Renewable Energy Action Plan Tasks

WORKING DRAFT - (5-5-06)

	General (cross-cutting) Tasks:	Purpose and Context	Status
1	Set priorities on actions where Oregon has an advantage or need greater than other states, define the role of major stakeholders, and estimate the budget impact and other funds needed.	Source unknown.	Ongoing Role of REWG
2	Assist in reaching the long- and short-term goals of this Plan and coordinate the implementation of the action items outlined in this Plan.	Included in State of Oregon Energy Plan (2005-2007)	Ongoing Role of REWG
3	Work with the Oregon's congressional delegation to support a national renewable portfolio standard (RPS), as well as support a federal cap on CO_2 emissions or caps on the CO_2 emissions per kWh of load-serving entities (emissions portfolio standards).	Source unknown.	ODOE has worked with the Oregon Congressional delegation on this in the past. No likelihood of RPS anytime soon. Possibility of federal CO_2 cap. ODOE will monitor.
4	Work with the Oregon's congressional delegation to make sure that the federal Production Tax Credit and the Renewable Energy Production Incentive are maintained.	The federal tax credit and incentives encourage and help accelerate investments in renewable energy. The stop-and-go nature of the PTC renewals have a disastrous affect on the industry because long term manufacturing planning is impossible. This was included in State of Oregon Energy Plan (2005-2007).	ODOE has written letters and worked with the Congressional delegation on this in the past. Congressional staff liaisons have made themselves available for the REWG. Our Congressional members are supportive of PTC. This is a priority for ODOE.
5	Assess the feasibility and effectiveness of production-based incentives for electricity generated by small- to medium-scale renewable resource facilities.	Community (small- to medium-scale) renewable energy projects provide local long-term economic benefits. An RPS may make small- to medium-sized projects impossible, because they cannot participate in the utilities' RFP process.	Ongoing at staff level. Renewable Energy Production Payments Workshop arranged by ODOE staff, April 5, 2006, Salem. Presentations by Paul Gipe and ODOE staff. Previous debate on this topic in Wind Working Group meetings.
6	Assess the feasibility of a state Renewable Portfolio Standard and compare it with production-based incentives as to its effectiveness to encourage renewable energy development.	Governor's Action Plan for Energy (Feb. 24, 2006) Included in State of Oregon Energy Plan (2005-2007)	Production-based payment workshop held April 5. Previous debate in Wind Working Group meetings. ODOE staff has extensively researched RPS, feed laws, and similar. Ongoing debate in REWG.
7	Work with the state's consumer and privately owned utilities, the Northwest Power and Conservation Council and Bonneville Power Administration (BPA) to develop a process and protocols for expediting interconnection requests and developing more distributed generation.	The lack of uniform interconnection standards will mean an additional cost for the developers of distributed generation projects because each project will have to include engineering design that is costly and time consuming.	PUC will do rulemaking in summer of 2006. Legislation may be needed for COUs. Leadership from the REWG could jump start the development by encouraging a joint approach between the IOUs and COUs from the start.
8	Work with Oregon's congressional	Need to expand BPA role to its previous mid-90s	ODOE is engaged in ongoing regional dialog for BPA

	delegation, BPA and consumer-owned utilities to expand BPA's Conservation and Renewables Discount (C&RD) Program.	commitment of over $200 million/year.	contract strategy for 2111 and beyond. Congressional delegation indicated support.
9	Work with BPA and consumer owned utilities to promote PURPA's Qualifying Facilities using renewable resources, while avoiding financial harm to the utilities such as a reduction in a utility's "net requirements" (loss of a portion of a utility's long term allocation).	The reduction in the "net requirements" is a major barrier and will continue to be. The removal of this rule is a necessary step in promoting distributed renewables in the COUs' territories	Step 1) PUC tariff to move power from COUs to IOUs is nearly complete. Step 2) Need willing party to work with developer and COU. Could provide them technical assistance. Have standard tariffs for 10 MW and under for standard qualifying facilities (QF) contracts similar to BPA's Conservation and Renewables Discount program. Could do a case study to share with other COUs.
10	Support research and demonstration projects that modernize the electric system by combining advanced telecommunications, information and control methods with the electricity infrastructure for more efficient (economically and environmentally) "smart" grid operation.	Several regional and nation-wide efforts are underway to demonstrate the benefits of "smart grid" technologies, including here in the Northwest.	At least one RD&D project supported by BETC tax credit program. Talks with other companies.
11	Explore whether transmission constraints for community owned renewable energy projects could be overcome if: (1) a new or upgraded, privately owned transmission project were to be slightly increased in size, and (2) that this increase would be reserved for such community-owned projects in exchange for a reduction in property taxes equal to the incremental costs for the transmission owner.	Transmission constraints are a major problem for large and small-scale wind farms and possibly other distributed technologies.	Interesting work is being done in Sherman County with the county working with PPM to allocate at least 50 MW for community-owned wind farms in combination with Klondike III expansion. This could serve as a template for other counties
12	Identify growing Oregon renewable energy businesses and assist them with expansion planning and workforce development.	From Economic Development (OECDD)	Ongoing at ODOE and OECD. Economic Development is currently putting together a list.
13	Help improve coordination and provide tools to attract new renewable energy businesses to build facilities in Oregon.	From Economic Development (OECDD)	Some work done by ODOE, OECD, etc.
14	Focus efforts to solidify the strength of a Brand Oregon renewable energy market for our technology services and commodities.	From Economic Development (OECDD)	Unknown
15	Help develop a framework for valuation of environmental and other externalities.	Source unknown.	No work being done at agency level. Academic research in this area is common.

	Biofuels – Biodiesel:	Purpose and Context	Status
16	Help form partnerships with growers, state agencies and interested investors for building a crushing plant to separate oils from crop feedstock.	One of the major hurdles in the NW biofuel market is the lack of a crushing facilities to convert an oil seed to oil feedstock. This has been identified as major barrier in biodiesel production market.	Multiple presentations given and partners identified. New grower tax credit standards allow seed and equipment incentives. Oregon worked with Oregon Environmental Council to present two workshops on biodiesel on the farm in Pendleton and Salem.
17	Assist in the completion of a demonstration project where oil seed crops are grown as a healthy rotational crop, are crushed and refined on-site, and produce all of the farm's fuel.	Efficiency is a critical component of the fuels production and use industry. A model where a feedstock is grown, converted to fuel, and used on-site is an ideal scenario to demonstrate high efficiency. Demonstration projects prove to be effective. Establish 'Best Practices'.	Work with Oregon Wheat Growers Commission and Pendleton Grain Growers is underway. Seed oil crops will be planted spring 2006 to be processed at facility in Pendleton.
18	Develop a program to support school districts that use B-20 biodiesel fuel in their entire school bus fleet. The program would include public information on the public health benefits of clean-burning, renewable biodiesel fuel.	Biodiesel has significant air quality benefits compared with conventional diesel. In addition, unhealthy air affects younger children much more than adults. A school program would increase the air quality around schools, improve child health, and grow the market. Need to address air quality issues in and around schools. Public support encouraged the development.	Eugene Clean Diesel demonstration where ultra-low sulfur diesel mixed with biodiesel is the most likely best demonstration.
19	Support work that focuses on the identification of an oilseed that produces a high-value meal product and a generous supply of low-value oil.	Utilizing all aspects of a particular oil seed crop is critical. Adding value to what becomes a commodity will increase the profitability of growing a biodiesel market. Opportunity to further define "Best Practices."	Sunflower or crops other than canola have not yet been evaluated. Mustard seed research is underway at Oregon State University.
	Biofuels – Ethanol:	**Purpose and Context**	**Status**
20	Support Oregon University System's research on alcohol fuels produced from cellulosic materials.	OSU continues to research cellulosic ethanol. Cellulosic ethanol is currently uneconomical, according to most experts. Cellulosic feedstock includes biomass and would serve Oregon businesses well. Cellulosic ethanol remains the most promising technology to convert ethanol from Biomass in Oregon	Nanotechnology for biodiesel reactor looks most promising, and development, grants and demonstration sites are being sought on behalf of OSU.
21	Continue and enhance efforts to work with the national Governors' Ethanol Coalition.	The Governors' Ethanol Coalition is made up of representatives from states across the country aimed at further development of ethanol. Continue to leverage opportunities on a national scale to leverage resources	Work with Montana Microbial continues. Oregon co-funds research on Oregon grass straws.

22	Support policies and actions to promote government and private purchases of hybrid vehicles fueled with E-85.	Hybrid vehicles that can consume E-85 are not yet available; however, they are being developed by the automobile industry. Context: A niche market opportunity to be developed further. The State could lead by example.	State fleet purchase policy is to purchase E-85, CNG or hybrids.

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	Biomass:	Purpose and Context	Status
23	Help determine whether financial support (such as a per ton transportation incentive) for forest treatment projects is needed to move biomass feedstock from the forest to renewable energy plant sites. Particular attention should be paid to 1) existing facilities for which utility contracts expire, and 2) how the cost of such projects can be spread out over a larger geographic area than the local utility's service territory.	Opportunity to further define "Best Practices."	Research underway with Oregon Forest Research Institute.
24	Help the formation of partnerships between private companies and consumer owned utilities to develop energy systems for local communities.	Develop local energy resources so utilities have low cost options when they exceed BPA allocation.	Work with the ORECA has begun
25	Support efforts to develop integrated bio-refineries that produce liquid fuels, high-value chemicals and materials, and electric power within the same facility.	Developing biomass resources with the highest added value provides more economic development opportunities.	Three corn and/or wheat fractionation plants in planning stages. Cascade Grain will break ground in May in Port Westward.
26	Encourage the development and utilization of small energy efficient biomass heating and electrical systems for heating and providing power to institutions, state offices, schools, etc., especially in rural Oregon.	Distributed sources of biomass are well suited to small loads and most often displace high cost petroleum.	Union county schools are conducting design studies for biomass boiler applications.
27	Help identify and address barriers to securing stable, long-term biomass supplies from federal forestlands.	Long term availability of biomass supply is required to attract investors.	Oregon Forest Biomass Working Group is underway on that with Lakeview
28	Promote greater public awareness of the primary and secondary benefits of biomass energy production.	Much of the forest health work looks like logging to the public. Acceptance for biomass recovery done in a sustainable manner needs to be emphasized by various stakeholders to gain public acceptance.	Education committee formed through the Forest Biomass Working Group.
29	Support efforts to develop Material Recovery Facilities (MRF) to remove the biomass from municipal solid waste and convert the biomass into fuel.	From Environmental Quality (DEQ)	Urban waste separation in Oregon leads the nation.
30	Investigate the feasibility and desirability of a biomass Emission Reduction Credit (ERC) initiative to encourage development of a private market for trading of Biomass ERCs.	Some biomass or agriculture activities reduce greenhouse gas emissions considerably.	Chicago Emissions Exchange for both agriculture and forest biomass recovery is being evaluated.

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	Combined Heat and Power (CHP):	Purpose and Context	Status
31	Work with state agencies and others to give waste heat the same status as renewable energy in state legislation, rules and miscellaneous programs or projects that benefit renewable energy resources.	Recovering energy that might otherwise be wasted from industrial/commercial processes is essential to optimizing the economy of existing industry.	Incentive programs regard waste heat as renewable now. Oregon Business Energy Tax Credits provides an incentive for high efficiency combined heat and power (CHP).
	Fuel Cells:	**Purpose and Context**	**Status**
32	Support Oregon companies in attracting funding from regionally targeted federal fuel cell and hydrogen generation programs including regional US Department of Energy and US Environmental Protection Agency (EPA) programs.	Working with two primary fuel cell developers in Oregon to improve their market position will improve employment.	Continued tracking of Federal funding opportunities
33	Encourage the Oregon University System to explore fuel cell technology and to establish a fuel cell technology center.	Fuel cell technology research here will attract interested firms.	Oregon State University is planning its Cascade Campus Technology Center for fuel cell research.
34	Support a revision of the federal tax credit language for renewable fuels to include off-road and stationary uses instead of exclusively supporting transportation applications.	Off-road and stationary facilities using conventional diesel contribute substantial emissions that should be addressed.	Work with Oregon's Congressional delegation has begun. National Association of State Energy Officers (NASEO) is engaged in the discussion and is planning a process to garner administrative support.
35	Support and highlight one or more demonstration projects that generate electricity using Oregon-made fuels with energy technologies engineered and manufactured in Oregon.	Both the Warm Springs and Lakeview projects use all Oregon resources, which strengthen the cluster of interdependent businesses.	One project in the works.

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	Geothermal:	Purpose and Context	Status
36	Work with the federal government and others to provide a forgivable loan or grant program for drilling exploratory holes.	Up-front costs are high and risky. Some argue that federal assistance would be helpful. Others argue that with an attractive PPA, projects will be developed with private capital that is willing to take the risk.	The President's federal budget proposal eliminates the geothermal program for 2007. If this program is revived in some form, small chance that there will be federal funds available for drilling exploratory holes.
37	Work with the Energy Trust, the utilities, BPA and others to expedite a Power Purchase Agreement with added incentives based on above-market costs for a 20 MW or larger demonstration project.	In general, geothermal plant costs are currently higher than large wind farms, even if the extra cost of "shaping" the intermittent nature of wind is taken into account to better compare the power with the baseload power of geothermal plants.	There are currently no geothermal electric generating facilities operating or under construction in Oregon. But a private company is actively evaluating the Crump Geyser area just north of Adel in Lake County. This site looks promising.
38	Review the royalty and tax implications of geothermal production facilities and explore funding means to help promote geothermal development.	The more royalties flow to local governmental entities, the more attractive these projects will be and the easier siting will take place	Royalties in old law were 50/50 split between feds and state governments. Energy Act of 2005: 50% state, and feds and locals each 25%. For funding, see item #36.
39	Help develop a partnership plan between state and federal agencies for further development of projects on federal land or involving federal leases.	Work with USDA Forest Service and BLM will assure that policy is developed that will assure access to federal forests over the long term. It also adds stakeholders with forest health interest.	Fed's old law: BLM often failed to process lease applications or hold lease sales. Most leases were applied for non-competitively. Energy Act of 2005: regular lease sales at least every 2 years and all leases are subject to competitive bidding. There is a negative impact on small independent explorers that needs to be corrected. State Lands will review and if needed revise its administrative rules.

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	Hydroelectric:	Purpose and Context	Status
40	Work with state agencies and interested stakeholders to explore the feasibility of multi-purpose upstream small storage facilities for use in micro-hydro projects in the context of ORS 536.238's "environmentally and financially feasible	From Water Resources (DWR)	Not yet begun
41	Seek funding to defray costs of water rights permitting for micro-hydro.	From Water Resources (DWR)	Not yet begun
42	Identify and support generation efficiency improvements, such as those by the utilities, as hydro facilities come up for Federal Energy Regulatory Commission re-licensing and State of Oregon reauthorization. Support generation efficiency for new projects in Oregon, while safeguarding environment.	From Water Resources (DWR)	Micro hydro is eligible for incentives and continued Production Tax Credits. Support for continuation of PTC is underway.
43	Continue to support the state's policy of re-authorizing the development of new hydroelectric facilities on existing dams and reservoirs that are found to be in the public interest if they balance the region's generation with the enhancement or maintenance of the natural resources of the state.	From Water Resources (DWR)	Energy Facilities Siting rules still support relicensure.
44	Assist irrigation and water service districts as they identify sites in Oregon where untapped micro-hydro could be developed using irrigation piping channels.	Many hydroelectric opportunities that are easily developed should not be wasted or delayed. Economic benefits are distributed statewide.	Identifying sites and mapping them with the Department of Water Resources.
45	Help develop irrigation canal systems that use pipes to reduce evaporation percolation losses and concentrate water pressure which reduces irrigation energy use, and provides sites for hydroelectric generation.	From Water Resources (DWR)	Working with irrigation districts on two projects and soil and water conservation districts.
46	Help complete an environmentally enhancing hydroelectric demonstration case study that involves multi-agency analysis and collaboration.	From ODOE	Not yet begun

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	Ocean	Purpose and Context	Status
47	Encourage the ongoing ocean energy research at Oregon State University to include technology cost reduction, improvement in efficiency and reliability, identification of sites, interconnection with the utility grid, and study of the impacts of the technology on marine life and the shoreline.	Electric Power Research Institute (EPRI) identified Oregon as a potential project site for a wave energy project. In addition, OSU is working on developing new technologies to convert waves to electricity. The combination of these two factors position Oregon to lead the development of the technology. Requested by EPRI and OSU.	Ongoing. The POWER group, made up of electricity stakeholders, continues to develop a plan for creating a world-class research center and possibly a commercial wave energy project for Oregon. The POWER group is currently gauging utility support and developing a permitting roadmap.
48	Coordinate efforts to attract one of EPRI's 500 kW demonstration projects to the Oregon coast by 2006.	EPRI identified Oregon as a potential project site for a wave energy project. In addition, OSU is working on developing new technologies to convert waves to electricity. The combination of these two factors position Oregon to lead the development of the technology. Requested by EPRI and OSU.	The POWER group, made up of electricity stakeholders, continues to develop a plan for creating a world class research center and possible a commericial wave energy project for Oregon. The POWER group is currently gauging utility support and developing an action plan and permitting roadmap. The likelyhood of a project to be sited will be in the year 2008.

	Solar: *(Note: the following actions on solar were not part of the original Renewable Energy Action Plan. They were recommended to the REWG by the Oregon Solar Coalition in April 2006 and are identified by a number preceded by the letter "S")*	**Purpose and Context**	**Status**
S-1	Workforce Development: Recommend state workforce development grants be used for training programs that can build a qualified workforce across the state. Special emphasis should be given to those programs that can enable distance or non-work hour education and involve current higher education and research centers.	The combined efforts of the Energy Trust of Oregon (ETO) and the Oregon Department of Energy (ODOE), Lane Community College (LCC) and the Oregon Solar Energy Industries Association (OSEIA) have established fledgling workforce training and development programs. The problem is that the industry is spread across the entire state without sufficient training opportunities for those unable to access training in Eugene or take time off during normal business hours.	Training and certification programs are at Lane Community College in Eugene.
S-2	Improve net metering: Recommend the OPUC adopt net metering rules that require PGE and PacifiCorp to implement annualized net metering and to increase the maximum allowable system size. No legislative change is needed.	Annualized net metering is simpler and less costly to administer than monthly programs. It enables consumers using a seasonal resource like solar to bank summer surplus credit to meet wintertime energy use. Annualized net metering is available in two thirds of the states that currently offer net metering. It is essential for widespread market adoption of utility interactive PV systems.	
S-3	Oregon Manufacturing: Provide financial incentives or reduced risk for manufacturers of solar equipment that locate in Oregon. Potential mechanisms: • Establish a PV manufacturing grant • Increase BETC maximum eligible project size to $20 M • Provide bond financing specific to PV manufacturing • Require new state buildings to include Oregon built PV or ST technologies	The worldwide market for PV and ST is now in excess of $30 billion per year. The California market alone will exceed $1 billion in 2006. Manufacturing investments needed to meet world demand are estimated at $10-20 billion in 2006. Oregon should not miss the opportunity to attract and support development of a solar energy industry "cluster" or multiple clusters within the state.	

S-4	Streamline Codes and Interconnection Standards: Recommend the Oregon Department of Energy host a stakeholders workshop to help establish statewide uniform interconnection, permitting and inspection criteria for solar equipment with recommendations submitted to the Governor's office and state legislature.	Significant barriers and uncertainty remain for the installation company selling and bidding on a project caused by inconsistent interconnection, permitting and inspection standards.	
S-5	New Construction: Recommend legislation that enables speculative home builders to use state business energy tax credits for new residential construction that incorporates solar energy technologies which results in "zero net energy" homes.	New construction offers the most logical opportunity for solar energy technologies to be successful without the need for incentives. They provide energy at retail rates, increase the value of the home or building, and offset peak load most effectively. Unfortunately, the current incentive structures are primarily targeted at retrofit applications. Builders have little or no interest taking all the risk of installing solar equipment when the incentives and benefits go to the homebuyer. Moreover, if the homebuyer is from out-of-state, they cannot use the incentive, even though the equipment is placed in service in Oregon.	
S-6	Continue Existing Levels of Financial Support: Include PV and ST set aside in financial support recommendations.	The past 5 years have seen significant growth in both the scale and maturity of the Oregon solar energy industry. The reason for this has been consumer access to significant financial support for installing photovoltaic (PV) and solar thermal (ST) systems. Incentives have reduced simple paybacks on these technologies to less than 10 years.	

	Wind:	Purpose and Context	Status
49	Work with BPA to use the federal hydropower system and BPA's new wind integration services to reduce the cost of energy to customers.		Because of salmon-related operational changes in 2005, BPA had to withdraw its Wind Integration Service to public power customers and its Storage and Shaping Service to other utilities and entities. Once a final decision is made, BPA expects to offer another program to help manage the intermittent nature of wind energy resources.
50	Help develop a project to collect wind characteristics data at ten sites throughout the state, and make them publicly available, to help community and locally owned wind farm developments as well as large-scale wind farm development and wind energy integration with the grid, if funds become available. Oregon State University would manage such a program.	Much of the initial wind farm development along the Columbia River area was based on long-term wind speed data collected by BPA. There is currently no program to expand such a monitoring system to other parts of the state.	BPA continues its long-term monitoring program, primarily located in Northcentral and NE Oregon. It recently expanded its system for short term wind forecasting in this area. In the same area, four farmers have received USDA Value-Added grants in 2005 to install and monitor the wind resource with 50 meter towers donated by the Energy Trust of Oregon. Data will be collected for about a year and publicly available from OSU. Several other farmers will apply for these grants in 2006. ODOE and Lake county will install a 50 meter tower SW of Adel in the spring of 2006 for a one year data collection project. No funds available for a long term monitoring program yet (leaving towers at the same site for many years).
51	Work with BPA and others to expand the anemometer loan program that is currently offered by the Energy Trust.		BPA ran an anemometer loan program for its customers, but because of high overhead cost, eliminated the program some years ago. No plans to revive this program at this time.