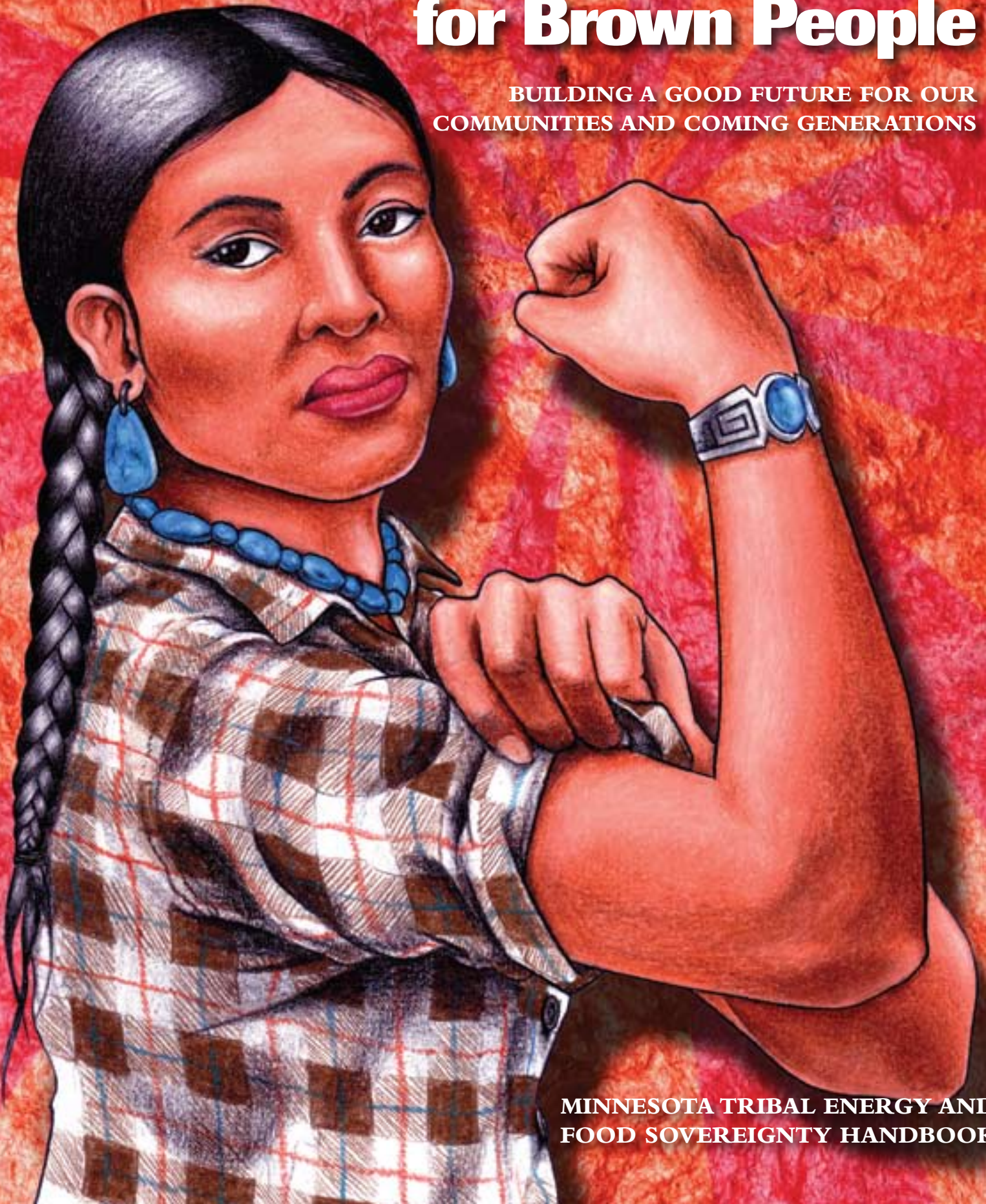


Launching a Green Economy for Brown People

**BUILDING A GOOD FUTURE FOR OUR
COMMUNITIES AND COMING GENERATIONS**



**MINNESOTA TRIBAL ENERGY AND
FOOD SOVEREIGNTY HANDBOOK**



**Launching a Green Economy
for Brown People**

**BUILDING A GOOD FUTURE FOR OUR
COMMUNITIES AND COMING GENERATIONS**

**MINNESOTA TRIBAL ENERGY AND
FOOD SOVEREIGNTY HANDBOOK**

A publication of Honor the Earth, ©2008
Author: Winona LaDuke, Executive Director
Cover art: “warrior wombyn” by Votan Ik’ahn
(Maya-nahua), www.insurgentes.net

TABLE OF CONTENTS

INTRODUCTION2

ENERGY AND FOOD ISSUES: WHY WE NEED TO ACT

 Peak Oil3

 Fuel Poverty4

 Climate Change.....4

 Food Insecurity5

**ENERGY AND FOOD SOVEREIGNTY:
LAUNCHING A GREEN ECONOMY**

 Energy Efficiency.....6

 Renewable Energy7

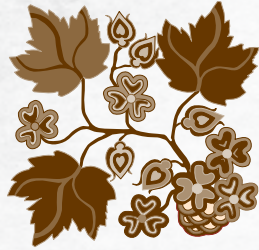
 Re-localizing Food Economies9

 Jobs for the Next Generation 10

A BRIGHT FUTURE..... 12



INTRODUCTION: THE GREEN ECONOMY



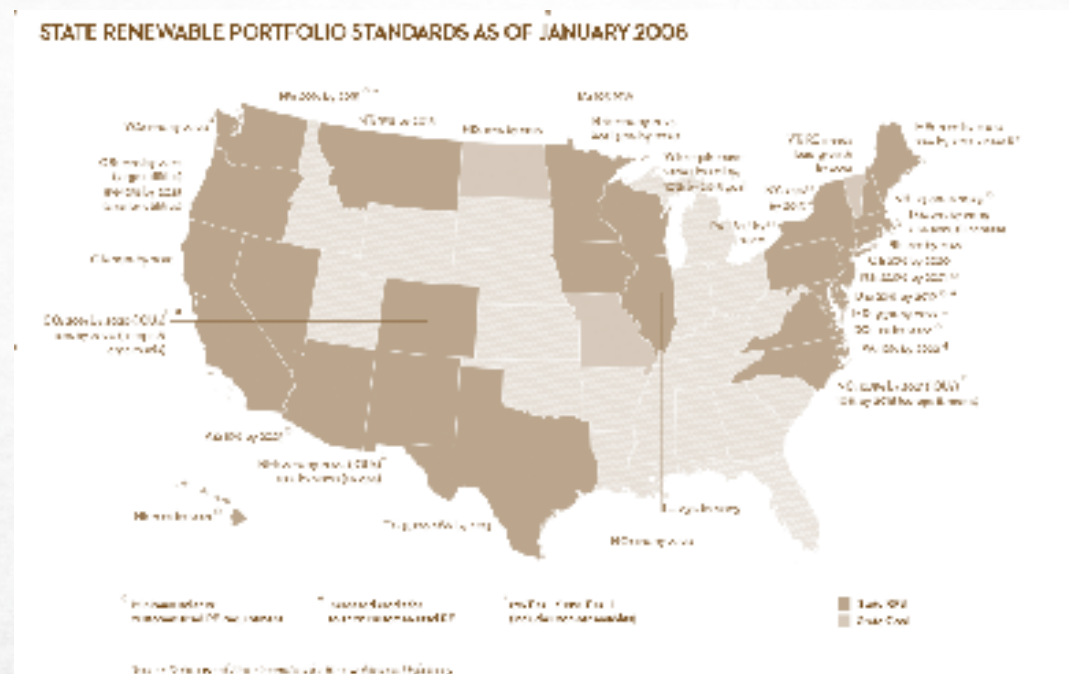
Ojibwe prophecies speak of a time during the seventh fire when our people will have a choice between two paths. The first path is well-worn and scorched. The second path is new and green. It is our choice as communities and as individuals how we will proceed.

The economy of the future is the green economy. The rising price of fossil fuels will create a mandate for efficiency and the challenge of addressing climate change will require a reduction in carbon emissions from power generation, transportation and agricultural sources. With lack of action by the federal government on climate change, many cities, states and a number of tribal communities nationally have adopted policies to limit and reduce their carbon emissions.

The state of Minnesota has adopted a goal of reducing global warming pollution to 30% below 2005 levels by 2025, and 80% by 2050. We have one of the strongest renewable energy portfolios in the country, with a goal of producing 25% of our state's energy from renewables by 2025. In order to meet our own state's goals we will need to move ahead aggressively into a new, renewable and efficient energy arena. We are keenly interested in having our communities at the center of this transition.

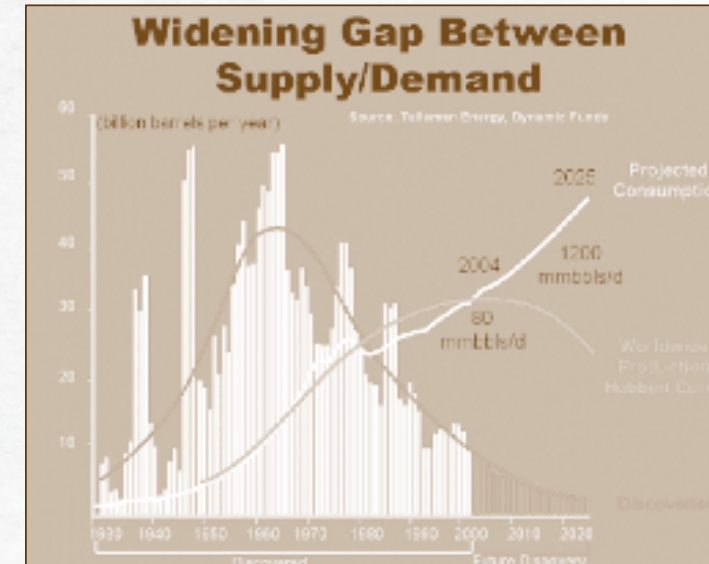
In the upcoming years, we hope to facilitate the creation of a Green Jobs for Brown People Initiative in the state of Minnesota that will prepare our communities to participate in a central way in the next economy. This strategy will include job training, funding for efficiency and retrofitting and support for renewable energy and local agriculture. It will involve reservation, urban Indigenous communities and communities of color working in partnership with businesses, unions, institutions and the general public.

What we know is that our tribal communities will either be on the menu or at the table; decisions will be made for us or we will make our own decisions about how to proceed in developing economic opportunities and our future. By making our own decisions, our tribal communities will exercise sovereignty and move toward a green path for our coming generations.



Source: Greener Pathways: Jobs and Workforce Development in the Clean Energy Economy by Sarah White and Jason Walsh

ENERGY AND FOOD ISSUES: WHY WE NEED TO ACT



The graph that depicts Peak Oil is called Hubbert's Peak after the late Dr. M. King Hubbert, a geophysicist who predicted patterns of oil discovery and depletion. Hubbert predicted a global oil peak between 1995 and 2000, and all evidence points to the fact that he was close to the mark. What that means is that worldwide oil production is now in decline and we are headed toward the inevitable reality of oil depletion.

What are the consequences of peak oil?

For one, the price of gas is not going down. Gas prices will increase, causing more hardship for our tribal members and our tribal budgets. Second, food prices will continue to increase because gas prices affect the price of food. As it turns out, the American food system is entirely dependent on petroleum. Consider this: the average meal moves 1,546 miles from farm to table, meaning those Chiquita bananas, lettuce and beef from Argentina traveled by burning

Fossil fuels literally come from fossils -- the remains of prehistoric plants and animals that lived hundreds of millions of years ago. Fossil fuels, such as coal, gas and oil, are currently used to power over 85% of the energy needs in the United States.⁴ Burning fossil fuels releases carbon dioxide (CO₂) into the air, and CO₂ is the leading cause of global warming. The largest source of carbon dioxide is burning fossil fuels for power production and transportation.

PEAK OIL

The US imports two-thirds of the oil we consume at a price tag of \$1 billion a day.¹ Oil imports represent the largest transfer of wealth in world history, and that transfer is draining our economy.

We have now used more than half of the world's known oil reserves and worldwide oil production is in decline. That means we are on the down side of the "peak" oil, leading to a dramatic increase in prices. What remains is going to cost a lot to get -- not just in terms of dollars, but also in terms of the cost to the environment and human rights.

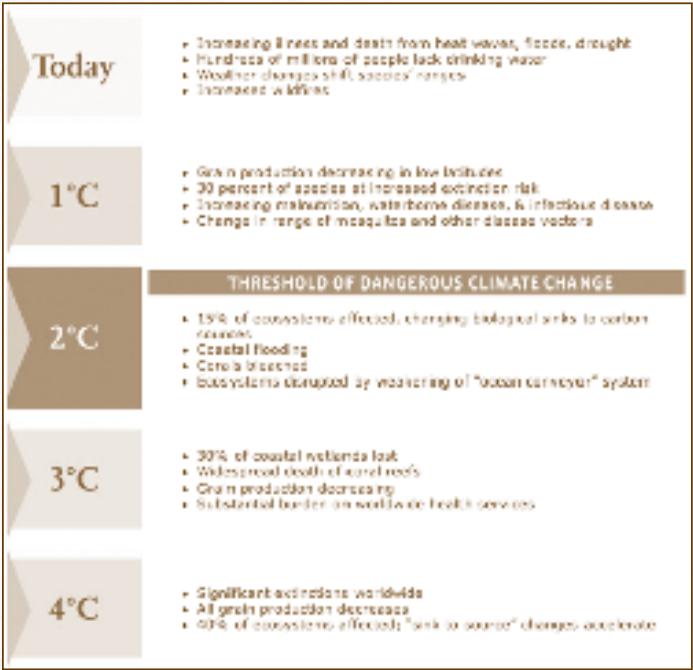
dinosaurs and other fossils.² And, because we rely so heavily on petroleum to grow our food, from synthetic nitrogen fertilizers to agrochemicals and pesticides, some scientists suggest that we are using between 10 to 15 calories of fossil fuels to create one calorie of food.³ Having a food system so dependent on diminishing oil supplies is going to be a large problem in the future.

It is estimated that it will take at least twenty years to transform the US economy from its addiction to fossil fuels. We need to get started now.

FUEL POVERTY

In 2006, it's estimated that 13 million households in poverty spent an average of 25% of their annual income on energy bills merely to continue their modest usage.⁵ In Minnesota, a good portion of this energy income is spent on heating, and most families cannot afford the rising cost. The reality is that the need for assistance far outstrips the resources of the Low Income Heating and Energy Assistance Program and other government subsidy programs combined. In Minnesota, as an example, "43,139 households who applied for fuel assistance and qualified were turned away because of lack of funding."⁶ As a result, low-income households sacrifice necessities such as medication, warm clothing and more.

Nationally, tribes spend almost a hundred million dollars in fuel assistance to support our low income tribal members. That is a lot of zhooniya. Some of the cost of fuel assistance has been subsidized, with a 2007 CITGO petroleum project carried out in conjunction with US partner Citizens' Energy. The company provided a subsidy of \$21 million in fuel assistance to 220 tribes in 13 states. Minnesota Tribes received \$2 million in fuel assistance for this program. CITGO's support is generous and gracious, but as electricity and fuel prices continue to rise, the dollars we spend on energy will increasingly outpace all subsidies. We need to create long-term, sustainable solutions to fuel poverty by creating a renewable, energy-efficient future.

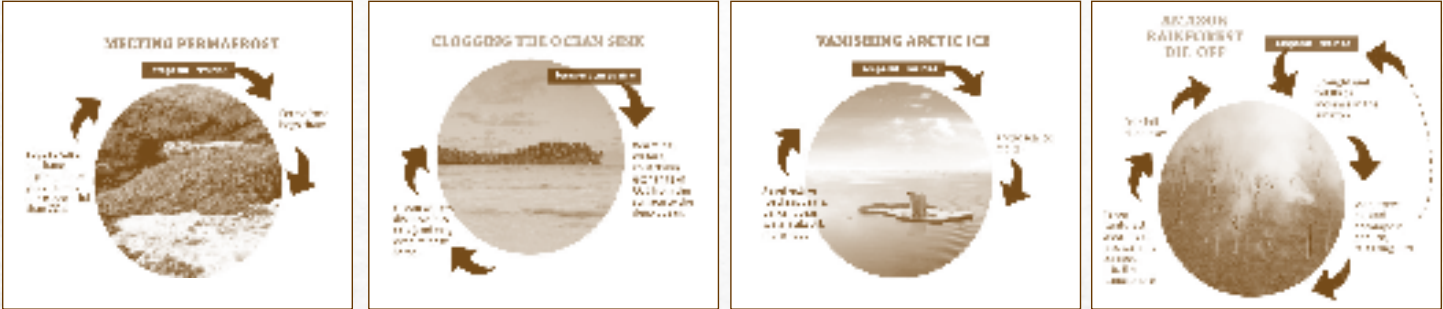


CLIMATE CHANGE

We've already raised the average temperature of the globe one degree. The question is whether we can stop it from rising much more. Today, the world population is encountering unfamiliar human-induced changes in the lower and middle atmospheres and world-wide depletion of various natural systems (e.g. soil fertility, aquifers, ocean fisheries, and biodiversity in general). A two degree temperature change means loss of lake diversity and the beginning of the collapse of ecosystems from coral reefs to ice caps. A three or four degree temperature change will mean a massive loss of species and of food. According to the EPA, up to 34% of Minnesota's corn crop could be lost under these circumstances.

Rising temperatures also mean more risk to our families and children-- more vector borne diseases, such as malaria and West Nile Virus-- and more respiratory problems. Climate change is a huge health risk.

Climate change impacts Indigenous communities first and foremost. For example, in the early spring of 2008, the Alaskan coastal city of Kivalina and a federally recognized tribe, the Alaska Native Village of Kivalina, sued Exxon Mobil Corp. and BP and seven other oil companies, 14 power companies and one coal company in a lawsuit filed in federal court in San Francisco, alleging that the energy companies contributed to global warming and threatened the community's existence. Their village is falling into the Arctic Ocean as the ice retreats, and it's estimated that it will cost



Reprinted from "Stop Global Warming Cold", the Spring 2008 YES! Magazine, PO Box 10818, Bainbridge Island, WA 98110. Subscriptions: 800/937-4451 Web:www.yesmagazine.org

\$400 million to move that community.⁷ Many more Native communities are also in peril. As land-based communities, Indigenous peoples are not easily moved and when we are moved, we become refugees.

The financial implications of global warming are immense: scientists and economists estimate that climate change mitigation will cost 20% of the world's gross domestic product in the next two decades. We are not prepared.

FOOD INSECURITY

Two generations ago, most of our tribal communities in the north produced our food locally. Today, we buy food shipped to us from far away, whether by Wal-Mart, Food Services of America or SYSCO. This means that our food security is now tied to industrial food systems and oil. We are feeling the consequences of that relationship. Food prices are skyrocketing as the cost of oil rises. Food is costing more and more, not just in dollars but also environmentally and in terms of our physical and cultural health.

Our purchased foods provide a diet that causes diabetes and a host of other illnesses in our communities. Highly processed foods with additives and dyes have been linked to Attention Deficit Hyperactivity Disorder (ADHD) in over 100 studies. We are now paying astronomical bills through our Indian Health Service and contract health to address these issues. These costs will not diminish unless we take action.



Traditional ricers harvest manoomin at Mitchell Dam, White Earth, MN, 1961. Photo courtesy of WELRP.

ENERGY AND FOOD SOVEREIGNTY: LAUNCHING A GREEN ECONOMY FOR THE FUTURE

A green economy will create jobs, help us restore our environment and provide stability in our communities. Tribal sovereignty means addressing tribal energy and food sovereignty so that we will have control over our destiny.

ENERGY EFFICIENCY

Our current homes and buildings waste a great deal of energy. In fact, 30% of the energy we pay for in our homes and buildings is wasted because of inefficient construction and appliances. Energy efficiency -- using less energy -- is the simplest way to save money and the first step toward creating a clean energy economy.

The Center on Wisconsin Strategy finds that, "Efficiency projects create greener jobs and cleaner communities by installing technologies that will reduce the energy consumption of the nation's 101 million households and 4.6 million commercial structures. These buildings account for about 40 percent of energy use in the United States, with homes using somewhat more energy than commercial structures."⁸

Energy efficiency is about doing more with less energy. "Many old technologies today are using more energy than they should. Smarter and more efficient choices are becoming available for everything that consumes energy – lighting, pumps, chillers, fans, motors, cooling coils, you name it," says the Minnesota environmental group Fresh Energy.

Efficiency also makes good business sense. The Starwood Hotel group, which includes the Gila River Wild Horse Pass Resort in Arizona, recently invested in energy-smart solutions for 748 properties. The investments saved the corporation \$6.1 million in one year or the equivalent of 9,400 hotel room bookings. And, these energy savings represented the equivalent of either taking 1,800 automobiles off our roads, planting 2,400 trees, or disconnecting 1,200 homes from the electric grid. Energy efficiency improvements are the best way to reduce greenhouse gas emissions!

Household Efficiency Programs: White Earth as a Model

There are over 700 homes on the White Earth reservation that qualify for fuel assistance. The White Earth Land Recovery Project, working with the White Earth Band of Ojibwe and local utilities, is moving to support weatherization work and alternative heating sources for these homes. The Project has worked with Ottertail Power Company and the Itasca Mantrap Electrical Cooperative on weatherization and efficiency and has installed eight solar heating panels on reservation homes as a means to reduce heating bills. The program is set to expand with a proposed local training program in both energy audits and weatherization and additional solar heating panel installations. Program staff also worked in collaboration with Honor the Earth, Little Earth of United Tribes, the Rural Renewable Energy Alliance and Fresh Energy to install two solar heating panels on Little Earth's Elders Housing Unit in Minneapolis in May of 2008.



John Shimek installs an energy-saving compact florescent light bulb in a White Earth home. Photo courtesy of WELRP.

RENEWABLE ENERGY

Like energy efficiency, renewable energy has excellent potential to create living-wage, dignified jobs. Wind and solar energy generate 40 percent more jobs per dollar invested than coal mining. The solar and wind industries create about 5.7 jobs per million dollars invested over a ten year period, compared to the coal industry, which creates only 3.96 jobs per million dollars.⁹

What does a green-skilled construction worker do? Energy efficiency measures range from installing insulation under a mobile home to fine-tuning the HVAC controls in a school, demanding a wide range of skills.

Here are some typical efficiency measures in residential-building retrofits:

Wall insulation	Boiler pipe insulation	Low-flow showerheads
Ceiling insulation	LED exit signs	Hot water heater wrap
Rimjoist insulation	Washer replacement	Hot water temperature reduction
Air-leak sealing	Refrigerator replacement	Hot water heater replacement
Furnace replacement	Outdoor lighting controls	Fluorescent lighting
Boiler replacement	Pipe insulation	Boiler controls

Source: Greener Pathways: Jobs and Workforce Development in the Clean Energy Economy by Sarah White and Jason Walsh

Consider this: In 2006, the American Solar Energy Society estimated that renewable energy and energy efficiency were responsible for \$970 billion in revenues and 8.5 million jobs. Those numbers are only going to grow.

In order for the US economy to stabilize carbon emissions, we will need to produce around 185,000 megawatts of new power over the next decade. The ten year total projection for wind energy, according to the Renewable Energy Policy Project, entails the creation of 125,000 MW of power. This means up to 400,000 domestic manufacturing jobs in wind power alone.

The new jobs of the green economy can be in Native communities, urban and reservation, as not all of them are for large scale blade or tube manufacturing- many are for small component parts. According to the Blue Green Alliance, there are potentially 9,246 new jobs in wind power component manufacturing and some 5,238 jobs in solar power component



Henry Red Cloud of Lakota Solar Enterprises trains youth in solar heating panel installation.



Honor the Earth co-sponsored a solar heating panel installation on a student house at the United Tribes Technical College.

manufacturing in the state of Minnesota. These jobs all require a trained workforce, capitalization and political support.

The US is the largest energy economy in the world, and its transition to renewable energy and efficiency will require labor. In studies undertaken by the National Association of Manufacturers, 90% of respondents indicated a moderate to severe shortage of qualified, skilled production



employees like machinists and technicians. The National Renewable Energy Laboratory calls a shortage of skills and training a leading barrier to a renewable energy and energy efficiency economy. We can train our own people for these jobs!

Columbia Gorge Community College: A Case Study in Green Job Development

As tribal and other residents of the Columbia Gorge area considered wind potential, they realized that they needed a training program. In turn, the Columbia Gorge Community College developed a six month non-credit pilot program held January-June, 2007. At the end of the program, 22 of the 24 graduates were immediately employed at entry level wages of \$20-24 per hour, some with full health care benefits and paid vacation.⁸

Tribal Wind Energy in Minnesota

Nationally, tribal wind power potential is tremendous. Reservation communities are amongst the windiest sites in the country, with national studies indicating that reservations could produce from one-fourth to one-third of present installed electrical demand. Wind energy represents an excellent opportunity for reservation-based employment and also represents a fuel source with economic predictability and security into the future.

In Minnesota, White Earth, Red Lake and several Dakota reservations have class four wind, which represents good potential for commercial scale projects and the export of energy. The Shakopee Mdewakanton Dakota Community is planning a two megawatt wind turbine, greenhouses to provide food for their casino complex, partial ownership of a biofuels plant and a set of projects to complement their existing sustainable agriculture and restoration work. The White Earth reservation hosts a 20 kW wind turbine, and is looking to install both a 250 kW and a 750 kW wind turbine over the next three years. Grand Portage is also considering a wind turbine project.

In the Dakotas, the Turtle Mountain, Sisseton and Spirit Lake reservations have class five wind potential. The Turtle Mountain Ojibwe installed a 660 kW wind turbine at the tribal college and are restoring operation to a 100 kW wind turbine on the reservation.

There is great potential for some of the ongoing demand for electricity generation to be met by tribal installations and tribal power. To actualize this potential will require training tribal members in wind turbine installation and maintenance.



RELOCALIZING TRIBAL FOOD ECONOMIES

"... It is widely recognized that the replacement of indigenous foods with a diet composed primarily of modern refined foods is the centerpiece of the [diabetes] problem...."

-Dr Harriet Kuhnlein, McGill University, Quebec, Canada

Nationally, a number of tribal communities are looking at the issues of food security and food sovereignty. Tesuque Pueblo is looking to produce enough food to feed its entire tribal membership of 1,000 people from their own lands. The Oneida Nation is encouraging tribal members to get exercise and eat well, giving a financial bonus to those who reduce their diabetes risk rather than paying that money to health providers for dialysis machines and other costs associated with diabetes. The Oneida Tsyunhehkwa Project also grows traditional food varieties. Similarly, the Dream of Wild Health is working to restore traditional varieties of food for Native people in the Twin Cities and beyond.

Traditional Local Food: Better Health

As it turns out, traditional varieties are much more nutritious. Research in various parts of the United States has shown that an indigenous diet of minimally processed, locally produced foods has a positive affect on Native Americans' health, in contrast to the "reservation diet"



Pine Point's students enjoy locally harvested sweet corn.

of white flour, sugar, and processed food. In particular, studies on traditional diets at the Tohono O'odham (Pima) communities found that "the traditional high fiber-complex carbohydrate and low fat diet resulted in a slower release and uptake of sugars from the intestines," while the convenience store diet, "soon produced higher blood sugar levels," severe enough to trigger diabetes.

Organic Agriculture and Climate Change

Organic agriculture is one of the best ways to reduce the carbon in the air and address climate change: Studies at the Rodale Institute compare organic and conventional farming. The Institute found that organic farming can sequester carbon by using composting, cover crops and crop rotation, pulling carbon dioxide from the air and storing it as carbon in the soil. Simply stated, if the world's 3.5 billion tillable acres used biological, regenerative practices, this would sequester up to 40 percent of current carbon dioxide emissions. A report released in 2005 showed that soil carbon in organic systems increased by 15 to 28 percent, the equivalent of taking about 3,500 pounds of carbon dioxide per hectare out of the air.¹⁰

Our foods are just healthier for us. Studies by the University of Minnesota on the traditional foods grown in tribal gardens found the following:

- Hominy corn is high in carbohydrates and protein. One serving of hominy yields 47% of the DRV for fiber and 33% of the B vitamin Thiamine and has half the calories of market corn.
- Arikara squash has 13% of the DRV for fiber, 64% of the DRV for vitamin A, and half the calories and double the calcium and magnesium of the market equivalent.
- Similarly, Potawatomi lima beans are low in fat, and high in carbohydrates and protein. B vitamins are found in abundance, including thiamine, pantothenic acid, niacin and B6. Potawatomi lima beans also provide 24 grams of fiber per serving, and 21 times the anti-oxidants found in market beans.

These indigenous foods are not only more nutritious than those produced by industrial agriculture, but they are also more adaptable to climate change and peak oil. That's because traditional foods were grown prior to an industrialized agriculture economy, and as a result, these crops are not addicted to irrigation or fossil fuels and are largely drought and frost resistant.

In re-localizing our food and energy economies- in creating actual

models of tribal energy and food sovereignty- we will save a lot of money. Almost one half of our income currently goes off the reservation to meet these needs. Re-localizing food and energy means we can create local jobs and a healthier way of life!



Community members hand-harvest sap from White Earth Land Recovery Project's traditional sugarbush, keeping production and processing local.

JOB'S FOR THE NEXT GENERATION

Opportunities for green jobs are growing dramatically through federal, state and local programs and legislation.

The federal Green Jobs Act of 2007, authorized at \$125 million, is designed to identify needed skills, develop programs and train workers for jobs in a range of renewable energy and energy efficiency industries. The legislation, the net result of a campaign organized by Green For All, Apollo Alliance and others, has a special focus on creating "green pathways out of poverty," targeting green job creation in low-income communities.

Along with the Green Jobs Act, the federal Energy Efficiency and Conservation Block Grant Program, authorized at \$2 billion, is a grant program for local governments to use for retrofitting their communities to save energy and combat global warming, creating tens of thousands of green-collar jobs in the process.

On a state level, Minnesota's Next Generation Energy Act, passed in 2007, is projected to generate more than \$4 billion of economic activity by 2020 by stimulating energy efficiency, renewable development and other global warming mitigation strategies. And the mayors of Minneapolis and St. Paul have joined together in a Mayors' Initiative on Green Manufacturing, releasing a 2008 'Making It Green' study that serves as a blueprint for the cities to pursue green manufacturing, take advantage of green business opportunities and create green jobs. Similarly, members of the state legislature are in the early stages of developing a Minnesota Green Jobs plan, due to be presented as a bill in 2009.

We can fight climate change and create a green economy that, as Green For All states, is inclusive and "strong enough to lift people out of poverty."

Native peoples can participate in Green Jobs training through existing Opportunities Industrialization Centers (OICs) throughout the state of Minnesota and City and County funded programs. The OICs in Minnesota are currently working in a federally funded partnership with Minneapolis Community and Technical College to develop green jobs technical training and certification in addition to their already successful "100 Hard Hats" building trades program.

A "Green Jobs for Brown People" Initiative is coalescing in the Twin Cities to focus on ensuring Native peoples participate in clean energy development in a central way. The Initiative will connect agencies working in the green jobs field, identify specific projects on reservations and in urban areas and help recruit trainees within the state.

Rather than creating job-training pipelines that put Indigenous people and people of color at the back of the line for last century's polluting jobs, we must create opportunities for them to be at the front of the line for new clean and green jobs.



A BRIGHT FUTURE

CLEAN ENERGY, LOCAL FOOD, GREEN JOBS: A BRIGHT FUTURE

Tribes in Minnesota and across the country are proving that it’s possible to take control of our future by looking to clean energy, food sovereignty and the promises of the growing green economy. In recognizing the links between food, health, fuel poverty and energy, we can address the global challenge of climate change and peak oil and the economic and health challenges afflicting our communities. By investing in energy efficiency, more efficient buildings, renewable energy and local food systems, Minnesota tribes can help secure a place in the developing green economy and ensure a sustainable future.

In the end, we as Indigenous peoples need to control our own destinies by exercising food and energy sovereignty. Our future generations will be counting on our actions.



Endnotes

¹ World Fact Book, <https://www.cia.gov/library/publications/the-world-factbook/print/us.html>

² Center for Urban Education About Sustainable Agriculture, http://www.cuesa.org/sustainable_ag/issues/foodtravel.php

³ “Implications of Fossil Fuel Dependence for the Food System” by Jay Tomczak, Energy Bulletin, December 11, 2005. <http://www.energybulletin.net/node/17036>

⁴ United States Department of Energy, <http://www.doe.gov/energysources/fossilfuels.htm>

⁵ Low Income Consumers’ Energy Bills and Their Impact in 2006, Meg Powers, PhD, <http://www.opportunitystudies.org/repository/File/weatherization/energy-bills-and-burden.pdf>

⁶ Solar Assistance Fact Sheet by Rural Renewable Energy Alliance, http://www.rreal.org/files/Solar_Assistance_Fact_Sheet.doc

⁷ “Eroding Alaska town sues oil, power companies,” Associated Press, February 27, 2008. <http://www.msnbc.msn.com/id/23367934>

⁸ Greener Pathways: Jobs and Workforce Development in the Clean Energy Economy, Sarah White & Jason Walsh, Center On Wisconsin Strategy, 2008.

⁹ “Renewable Energy Development Creates More Jobs than Fossil Fuels: A Summary of Recent Research” by Green for All and the Ella Baker Center for Human Rights, <http://www.greenforall.org/resources/summary-of-research-on-the-job-creating-potential/download>.

¹⁰ “AGRICULTURE: Change your menu and save the planet?” by Sara Goodman, ClimateWire, <http://bikeprovidence.org/2008/05/22/from-todays-climatewire-newsletter-green-buildings-smart-growth-obesity>



photo courtesy of Keri Pickett

HONOR THE EARTH

2104 Stevens Ave S. • Minneapolis, MN 55404
info@honorearth.org • www.honorearth.org
Phone: 612-879-7529

