OREGON DEPARTMENT OF ENERGY

Sustainability Plan

January 16, 2004

OREGON
DEPARTMENT OF
ENERGY

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Introduction

Energy is critical to our state. Oregonians spend about $7.6 billion a year for energy. That includes electricity, natural gas, gasoline and other petroleum products, wood, propane and other fuels. Oregon's use of energy impacts all facets of sustainability: the economy, the environment, and society. Therefore, the Oregon Department of Energy (*Energy*) plays an important role in Oregon's pursuit of sustainability.

Oregon Department of Energy Mission

Ensure Oregon has an adequate supply of reliable and affordable energy and is safe from nuclear contamination, by helping Oregonians save energy, develop clean energy resources, promote renewable energy and clean up nuclear waste.

From an energy perspective, a sustainable Oregon is fueled by 100 percent renewable energy with no release of carbon to the atmosphere from energy use. This document outlines *Energy's* plan to influence the market and its players with the aim of developing sustainable energy resources. The following goals will guide us as we implements our plan:

- Reduce Oregon's energy consumption
- Make Oregon's homes and buildings more energy efficient
- Develop renewable energy resources

Energy works with a broad cross-section of Oregonians from businesses to trade associations, from homeowners to renters, and from governments to schools. In addition to taking the specific actions outlined in this plan, *Energy* will continue to leverage its expertise by working with state agencies and other energy users in their quest for energy sustainability.

Sustainability Related Programs

Most of *Energy's* programs and services encourage sustainable practices, including energy efficiency, use of renewable energy, use of alternative fuels, and making products from recycled materials. The programs are summarized in this chapter and presented in a table on page 10. This chapter also summarizes the sustainability impacts of the programs.

Energy's Programs and Services

Primary Programs

BETC through 2001

Total tax credits: 5,827

Energy savings: 1.2 billion kWh

Electricity generated: 677 million kWh

Value of annual savings/ generation: $145.7 million

Business Energy Tax Credit (BETC)
Energy offers tax credits to businesses to encourage them to invest in energy conservation, renewable resources, recycling and alternative fuels. The tax credit is 35 percent of the eligible cost of the project.

Residential Energy Tax Credit (RETC)
RETC helps Oregonians invest in energy efficiency, renewable energy, and alternative fuel vehicles. The program now includes fuel cells and highly efficient furnaces, boilers, heat pumps, ventilation systems and air conditioning systems.

Energy Loan Program
The Energy Loan Program offers low-interest, long-term, fixed-rate loans for energy conservation, renewable energy, alternative fuels and recycling.

State Home Oil Weatherization Program (SHOW)
For households that heat primarily with oil, propane or wood, *Energy's* SHOW program offers free home energy audits and rebates for weatherization and heating measures.

Energy-Efficient Manufactured Homes Program
Under a voluntary agreement with Oregon manufacturers, *Energy* certifies homes that are very efficient. Compared to homes built to federal standards, these homes have more insulation, more efficient windows and doors, better sealed heating ducts, improved air sealing and a specially designed ventilation system.

RETC through 2001

Total tax credits: 87,534

Electricity savings: 60.8 million kWh

Value of annual savings/ generation: $4.9 million

Oregon Telework Program
Telework (also referred to as telecommuting) allows employees to work away from their main office. It reduces commuting and the fuel used by employees to drive to work. *Energy* works with about 100 businesses and governmental agencies a year to set up telework programs.

Residential Building Codes
Energy submits recommendations for cost-effective changes to the standards and provides training and technical help for the building industry and local building departments.

Commercial Building Codes
Energy submits recommendations for cost-effective changes to the standards and provides training and technical help for designers, contractors and local building departments.

Energy-Efficient New State Buildings
Energy recommends savings measures to consider in the design and reviews the plans to ensure targets are achieved. Typical measures adopted include energy efficiency improvements for windows, lighting, controls, and heating, ventilation and air conditioning equipment.

Alternative Fuels
One of Oregon's strategies to reduce fossil fuel use and improve air quality is promoting alternative fuels and helping develop fueling stations. Cars and other vehicles that run on alternative fuels such as natural gas, biodiesel, liquefied natural gas, electricity, propane, methanol, ethanol and hydrogen are less polluting than vehicles that burn gasoline or diesel.

Public Purpose Funds for Industrial Projects
As part of the electric industry restructuring law, large electricity customers can invest most of their Public Purpose charges in conservation and renewable resources for their own facilities. *Energy* provides technical help; certifies that the proposed site, investments, and expenses are eligible; and coordinates tax credit services for qualifying projects.

Public Purpose Funds for Schools
As part of the electric industry restructuring law, electricity customers of PGE and Pacific Power pay a Public Purpose charge. A portion of these funds is invested in school building energy efficiency projects within PGE and Pacific Power service territories. *Energy* provides the schools with technical help, certifies school energy audits and proposed projects, and coordinates tax credit services for qualifying projects.

Other Programs

National Appliance Standards
Energy participates in developing federal appliance standards on behalf of the state as well as regional and utility groups.

Building Commissioning
Building commissioning ensures that the complex equipment providing lighting, heating, cooling, ventilating and other amenities in buildings works together effectively and efficiently. *Energy* leads a project to make commissioning standard practice for public buildings in the Northwest.

Combined Heat and Power Systems
Energy provides technical help and state incentives to Oregon businesses installing electric generating systems that make the best use of the waste heat. *Energy* also is part of a consortium of Oregon utilities, businesses, engineers and others conducting a demonstration project for small combined heat and power systems.

Demand-controlled Ventilation
Reducing ventilation when spaces are unoccupied can save considerable energy in auditoriums, gymnasiums, theaters and other large facilities. *Energy* is developing demand-controlled ventilation standards and guidelines.

Energy Savings Performance Contracts
Energy Savings Performance Contracts (ESPCs) provide state agencies with guaranteed energy savings to secure financing and pay for efficiency improvements without increasing operating budgets. ESPCs also provide project management, reducing the need for in-house expertise. *Energy* encourages public agencies to use this service in conjunction with tax credits and low-interest loans.

Industries of the Future
This federal program helps industry adopt best efficiency practices and funds demonstrations of leading-edge production technologies. *Energy* is working with Oregon's 25 largest industrial sites to accelerate adoption of the most energy-efficient processes. *Energy* staff provides information and technical assistance and helps industrial firms obtain federal and state incentives.

Energy Loan Program through 2001

Total loans: 548

Total amount loaned: $307 million

Electricity savings: 438 million kWh

Electricity generated: 544 million kWh

Value of annual savings/ generation: $44 million

National Industrial Competitiveness Through Energy, Environment and Economics (NICE^3)
The U.S. Department of Energy annually awards matching grants to small and large businesses to demonstrate energy-efficient and environmentally clean technologies. *Energy* applies for the grants on behalf of Oregon companies, manages federal grant awards, and provides state tax credits.

Low-income Weatherization
Energy serves on the Advisory Committee on Energy, an interagency group authorized by the Legislature to oversee funds the Department of Housing and Community Services uses for weatherization and low income energy assistance.

Public Buildings Assistance
Using federal funds, *Energy* provides technical assistance for resource-saving projects for qualifying public entities in Oregon. Work includes design assistance, training, demonstration projects and technical analysis.

Energy-Efficient School Buildings
Energy provides training for school staff and construction firms on building highly efficient, productive and environmentally-sound buildings. *Energy* helps coordinate Public Purpose funds for schools. *Energy* staff also provide quality control of school energy audits, manage a database to track the program, and report on expenditures and results.

Oregon's Million Solar Roof Program
The U.S. Department of Energy provides funds for training and education in support of solar energy systems. *Energy* has presented interconnection workshops for utilities and produced case studies on solar water heating and electric systems in Oregon.

Sustainable Homes
Energy, the Department of Housing and Community Services, Portland General Electric and Fannie Mae are advancing standards for and promoting homes that use far less energy, water and other resources. This program provides education, incentives, technical help, and marketing services to builders and consumers.

"Sustainable development is not something that is done to us — or for us. It is something all of us must do together."

– Governor Kulongoski

Program Impacts by Sustainability Action Area

Energy's programs affect five of the six "Action Areas for Agencies" in the Sustainability Board's State Agency Guide for Implementing Governor Kulongoski's Executive Order in the following ways:

Purchasing

"Green" buildings and operations

- Business Energy Tax Credit (BETC) for Leadership in Energy and Environmental Design (LEED) Program-certified buildings
- Energy Loan Program for green building technologies

Community Health

Infrastructure (transportation, water, sewer, etc.)

- BETC Pass-through for conservation and renewable projects
- Energy Loan Program for conservation and renewable energy
- Resource Conservation Management training and resources

Viable industry

- BETC for energy efficiency upgrades, renewable energy sources, and recycling
- Energy Loan Program for energy efficiency upgrades, renewable energy sources, and recycling
- National Industrial Competitiveness Through Energy, Environment and Economics (NICE^3) federal grants for cutting-edge technology applications
- Self-direction program for energy efficiency measures installed by large PGE and Pacific Power customers

Environmental justice

- Hanford clean-up oversight
- Energy facility siting process

Public Safety

- Regulation of nuclear shipments and training of emergency responders

This chapter shows how Energy's programs tie to Governor Kulongoski's Action Areas.

Energy

Facilities, vehicles, and equipment

- Residential Energy Tax Credit (RETC) for renewable energy and alternative fuel vehicles
- Business Energy Tax Credit (BETC) for building retrofits, renewable energy technologies, and alternative fuel vehicles and fueling stations
- Energy Loan Program for building retrofits, renewable technologies, alternative fuel vehicles and fueling stations

Office equipment

- BETC for purchase of energy-saving products and energy-efficient technologies
- Consult with Department of Administrative Services (DAS) on purchasing standards

Work travel

- RETC for alternative fuel vehicles
- BETC for alternative fuel vehicles and fueling stations
- Energy Loan Program for alternative fuel vehicles and fueling stations

Employee commuting

- BETC for bus passes

Alternative fuels and green power

- BETC for alternative fuel vehicles and fueling stations
- RETC for alternative fuel vehicles
- Energy Loan Program for alternative fuel vehicles and fueling stations

Telework

- Telework training and consultation for employers

Economy

Local economic stability

- BETC for efficiency upgrades and renewable energy development
- Energy Loan Program for efficiency upgrades and renewable energy development

Pollution and Waste Reduction

Climate change

- Staffing for Global Warming Initiative

Energy's programs by economic sector.

Oregon Department of Energy's Efficiency and Renewables Programs

PRIMARY PROGRAMS	Commercial	Residential	Public Buildings	Industrial	Transportation	Renewables
Business Energy Tax Credit	X		X	X	X	X
Residential Energy Tax Credit		X			X	X
Energy Loan Program	X	X	X	X	X	X
State Home Oil Weatherization		X				
Energy-Efficient Manufactured Home		X				
Oregon Telework Program	X		X		X	
Residential Building Codes		X				
Commercial Building Codes	X		X			
Energy-Efficient New State Buildings			X			
Alternative Fuels	X	X			X	X
Public Purpose Funds for Industrial Projects				X		
Public Purpose Funds for Schools			X			
OTHER PROGRAMS						
National Appliance Standards	X	X	X			
Building Commissioning		X	X			
Combined Heat and Power Systems				X		
Demand-Controlled Ventilation	X	X	X			
Energy Savings Performance Contracting		X	X			
Industries of the Future				X		
NICE[3]				X		
Low-income Weatherization	X					
Public Building Assistance		X	X			X
Energy-Efficient School Buildings			X			
Oregon's Million Solar Roof Program	X	X	X			X
Sustainable Homes		X				X

Progress Toward Sustainability

This chapter provides specifics on some of the Oregon Department of Energy's (*Energy's*) current work related to sustainability. The headings are taken from the March 2003 Report on State Agency Sustainability Actions.

The Oregon Department of Energy:

Coordination

- Participates as an active member in the Interagency Sustainability group.

Product Use and Operations

- Recycles paper, cardboard, bottles, batteries, cans, toner cartridges, and CDs.
- Uses motion sensors on room lights to save energy when rooms are vacant.
- Uses task lighting over desks, rather than additional overhead lighting.
- Equipped soft drink machines with VendingMiser™ that reduces the power of the vending machine when not in use but starts it up again if someone approaches. The unit monitors the air temperature and keeps the soda cold by re-powering the machine at one to three-hour intervals if needed.

Purchasing/Procurement

- Maintains a comprehensive recycled product inventory.
- Includes energy efficiency specifications in technology purchases.

Pollution Prevention

- Enables a high percentage of the workforce to telework to reduce petroleum use, air pollution, and congestion.

Green Building

- Works with builders, architects, Portland General Electric (PGE) and higher education to develop both the technology and the market for homes that produce more energy than they use on an annual basis (Net Energy Homes). The object is to build a super-efficient home (built to PGE's Earth Advantage Green Building standard) that integrates the best solar energy technologies, heat recovery and

"'Sustainability' means using, developing and protecting resources in a manner that enables people to meet current needs and provides that future generations can also meet future needs, from the joint perspective of environmental, economic and community objectives."
– ORS 184.421

This chapter describes Energy's current work related to sustainability.

appliances. By combining components, new homes can feed energy into the grid during the daytime while most are at work and when energy is most valuable.

- Processes a dozen building projects that qualify for Oregon's sustainable building project tax credits. The Eco-Trust Building in Portland has received U.S. Green Building Council LEED Gold-level certification and a final energy tax credit certification.
- Implements recent legislation that amended the Business Energy Tax Credit (BETC) program to make buildings using sustainable building practices eligible for a state tax credit.
- Promotes the expanded BETC program pass-through option. This option allows schools, non-profits, tribal governments and others without a tax liability to take advantage of the tax credit program by passing a tax credit for an eligible energy efficiency measures to a partner in exchange for a cash payment.

Green Business Outreach

- Works with business and industrial customers to help them increase energy efficiency, renewable energy, and recycling.
- Uses the Business Energy Tax Credit and Energy Loan programs as incentives to promote conservation, recycling, and energy efficiency.

Product Marketing

- Directs business and industrial customers to resources and products that help them increase energy efficiency.

Ecosystem Health

- Operates the Remote Solar Program to promote solar water pumping systems. The systems protect riparian areas by removing cattle from stream banks. Using solar power, water is pumped to watering areas away from streams. *Energy* provides technical support, education and outreach to landowners and interested groups, such as the Oregon Watershed Enhancement Board and soil and water conservation districts.

Climate Change

- Initiates and supports state actions to increase energy efficiency and reliance on renewable resources to achieve the State Benchmark for holding carbon dioxide (CO_2) emissions to the 1990 level.

- Staffs the Oregon Energy Facility Siting Council's oversight of the state law requiring new power plants in the state to meet the CO_2 standard. To date, all power suppliers have met the requirement by making payments to The Climate Trust, an independent, nonprofit organization that finds and contracts for projects that offset carbon dioxide.

Transportation and Alternative Fuels

- Offers residential and business energy tax credits for alternative fuel conversions and hybrid vehicles.
- Leads an Interagency Working Group.
- Applies for and manages federal funds for the regional Clean Cities Coalition which promotes and educates consumers about alternative fuels.
- Provided a loan and tax credit to Oregon's first commercial compressed natural gas (CNG) fueling station in Hillsboro.
- Offers the Business Energy Tax Credit for businesses that burn less-polluting transportation fuels and reduce employee commuting.

Energy Conservation in Public Buildings

- Manages the State Energy Efficiency Design (SEED) program. By constructing and renovating buildings with energy efficiency in mind, state agencies can significantly reduce long-term operating costs. Those savings can be used to fund essential services. Other benefits of energy efficiency are reducing environmental impacts and improving comfort for employees.
- Has upgraded the HVAC equipment in its building and reduced total energy load by 10 percent.
- Convinced the *Energy* building owner to apply an energy-efficient roof coating and install water-saving toilets.
- Provides design specifications for portable classrooms.

Green Power

- With the help of numerous partners, *Energy* helped make the Capitol the first in the country to use solar power. The 60 solar panels on the west wing power the lights on the Golden Pioneer, saving about $250 a month in electricity.
- Leads the Oregon Wind Working Group, which involves farmers, industry, environmental groups and others. The group identifies barriers to wind energy development and looks for solutions.

- Works with project partners on a biomass resource assessment for Wallowa, Union and Baker counties. The report will document the amount of biomass feedstock available, the cost of feedstock delivered to the plant site and the best locations for proposed facilities.
- Participates in Portland General Electric's Renewable Power purchase option.

Social Systems

- Assists such buildings as the Eco-Trust and Viridian Place in Portland to achieve Leadership in Energy and Environmental Design (LEED) certification. *Energy* is working with 11 school districts to meet federal standards for high performance schools. These buildings will minimize energy and natural resource use by incorporating many sustainable features. *Energy* will collaborate with the U.S. Green Buildings Council in bringing the 2004 national conference to Portland as a way to promote its LEED standards.
- Staffs the Oregon Hanford Cleanup Board and works to assure that cleanup decisions at Hanford protect the Columbia River, Oregon, and its citizens. The federal government is spending about $2 billion each year on cleanup of the Hanford Nuclear Site. For many years, *Energy* has urged that preference for local and regional contractors include Oregon businesses. Bechtel National, the lead contractor on construction of the waste processing facility, has awarded $24 million in contracts to 29 Oregon companies.

Planned Sustainability Actions

Key Sustainability Actions

Energy's programs are all related to sustainability. However, we have identified four sustainability actions to highlight and report results to the Sustainability Board. These actions will influence Oregon's environment, economy, and community.

Key Sustainability Actions

- *High Performance Schools*
- *Renewable Energy Development*
- *West Coast Governor's Global Warming Intitiative*
- *State Agency Assistance*

High Performance Schools

Goal

To ensure that new public schools in Oregon incorporate sustainable design features related to energy and resource efficiency, indoor air quality, and natural daylighting.

Action Plan with Timelines

- Provide a package, including technical resources and financial incentives, to assist schools districts in designing and building sustainable schools. (March 2004-ongoing)
- Market the benefits of sustainable building construction and the availability of technical and financial assistance to school officials at venues such as annual conferences. (March 2004-ongoing)
- Provide a $50,000 incentive to school districts for committing to meet sustainable (LEED) guidelines and follow an integrated design process. (March 2004-ongoing)
- Provide input on energy efficiency and other sustainability features in the design process. (March 2004-ongoing)
- Refer school districts to sustainable design resources outside the agency. (March 2004-ongoing)
- Help school districts obtain other financial resources. This includes but is not limited to assisting in applying for low-interest loans through the Energy Loan Program; finding a pass-through partner for the Business Energy Tax Credit (BETC); and applying for other incentives. (March 2004-ongoing)

Performance Measure (2003-2005 Biennium)

Half of new schools designed this biennium incorporate sustainable features in their designs; in particular the designs provide energy savings

30 percent better than required by code, address indoor air quality issues, and provide higher levels of natural daylighting.

Responsible Persons

John Kaufmann, Gregory Churchill, Betty Merrill

Renewable Energy Development

Goal

Develop recommendations on removing obstacles to developing renewable energy resources and associated green technologies.

Action Plan with Timelines

- We already have identified a barrier to wind power development — the state's noise standard. After extensive consultation, *Energy* recommended to EFSC and proposed a process to the Environmental Quality Commission to change the noise control rules for wind. *Energy* and the Department of Environmental Quality (DEQ) jointly are proposing amendments to the OAR Chapter 340, Division 35. *Energy* will conduct the rulemaking because of its role in enforcing the DEQ noise rules in the energy facility siting process. We are reporting to the Governor on this issue through his Sustainability Advisor who is monitoring the rulemaking. (**Timelines:** Notice mailed: January 16, 2004. Hearings: February 9, 2004 in Portland and The Dalles; February 23, 2004 in Tillamook; March 9, 2004 in Pendleton. Comment deadline: March 12, 2004. Information briefing for Environmental Quality Commission (EQC): April 8-9, 2004. Final rulemaking package to parties: April 28, 2004. DEQ determines whether to recommend that the EQC adopt the rules at its May 20-21, 2004 meeting. Final rules filed: May 25, 2004)

- *Energy* is working with Agriculture, Forestry, Water Resources, and Economic and Community Development to develop a renewable resource action plan for the Governor. In developing the plan, *Energy* will assess a range of other barriers to the development of renewable resources, including state and federal incentives. *Energy* will report recommendations on legislation and other policy actions to the Governor. (September 2004)

Oregon's use of energy impacts all facets of sustainability: the economy, the environment, and society.

Performance Measures (2003-2005 Biennium)

- By June 2004 the Environmental Quality Commission's administrative rules are amended to make the noise control provisions more workable for wind power development.
- By August 2004 provide a report to the Governor on barriers to renewable energy development. The report will propose:
  - Specific targets for the quantity of new resources available by the end of 2006.
  - Legislation for introduction in the 2005 legislative session.

Responsible Persons

David Stewart-Smith, Carel DeWinkel, and Mark Kendall

West Coast Governors' Global Warming Initiative

Goal

Reduce greenhouse gas emissions below current levels through state and regional strategies that foster economic development.

Action Plan with Timelines

- Implement six short-term regional projects in the 2003-2005 Biennium. These actions serve as a starting point for joint recommendations and include ways the West Coast states can work together to:
  1. Use the states' combined purchasing power to obtain fuel-efficient vehicles and low-rolling resistance tires for motor pool fleets. For example, the states are working on a uniform specification for the purchase of hybrid vehicles.
  2. Reduce emissions from diesel fuel in transportation through reductions in the use of diesel generators in ships at West Coast ports, and in the use of diesel engines in trucks, by creating a system of emission-free truck stops along the Interstate 5 corridor from Mexico to Canada. The ports effort will focus on identifying and resolving initial issues before designing an approach. The truck stop effort will focus on installing anti-idling stations in each state.
  3. Remove barriers to and encourage the development of renewable electricity generation resources and technologies.
  4. Improve efficiency standards with the potential to reduce greenhouse gas emissions. Specifically, the states could work

together to upgrade appliance efficiency standards and seek waivers of federal limitations where necessary.

5. Develop consistent and coordinated greenhouse gas emission inventories, protocols for standard reporting, and accounting methods for greenhouse gas emissions; and collaborate on improved scientific tools to more precisely measure the impact of climate change.
6. Promote the use of hydrogen fuel for vehicles.

- Develop an Oregon Global Warming Strategy.
  1. Convene a Governor's Advisory Group on Global Warming (February 2004)
  2. Convene a Technical Committee to analyze and present measures as options for the Governor's Advisory Group. (February 2004)
  3. Coordinate state and regional strategies. (March-September 2004)
  4. Prepare a state strategy recommendation to the Sustainability Board and the Governor. (Fall 2004)

Performance Measures

Begin to implement or make demonstrable progress in the design of the six regional tasks, identify new regional strategies, and adopt an Oregon global warming strategy by the Fall of 2004.

Responsible Persons

Sam Sadler, David Stewart-Smith, Mark Kendall, Justin Klure, Phil Carver

State Agency Assistance

Goal

To improve the energy efficiency of state agency and university facilities, including the use of renewable resources, by providing information, financial incentives, and technical assistance.

Action Plan with Timelines

- Provide design review of energy efficiency, renewable energy, and other sustainable features through the State Energy Efficient Design (SEED) program. (Ongoing)

"The principle of sustainability is at the heart of what makes — and keeps — Oregon such a special place to live."

– Governor Kulongoski

- Provide assistance to agencies on obtaining financial incentives, e.g. finding BETC Pass-Through partners and applying to the Energy Loan Program as well as other incentives. (Ongoing)
- Provide agencies with Resource Conservation Management Manuals. (April 2004)
- Conduct a workshop for state agency staff to train them on Resource Conservation Management. Resources addressed include energy, water, and solid waste. Workshop will provide training and materials to enable agencies to assess their buildings with walk-through energy audits. This would help agencies decide whether to proceed with an Energy Savings Performance Contract (see below). (June 2004)
- Invite agencies to attend semi-annual meetings of the Resource Conservation Managers Group that *Energy* coordinates to discuss options and share strategies to conserve energy and other resources. (Semi-annually)
- Train Oregon Economic and Community Development Department (OECDD) field staff on financial incentives for energy efficiency and renewable energy projects including but not limited to the Business Energy Tax Credit (BETC) and Energy Loan Program. (September 2004)
- Provide technical assistance to agencies on implementing Energy Savings Performance Contracts (ESPC). The ESPC provides an energy audit as an early step. (April 2004-ongoing)

  The ESPC approach offers two key benefits:

  – Energy projects are developed by a design-build contractor. As a result, the agency does not need three separate contracts for the energy audit, design and installation.

  – The agency receives a guarantee of energy savings.

  Energy will work with agencies on ESPC as follows:

  – Provide a workshop to explain the benefits of ESPC. (November 2004)

  – Maintain a list of qualified ESPC vendors agencies can choose.

  – Provide agencies with a model contract.

  – Help agencies develop the contract statement of work.

  – Review the recommendations of the ESPC contractor. This gives the agency a second opinion and provides quality control.

Performance Measures (2003-2005 Biennium)

- *Energy* conducts Resource Conservation Management workshop.
- Resource Conservation Managers Group holds semi-annual meetings.
- *Energy* provides technical assistance for 75 percent of Energy Savings Performance Contracts.
- All new buildings and retrofits of state facilities larger than 10,000 square feet comply with requirements of SEED and qualify for BETC Pass-through Option and other incentives.
- *Energy* conducts training on financial incentives for energy efficiency projects for all OECDD field representatives.

Responsible Persons

John Kaufmann, Betty Merrill, Glenn Hansen

Other Sustainability Actions

The Sustainability Board recommended the following **State Agency Sustainability Actions** for *Energy*:

a) By September 1, 2003 implement a High Performance Schools program that makes energy and green building design services for new schools available to all K-12 school districts. The designs should significantly improve energy efficiency and indoor air quality, and in most cases, do so at no additional capital cost to the districts. The goal would be to involve at least 50 percent of all new school buildings. In addition, *Energy* should offer a companion program targeted at new K-12 portable classrooms, that should exceed building code energy-efficiency requirements by 30 percent, address indoor air quality, and provide higher levels of daylighting. *Energy* also should assist school districts to obtain funding for additional energy enhancements that may be funded by grants from other sources and should notify all appropriate entities about the program.

b) Develop a proposal for the Governor to designate October as Energy Awareness Month. The Director's proposal should provide agencies with information, ideas and materials to promote energy conservation, use of renewables, and the reduction in green house gas emissions. Develop a Department awards program for state agencies and non-state organizations that make exceptional efforts to reduce their energy use or use renewable energy.

c) The Director should evaluate the opportunities for developing renewable energy resources and associated green technologies. If the Director determines there are methods to encourage greater development of renewable energy sources, the Director should recommend remedies to the EFSC and/or the Governor on removing obstacles to developing such projects.

d) Participate in negotiations and prepare recommendations to the Governor on Oregon's potential participation in the West Coast Climate Change/Clean Energy Initiative.

e) Offer training and assistance to state agencies to increase the number of state employees using the telework program.

f) Identify renewable resource technologies that can be developed in Oregon and exported internationally.

g) Seek ways to work with other agencies in implementing their sustainability plans by providing technical assistance and making available financial or tax credit programs.

Actions a, c, d, and g are presented in detail in the "Planned Sustainability Actions" chapter. Actions b, e, and f are discussed below, along with a discussion of *Energy's* internal sustainability actions.

Energy Awareness Month and Awards Program (Recommendation "b")

During Energy Awareness Month (October 2003), *Energy* presented an award to Kettle Foods in Salem for installing the largest solar electric array in the Northwest. The Crook County School District won the Oregon Department of Energy's 2003 Resource Conservation Management Award for their efforts in reducing total energy use districtwide by $57,000. *Energy* presented Eagle Point School District with the High Performance School Award for the completion of Eagle Rock Elementary School. It was designed to LEED Silver standards.

Articles with information on energy conservation, efficiency and renewable energy were provided to and run by the *Salem Statesman Journal*, the *Oregonian*, the *Eugene Register-Guard*, the *Daily Journal of Commerce*, *Associated Oregon Industries* and other media outlets. *Energy* also provided radio programs through the state radio network. *Energy* sent a news release about the Governor's Proclamation for Energy Awareness Month to more than 200 media outlets.

For state agencies, *Energy* provided Energy Awareness Month brochures that included daily tips on saving energy. These brochures were distributed to state agency employees and the public.

In cooperation with the Confederated Tribes of the Coos, Lower Umpqua and Siuslaw Indians, *Energy* presented Energy Fairs in Tillamook, Bend, Medford and Coos Bay, providing energy information and hands-on workshops.

Telework Training (Recommendation "e")

In addition to the sustainability benefits of telework programs — air quality, energy, and carbon release benefits — telework can produce budget savings at this critical time for state government. Telework can save money by reducing office space and by increasing productivity through enabling employees to work in a more productive setting, retaining experienced employees, and recruiting top quality employees.
By statute, state policy encourages state agencies to allow employees to telework when there are opportunities for improved employee performance, reduced commuting miles or agency dollar savings. Agencies must adopt and publish a written policy and annually report progress to DAS and *Energy* on the number of teleworkers, travel reductions, etc.

Energy worked with agencies to develop telework policies. To date, all but the smallest boards and commissions have written telework policies. *Energy* provides training materials, consultations, seminars, training sessions, and an extensive telework Web site. *Energy* trains managers and teleworkers. At least twice a year, *Energy* informs each agency's telework coordinator of our services and any telework news.

During 2004, *Energy* will continue to provide these services to agencies. *Energy* will conduct at least six training sessions and will work one-on-one with at least 10 agencies.

Renewable Energy Technology Exports (Recommendation "f")

Oregon has earned worldwide acclaim for its sustainable development and energy resource programs. This global recognition has lead to a demand for Oregon-based green products and services. The demand is especially keen in Asia. Because of its many incentive programs, the

Oregon Department of Energy is in a unique position to be aware of companies that offer credible and competitively priced green services and products.

The Oregon Economic and Community Development Department (OECDD) is charged with promoting economic development including developing international markets. *Energy* is working in partnership with OECDD to match export-ready Oregon companies with sustainable development opportunities abroad.

One example is *Energy's* support for Portland General Electric's (PGE) efforts to establish energy centers and sustainable buildings programs in Shanghai, China and Bangkok, Thailand. In the near-term, PGE is the primary contractor on a smaller-scale demonstration Energy Center in Shanghai. The Center will emphasize LEED standards and PGE's Earth Advantage sustainable building program. The Energy Center will enhance marketing opportunities for Oregon green and energy-related companies. *Energy*'s work in Shanghai and other parts of China is enhanced by having LingYun, a Shanghai Energy Office employee, on staff for two years.

A second example involves our efforts to facilitate a carbon dioxide (CO_2) offset project in Shanghai, China. The proposed project is a 20-megawatt wind energy development. We hope to be a catalyst for Oregon's Climate Trust to provide financing for this project while purchasing cost-effective CO_2 offsets. The CO_2 component of this project is unique and would be one of the few examples of a carbon offset project involving U.S. and Chinese partners.

Energy works closely with Lane Community College in support of its diverse Energy Management Training Program, which includes renewable energy. The program is unique in the Pacific Rim and is now beginning to be delivered internationally.

Another aspect of *Energy's* "export" work is nurturing smaller companies that are bringing next generation technologies, services, or products to market. We have consulted with or provided incentives for these companies. Most of the following could be "exported" to other states and, eventually, internationally.

- Abundant Renewable Energy of Newberg makes an optimized controller for small capacity wind turbines that are export-ready.
- PV Powered of Bend manufactures an UL-listed inverter for all renewable electric generating systems of one and two kilowatts.

In practice, sustainability means applying some basic principles to the decisions we make.

- Energy Outfitters of Grants Pass assembles various solar photovoltaic components into an integrated system package.
- Osmotek of Corvallis manufactures membrane separation technologies that concentrate solutions without need for energy-intensive boiler evaporation.
- Beta Control Systems of Beaverton makes equipment that concentrates and clarifies various industrial acids so that they can be re-used multiple times.
- GMV Industries of Arlington assembles a solar-powered water and energy-efficient center pivot irrigation system.

Energy's Internal Sustainability Actions

In response to the previous sustainability order, *Energy* established a work group that reviewed its internal operations and made a number of changes. These changes ranged from energy efficiency measures to reduced resource consumption (paper, office products, and waste) and from providing the Department of Administrative Services (DAS) with information needed to buy an agency-dedicated hybrid vehicle to facilitating training sessions for staff.

Nonetheless, *Energy* has identified additional internal actions it can take. We intend to designate a sustainable operations coordinator by the end of February 2004. The coordinator will be responsible for assessing additional sustainability options and developing recommendations for management team review. The coordinator will have the authority to call on staff technical resources and support personnel.

The sustainable operations coordinator will be the point of contact for staff suggestions and initiating sustainability programs and actions. This person will recommend one new agency action each quarter, assuming performance measurement confirms the success of the previous quarter's action. *Energy* will share information on these actions — both those that succeed and those that do not — with other agencies via e-mail and at meetings of state Sustainability Coordinators. Information on actions related to energy-efficient operations will be included on the Resource Conservation Management workshop described in the "State Agency Assistance" section.

The sustainable operations coordinator will be responsible for establishing a Sustainable Workplace Series, arranging staff education sessions and ongoing staff e-mail reminders. The series will offer monthly lectures, videos and presentations at all-staff meetings and brown bag lunches.

Strategic Plan and Sustainability

Virtually all of *Energy's* work relates to sustainability. It is inherent in our mission. The plans *Energy* developed over the last year incorporated sustainability-related actions. Those plans include the Biennial Energy Plan, the Economic Action Plan, the Renewable Energy Plan, and this Sustainability Plan. *Energy* attempted to make each plan consistent with the others. Our next strategic plan will be completed in mid-2005. It will address sustainability actions and will be consistent with this Sustainability Plan and any future amendments or updates. *Energy* intends to update this Sustainability Plan by mid-2005.