The EcoDistricts™ Framework
Building Blocks of Sustainable Cities

Version 1.2
April 2012
Executive Summary

EcoDistricts™ are a comprehensive strategy to accelerate sustainable development at the neighborhood1 scale by integrating building and infrastructure projects with community and individual action. They are an important scale to accelerate sustainability — small enough to innovate quickly and big enough to have a meaningful impact.

District-scale projects, such as district energy, green streets, smart grid, demand management and resource sharing, are well known. However, the widespread deployment of these strategies has been slow to develop due to a lack of comprehensive policy or implementation frameworks at the municipal level.

The Portland Sustainability Institute (PoSI) launched EcoDistricts in 2009 as an initiative to help cities remove these implementation barriers and create an enabling strategy to accelerate neighborhood-scale sustainability.2 Success requires a comprehensive approach that includes active community participation, assessment, new forms of capital and public policy support.

EcoDistricts include the following phases:

1. District Organization
2. District Assessment
3. Project Feasibility
4. Project Development
5. District Monitoring

EcoDistricts are the right scale to accelerate sustainability — small enough to innovate quickly and big enough to have a meaningful impact.
An EcoDistrict is a neighborhood committed to sustainability that links green buildings, smart infrastructure and behavior.

Fundamentally, EcoDistricts are an effort to deploy high-impact, district-scale sustainable projects that drive experimentation and innovation. They are a replicable model for cities to accelerate neighborhood sustainability to achieve city-wide goals. PoSI’s work focuses on maximizing replicability through creating the following:

- A framework and implementation strategy
- Implementation toolkits with strategies for assessment, governance, finance and municipal policy support
- Training tools and services to promote widespread adoption of EcoDistricts
- A successful pilot program launched in the City of Portland

The economic benefits of sustainability investments create significant competitive and livability advantages while providing long-term value for existing business communities and creative job opportunities for citizens. EcoDistricts bring together neighborhood stakeholders, property developers, utilities and municipalities. The goal is to achieve outcomes including improved environmental performance, deployment of emerging technologies, improved community participation, new patterns of behavior, economic development for local businesses and job creation.

Portland Pilot EcoDistricts

Portland provides fertile ground to respond to and accelerate best practices in sustainable development. The region’s history of leadership and expertise in growth management, green building, green infrastructure and mobility investments matches a rich history of community activism and engaged citizenry.

To test the EcoDistricts approach, PoSI partnered with the City of Portland in 2009 to launch five Portland pilot districts as sustainability innovation zones where the latest in community organizing, business practices, technology and supportive public policy comes together to drive ambitious sustainability outcomes. Over a three-year period, district stakeholders have agreed to work with their neighbors to set rigorous goals, develop a roadmap and implement projects. In return, PoSI and its public partners are providing technical and financial resources to support their work.
I. Why

Global challenges like climate change, resource scarcity and urbanization threaten the stability of life in metropolitan regions. For the first time in history, the majority of the world’s population lives in cities, and these urban regions anticipate even greater growth. This concentration of people and resources means that cities are increasingly critical in addressing these challenges, compelling the search for and adoption of urban sustainability solutions. Fortunately, the most powerful venues for transformative solutions are cities themselves. Cities contain the fundamental ingredients to enable innovation: talent, capital, technologies and networks.

As cities around the world grapple with these pressing issues, the question of scale becomes increasingly important — scale of change, scale of impact and scale of risk. While a large number of cities are adopting ambitious climate and energy reduction goals, most are struggling to bridge the gap between policy aspirations and practical investments that have significant on-the-ground impacts. Given the modest results to date, more ambitious performance-based planning, investment and monitoring strategies are essential. International precedents show that districts and neighborhoods provide the appropriate scale to test integrated sustainability strategies because they concentrate resources and make size and risk more manageable.

Districts like Western Harbor in Malmö, Sweden; Southeast False Creek in Vancouver, Canada; and Dockside Green in Victoria, Canada, are creating a new generation of integrated district-scale community investment strategies at a scale large enough to create significant social and environmental benefits, but small enough to support quick innovation cycles in public policy, governance, technology development and consumer behavior. Each of these districts is measuring a set of important sustainability indicators — local greenhouse gas emissions, vehicle miles traveled, transportation mode splits, stormwater quality, access to healthy local food, utility savings, job creation and access to services, among others.
I. Why

Why EcoDistricts Matter

• For Municipalities: Supports a neighborhood sustainability assessment and investment strategy to help meet broader sustainability policy and economic development goals. EcoDistricts put demonstration projects on the ground, save local money and resources, and stimulate new business development.

• For Utilities: Creates a model for integrated infrastructure planning to guide the development of more cost-effective and resilient green infrastructure investments over time. EcoDistricts also provide a mechanism for scaling conservation and demand-side management goals by aggregating district-wide projects.

• For Developers and Property Owners: Creates a mechanism to reduce development and operating costs by linking individual building investments to neighborhood infrastructure.

• For Businesses: Provides a platform to deliver district-scale infrastructure and building products and services to market.

• For Neighbors: Provides a tangible way to get involved in improving and enhancing the neighborhood’s economic vitality and sustainability, as well as a new form of organization.

However, most of these projects are not designed to be replicable. For sustainable neighborhoods to succeed and propagate over time, cities must align efforts in the following four areas:

1. Coordinating stakeholders across a neighborhood who bring disparate interests and scales of impact
2. Developing and testing a new decision tool, the EcoDistricts Assessment Method™, to determine project priorities
3. Developing finance tools and joint venture structures to attract private capital to neighborhood projects
4. Creating supportive public policy to encourage EcoDistrict implementation and institutionalization
II. What

EcoDistricts are a comprehensive strategy to accelerate sustainable neighborhood development by integrating building and infrastructure projects with community and individual action. EcoDistricts commit to self organizing, setting ambitious sustainability performance goals, implementing projects and tracking the results over time. Technologies and strategies for enhancing neighborhood sustainability, such as district energy, green streets, smart grid, demand management and resource sharing, are well known. However, the widespread deployment of these strategies has been slow to develop due to lack of comprehensive policies or implementation frameworks at the municipal level. PoSI has created an implementation strategy to accelerate neighborhood-scale sustainability with the understanding that it provides a platform for innovation and integration of sustainability strategies.

EcoDistrict Outcomes

- A framework and implementation strategy for cities to accelerate neighborhood sustainability
- Implementation tools and strategies for governance, assessment, project finance and municipal policy adoptions
- New business models and opportunities for neighborhood investment
- High-impact projects such as district energy, green streets, smart grid, demand management and resource sharing
- A municipal policy agenda with laws, incentives, and processes that support sustainable neighborhood development
- Neighborhoods as laboratories for sustainability innovation
II. What

EcoDistricts are distinct from most green development strategies that focus on brownfield or greenfield development and are led primarily by master developers or public agencies. Instead, EcoDistricts focus on existing neighborhoods as well as traditional development through the powerful combination of public policy, catalytic investments from local municipalities and utilities, private development and the participation of neighbors who are motivated to improve the quality of life and environmental health of their communities. EcoDistricts help neighborhoods achieve ratings like LEED-ND with a comprehensive set of tools and supporting strategies for community engagement, integrated performance assessment and project implementation.

EcoDistricts create a foundation for a range of strategies that can be applied at several different scales. Within an EcoDistrict, there will be catalytic projects at the site and block scale, as well as larger-scale infrastructure investments.

EcoDistricts bring together neighborhood stakeholders, property developers, utilities and municipalities to create neighborhood sustainability innovation with a range of outcomes, including improved environmental performance, local examples of emerging technologies, equitable distribution of investments, community participation, new patterns of behavior, economic development for local businesses and job creation.

EcoDistrict Projects

EcoDistrict projects can take many forms, depending on the unique characteristics of a neighborhood and a community’s priorities. Examples of potential projects include:

- Smart grid
- District energy and water management
- Bike sharing
- Rainwater harvesting
- Green streets
- Zero waste programs
- District composting
- Waste to energy
- Safe routes to schools
- Tree planting campaigns
- Transportation demand management
- Car sharing
- Bike lanes
- Sidewalk improvements
- Urban agriculture
- Public art
- Green maps
- Multi-modal transit
II. What

ECODISTRICTS™ ROAD MAP

ECODISTRICT FRAMEWORK

ORGANIZATION: ENGAGEMENT + GOVERNANCE

ECODISTRICT ASSESSMENT METHOD™

- DISTRICT ENERGY
- BUILDING RETROFITS
- GREEN INFRASTRUCTURE
- WASTEWATER TREATMENT
- SMART GRID

- TRAINING + EDUCATION
- SOCIAL MARKETING
- DEMAND MANAGEMENT
- RESOURCE SHARING
- PERFORMANCE DASHBOARD

BUILDINGS + INFRASTRUCTURE (PROJECTS)

POLICY + FINANCE

PEOPLE + BEHAVIOR (PROJECTS)
II. Performance Areas

The EcoDistrict Performance Areas were developed through an exhaustive consultation process with sustainable development experts and informed by a range of international certification and rating systems. The nine Performance Areas each include a vision and a set of specific goals, targets and indicators. Note: The vision and goals described below are high-level; the EcoDistrict Performance and Assessment Method™ Toolkit provides specific targets, metrics and strategies to support these aspirations.4

1. Equitable Development

**Goal:** Promote equity and opportunity and ensure fair distribution of benefits and burdens of investment and development.

**Objectives:**
1. Ensure neighborhood investments provide direct community benefit through job creation and investment opportunities
2. Provide quality and consistent local job opportunities through EcoDistrict projects
3. Mitigate the forced displacement of existing residents and businesses
4. Ensure diverse stakeholder involvement in all EcoDistrict activities and decision making

2. Health + Well Being

**Goal:** Promote human health and community well being.

**Objectives:**
1. Provide access to safe and functional local recreation and natural areas
2. Provide access to healthy, local and affordable food
3. Ensure safe and connected streets
4. Expand economic opportunities to support a socially and economically diverse population
5. Improve indoor and outdoor air quality
3 Community Identity

**Goal:** Create cohesive neighborhood identity through the built environment and a culture of community.

**Objectives:**
1. Create beautiful, accessible and safe places that promote interaction and access
2. Foster social networks that are inclusive, flexible and cohesive
3. Develop local governance with the leadership and capacity to act on behalf of the neighborhood

4 Access + Mobility

**Goal:** Provide access to clean and affordable transportation options

**Objectives:**
1. Provide accessible services through mixed-uses and improved street access
2. Prioritize active transportation
3. Reduce vehicle miles traveled
4. Use low and zero emission vehicles

5 Energy

**Goal:** Achieve net zero energy usage annually

**Objectives:**
1. Conserve energy use by minimizing demand and maximizing conservation
2. Optimize infrastructure performance at all scales
3. Use renewable energy

II. What
6. Water

**Goal:** Meet both human and natural needs through reliable and affordable water management

**Objectives:**
1. Reduce water consumption through conservation
2. Reuse and recycle water resources wherever possible, using potable water only for potable needs
3. Manage stormwater and building water discharge within the district

7. Habitat + Ecosystem Function

**Goal:** Achieve healthy urban ecosystems that protect and regenerate habitat and ecosystem function.

**Objectives:**
1. Protect and enhance local watersheds
2. Prioritize native and structurally diverse vegetation
3. Create habitat connectivity within and beyond the district
4. Avoid human-made hazards to wildlife and promote nature-friendly urban design

8. Materials Management

**Goal:** Zero waste and optimized materials management.

**Objectives:**
1. Eliminate practices that produce waste wherever possible
2. Minimize use of virgin materials and minimize toxic chemicals in new products
3. Optimize material reuse and salvage and encourage use of regionally manufactured products or parts
4. Where opportunities for waste prevention are limited, maximize use of products made with recycled content
5. Capture greatest residual value of organic wastes (including food) through energy recovery and/or composting
III. How

Approach
PoSi has standardized a comprehensive approach for EcoDistrict development that includes the five phases illustrated below.

1. District Organization
   EcoDistrict stakeholders organize to create a shared vision and governance structure to ensure that a neighborhood has the capacity and resources to implement its vision. Community engagement and active citizen participation are fundamental for ongoing EcoDistrict success. It includes the creation of a neighborhood governing entity with the explicit charge to manage district sustainability, and the next steps of EcoDistrict formation, over time.

2. District Assessment
   To achieve the ambitious goals for each performance area, a neighborhood assessment is essential to determine the most effective project priorities for a unique district. An assessment enables districts to determine strategies of greatest impact and prioritize the most appropriate projects.
III. How

3 Project Feasibility

Once key project opportunities are identified through assessment, they require deeper feasibility to determine overall viability and cumulative impact. District stakeholders work together to conduct further business analysis and develop an implementation and funding strategy for priority projects. Projects can range from new green buildings or infrastructure improvements (such as district stormwater or energy services) to demand-management projects that use education and advocacy to promote lower-consumption behaviors.

4 Project Development

Successful EcoDistrict projects require careful alignment and coordination between district stakeholders, private developers, public agencies and utilities. Integrating infrastructure, building and behavior projects to meet ambitious performance goals may require new joint ventures, comprehensive financing, effective governance models and extensive community involvement.

5 District Monitoring

As EcoDistrict projects are planned and built, ongoing monitoring is essential to understand the full range of social, economic and environmental impacts. EcoDistrict performance standards can be used to regularly collect data to show the overall value of particular project interventions. In addition, qualitative documentation and lessons learned about EcoDistrict implementation will be essential to refining the EcoDistricts approach.
Launching in Portland

PoSI partnered with the City of Portland in 2009 to launch five Portland pilot districts to create sustainability innovation zones where the latest in community organizing, business practices, technology and supportive public policy comes together to drive ambitious sustainability outcomes. Each pilot district has agreed to self organize, meet rigorous performance goals and implement projects. In return, PoSI and its public partners are providing technical and financial resources to support their formation. PoSI is actively looking to bring additional resources and organizational support to the districts.

During pilot implementation, PoSI and its partners are testing the EcoDistricts approach, refining implementation tools, creating a supportive policy structure and creating new models of district-wide sustainability projects.

While tested in Portland, the process is replicable in other cities. The goal of EcoDistricts is a proven place-based strategy that links community interests, investment and policy innovation to accelerate widely adopted sustainability goals and priorities. EcoDistricts support national environmental and community development policies and build on growing international interest in sustainable and low-carbon neighborhood development.8
In the Portland region, EcoDistricts support existing regional policies and investments adopted by the City of Portland, Metro and the State of Oregon as part of a nested regional development agenda. The region’s history of leadership and expertise in growth management, green building, green infrastructure and mobility investments match a rich history of community activism and engaged citizenry.

Portland’s ability to maintain its distinctiveness and stimulate place-based innovation will depend largely on how new strategies are accelerated and scaled up to meet community needs while significantly improving the region’s collective sustainability footprint. The region’s efforts to grow clean-tech businesses and sustainable industries are a direct outcome of its investment in quality of life and sustainable urbanism.9

Portland’s EcoDistricts

Key Actions

PoSI’s leadership in Portland includes:

- Creating a framework and pilot implementation strategy for the City of Portland
- Developing implementation toolkits with strategies for governance, assessment, project financing and municipal policy adoption
- Providing technical assistance to pilot district stakeholders to conduct assessments and structure local governance
- Assessing the viability and benefits of district utilities in the pilot districts
- Working with public partners, utilities and district stakeholders to identify key catalytic projects for each pilot district
- Modifying municipal policy and streamlining regulatory processes to support EcoDistrict implementation
Research

PoSI is developing an EcoDistrict research agenda in partnership with Oregon BEST, Portland State University and the University of Oregon. Leveraging the expertise and enthusiasm of faculty, researchers and students, PoSI is organizing teams to work within the pilots to answer an evolving set of questions. The research agenda will inform the work of academic faculty and student researchers to guide decisions around how to engage, which projects to pursue, how to invest, which technologies are market-ready and which policies must change to enable EcoDistrict implementation.

Learning Networks

PoSI is creating a national learning network to help cities create successful implementation and policy frameworks. This includes three exciting and interconnected initiatives:

• **North American EcoDistricts Pilot Program:** A multi-city North American EcoDistricts pilot program to test the EcoDistricts approach

• **EcoDistricts Leadership Academy:** An executive training program that creates an inspirational and structured peer-learning environment to foster interaction with experts in the field and to facilitate collaboration with their local, regional and national government counterparts

• **The EcoDistricts Summit:** The premiere annual conference dedicated to neighborhood-scale sustainability innovation. The Summit is a three-day forum to catalyze the conversation on sustainable development at the district scale.
The EcoDistricts Framework, v1.2  •  April 2012  •  Portland Sustainability Institute

IV. Tools for Implementation

PoSI has developed the following toolkits to guide EcoDistrict™ implementation:

- EcoDistrict Organization
- EcoDistrict Performance and Assessment Method
- EcoDistrict Financing
- EcoDistrict Policy Support

The current toolkits (version 1.1) have been refined as a result of feedback on version 1.0 and through PoSI’s experience implementing the Portland pilots.

Organization

Community engagement and active citizen participation are fundamental for ongoing EcoDistrict success. EcoDistricts require an engaged community with a shared sustainability vision and a neighborhood governing structure with the explicit charge to meet ambitious performance goals, guide investments, and monitor and report results over time. The EcoDistrict Organization Toolkit outlines steps for neighborhood engagement and visioning, and offers potential models for district governance. It recommends creating a new governance entity, a Sustainability Management Association.

Performance and Assessment Method™

In order to identify project priorities, an EcoDistrict must measure current performance and set clear goals. This toolkit guides EcoDistrict assessment, baselining and project identification that spans two areas:

- Performance Areas: a set of eight performance areas that include goals, targets and indicators
- EcoDistrict Assessment Method: a rigorous ten-step approach for baselining district performance and setting project priorities
Financing

The ability to finance EcoDistrict governance and secure funds for district-scale projects is essential to the success of EcoDistricts. There are three primary categories that require funding: district organization and staffing, feasibility and small-scale project development, and district utilities and large-scale project development. The EcoDistrict Financing Toolkit describes the range of financing options to support these three categories and offers related case studies. It catalogues public and private funding streams, explores potential new funding mechanisms and outlines strategies to blend various types of funding sources to finance projects.

Policy Support

Municipalities will play a central role in supporting the creation of EcoDistricts by providing direct support and by realigning existing policies to overcome barriers and encourage innovation. The EcoDistrict Policy Support Toolkit provides municipal policy recommendations for supporting pilot projects and targeted investments, and for integrating public policies and actions. Key areas of opportunity exist in regulations, public-private partnerships, financial incentives and assistance, technical assistance, shared ownership models, demand management programs, education, third-party certifications and infrastructure investments.
Appendix I: Footnotes

1 For the purposes of an EcoDistrict, the terms “district” and “neighborhood” are used interchangeably. Both refer to a particular scale that is the planning unit of modern cities with a spatially or community-defined geography. Boundaries may include neighborhood or business association boundaries, urban renewal areas, local and business improvement districts, major redevelopment sites, watersheds or geographic demarcations, as appropriate.

2 Sustainability in this sense means triple-bottom-line sustainability with environmentally driven projects that bring social and economic returns.

3 The Portland Sustainability Institute worked with the City of Portland Mayor’s Office, Portland Development Commission and Bureau of Planning and Sustainability to identify the five pilot districts, which represent diverse neighborhood typologies and community assets. They include the South of Market District (PSU area), the Lloyd District, Gateway, Foster Green (Lents) and South Waterfront.

4 The EcoDistricts Performance Areas are available on the PoSI website: www.pdxinstitute.org.

5 Unlike the other performance areas, Equitable Development, Placemaking and Social Cohesion are not focused on environmental factors. They are included with the recognition that their targets and metrics will be more challenging to grasp; as a result, they may become more of a filter to inform project decisions because ongoing data collection in these areas is challenging.

6 Defined as operational emissions including building energy consumption, transportation, waste generation and construction.

7 Active transportation refers to human-powered modes of transit such as biking, walking, or running.

8 A variety of green-district efforts include the Clinton Foundation’s Climate Positive program, LEED for Neighborhood Development, scale jumping in the Living Building Challenge and One Planet Living, all of which aim to reorient design, development and policy at the neighborhood scale.

Appendix II: EcoDistrict Advisors

EcoDistricts Technical Advisory Committee
Aaron Berg, Blue Tree Strategies
Alan Scott, Green Building Services
Alisa Kane, Bureau of Planning & Sustainability
Amy Ruiz, Office of Mayor Sam Adams
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Eric Main, Criterion Planners
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Rey Espana, Native American Youth Family Center
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Vinh Mason, Bureau of Planning & Sustainability
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Bill Blosser, Environmental Quality Commission
Bob Sallinger, Audobon
Cora Potter, Foster Green Pilot District
Dan Weldon
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