

## “Back to the Future”

Earth Day sermon by Jackson Harper to the Naples, Florida, UU Church on 4/20/08

I love Florida, the place I was born and grew up during the Great Depression and World War II. We lived in a white frame house surrounded by Longleaf Pines, palmettos, and flaming azaleas in spring. The creek near by and a secluded cypress head drew me to their wonders. Earth was a bountiful place that provided for our Jersey cow Patsy, the chickens, and the garden. That's the way it looked to me at 5 years old when the planet hosted a third as many people as today.

WWII brought workers and new houses and my secret cypress head was cut down and filled in and my delightful creek was dredged to become the "big ditch".

Now at age 75, having seen much of the world through the eyes of a biologist and ecologist, I am alarmed at the vastness of the damage and destruction we 6.7 billion humans have wreaked upon this Earth. We are facing changes to our lives, our civilization, and our planet that cannot be compared to any event in our history.

We have been blessed and cursed with the one time gift of fossil fuels - oil, coal, and natural gas - which will run out in a few decades. World oil production is at or near its peak and will begin diminishing in a few years with severe consequences if we are not prepared. We in the United States which depends so heavily on oil for transportation, agriculture, and suburban life face a wrenching prospect unless preparations taking 20 years and trillions of dollars are made.

We have put so much carbon dioxide in the air from the burning of fossil fuels over the last 200 years that we are threatening the livability of the planet and humanity itself. Ecosystems are deteriorating and in collapse. The Amazon rainforest and Boreal forests of the far north are threatened with destruction this century from deforestation and climate change. The collapsing Greenland ice sheet threatens massive flooding. The oceans are dying because of overfishing, warming, acidification, and pollution. Major ocean fisheries and most tropical coral reefs may be gone by mid-century eliminating undeniable beauty and vital protein sources. Habitat destruction, alien species, pollution, over-hunting, and global warming are causing the 6th major extinction of plant and animal species on Earth. Deserts are expanding, greatly increasing areas of extreme drought. Mountain glaciers and snow packs are melting which will cause grave water shortages for a billion people living at the bases of the Himalayas, Andes, and Karakorams. Aquifers are being drained causing water shortages in Asia, the Middle East, and North America. Eco-refugees now at 20 million will rise to hundreds of millions during the 21st century. The number of failed nations is growing.

The poor, the minorities, and those living closest to the land are already suffering the injustices of global warming caused by the greenhouse gas emissions of industrial nations. Drought in northern Kenya has decimated the herds of pastoralists. Reindeer of the Sami people in northern Finland are starving as their grazing lands deteriorate. Native peoples of the Arctic watch as their homes sink into the melting permafrost. Pacific

islanders and Bangladeshis seek higher ground as the oceans gradually rise. Food riots and demonstrations have taken place around the world as the prices of rice and wheat have doubled or tripled in the last few years due to global warming, higher oil prices, increasing meat consumption by growing middle classes, and biofuel production from food.

The United States has emitted far more carbon dioxide over the past half century than any other nation. We Americans who use a quarter of the world's resources are largely responsible for causing global warming injustices.

There are simply too many of us exhausting too many resources too fast for this finite Earth to handle. The Earth is now 25% above carrying capacity say ecologists. Two and a half billion more people are expected by mid century.

Dr. James Hansen, NASA's chief climatologist, says that we have at most 10 years to take substantial action to cut greenhouse gases to avoid irreversible climate catastrophe. He says we must not only eliminate fossil fuel emissions but remove much carbon dioxide already in the atmosphere in order to stabilize the climate. There is no sign that the world community is ready for this immense effort.

Famed environmentalist Lester Brown in his new book "Plan B 3.0" offers a scheme to mobilize countries at warp speed to move toward sustainability before critical tipping points are reached. He urges a massive effort on a wartime footing to reduce greenhouse gas emissions 80% by 2020, to transition to renewable energy, to eradicate poverty, to humanely reduce population, to restore ecosystems, and to rescue failing nations.

The planetary emergency is not just about energy but encompasses our culture, the way we live, the way we perceive nature, and our expectations.

Consider today's paradigm: growth is good: more is better; things bring happiness; Earth must be subdued; resources are infinite; profit is more important than people and nature. A new paradigm would recognize that Earth's resources are limited and acknowledge that to live sustainably we must live in harmony with Earth and with each other.

Where do you fit into the 5 stages of planetary grief as modified from Elizabeth Kubler-Ross's "Five Stages of Grief"? Are you in denial about global warming, peak oil, food and water crises? Are you angry that you and your children will have to cope with these threats? Have you compromised and think there might be something to these issues after all? Does the whole thing make you depressed? Or have you reached stage 5 and accept the fact that even though we're headed for some rough times, there are amazing opportunities ahead for creating a better world?

Picture a carbon-free, pollution-free, zero-waste community with sustainable food, water, transportation, and building materials in a natural wildlife setting where equity, health, and happiness are abundant for all. Efforts toward sustainable living are going on around the world. For all the world's people to live as Americans do would require 5 Earths. The

World Wildlife Fund is sponsoring One Planet communities now emerging on four continents. Ecovillages are springing up around the world.

Sustainable manufacturing will resemble processes in nature where waste from one organism becomes usable by another organism. Output from one industrial process becomes the input for another process as explored by William McDonough and Michael Braungart in their "cradle-to-cradle" concept. If we do not plan for a smooth transition to sustainability, nature will force us there to exist on a shattered, depopulate planet.

Higher gasoline and diesel prices due to diminishing oil resources will lead to lifestyle changes and the restructuring of our communities. To make it through the transition period of two or three decades to renewable energy and toward sustainability we will have to go back to the future to make our families and communities more self-sufficient in food and energy production. Will we go back to the family cow, the chickens, and vegetable gardens of my boyhood in the 1930's and 40's? What was it like then? Were people happy without television, computers, and air conditioning? Yes, people living slower lives then were no less happy than we are today according to life satisfaction studies. Looking back it seems to me that without so much of today's distractions there was more time for genuine friendship, community participation, and experiences in nature.

We must wisely use our remaining fossil fuel resources, technology, and talents to prepare for the post carbon world. If we fail to make a smooth transition, will our children and grandchildren live in a community as depicted by James Howard Kunstler in his new book, "World Made by Hand: A Novel"? Kunstler imagines a rural community in upstate New York in 2025 in a post collapse, post petroleum world where people are trying to survive with little contact with the outside and little or no electricity or media. Surviving by using the remnants of civilization, the necessity of hunting, fishing, and farming have made people pay close attention to mother Earth. And so should we. After all, nature, not politicians or industrialists, makes the final decisions.

You have unusual challenges in south Florida: flooding from rising seas, more severe hurricanes, and hotter summers on the way. Scientists investigating the collapsing Greenland ice sheet estimate a two meter sea level rise this century which is consistent with paleoclimatic evidence. Better models of sea level rise will be available in a few years as the mechanics of ice sheet collapse are better understood.

You cannot assume that someone somewhere will do the job of preparing for global warming, peak oil, food and water security. Special interests have had an inordinate influence on government and the media. Governments at all levels have done too little, too late. Our federal government has fought international cooperation on global warming for 7 years, muzzled top federal scientists, and changed science reports downplaying global warming. Even though our tax dollars have paid for a number of studies on peak oil calling for immediate action to avert economic, political, and social disruption, these studies have not been acted upon.

Each of us must assess our needs and plan ahead. Make it a priority to select, campaign, and vote for officials who will take action and then hold their feet to the fire. We must demand a price on carbon emissions. We must demand a moratorium on new coal-fired power plants without carbon capture and storage. We must demand immediate transition to renewable energy. As in WWII when everyone including children had a role to play in supporting the war effort, saving the planet and humanity takes all of us.

Maverick British scientist James Lovelock in his book "The Revenge of Gaia" says that since China and the United States will do nothing about global warming, we may as well get comfortable and go down with the ship leaving a few hundred million survivors congregating near the poles. Hardly an inspiring vision. But we Americans are not defeatists. We must stand up, take responsibility, and become global leaders in dealing with peak oil, global warming, water and food crises. We learned how to survive in the New World; we fought two world wars; and we walked on the Moon. We are tougher and more resilient than we know.

Can we recover climate stability on Earth? Yes, we must. Can we replace fossil fuel energy with renewable energy? Yes, we have the technology. Can we learn to live in harmony with the Earth? Yes, it is deep within us. Can we cooperate with others around the world to deal with global crises and promote peace? Yes, it will take all of mankind. With dedication and courage and sacrifice and love, together we will end the planetary emergency and reach sustainability to build better lives and better communities.

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Earth to Humans: "Love me or leave me"

Sermon by Jackson Harper at Tennessee Valley UU Church on Earth Day, 22 April 2007

I'm in love. Hopelessly. She stole my heart. I'm hers. She spawned and molded me and nurtured and caressed me. As I was being carried down an Amazon river floating on my back listening to birds in the overhanging trees, Mother Earth delighted me with her creations. I have heard the hoofbeats of the great Serengeti migration of wildebeests and zebras in the East African grasslands. And I have swum with sharks on the Belizean coral reef to be enchanted by a kaleidoscope of color.

After half a century of traveling, I no longer just take in the beauty and wonder of a place but question its sustainability. How long will it last? The Amazon rainforest having suffered an unusual drought aided by deforestation and climate change is in danger of drying and burning, threatening a third of all plant and animal species on Earth. Global warming and the emptying of forests and savannas of wildlife for bushmeat, ivory, trophies, timber, and agriculture may soon snuff out many species such as gorillas and chimpanzees in the wild. Warming oceans, acidification, and pollution may destroy most of the tropical coral reefs and their sea life by mid-century. Ocean fisheries are collapsing due to overfishing and habitat destruction. Climatologists estimate that almost a third of the land will be in extreme drought by the end of the century. Water crises loom around the world as glaciers in the Himalayas, Rockies, and Andes melt. I am stunned by the rapidity of the deterioration of Earth's ecosystems and the threats of irreversible collapse.

Ever notice the little plate in elevators stating their carrying capacities, the number of people they can safely carry? Our small blue planet is over its carrying capacity by one to four billion people according to ecologists. The result is continued deterioration and collapse of vital ecosystems. More than half of Earth's species are expected to become extinct this century if we take no action. Habitat destruction, pollution, over hunting and fishing, invasive species, as well as global warming are causing the extinctions. Extinction is forever!

We have at most 10 years to launch a substantial effort to curb global warming before it gets out of control according to NASA's top climate scientist Dr. James Hansen. The tipping point is approaching sooner than expected based on the severity of effects seen from the poles to the tropics. The oceans rose 80 feet in a warming episode 3 million years ago with a temperature increase of 5° F. above today's level and within the range forecast for the end of the century. Flooding would eventually cover major coastal cities such as New York, Tokyo, and London. If we have not already reached the point of no return, we surely will in a few years if we do not take massive action immediately.

"Don't worry", said my neighbor, an Exxon executive. "The market will take care of it." "Don't worry", said my former dentist Ralph when I told him of the severe problems facing the planet. "God wouldn't let it happen." "Don't worry", said the two girls from a pre-Darwinian sect who came down the driveway. "If we destroy the Earth, God will restore it as it was." Now I'm really worried. Not only is the planet in serious trouble, but lots of people out there are in desperate need of Biology 101.

Is it hopeless? Not if we get to work. National spirit and sacrifice as in the Second World War are needed to save the planet and civilization. It can be done. As a boy I saw everyone in the community participate in winning the war. Men went off to fight. Women worked at the air bases and shipyards. Children salvaged metal and paper. And the war was won in less time than the ongoing Iraq war.

Global warming is now in the mainstream thanks largely to Al Gore's Oscar winning documentary, "An Inconvenient Truth". There is no more debate on the basic science, as skeptics fade away. I am so proud that Unitarians voted overwhelmingly for a strong Statement of Conscience on Global Warming at the General Assembly in St. Louis last year. Catholics, Jews, Protestants, and many Evangelicals have rallied to the cause of saving Creation and averting catastrophe. People have been flocking to meetings at thousands of churches, synagogues, townhalls, and statehouses across the country. Legislation is now being considered at federal, state, and local levels. Our Supreme Court has ruled that EPA has the authority to limit carbon dioxide emissions from cars. The European Union will reduce greenhouse gases 20% by 2020 and would raise this to 30% if the United States would cooperate.

Our country that has produced three times as much greenhouse gases as any other country is most responsible for climate change, ecosystem destruction, and ecorefugees predicted to be in the hundreds of millions. Isn't it ironic that Africans who have emitted only 3%

of greenhouse gases may suffer its most serious consequences? I am outraged that we have done almost nothing to reduce the greenhouse emissions that are the principal cause of global warming. In fact, our government has systematically muzzled scientists and rewritten science reports to downplay global warming and its urgency. They have discouraged international efforts. They have not alerted the public to the catastrophic consequences of global warming and peak world oil production nor provided realistic plans of action or asked for sacrifices. We need real leadership at all levels and we need it now.

Our nation that uses a quarter of world resources should not conduct resource wars, destroying life and wealth and respect. As a world leader the United States should set a good example by lowering carbon emissions to protect the planet and should help developing countries combat global warming, hunger, and disease. We can no longer stall, blaming others for inaction. Sir David King, British science advisor, was right when he said that global warming is a bigger threat to humanity than terrorism.

What can you and I do? Most important is to get political, as World Watch founder Lester Brown says. Call and write your elected government officials at all levels - federal, state, and local. Tell them that you are serious about global warming and that you want strong action taken now. Governments and corporations will not move unless we push them. Support bills such as the Safe Climate Act introduced by Congressman Waxman to reduce greenhouse gases by 80 percent below 1990 levels by 2050. A similar bill was introduced by Senators Boxer and Sanders in the Senate. Campaign and vote for those who will work hard to control global warming. Stay informed. Organize and participate. Step it up!

Necessary, but not sufficient in themselves, are actions we can take in our own lives. We can drive fuel efficient cars: hybrids are good, plug-in hybrids better. Imagine plugging in your car when you get home to be refueled by wind-generated electricity. Take buses and commuter trains. Carpool and telecommute. Reduce fossil fuel use in heating your home. Insulate. Use efficient wood stoves, geothermal, or solar heat. Eat more locally grown food reducing emissions from transportation. Reduce meat consumption since nearly one-fifth of carbon emissions come from the meat industry. Choose Energy Star appliances and compact florescent bulbs. Support family planning around the world.

Don't be misled by the propaganda by some in the oil and coal industries, skeptics groups they fund, or their allies in government. They are trying to confuse you into believing that global warming requires more research before action can be taken. And beware of greenwashing by pretenders who make a big splash in the media but deliver very little.

Well-healed lobbyists are busy urging politicians to spend your tax dollars on their global warming panaceas, many of them just bad ideas.

Ethanol from corn? Bad idea. Corn has doubled in price, now going to the highest bidder for food or fuel. We 800 million car owners around the world are competing with 2 billion of the poorest people on the planet for corn. This will result in inadequate diets for

many who will be pushed over the edge. Eighteen thousand children die each day of hunger and malnutrition.

Biodiesel fuel from oil palm? Bad idea. Tropical rainforests are rapidly being cut in Indonesia and Malaysia for timber and to plant oil palm plantations to supply the European market, wiping out the habitat of man's close relative the Orang Utan that is not expected to survive in the wild more than 5 years. The release of carbon from this destruction and burning is enormous. The loss of tropical plant and animal species is incalculable.

Liquid coal? Bad idea. The conversion of coal to liquid fuel would release massive amounts of carbon dioxide making a dirty fuel even dirtier.

It is unconscionable that many corporations and governments put short term profits before the long term survival of life on this planet. Knowledge of the degree of severity and speed of global warming has been withheld from the public in the latest United Nations report by some oil and coal producing countries. Focused on growth, the world economic system is unsustainable on our finite planet. We do not pay the real costs of goods. If gasoline were to include the environmental and social costs, we would pay \$11 a gallon at the pump. Carbon emissions can be greatly reduced by imposing carbon taxes and higher auto fuel economy standards.

If we humans are to survive on Earth, we must ultimately live in ecologically sustainable communities that function without causing environmental damage. Energy must originate from sources that are renewable, safe, clean, and non-polluting such as solar, wind, and geothermal. Solar cell production is doubling every two years and nanotechnology promises to make solar energy competitive. Wind power, now competitive with grid power, is doubling in new capacity every three years. Geothermal and oceanic power potentially offer immense energy sources.

Ecologically sustainable communities can still be found in the Amazonian rainforests. The communities of Kichwa, Achuar, and Secoya Indians that we visited in 2005 are surrounded by lush forests that supply them with food, drugs, building materials, and spirituality. You and I live far from sustainability. Five planets would be required to support the people on Earth if everyone lived as we do in the United States.

The world's largest environmentally sustainable community is being planned in southern Portugal at a cost of more than a billion dollars. The development, Mata de Sesimbra, will house 30,000 people in 8,000 solar powered units built of sustainable materials. Only renewable energy will be used. Half of the food will come from local sources. A sustainable transportation network will eliminate the need for private autos. Rainwater collection and water recycling systems will reduce water consumption. An 18 square mile native pine and oak forest will be restored to protect wildlife habitat.

We have an exciting opportunity to halt further damage and restructure our lives to be in harmony with nature. We can take the first steps now, retrofitting our homes. We can introduce our children at an early age to the out-of-doors and show them the wonders and beauties of nature. Towns and cities can be redesigned to adapt to global warming and

peak oil. We can restore ecosystems to their fullness to protect wildlife and ecosystem services.

We are in a long term struggle to survive on a changing planet that we do not fully understand. This will alter the way we think about the Earth, about life, and about religion. Our children and grandchildren and their descendants will be living on a diminished planet working toward sustainability. Survival will demand a new paradigm, an operating principle, that will infuse our lives, our institutions, our businesses and governments such that we value life, all life, and work together to achieve social, economic, and environmental justice for all.

We are in the fight of our lives to save 4 billion years of evolution and civilization. There will be setbacks, disappointments, and tragedy. We cannot sink into despair. Remember Wangari Maathai, the Nobel Peace Prize winner, who was beaten in the streets for trying to save a forest. She went on to organize the planting of over 30 million trees, restoring ecosystems and communities in East Africa.

We have to get beyond denial, greed, and fear. We have to come to the realization that in our daily lives you and I are agents of death and destruction, but we have in ourselves the need and the will to perpetuate life, all life, on Earth. This we must internalize. We will carry the fight to the courthouse, to the schoolhouse, to the factory, to the legislature, to the office, and to places of worship. Join us in this epoch adventure to save Mother Earth and our humanity.