

O if we but knew what we do
When we delve or hew
Hack and rack the growing green
After-comers cannot guess the beauty seen
- G.M. Hopkins

Why Do I Need Greenpeace?



Isn't the government
taking care of it?

B.M. Healey

In the Fall of 1971, I was a callow youth seeking show business success in the cowboy bars of southern Alberta, remarkably ignorant of the environment, except what I saw from the highway. I was unaware that the 1st and 2nd Earth Days had taken place; and I certainly wasn't paying attention when, on September 15, 1971, a 65 foot fishing boat sailed from Vancouver bound for the coast of Alaska to protest a bomb blast. Renamed the Greenpeace, the fishing boat was conveying activists and reporters to the island of Amchitka in order to confront, and bear witness to, the U.S. nuclear bomb test scheduled for 2 October 1971. Coming within range of the island, however, the Greenpeace was harassed by the Confidence, a U.S Coast Guard vessel, threatened with fines and charges and forced back to the mainland. Although the object of their voyage was denied them, the Greenpeacers, with the attendant press coverage, were more successful than they thought, engendering the following responses:

- The crew of the Confidence slipped the Greenpeacers a note, all supporting the protest against the detonation.
- American pacifists applied to the United States Supreme Court for an injunction to stop the test;
- a petition of 177,000 Canadian signatures was delivered to the White House;
- the governments of Sweden, Peru and Japan raised diplomatic objections to the test;
- bridges between Canada and the United States were blocked with protesters on the morning of the rescheduled blast.

Even though the bomb was finally detonated on November 6th, lifting the earth at ground zero 20 ft., killing 2,000 sea otters and forming a mile-long lake in the blast crater, Richard Nixon and the American Military establishment had taken note of the protests, and in February 1972 announced that America would cease using Amchitka Island as a test site.¹

From that small beginning, a movement began to coalesce. Over the years, Greenpeace's activism grew in size and scope, joined by other social and environmental activist groups—Non governmental Organizations (NGOs)—no doubt encouraged by the success of Greenpeace's example. Today, Greenpeace International, a leading force for sustainability, oversees a network of 28 national and regional Greenpeace centres around the world, creating a 'green' presence in over 40 countries.

Why so much activism? What needs to be overcome? In his book, *The Arrogance of Humanism*, biologist David Ehrenfeld suggests that humans have pushed the planet's health dangerously far into the sick zone because we have made—and continue to make—three false assumptions: 1) this has all been put here for us; 2) it will always be here; and 3) if anything goes wrong we can fix it with technology. Ehrenfeld clearly implies that humans consider themselves above all other species. B.F Skinner, the eminent psychologist, back in the 1950's suggested that a human was merely an angry primate, out of control. But, are all humans?

... whenever I attend some "green" conference... I feel heartbroken, discouraged, defeated, and lied to. It's not the inevitable talk about farmers (re) discovering organic farming; about plastic forks made from

¹ based on *Yes You Can* by Jane Drake & Ann Love

cornstarch; about solar photovoltaics; about relocating... It's that no one, and I mean no one, ever mentions psychopathology.

Why is this important? Because those in power destroy sustainable communities, and not just sustainable indigenous communities. If people develop new ways to live on their land more sustainably, and those in power decide that land is needed for roads and shopping malls and parking lots, those in power will seize that land. This is how the dominant culture works. Everything and everyone must be sacrificed to economic production, to economic growth, to the continuation of this culture...

In the documentary [on serial killer David Parker Ray... suspected of killing up to sixty women]... an FBI profiler compared Ray's attitudes toward his victims to those most people have toward tissues: Once you use them, are you concerned about what happens to them? ... And that was how Ray perceived, or rather didn't perceive, his victims: simply as something to use and throw away.

When the profiler said this, my first thought was *passenger pigeons*. Then *chinook salmon*. Then *oceans*... This culture as a whole... gives no more consideration to the victims of this way of life than David Parker Ray gave to his victims. Blindness to suffering is one of this culture's central defining characteristics... a central defining characteristic of sociopathology.

The New Columbia Encyclopedia states that a sociopath can be defined as one who willfully does harm without remorse: "Such individuals are impulsive, insensitive to others' needs, and unable to anticipate the consequences of their behavior, to follow long-term goals, or to tolerate frustration. The psychopathic individual is characterized by absence of the guilt feelings and anxiety that normally accompany an antisocial act."

How sensitive are members of this culture, on the whole, to the needs of native forests (98 percent gone), native grasslands (99 percent gone), ocean life (90 percent of the large fish gone)? How sensitive is this culture to indigenous land claims? ... how capable are this culture's decision makers of anticipating the consequences of global warming?

Dr. Robert Hare, an expert on sociopaths, states that "among the most devastating features of psychopathy are a callous disregard for the rights of others and a propensity for predatory and violent behaviors. Without remorse, psychopaths charm and exploit others for their own gain. They lack empathy and a sense of responsibility, and they manipulate, lie and con others with no regard for anyone's feelings.... The general

public hasn't been educated to see beyond the social stereotypes to understand that psychopaths can be entrepreneurs, politicians, CEOs and other successful individuals who may never see the inside of a prison." They can be the president, a boss, a neighbor.

... consider the dominant culture in relation to the characteristics of sociopaths as listed in section F60.2 of *The ICD-10 Classification of Mental and Behavioural Disorders*, published by the World Health Organization, Geneva, 1992:

callous unconcern for the feelings of others... Do chickens in battery cages have feelings? What about dogs in vivisection labs? ...

gross and persistent attitude of irresponsibility and disregard for social norms, rules and obligations. Is there an action more irresponsible than killing the planet? ...

very low tolerance to frustration and a low threshold for discharge of aggression, including violence. The civilized have been eradicating the indigenous for ten thousand years. The United States is constantly "discharging aggression" against (i.e., invading) other countries. Individuals and corporations and governments discharge aggression daily toward coyotes, prairie dogs, sea lions, wetlands, coal-bearing mountaintops, and oil-bearing coastal plains.

incapacity to experience guilt and to profit from experience, particularly punishment. How much guilt do you believe timber company CEOs experience over the destruction of ancient forests?... After deforesting the Middle East, all of Europe, much of the Americas, Africa, and Asia, does it seem at all plausible that those in charge are learning from their past mistakes? ...

marked proneness to blame others, or to offer plausible rationalizations, for the behaviour. Do CEOs take responsibility for their violence? The average rapist for his? George Bush blamed forest fires for his urge to deforest. Clinton said it was all the beetles' fault. And many still rationalize their denial of our rapidly warming planet every time a winter storm slams the East Coast.

...Sharing our finite planet with this culture is like being stuck in a room with a psychopath. There is no exit. Although the psychopath may choose other targets first, eventually it will turn to us. Eventually we'll have to fight for our lives. And so if we want access to a landbase we can inhabit, and want our descendants to be able to live there long into the future, we need to organize politically to stop this lethal culture in its tracks. [*Derrick Jensen, September / October 2010 Orion magazine*]

I only began paying serious attention to what was being done to the planet 15 years ago when my

daughter was born. Since then, I remain dumbfounded each time a toxic human finds a new method of degrading the planet; and astonished by what the good guys (Greenpeace, etc.) manage to attempt and to achieve. Anyone seeing the photo of a Greenpeacer hanging from a net on the underside of an ocean oil rig in the Arctic, holding up a sign reading “Go Beyond Oil”, must, like me, be completely in awe.



Greenpeace seems to be everywhere at the same time, building public awareness; fostering political action; and raising funding to facilitate their campaign strategies: fighting in six key areas to dam the flood tide of human stupidity (i.e. what could be more moronic than drilling for oil in the Arctic Ocean, one of the last pristine landscapes on the Planet?).

ONE—CATALYSE AN ENERGY REVOLUTION TO ADDRESS CLIMATE CHANGE.

PROBLEMS

Given that scientific data has strongly indicated that the rapid increase of CO₂ emissions caused by humans in their use of fossil fuels will lead to catastrophic climatic changes (the scientific community world-wide agrees on this); and given that many of the ‘deniers’ of this data have connections to business interests that profit from fossil fuel use, one would think that the need for action to be evident to the general public. But, as Marshall McLuhan once pointed out, “Only puny secrets need protection. Big discoveries remain hidden by public incredulity.” On the bright side, there is, however, a much stronger understanding with younger generations.

Because it’s directly related to climate change, the use of unsustainable energy is probably the most vital crisis that Greenpeace addresses. Without a viable, “green” solution to this problem—which will affect all life on earth—endeavour in other areas won’t matter.

“each day, the tar sands produce the greenhouse gas equivalent of 12 million cars, and consume enough natural gas to heat six million homes... The federal government found it would take 20 nuclear reactors to do that work.” - Andrew Nikiforuk, *Tar Sands: Dirty Oil and the Future of the Continent*

To squeeze just one barrel of oil from the sands, two tonnes of dirt must be dug up and "upgraded," a process that requires two to three times the energy needed to produce a barrel of conventional oil. The result: 30 to 70 per cent more CO₂ emissions. - Alex Farrell of the *University of California at Berkeley*.

China’s contribution to global warming is also a big worry—but few outsiders realize just how much the world’s most populous nation is a victim of the changing climate. Virtually all of its glaciers show signs of substantial melting, which will increase the risk of floods and, in the long term, could reduce its water supply dramatically. According to one report, major crops such as rice, wheat and corn could be reduced by 37 per cent in this century. *The Globe & Mail Climate Change Almanac 2007*

In the 1970s, about a million hectares of Canadian forest burned annually. By 2000, the national total reached a high of three million hectares, or an area half the size of Nova Scotia. By the end of this century, Canada could lose twice that—equivalent to all of Nova Scotia—every year.

This gathering inferno will have dire consequences... boreal peat bogs contain 15 times more mercury than forest soils do, so intense blazes could release extremely high amounts of the neurotoxin into the atmosphere. And, of course, burning forests no longer serve as carbon savers. In the past 40 years, forest fires have released carbon equal to 20 per cent of the nation’s fossil-fuel pollution. — Andrew Nikiforuk - *The Globe & Mail Climate Change Almanac 2007*

Because of global warming, the food supply for more than half of the world’s population could be in jeopardy. Shallow waters such as rice paddies heat up quickly, and that can stunt the growth of the plant. According to Kenneth Cassman, director of the Nebraska Center for Energy Sciences Research, an increase of just one degree in nighttime summer temperatures could lead to

a 10-per-cent drop in rice yield...—Zoe Cormier *The Globe & Mail Climate Change Almanac 2007*

The hard-core science, though effectively mocked by the moneyed hawkers of heavy crude, grows more alarming every year. The tropics have expanded more than two degrees of latitude north and south since 1980. A study on the freshwater discharge from 950 of the world's largest rivers shows half are declining. The amount of water entering the Pacific has dropped by six per cent. Thanks to fossil-fuel emissions, the oceans are 30 per cent more acidic than they should be. That's calamitous news for coral reefs, crabs and fish eaters. The Arctic ice cap has lost an ice mass equal to 12 nations the size of Great Britain. Misguided adventures with biofuels have increased the ranks of food-poor by 40 million. "We're running Genesis backwards, decreating," McKibben says. [*Eaarth* by Bill McKibben, Reviewed by Andrew Nikiforuk *Globe and Mail* Friday, Apr. 23, 2010]

SOLUTIONS

Many solutions to climate change have been advanced, from extremely radical to extremely conservative. What is clear is that we do not have time to contemplate the best solution—is there one?—to the problem. Although theories vary, scientists agree that it is going to get a lot hotter by the end of the Century (anywhere from 2° C to 6° C), and our ability to gather food, water and remain stable in our shelters will be severely affected. Many, of all species, will die as a result. We need to demand that the deniers—the nay-sayers (fossil fuel, mining and forestry corporations), rushing to extract money from the earth with no regard to the environmental cost—adopt the physicians' motto 'First, do no harm'.

Greenpeace, by continually confronting an economic system that places monetary wealth above the health of the planet, pushes at public awareness with an urgency that creates hope and which is able to make imperceptible changes in political and corporate policy. But will it result in a much-needed paradigm shift in human consciousness?

"Introduce a new set of building regulations... Imposing strict energy-efficiency requirements on all major refurbishments (costing £3,000 or more)... Obliging landlords to bring their houses up to high energy-efficiency standards before they can rent them out... Ensuring that all new homes in the UK are built to the German Passivhaus standard (which requires no heating system)." [*George Monbiot, Tuesday October 31, 2006*]

Think of a world where cars burn no oil and emit drinking water - or nothing at all. Where central power stations are redundant and buildings and parked vehicles produce enough energy to drive factories. Where no house is built that cannot generate electricity for others. Where carbon emissions have long been declining, and industries no longer waste almost all their material. This is not a pipe dream, but an increasingly likely scenario, here within a generation or two; that is the prediction of Amory Lovins, 60 [is] an experimental physicist turned energy reduction pioneer who has had as profound an influence on the way people use energy as any man alive...

[Lovins] says: "Optimism beats fear or despair any time. There are excellent reasons to be encouraged. The global consciousness is higher at all levels. Revolutionary changes are taking place."

The car industry is speeding towards solutions Lovins proposed nearly 20 years ago, when he developed the idea of a "hyper car" - a carbon fibre hybrid petrol- and electricity-run machine that weighs next to nothing, has far fewer parts than conventional cars, does 150-200 mpg and emits practically nothing. Last November, Toyota unveiled just that: a four-door carbon fibre model the same size as its green Prius but about a quarter of the weight of some Minis. It emits only 1/3 of the Prius's greenhouse gases and does more than 100mpg. Now most car makers, with one eye on \$100 dollar a barrel oil prices and an understanding that there is a vast market for green, are playing catch-up with Lovins' ideas. While at Oxford in the 70s, Lovins helped set up Friends of the Earth in Britain and stopped Rio Tinto digging up Snowdonia. By the age of 28, he had worked out that the US could phase out fossil fuels not at a cost, but at a profit. "We stand here confronted by insurmountable opportunities,"... Lovins says the US can eliminate all oil use by 2050, "and know unprecedented prosperity"... He dismisses nuclear power as the fantasy of control and command states stuck in the 50s. "New nuclear plants are so costly that spending the same on micropower can save two to 10 times more CO2, and sooner. In 2005, renewables produced one sixth of the world's total electricity and a third of new electricity..." Lovins works by seeking efficiency at every point. Take the most energy-efficient existing hybrid car, he says. Drive it carefully and you can double efficiency. Make it ultra-light, and you can redouble it. Run it on an advanced biofuel, and you can quadruple its oil efficiency

again. If you then give it batteries that can be recharged by connecting a plug to an electric power source and have a good economic model to pay for the batteries, then you at least double efficiency again. Put all this together, and you can be down to about 3% of the oil per mile you started with. And Lovins says he has never known any company invest in energy and not make a profit.

He's working with the Pentagon, which spends nearly a third of its vast budget on moving troops and equipment around. If it invested in really energy-efficient goals, in the same way as, say, it invested in the internet, GPS and chips, Lovins says it would shift the entire global energy landscape. The knock-on effect would transform civilian car, truck and plane industries, too. The cost? It's a \$180bn investment, he reckons - or roughly what the UK spends on its health service in a year. [*The Guardian, Saturday January 5 2008*]

Marine shipping burns up 5.5 million barrels of oil a day, 80 per cent of it high-emission heavy fuel oil. So German company SkySails is turning back the clock with its "towing kite system." An enormous, precision-guided sail unfurls once a vessel reaches cruising speed, leveraging wind power to cut fuel consumption (and greenhouse-gas emissions) by half.

If the kite really catches on, the company reckons it could reduce carbon emissions by 146 million tons a year. [*Chris Turner The Globe & Mail Climate Change Almanac 2007*]

Hermann Scheer, 43, is the MP who persuaded the German government to get rid of nuclear power and invest heavily in renewables such as wind and solar power. As a result, in less than 10 years, Germany is heading towards self-sufficiency in energy. His greatest success has been a "feed in tariff law". This forces power companies to buy electricity generated by the public at more than triple market prices; 300,000 homeowners, farmers and small businesses have leapt in and started selling. Nearly 3% of Germany's electricity now comes from the sun. Spain, Portugal, Greece, France and Italy are all now introducing their version of Scheer's law and pressure is building in Britain and other countries. [*The Guardian, Saturday January 5 2008*]

With its starter-home pricing, standard floor plans and free picket fences, the 52-house Drake Landing development near Okotoks looks like just another bedroom community for Calgary, booming 18 kilometres to the north. However, the two-car garages are crowned with solar-thermal panels. They capture the heat of southern Alberta's 300-plus days of sunshine, which is then stored in 144 glycol-filled boreholes and distributed

as needed to heat every house in the neighbourhood. No furnaces, no emissions... The municipality has been pursuing a "Sustainable Okotoks" growth strategy since the mid-1990s. The scheme began with careful water management and has turned the town into something of a solar-energy hub.

"We very much want to become a solar-demonstration community of excellence, with a concentration of different solar applications that could then lead to economic spinoffs," says Okotoks municipal manager Rick Quail... [*Chris Turner The Globe & Mail Climate Change Almanac 2007*]

TWO—DEFEND THE OCEANS BY CHALLENGING WASTEFUL AND DESTRUCTIVE FISHING, AND CREATING A GLOBAL NETWORK OF MARINE RESERVES.

Covering 2/3 of Planet Earth, our oceans suffer the most from human ignorance and stupidity.² We overfish them. We use them as landfill sites. We've dumped DDT, PCBs, sewage sludge, industrial waste, acids, alkaline waste, scrap metals, waste from fish processing, flue desulphurization, sludge, coal ash, petroleum and nuclear waste into them. We allow pesticide and fertilizer runoff to pollute them—creating huge dead zones. Given that our oceans are a major food source, this is comparable to using your refrigerator for food storage and as a toxic waste site at the same time.

Three million tons of plastic debris float in an area larger than Texas [in the mid Pacific Ocean]. An estimated 46,000 pieces of plastic debris float on, or near, the surface of every square mile of ocean. Humans toss another 2.5 million pieces into our oceans hourly. The trouble for us comes when those polymers enter the food chain. Jellyfish are already mistaking the non-microscopic bits for zooplankton. Turtles mistake bags for jellyfish and birds mistake floating chips for prey. Larger fish eat the jellyfish and so on up until you're eating a tuna filled with plastic dust and toxins. In total, our societies produce an estimated sixty billion tons of

² Near the end of his life, Jacques Cousteau was depressed by the increasing degradation of the oceans he had lovingly explored over the years. He suspected (or hoped?) that human environmental folly would result in a 'correction' that would wipe out 1/3 of the human population.

plastic material every year. [United Nations Environmental Program Report]

Scientists have discovered a way that the vital plankton of the oceans can be starved of nutrients as a result of the seas getting warmer. They believe the findings have catastrophic implications for the entire marine habitat, which ultimately relies on plankton at the base of the food chain.

The study is also potentially devastating because it has thrown up a new "positive feedback" mechanism that could result in more carbon dioxide ending up in the atmosphere to cause a runaway greenhouse effect. Scientists led by Jef Huisman of the University of Amsterdam have calculated that global warming, which is causing the temperature of the sea surface to rise, will also interfere with the vital upward movement of nutrients from the deep sea.

These nutrients, containing nitrogen, phosphorus and iron, are vital food for phytoplankton. If the supply is interrupted the plants die off, which prevents them from absorbing carbon dioxide from the atmosphere.

"Global warming of the surface layers of the oceans reduces the upward transport of nutrients into the surface layers. This generates chaos among the plankton," the professor said.

The sea is one of nature's "carbon sinks", which removes carbon dioxide from the atmosphere and deposits the carbon in a long-term store - dissolved in the ocean or deposited as organic waste on the seabed. The vast quantities of phytoplankton in the oceans absorb huge amounts of carbon dioxide. When the organisms die they fall to the seabed, carrying their store of carbon with them, where it stays for many thousands of years - thereby helping to counter global warming.

"Plankton ... forms the basis of the marine food web. Moreover, phytoplankton consumes the greenhouse gas carbon dioxide during photosynthesis," Professor Huisman said. "Uptake of carbon dioxide by phytoplankton across the vast expanses of the oceans reduces the rising carbon dioxide levels in the atmosphere."

Warmer surface water caused by global warming causes greater temperature stratification, with warm surface layers sitting on deeper, colder layers, to prevent mixing of nutrients.

Professor Huisman shows in a study published in Nature that warmer sea surfaces will deliver a potentially devastating blow to the supply of deep-sea nutrients for phytoplankton. [Steve Connor, *The Independent UK* Thursday 19 January 2006.

SOLUTIONS

More regulation and effective enforcement of existing maritime law is needed. Given the efficiency of our new technologies, with a concerted effort on the part of many Sea Watch groups and nations, it should be possible to maintain a much more stringent watch on the seas.

Rather than wait until we've clogged and destroyed the oceans with plastic, why not stop it at source? Couldn't we ban the manufacture of plastic? Such an action would engender economic resistance and, if implemented, convulsions, but is our casual and indiscriminate use of plastic worth the destruction of one of our major food and oxygen sources? When the oceans have become dead zones entirely, what then will we eat and breathe—plastic?

Hugh Fearnley-Whittingstall's Fish Fight programme persuaded over 600,000 of us to support a ban on the wasteful practice of throwing dead fish back into the sea. The European commission listened and has announced it intends to ban discarding fish.... A discard ban will put many out of business... presumably because many of the fish caught as bycatch are smaller and less valuable than the ones fishermen land today. So in announcing the plan, Maria Damanaki, the European fisheries commissioner, sought to soften the blow. Under her proposal, fishermen may be paid to fish for plastic instead... Plastic fisheries sound daft, but the idea is far from silly. Our seas are awash with plastic bottles, bags, nappies, discarded fishing nets, ropes and thousands of other bits and pieces – the flotsam of modern life. By 2008, the latest year for which I have a figure, 260m tonnes of plastics were made using 8% of global oil production in raw materials and energy. The curve of production over time bends upwards like a cliff face, increasing by 9% per year. The stark reality of this ever-steepening upward climb is that more plastic was made in the first 10 years of this century than all of the plastic ever created up to the year 2000.

Deliberate dumping of plastic at sea has been banned since 1998, but the law is hard to police. The amount of rubbish picked from British beaches in cleanups sponsored by the Marine Conservation Society increased 77% between 1994 and 2009, much of it chucked from ships. Rivers add mindboggling amounts of plastic into the sea daily; much of it soon comes back to a coast near you. Every year, about 2,000 items of rubbish (most of it plastic) washes ashore for each kilometre of beach in Europe. The Mediterranean is worst affected with up to 18,000 pieces per kilometre per year, so it isn't surprising that the European commission

plan to test their plastic fishing proposal there first. Even the deep sea is not beyond reach. About half of plastics sink, and submarine pilots regularly see bags float past 1,000 metres down.

Plastic at sea isn't just unsightly. Many seabirds, turtles, fish and others mistake plastic for food: 19 out of every 20 fulmars that wash up dead onto European beaches have a belly full of plastic. Adult birds pick up floating plastics at sea and feed them to their chicks. If plastic was just harmless roughage it would be bad enough. Instead, many plastics come loaded with chemicals like flame retardants, which get passed up the food chain and so can come back to us in the fish we eat. Worse still, plastics accumulate toxic chemicals (such as pesticides found in water) and concentrate them to thousands of times background levels. Over the years, floating plastics break into ever smaller fragments, making it easier to transfer their chemical burden to anything that eats it. In some places, there is more plastic than plankton.

Fishing for plastic is a great idea. It won't rid the sea of the microscopic soup already adrift, but it could stop things getting worse. There is already a voluntary scheme, Fishing for Litter, which provides collection facilities at ports where rubbish caught can be disposed of rather than thrown back over the side. All of Scotland's major ports already participate. Given that fishing nets sweep the majority of European waters every year, a dedicated cleanup could clear much of the accumulated trash within a few years. But ultimately, the plastic problem will only be solved if we all use less and make sure none of it reaches the sea. *[Callum Roberts guardian Friday 6 may 2011]*

Paul Watson, 57... co-founded Greenpeace in the 70s and now has two boats that patrol the world's oceans and confront anyone he has evidence of acting criminally... Watson knows the law of the sea and has never been prosecuted. Now he is opening up a new role for environment groups. Last year the Sea Shepherd Conservation Society became an official law enforcement agency in Ecuador. Sea Shepherd partners the Ecuador police and can go on official patrols and make arrests in the Galapagos national maritime park. In one month last year he intercepted more than 19,000 shark fins and 92,000 sea cucumbers, and confiscated more than 35 miles of illegal longline. The idea of environmental activists becoming a new green police force may develop in years to come. *[The Guardian, Saturday January 5 2008]*

THREE—PROTECT THE WORLD'S ANCIENT FORESTS AND THE ANIMALS, PLANTS AND PEOPLE THAT DEPEND ON THEM.

PROBLEM

The stats below tell the story, but no matter how many times they're brought into view human apathy remains high. Is it that we're incapable of connecting planetary degradation with the planet that we actually inhabit?

Half the world's tropical and temperate forests are now gone. The rate of deforestation in the tropics continues at about an acre a second, and has for decades. Half the planet's wetlands are gone. An estimated 90 percent of the large predator fish are gone, and 75 percent of marine fisheries are now overfished or fished to capacity. Almost half of the corals are gone or are seriously threatened. Species are disappearing at rates about 1,000 times faster than normal. The planet has not seen such a spasm of extinction in 65 million years, since the dinosaurs disappeared. Desertification claims a Nebraska-sized area of productive capacity each year globally. Persistent toxic chemicals can now be found by the dozens in essentially each and every one of us. The earth's stratospheric ozone layer was severely depleted before its loss was discovered. Human activities have pushed atmospheric carbon dioxide up by more than a third and have started in earnest the most dangerous change of all — planetary warming and climate disruption. Everywhere, earth's ice fields are melting. Industrial processes are fixing nitrogen, making it biologically active, at a rate equal to nature's; one result is the development of hundreds of documented dead zones in the oceans due to overfertilization. Freshwater withdrawals are now over half of accessible runoff, and water shortages are multiplying here and abroad.

The United States, of course, is deeply complicit in these global trends, including our responsibility for about 30 percent of the carbon dioxide added thus far to the atmosphere. But even within the United States itself, four decades of environmental effort have not stemmed the tide of environmental decline. The country is losing 6,000 acres of open space every day, and 100,000 acres of wetlands every year. About a third of U.S. plant and animal species are threatened with extinction. Half of U.S. lakes and a third of its rivers still fail to meet the standards that by law should have been met by 1983. And we have done little to curb our wasteful energy

habits or our huge population growth. [James Gustave Speth, *The Guardian Tuesday October 21 2008*]

The Global Biodiversity Outlook (GBO) is published as national delegates gather in Brazil under the UN Convention on Biological Diversity. The Convention commits governments to slow the decline in the richness of living systems by 2010. The GBO says "unprecedented efforts" will be needed to achieve this aim.

It sets out 15 indicators of progress towards the 2010 target, ranging from trends in the extent of wildlife habitats to the build-up of nutrients such as nitrogen which can harm aquatic life.

Only one of the 15 - the area of the world's surface officially protected for wildlife - is moving in the right direction for biodiversity.

Even here, however, most areas still fall far short of targets to protect 10% of each region with distinctive combinations of species.

The other indicators point to an accelerating decline which has seen the rates of species extinctions surge to their highest levels since the demise of the dinosaurs 65 million years ago. Forests continue to be lost at a rate of six million hectares a year - that's about four times the size of the English county of Yorkshire - and similar trends are noted for marine and coastal ecosystems such as coral reefs, kelp beds and mangrove forests. The abundance and variety of species continue to fall across the planet, according to an index measuring the percentage of species with good prospects for survival; bird variety is on the decline in every ecosystem type from the oceans to the forests. [Tim Hirsch, *BBC News Monday 20 March 2006*]

SOLUTIONS

It seems obvious that many of our environmental problems—certainly climate change—exist as a result of humans having, in the last millennium, cut down 85-95% of the world's original forests. What's even more disturbing is that we have yet to learn how destructive this is—we continue to cut down trees at an alarming rate, as though we have a death wish. The sad truth of our existence is that life on Planet Earth can easily get on without humans, it cannot get on without trees—trees, therefore, are more valuable than humans. So why do people want to eradicate them? Why, for example, aren't paper manufacturers, such as Kimberly-Clark, using hemp (which grows like a weed) for industrial paper production (newsprint, toilet, etc.)? Why aren't large corporations making a commitment to use hemp-made paper in order to bring down the cost? Why

aren't our CEOs capable of understanding that the "bottom line" is not a total at the end of an accounting ledger, but death of the planet? And why are they not demonstrating imagination and initiative (like Interface Flooring) by pushing their industries into sustainable practices?

Hemp is back: "...this year more than 3,500 acres of it will be harvested as an industrial crop, processed, and made into a plethora of natural products, including insulation, horse bedding, fabric, biodiesel and paper... An oft-quoted statistic is that hemp has more than 25,000 natural uses - ranging from food and oil supplements, made from its seeds, to strong industrial materials processed from its woody outer core. It is fast-growing and can thrive in British soil with little water and with no pesticides or other soil-polluting chemicals." [The Guardian ednesday 27 September 2006]

Industrial hemp can be made into quality paper that can be pulped using less energy and chemicals than wood. The fiber's natural brightness eliminates the need to use toxic chlorine bleach during processing. Kimberly Clark... produces hemp paper for premium-grade bibles used in America and around the world because of the paper's extreme durability. Construction products such as wall panels, flooring beams, studs, and posts can all be made out of the versatile industrial hemp fiber. The long industrial hemp fiber results in composite materials that are stronger, more durable and lighter than their counterparts made of wood. Companies like Patagonia, Interface Inc., and Ford all use industrial hemp in their products. From clothing to fuel, from automobile trunk and door panels to nutritious food products, industrial hemp has too many beneficial uses to enumerate.

Hemp grows extremely well in adverse conditions. It is naturally resistant to pests (reducing the use of toxic pesticides), and it requires much less water than other crops

"... hemp crops can yield 3-8 dry tons of fiber per acre. This is four times what an average forest can yield, offering the prospect of preserving fast-dwindling forestland." [North American Industrial Hemp Council]

"This is our best chance to save woodland caribou, permanently protect vast areas of the Boreal Forest, and put in place sustainable forestry practices," said Richard Brooks, Greenpeace forest campaign coordinator at the

news conference. "The interest of the marketplace and public has been critical in this agreement. We have a lot of work to do together to make this agreement successful and we are committed to making it happen." The Agreement, announced by environmental groups and FPAC at news conferences in Toronto and Montreal, covers 278 thousand square miles (72 million hectares) of Boreal Forest, a massive sweep of forest - roughly the same size as Texas and New Hampshire combined - that stretches almost from coast to coast. Included in the agreement is an immediate moratorium on logging in 112 thousand sq mi (28 million hectares, roughly the same size as Nevada and Rhode Island combined), covering virtually all the critical habitat of the threatened woodland caribou...

"The importance of this Agreement cannot be overstated," said Avrim Lazar, President and CEO of FPAC at the news conference. "FPAC member companies and their ENGO counterparts have turned the old paradigm on its head. Together we have identified a more intelligent, productive way to manage economic and environmental challenges in the boreal that will reassure global buyers of our products' sustainability. It's gratifying to see nearly a decade of industry transformation and hard work greening our operations is culminating in a process that will set a forestry standard that will be the envy of the world."

As part of the Agreement, Greenpeace, along with ForestEthics and Canopy, two other groups involved, have immediately suspended their "Do-Not-Buy" and divestment campaigns against the FPAC companies.

FOUR—WORK FOR DISARMAMENT AND PEACE BY TACKLING THE CAUSES OF CONFLICT AND CALLING FOR THE ELIMINATION OF ALL NUCLEAR WEAPONS.

PROBLEMS

The domino effect of unsustainable energy and industrial farming practices leading to food scarcity, in turn leading to war and conflict is hardly new. What is new is our awareness of this chain. Add the proliferation of the nuclear reactor industry and the potential for self-destruction remains astronomically high.

Beyond the enormous cost of building reactors (hundreds of billions of dollars that would be better spent funding sustainable energy solutions) and the

time it takes to construct them, the irreversible problems with nuclear power are 1) the risk of meltdown (i.e. Chernobyl, Three Mile Island, Fukushima); and 2) the disposal of nuclear waste. By continuing to create nuclear waste we are selfishly putting our children's future at risk.

When a routine test went catastrophically wrong, a chain reaction went out of control in No 4 reactor of Chernobyl nuclear power station in Ukraine, creating a fireball that blew off the reactor's 1,000-tonne steel-and-concrete lid. Burning graphite and hot reactor-core material ejected by the explosions started numerous other fires, including some on the combustible tar roof of the adjacent reactor unit. There were 31 fatalities as an immediate result of the explosion and acute radiation exposure in fighting the fires, and more than 200 cases of severe radiation sickness in the days that followed...

In the week after the accident the Soviets poured thousands of untrained, inadequately protected men into the breach. Bags of sand were dropped on to the reactor fire from the open doors of helicopters (analysts now think this did more harm than good). When the fire finally stopped, men climbed on to the roof to clear the radioactive debris. The machines brought in broke down because of the radiation. The men barely lasted more than a few weeks, suffering lingering, painful deaths. But had this effort not been made, the disaster might have been much worse. The sarcophagus, designed by engineers from Leningrad, was manufactured in absentia - the plates assembled with the aid of robots and helicopters - and as a result there are fissures. Now known as the Cover, reactor No 4 still holds approximately 20 tonnes of nuclear fuel in its lead-and-metal core. No one knows what is happening with it. For neighbouring Belarus, with a population of just 10 million, the nuclear explosion was a national disaster: 70% of the radionuclides released in the accident fell on Belarus. During the second world war, the Nazis destroyed 619 Belarussian villages, along with their inhabitants. As a result of fallout from Chernobyl, the country lost 485 villages and settlements. Of these, 70 have been buried underground by clean-up teams known as "liquidators".

Today, one out of every five Belarussians lives on contaminated land. That is 2.1 million people, of whom 700,000 are children. Because of the virtually permanent presence of small doses of radiation around the "Zone", the number of people with cancer, neurological disorders and genetic mutations increases with each year. [*The Guardian UK Monday 25 April 2005*]

"...let's start with the technological insanity of the nuclear fuel cycle—from uranium mines and their deadly tailings,

to the refining and fabrication into fuel rods, to the multi-shielded dome-like nuclear plant, to the necessity for perfect operation of the facility, to the still unresolved problems of the location and containment of hot radioactive wastes and contaminated material for the next 200,000 years!

"All this... to boil water into steam. A pretty complex chain of events in order to boil water. There are far better, cheaper ways to meet the electricity needs of today's generation without burdening future generations for centuries with the deadly waste products. [Ralph Nader]

SOLUTIONS

There is now ample evidence (according to Dr. Helen Caldicott and Amory Lovins) that a combination of sustainable energy sources and energy conservation can free a nation of its fossil fuel and nuclear power addictions.

"... the case against nuclear energy was summarized this way: 'Wind power and other renewable technologies, combined with energy efficiency, conservation and cogeneration can be much more cost effective and can be deployed much sooner than new nuclear power plants.' [Why a Future for the Nuclear Industry is Risky, www.cleanenergy.org]

In June 2008 French members of Greenpeace... blockaded three quarries supplying sand and gravel to the building site of a new nuclear-power plant at Flamanville in northern France. Greenpeace, a fierce opponent of nuclear power, boasted that it had delayed construction for EDF, which is the world's largest operator of nuclear reactors. EDF now stands accused of making an illegal intrusion of its own in its struggle to contain Greenpeace.

A French court is investigating whether EDF paid a private-investigations agency called Kargus Consultants to hack into the computer of Yannick Jadot, former campaign director for Greenpeace France, in order to predict the group's actions. On March 24th two senior executives in EDF's security division were charged in connection with an illegal intrusion into a computer system.... On April 10th EDF said it would temporarily suspend the two senior executives, Pierre François and his superior, Pascal Durieux, while the investigation went forward...

EDF, Europe's biggest energy company, which is 85% owned by the French government... hopes to profit from a global revival of nuclear power. In December it bought half of the nuclear assets of Constellation, an American utility, and in January it completed a deal to buy British Energy, a nuclear utility. This week Jean-Marc Sabathé,

director of security at EDF, told *Le Monde*, a French newspaper, that as a result of the affair "our industrial reputation is at stake at the moment when EDF is engaged in the renewal of civil nuclear power in France and internationally." [Apr 23rd 2009 | PARIS | *The Economist*]

World leaders may be making a big push for nuclear disarmament, but for Greenpeace the recent trend of government's returning to nuclear energy as a clean way to meet energy demand is as dangerous as nuclear weapons.

More than the dangers of another Chernobyl disaster, nuclear energy is unsuitable for Turkey because it will ultimately not solve the country's energy shortages, according to a Greenpeace official.

Turkish civil servants are short-sighted, since while building nuclear plants might seem efficient on paper, Turkey will continue to have energy shortages in the long term even with this new energy, Korol Diker, the person in charge of Greenpeace Mediterranean's Energy Campaign, told the *Hürriyet Daily News & Economic Review* on Wednesday.

Rainbow Warrior II, the environmental organization's famous ship, on the first stop of the organization's "nuclear-free Turkey" tour.

During the 1,400-nautical-mile tour, the longest ever of the six made in Turkish waters, the ship will visit Sinop, İzmir, Antalya and Mersin. [Wednesday, April 21, 2010 ÖZGÜR ÖĞRET İSTANBUL — *Hürriyet Daily News*]

Chances are good... that you are going to have to sit next to someone in the coming year who will assert that nuclear power is the solution to climate change. What will you tell them?... you could be sitting next to scientist and Gaia theorist James Lovelock, a supporter of Environmentalists for Nuclear Energy™, which quotes him saying, "We have no time to experiment with visionary energy sources; civilisation is in imminent danger and has to use nuclear—the one safe, available, energy source—now or suffer the pain soon to be inflicted by our outraged planet."

If you sit next to Lovelock, you might start by mentioning that half the farms in this country had windmills before Marie Curie figured out anything about radiation or Lise Meitner surmised that atoms could be split. Wind power is not visionary in the sense of experimental. Neither is solar, which is already widely used. Nor are nukes safe, and they take far too long to build to be considered readily available. Yet Stewart Brand, of *Whole Earth Catalog* fame, has jumped on the nuclear bandwagon, and so has Greenpeace founding member turned PR flack Patrick Moore...

the first problem is that nuclear power is often nothing more than a way to avoid changing anything. A bicycle is a better answer to a Chevrolet Suburban than a Prius is, and so is a train, or your feet, or staying home, or a mix of all those things. Nuclear power plants, like coal-burning power plants, are about retaining the big infrastructure of centralized power production and, often, the habits of obscene consumption that rely on big power. But this may be too complicated to get into while your proradiation interlocutor suggests that letting a thousand nuclear power plants bloom would solve everything.

Instead, you may be able to derail the conversation by asking whether they'd like to have a nuclear power plant or waste repository in their backyard, which mostly they would rather not, though they'd happily have it in your backyard. This is why the populous regions of the eastern U.S. keep trying to dump their nuclear garbage in the less-populous regions of the West. My friend Chip Ward (from nuclear-waste-threatened Utah) reports, "To make a difference in global climate change, we would have to immediately build as many nuclear power plants as we already have in the U.S. (about 100) and at least as many as 2,000 worldwide." Chip goes on to say that "Wall Street won't invest in nuclear power because it is too risky. . . . The partial meltdown at Three Mile Island taught investment bankers how a two-billion-dollar investment can turn into a billion-dollar clean-up in under two hours." So we, the people, would have to foot the bill.

Nuclear power proponents like to picture a bunch of clean plants humming away like beehives across the landscape. Yet when it comes to the mining of uranium, which mostly takes place on indigenous lands from northern Canada to central Australia, you need to picture fossil-fuel-intensive carbon-emitting vehicles, and lots of them—big disgusting diesel-belching ones. But that's the least of it. The Navajo are fighting right now to prevent uranium mining from resuming on their land, which was severely contaminated by the postwar uranium boom of the 1940s and 1950s. The miners got lung cancer. The children in the area got birth defects and a 1,500 percent increase in ovarian and testicular cancer. And the slag heaps and contaminated pools that were left behind will be radioactive for millennia.

If these facts haven't dissuaded this person sitting next to you, try telling him or her that most mined uranium—about 99.28 percent—is fairly low-radiation uranium-238, which is still a highly toxic heavy metal. To make nuclear fuel, the ore must be "enriched," an energy-intensive process that increases the .72 percent of highly fissionable, highly radioactive U-235 up to 3 to 5 percent. As Chip points out, four dirty-coal-fired plants were

operated in Kentucky just to operate two uranium enrichment plants. What's left over is a huge quantity of U-238, known as depleted uranium, which the U.S. government classifies as low-level nuclear waste, except when it uses the stuff to make armor and projectiles that are the source of so much contamination in Iraq from our first war there, and our second.

Reprocessing spent nuclear fuel was supposed to be one alternative to lots and lots of mining forever and forever. The biggest experiment in reprocessing was at Sellafield in Britain. In 2005, after decades of contamination and leaks and general spewing of horrible matter into the ocean, air, and land around the reprocessing plant, Sellafield was shut down because a bigger-than-usual leak of fuel dissolved in nitric acid—some tens of thousands of gallons—was discovered. It contained enough plutonium to make about twenty nuclear bombs... this has always been one of the prime problems of nuclear energy: the same general processes that produce fuel for power can produce it for bombs. In India. Or Pakistan. Or Iran. The waste from nuclear plants is now the subject of much fretting about terrorists obtaining it for dirty bombs—and with a few hundred thousand tons of high-level waste in the form of spent fuel and a whole lot more low-level waste in the U.S. alone, there's plenty to go around...

The truth is, there may not be enough uranium out there to fuel two thousand more nuclear power plants worldwide. Besides, before a nuke plant goes online, a huge amount of fossil fuel must be expended just to build the thing. Still, the biggest stumbling block, where climate change is concerned, is that it takes a decade or more to construct a nuclear plant, even if the permitting process goes smoothly, which it often does not. So a bunch of nuclear power plants that go online in 2017 at the earliest are not even terribly relevant to turning around our carbon emissions in the next decade—which is the time frame we have before it's too late... every stage of the nuclear fuel cycle is murderously filthy, imparting long-lasting contamination on an epic scale; that a certain degree of radioactive pollution is standard at each of these stages, but the accidents are now so many in number that they have to be factored in as part of the environmental cost; that the plants themselves generate lots of radioactive waste, which we still don't know what to do with—because the stuff is deadly . . . anywhere . . . and almost forever... nuclear colonialism is not an acceptable sacrifice, since it is not one the power consumers themselves are making. It's a sacrifice they're imposing on people far away and others not yet born, a debt they're racking up at the expense of people they will never meet...

you can say nuclear power is somewhat less carbon-intensive than burning fossil fuels for energy; beating your children to death with a club will prevent them from getting hit by a car. Ravaging the Earth by one irreparable means is not a sensible way to prevent it from being destroyed by another. There are alternatives. We should choose them and use them. *[Rebecca Solnit Published in the July/August 2007 issue of Orion magazine]*

Notorious 'Conflict Timber' Trader: Kouwenhoven sentenced to 8 years in prison The Hague, Netherlands - Greenpeace today welcomed the conviction of the notorious Dutch timber baron Guus van Kouwenhoven, who was found guilty of being in breach of a United Nations arms embargo on Liberia and sentenced to eight years in prison.

Kouwenhoven ran the two largest logging companies in Liberia during the former regime of warlord Charles Taylor and traded so-called 'conflict timber' with companies in Europe and China as a means of arming Taylor's war on the people of Liberia, a war that cost over 250,000 lives.

Between 2000 and 2003, Greenpeace uncovered and exposed some of main European log traders buying from Kouwenhoven's two logging companies. Traders included the Swiss-German Danzer Group; Danish multinational timber trader DLH Nordisk (through Indubois in France); Dutch logger and importer Wijma; Greece-based plywood and flooring producer Shelman; the German logging and processing, company Feldmeyer-Group and the Italian producer of railway sleepers Tecnoalp.

Speaking from outside the court in The Hague, Greenpeace International Africa forest campaign coordinator, Stephan Van Praet said: "Europe's biggest timber traders, who flatly refused to terminate business with Kouwenhoven's logging companies, must share his guilt. If these people have any conscience, the death of thousands of innocent people and the destruction of the Liberia's rainforest is stopped and must never happen again." *[07/06/2006 illegal-logging.info]*

...The 64-year-old [Wangari] Maathai, the first black African woman to win a Nobel Prize in any category since the awards were first handed out in 1901, gained recent acclaim for a campaign planting 30 million trees to stave off deforestation.

"Many of the wars in Africa are fought over natural resources," Maathai told The Associated Press. "Ensuring they are not destroyed is a way of ensuring there is no conflict."

Maathai, Kenya's deputy environment minister and a former presidential candidate, has worked for nearly half her life to protect the environment and human rights. During the 1980s and 1990s, she also campaigned against government oppression and founded Kenya's Green Party in 1987... Her message... the same as always - forests and other natural resources must be protected if people are to prosper.

Maathai founded the Green Belt Movement in 1977 while a member of the National Council of Women of Kenya. The group quickly became the largest community-based environmental organization in Africa, with a focus on planting trees and empowering women.

"I was hearing at the National Council of Women of Kenya complaints from women. A lot of them about not having enough firewood, not having enough food for their children and I was discovering there was a lot malnutrition in this part of the country," she said.

Maathai said she soon discovered political and social problems were contributing to deforestation and the problems faced by women.

[Jimmy] Carter called Maathai a "heroine in Kenya and throughout Africa. She has fought courageously to protect the environment and human rights, in the face of severe governmental pressures to silence her often lonely voice." *[Tom Maliti The Associated Press Friday 08 October 2004]*

FIVE—CREATE A TOXIC FREE FUTURE WITH SAFER ALTERNATIVES TO HAZARDOUS CHEMICALS IN TODAY'S PRODUCTS AND MANUFACTURING.

PROBLEMS

My teenage years were spent in B.C.'s Okanagan Valley on a 5-acre farm surrounded by large apple orchards. The trees were so close to the property line that I could reach across the fence and pick an apple whenever I was so inclined. 4 or 5 times a years the fruit farmers would attach large mobile tanks to the back of their tractors and proceed through their orchards covering the trees with a thick spray. I have no idea if the spray was fungicide, herbicide or pesticide. Nor do I know if the minor auto-immune disorders I suffer from now stem from those chemical dowsings. I do know that in the '50's and early '60's not one of those farmers gave a second thought to the use of heavy chemicals, as long as it eradicated whatever pest or blight might mar the apple. Now,

supposedly, we know better. Do we? Even though pesticides are banned throughout much of Canada, there are, apparently, people who slip across the border into the U.S. to buy pesticides there. And what is the reason they go to all that trouble to break the law and put themselves and others at risk? They want a perfect green lawn.

In 2010, I came across the following item in Harper's Index—The patent on the 50 millionth chemical had just been approved. In other words, humans have invented no less than 50 million chemicals. Whatever do we need 50 million chemicals for? And how many of these 50 million are benign?

In a recent UN study on the unexplained disappearance of the bee population worldwide, the scientists who dissected the bees, their pollen and wax found 121 different pesticides, which begs the following questions: Could these pesticides be a major contributor to the bees' disappearance? Were these 121 pesticides responsible for the deaths of other species? Were the 121 pesticides invented by 121 chemists, or by various chemists, by one chemist, or corporation, or many? Why is there no stringent "code of ethics" regarding the creation of toxic materials? And, most importantly, how long will we allow the (effectively) unregulated invention of toxic substances to continue?

E-waste is replete with toxic chemicals. Does our love affair with electronic technologies permit us to ignore the environmental cost of their existence?

Each year, an estimated 50 million tons of E-waste is produced; the USA discards 30 million computers and Europe disposes of 100 million phones. *[EPA estimates for 2006-2007]*

"... the amount of e-waste being produced—including mobile phones and computers—could rise by as much as 500 percent over the next decade in some countries, such as India. *[UNEP Report titled, "Recycling - from E-Waste to Resources,"]*

It's war on hazardous chemicals that Greenpeace single-handedly provoked Tuesday.

After rating Hewlett-Packard low on its Green Meter did little to convince the company to change its ways, the organization decided to resort to trespassing. It sent activists to HP's global headquarters in Palo Alto, Calif., where they climbed on top of the building and painted a gigantic message announcing "Hazardous Products," using nontoxic children's finger paint. The message covered more than 11,500 square feet, which is about the size of two and half basketball courts.

According to Greenpeace, the organization took this action because HP broke its promise to eliminate hazardous chemicals in its products. Earlier this year, HP postponed its 2007 commitment to phase out dangerous substances, such as brominated flame retardants (BFRs) and polyvinyl chloride (PVC) plastics, from its computing products. The delay shifts compliance up two years, from 2009 to 2011.

PVC and BFRs are highly toxic, and can release dioxin when burned, a chemical known to cause cancer. Apart from the graffiti, HP employees were also greeted today by automated phone calls from actor William Shatner, calling upon the company to phase out the toxic chemicals. *[CNET News, July 28, 2009]*

Solutions

My wife has an extremely practical attitude to money: every dollar she doesn't spend is a dollar she doesn't have to earn. Imagine if our regulatory systems used the same principle: if every toxic substance we didn't invent was one we wouldn't have to spend vast sums of money getting rid of (DDT, PCBs, etc.).

Is there a viable solution to the proliferation of electronic waste and toxic chemicals? Would the public at large, knowing the health costs of the production and disposal of these materials, support a ban on same? Is McDonough and Braungart's concept (detailed below) practical, within the foreseeable future?

Imagine if the byproducts of buildings and industrial processes were beneficial fuels instead of pollution and garbage. That's the idea behind Cradle to Cradle [C2C], a philosophy developed by green-architecture guru William McDonough and chemist Michael Braungart that's about more than simply reducing environmental harm. The pair advocate moving from our current "cradle to grave" patterns, where resources are used up and products ultimately get buried in a dump, to regenerative architecture and materials that mimic nature, where the waste of one organism provides fuel for another. One example is a solar-powered building with a green roof that purifies air and water while serving its inhabitants. Another is organic, compostable textiles that enrich the earth when they're thrown away. As McDonough likes to say, "Waste equals food." *[Tim McKeough The Globe & Mail Climate Change Almanac 2007]*

SIX—CAMPAIGN FOR SUSTAINABLE AGRICULTURE BY REJECTING GENETICALLY ENGINEERED ORGANISMS, PROTECTING BIODIVERSITY AND ENCOURAGING SOCIALLY RESPONSIBLE FARMING.

Problems

Industrial agriculture—much like industrial medicine and industrial architecture—fails to take into account sustainable practices that have evolved over the past 5000 years, practices that have mostly been discarded in favour of more ‘modern’ approaches. Genetically Engineered science has not proven safe. It does, in fact, resemble a genie escaping from the bottle. Once invented, man has no control over what happens to the altered species he invents and the ways in which it will affect other species. So far, chemists inventing new species are unable to predict what will happen, so their protestations of creating a vast food source to feed all humans is fallacious, depending as it does on the reliance of fossil fuels for fertilizers and pesticides; and treating, as it does, the land as an inorganic table. Feeding all people is a problem of distribution—politics and business—not one of food scarcity. GE commerce is also completely against the continuance of the historical cooperative relationship between humans and plants. The large chemical corporations insist they should be able to own all rights to the use of plant and animal species.

In addition, the loss of soil as a result of industrial agriculture practices contributes to the loss of farmland worldwide (i.e. the desertification of vast areas of China)—a direct result of human arrogance and ignorance.

For decades, people have wrung their hands over deforestation in the Amazon. Now, scientists fear that climate change alone may turn the massive rain forest into a baking desert. If droughts and forest fires intensify and the rain forest shrinks, it creates less rain, leading to more droughts and fires, and so on, in a vicious cycle. Just as in the boreal forests, the Amazon's burning trees will release stored carbon into the air, further speeding global warming. If the entire Amazon went up in smoke — which may happen within decades — it would release 100 billion tonnes of carbon, says Daniel Nepstad, who studies rain-forest droughts and fires. (Humans currently release about six billion tonnes a year by burning fossil fuels.) "This," Dr. Nepstad says, "really is frightening."

[Zoe Cormier The Globe & Mail Climate Change Almanac 2007]

SOLUTIONS

By continually revisiting and reevaluating past organic farming practices we may be able to avert a world-wide agricultural catastrophe. What has protected the survival of life on Planet Earth up to now is its vast biodiversity. If humans intend to continue to eat and live as they've lived for thousands of years, we will need to overcome our arrogance and to try to live within nature and not against it.

Last week, Nestle shareholders entering a meeting in Switzerland were swarmed by costumed gorillas holding signs that read "Give us a break!"

The strange scene was orchestrated by Greenpeace as a way to bring attention to the chocolate giant's use of palm oil; the ingredient is cultivated at the expense of rainforests and peat swamps, and contributed to orangutans' status as one of the most endangered species on Earth.

This isn't the first time Greenpeace and Nestle have locked horns. Last month, the activist organization posted a YouTube video of a man biting into an orangutan finger disguised as a Kit Kat bar. Nestle successfully removed the video from the site, but it was reposted to Vimeo—where it garnered 1.3 million clicks. The eco-org has also waged an aggressive social networking campaign, resulting in an onslaught of anti-Nestle tweets and comments... In response to the outrage, Nestle finally agreed to stop working with Sinar Mars, an Indonesian company that has been heavily involved in unsustainable palm oil cultivation. But the company continues to get supplies from Cargill, a multinational involved in the similar eco-crimes.

The tussle illustrates the evolving nature of eco-activism. While the gorilla stunt was a grassroots call to action, Greenpeace has really made an impact with its shrewd use of new and social media; they even filmed and posted the gorilla scene, which you can watch below. It's a tactic that has already proved successful—and with any luck, it will soon prompt Nestle to stop destroying forests for palm oil altogether. *[change.org Nikki Gloudeman · April 19, 2010]*

Terra preta is new to Western science, but it is an old technology from the Amazon that disappeared when the native populations were wiped out by European diseases after Columbus...

Instead of slashing and burning the rainforest to make way for agriculture, long lost Amazonian civilizations burned forest slash in smoldering piles to make charcoal, and then buried the charcoal in the soil. This produces

an astounding increase in soil fertility. The charcoal itself adds nutrients to soil, but it also acts as a sponge to absorb and retain any manures or other added fertilizers for very long periods of time. Some of the terra preta soils created more than 500 years ago are still highly fertile today...

Farmers would start by growing biomass for energy - cornstalks, for instance. The material would be heated with solar furnaces to make the charcoal, which releases gases like methane. These gases can be collected and burned for energy. Then the charcoal gets buried in the fields, making them more productive. But the biggest prize of all is the carbon sequestration. This is a highly effective process for pulling carbon out of the atmosphere and putting it into long-term storage in the earth. [Kelpie Wilson, *truthout*, Friday 05 January 2007]

Reasons for Hope

In 1984 Dr Rajendra Singh... was working in the semi-desert Indian state of Rajasthan. He planned to set up health clinics in the rural villages, but was shocked when he went to a place called Gopalpura. "This area was devastated and people were fleeing, leaving their children, women and older people behind," Singh says. "It was then an old man told me that they needed neither medicines nor food. He said all they needed was water... the region was arid, all the rivers were dry and the land was parched. The only source of water was rainwater, but that was scarce and there was not nearly enough for all the needs of the region."

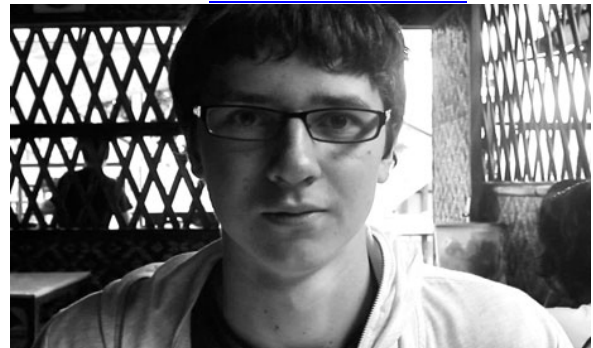
A mix of modern technology and villagers simply neglecting traditional ways of conserving water had led to an ecological disaster. Singh found that the villages no longer used small earth dams - or johads - to collect surface water but instead now relied on "modern" tube wells. As they bored their wells deeper and deeper into the ground and sucked out ever more underground water, so the water table had dropped alarmingly and ever deeper wells were required.

Lower water levels meant that the wells were not full, the forests and trees were dying off, and erosion was worsening. It was a vicious circle. With less irrigation water, farming declined and men migrated to cities for work. Women and children then had to spend up to 10 hours a day fetching firewood and water, and the shrinking labour force sapped people's will to maintain the old johads...

Singh and his colleagues began digging out an old johad pond in Gopalpura. Seven months later, it was, almost miraculously, nearly five feet full of water. And once the rains eventually came, not only did it fill to the brim, but a nearby long-dry well began flowing again. The following year, the village joined in to rebuild a second dam, and

by 1996 Gopalpurans had recreated nine johads that between them held millions of litres of water. Meanwhile, the groundwater level had risen to 6.7m, up from an average of 14m below the ground... "It was only due to political reasons that the [johad] system fell apart," Singh says. "We worked for four years in Gopalpura and slowly a huge area turned green..." Singh is now known as the Rain Man of Rajasthan, having brought water back to more than 1,000 villages and got water to flow again in all five major rivers in Rajasthan... The forest cover has increased by a third because the water table has risen, and antelope and leopard have returned to the region. It has also been one of the cheapest regenerations of a region ever known - in Rajasthan, villages have been brought back to life sometimes for just a few hundred pounds, far less than the cost of the single borehole that almost destroyed them... Erratic rains and longer droughts are becoming more frequent around the world with changing weather patterns and climate change, and the lessons taught by Singh in Rajasthan are now being applied all over India and Africa. In the next 30 years, water "harvesting" is expected to become an essential way to save water everywhere from England to Uganda and Arizona. [The Guardian, Saturday January 5 2008]

Alec Loorz for [Earth Island Journal](#)



I am 16 years old. This morning I filed a lawsuit against the United States of America, for allowing money to be more powerful than the survival of my generation, and for making decisions that threaten our right to a safe and healthy planet.

Our parents' and grandparents' generation... developed a society that depends on burning fossil fuels... Our addiction to fossil fuels is messing up the perfect balance of nature and threatening the survival of my generation. If we continue to hide in denial and avoid taking action, I and my generation will be forced to grow up in a world where hurricanes as big as Katrina are normal, people die every year because of heat waves, droughts, and floods, and entire species of animals we've come to know disappear right before our eyes.

This is not the future I want. And I know that we still have a chance to turn this picture around. But, it's going to

take more than changing lightbulbs and buying hybrid cars. I believe it will take nothing less than a revolution... a revolution in our entire culture and way of thinking, so that we value nature and the future of my generation with every action we take.

And I believe this revolution needs to be led by youth... as youth, we are the last group of people in the US who don't have any official political rights. We can't vote, we certainly can't compete with rich corporate lobbyists... So we are forced to simply trust our government to make good decisions on our behalf.

However, it's become clear that our government has failed us by not protecting the resources on this planet we need to survive. Even though scientists overwhelmingly agree that CO2 emissions are totally messing up the balance of our atmosphere, our leaders continue to turn their backs on this crisis...

Today, I and other fellow young people are suing the government, for handing over our future to unjust fossil fuel industries, and ignoring the right of our children to inherit the planet that has sustained all of civilization. I will join with youth and attorneys in every state in the US to demand that our leaders to live and govern as if our future matters.

The government has a legal responsibility to protect the future for our children. So we are demanding that they recognize the atmosphere as a commons that needs to be preserved, and commit to a plan to reduce emissions to a safe level.

The plaintiffs and petitioners on all the cases are young people. We are standing up for our future...

Starting this Mothers' Day weekend, the youngest generation will rise up and march in our communities. We will unite together with a powerful voice to call for action on climate change...

We will let the world know that climate change is not about money, it's not about power, it's not about convenience. It's about our future. It's about the survival of this and every generation to come.

The iMatter March is a series of more than 100 marches in states all across the US, and in over 25 countries worldwide, including Columbia, Gambia, Germany, Thailand India, on Mount Everest (!) and there's even one being planned by the son of an oil executive in Kuwait...

We matter. Our future matters... This is our revolution. This is our time. [*guardian.co.uk; Thursday 5 May 2011*]

Alec Looz is the 16 year old visionary of the iMatter campaign and founder of [Kids vs Global Warming](#), a project of Earth Island Institute. A climate change activist since he was 12 years old, he has spoken to nearly 200,000 people in over 200 presentations, keynotes, and panels.

When I was sixteen years (1962), I had no notion—forget ambition—of challenging any part of the status quo, nor did any of my peer group. We were about to finish school and turn into adults, living rich lives and building successful careers.

We accepted government, and the corporation, which had come of age in the 1950's, as positive institutions responsible to the common good, a notion challenged by the social and environmental justice movements which sprouted during the 1960's. Initially a reaction to racism in America, and the idea of war as a reasonable method of resolving differences, these movements began with people banding together and resoundingly saying no. Those who said no to war, and to racism, also began to notice that commerce was ravaging the landscape, and started to question what business was actually up to, but with few successes, these movements did not coalesce into any permanent form. And many who were disappointed by the lack of progress simply disappeared into the wilderness to live apart from modern society. By 1969, the conflicts between these movements and the status quo left the participants exhausted, and created a psychological backlash, but the desire to build a cleaner, safer, more civil world had left a residue of hope, and it was only a year after the 1960's ended that Greenpeace made its voyage to Amchitka.

Since then, the fight for the planetary health and peace have come a long way. Fostered in a large part by the actions of Greenpeace, and other NGOs, the idea of social and environmental justice is now commonplace in the minds of far more young people than of my generation; and, as a result:

- A 16 year old boy, and others of his generation, is suing the American government in 2011 for failing to deal with Climate Change.
- Though continually being hacked at by corrupt politicians and lobbyists, we have acquired a sizeable body of environmental law.
- The number of humans aware of the fragility of life on Planet Earth and the consequent need for action has increased dramatically in the past 40 years (see *Blessed Unrest* by Paul Hawken).
- My fifteen year old daughter may now be able to glimpse a future in the distance.