City of Ellensburg EECS & LDCU

- Energy Efficiency & Conservation Strategy (EECS)
- Land Use Development Code Update (LDCU)
- Energy Efficiency and Conservation Block Grant Funding & One Consultant Team

Aligned Approach

Context: City Profile

- Mid sized city in Eastern Washington
- College town – Central Washington University
- Surrounded by ‘the great outdoors’
- Over 300 days of sun a year!
- City owned utility with an existing focus on energy efficiency and renewables

Context: Baseline Energy Snapshot

- Energy consumption
- Conservation Programs/Policies
- Renewable Energy
**Project Drivers**

- The time was right…
  - Outdated, inconsistent land use code
  - Opportunity to align with energy conservation measures in Comp Plan

- The leadership was strong…
  - Supportive Council
  - Champions in Planning and Community Development
  - Willingness to dedicate staff time
  - Align with existing leadership efforts: energy efficiency programs, policies and innovative renewable energy efforts

**Project Drivers**

- Money spoke
  - Tier 2 pricing loomed, despite existing efforts
  - EECBG funding available

**What Worked? Project Synergies**

<table>
<thead>
<tr>
<th>EECs</th>
<th>LDGCU</th>
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</thead>
<tbody>
<tr>
<td><strong>Building Related Energy Efficiency</strong></td>
<td><strong>Transportation Related Energy Efficiency</strong></td>
</tr>
<tr>
<td>- EECs Focus Areas: Green Buildings &amp; Infrastructure</td>
<td>- Zoning changes that allow unlimited density in appropriate districts</td>
</tr>
<tr>
<td>- Existing Buildings</td>
<td>- Incentivize net zero energy construction ➔ 105% density bonus</td>
</tr>
<tr>
<td>- Zoning updates to allow unlimited density in appropriate districts</td>
<td>- Updates to code height limits to promote solar and wind production</td>
</tr>
</tbody>
</table>

- EECs Focus Areas: Energy Efficient Development and Smart Growth

- Transportation: Connectivity provisions
- Pedestrian friendly development patterns and design standards

**Code Related Synergies**

- Gap analysis to identify energy efficiency barriers in land use code
- Building code barrier identification
- Process will help with future efforts (codifying energy efficiency/smart growth helps justify other efforts: non-motorized committee, complete streets committee, etc.)

**What Worked? Stakeholder Engagement**

**Challenges: Case Studies**

- Finding case studies with great ideas that fit Ellensburg
- Realistic expectations about what the case studies will provide

- Using a real land plot in Ellensburg to create case studies for suburban zone connectivity
Challenges: EECS Energy Baseline

- Getting a true baseline vs. a single snapshot of existing conditions
- Some data is better than no data
- Recommendation for future data tracking

Results: EECS Tools

- Planning Tools for a Living Document
  - Decision Matrix Template

Results: EECS Final Product

- Focus areas correlated to goals, with sample strategies

Outcomes: EECS

- Recognition
  - Governor’s 2012 Smart Communities Award
  - Commerce focus on using as a model
  - EECS as driver for other initiatives
  - Sunshot Solar Communities
  - EECS inspired projects
  - LED street lighting pilot project
  - EECS inspired policies
  - Comp Plan Amendment that adopts by reference the EECS as policy
  - New Economic Development goal that pulls directly from EECS

Outcomes: LDCU

- Robust LDCU draft in review
- "Future proofed" code language
- Easy to understand – for both staff and public

Thank You!

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206-621-8626 (108)
**Project Summary**

<table>
<thead>
<tr>
<th>EECS</th>
<th>LDCU</th>
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</thead>
<tbody>
<tr>
<td>&quot;A planning tool, not a plan&quot;</td>
<td>&quot;Make smart, energy efficient development easier and more accessible&quot;</td>
</tr>
<tr>
<td>- Vision, high-level goals, and a set of focus areas important to Ellensburg’s community</td>
<td></td>
</tr>
<tr>
<td>- Snapshot of current energy conditions</td>
<td></td>
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<tr>
<td>- Identification/prioritization of EE opportunities within focus areas</td>
<td></td>
</tr>
<tr>
<td>- Case studies of successful initiatives</td>
<td></td>
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<tr>
<td>- Implementation guidelines, decision-making criteria and tools for going forward</td>
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</tbody>
</table>

**Other Challenges for both projects**

<table>
<thead>
<tr>
<th>EECS</th>
<th>LDCU</th>
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</thead>
<tbody>
<tr>
<td>- Departmental differences of opinion about:</td>
<td></td>
</tr>
<tr>
<td>- Level of specificity in plan</td>
<td></td>
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<tr>
<td>- Goal oriented versus targeted oriented</td>
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<tr>
<td>- Getting clarity on Tier 2 Issues</td>
<td></td>
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<tr>
<td>- Push back on progressive consultant recommendations</td>
<td></td>
</tr>
<tr>
<td>- Climate and energy independence</td>
<td></td>
</tr>
<tr>
<td>- Recognition of small staff and capacity challenges</td>
<td></td>
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<tr>
<td>- Need for simplicity, lots of graphics</td>
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<tr>
<td>- Very prescriptive code approach</td>
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<tr>
<td>- Slow down in legal review</td>
<td></td>
</tr>
<tr>
<td>- Momentum sink</td>
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**Goals**

1. Maintain City leadership role in energy conservation and renewable energy production.
2. Ensure City codes and policies foster energy conservation and the production of renewable energy.
3. Create community-wide opportunities for energy conservation and renewable energy production.
4. Maximize the benefits of existing Tier 1 power pricing.
RePower Bainbridge
Shifting Gears: Energy Efficiency Empowers Communities

What is RePower Bainbridge?
• A community energy efficiency & conservation program
• Launched March 2011, funded by $5M grant from US DOE
• Dedicated to help residents save energy, reduce costs, and increase comfort
• Manage demand to reduce burden on utility infrastructure
• Create jobs in Kitsap County
• Coordinated effort with City of Bremerton

Drivers: The Bainbridge Energy Challenge
• Island exceed capacity on all three substations by 2MW: 10 hours/year.
• PSE provided 3 year timeline to reduce energy use: empowered community to take action & avoid additional infrastructure.
• Average residence uses 60% more electricity than average residence in PSE’s territory.
• Half of the Island homes were built before 1980.

RePower Goals
- 4,000 Free Home Energy Checkups
- 1,000 EPS Assessments
- 2,000 Residential Energy Upgrades
- 150 Renewable Energy Systems
- 25 Commercial Energy Upgrades
- Loan Program Utilization ($100,000)
- 65 Direct Jobs

Bainbridge Island Community
• 25,000 residents
• 6,800 SF homes
• High vacancy rates (second homes)
• Higher income levels compared to rest of Kitsap County
• Over 900 businesses (mostly small)
• Family oriented

Delivery Model: How We Make it Happen
• In-home energy assessments
• Cash incentives and rebates
• Trade ally network of local contractors
• Financing: Kitsap Credit Union & Puget Sound Cooperative CU
• Marketing and outreach events
Takin’ it to the Street: The REAL Secret of Success & Empowering our Community

Spread the Word
- Community-based social marketing
- Tap into cultural values
- Local businesses and nonprofit organizations

Island Energy Use: Awareness & Alerts

How much electricity are we using right now?

% of capacity

0% 100%

40% NORTH Port Madison

12 MW

10/23/2012
What’s That You Say?

"What’s that you say? It’s a no brainer to save money, put people back to work and create a greater good for the community."

Chris McMasters

"Our improvements have increased comfort and reduced energy costs 50 percent."

The Olson Family

"Thank you, RePower, for giving me my home back."

Linda Allen

Utility Partnerships

Value add to utility programs:

- Marketing & Outreach
- Leverage utility programs
- Pilot environment
- Utility/fuel neutral

Challenges

Neighborhood & Organizational Energy Challenges
Make the Connection

myenergy

Contractor Adoption of New Practices

- Resistance to adopting new specifications manual
- Slow progress toward BPI certifications
- Challenging incentive environment: much handholding to raise awareness
- Contractor drop-out
- Poor reporting

Results to Date

<table>
<thead>
<tr>
<th>HECU Goal: 4,000</th>
<th>EPS Goal: 1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994, 50%</td>
<td>2006, 50%</td>
</tr>
<tr>
<td>Completed</td>
<td>Remaining</td>
</tr>
<tr>
<td>132, 13%</td>
<td>87%</td>
</tr>
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</table>

Assessments Completed

<table>
<thead>
<tr>
<th>Res</th>
<th>Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
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<tr>
<td>10</td>
<td>10</td>
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<tr>
<td>20</td>
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<td>...</td>
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<tr>
<td>2012</td>
<td>2012</td>
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</tbody>
</table>

Upgrades Completed

<table>
<thead>
<tr>
<th>Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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<tr>
<td>10</td>
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<td>20</td>
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<tr>
<td>...</td>
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<tr>
<td>2012</td>
</tr>
</tbody>
</table>

HECU Progress:

- Completed: 132
- Remaining: 87%

EPS Progress:

- Completed: 13
- Remaining: 4
Residential Upgrade Goal: 2,000

- Completed: 440, 22%
- Remaining: 1,560, 78%

Commercial Upgrade Goal: 25

- Completed: 54, 100%
- Remaining: 0, 0%

Celebrate Success

- Conversion rate from assessment to upgrade: 22%

Celebrate Success

- Home Performance Industry Jobs Created: 31

Celebrate Success

- RePower Incentive Funds Issued: $132,000

Facts about CSG customers nationwide:

- Half of our customers are 55 yrs and over & empty nesters.
- About 80% of customers have no children in the home.
- About a quarter of all participating households have lived in homes more than 20 years. Over half lived in their homes more than 11 years, and about 70% more than 6 years.
- Only about 10% of customers identified themselves as being motivated to complete work due to environmental issues.
RePower: The Next Generation
To Boldly Go Where No Energy Program Has Gone Before

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Questions?
Community Power Works for Home

Innovation + Investment = Impact

- Seattle’s home energy upgrade program
- Funded by Dept of Energy’s Better Buildings Grant
- Goal of 2,000 upgrades, 15% energy savings
- 6 sectors
  - Single family
  - Small business
  - Large commercial
  - Multifamily
  - Municipal
  - Hospitals

Innovation + Investment

1. Retrofit homes & buildings
2. Reduce carbon emissions
3. Create jobs

- City-managed
- Affordable financing
- Innovative rebate structure
- Community High-Road Agreement

Impact

- 45,000 tons greenhouse gas emissions eliminated
- $195,000 annual dollar savings
- 30% average energy savings per home
- $5 million private dollars invested
- 730 people employed
- 95% local businesses

Success: Targeted Workers
**Success: Customer Investment**
- Average cost of upgrade = $14,500
- Average CPW rebate = $2,600 (18%)
- Average utility rebate = $700 (5%)
- Customers with CPW loans = 25%

**Success: Marketing to Oil Heated Homes**
- Before:
  - Number of Homes by Heating Type
  - Electric: 15%
  - Gas: 63%
  - Oil: 22%
- After:
  - Number of Homes by Heating Type
  - Electric: 14%
  - Gas: 32%
  - Oil: 54%

**Success: Non-participants**
- Homeowners with a specific project in mind, i.e. insulation or new furnace
- 30% completed energy efficiency projects outside of program
- Dropout Reasons:
  - Only interested in the assessment
  - Couldn’t afford to upgrade
  - Complicated and confusing (since changed)
  - Assessment, loan or contractor issues

- Based on interviews of CPW applicants who “dropped out”.

**Success: Customer Service**
- Customer feedback - October 2011:
  - No control of the process.
  - Lacked basic information.
  - Did not understand the program.
  - Unrealistic contractor timelines.

- Today: 94% of homeowners would recommend CPW to others

**Challenge: Driving Demand**
- Income between $50-150K
- Children in households: 33%
- Age of home: most before 1959
- Age of customer: 35-44 and 55-64

**Challenge: Marketing**
**It’s (not) easy.**

What if saving (home) energy was as easy as wearing flip-flops in summer?
communitypowerworks.org

**Who want to...**
- Save energy
- Lower heating bills
- Increase comfort
- Reduce carbon footprint
- Save energy in larger home improvement project
- Increase home value
Challenge: Marketing

We Value Comfort for the whole family

Community Power Works Home Energy Upgrades
Limited time rebates up to $3,700
Program ends soon. Sign up now!

Our Experts, Your Choice.
Sign Up & Live Your Values.
CommunityPowerWorks.org
206.448.1717

Challenge: Marketing

Challenge: Marketing

Challenge: Marketing

Challenge: Marketing

Results: By the numbers

- over 3,100 total signups
- 26 contractors, and growing
- almost 2,200 audits
- 30% average energy savings per home
- 535 completed upgrades
- over 250 upgrades in progress
- 45,000 tons of greenhouse gas emissions