



# **HOW ENVIRONMENTALISM MORPHED FROM GREEN TO BLUE**

# HOW ENVIRONMENTALISM MORPHED FROM GREEN TO BLUE

By Willem Loots and Muriel Ydo

## Contents:

Introduction	page 3
Man, Nature and Environmental Fears - History	page 4
Important milestones of the 19th century	page 5
Environmentalism in the 20th century	page 3
Important milestones of the 20th Century	page 8
The Club of Rome and The Limits to Growth	page 10
Milestones in the 21st Century	page 12
Greenpeace	page 14
Deep ecology	page 15
A paradigm shift to Blue	page 17
The Principles of the Blue Economy	page 19
The Blue Bandwagon	page 21
Blue Energy	page 22
Blue Carbon	page 23
Epilogue - The Blue Economy on the internet	page 24
Bibliography	page 25

## Introduction

This paper surveys what has been written on the subject of the emerging concept of the new Blue Economy and examines to what extent its central tenets are replacing the arguments, the tools and the lexicon of more traditional 'green' crusaders.

From the very start it became obvious that a fair amount of retrospective analysis was needed to properly understand the relatively recent phenomenon of modern blue environmental thinking. The spiritual father of the Blue Economy Gunter Pauli confesses pointedly: "If I can see a little further than the green economy today it is because I can stand on the shoulders of so many giants". In that same spirit we have made a serious attempt to place both the green and the blue stages in the development of environmentalism into their proper historical perspective.

Evidence of human impact on the natural world and of environmental degradation has existed from approximately the fifth century B.C. What is clear, however, is that human awareness of the actual depth of the current ecological predicament of our planet did grow exponentially over the past fifty years. The link between cancer and the environment, the dangers of chemicals, fossil fuel combustion and the risks of nuclear power are now daily fare in the media. On top of the more traditional environmental issues such as conservation, preservation of nature, smoke abatement, municipal housekeeping, occupational disease and water pollution we now have the additional burden of accelerating climate change.

The Intergovernmental Panel on Climate Change declared in 2007 that greenhouse gases had reached levels not seen in 650,000 years, and were rising rapidly as a result of people burning fossil fuel. In most countries it is now accepted that global warming is a looming environmental catastrophe and some scientists even believe that we are underestimating the problem.

The central plank in the platform of traditional green environmentalism has always been that mankind must simply cut back on energy use and do the necessary to reduce air and water pollution. At the end of the first decade of the 21<sup>st</sup> century blue thinking goes a step further: the environmental challenge of our day is not merely a matter of mitigating levels of CO<sub>2</sub> to reduce global warming. This will neither repair our habitat nor remediate the damage done in the past. It is imperative that we bring about fundamental change in our lifestyles and apply solutions-oriented thinking to build sustainable systems for the future. In the blue view of our world, there are no landfills but our collective waste is either a resource to create something new or simply a source of energy. We can only

eliminate pollution by absorbing waste the way ecosystems do. As thought leader Gunter Pauli says: "by emulating Nature we can evolve from an economy based on scarcity to an economy based on abundance---the cascading, nutrient rich, Blue Economy".

A most useful source of reference for anyone who has any serious interest in the history of environmentalism is the blog of Bill Kovarik of the Radford University in Virginia, USA: <http://www.environmentalhistory.org> while more Northern European focus can be found on <http://www.eh-resources.org/index.html> (University of Newcastle)

### **Man, Nature and Environmental fears - History**

The modern Environmentalist movement, as it emerged in the late 20th century was certainly not a totally new development in human awareness. It was in fact a new installment in a long running series. Pollution was not a phenomenon that fell from the sky- first time- as a byproduct of 20<sup>th</sup> century industrialization and recorded history is filled with worries and handwringing over the impact of humans on their environment.

Deforestation, the indiscriminate use of timber and the resulting deterioration of the land are recurrent subjects in early and classical literature.

"The destruction of the cedar forests of the Middle East is told in the oldest known, surviving written story in the world: The epic of Gilgamesh. The epic was written in Mesopotamia sometime during in the 3rd millennium before Christ."

(From the Role of Wood in World History by K.J.W. Oosthoek:  
<http://www.eh-resources.org/wood.html>).

Plato (427 – 347 BC) compared the hills and mountains of Greece to the bones of a wasted body lamenting that: "All the richer and softer parts have fallen away and the mere skeleton of the land remains."

From the very moment people started to congregate in urban concentrations the degradation of their habitat has been a perennial problem. Population growth was already a matter of serious concern to the Roman emperors. Odors and runoff from garbage, sewage and industries such as smelting or tanning fouled the air and water. A leading thinker in the Roman Empire's golden age, Plutarch (46-c.122) wrote several essays in which he eloquently touched on specific environmental issues such as air pollution from burning wood as well or the danger of lead and mercury poisoning, issues that remain surprisingly relevant until

today, nineteen centuries later. (<http://www.environmentalgraffiti.com/offbeat-news/environmentalism-in-100-ad/769>)

As long as 800 years ago coal smoke had already begun to encroach on the English quality of life. Because of a wood shortage it had become the most popular source of heating fuel and in 1306 King Edward banned coal burning. Amazingly, despite a death penalty being in effect, only very few of his subjects complied. (<http://www.environmentalgraffiti.com/offbeat-news/environmentalism-in-1306/725>)

In the course of the 18th Century the industrial revolution started to unleash the enormous quantities of energy that are embedded in fossil fuels. It began in the United Kingdom and then subsequently spread throughout Western Europe and North America. Coal was used to power engines of ever increasing sophistication and at a later stage to generate electricity. The use of steam-powered machines led to a massive increase in the number of factories and as a result people from the countryside migrated en masse to the towns looking for work. Living conditions in urban areas were breeding grounds for diseases. Smog episodes began killing residents of large cities like London and water pollution brought epidemics of cholera. More than 31,000 people died during an outbreak of cholera in 1832 and lots more were killed by typhus, smallpox and dysentery.

Both in the UK and the USA there were thousands of social activists who exposed the costs of environmental negligence, tried to stop pollution, promoted public health and campaigned for the preservation of wilderness. The roots of the modern environmental movement can be traced to the attempts of those early activists in nineteenth-century Europe and North America. It was an era that produced both extraordinary literary marvels and bold scientific breakthroughs.

### **Important milestones of the 19<sup>th</sup> century :**

In 1835 Ralph Waldo Emerson wrote his famous essay Nature. It would mark the beginning of a distinct American tradition of philosophical thought that became known as transcendentalism, later continued by Thoreau, Walt Whitman and others.

In 1854 Henry David Thoreau published "Walden". For a couple of years Thoreau had been living in the woods near Walden Pond, Massachusetts where he spent his time walking, reading and growing his own food. "It appears to be a law that you cannot have a deep sympathy with both man and nature". Another aphorism attributed to Thoreau: "Thank God men cannot fly, and lay waste the sky as well as the earth."

in 1855 John Snow, a London physician, traced a cholera epidemic to a contaminated water pump. He documented the relationship between the disease and the source of drinking water and provided an early model of effective epidemiology. (<https://php.radford.edu/~wkovarik/drupal/?q=node/22>)

In 1859 Charles Darwin's published "On the Origin of Species". In evolutionary biology competition is shown to be the mechanism for natural selection. Darwin's argument that biological organisms are in a constant state of change, driven by competition for limited resources is now one of the central pillars of environmental science.

In 1870 Prof. Augustine Mouchot of the Lycee de Tours in France predicted a need for solar energy: "The time will arrive when the industry of Europe will cease to find those natural resources, so necessary for it. Petroleum springs and coal mines are not inexhaustible but are rapidly diminishing in many places. Will man, then, return to the power of water and wind? Or will he emigrate where the most powerful source of heat sends its rays to all? History will show what will come."  
 ([http://www.huffingtonpost.com/social/MJinCanada/fred-upton-greenhouse-gas-emissions\\_n\\_803352\\_72535419.html](http://www.huffingtonpost.com/social/MJinCanada/fred-upton-greenhouse-gas-emissions_n_803352_72535419.html))

In 1873, Ernst Haeckel coined a new German word, "oekologie" to describe the study of interactions between organisms and their environment.  
 (<http://www.etymonline.com>)

In 1892 John Muir founded the Sierra Club "to do something for the wilderness and make the mountains glad."

It is generally accepted that present-day environmentalism has firm roots in the intellectual thoughts of the 19th century. Recommended reading:

[http://www.edf.org/documents/809\\_Birth\\_of\\_Environmentalism.htm](http://www.edf.org/documents/809_Birth_of_Environmentalism.htm)

<http://webcoist.com/2008/08/17/a-brief-history-of-the-modern-green-movement/>

<https://emlund.wordpress.com/tag/environmentalism/>

## Environmentalism in the 20th century

The immense growth of North American and Western European economies in the decades that followed the Second World War lifted living standards exponentially but technological advances brought unprecedented industrial pollution. A long series of environmental disasters and crises showed the weaknesses of industrial technology and were alarming proof that there were huge indirect costs associated with the material improvements people were enjoying in the western world.

Environmental problems that received significant attention came with distressing regularity. "Killer Fog" caused thousands of people to die in London in 1948, 1956 and 1962. A similar deadly episode hit New York in 1953 and in 1954 smog conditions shut down industry and schools in Los Angeles for most of the month of October.

In 1967 the Torrey Canyon oil tanker crashed off the coast of England resulting in a spill of over 29 million gallons of oil that devastated the coastlines of England and France. In 1969 an oil well blowout off the Santa Barbara coast of California spilled 235,000 gallons of oil and covered 30 miles of beach with tar. In 1978 the Amoco Cadiz shipwrecked off the coast of France with over \$2 billion estimated damage and in 1989 the Exxon Valdez oil tanker ran aground in Prince William Sound, Alaska.

In 1984 a gas leak at the Union Carbide India Limited pesticide plant in Bhopal, India exposed hundreds of thousands of people to chemicals that killed 3000 people within weeks. It is estimated that afterwards 8,000 more have died from related diseases. The Supreme Court of India has been dealing with the legal ramifications of the disaster until 2011.

The energy crises of 1973 and 1979 demonstrated the extent to which the global community had become dependent on non-renewable energy resources. In the years that followed environmental problems became global in scale.

In 1985 a team of British scientists lead by Joe Farman reported the discovery of an ozone hole over Antarctica, a finding that was later confirmed by US NASA satellite monitoring.

<http://www.theozonehole.com/ozoneholehistory.htm>

In 1986 a nuclear reactor at the Chernobyl power station in the Ukraine exploded. Over 2,000 square miles of surrounding territories were evacuated but increased radiation was detected in other countries, as far away as the Netherlands. Contamination has remained a problem until today and disputes continue

about the final death toll of the world's worst nuclear accident. Later in the same year a chemical spill in Basel, Switzerland created massive fish kill in the Rhine River through Germany, France, Luxembourg and the Netherlands. Severe contamination cut drinking water for millions of people and killed half a million fish.

These extraordinary environmental predicaments led to greatly increased environmental consciousness and eventually many environmentalists became political activists, publicly identifying the ever-more-obvious sources of environmental degradation and working with both governments and the private sector in attempts to minimize and curb the damage.

### **Important milestones of the 20<sup>th</sup> Century**

- It was as early as 1953 that The Canadian-born physicist Gilbert N. Plass already presented a paper on global warming at the American Geophysical Union, making an important early contribution to the carbon dioxide theory of climate change.  
In the same year Jacques Cousteau's first book, *The Silent World* sold more than 5 million copies. Finally, 1953 was also the year that Eugene Odum published his groundbreaking "Fundamentals of Ecology". It was the first major academic publication in the field of environmental biology. While Odum presented ecology not only as a biological but also as a human science, it is noteworthy that in those early days the word itself fully retained its original meaning as the branch of biology concerned with the relations between organisms and their environment. Eventually in the eighties and nineties the meaning of the word ecology eroded into a more general connotation of 'the environment' ("It changed the ecology of the island")

As Odum explained himself:

The word ecology is derived from the Greek oikos, meaning "household," and logos, meaning "study." Thus, the study of the environmental house includes all the organisms in it and all the functional processes that make the house habitable. Literally, then, ecology is the study of "life at home" with emphasis on "the totality or pattern of relations between organisms and their environment," to cite a standard dictionary definition of the word (Merriam- Webster's Collegiate Dictionary, 10th edition,). The word economics is also derived from the Greek root oikos. As nomics means "management:" economics translates as "the management of the household" and, accordingly, ecology and economics should be companion disciplines. Unfortunately, many people view ecologists and economists as adversaries with antithetical visions.

(<http://www.scribd.com/doc/34122905/Odum-Fundamentals-of-Ecology>)

After Odum numerous other authors have expanded upon the ecology-economy conundrum and on the interface between the two disciplines. It became the standard opening chapter in many textbooks.

Odum adopted and further developed the term "ecosystem". Although sometimes said to have been introduced by Raymond Lindeman in 1942, the word "ecosystem" first appeared in a 1935 publication by the British ecologist, Sir Arthur George Tansley and had actually been coined in 1930 by Tansley's colleague, Roy Clapham.

It needs to be mentioned that the term ecosystem retained its academic origins and is one of the very few terms that is still used in its pure meaning today. (as a system formed by the interaction of a community of organisms with their physical environment)

Some words turned out to be more 'bio-degradable' than others. Eventually in the seventies the 'oikos' was totally decoupled from its origin and independent compound words with 'eco' started to live an anti-pollution life all of their own. Abstracted from ecology the three letter prefix is still being used rather indiscriminately to form new words whenever there is any vague need to refer to man's relation to the environment:

Ecotourism - visiting exotic or threatened ecosystems to observe wildlife or to help preserve nature. Ecoterrorism - violence carried out to further the political or social objectives of the environmentalists. Later in this paper we come across eco-regions, ecosphere and eco-defense.

- In 1960 Jacques Cousteau and Prince Rainier III of Monaco publicly opposed a French plan to dump radioactive wastes into the Mediterranean Sea. The French decided not to go ahead.
- In 1961 the World Wildlife Fund was founded. The world's leading conservation organization, WWF now works in 100 countries and is supported by 1.2 million members in the United States and close to 5 million globally. WWF was conceived on April 29, 1961, and its first office was opened at IUCN's headquarters in Morges, Switzerland on September 11 that same year. H.R.H. Prince Bernhard of the Netherlands became the organization's first president.  
<http://www.worldwildlife.org/who/History/history.html>
- In 1962 Rachel Carson published Silent Spring. As a distinguished nature author who had trained as a marine biologist she exposed the hazards of the pesticide DDT. In her book she meticulously described how DDT entered the food chain and accumulated in the fatty tissues of animals, including human beings, and caused cancer and genetic damage. By 1970 DDT was banned, but other more toxic chemicals were not. Silent Spring is often seen as a turning point in environmental history because it started a global dialogue about the relationship between people and nature.
- In 1968 Dr. Paul Ehrlich, a Stanford University biologist published The Population Bomb, predicting widespread famine (that never materialized.)

- On July 20, 1969, after a four day trip, Neil A. Armstrong and his crew of astronauts on Apollo 11 arrived at the Moon. A photo of a distinctly Blue Earth rising over the lunar horizon taken from the orbiting Command Module remains one of the most famous images of the space program  
[http://nssdc.gsfc.nasa.gov/planetary/lunar/images/as11\\_44\\_6552.jpg](http://nssdc.gsfc.nasa.gov/planetary/lunar/images/as11_44_6552.jpg)  
[http://nssdc.gsfc.nasa.gov/planetary/lunar/images/as11\\_36\\_5355.jpg](http://nssdc.gsfc.nasa.gov/planetary/lunar/images/as11_36_5355.jpg)  
 Seen from space the continents are dwarfed by the oceans surrounding them.
- In 1969 David Brower founded the environmental pressure group Friends of the Earth after his split with the Sierra Club based in part on their reluctance to challenge the construction of nuclear power plants. Today it is the world's largest grassroots environmental network of environmental organizations in 76 countries.  
<http://www.foei.org/en/who-we-are>
- On September 15, 1971 The Phyllis Cormack, renamed Greenpeace, sets out from Vancouver to protest US nuclear testing on the Aleutian Island of Amchitka. The action sets off global environmental protests. A few months later, the organization Greenpeace is founded in Victoria, B.C. Its initial mission is to oppose atomic testing on Amchitka Island, Alaska. See: Greenpeace: How a group of ecologists, journalists, and visionaries changed the world; by Rex Weyler (Raincoast Books in Canada, Rodale Press in US, UK, NZ, Australia, Sept. 2004).  
<http://www.greenpeace.org/international/en/>
- In 1972 a small international group of professionals from the fields of diplomacy, industry, academia and civil society, founded in April 1968 by Aurelio Peccei, an Italian industrialist, and Alexander King, a Scottish scientist, "**the Club of Rome**" published a first report: "The Limits to Growth". It was written by a group of systems scientists at the Massachusetts Institute of Technology (Donella H. Meadows, Dennis Meadows and Joergen Randers.) The Report explored a number of scenarios and stressed the choices open to society to reconcile sustainable progress within environmental constraints. The international effects of this publication in the fields of politics, economics and science were immediate and far reaching: over night, the Club of Rome had demonstrated the contradiction of unlimited and unrestrained growth in material consumption in a world of clearly finite resources and had brought the issue to the top of the global agenda. With its focus on long-term vision and provocative scenarios, the report sold more than 12 million copies in some 30 languages worldwide. The Club of Rome is now a global think tank with its international secretariat in Winterthur, Switzerland.  
<http://www.clubofrome.org/eng/home/>

- World Environment Day on June 5, 1977 was the occasion for the start of Kenya's Green Belt Movement, founded by Wangari Maathai. Seven small saplings were planted that day, but by 1992, the Green Belt Movement had planted over 7 million saplings, demonstrating that low-cost grass roots organizations can be more effective than bureaucratic anti - desertification projects.
- In 1979 James Lovelock published Gaia: A New Look at Life on Earth. Lovelock theorized that the earth is a self-regulating entity unconsciously maintaining optimal conditions for life.  
 "The once-tentative Gaia hypothesis has become part of scientific orthodoxy and has been formally enshrined as the Gaia Theory, although in the US it has been dubbed Earth System Science"  
<http://www.guardian.co.uk/science/2010/aug/27/james-lovelock-gaia>
- In 1983, the UN General Assembly had created the UN World Commission on Environment and Development and appointed Dr. Gro Harlem Brundtland, the first woman prime minister of Norway, as chairperson. Four years later in 1987, she published the Brundtland Report, and coined the term 'sustainable development'. The Report combines environmental and economic considerations, and famously defines sustainability as: 'Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. "Sustainability" became a new buzzword.
- in 1985 the Greenpeace ship Rainbow Warrior was sunk in Auckland, New Zealand harbor. Activist photographer Fernando Pereira is killed. Two months later Le Monde revealed that the Rainbow Warrior bombing was carried out by French government intelligence agents under orders from their commanding officer. The French government was determined to stop protests over French nuclear weapons tests in the Pacific. It turned out to be the largest public relations disaster of the eighties.
- In 1988 NASA scientist James Hansen and others warned the US Congress about possible consequences from global warming, rising sea levels, drought and increased storm severity. The World Meteorological Organization and UN Environmental Program established the Intergovernmental Panel on Climate Change (IPCC). A United Nations resolution was approved characterizing climate as a "common concern of mankind." In the same year an international treaty banned all dumping of wastes in the ocean.
- In 1989 the European Community implemented a ban on ozone - depleting chemicals.
- In 1990 a first United Nations report on climate change warned that global temperature rise might be as much as 2 degrees F in 35 years, and recommended worldwide reduction of CO2 emissions.

- In 1991 Sweden became the first nation to impose a carbon tax to curb CO2 emissions. By 2010 the tax per ton was 128 Euros, and the country's economy had grown 44%.
- In 1994 came a more definite Climate Change Warning when the United Nations Intergovernmental Panel on Climate Change report produced by 78 lead authors and 400 additional contributors, warned of severe long term impacts from greenhouse gas buildup.
- In 1997 during the United Nations Framework Convention on Climate Change (UNFCCC) the Kyoto Protocol was adopted by a total of 122 participating nations, but environmentalists were dissatisfied with the weak goals of the treaty and the treaty was never ratified by the U.S. Congress.
- In 1999 Worldwatch reported that 7 out of 10 scientists believed the planet was experiencing the largest mass extinction of species in history. It was also the year that the Earth's population reached six billion. Half were living in cities. Almost half (2.8 billion) were living on less than \$2 a day. UN agencies noted that while globalization of trade did help in some countries, the poor were becoming poorer both in absolute and relative terms.

## **The New Century.**

In the 21st century, there is increasing global awareness of the threat posed by the human-induced enhanced greenhouse effect, produced largely by forest clearing and the burning of fossil fuels.

## **Milestones**

- The Millennium Ecosystem Assessment was a four-year international study commissioned by the United Nations Environment Programme and conducted between 2001 and 2005 by over 1000 of the world's leading biological scientists that analyzed the state of the Earth's ecosystems and provided summaries and guidelines for decision-makers. It reported that humans have changed most ecosystems beyond recognition in a dramatically short space of time. This most comprehensive survey ever into the state of the planet concluded that human activities threaten the Earth's ability to sustain future generations.
- In 2002 British Petroleum, the world's second largest oil company, spent 200 million dollars on the rebranding of the company. Part of the exercise was to introduce the slogan "beyond petroleum" and a new green and yellow sunburst design for its logo. Later that year, during the World Summit on Sustainable

Development in Johannesburg, BP received a Greenwash Academy Award.

<http://www.corpwatch.org/article.php?id=3648>

- In 2004 Kenyan environmentalist and human rights campaigner Wangari Maathai won the Nobel Peace Prize. She is the first African woman to be awarded the peace prize since it was created in 1901.
- In 2005, after a majority of the world's nations had ratified the document, the Kyoto Protocol officially went into force on Feb. 16, 2005 albeit without the United States of America. Countries signing the treaty agreed to cut back emissions of heat-trapping gases to levels 5.2% below their 1990 emissions levels, using a target date of 2012.
- In 2006 former U.S. vice president Al Gore released An Inconvenient Truth, a documentary that describes global warming. The next year, Gore was awarded the Nobel Peace Prize (jointly with the IPPC) for this and related efforts
- In 2010 The Deepwater Horizon disaster in Gulf of Mexico turned out to be the largest accidental marine oil spill in the history of the petroleum industry almost 20 times greater than the Exxon Valdez oil spill. Total Damage Beyond Petroleum is estimated at \$40 billion.
- In 2011 Nuclear reactor melt-downs, explosions and spent fuel fires at the Fukushima power complex created a major disaster for public health and the environment as well as Japan's economy.

During the last fifty years public understanding of the vulnerability of our environment has grown enormously. Ignited by ecological scares of toxic chemicals, nuclear technologies, and overexploitation of natural resources, grassroots environmental activism first emerged as a widespread movement in the 1960s and 1970s. During the 80s and 90s it evolved into many different formats with great differences in focus, tactics and philosophy.

Organizations like the Nature Conservancy, The Wilderness Society, and World Wide Fund for Nature primarily focused on the promotion of efforts to maintain the health of the natural world, biological diversity, the preservation of species and their habitats. As a general characteristic these purely 'conservationist' organizations have in common that they publish scientific research and engage in education. They stage demonstrations, participate in parliamentary hearings, lobby Governments and often purchase land for preservation. The ethics of the conservationists are fundamentally civil and peaceful. Their tactics include petitions and letters to policy-makers or

business polluters. Consumer boycotts of products associated with environmental abuse have proven effective weapons and are greatly feared by the corporate sector.

The institutional profile of environmental activism ranges from single-issue campaign groups to global brand names. Activist membership groups, such as Friends of the Earth and Greenpeace, vigorously defend their political independence by relying on individual donations for their financial resources.

Membership groups also engage in protests, often involving visual stunts to capture media attention. Where such efforts fail in their goals, some activist groups will resort to non-violent direct action or civil disobedience.

(<http://uk.oneworld.net/guides/environmentalactivism>)

**Greenpeace** has remained the global juggernaut of the environmental NGO's until today. The organization does not accept funding from governments, corporations or political parties, but relies on more than 2.8 million individual supporters and foundation grants. It is probably the most visible environmental organization in the world with offices in over 40 countries and an international coordinating body in Amsterdam, the Netherlands. Nowadays Greenpeace focuses its work on a range of worldwide issues such as global warming, deforestation, overfishing, commercial whaling and anti-nuclear issues. Its mission statement is short and to-the-point:

Greenpeace is the leading independent campaigning organization that uses peaceful direct action and creative communication to expose global environmental problems and to promote solutions that are essential to a green and peaceful future.

The Greenpeace fleet of ships is a unique asset in the battle to save planet Earth and protect the global commons. Our ships are used at the forefront of Greenpeace campaigning, often sailing to remote areas to bear witness and take action against environmental destruction.

<http://www.greenpeace.org/international/en/campaigns/>

On the far end of the scale there are direct action movements like Earth First!

Earth First! is a radical environmental advocacy group that first emerged in the Southwestern United States in 1979 and was founded by Dave Forman (and others). The adherents to Earth First are sometimes referred to as eco-anarchists. There are now Earth First! groups in the United States, United Kingdom, Canada, Australia, Netherlands, Belgium, Philippines, Czech Republic, India, Mexico, France, Germany, New Zealand, Poland, Nigeria, Slovakia, Ireland, Italy, and Spain.

Earth First! is a "warrior society" that takes a "by any means necessary" approach to "defending mother earth." The group declines to participate in the democratic process, preferring instead to damage, disable, and destroy the property of its ever-growing list of enemies. EF! targets include, but are by no means limited to, loggers, ranchers,

and farmers -- especially those who grow genetically modified crops. Earth First-ers' crimes include assault, arson, and untold acts of sabotage.

Before he quit in the late 1980s, the driving force behind EF! was a man named Dave Foreman. His book *Eco-defense: A Field Guide to Monkey wrenching* is a how-to for environmental saboteurs. It includes nine chapters of instructions on subjects ranging from tree spiking to destroying roads, from disabling equipment to making smoke bombs. Rodney Coronado, an Earth First! zealot who was sentenced to 57 months in federal prison following a string of arsons calls the book "our bible."

[http://activistcash.com/organization\\_overview.cfm/o/271-earth-first](http://activistcash.com/organization_overview.cfm/o/271-earth-first)

Many in the radical environmental direct-action movement Earth First! claim to follow deep ecology, as indicated by one of their slogans

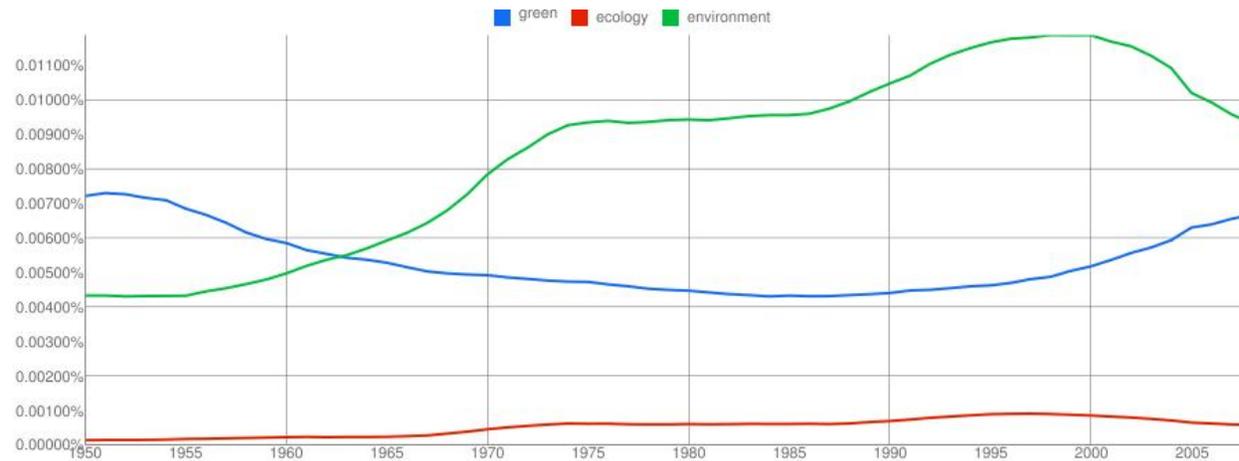
"No compromise in the defense of mother earth"

The term " **Deep ecology** " was coined by the Norwegian philosopher Arne Næss in 1973. Deep ecology is a philosophy that recognizes the inherent value of all other beings. It provides a philosophical foundation for the environmental and green movements and offers a code of environmental ethics. Its central tenet is the belief that the world does not exist as a resource to be freely exploited by humans. The ethics of deep ecology hold that a whole system is superior to any of its parts. All living beings have their own value and need protection against exploitation by humans. Human and non-human life is interdependent within a complex ecosystem of natural processes. Deep ecology is concerned with the fundamental philosophical questions about the impacts of human life as one part of the ecosphere, rather than considering ecology merely as a branch of biological science. It rejects the anthropocentric bias of the term "environment" and the idea of humans as authoritarian guardians of the environment and instead seeks a holistic view of the world. Deep ecologists are concerned with the quality of life rather than the standard of living. In practice, deep ecologists support decentralization, the creation of 'eco-regions', the breakdown of industrialism in its current form, and an end to authoritarianism.

Deep ecology is not normally considered a distinct movement, but Arne Næss has had a broad general influence on the green movement by providing an independent ethical platform for Green parties and environmentalists. His followers do welcome the labels "Gaian" and "Green"

Within the framework of this paper we take the liberty to do a little "eco-mology" and trace the occurrence, frequency and meaning of the word green in the English language. According to the Online Etymology Dictionary, in Old English (as in the Dutch, Frisian, German and Danish languages) "green" originally only stood for the color of living plants, with the added meaning of young, raw, immature. (However, at least since Shakespeare green has

been the colour of jealousy...) In the 17<sup>th</sup> century greens were "freshly cut branches used for decoration" and in the 18<sup>th</sup> they became "vegetables." Greenpeace, the international conservation and environmental protection group, was born in 1971. One of the founders (Jim Bohlen) gives Greenpeace credit for greening the language, stating that "our action gave the entire ecology movement a new name: Green. That was better than ecology – a word hardly anyone understood." Kenya's Green Belt Movement came in 1977. The use of Greens as an "ecological political party," is first recorded in 1978, from the German die Grünen (West Germany), an outgrowth of Grüne Aktion Zukunft "Green Campaign for the Future," a mainly anti-nuclear power movement.



As can be seen in the Google Ngram viewer the frequency of the word green in the English language goes through periodic fashion changes but it is remarkable that the branding industry only confiscated the term in the 21<sup>st</sup> century. Full cycle was reached when the term "greenhouse effect" descended in the realm of public awareness and became standard terminology. It was ironic that finally green and 'oikos' were first combined in a negative connotation.

The following quote is from How the English Language Went Green By Shira Feldman, a must-read article for wordsmiths.

<http://lipstickliterati.com/lipstickblog/?tag=environmental-history>

GREEN. A single flash of that flashy word, whether it's on product packaging, a newspaper headline, a corporate website, or a Facebook profile, and the inference is instantly clear: gentle to the environment. Also: eco-friendly,

sustainable, recyclable, biodegradable, organic, clean-energy-using, and (my favorite catchphrase) carbon footprint-free. But unquestionably, green is queen of all environmental buzzwords, the shortest and the punchiest, the most colorful and the most cheerful, the only one we are constantly exhorted to “go.”

The word “green” has been around (in an environmental context) for about 40 years now, but lately it seems to have grown up in a big way, blooming on everything from hybrid cars to responsible computing to organic beers to people. It’s so pervasive that in 2009, the scribes at Lake Superior State University voted it #1 on their annual list of “Words to Be Banished from the Queen’s English for Misuse, Overuse, or General Uselessness”

Amazon.com nowadays offers both The Complete Idiot's Guide to Green Living at \$11.53 and Green Living For Dummies (\$13.86)

In 2006 Daniel C. Esty published “Green to Gold”: How Smart Companies Use Environmental Strategy to Innovate, Create Value, and Build Competitive Advantage, (Yale University Press)

### **A paradigm shift**

Environmental campaigners can claim many successes but it is largely accepted that these advances have not translated into any fundamental change in consumer lifestyles in wealthy countries and environmental degradation continues at an alarming rate. Modern activists have started to understand that being green is not enough. The planet will survive almost any degree of climate change but human beings may not be so fortunate. Having learned that negative messages about the fate of the planet can be counter-productive, environmental groups now strive for positive solutions, often reinforced through partnership with businesses, governments, and financial institutions

As the first decade of the new century comes to an end there are opposing viewpoints. On Earth Day 2010, the environmental historian Bill Kovarik still laments:

a web search for ideas about the future of the environment brings up over 200 million hits. With all this thinking, we must surely be learning something. And yet, paging through the documents and web sites, it's clear that the catalog of problems greatly exceeds the ideas for solutions.

in 2007 Paul Hawken, an environmentalist with a long track record on the interface of ecology and business and one of the leading thinkers in a new global movement that focuses more on the search for solutions rather than the identification of problems published “Blessed Unrest”, **How the Largest Movement In the World Came Into Being and No One Saw it Coming**

2007 292 pages, Hardcover, Viking Press New York

[http://www.paulhawken.com/paulhawken\\_frameset.html](http://www.paulhawken.com/paulhawken_frameset.html)

Paul Hawken has spent over a decade researching organizations dedicated to restoring the environment and fostering social justice. From billion-dollar nonprofits to single-person dot.causes, these groups collectively comprise the largest movement on earth, a movement that has no name, leader, or location, and that has gone largely ignored by politicians and the media. Like nature itself, it is organizing from the bottom up, in every city, town, and culture and is emerging to be an extraordinary and creative expression of people's needs worldwide.

That we are on the verge of a paradigm shift is clear. Our own web search for 'the Blue Economy' on April 7 2011 brought 141 million hits and browsing through some 50 pages of these, the tagline that kept popping up, catching the eye, was invariably pointing to Gunter Pauli:

**10 Years - 100 Innovations - 100 Million Jobs.**

**Gunter Pauli** is the author of **The Blue Economy** and his inspirational thinking and writing offers the broad base for a philosophy that focuses on finding solutions rather than merely identifying problems. The Blue Economy was published in April 2010 as a **Report to the Club of Rome** and in cooperation with UNEP remains an ongoing work in progress.

The Blue Economy began as a project to find 100 of the best nature-inspired technologies that could affect the economies of the world, while sustainably providing basic human needs - potable water, food, jobs, and habitable shelter. Starting with 2,231 peer review articles Dr. Pauli and his team found 340 innovations that could be bundled into systems that function the way ecosystems do. These were then additionally reviewed by a group of corporate strategists, expert financiers, and public policy makers.

<http://www.paradigm-pubs.com/catalog/detail/BluEco>

**From Deep Ecology to the Blue Economy**, is an essay written by Gunter Pauli in February 2011. It is mandatory reading for anyone who has a serious interest in the subject matter. Its subtitle is: A review of the main concepts related to environmental, social and ethical business that contributed to the creation of The Blue Economy. The final paragraph of his paper reveals the objective:

We all have been working hard on the creation of the green economy and continue to endorse the concept. However, we like to go beyond what we imagined

30 years ago and embark on a vision that goes beyond even the best we had in mind then. One can call this fresh look at reality Green 2.0, or embrace it as the Blue Economy, remembering that the sky is blue, the ocean is blue and the Gaia seen from the universe is as blue as can be. We suggest that we search for more impact - much more indeed, and faster!

Gunter Pauli, born in Antwerp, Belgium in 1956 graduated from INSEAD, Fontainebleau in 1982 and has an impressive track record. He undertook numerous initiatives in business, the media and culture. In 1992 Gunter established the hugely successful biodegradable soap company Ecover, Europe's first ecological factory that subsequently turned into a "green" tourist attraction. He has written 17 books published in 21 languages. His first children's book "How can I be the strongest tree in the whole forest?" has been translated in over 100 languages.

Gunter Pauli started his initial "Zeri" efforts in 1994 and proposed the revolutionary concept of "zero emissions," as a contribution to resolving social, economic and environmental challenges of the 21st century.

<http://www.zeri.org/ZERI/Home.html>

Today ZERI has identified 100 innovations and claims that within a decade these could generate 100 million jobs. Zero Emissions Research & Initiatives (ZERI) is now a global network of creative minds seeking solutions to world challenges. The common vision shared by the members of the ZERI family is to view waste as resource and seek solutions using nature's design principles as inspiration. An impressive list of case studies and revolutionary ideas can be found on

[http://www.zeri.org/ZERI/The\\_Blue\\_Economy.html](http://www.zeri.org/ZERI/The_Blue_Economy.html)

**The Principles of the Blue Economy** [http://www.community.blueeconomy.de/the\\_principles.php](http://www.community.blueeconomy.de/the_principles.php)

1. Solutions are first and foremost based on **physics**. Deciding factors are Pressure and Temperature as found on site.
2. Substitute something with **Nothing** – question any resource regarding its necessity for production.
3. Natural systems **cascade** nutrients, matter and energy – waste does not exist. Any by-product is the source for a new product.
4. Nature evolved from few species to a rich **biodiversity**. Wealth means diversity. Industrial standardization is the contrary.
5. Nature provides room for **entrepreneurs** who do more with less. Nature is contrary to monopolization.

6. **Gravity** is main source of energy, solar energy is the second renewable fuel.
7. **Water** is the primary solvent (no complex, chemical, toxic catalysts).
8. In nature the constant is **change**. Innovations take place in every moment.
9. Nature only works with what is **locally** available. Sustainable business evolves with respect not only for local resources, but also for culture and tradition.
10. Nature responds to **basic** needs and then evolves from sufficiency to abundance. The present economic model relies on scarcity as a basis for production and consumption.
11. Natural systems are **non-linear**.
12. In Nature everything is **biodegradable** – it is just a matter of time.
13. In natural systems everything is **connected** and evolving towards symbiosis.
14. In Nature water, air, and soil are the **commons**, free and abundant.
15. In Nature one process generates multiple **benefits**.
16. Natural systems share **risks**. Any risk is a motivator for innovations.
17. Nature is **efficient**. So sustainable business maximizes use of available material and energy, which reduces the unit price for the consumer.
18. Nature searches for the **optimum** for all involucrate elements.
19. In Nature negatives are converted into **positives**. Problems are opportunities.
20. Nature searches for economies of **scope**. One natural innovation carries various benefits for all.
21. Respond to basic needs with what you have, introducing innovations inspired by nature, generating multiple benefits, including jobs and social capital, offering more with less: This is **the Blue Economy**.

## Blue Symbolism.

Blue symbolism provides a fascinating look at one of the most prevalent and beloved colors around the world. Blue symbolism affects many areas of life, including clothing choices, language and cliches, interior design, art, religion and health. Although blue is even more popular in the western world than is other areas of the world, blue skies and blue water are full of positive meaning in every culture. We are, after all, living on the "blue planet."

More people claim blue as their favorite color than any other color (over 50%). Blue cars have been among the top selling cars for decades. Blue denim is the most common clothing material in the western world. Men and boys in particular favor blue. (<http://livingartsoriginals.com/infobluesymbolism.htm>)

## The Blue bandwagon

Of course it did not take long before the advertising industry spotted a brilliant branding opportunity. This has already been amply documented by Tamara Giltsoff. Tamara is a profligate blogger and talented writer who likes to focus on matters that touch on innovation and sustainability.

The phrase "**Blue innovation**" instead of "**Green**" was coined by Bob Isherwood, ex Saatchi & Saatchi Worldwide Creative Director, who presented at the Sustainable Brands International (SBI) conference in Miami in December. His call is to translate the burden of environmental accountability into a "blue ocean of opportunity" and to make sustainability "irresistible" to people.

The new wave of sustainability "Blue not Green" is strategic and opportunity driven. It is a business response to a changing economic landscape (borrowed wealth and externalized social costs are unsustainable) and to world context (planetary resources which fuel the engine of growth are under threat and commodities are increasing in price). It is also a backlash against environmental inertia and negativity; instead it celebrates inspiration and the power of brands to ignite the power of emotion (in Isherwood's words) to drive innovation.

<http://tamaragiltsoff.com/tag/sustainability-strategy/>

Tamara is obviously an avid observer of branding fashion developments. She mentions the blue strategies of IMB, Marks and Spencer's and Wal-Mart:

Wal-Mart is now using Blue Thinking to drive innovation through 12 value networks within the business: Greenhouse Gas, Sustainable Buildings, Alternative Fuels, Logistics, Waste, Packaging, China, Forest & Paper, Food, Agriculture and Seafood, Textiles, Jewelry, Electronics and Chemical Intensive Products.

The Blue Thinkers all share a particular quality: they have been moved emotionally as well as rationally by the context of our planet, to transform their business and drive innovation. Ray Anderson is a great example; he speaks passionately about the emotional shift that ignited the business transformation at Interface (the world's largest manufacturer of modular carpet) starting with himself and moving throughout his business to include a powerful response from engineers modeling the machines that produce his materials. His story is widely quoted and his company still remains the world's leading example of sustainability applied as a strategy and fueled by human response to environmental issues. Ray Anderson described Blue Thinking as "Authentic Sustainability."

<http://us.macmillan.com/confessionsofaradicalindustrialist>

Further Blue sightings:

### **Blue Energy**

<http://bluelivingideas.com/2009/03/09/saltwater-freshwater-blue-energy/>

The idea that when you mix salt water with fresh water, a charge difference allows you to siphon off the extra electrons for power generation has been around for a century. The theory is often attributed to Nikola Tesla, though the actual practice wasn't tested in a laboratory until the 1950s.

The most common method for doing this efficiently is called reverse electrodialysis. Basically, you mix the two waters together in a controlled fashion over a fusion membrane, which collects the power generated. Think of it as reverse osmosis on steroids.

At the Wageningen University and Research Centre, a doctoral student named Jan Post has presented his research into reverse electrodialysis. He hopes to take his plans to large-scale testing where the Rhine (freshwater source) and the ocean meet in the Netherlands, near Rotterdam.

His hope is to tie in the experimental facility with the reconstruction plans for the Afsluitdijk dikes in the area to facilitate both an easier construction for the mixing process as well as to combine costs.

Post's figures estimate that the technical potential at this point in the river would be 2.4 gigawatts per year and the practical would likely be around 1.5gW. That would satisfy about 4 million households. He wants to start with a 200 megawatt facility for his trials.

If he is successful and his trials work out, then in ten to fifteen years' time, a small series of facilities capable of several hundred megawatts each could supply 1.5gW of power or more.

### **Blue Carbon:** An Oceanic Opportunity to Fight Climate Change

Mangroves have the ability to sequester vast amounts of carbon—up to five times that stored in tropical forests. Dubbed "blue carbon" because of their littoral environment, these previously undervalued coastal carbon sinks are beginning to gain attention from the climate and conservation communities.

Because they hold so much carbon, destroying them can release substantial amounts of CO<sub>2</sub>. People around the world wreck coastal habitats through aquaculture, agriculture, timber extraction and real estate development. To date, human encroachment has destroyed more than 35 percent of mangroves, 30 percent of sea grass meadows and 20 percent of salt marshes.

Stopping such destruction could therefore become an important element in confronting climate change.  
<http://www.scientificamerican.com/article.cfm?id=blue-carbon>

Under the aegis of Unesco a Blue Carbon Working Group convened in February 2011.  
[http://www.marineclimatechange.com/marineclimatechange/bluecarbon\\_2.html](http://www.marineclimatechange.com/marineclimatechange/bluecarbon_2.html)

The Role of Healthy Oceans in Binding Carbon is comprehensively documented in a Rapid response assessment of UNEP. The full report can be downloaded on  
<http://www.grida.no/publications/rr/blue-carbon/>

Two immediate next steps as recommended by the World Bank are as follows

- Through the Intergovernmental Panel on Climate Change (IPCC), existing guidance and guidelines for estimating and reporting on GHG emissions from peatlands and inland agricultural wetlands should be amended to also encompass coastal wetlands, with appropriate revision including clarification on and alignment of definitions.
- A financial approach, similar to REDD, could be developed for coastal wetlands and seagrass beds that currently fall outside existing agreements and mechanisms, with a focus on providing financial incentives for protection of soil carbon stocks and increases in carbon uptake.

We did find there is already a <http://bluecarbonportal.org/> as well as <http://www.thebluecarbonproject.com/> offsetting carbon emissions by conserving ocean vegetation

Separately there is also a company in Brighton that is 'squatting' on the blue carbon name in a different context altogether

<http://www.bluecarbon.com/home/energy-saving-technology.html>

This company is peddling an ULTRA eco™ energy saving device which reduces energy consumption by lowering the resistance of electrical loads, optimizing the current.

On April 10, a Google search for 'blue carbon' yielded 104,000,000 results (0.10 seconds) while 'blue living' yielded About 487,000,000 results (0.15 seconds),

Number one on the list of blue living was <http://www.beyondgreen.co.uk/>

A team of strategists, policymakers, planners, economists, designers, and communications experts who are changing the places we live in, and how we live in them. We think about ways of living in places fit for the 21st century.

The Blue seal of lifestyle approval now sells a range of products from villa developments in Mykonos Greece to a health care plan in Michigan.

Guntur Pauli himself has published a Kindle E-dition of The Blue Economy which lives on the name Zen and the Art of Blue but we have not found "The Complete Idiot's Guide to Blue Living" yet....

### **Epilogue. The Blue Economy on the internet.**

A repeated Google search for 'the blue economy brought' 122 million hits on April 12. We do not know what happened to the 19 million websites that were listed in the earlier searches. Cyberspace is an ecosystem all by itself –and we all know it is a universe where matter does disappear - but for obvious reasons we wish to exclude the waste of websites from the scope of this paper.

Our impression however remains that ninety-nine percent of the websites that offer content that refers to the blue economy brings recycled material. Most of these sites repeat and rehash what is presented much more clearly on Pauli's own sites. Usually they bring book reviews, magazine articles, blogs and peripheral stuff.

The jargon is always politically correct:

Energy Boom Finance urges us to invest in change.

<http://www.energyboom.com/emerging/forget-going-green-its-time-develop-blue-economy> or:

Our mission is to empower young people to find the sustainable entrepreneurs within themselves in order to become agents of change in their environment and the world. We are bringing together young people, entrepreneurs, policymakers, and stakeholders from the private sector and academia to define the needs of young people and find innovative and relevant solutions.

The occasional inspiring button, such as "the idea incubator" leads to disappointments:

<http://www.generation-europe.eu/forum/category/idea-incubator/>

We find more questions than answers. Where-does-fashion-fit-in-with-our-vision-of-the-future?

## **Bibliography**

The Silent World, Jacques Cousteau – Harper Collins (1953)

Fundamentals of Ecology, Eugene Odum - Brooks Cole; (5th edition, 2004)

Silent Spring, Rachel Carson - Houghton Mifflin Harcourt (1962)

The Limits to Growth, Donella & Dennis Meadows, Joergen Randers –Signet (1972)

Gaia: A New Look at Life on Earth, James Lovelock - Oxford University Press (2000)

The Brundtland Report, Our Common Future - Oxford University Press (1987)

The Millennium Ecosystem Assessment - Island Press (2005)

Greenpeace, How a group of ecologists, journalists, and visionaries changed the world, Rex Weyler - Rodale Press (2004)

Blessed Unrest, How the Largest Movement In the World Came Into Being and No One Saw it Coming, Paul Hawken - Viking Press (2007)

The Blue Economy, Gunter Pauli - Paradigm Publications (2010)