then malaria in Chicago. In the early days of settlement there was a lot of malaria in the Midwest. According to the Mackinac Center for Public Policy:

Willis F. Dunbar in "Michigan: A History of the Wolverine State," writes that the disease "was so prevalent that it was rather unusual to escape it."

According the Paul Reiter, a malaria expert, malaria was a serious problem in Britain during the very cold period in the 1600's known as the little ice age. Malaria, called ague, was mentioned 13 times in Shakespeare's plays.

Experts on malaria and other mosquito borne diseases have been fighting a losing battle with global warming believers. The idea that global warming will promote malaria is too good a scare story to let the facts get in the way. Nine malaria experts published a letter in the June, 2004 Lancet with the title: "Global warming and malaria: a call for accuracy." Malaria is a complicated disease and is mainly endemic in poor countries



with poor public health measures. Malaria was nearly beaten in Africa until environmental extremists managed to get DDT banned. Since then millions more, particularly children, have died from malaria. Fortunately the World Health Organization and various African countries have started using DDT again. It is uniquely effective against malaria mosquitos when sprayed on the inside walls of huts.

The love of forests

Environmentalists love forests and dislike logging, although many environmentalists live in wooden houses. Forests must be good for global warming. Trees absorb CO₂. Yes, but dead trees emit CO₂ as they decay. When you have a climax forest with decay matching growth there is no longer net absorption of CO₂. Or, if a forest burns down, as many do periodically and naturally, all the CO₂ sequestered in the forest is released in a burst. In other words, in environmental jargon, trees are not sustainable absorbers of CO₂.

There is another problem. Forests contribute to global warming because they absorb sunlight. The bare ground or grass covered ground, if the forest were not there, would absorb sunlight less and reflect sunlight better away from the earth. This is particularly true in northern forests where there is snow cover for a good part of the year. Snow is a very good reflector of sunlight, but if it is masked by evergreen trees it can't reflect the sunlight. If the promoters of global warming are so concerned why aren't they at least considering logging a lot of northern forests to ameliorate global warming?



The China Syndrome

The China Syndrome was a 1979 anti-nuclear movie starring Jane Fonda. The theme was that if a reactor melted down the core would melt into the ground on its way to China.

In the world of global warming the China syndrome is a mental disease. Global warming activists either think that China does not exist or they have China confused with a green paradise. As seen in the graph below China is using 3 times as much coal as the USA

and the usage is rapidly growing. China is the world's largest emitter of CO₂. China uses coal for electrical generation. Currently China has a far lower per capita usage of electricity than more developed countries. Electricity generation in China, and coal usage, will have to increase by 4 times to bring per capita electricity generation up to the level of Taiwan, a level still lower than the USA. China will be emitting so much CO₂ that it would be of negligible importance if the USA were to reduce its CO₂ emissions to zero. This growth of Chinese emissions is going to happen. China has the coal, China needs the electricity and there is no reasonable alternative.

Those who want to paint China as a green paradise point to the wind farms and solar panel factories.

Perhaps they don't realize that the Chinese are gaming the European carbon credit system and getting paid by Europeans to build wind farms. The solar panel factories in China are most likely aimed at supplying solar

photovoltaic panels for the European market that is now collapsing as the Germans realize that solar power is not so great in a country with poor sunshine and the Spaniards realize that they are broke.

