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EcoDISTRICTS Concept Paper

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Background

Portland's reputation as a livable and sustainable community has been largely built upon its early leadership in land use planning, smart growth, multi-modal transportation infrastructure and demand management, affordable housing preservation, green building, green infrastructure, and citizen participation. In total, these strategies have helped Portland create a competitive advantage over other mid-sized cities with a new model for urban development and environmental performance that provides economic opportunities and "green collar jobs." Portland's continued leadership and ability to create significant job growth will depend in large part on how these and new sustainability strategies can be accelerated and scaled up to meet the needs of citizens while significantly reducing our collective environmental footprint in the areas of energy, water, and carbon dioxide.

EcoDISTRICTS is a bold visioning and investment strategy to manage growth and development in major redevelopment areas and existing neighborhoods. The objective of the program is to test, accelerate and eventually codify the next generation of best practices in green development and civic infrastructure that can be scaled to create neighborhoods with the lowest environmental impact and highest economic and social resiliency in the United States.

EcoDISTRICTS combines best practices in smart growth and urban design, community participation and institutional alignment, modeling and visualization tools, rating and evaluation systems, zoning and building codes, financial models for infrastructure and building retrofits, and green building and infrastructure technologies and practices.

EcoDISTRICTS is modeled as a unique public-private partnership between the City of Portland, real estate, design, and construction industries, state of Oregon, Portland Development Commission, the Oregon University and community college system, and Oregon BEST.

The initiative is a concerted effort to keep the Portland region at the front of applied sustainability that has a direct link to green job growth and research and development while helping the region meet aggressive goals in the

following areas:

- Green job and local business growth
- Greenhouse gas emissions reductions
- Green building market penetration
- Watershed and urban ecosystem health
- Distributed stormwater and potable water management
- Multi-modal transportation that prioritizes transit, cycling, and walking
- Air toxic and criteria pollutants reductions
- Affordable family and workforce housing preservation
- Livable and resilient neighborhoods

What is EcoDISTRICTS?

□EcoDISTRICTS is a strategy to build “triple bottom line” communities with the lowest possible environmental impact and highest long-term economic and community returns.

The strategy focuses sustainability at the neighborhood and district scale to produce broader and more cost effective benefits. This includes combining green development strategies, new financial models and community development best practices.

This includes incorporating: 1) green development strategies including energy efficiency, on-site and district energy production, water reuse (rain and greywater), storm water and wastewater management; habitat restoration; and urban agriculture; 2) new financial models to improve long term building and infrastructure performance, and 3) community development best practices that include high density and mixed income workforce and family housing; shared community amenities such as community centers, daycare, and schools; expanded transportation hubbing for rail, bus, bike and pedestrian access and mixing of commercial, retail and service amenities that enhance livability and reduce long term cost of living.

An EcoDistrict is a neighborhood that generates all its energy from on-site renewables, collects and recycles rainwater and waste, and prioritizes pedestrian, bike, and transit access. It combines mixed use, mixed income development; neighborhood scale parks, schools, community centers; and services, and enhanced IT infrastructure.

EcoDISTRICTS is an expansion of a variety of existing sustainability, climate and clean energy/infrastructure efforts at the regional, state, and local levels in Oregon. At the state level, Oregon has established aggressive goals for reducing greenhouse gas emissions (75% below 1990 levels by 2050). The state has created policies and incentives to achieve them. Oregon has also created

both a statewide Sustainability Board and Global Warming Commission to support regional and local government sustainability efforts. At the regional level, Metro regional government (only elected regional government in the country) has recently reorganized around sustainability functions and initiated a Climate Action Strategy for its 28 political jurisdictions that includes the Regional Transportation Plan and land use strategies. Locally, the City of Portland and Multnomah County were the first United States city/county to set greenhouse gas goals (1991) and to create a climate action plan. Currently, the city is updating its greenhouse gas, green building, and economic development strategies. EcoDISTRICTS is a strategy designed to meet the goals embedded in these plans.

EcoDISTRICTS creates a fertile proving ground to test new strategies and create an applied economic development strategy that will help grow green and clean tech jobs; create commercialization opportunities for corporate entities looking to deploy next generation products and services at centers of sustainability innovation; and attract outside direct investment.

Goals

I. Clean Air and Global Climate Change: EcoDISTRICTS include strategies to reduce their energy demand through energy efficiency, green infrastructure, changed behavior, cleaner technologies, renewable and highly efficient district energy generation and purchasing, reduced VMT, and more efficient water systems;

II. Clean and Safe Water: EcoDISTRICTS includes on-site water efficiency and reuse (rain, greywater and blackwater), on-site wastewater management and reuse, and on-site storm water management focusing on technologies and systems that achieve the maximum efficiency in energy and water use. These technologies and systems will contribute to watershed and estuary health in ways that will protect the high quality drinking water that the City of Portland has always provided.

III. Land Preservation and Restoration: Community redevelopment will be accomplished using the most advanced technologies and systems for waste reduction and recycling both in the construction of facilities and in their ongoing management and operation.

IV. Healthy Communities and Ecosystems: EcoDISTRICTS incorporate strategies to reduce the exposure of residents, workers and visitors to harmful chemicals by including agreements to eliminate or virtually eliminate the use of potentially harmful chemicals in constructing and operating facilities in the districts. Where EcoDISTRICTS include brownfield sites, they will be cleaned up and reused. EcoDISTRICTS reduce the air, water, and land impacts of new growth and development through the use of the most advanced smart growth strategies to achieve significant measurable environmental and/or public

health improvements. Best practices in on-site greywater, wastewater and storm water management will contribute to reduction of the mean concentration of certain contaminants of concern found in water and fish tissue in the Columbia River basin.

Key Activities

EcoDISTRICKTS includes three distinct strategies: 1) testing and applying new planning tools, including best practice rating systems, scenario and visualization software, and footprint measurement strategies; 2) identifying necessary incentives and regulatory changes; and 3) implementing next generation green development design and finance best practices through large scale infill development. EcoDISTRICKTS will:

- Apply aggressive energy and resource reduction strategies to the design and engineering of buildings and infrastructure;
- Test new zoning regulations and green building codes;
- Expand Portland transportation options and aggressive demand management strategies;
- Create new financing tools including energy efficiency utility districts to fund energy efficient building retrofits;
- Prioritize commercial, retail, and housing options that emphasis high density family and workforce housing;
- Broaden civic participation and participatory decision making;
- Measure and monitor baseline environmental, economic, and social impacts including metrics such as LEED ND and the Livable Places Index.

Project Outcomes

1. Adopted planning, zoning, code and other changes create incentives for best practices in green building, green infrastructure, district scaled utility services, transportation hubbing, emission reduction, mixed income and mixed- generational housing, and civic infrastructure, including best practice rating systems, visualization software, foot printing strategies and process methodologies Measured by:
 - a. Adoption by City Council, state, agency
 - b. Pilot projects successfully completed
 - c. # Buildings, infrastructure facilities, etc. constructed or services provided
2. Reductions attributable to EcoDistrict actions (both inside and outside the District) - Metrics subject to change as a result of convening of steering and advisory teams
 - a. GHG—tons
 - b. Air toxics (indoor and outdoor)—pounds or tons
 - c. Energy consumption—BTU's per bldg or infrastructure compared to baseline neighborhoods
 - d. Diesel emissions—vehicle and stationary engines compared to

- national or state standard
 - e. Water use and sewage—gallons/day compared to baseline neighborhoods
 - f. Soil contamination—tons contaminants removed/neutralized
 - g. Waste generation—tons compared with baseline neighborhoods
 - h. Cost of utility services--\$s compared to baseline
- 3. Increases attributable to EcoDistrict actions
 - a. Storm water quantity and quality—gallons and contaminant loading per storm event compared to baseline water reuse—gallons compared to baseline
 - a. Jobs—short term construction, long term operation and maintenance, permanent businesses locating within the District
 - b. Affordable housing units—compare income, generational and family mix to baseline, city average etc.
 - c. Shared community amenities such as community centers, daycare, and schools—capacity compared to city average
 - d. Expanded transportation options and nearby commercial, retail and service amenities to reduce the need for car ownership, and affordable tenure options tied to building design. Will need to devise an appropriate measure.
- 3. Development of project demonstrations with completed master planning and deployment of sustainable practices at the district level measured by:
 - a. Number of services provided—energy production and efficiency, water efficiency, reduction, reuse, etc., green roof/wall/garden, mobility/parking, street and building cleaning—compared to other districts in US or abroad
 - b. Degree of integration among those services producing otherwise unobtainable reductions in energy, water, toxics, etc.—identify and measure unique synergies

Collaboration and Partnerships

P+OSI will lead the EcoDISTRICTS strategy, convening the real estate, design and construction industry, key government bureaus, relevant university research and outreach initiatives, and ngo's and workforce support and training providers. Specific partner responsibilities include:

- Portland+Oregon Sustainability Institute, in partnership with Oregon Solutions to provide overall project management and facilitation
- City of Portland to provide funding and staffing support for technical and policy actions.
- Portland Development Commission to provide project management and funding for projects within PDC urban renewal areas.
- Metro to provide technical and policy support related to land use planning, zoning, and public infrastructure design and financing.
- The State of Oregon Departments of Environmental Quality and Energy

and Economic Development to provide technical assistance, tax credit financing, loans and other support.

- Portland State University to provide faculty and student research through the Center for Sustainable Processes and Practices.
- Oregon BEST to identify relevant green building product and service commercialization opportunities to be tested in pilot projects.
- Private sector green development industry leaders to provide best practices in financing, design, engineering, and operations.

Stakeholders include:

- The Climate Trust, which will help design, fund and implement carbon offsets.
- Northwest Energy Efficiency Alliance Betterbricks Program and Pacific NW National Laboratory will provide technical assistance (daylighting, advanced lighting, passive ventilation modeling)
- Energy Trust to provide financing and technical support
- Bonneville Environment Foundation - investment in carbon offset projects
- Renewable Northwest, will provide connection to innovative technology solutions and workforce
- Worksystems Inc and Portland Community College will provide workforce training
- Portland Business Alliance will provide connection to the business and development community
- Portland General Electric and Pacific Power, the two utilities in the area, will provide policy, technical and implementation assistance.
- Neighborhood and community groups in the individual EcoDISTRICTS will be engaged in project design and implementation to assure that community concerns, including any environmental justice issues are addressed.
- Gerding Edlen Development to provide project management and financial modeling support

Timeline

- March '09: Steering and technical committees created, with emphasis on regulatory, design, finance, and research & commercialization. Teams formally linked to the Mayor of Portland's Planning and Sustainability Cabinet.
- March '09: steering committee drafts EcoDISTRICT framework that identifies key goals, deliverables, and metrics.
- March-May'09: Steering Committee identifies and analyzes Greenfield and existing neighborhood pilots to participate in the program.
- May '09: Portland and Metro host community summit to review EcoDISTRICT initiative and solicit feedback on scope of work and deliverables.

- May '09: Pilot projects selected
- May-Dec '09: Financial and technical feasibility studies completed for three pilot projects
- May-Sept '09: Regulatory reform analysis and recommendations (zoning and building codes, fees and incentives).
- Sept '09: Regulatory changes introduced for adoption to City Council.
- Oct-Dec '09: Project baseline and monitoring plans adopted by selected projects
- 2009-2012: Development Projects commence