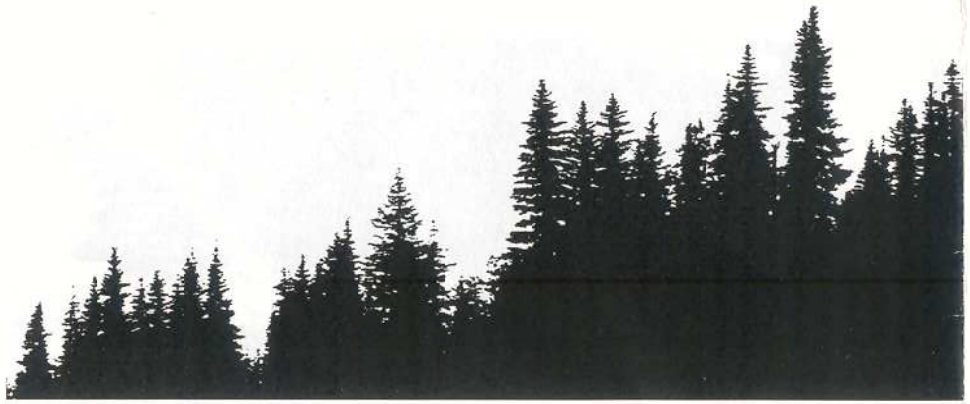


Burning fossil fuels is the major cause of the greenhouse effect. The forests of the world can reverse it, if the trees are allowed to grow.

Hemp is a renewable natural resource capable of providing biomass alternatives to fossil fuels. Hemp cellulose and fibers can supply the demand for all products derived from wood

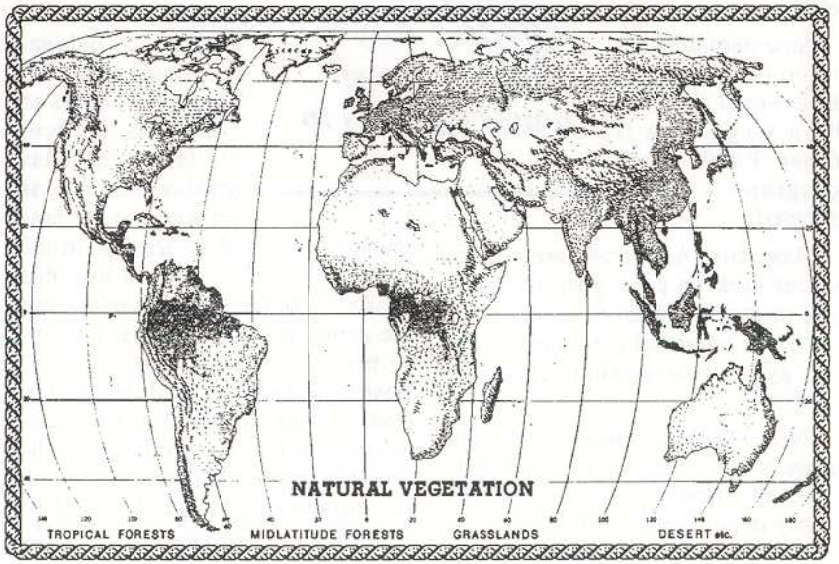
Renewable resources mean economic growth and stability

Please copy.
Produced as a public service by:

Access Unlimited
P.O. Box 1900
Frazier Park, CA 93225

TOWARD A GREEN ECONOMY

by Lynn Osburn



TOWARD A GREEN ECONOMY

by Lynn Osburn

The nationwide popularity of Earth Week 1990 festivities seems to indicate the American People are concerned with the continuing degradation of the global environment. The twentieth anniversary celebration of the original Earth Day focused on ways the individual citizen can reduce waste and retard pollution.

The necessity of recycling used materials and lowering power consumption was demonstrated in a plethora of multi-media displays from coast to coast. It was indicated a change in lifestyle is needed to halt the poisoning of earth.

An environmentally conscious populace would prove to be a frugal one if those Earth Week programs were adopted.

Assuming Americans are willing to cut back on energy consumption and muster the effort to recycle their trash, are industrial corporations and energy producers willing to do the same?

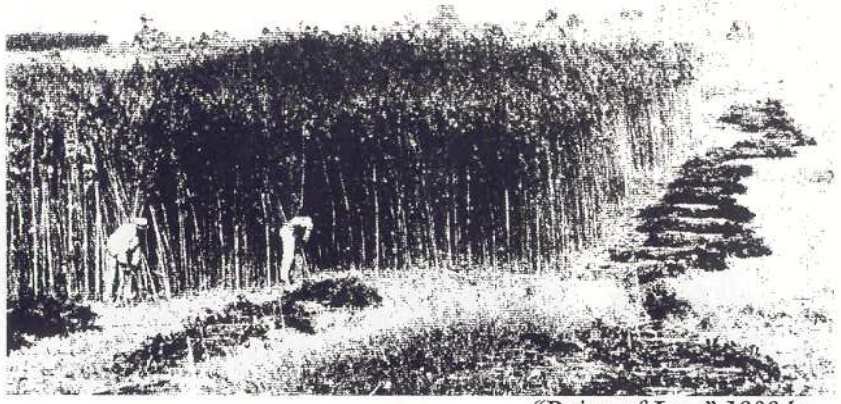
Will corporate America drop the aggressive sales pitches wherein billions are spent encouraging people to buy impulsively? Will people be able to kick the mass consumption habit generations in the making? Will corporate America even entertain abstaining from the short term profit fix and consider what the consequences of quick return capitalism has done and will do to future generations of life on earth?

President George Bush's speech, given just days after Earth Week 1990 at the 17 nation conference dealing with global pollution problems held in Washington D.C., drew criticism from European participants. He emphasized scientific and economic uncertainties in what was seen as a White House foot dragging effort on the environmental issue.

Scientists througout the world agree: the single most effective way to halt the greenhouse effect is to

A memo prepared by administration staffers for members of the U.S. delegation read, under the heading Debates to avoid: It is "not beneficial to discuss whether there is or is not warming, or how much or how little warming. In the eyes of the public we will lose this debate. A better approach is to raise the many uncertainties that need to be better understood on this issue." Bush repeatedly stressed the need to find policies that do not limit economic growth: "Environmental policies that ignore the economic factor, the human factor, are destined to fail." [*Science News april 28, 1990]*

President Bush is proud of the public image his career in the oil indus-



Kentucky Hemp Field *"Reign of Law" 1900 by James Lane Allen*

only economic value. Hemp can supply that need. Hardwood trees should be harvested, utilizing sustainable yield ecology, for board and finishing lumber only. Hemp will make pressed board lighter in weight and more durable than plywood.

Hemp can be grown for: crude biomass fuels on energy farms; fiber/hurds for textiles, pressed board and hurd cellulose products; seed for oil and high protein foods; flowers for pharmacuetical grade extract medicine and recreational herbal products for adults.

The Green Economy based on a hemp multi-industry complex will provide income for farmers in every state. Regions for each hemp agricultural industry application will be established through open free market competition. The historical and traditional hemp fiber growing areas in the eastern U.S. will re-emerge creating new jobs in an old industry. The economically devastated northern plains will see a boom as the nation's energy farming states. Medicinal and intoxicant grade hemp will be grown on less productive higher elevation lands. Mountainous areas have traditionally produced intoxicant quality hemp.

Ironically, the hemp medicine and intoxicant industry will generate the least amount of capital, though it is the target of prohibitionist "reefer" propaganda. The hemp seed oil and food resource industries, and the hemp textile and cellulose industries will develop thousands of new products generating tens of thousands of sustainable new jobs. Hemp energy farming will become the backbone of a trillion dollar a year non-polluting energy production industry. And the petroleum corporations need not fear this for their expertise, hardware and manpower are vital to turn the farmers' raw biomass into refined fuels.

These projections represent a tremendous boon to our flagging economy that can be realized as a by-product of saving our world from human induced biocide. If we as a society have the courage and determination to set upon this bold path to planetary restoration, we can in our life times leave a healthier world to our children; and a lifestyle based on renewable resources in a balanced ecosystem that our children can leave to their children for generations to come.

today. When marijuana was outlawed most people did not know "marijuana" was Mexican slang for cannabis hemp. The American people, including doctors who routinely prescribed cannabis extract medicines, thought hemp and marijuana were two different plants. Otherwise hemp prohibition would never have happened.

Eastern Europeans were not subjected to the hysterical anti-marijuana syndrome plaguing the West. Poland, Hungary and Czechoslovakia among others, continued to make clothing from hemp fibers and medicines from hemp flowers. They pressed the versatile and edible oil from the seeds and used the left over high protein seed mash to make breakfast cereal and livestock feed. And they used surplus hemp for building insulation.

Currently in the U.S.A. a private firm, Mansion Industries, has pioneered the use of agricultural fibers to make sturdy light weight construction paneling to replace plywood. Mansion Industries uses straw to make their Environcore™ panels. Based on Dewey and Merrill test results, if hemp was a resource available Environcore™ construction paneling would be even stronger.

It's not too late to save our environment, but it is absolutely essential that we start now. Restoring the balance to the biosphere's ecosystem will require courage and determination, but not self denial. We need not give up our comforts or quality of life.

America stands at the cross roads of greatness and decline. The might of weaponry will not sustain us anymore. Our chance to again lead the world will require the same kind of determination we once initiated to convert our peace time economy into war production during the 1940's. But now the "war mentality" won't help. This time we must be innovative and change the very way we produce our energy resources.

Hemp prohibition must end at once in order to inaugurate a nationwide green economy. To save the world that gives us life we must begin immediately to grow our own energy.

GREEN ECONOMY based on a hemp multi-industry complex will provide income for farmers in every state.... thousands of new products generating tens of thousands of sustainable new jobs.

Hemp is the only plant capable of becoming the American biomass energy standard. Hemp grows well everywhere on earth except the polar regions. Hemp will out produce wood at a rate greater than four to one per acre in cellulose/pulp. And by analyzing pre-prohibition hemp crop reports from various States ten tons per acre becomes a reasonable biomass production figure. Hemp will make ten times more biomass per acre than forest wood.

Wood is not a viable fuel resource. The forests are essential to scrub the excess CO 2 from the air. Soft wood forests should not be harvested for paper products or biomass -- their

try presents. He is, to say the least, an energy industry celebrity. And he has gone to great lengths to represent himself as the environmental president.

If the Bush administration believes, "in the eyes of the public," they will lose the debate questioning the scientific validity of the greenhouse effect; is it reasonable to conclude they don't believe the excessive accumulation of greenhouse gasses generated by burning fossil fuels is unbalancing the global carbon dioxide cycle? Or is it possible the corporate industrial energy complex that controls the trillion dollar per year energy industry fears profit loss, and unlike the American people, is in no way willing to make a sacrifice in corporate "lifestyle" to help heal the Earth.

President Bush is right about one thing: "Policies that ignore the economic factor, the human factor, are destined to fail." In this case the economic factor and the human factor converge in the dire strait: if we do not convert from a fossil fueled economy to a biomass fueled economy, the human factor will become fossil history on planet earth.

The only way to reduce the ever-thickening blanket of CO 2 warming the earth is to grow more plants to absorb it.

The corporate industrial energy complex is collectively holding its breath on the topic of biomass resource conversion to replace fossil fuels. The industrial energy giants spend millions in public relations explaining how they are environmentally responsible energy producers. Yet it is the fossil fuel resources they peddle that are endangering the fragile ecosphere. The majority of scientists throughout the world agree: the single most effective way to halt the greenhouse effect is to stop burning fossil fuels.

It was proven in the 1970's that biomass, specifically plant mass, can be converted to fuels that will replace every type of fossil fuel currently produced by industry -- and these biomass fuels are essentially non-polluting.

Fossil fuel materials: coal, oil and natural gas were made by nature from earth biomass that lived over 160 million years ago. Crude fossil fuels contain hydrocarbon compounds that were made by plant life during the process of photosynthesis. Carbon dioxide and water were converted into hydrocarbon rich cellulose. Plants manufacture many other biochemicals in the complex and mysterious act of living, but cellulose and lignin are the compounds that give plants structure, body and strength. They are the main components of plant mass.

Nature took millions of years to concentrate the ancient plant mass into what we call fossil fuels. The eons long process that converted the once living biomass into hydro-carbon rich fossils also compressed sulfur into the fossil biomass. It is this sulfur that causes acid rain when belched out of power plant smoke stacks. According to Brookhaven National Laboratory 50,000 Americans and 10,000 Canadians die each year from exposure to acid rain.

Mankind through the science of chemical engineering can transform modern biomass into hydrocarbon

fuels that contain no sulfur because the fresh plant mass contains no sulfur. And the scientific method of biomass conversion into hydrocarbon fuels requires mere hours instead of eons to accomplish.

The inherent problem with burning fossil fuels to power industrial energy systems and economies is the mega-ton release of CO 2 into the air. However biomass derived fuels are part of the present day global CO 2 cycle.

The quantity of CO 2 released into the air from burning biomass fuels is equal to the amount of CO 2 the biomass energy crop absorbed while it grew. If the energy crop is an annual plant then one year's biomass fuel when burned will supply the CO 2 needed for the next year's fuel biomass growth. There will be no net increase in atmospheric CO 2.

For over 100 years industrialized nations have burned hydrocarbon fuels that are not part of the current ecosystem. The delicate balance between life and climatic cycles is being undone by injecting ancestral CO 2 into the atmosphere.

The only way to reduce the ever-thickening blanket of CO 2 warming the earth is to grow more plants to absorb it. Yet the Bush administration's plan to plant one billion trees a year will only reduce by 15% the amount of CO 2 predicted for the end of the century. However, U.S. CO 2 production (from burning fossil fuels) will rise by 35% during the same time period. [*Science News April 28, 1990*]

The Bush Administration's plan is futile as long as fossil fuels remain America's major energy resource. And at the rate forests are being cut down to make the paper our society is wrapped up in, a billion saplings a year will barely compensate for that loss in CO 2 absorption.

Hemp hurds are richer in cellulose and contain less lignin than wood pulp. Hemp paper will make better cardboard and paper bag products than wood paper.

Wood happens to be the government's chief biomass candidate to replace the dwindling fossil fuel supply. Officials claim U.S. yearly energy consumption can be met by harvesting one third of the trees in the National Forests on a rotating basis coupled with more intensive silvaculture (tree farming) techniques. Estimated yearly biomass production in the National Forests is one ton per acre. [*Progress in Biomass Conversion Vol. 1* Kyosti V. Sarkanen & David Tillman editors]

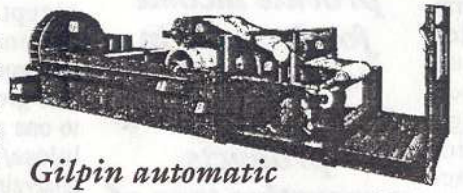
The U.S. Forestry Service is the government bureaucracy promoting this ludicrous forests-for-fuel idea. However private industry has been clear-cutting without conscience timber stands not protected in National Forests and Parks. And none of that wood goes into biomass fuel conversion. .

The trees of the world are the biosphere's CO 2 cycle safety valve. Trees convert CO 2 into wood. Since a tree will live for centuries, forests can gradually pull the excess CO 2 out of the air. Trees are not only aesthetically pleasing -- they are the cure for our ailing atmosphere.

Is it realistic to halt construction to save trees or ask people to stop using paper? If wood resources cannot hope to meet the demand for lumber, paper and biomass fuels, can any plant be cultivated to meet these needs?

This problem is not new. Civilizations have been exhausting vital resources and dooming themselves for many centuries. Versatility, cleverness and common sense are the hallmark of the ones that survive.

About seventy-five years ago two dedicated USDA scientists projected that at the rate the U.S. was using paper we would deplete the forests in our lifetimes. Those government scientists were endowed with common sense -- something government officials are hopelessly lacking nowadays. So USDA scientists Dewey and Merrill looked for an alternate agricultural resource for paper products to prevent the disaster we now face.



Gilpin automatic hemp paper mill patented 1816

They found the ideal candidate to be the waste material left in the fields after the hemp harvest. The left over pulp, called hemp hurds, was traditionally burned in the fields when the hemp fiber had been removed after the time consuming retting (partially rotting the hemp stalk to separate the fiber from the hurds) process was completed.

Hemp hurds are richer in cellulose and contain less lignin than wood pulp. Dewey and Merrill found after much experimentation that harsh sulfur acids used to break down the lignin in wood pulp were not necessary when making paper from hemp hurds. Sulfur acid wastes from paper mills are known to be a major source of waterway pollution. The coarse paper they made from hemp hurds was stronger and had greater folding durability than course wood pulp paper. Hemp hurd paper would make better cardboard and paper bag products than wood paper. They found the fine print quality hemp hurd paper to be equal to writing quality wood pulp paper. [*USDA bulletin no. 404*]

The only problem to implementing the paper industry resource change from wood to hemp hurds was machinery to separate hemp fiber from the hurds needed to be developed. Separation was still done by hand after the machine breaks had softened the hemp stalks. The "decorticating" machine that separated the fiber and hurds wasn't developed until the early 1930's. Even Popular Mechanics declared in 1937 that hemp would be a billion dollar a year crop because of this new machinery. And their predictions did not consider hemp's potential as a biomass fuel resource. Unfortunately, hemp was maligned. Its flower tops were condemned as marijuana and subsequently outlawed just when the fiber/hurd separating machinery was perfected.

If America had not been infected with marijuana hysteria, hemp could be solving our energy problems