City Sustainability "Mix Tape"

A compilation of greatest hits from WA state

2013 APA Conference

obrien & company

Behind the Scenes

Why these cities, why now?

- A long time coming…
- Space and time between release offers reflection…
- Timeless classics, not one hit wonders…

Pulling it apart

Rewind

Play / Pause

Fast Forward

Rock n' roll….

Tracking and Telling the Story of Environmental Sustainability

Miranda Redinger

City of Shoreline

Keeping it Local – Economic Sustainability

Ellen Miller-Wolfe

City of Kirkland

Connecting Energy & Land Use

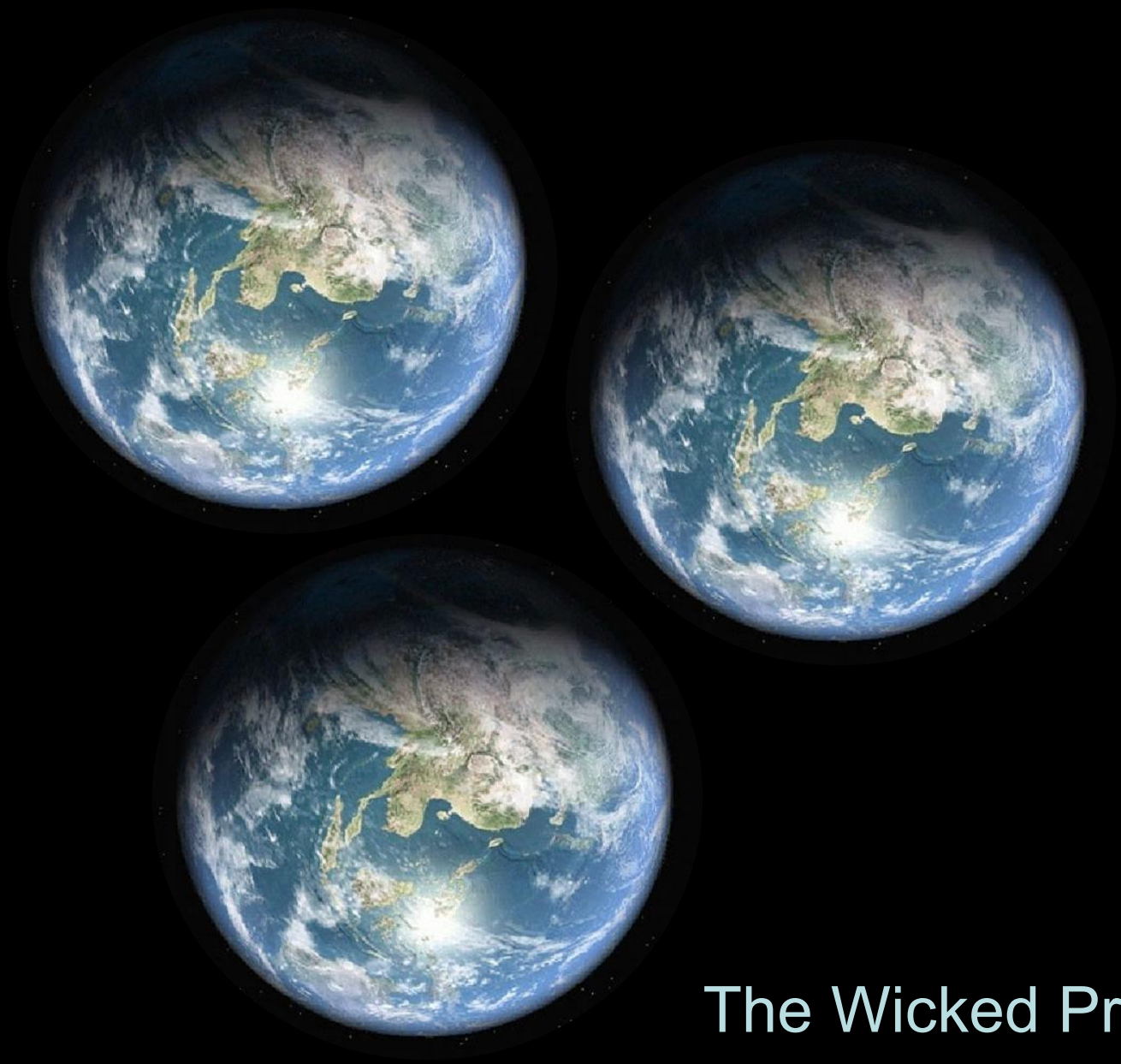
Mike Smith

City of Ellensburg

Tracking and Telling the Story of Environmental Sustainability

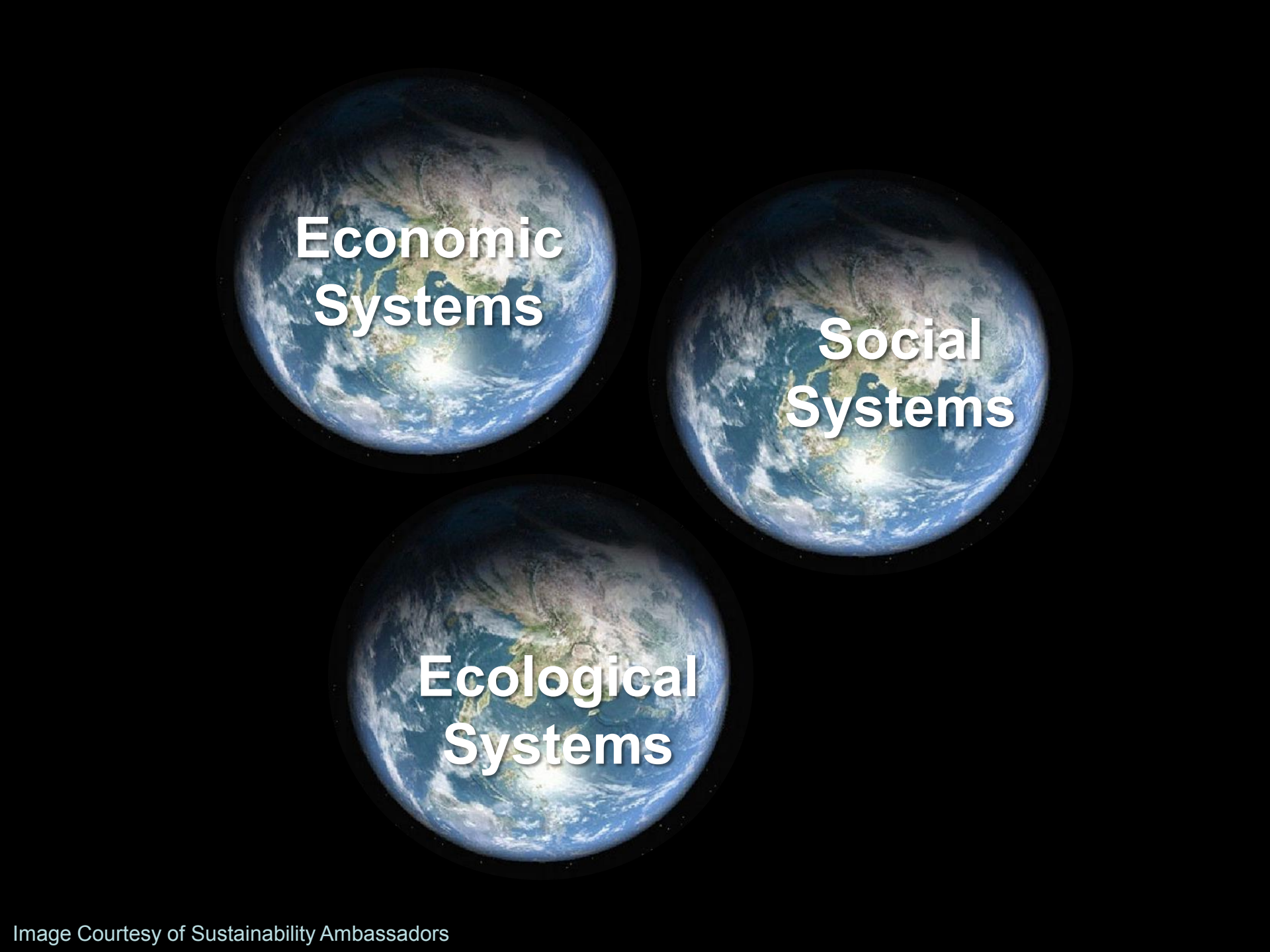
Miranda Redinger
Senior Planner
City of Shoreline

American Planning Association Conference
October 2, 2013



The Wicked Problem

Image Courtesy of Sustainability Ambassadors



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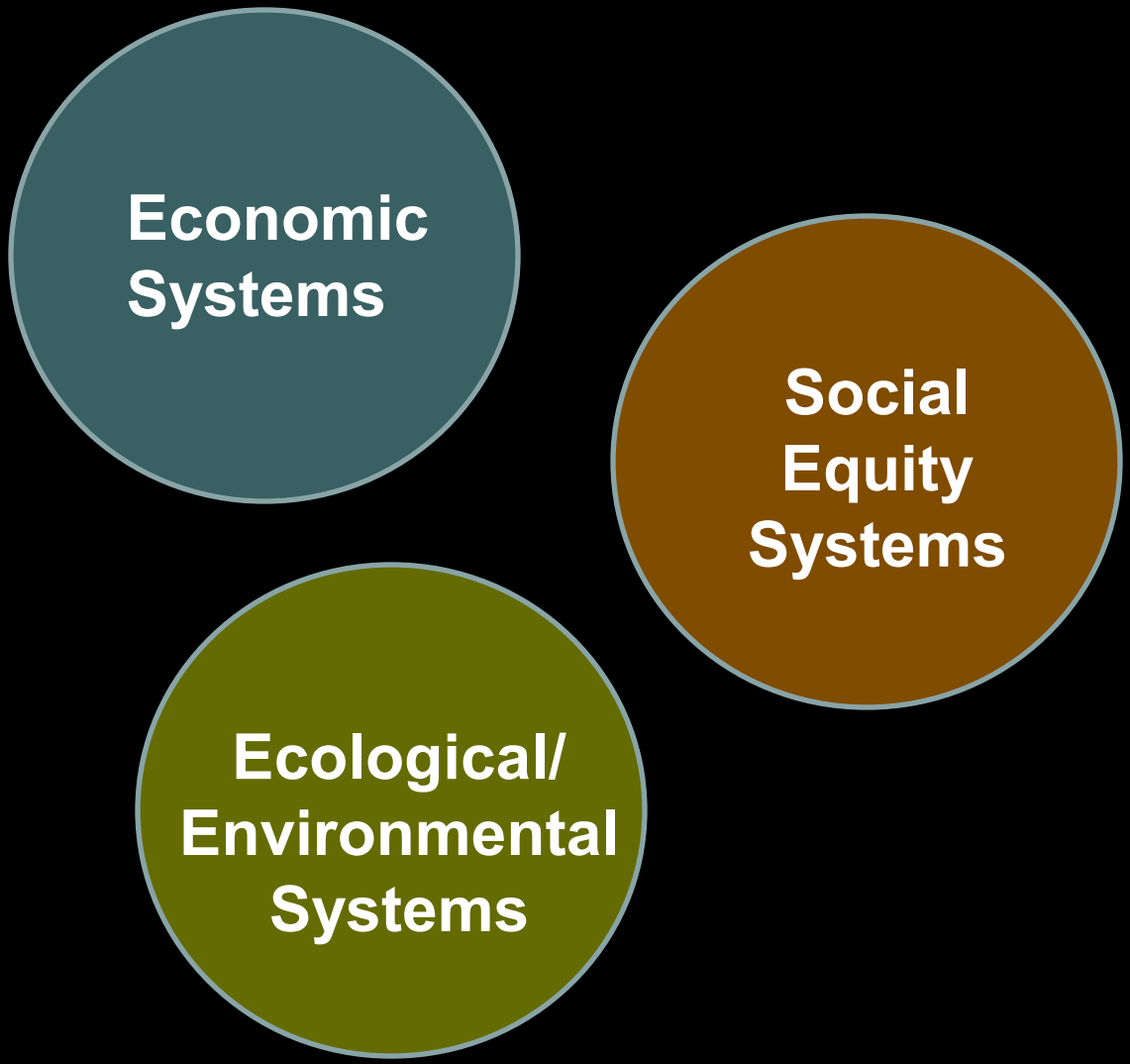
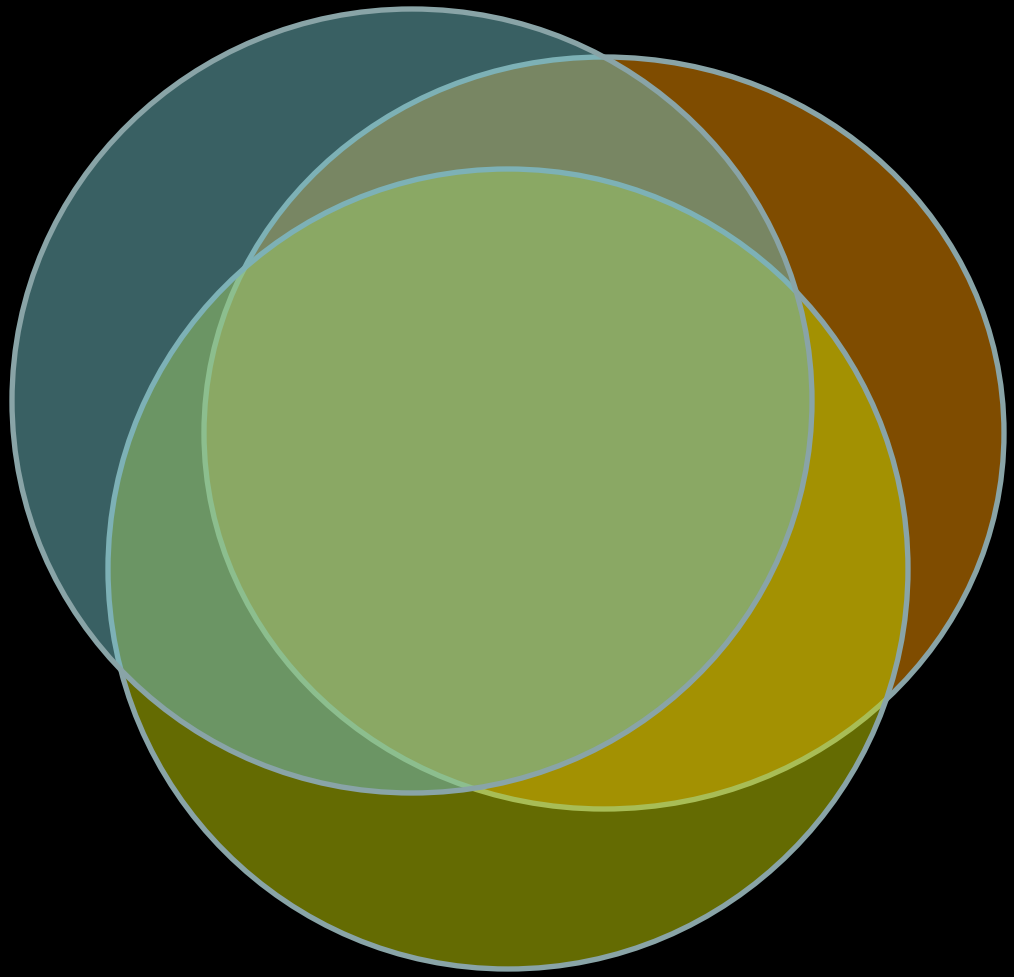


Image Courtesy of Sustainability Ambassadors

Standard 3E Model

Image Courtesy of Sustainability Ambassadors

What We Should Actually Be Striving For:



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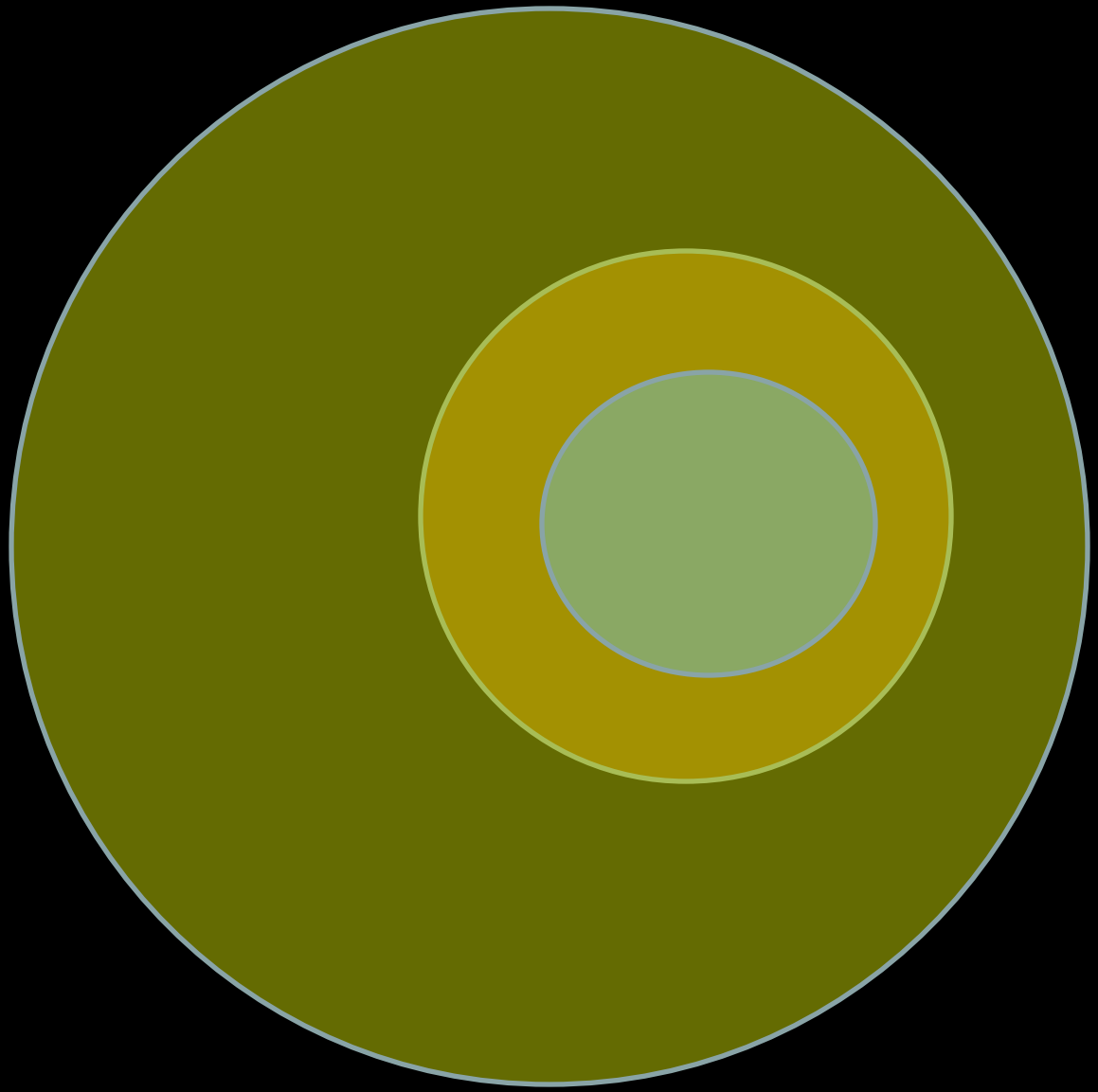

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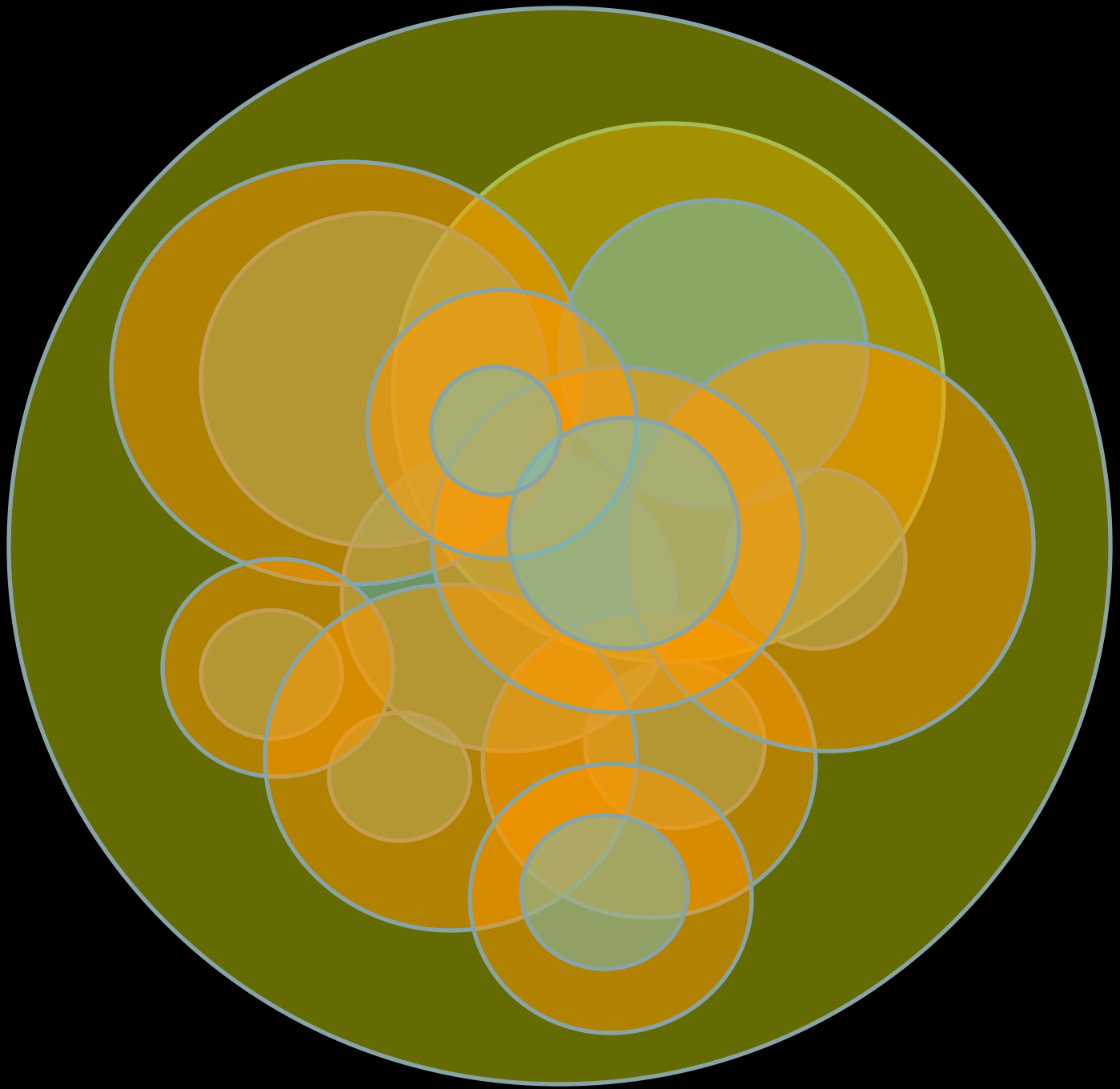
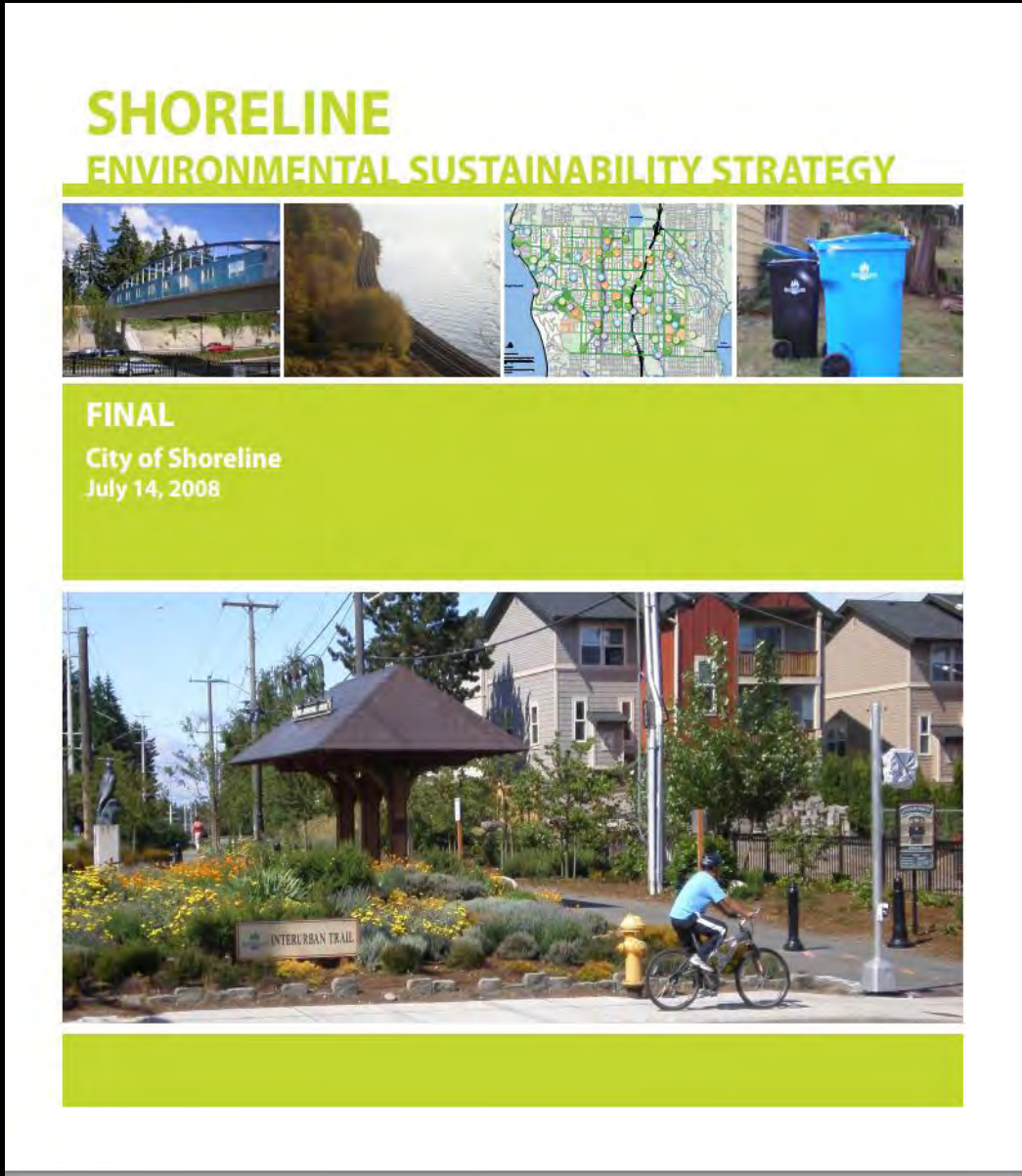


Image Courtesy of Sustainability Ambassadors

2007-2008 Council Goal

Goal 6:

Create an "Environmentally Sustainable Community”



Organization

Mission Statement

10 Guiding principles

Strategic Directions - 5 Focus Areas

- Importance and Objectives
- 50 Recommendations

Implementation and Resources

- Green Infrastructure opportunities
- Prioritization of top recommendations
- Evaluation of capacity need for implementation
- Draft assessment/decision-making tool
- Potential Indicators to measure progress

Ten Guiding Principles

As a first step in this process, ten Guiding Principles were developed and organized into two areas of emphasis. Strategic Guidance principles address overall effort and process, and Action Area principles address key substantive aspects of initiatives.

STRATEGIC GUIDANCE

1 **Sustainability will be a Key Factor in Policy Development**
The City will establish policy decisions and priorities considering their long-term impacts on the natural and human environment.

2 **Lead by Example and Learn from Others**
The City will lead by example and encourage other community stakeholders to commit to sustainability. We will learn from others' success and design our programs, policies, facilities and practices as models to be emulated by other organizations and individuals.

Dr Arthur Kruckeberg and his wife Mareen created a four-acre collection of rare and native plants now owned by the City of Shoreline.

3 **Environmental Quality, Economic Vitality, Human Health and Social Benefit are Interrelated Systems**
The City recognizes that a sustainable community requires and supports economic development, human health and social benefit. Human health depends on the environmental, economic and social health of our communities.


Natural landscaping at Shoreline Townhomes on Echo Lake. Grass bioswale connects drive-way to new raingarden.

4 **Community Education, Participation and Responsibility are Key Elements**
The City will promote community awareness, responsibility and participation in sustainability efforts through public outreach programs and other opportunities for change. The City will serve as catalyst and facilitator for partnerships to leverage change in the broader community.

5 **Commitment to Continuous Improvement**
The City will apply adaptive management to its efforts and clearly communicate findings to the Shoreline community - individuals, businesses, non- profits, utilities, and City decision makers. Analytical and monitoring tools and performance targets will be used to ensure the best possible investments in the future are made.

ACTION AREAS

6 **Manage Expected Growth in a Sustainable Way**
The regional benefits of growth management must not come at the expense of livability. Growth and density will be focused in environmentally suitable areas and serviced by improved infrastructure, including non-motorized facilities, transit and enhanced access to parks and natural features.

7 **Address Impacts of Past Practices**
We must address the impacts of past actions as we plan for the future. The City will identify and address environmental degradation resulting from urban development. Impacts caused by outdated infrastructure will be a priority. Stormwater solutions, including urban forest health and low impact development standards, and the lack of pedestrian walkways will be emphasized.


A "Built Green" home in Shoreline.

8 **Proactively Manage and Protect Ecosystems**
Good stewardship demands that we protect and actively manage our dynamic local environment. The City will establish clear priorities and targets for natural area enhancement such as salmon habitat and wetlands restoration. We will manage public lands for multiple benefits and empower stakeholders to improve residential, institutional and commercial properties.


The Interurban Trail crossing Aurora Avenue.

9 **Improve and Expand Waste Reduction and Resource Conservation Programs**
The City will evaluate and implement strategies to reduce solid waste. The City will partner with utilities to reduce water consumption, promote conservation, and investigate new technologies. The City will implement the "Cradle to Cradle" concept- reducing environmental impacts from initial sourcing through the end of product life.

10 **Energy Solutions are Key to Reducing Our Carbon Footprint**
The City will reduce the amount of energy used in vehicles and facilities and promote sustainable sources. The City will evaluate energy use and carbon emissions and develop conservation targets. The City recognizes the relationship between energy and sustainable development principles. Transportation solutions and efficient buildings are key priorities for both.

Focus Areas

1. City Operations, Practices and Outreach
2. Energy Conservation and Carbon Reduction
3. Resource Conservation and Waste Reduction
4. Sustainable Development and Green Infrastructure
5. Ecosystem Conservation and Resource Stewardship

OBJECTIVE 3
Reduce Energy Consumption in City Facilities

TARGET

Reduce energy consumption in City facilities by 5% per year and 20% by 2012.

INDICATOR

Percentage decrease in City electric and gas bills (measured in $/sf) – obtainable from Seattle City Light (SCL) and Puget Sound Energy (PSE).

Recommendations

1. For all major new City facilities (including the City Hall), require the use of Commissioning as outlined by the ASHRAE[6] Commissioning Process Guideline 0-2005
2. Upgrade existing facilities to meet Energy Star standard for similar building types.
3. Include requirements to meet Energy Star for building equipment and appliances in purchasing guidelines.
4. Develop a baseline for energy consumption and carbon data using ICLEI[7] "5 Milestones Toolkit" or similar.
5. For all major new facilities (including the City Hall), meet requirements specified in LEED[8] Core Performance Guide, references in the prescriptive path for LEED Energy and Atmosphere Credit 1.

OBJECTIVE 4
Increase Reliance on Green Power in City Facilities

TARGET

Increase Green Power use as a proportion of total electricity consumption in City facilities by 25% per year, to 100% by 2012.

INDICATOR

Proportion of City consumption supplied by alternative energy sources through Seattle City Light "Green Up" Program.

Recommendations

1. Engage in the green power program with Seattle City Light. As part of annual budget planning, increase proportion of green power purchase to 100%.

6 American Society of Heating Refrigerating and Air-Conditioning Engineers

7 International Council for Local Environmental Initiatives

8 Leadership in Energy and Environmental Design

OBJECTIVE 5
Reduce Fossil Fuel Consumption by City Vehicles

TARGET

Downward trend of annual consumption of fossil fuel used to operate City fleet.

INDICATOR

Amount of fossil fuel (in gallons) purchased annually for City fleet.

Recommendations

1. Require all new fleet vehicles be alternatively fueled, or rated EPA[9] for 45 mpg or higher for fossil fuel vehicles. (Only applies to vehicle types where these options exist.) For exempt vehicles, require the most efficient options available as vehicles are replaced.
2. Launch campaign for City staff – reward "smart" trip planning to reduce miles traveled.

OBJECTIVE 6
Reduce Energy Consumption in Community Households

TARGET

Reduce per capita/ per household energy consumption by 10% in the first year and an additional 3% per year through 2012.

INDICATOR

Percentage decrease in consumption units from electric and gas bills (per capita).

Recommendations

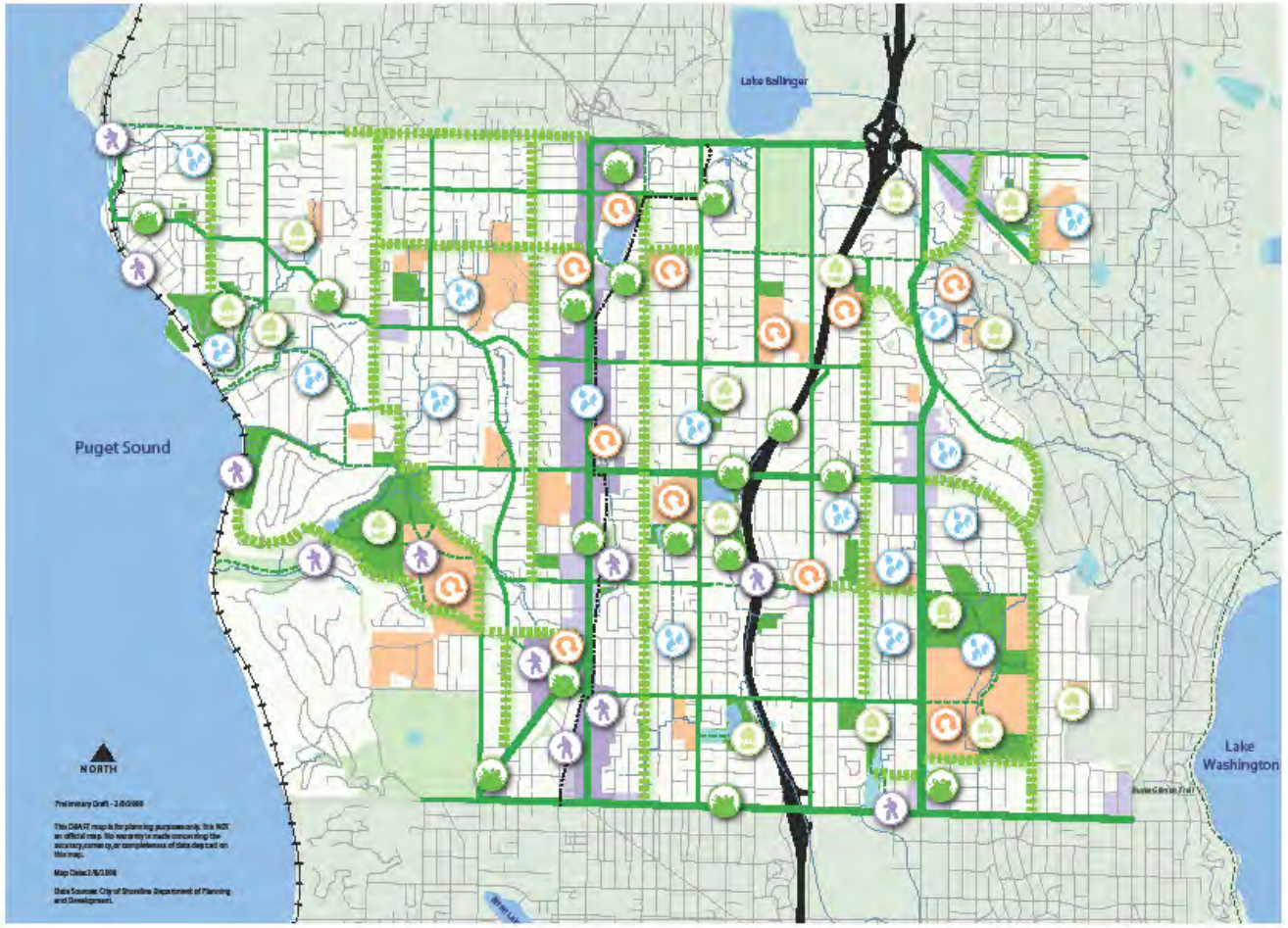
1. Employ PLACE[3]s[10] software or similar for land use planning.
2. Promote use of Seattle City Light (SCL)/ Puget Sound Energy (PSE) and other incentives for conservation and alternative energy as part of public outreach campaign.
3. Work with SCL/PSE to prepare a citizen's report showing Shoreline community's overall energy use as of baseline year; update figures provided by SCL/PSE.
4. Provide expanded "how to" sustainability info to community.

9 Environmental Protection Agency

10 Planning for Community Energy, Economic and Environmental Sustainability

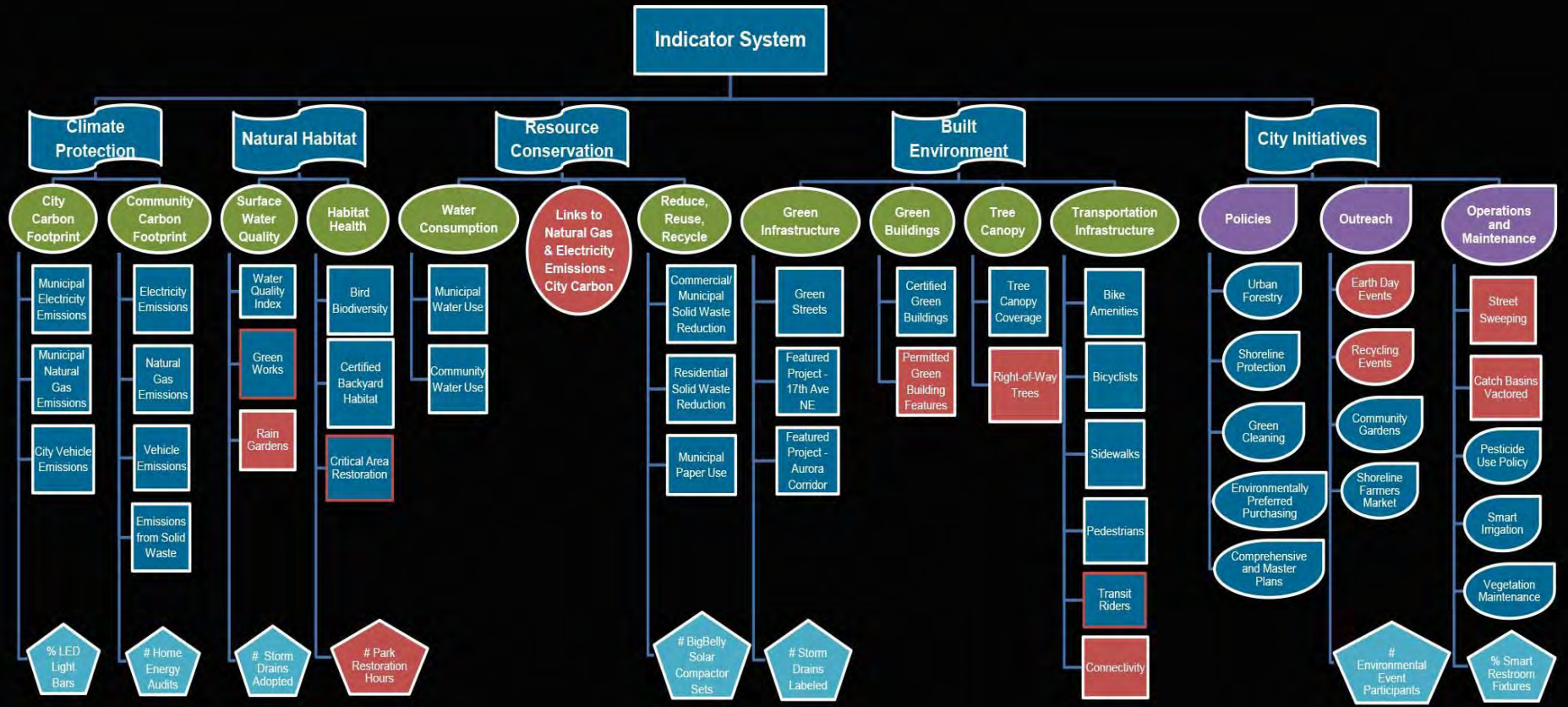
Figure 3.5

Green Infrastructure Opportunity Map



This map shows potential green infrastructure opportunities and how they could be physically integrated into the Shoreline community. It does not represent any officially adopted plans at this time.

#	RECOMMENDATIONS	NOTES
City Operations, Practices & Outreach		
1	**Integrate sustainability into City and departmental missions, functions and decision making at all levels using clear and transparent tools.**	Sustainability is not just another program, it is now central to the very mission of the City. Establish and reinforce sustainability as a consistent and unifying factor in policy development and program analysis across all departments. Evaluate the impact of potential decisions and actions on sustainability in a structured and transparent manner (e.g. Sustainable Decision-Making Tool).
2	**Create baselines for all Sustainability Strategy focus areas and implement indicator tracking system to track progress over time.**	Establish and maintain sustainability indicators tracking system with indicators identified in the Shoreline Sustainability Strategy, Appendix F.
3	**Create standard office procedures, training and department expectations that support sustainability goals; then measure, reward and promote individual and departmental achievement of these goals.**	Represents a "quick win". Use the move to the planned new City Hall as a key opportunity for internal change. Employee of the quarter and other new programs could be used to reward sustainability. Currently, there are no formal standards or clear employee and department expectations related to sustainability. Performance should be measured, and a "carrots rather than sticks" approach should be used to build and maintain support.
4	**Establish a permanent GREEN team or interdepartmental committee(s) to focus on sustainability program management and sustainability techniques.**	Current working structure of leadership team and technical working group could be formalized and enhanced. Establishing a "Sustainability Coordinator" is not recommended at this time due to budget constraints. It is very important to have clear leadership and emphasis at the highest levels of the City.


Indicator System
Climate Protection
City Carbon Footprint
Municipal Electricity Emissions
Municipal Natural Gas Emissions
City Vehicle Emissions
% LED Light Bars
Community Carbon Footprint
Electricity Emissions
Natural Gas Emissions
Vehicle Emissions
Emissions from Solid Waste
Home Energy Audits
Natural Habitat
Surface Water Quality
Water Quality Index
Green Works
Rain Gardens
Storm Drains Adopted
Habitat Health
Bird Biodiversity
Certified Backyard Habitat
Critical Area Restoration
Park Restoration Hours
Resource Conservation
Water Consumption
Municipal Water Use
Community Water Use
Links to Natural Gas & Electricity Emissions - City Carbon
Reduce, Reuse, Recycle
Commercial/ Municipal Solid Waste Reduction
Residential Solid Waste Reduction
Municipal Paper Use
BigBelly Solar Compactor Sets
Built Environment
Green Infrastructure
Green Streets
Featured Project - 17th Ave NE
Featured Project - Aurora Corridor
Storm Drains Labeled
Green Buildings
Certified Green Buildings
Permitted Green Building Features
Tree Canopy
Tree Canopy Coverage
Right-of-Way Trees
Transportation Infrastructure
Bike Amenities
Bicyclists
Sidewalks
Pedestrians
Transit Riders
Connectivity
City Initiatives
Policies
Urban Forestry
Shoreline Protection
Green Cleaning
Environmentally Preferred Purchasing
Comprehensive and Master Plans
Outreach
Earth Day Events
Recycling Events
Community Gardens
Shoreline Farmers Market
Environmental Event Participants
Operations and Maintenance
Street Sweeping
Catch Basins Vactored
Pesticide Use Policy
Smart Irrigation
Vegetation Maintenance
% Smart Restroom Fixtures
KEY
Focus Area
Performance Area
Indicator
Initiatives
Interesting Metric
Red = Future Indicator Recommended/Data Needed
Grey = Links to indicators elsewhere in framework

Sustainability Reporting

Can the City of Shoreline be forevergreen? The metrics included here are indicators of the five focus areas defined by the City's **Environmental Sustainability Strategy**. In each area, there are multiple indicators to show how we're doing. See the Site Map or About Us for site information. Visit the **Environmental Services** page for more information on City programs designed to create an environmentally sustainable community!

How Are We Doing?

Strong Progress | Limited Progress | Improvement Needed | Info Only

Climate Protection | Natural Habitat | Resource Conservation | Built Environment | City Initiatives

City Carbon Footprint

Community Carbon Footprint

Climate Protection

The City is committed to reducing its carbon footprint through energy efficiency and promotion of renewable energy. Carbon dioxide is a greenhouse gas produced by burning fossil fuels that degrades the ozone layer and contributes to adverse climate change. Estimates of greenhouse gas emissions and their sources for City operations and the Community as a whole have been calculated through **carbon inventories** conducted for **2009** and **2012**. Test your knowledge of climate change and how it affects the community of Shoreline.

Since energy conservation can reduce the amount of fossil fuel needed to operate buildings, provide transportation, and run industrial processes, the City will continue to reduce energy use in its own operations and assist the Shoreline community in reducing their own energy needs. Greener buildings, fuel efficient management of the municipal vehicle fleet and equipment, and development of amenities for non-motorized transportation will help reduce the City's carbon footprint and operating costs. It will also promote community health and responsible stewardship of natural and financial resources.

The City of Shoreline joined King County and several of its cities to enhance the effectiveness of King County local government climate and sustainability efforts through the King County – Cities Climate Collaboration and Pledge.

Sustainability Reporting

Can the City of Shoreline be forevergreen? The metrics included here are indicators of the five focus areas defined by the City's **Environmental Sustainability Strategy**. In each area, there are multiple indicators to show how we're doing. See the Site Map or About Us for site information. Visit the **Environmental Services** page for more information on City programs designed to create an environmentally sustainable community!

How Are We Doing?

Strong Progress | Limited Progress | Improvement Needed | Info Only

City Carbon Footprint

The City's carbon footprint is directly generated from day-to-day municipal operations. It is comprised of the emissions from the electricity and natural gas used to heat and operate buildings, streetlights and traffic signals, and the fuel consumed by the City's vehicle fleet. Carbon footprints are expressed in terms of equivalent carbon dioxide (CO_2e), which is a measurement that compares emissions of various greenhouse gases (GHGs) based on their potential to contribute to global warming. While carbon dioxide (CO_2) is the most commonly referenced GHG, there are actually many different gases that contribute to climate change in varying degrees. Learn more about climate change on the EPA's web site.

Municipal Electricity Emissions

Learn More

Municipal Natural Gas Emissions

Learn More

City Vehicle Emissions

Learn More

% LED Light Bars

59

LED lights last twice as long and are 80% more energy efficient than conventional light bars, allowing engines to turn off while keeping the warning lights on. Of the City's vehicles with light bars, 59% are LED equipped, with more to follow.

Electricity Emissions

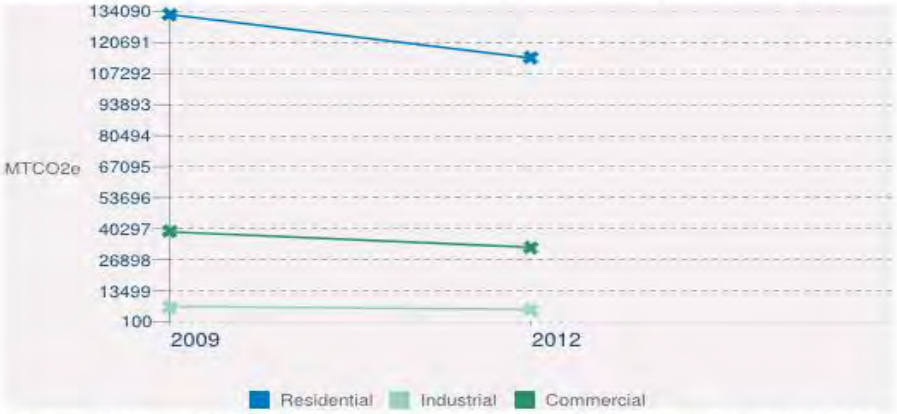
What it Measures

For Northwest residents and businesses, electricity use is a large source of greenhouse gas emissions, measured in terms of kilowatts per hour (kWh). The amount of emissions produced annually by the electricity consumed by Shoreline's community is expressed in terms of equivalent carbon dioxide (CO_2e). While these emissions are actually released outside of the city's boundaries, at the source of the generation of the electricity, they ultimately occur as a result of the demand for energy in the city.

Why it Matters

If electricity usage continues to increase, as it has throughout the country, the emissions that contribute to global warming will also increase. Fortunately for Shoreline, emissions from both residential and commercial electricity use decreased between 2009 and 2012, which is a significant step towards reducing the community's impact on climate change. By using energy wisely, conserving resources, and supporting renewable energy projects, Shoreline residents not only reduced their electricity use and helped protect our climate, but saved money as well.

Annual CO2e Emissions Produced by Community Electricity Use



Between 2009 and 2012, emissions from community electricity use were reduced by 26,953 metric tons of CO2e - a decrease of 15%. This difference is equivalent to the emissions from the electricity used by 4,035 average homes in a year, or the amount of carbon it would have taken 22,093 acres of US forests a year to remove from the air.

Strong Progress

Between 2009 and 2012, CO2e emissions from electricity use by Shoreline's community decreased by 15%.

For More Information >

What You Can Do v

Wear a sweater instead of turning on the heat. Turn off the lights when you leave a room. Use a programmable thermostat for your electric heating system to reduce the temperature when no one is home or everyone is asleep.

Related Indicators >

Comprehensive Plan

CITY OF SHORELINE

Greenhouse gases allow sunlight to enter the atmosphere freely. When sunlight strikes the Earth's surface, some of it is reflected back towards space as infrared radiation (heat). Greenhouse gases absorb this infrared radiation and trap the heat in the atmosphere.

Climate change is a significant and lasting change in the statistical distribution of weather patterns over periods ranging from decades to millions of years. It may be a change in average weather conditions, or in the number of extreme weather events. Climate change is caused by factors that include oceanic processes (such as oceanic circulation), variations in solar radiation received by Earth, plate tectonics and volcanic eruptions, and human-induced alterations of the natural world.

NE34. Provide additional public access to Shoreline's natural features, including the Puget Sound shoreline. The City will attempt to reach community and neighborhood agreement on any proposal to improve access to natural features where the proposal has the potential to negatively impact private property owners.

NE35. Educate the public on best management practices regarding use of pesticides and fertilizers to prevent run-off of chemicals and pollution of water bodies.

Clean Air and Climate Protection

NE36. Support federal, state, and regional policies intended to protect clean air in Shoreline and the Puget Sound Basin.

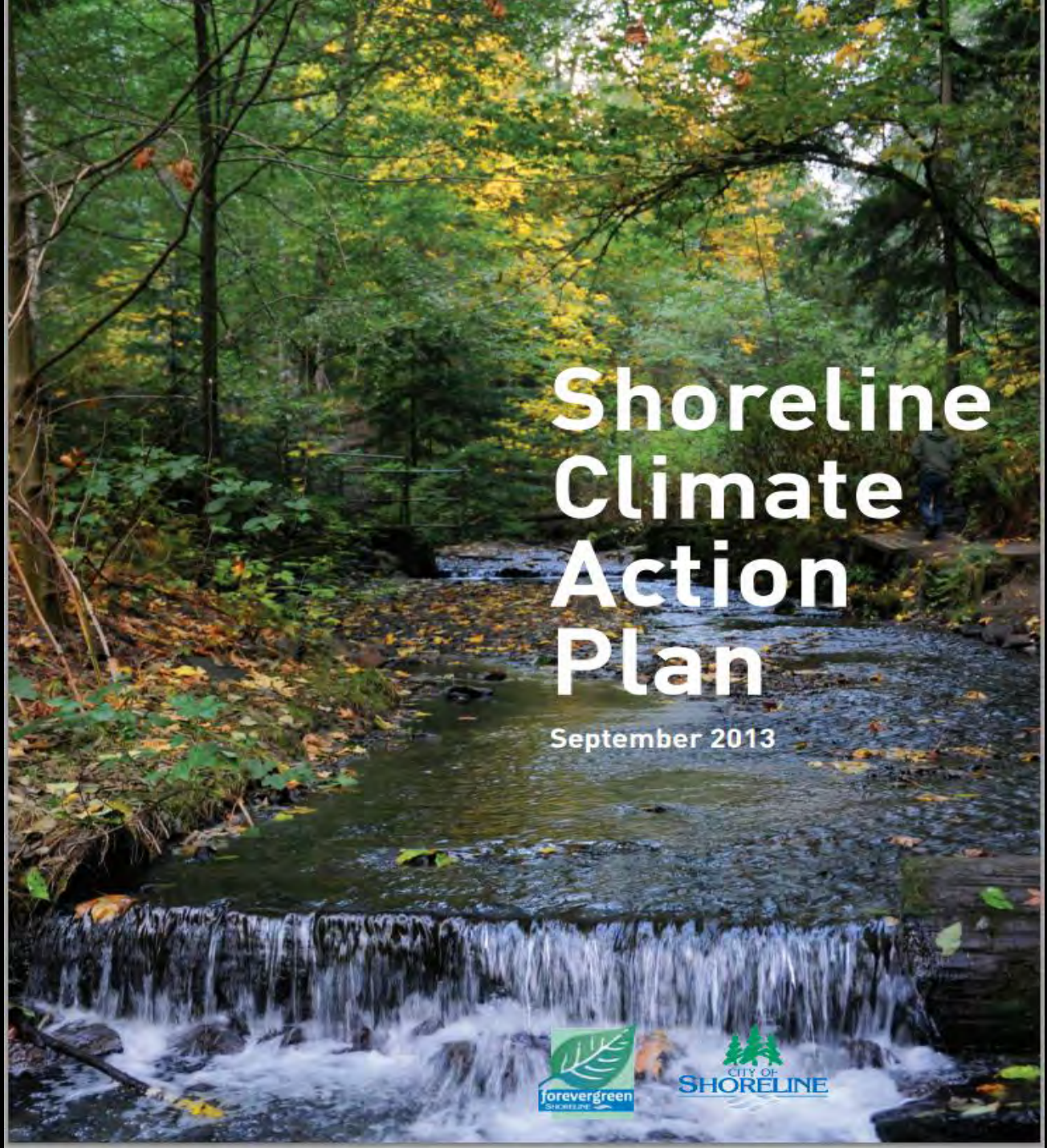
NE37. Advocate for expansion of mass transit and encourage car-sharing, cycling, and walking to reduce greenhouse gas emissions, and as an alternative to dependence on automobiles.

NE38. Reduce the amount of air-borne particulates through continuation and possible expansion of the street-sweeping program, dust abatement on construction sites, education to reduce burning of solid and yard waste, and other methods that address particulate sources.

NE39. Support and implement the Mayor's Climate Protection Agreement, climate pledges and commitments undertaken by the City, and other multi-jurisdictional efforts to reduce *greenhouse gases*, address *climate change*, sea-level rise, ocean acidification, and other impacts of changing of global conditions.

Sustainability

NE40. Establish policy decisions and priorities considering long-term impacts on natural and human environments.


Shoreline
Climate
Action
Plan
September 2013
forevergreen
SHORELINE
CITY OF
SHORELINE

Energy and Water

Materials and Waste

Transportation, Land Use, and Mobility

Urban Trees, Parks, and Open Spaces

CAP Community Recommendations

- The car you drive
- How you get around
- Where you live
- Home energy use
- What you eat
- What you don’t eat
- The products you use and buy

OBJECTIVE 2.

What You Can Do

Using renewable energy can bring numerous benefits – and it may be easier than you think. Supporting renewable energy can insulate you from energy price fluctuations, make you a leader in your community, and help combat climate change. Here are some ways you can boost your use of renewable energy.

Use solar-powered outdoor and landscape lighting.

There are many outdoor solar-powered lighting options for your yard and outdoor spaces. Unlike five years ago when solar was only used for path lighting, solar-powered fixtures are now available for most outdoor lighting categories. Next time you are considering installation of outdoor lighting, consider solar.

If available, consider supporting the development of a community solar project.

Even if you are unable to install solar panels on your home or business, there are still ways for you to help your community "go solar." Seattle City Light and Northwest SEED partnered to launch a community-based solar project in which customers enroll to support the development and maintenance of a 24-kilowatt solar system on the picnic shelters in Jefferson Park. Residential and business customers who enroll receive multiple benefits, including a 9-year credit on their power bills for electricity generated by the project. As a community solar supporter, you could help make it happen!

Consider installing a renewable energy system on your home or business.

Don't let the price tag, uncertainty, or process of pursuing a solar or geothermal energy system in your home or business scare you. Residents and businesses across the Puget Sound region are taking advantage of federal tax credits, Seattle City Light's net metering, and Washington State's production incentives that are tipping the scales towards renewable energy. Begin exploring how renewable power could work for your property by perusing **Seattle City Light's Guide to Installing Solar Electric System**, which covers everything from solar basics to contracting, permitting, and financial incentives.

How Did We Do It?

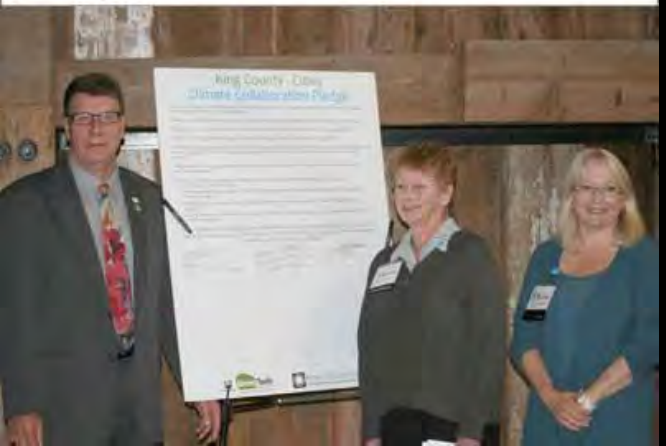
- In a 2012 telephone survey of 403 residents, 71% agreed that “Climate change is real and requires us to make changes in our behavior now.”

- Of the 45 public comments on the draft Climate Action Plan, 91% supported the Plan.

How Did We Do It?

RECOVERY.GOV

KING COUNTY-Cities
CLIMATE COLLABORATION



Council Goals for 2013-2014

Being a sustainable city in all respects. This includes:

- *Sustainable neighborhoods* – ensuring they are safe and attractive;
- *Sustainable environment* – enhancing our built environment so that it protects our natural resources; and
- *Sustainable services* – supporting quality services, facilities and infrastructure.

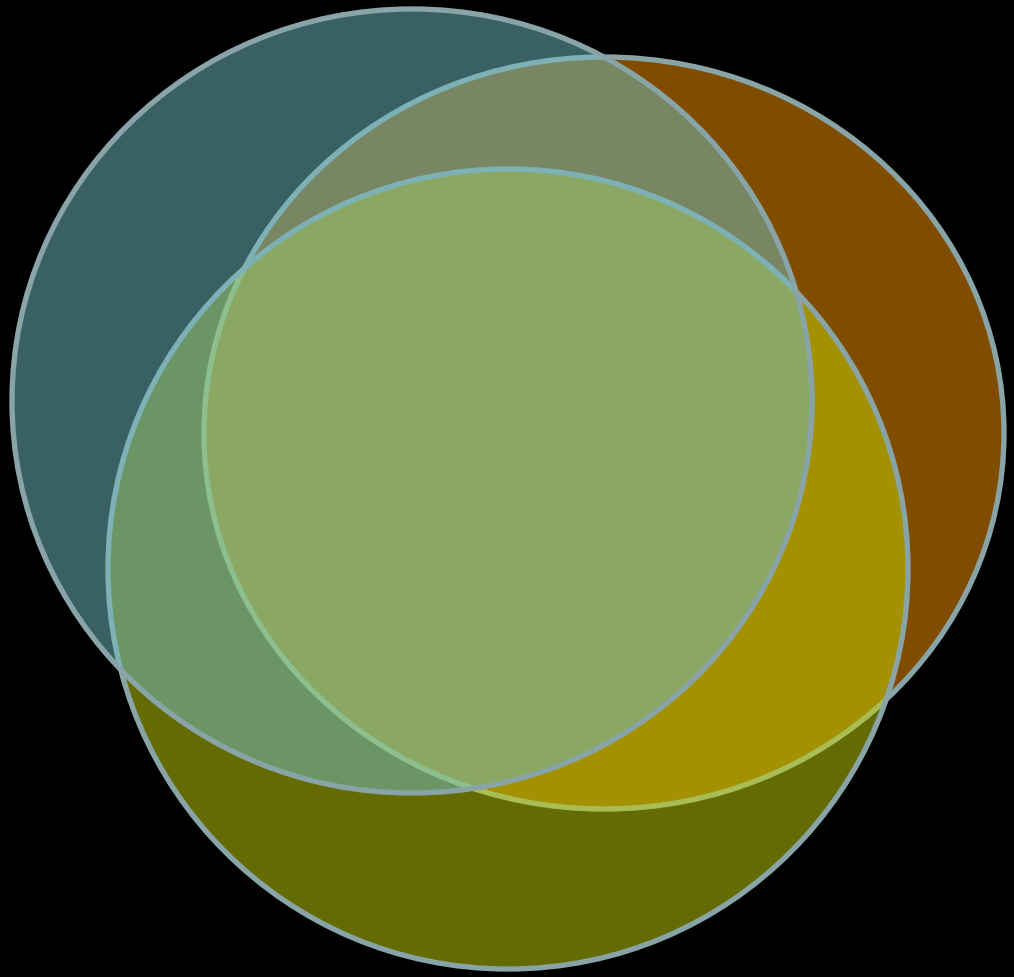


Image Courtesy of Sustainability Ambassadors

For More Information

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www.shorelinewa.gov/climate

www.shorelinewa.gov/lightrail

www.shorelinewa.gov/compplan

Keeping it Local – Economic Sustainability

American Planning Association Conference

October 2, 2013

Ellen Miller-Wolfe, Economic Development Manager, City of Kirkland

Sustainability Assessment of the Kirkland Economy

Summary Report &
Recommendations


Prepared for the City of Kirkland
Office of Economic Development

August 5, 2008

O'Brien & Company

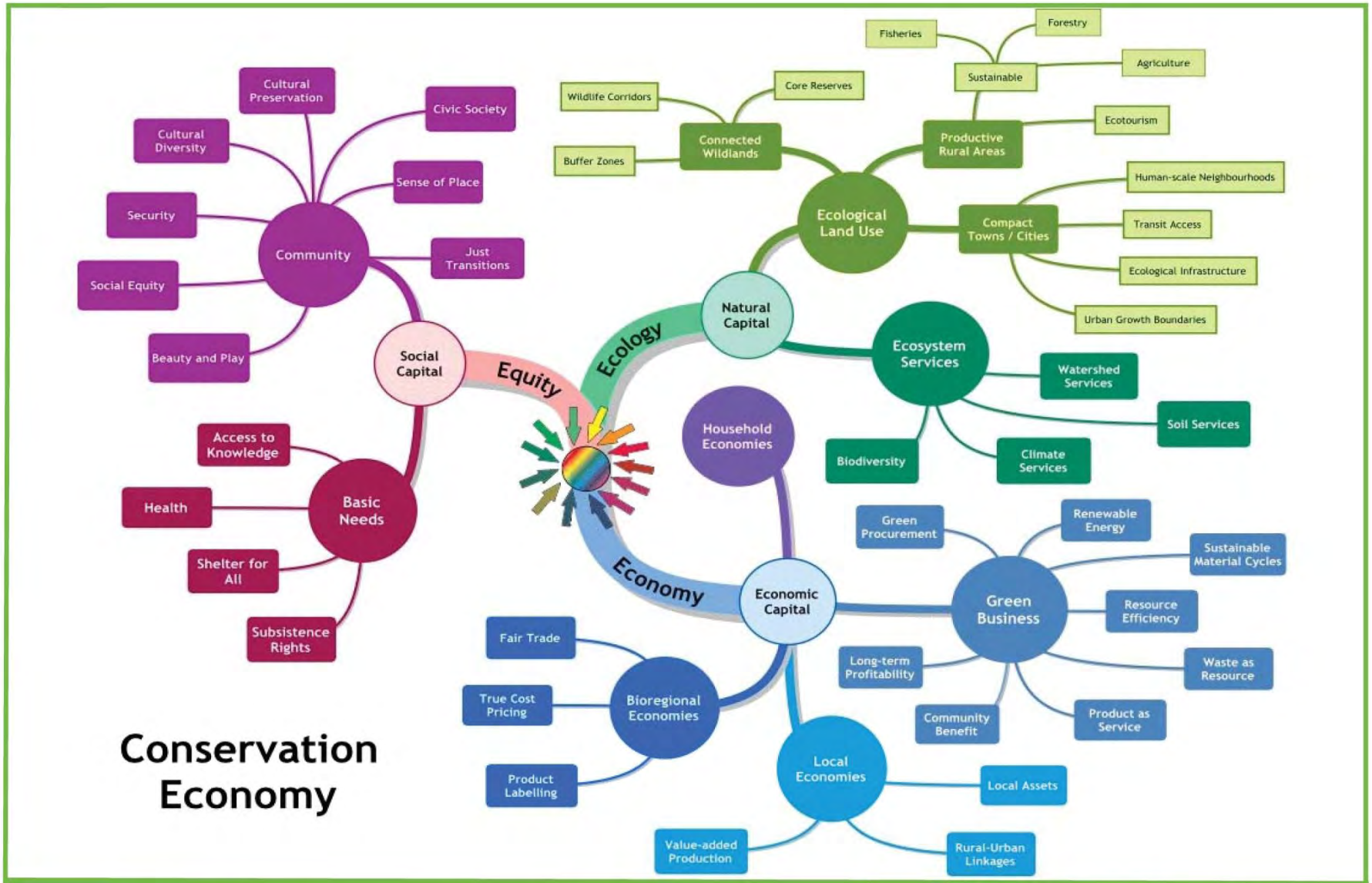
E.D. Hovee & Company

Rewind

- What were the drivers for the sustainability assessment of the Kirkland economy in 2008?
  - Height of the recession meant loss of revenues, high vacancy rates….
  - Interest in identifying leakage & alternatively, key business clusters, revenue producers
  - Recruitment opportunities - green business
  - Localizing resident shopping patterns
  - Increasing green business practices

Rewind

- What does economic sustainability mean?
  - Less dependency on global economy
  - Less dependency on nonrenewables
  - Elimination harmful materials/chemicals
  - Smaller ecological footprint
  - Reduced waste stream
  - Contribution to sustainable society



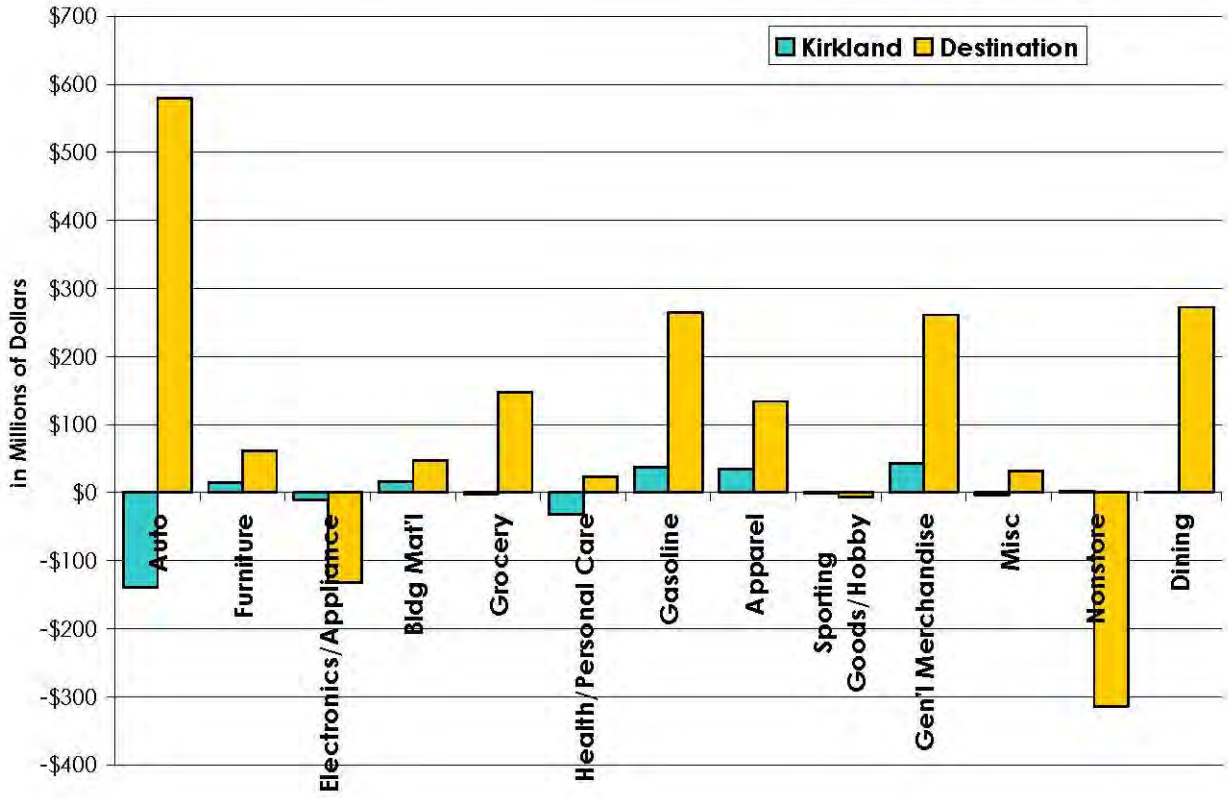
Sustainability Assessment of the Kirkland Economy

CITY OF KIRKLAND WASHINGTON

O'Brien & Company
Promoting Informed Sustainable Development

E. D. Hovee & Company

Figure 13. Leakage Dollars by Retail Category, 2008



Residents Survey Results





What do we buy in Kirkland?

Goods

Always	Sometimes	Rarely	Never
Groceries (59%) Pharmaceuticals (60%)	Natural Foods/Specialty Foods (39%) Hobby items (39%) Gifts & Specialty (47%) Dining (62%) Wine/Liquor (41%) Entertainment (54%) Pet Products (25%) Gas/Automotive (45%)	Apparel (adult) (39%) Home Furnishings (33%) Hardware/garden supplies (29%)	Apparel (childrens) (30%) Electronics/Computers (43%)

Services

Always	Sometimes	Rarely	Never
Pharmacy (54%) Medical Health Care (31%) Vision Health Care (31%) Fitness (24%) Banking/Finance (47%) Dry cleaning/Laundromat (56%) Veterinarian (30%) Realty (15%) Mailing/Postal (62%) Copy/Print (38%)	Personal Care (salon, etc) (28%) Community & Social Services (24%) Automotive (28%)		Dental Health Care (36%) Vision Health Care (31%) Alternative Health Care (21%) Childcare (12%) Hotel (31%) Attorney & Legal (40%) Insurance (50%) Worship (19%)

How do we Shop?

By car: 88%
By walking: 47%
By bus: 12%
By bike: 9%
Delivery or Online: 34%

What are our priorities for selecting Goods & Services?

Quality, Cost, Convenience: 65%

Less important:

Brand recognition
Environmental concerns
Uniqueness
Locally produced
Family owned

CITY OF KIRKLAND WASHINGTON
O'Brien & Company
E. D. Hovee & Company

Rewind

Economic Development Director Ellen Miller-Wolfe describes the project's goals to community workshop participants.

Community members network before the community workshop.

Rewind

- Findings
  - Public Sector
  - Kirkland moving toward a green economy
    - Climate protection efforts
    - Green building and low impact development practices
    - Natural systems management
    - Green materials and materials conservation

Rewind

- Findings

<u>Businesses and Residents Response</u>

  - Growth opportunities existed for specific goods and services
  - Residents wanted diverse, locally owned, affordable stores within easy access to meet daily needs
  - Businesses wanted City and business accountability and engagement to promote green activities
  - Green business practices need to be compiled and opportunities delineated

Rewind

- What specific actions were recommended?
  - Articulation of a sustainability strategy
  - Adopt economic strategies/benchmarks that ensure growth in jobs – green local owned business
  - Target retail types and address their development needs
  - Maintain City leadership in sustainable development by promoting qualities echoed in survey responses
  - Adopt green strategies to encourage affordable retail
  - Outreach to businesses thru seminars
  - Messaging: Green tag line – "Growing Cooler and Cooler"

Play

- <u>Where are we in terms of solutions?</u>
  - City leadership and accountability
    - The study led to the development of a green building team in the Planning Department and LEED accreditation for staff members
    - Training enabled staff to help customers wanting to build green and incorporate green strategies in major city projects
    - City Green Team and annual reporting on Climate Action Indicators

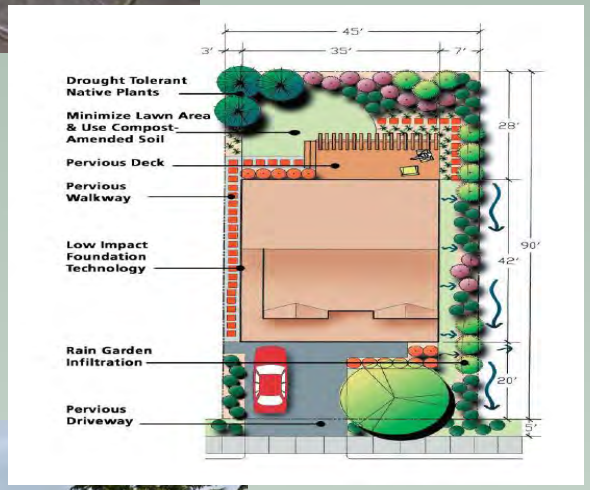
Play

CITY TEACHES AT SUSTAINABLE SEPTEMBER

- "*Recycling for Businesses Workshop*" - Today! – 3-4 PM, Room E144
- "*It's Our World – A Workshop for Kids*" Sat, 11-1 PM, Room E219
- City of Kirkland Recycling and Green Kirkland Partnerships Booth – Sat, 10–4 PM

Green Codes/Sustainability Actions

- Green infrastructure (bike racks; charging stations)
- Storm water & Landscaping (Low Impact Development or LID)
- Energy efficiency (solar)



Low Impact Development Practices

Pervious Sidewalks and rain gardens

Pervious Driveways/Access roads

Green Roof

Green Practices Applied to Large Public Projects

City of Kirkland Public Safety Building

Green Practices Applied to Large Public/Private Partnerships

South Kirkland TOD

SOUTH KIRKLAND TRANSIT ORIENTED DEVELOPMENT | Affordable Housing


South Kirkland Transit
Oriented Development
SITE PLAN
PARKING GARAGE
108TH AVE
NE 38TH PL
184
MARKET RATE
UNITS
58
LOW INCOME
UNITS
853
P&R PARKING
STALLS
PRESS PACKET

KIRKLAND GREEN BUSINESS PROGRAM

A partnership between the City of Kirkland, the Greater Kirkland Chamber of Commerce and Puget Sound Energy

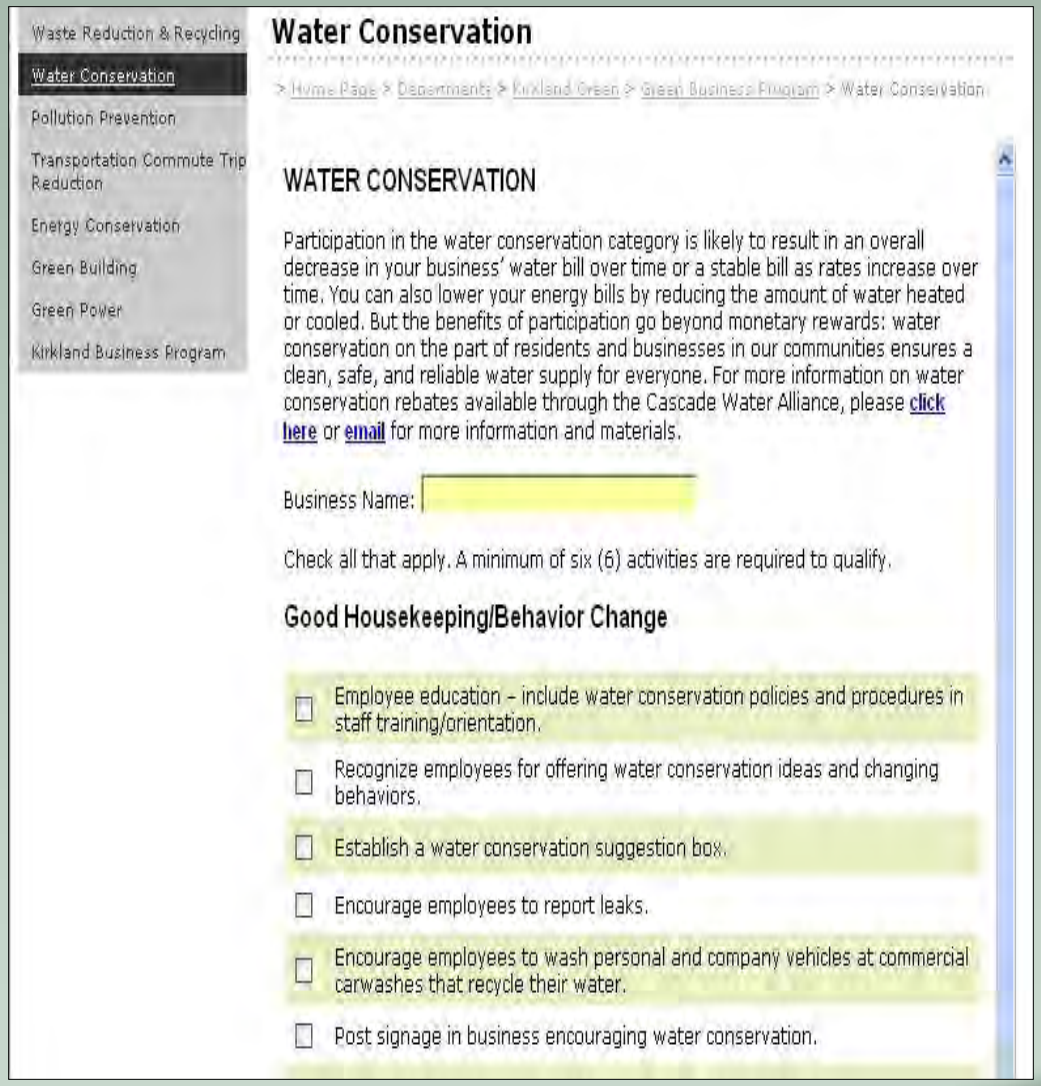
Green Business Program

green power

KIRKLAND GREEN BUSINESS WEBSITE

www.ci.kirkland.wa.us/greenbusiness

ON-LINE APPLICATION



HOW TO APPLY

- Visit the City of Kirkland Booth at Expo
- Visit the City of Kirkland website at: www.ci.kirkland.wa.us/greenbusiness
- Questions? Call the City of Kirkland Recycling Hotline at (425) 587-3812 or email at recycle@ci.kirkland.wa.us

RECOGNITION PACKAGE

- Window Clings
- Logo for Business' Printed Materials
- Posting on City's Green Website
- Notification to City Council
- Banner at City Hall
- More to come!!!

Kirkland First

Kirkland's Buy Local Program

September 15, 2009 UPDATE

CITY OF KIRKLAND WASHINGTON

Performance

- City tracking of sustainability indicators
- Many more projects seek LEED certification
- Cooperation with other cities (C-7) and Eastside Business Roundtable on sustainability efforts
- Green business relaunch
- Staycation and other tourism initiatives supporting assets and keeping travel close to home

Kirkland Environmental Performance Measures

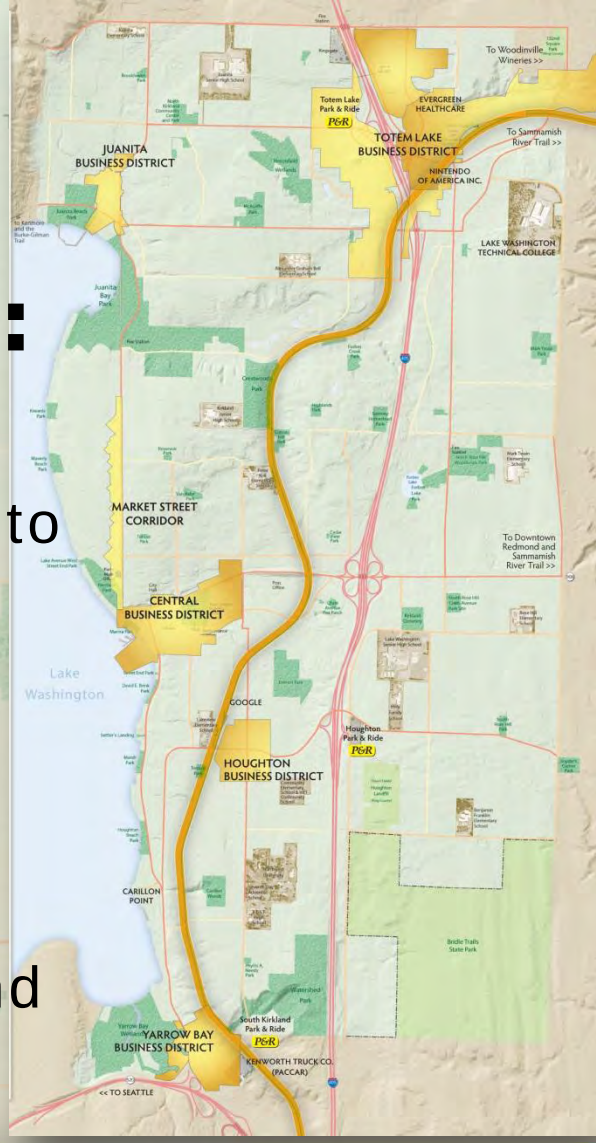
MEASURE	2009	2010	2011	2012	Target
Compliance with NPDES Stormwater Permits	100%	100%	100%	100%	100%
Diversion rate[1]	49.3%	50.1%	52%	53.3%	Increase
City building electricity use (kilowatt/hour)	2,875,575 kWh -5% change	2,581,213 kWh -10% change	2,674,348 kWh	2,669,158 kWh	Decrease
City building natural gas usage (therm)	68,507 therm +16% change	55,557 therm -19% change	66,795 therm	61,944 therm	Decrease
Tree canopy coverage	*	36%	40.7%		40%
Benthic Index of Biotic Integrity in Forbes Creek[2]	17.3	16	18	17	Increase
Benthic Index of Biotic Integrity in Juanita Creek[2]	20.5	19.5	20.5	22.5	Increase
Waste entering landfill from residences	14,320 tons (0%)	13,726 tons (-4.1%)	17,861 tons (+30.0%)	22,109 tons (+23.8%)	Annual 2.5% decrease
Annual reduction in City's greenhouse gas emissions as a percent of 2005 levels	23.4%	38%	22%	10%**	80% below 2005 levels by 2050

Fast Forward

- Most problems associated with climate change require coordination with many municipalities
- Cities must continue to model change and teach sustainability
- The Cross Kirkland Corridor is Kirkland's latest canvas to showcase its sustainability values
- Green Kirkland promotes resident involvement

Looking Forward

- **Cross Kirkland Corridor: The Facts**
- 5.75 miles in Kirkland; remaining 2.8 to purchase
- Generally 100’ wide; enough for rail/trail
- Crossing thru 9 of Kirkland’s 14 neighborhoods
- Connecting Yarrow Bay, Houghton, and Totem Lake Business Districts
- 17 at grade crossings
- 5 spur tracks
- Opportunities to connect with Bellevue, Woodinville, other regional trails



City of Ellensburg
Energy Efficiency & Conservation Strategy

WA APA Conference

wicked problems SMART SOLUTIONS - 2013

TRACK 4: City Sustainability Strategies "Mix Tape: A Compilation of Greatest Hits from Around the State"

Wednesday, October 2, 2013

Presented By: Mike Smith, Community Development Director
smithm@ci.ellensburg.wa.us

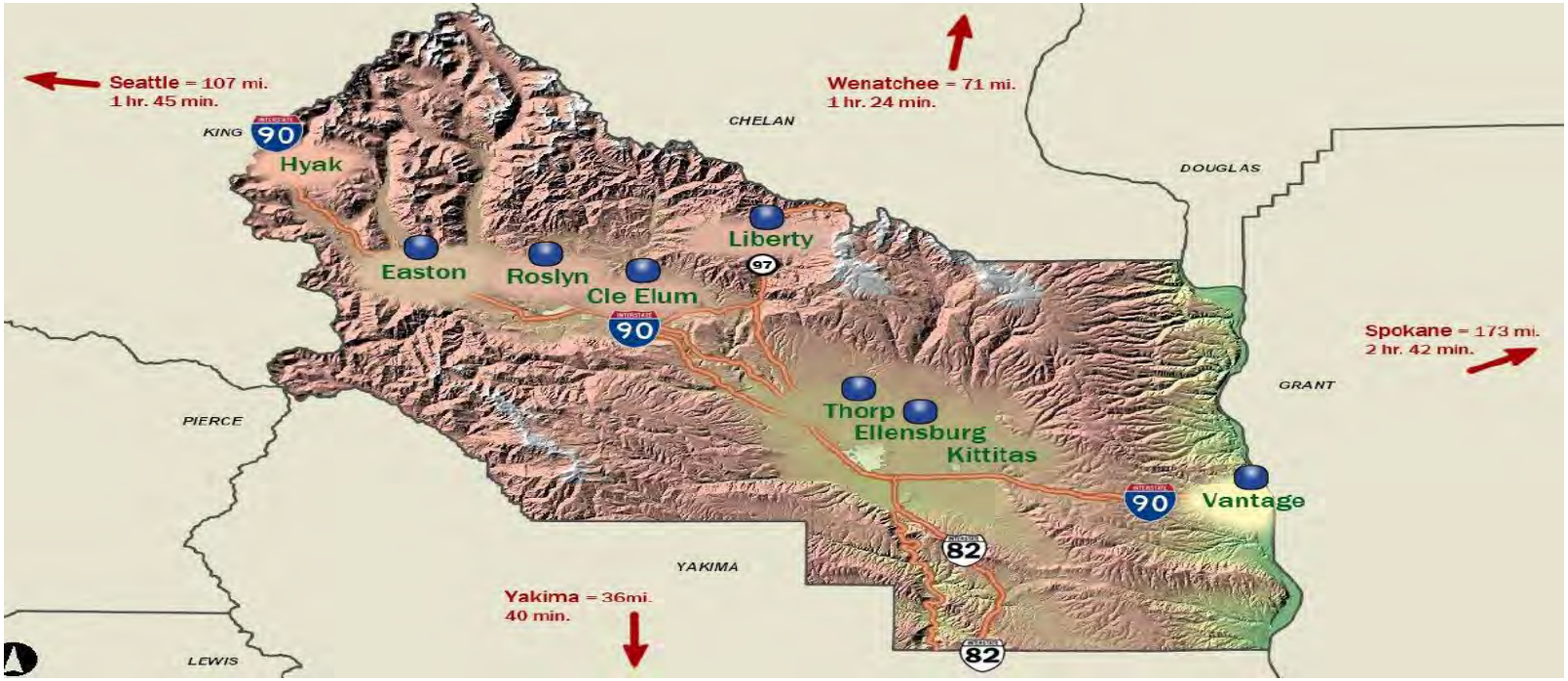
Energy Efficiency & Conservation Strategy Document Location:
http://www.ci.ellensburg.wa.us/index.aspx?NID=466

The consultant team for the EE&CS included O'Brien & Company, Makers Architecture, and Cascadia Green Building Council (CGBC)

Acknowledgment
This project was funded in whole or in part by funds made available through the American Recovery and Reinvestment Act (ARRA). This funding was awarded by the US Department of Energy through the Energy Policy Division of the Washington State Department of Commerce under Energy Efficiency and Conservation Block Grant No. DE-EE0000849.

City of Ellensburg
WA APA Conference Seminar
October 2, 2013

WHERE THE HECK IS ELLENSBURG?

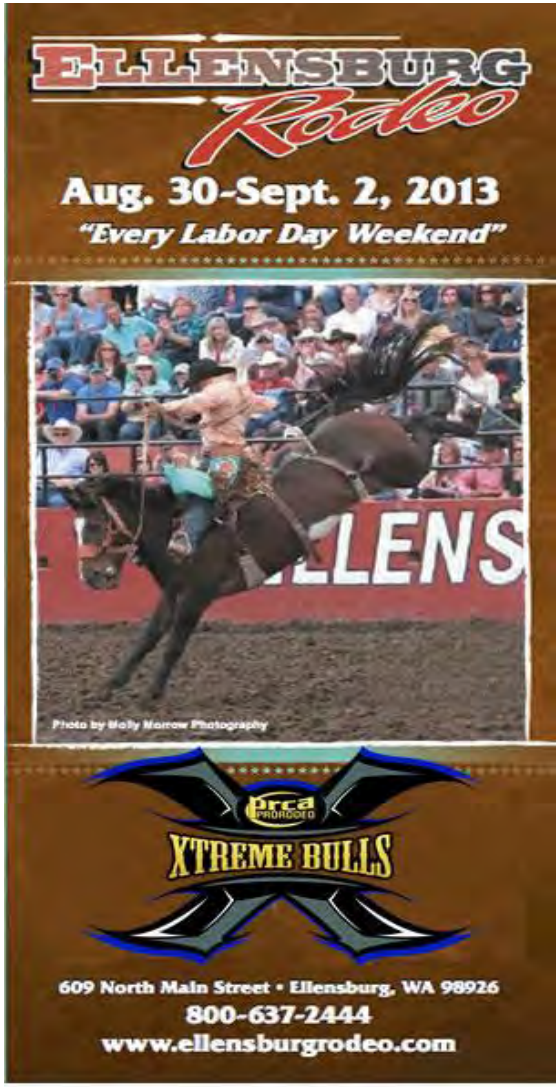


City of Ellensburg
WA APA Conference Seminar
October 2, 2013

WHAT IS ELLENSBURG KNOWN FOR? HISTORIC PRESERVATION!

THE HISTORIC DOWNTOWN
NATIONAL REGISTER DISTRICT

WHAT ELSE IS ELLENSBURG KNOWN FOR?



THE RODEO!

CENTRAL WASHINGTON UNIVERSITY

TIMOTHY HAY
AND ALFALFA

Hometown of the Screaming Trees - part of the "grunge" music movement of the early 1990s

AND, THE WIND

AND, THE SUN

I<< Rewind: Wicked Problem and Drivers for a Solution

"There's Something Happening Here. What It Is Ain't Exactly Clear."
*(*Buffalo Springfield/Stephen Stills*)*

Wicked Problem - 2010

City's Land Development Code:

- Was Woefully Outdated (from 1970s)
- Had been Piece-Meal Amended, Resulting in Inconsistencies and Confusing Text and Processes
- Was Inconsistent with City's 2007 Major Comp Plan Update

Lack of Sufficient Staff Time and City Dollars to Perform Major Code Update

- Typical of Small Jurisdictions Trying to Comply with the GMA

I<< Rewind: Wicked Problem and Drivers for a Solution (continued)

Drivers Toward a Solution PART ONE - WHAT TO DO?

Approached the Commerce Department and AWC for Assistance in a Pilot Project to Develop a Model Small Jurisdiction Land Development Code. Great Idea, But No Luck.

Researched Grants to Help Offset Costs of Code Update Project

- Came Across an ARRA Grant for Development of an Energy Efficiency and Conservation Strategy (EE&CS)

Then a Light Bulb Went On!

Land Development Codes are Directly Related to Energy Efficiency and Conservation

Think:

- Increased Densities and Density Bonuses
- Housing Options like Cottages and ADUs
- Non-Motorized Transportation
- Connectivity and Walkability
- Building Codes with Energy Efficiency Bonuses

I<< Rewind: Wicked Problem and Drivers for a Solution (continued)

City Council at that time was also Very Interested in, and Supportive of Smart Growth

The City is the Only Washington City that Owns Both its Electric Utility and Natural Gas Utility and was Already a Regional Leader in Energy Efficiency/Conservation and Renewables.

- Typical Grant Programs Such as Weatherization, Low-Flow Faucets, CFL Bulb Replacements, Natural Gas Conversions, Etc.

- First Community Renewable Energy Park In the Nation

SOLUTION

City Successfully Applied for the ARRA Grant To Develop An Energy Efficiency and Conservation Strategy that Included an Audit of the Land Development Codes to Identify Obstacles to Energy Efficiency and Conservation

City Engaged a Consultant Team to Tackle Both the EE&CS Development and to Assist in the Land Development Code Update Project

I<< Rewind: Wicked Problem and Drivers for a Solution (continued)

ELLENSBURG RENEWABLE ENERGY PARK

PURPOSE AND GOALS

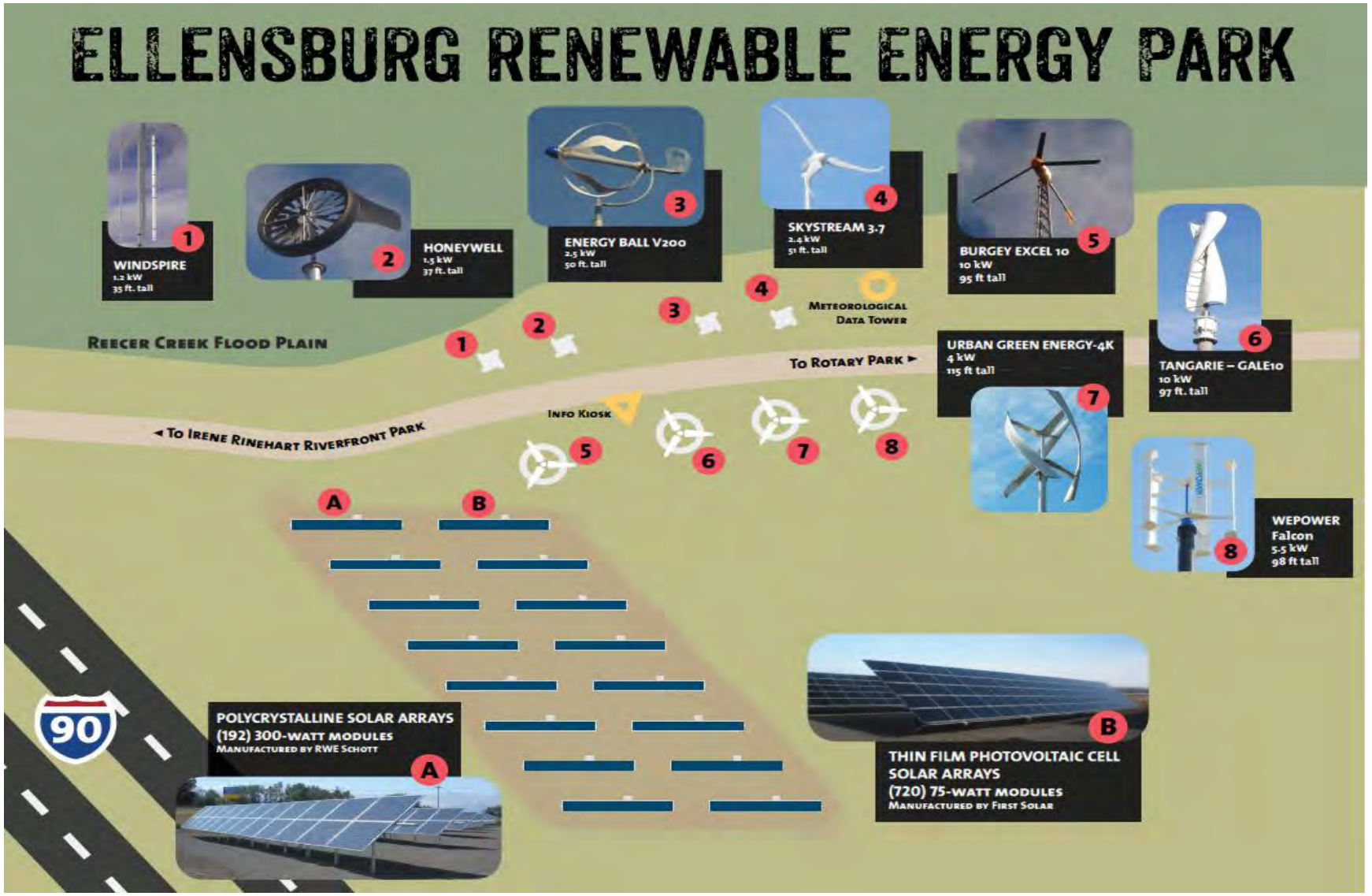
- Increase Community Awareness of Renewable Energy
- Educate Local and CWU Students about Renewable Energy
- Promote Use of Distributed Energy Systems that Produce Power at the Point of Use, Rather than at 100's of Miles Away
- Overcome Hurdles to Widespread Adoption of Renewable Energy

PREMISE

Allow Electric Utility Customers to Partner with the City by Contributing Toward the Cost of Solar Power Components. In Exchange, Partner Customers would Receive a Credit Toward their Electric Utility Bills based on their Contribution and the Wholesale Value of the KWhs Generated by the Solar Panels.

2006 - 2008	Installed 120 Solar Panel Modules @ 300-Watt Each
2012	Installed 720 Solar Panel Modules @ 75-Watt Each
2012 – 2013	Installed 8 Types of Small Wind Energy Systems for Testing and Monitoring for Efficiencies and for Education of Potential SWES Users

I<< Rewind: Wicked Problem and Drivers for a Solution (continued)



I<< Rewind: Wicked Problem and Drivers for a Solution (continued)

DRIVERS FOR A SOLUTION - PART TWO - WHAT KIND OF EE&CS DID THE CITY WANT?

Issues that Drove City's Approach

- Unique Population Characteristics
  - Ellensburg's Population = 18,370 = 43.8% of County Population
  - CWU Student Census is Around 10,700 (FTEs)
    - 1FTE could = 2+ Students
    - Approx. 3,100 Live in Dorms

- Limited Population Knowledge Base RE: Energy Efficiency/Conservation
  - Unique Mixture – "Conservative" Rural Base and more "Liberal" University Base
  - Some Awareness of Recycling – Successful Curbside Recycle Pickup Option
  - But "Green" is What the Hay and Alfalfa are Before Irrigation Water is Shut Off
  - A "Carbon Footprint" Discussion will Glaze Over most Resident's Eyes
  - Climate Change is to be Expected between Summer and Winter

- Strong City Council Support but Limited Staffing and certainly No "Green Teams"

- Staff and Council did not want a Strategy with Specific Actions and Measurables but Instead wanted a Policy Planning Document to Assist Future Decision-Makers Review Projects

I<< Rewind: Wicked Problem and Drivers for a Solution (continued)

DRIVERS FOR A SOLUTION PART THREE
THE FINAL ELLENSBURG ENERGY EFFICIENCY AND CONSERVATION STRATEGY (EE&CS)

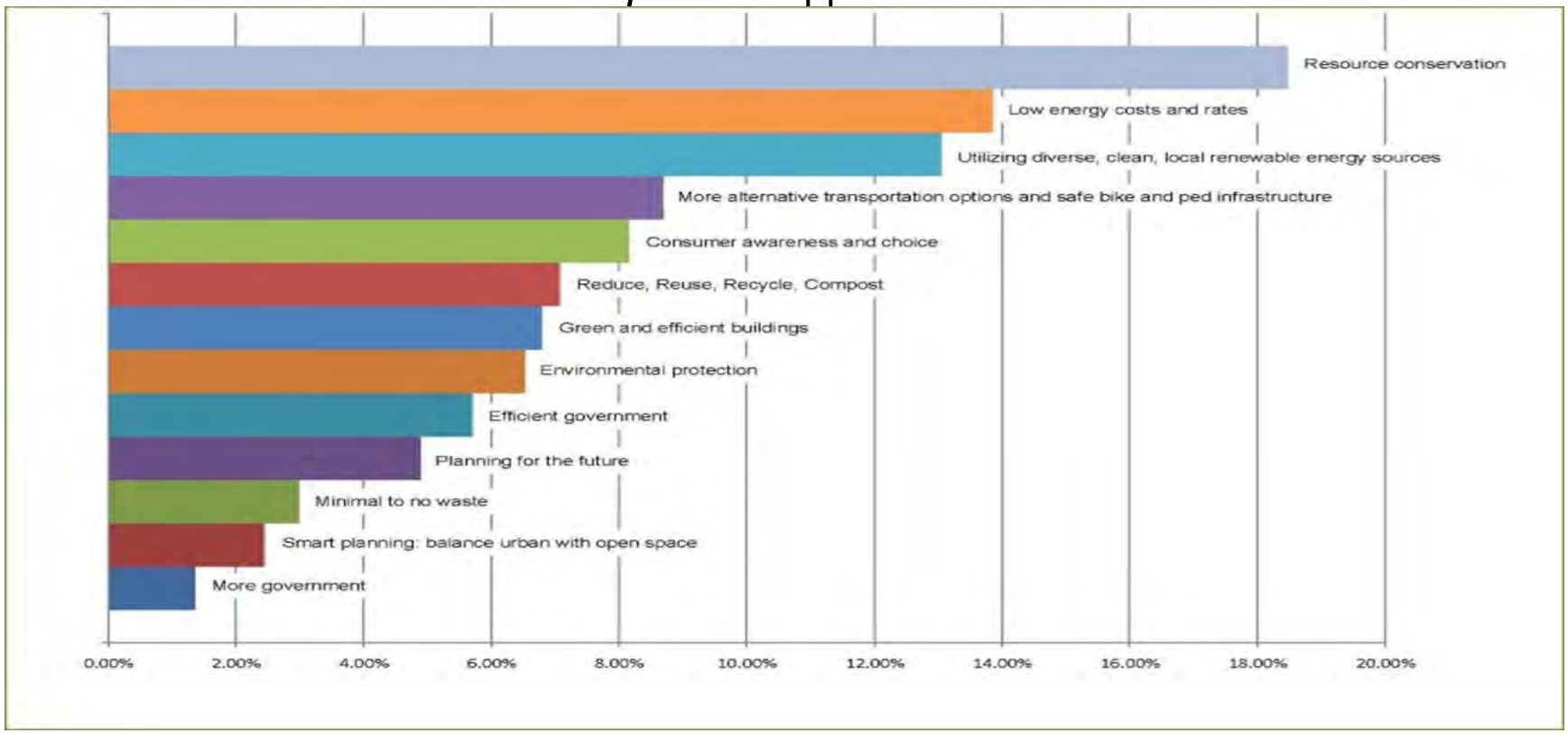
A Planning Document Intended to Provide Guidance and Structure to the City of Ellensburg as it Continues its Efforts to Reduce Overall Energy Consumption and to Foster Long Term Sustainability. The Strategy:

- Briefly Describes the Foundation and Process for an EE&CS Development
- Provides a "Snapshot" of Relevant Existing Conditions
- Includes a Current Understanding of the Community's EE&CS Vision and Goals
- Includes the Community's Preferred Focus Areas and Strategies
- Identifies Planning Tools and Implementation Strategies
- Provides Templates for Analysis of Future Projects to Assist Decision-Makers get the Most Bang for the Buck in Project Selection

I<< Rewind: Wicked Problem and Drivers for a Solution (continued)

The EE&CS Process Included All Of The Basic Planning Features:

- Extensive *Public Participation* Opportunities



EXAMPLE OF ONE PUBLIC PARTICIPATION ACTIVITY: One of the first steps in the public participation process was to reach out to greater City of Ellensburg and Kittitas County residents **to identify community preferences and priorities** to include in the EE&CS. Over 500 respondents completed the survey and identified their own individual preferred future City-driven energy efficiency actions.

I<< Rewind: Wicked Problem and Drivers for a Solution (continued)

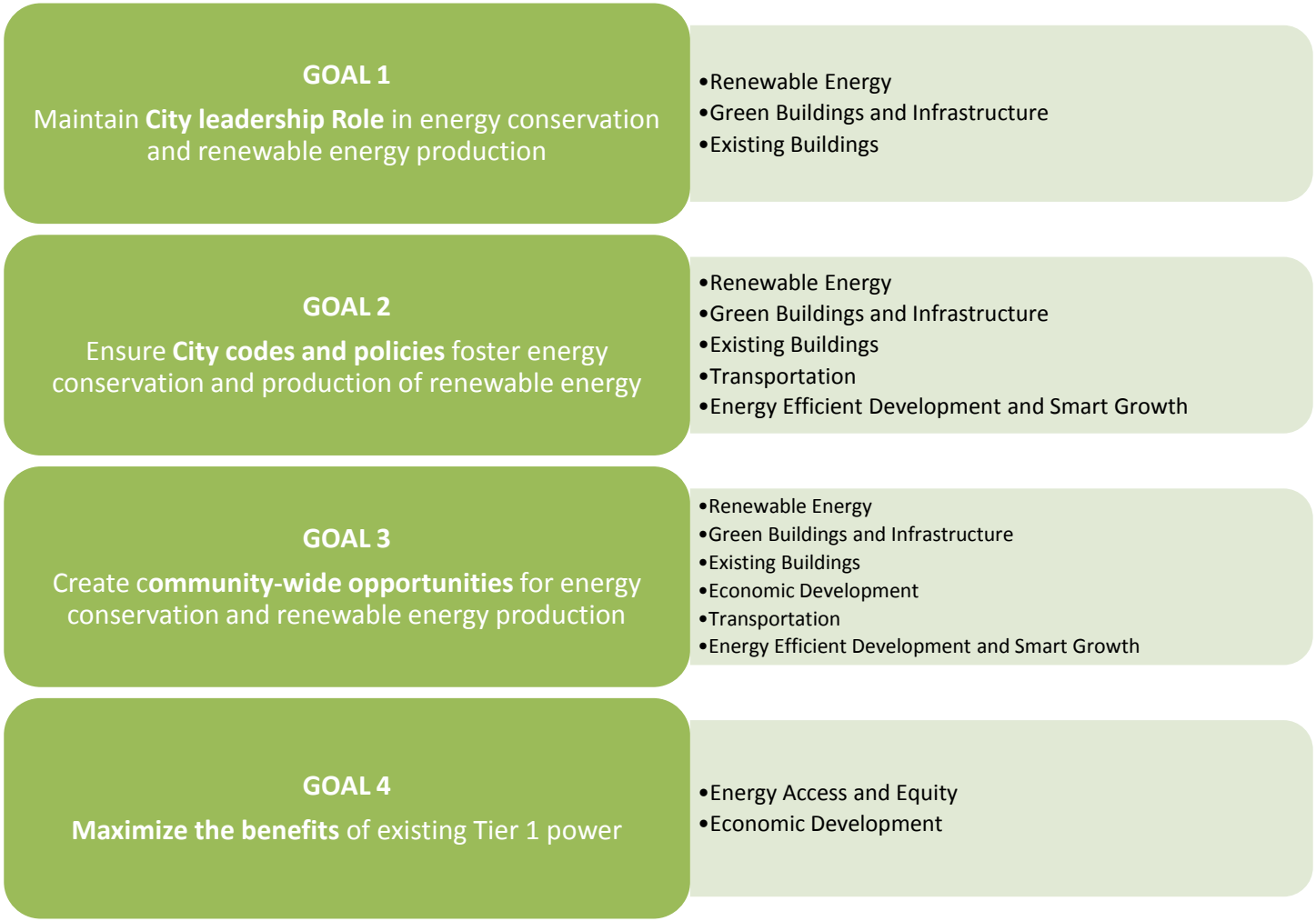
- Developed a Common Idealized *Vision* for Ellensburg to be:
  - *"A community that fosters resource sustainability and economic development through energy efficiency and the use of renewable energy."*

- Identified *Goals* that Emerged from the Public Process:
  - Maintain City leadership role in energy conservation and renewable energy production.
  - Ensure City codes and policies foster energy conservation and the production of renewable energy.
  - Create community-wide opportunities for energy conservation and renewable energy production.
  - Maximize the benefits of existing Tier 1 power pricing**.**

- Identified *Focus Areas* where there were Opportunities to Improve:
  - Transportation, Economic Development, Green Buildings and Infrastructure, Existing Buildings, Renewable Energy, Energy Access and Equity, and Energy Efficient Development and Smart Growth

I<< Rewind: Wicked Problem and Drivers for a Solution (continued)

Figure 10. EE&CS goals and corresponding focus areas



I<< Rewind: Wicked Problem and Drivers for a Solution (continued)

- Identified *Community Concerns* Regarding Implementation of Specific Strategies:
  - **Maintain What's Right**
    Keep the small town, rural character
    Celebrate and preserve the area's natural resources
  - **Increase And Improve Where Needed**
    Create a more vibrant, thriving downtown core
    Increase the breadth of actions to bring diversity to energy conservation and renewable strategies
  - **Inspire, But Validate**
    Focus on voluntary and incentivized actions instead of mandatory ones
    Showcase the financial bottom line of selected strategies
- Identified *Implementation* Strategies for each Focus Area:
  - Community-wide energy challenge/competitions
  - Creating green building/business programs
  - Establishing an energy neighborhood/district for specific initiatives
  - Expanding the electrical vehicle infrastructure
  - Development of templates to consider in deciding individual implementation strategies
- Identified Tools for *Measuring* Progress, Though Some are not Quantifiable

I<< Rewind: Wicked Problem and Drivers for a Solution (continued)

Table 5. Focus Area 1: Transportation - implementation categories and associated sample strategies.

Implementation Categories	Sample Implementation Strategies
Complete Streets: Pedestrian & Biking Infrastructure	✓ Open up cul de sacs for pedestrian walkways. ✓ Reclaim alley ways as pedestrian thoroughfares. ✓ Apply to become a 'Walk Friendly' community. ✓ Make new streets connect to existing streets and place. ✓ Add planting strip buffers between sidewalks and travel. ✓ Add bike routes to existing travelways.
Public Transit	✓ Expand service areas at least to city limits. ✓ Educate the public that public transit is available to all. ✓ Increase route frequency. ✓ Add bus shelters/ benches at stops to make more visible and appealing. ✓ Work with carsharing companies to add stations near student housing or the University to lessen the need to bring cars to school.
Fuel Consumption Reduction	✓ Consider roundabouts to reduce fuel consumption, calm traffic, increase automobile capacity and traffic safety. Good design can address any potential conflicts with pedestrian safety. ✓ Install electric vehicle charging stations at city owned parking lots/ properties.

I<< Rewind: Wicked Problem and Drivers for a Solution (continued)

GAP ANALYSIS RESULTS

The Gap Analysis of the land development codes highlighted over 30 code elements with energy impacts.

Table 2. Key gap analysis opportunities for energy efficiency and conservation.

Updating zoning to encourage mixed use and infill development
Adding provisions that enhance vehicular and non-motorized connectivity
Updating development standards to encourage energy efficiency through: • **cottage housing and clustered developments** • **passive solar orientation** • **solar access**
Revising and relocating density incentives to encourage high performance design
Adding provisions for small scale renewable energy systems: PV and wind
Allowing for demonstration projects to receive greater code flexibility in exchange for higher energy performance

I<< Rewind: Wicked Problem and Drivers for a Solution (continued)

Table 8. Focus Area 4: Existing Buildings - implementation categories and associated sample strategies.

Implementation Categories	Sample Implementation Strategies
Adaptive Reuse	✓ Provide incentives to renovate historic buildings in the downtown core. ✓ Use infill development strategies and mixed-use development with live/work properties. ✓ Discourage demolition of existing buildings through demolition fees.
Energy Consumption Reduction	✓ Give greater local visibility and support to the Efficiency First building energy disclosure ordinance to promote energy efficiency building strategies. ✓ Adopt an outcome-based energy code compliance path for renovation and retrofitting of existing buildings. ✓ Promote incentives for cost-effective energy retrofit strategies and streamline the process.
Efficient Operations	✓ Follow the LEED for Existing Buildings: Operations & Maintenance rating system to reduce ongoing operational energy. ✓ Offer energy efficient maintenance education for homeowners, renters, and the affordable housing community.

I<< Rewind: Wicked Problem and Drivers for a Solution (continued)

APPENDIX 7 Implementation Strategy Decision Template

		Relevant Focus Areas	Investment Criteria *Is the proposed strategy:*			Benefits Criteria *Does the proposed strategy:*								Decision Notes	
	Proposed Strategies	**Primary Focus Area**	Easy to Implement	Achievable through Low 1st Cost	Reasonably Measurable Over Time	Reflect Community Priorities	Reflect City Priorities	Result in Long Term Financial Savings	Significantly Reduce Energy Consumption	Foster Economic Development	Demonstrate Innovation	Create Leadership	Offer Educational Opportunities	Help Manage Energy Data	Comments	Approve/ Reject
1	**Complete and create a case study for the Wind Renewable Energy Pilot Program**															
2																
3																
4																

I<< Rewind: Wicked Problem and Drivers for a Solution (continued)

City of Ellensburg EE&CS Implementation Plan Template

Focus Area	Implementation Category	Target(s)	Strategy	2012 Action	Who/Dept.	Cost & Funding Source	Due	Progress Indicators	Status Report / Progress	Complete
1. Transportation	A. Complete Streets		1. Open up cul de sacs for pedestrian walkways							
			2. Ex.							
			3. Ex.							
			4. Ex.							
			5. Ex.							
	B. Example		1. Ex.							
			2. Ex.							
			3. Ex.							
			4. Ex.							
			5. Ex.							
	C.Example		1. Ex.							
			2. Ex.							
			3. Ex.							
			4. Ex.							
			5. Ex.							
	D. Example		1. Ex.							
			2. Ex.							
			3. Ex.							
			4. Ex.							
			5. Ex.							

General Transportation Notes:

I<< Rewind: Wicked Problem and Drivers for a Solution (continued)

1. Transportation	Detailed Action Plan APPENDIX 8			
Implementation Category	**Action**	**Who**	**Milestone Dates**	**Complete**
A. Complete Streets				
1. Open up cul de sacs for pedestrian walkways				
2. Ex.				
3. Ex.				
4. Ex.				
B. Example				
1. Ex.				

I<< Play: Where are we at in Implementation and What are Some Successes and Outcomes and Measurements?

- The EE&CS was approved by City Council in March 2012 and is adopted by reference in the City's Comprehensive Plan.

- The EE&CS was awarded a *2012 Governor's Smart Communities Award*.

- The Land Development Code Update is still underway with a final draft released and with the development community finally deciding to become involved.
    - The draft Code has incorporated many of the identified solutions to the barriers relating to energy efficiency and conservation.

- The City was asked to be one of four jurisdictions to participate in the *Sun Shot Initiative – Rooftop Solar Challenge Grant* sponsored by Commerce Energy Division. Ellensburg represented the smaller jurisdictions and the eastern Washington jurisdictions in working to develop more uniform permitting processes for rooftop solar power installations.

- Personnel changes have slowed down implementation activities with the loss of the Conservation Manager and the hiring of a new Director

I<< Play: Where are we at in Implementation and What are Some Successes and Outcomes and Measurements? (continued)

"YOU CAN'T ALWAYS GET WHAT YOU BUT IF YOU TRY SOMETIMES YOU JUST MIGHT FIND YOU GET WHAT YOU NEED." *JAGGER, MICK / RICHARDS/KEITH*

- At this point no project specific successes or outcomes have been realized through use of the Strategy's project analysis templates, although they are there and ready when the initiative picks up again.

- The Gap Analysis performed as part of the development of the EE&CS has provided a number of solutions to code barriers that have been incorporated in the Draft Land Development Code document which should result in greater energy efficiency and conservation within the City than under the current Code.

I<< Fast Forward:

How does the EE&CS fit into future sustainability related goals for the City?

The EE&CS has :

- Assisted in shifting the community's land development goals toward a Smart Growth development pattern in the future that will enable the citizens to be more energy efficient and sustainable

- Provided community education on the benefits from energy efficiency and conservation and sustainability activities

- Established a set of analytical tools to assist staff and City Council in evaluating proposed energy efficiency and conservation projects.

What are the "keeper" elements from our solution?

- A one size fits all approach to energy efficiency and conservation strategy will not work. You really need to understand the dynamics of your community and your organization.

- Synergies between projects is a valuable way to stretch limited resources. Be creative!

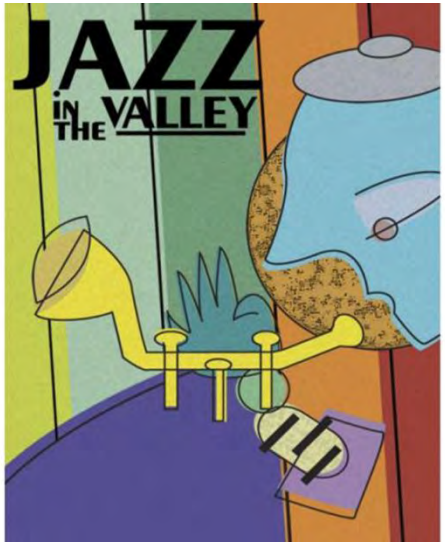
THANK YOU. AND, IN CASE YOU ARE WONDERING WHAT IS FUN TO DO IN ELLENSBURG….

Whimsical home of reflector artist Dick Elliott and artist Jane Orleman

Street Art

World Famous Jazz Last Weekend July.

Annual Costume Parade and Races Every June



Year Around

Outdoor

Recreation

Questions, Discussion, ‘Aha’ Moments

obrien & company

Thank you!

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obrien & company