

# Energize Eastside

## *Central Sub-Area Committee Meeting*

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energize**EASTSIDE**

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# Agenda

- Project overview
- Key questions and PSE responses
- Clarifying questions
- Review workshop #1 and #2
- Committee discussion
- Next steps

# Meeting outcomes

- Develop input on evaluation factors
- Determine key points for the committee to send to the advisory group for consideration
- Identify key questions for the advisory group to further explore

# Energize Eastside overview

- Growth is straining our region's existing transmission system
- Conservation alone is not enough
- We need to act now
- We are working with the community to identify solutions

***Energize Eastside*** will build new electric transmission infrastructure to ensure dependable power

# Sub-Area Workshops overview

## **Central Workshop #1 - March 26, 2014**

- 137 attendees
- 127 issues checklist worksheets received
- 23 comment cards and feedback forms received

## **Central Workshop #2 - April 23, 2014**

- 101 attendees
- 79 individual scoring sheets received
- 12 group scoring sheets received
- 25 comment cards and feedback forms received

# Key questions and responses

- Alternatives analysis/route selection process
- Undergrounding
- Seattle City Light corridor
- Olympic Pipeline
- Property values
- Electromagnetic fields (EMF)

# Solution selection process

1

What are the potential approaches to meet the Eastside's electricity needs?



conservation



local generation



infrastructure

2

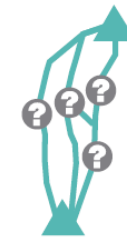
What approaches provide enough electricity to meet the Eastside's needs?



3

What solutions best deliver electricity to the Eastside?

Redmond



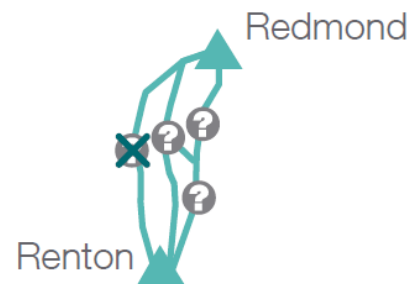
Renton



# Solution selection process

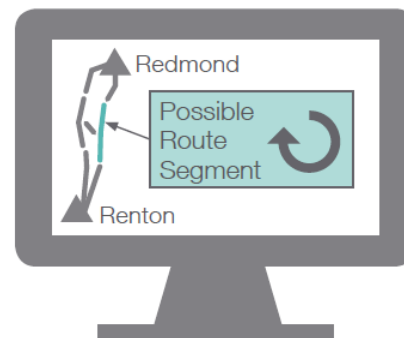
4

What solutions can PSE move forward with?



5

Where could PSE build a solution?



6

What does the public recommend?





# What about undergrounding?

- PSE is proposing an overhead transmission line project
- The reasons:
  - **No. 1: Cost**

<b>Underground</b>	<b>Overhead</b>
\$20-28 million per mile <i>estimated labor, material and equipment costs</i>	\$3-4 million per mile <i>estimated labor, material and equipment costs</i>

# Who pays to underground?

Requesting group pays the difference between undergrounding and overhead

- Requesting group needs to initiate and identify the specific members of the group
- Money paid up front for both engineering and construction



# Underground distribution lines

- Distribution lines serve individual neighborhoods, while transmission lines bring power to large areas
- Opportunities allow for new distribution lines to be underground
  - During the construction of new housing developments (developer pays)
  - In concurrence with large public improvement projects (PSE/jurisdiction cost share)
- About 50 percent of PSE's distribution system is underground, while PSE has no underground 230 kV transmission lines

# Seattle City Light corridor

- PSE has reached out to Seattle City Light (SCL)
- SCL uses their 230 kV transmission lines to meet current and future operating needs

# Olympic Pipeline

## Demonstrated success with power lines and pipelines

- Replaced 300 poles in the existing corridor
- Snohomish County – installed 8.5 miles of 230 kV transmission line along Olympic Pipeline
- In Skagit County, Sedro-Woolley to Horse Ranch project crossed Northwest Pipeline



230 kV transmission line in Everett, WA

# Property values

- Property values are comprised of many factors, including economic outlook and location, as well as proximity to jobs, schools, transportation, parks and other amenities.
- Attempting to determine the impact of a transmission line on property values outside of the context of a purchase and sale transaction requires a certain degree of speculation. Again, due to the unique qualities of each property, there's no one size fits all formula.
- We will not use property values to site infrastructure because it is inequitable.

# Electromagnetic fields (EMF)

- 45 years of research on EMF
- \$500 million spent on research in the United States alone
- About 2,900 studies conducted to date related to cancer
  - Very large amount of scientific knowledge
- World Health Organization in 2012 concluded that:
  - “The current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields”
- The international public exposure limits:
  - 2,000 mG - International Commission on Non-Ionizing Radiation Protection
  - 9,040 mG - Institute of Electrical and Electronic Engineers

<http://www.who.int/peh-emf/about/WhatisEMF/en/index.html>

# Clarifying questions

Do you have any clarifying questions about the information presented?



# Workshop #1 results

- PSE listened to community knowledge of segments and the area
- Attendees:
  - Identified key issues and considerations for segments in the sub-area
  - Brainstormed community values
  - Requested data that would be helpful to compare segments

# Key issues results

For the potential route segments in the central sub-area, what key issues should the Sub-Area Committee consider?

Issue	Survey total	Workshop total	Cumulative total
Property values	34	103	137
Visual impacts	39	82	121
Residential impacts	30	78	108
Electromagnetic fields (EMF)	25	61	86
Aesthetics	19	65	84
Community character	14	55	69

# Key themes and evaluation factors

What we heard	Evaluation factors
<i>What segments contain fewer residences?</i>	Least proximity to residential areas
<i>Safety concerns with transmission lines and pipeline</i>	Most protective of health and safety
<i>Community values schools and recreation facilities</i>	Least proximity to sensitive community land use areas
<i>Preserve streams, wetlands, wildlife</i>	Least proximity to sensitive environmental areas
<i>Use existing right-of-way</i>	Maximizes opportunity areas
<i>Number of views impacted</i>	Least effect on aesthetics

# Workshop #2 results

- PSE presented data requested in workshop #1 and also shared visualizations
- Attendees:
  - Used data to score all the route segments individually and as a group
  - As a group, wrote a key message to the Sub-Area Committee

# Segment scoring

## Central Sub-Area Workshop #2 Segment Scoring Sheet

4/23/2014

**Instructions:** Please score each of the segments in the Central Sub-Area for using the evaluation factors below. These evaluation factors were developed during small group discussions at Workshop #1.

**Scoring Key**

5 points = Best meets the factor (i.e., the segment with the least potential impacts to land uses; the segment most protective of health and safety)

4 points = Meets the factor

3 points = Mostly meets the factor

2 points = Mostly does not meet the factor

1 point = Does not meet the factor at all (i.e., the segment with most potential impacts to land uses; the segment least protective of health and safety)

Evaluation factors	Segment D	Segment E	Segment F	Segment G1	Segment G2	Segment H	Segment I	Segment J	Segment K1	Segment K2
<b>Factor one: Least proximity to residential areas</b> (number of residences, community character, noise)										
<b>Factor two: Maximizes opportunity areas</b> (existing utility corridors, public right-of-way, etc.)										
<b>Factor three: Most protective of health and safety</b> (EMF, fault lines, Olympic Pipeline, etc.)										
<b>Factor four: Least proximity to sensitive community land use areas</b> (parks, recreational areas, recreation clubs, schools, registered historic sites, etc.)										
<b>Factor five: Least proximity to sensitive environmental areas</b> (steep slopes, stream crossings, slope stability, etc.)										
<b>Factor six: Least effects on aesthetics</b> (pole design; see graphic representations)										

# Individual segment scoring averages

<b>Evaluation factor</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G1</b>	<b>G2</b>	<b>H</b>	<b>I</b>	<b>J</b>	<b>K1</b>	<b>K2</b>
1. Least proximity to residential areas	2.94	2.00	2.60	2.56	2.90	2.35	2.69	1.23	2.29	2.38
2. Maximizes opportunity areas	2.38	2.51	2.55	2.33	2.33	2.39	2.97	1.84	2.42	2.48
3. Most protective of health and safety	2.76	1.63	2.73	2.53	2.61	2.64	2.89	1.28	2.58	2.62
4. Least proximity to sensitive community land uses	2.14	2.45	2.50	2.27	2.54	2.80	2.55	1.41	2.20	2.14
5. Least proximity to sensitive environmental areas	2.76	2.00	2.50	2.41	2.35	2.17	2.77	1.62	2.22	2.18
6. Least effect on aesthetics	2.37	2.28	2.58	2.66	2.71	2.59	2.63	1.25	2.53	2.56

# Table group segment scoring averages

Evaluation factor	D	E	F	G1	G2	H	I	J	K1	K2
1. Least proximity to residential areas	2.70	2.10	2.40	2.10	2.70	1.82	2.63	1.08	2.36	2.73
2. Maximizes opportunity areas	2.20	2.40	2.20	2.30	2.50	2.09	3.17	2.00	2.45	2.82
3. Most protective of health and safety	2.60	2.00	2.40	2.50	2.70	2.18	2.83	1.58	2.64	2.73
4. Least proximity to sensitive community land uses	1.80	2.50	2.35	2.50	2.45	2.27	2.46	1.75	2.45	2.41
5. Least proximity to sensitive environmental areas	2.50	2.10	2.30	2.50	2.30	1.73	3.04	1.83	2.09	2.45
6. Least effect on aesthetics	2.30	2.40	2.30	2.70	2.65	2.14	2.79	1.38	2.82	2.55

# Individual compared to group

## Individual averages

D	E	F	G1	G2	H	I	J	K1	K2
2.94	2.00	2.60	2.56	2.90	2.35	2.69	1.23	2.29	2.38
2.38	2.51	2.55	2.33	2.33	2.39	2.97	1.84	2.42	2.48
2.76	1.63	2.73	2.53	2.61	2.64	2.89	1.28	2.58	2.62
2.14	2.45	2.50	2.27	2.54	2.80	2.55	1.41	2.20	2.14
2.76	2.00	2.50	2.41	2.35	2.17	2.77	1.62	2.22	2.18
2.37	2.28	2.58	2.66	2.71	2.59	2.63	1.25	2.53	2.56

## Group averages

D	E	F	G1	G2	H	I	J	K1	K2
2.70	2.10	2.40	2.10	2.70	1.82	2.63	1.08	2.36	2.73
2.20	2.40	2.20	2.30	2.50	2.09	3.17	2.00	2.45	2.82
2.60	2.00	2.40	2.50	2.70	2.18	2.83	1.58	2.64	2.73
1.80	2.50	2.35	2.50	2.45	2.27	2.46	1.75	2.45	2.41
2.50	2.10	2.30	2.50	2.30	1.73	3.04	1.83	2.09	2.45
2.30	2.40	2.30	2.70	2.65	2.14	2.79	1.38	2.82	2.55



# Segment D – detailed individual scores

Evaluation factor	Number of responses by score					Average
	1	2	3	4	5	
1. Least proximity to residential areas	21	2	6	3	19	150/51 = <b>2.94</b>
2. Maximizes opportunity areas	26	2	6	9	7	119/50 = <b>2.38</b>
3. Most protective of health and safety	22	3	3	9	13	138/50 = <b>2.76</b>
4. Least proximity to sensitive community land uses	27	5	8	1	8	105/49 = <b>2.14</b>
5. Least proximity to sensitive environmental areas	22	2	5	6	14	135/49 = <b>2.76</b>
6. Least effect on aesthetics	26	1	9	4	9	116/49 = <b>2.37</b>

# Key themes from worksheet comments

- Preference for longer poles
- Preference for shorter poles
- Preference for undergrounding or submerging the transmission line
- Partner with Seattle City Light in right-of-way on I-405

# Key themes from worksheet comments

- Partner with BPA in Sammamish Plateau
- Consider the alternatives of conservation, distributed generation, and co-generation
- Request to see data on how PSE projected growth

# Key messages to the Committee

## Group 1

- *Think about/consider property values. Property values ARE objective.*
- *Study other alternatives with same vigor & expertise.*
- *Need for project could be obviated with conservation.*

## Group 3

- *None of the segments are acceptable.*
- *Consider: conservation, targeted underground, submerged line.*

## Group 2

- *The options on the table are not acceptable (100% above-ground).*
- *Get serious about undergrounding in residential neighborhoods (then your proclivity to ignore property values impact becomes a non-issue) or use Seattle City Light corridor along I-405.*
- *Submerging in Lake Washington covers 80% or more of the route.*
- *Property owners will not tolerate big towers in their view corridors. And there are a LOT of impacted property owners.*

# Key messages to the Committee

## Group 4

- *Explain why BP pipeline that is east of "J" is not an option.*
- *Why is pipeline not shown in K1 & K2.*
- *Provide data on underground cost reduction using Canadian input.*
- *Study impact of earthquakes and rain on slope stability in section "J"*
- *Consider underwater option for section "L".*
- *Add evaluation factor for residential property values.*

## Group 5

- *How much will this process affect the executive decision?*
- *Use existing PSE available ROWs.*
- *Minimum power along "D"; keep it that way.*
- *Ideal route: A, C, E, G2, I, K2, M, N.*
- *Bypasses "S." neighborhood which has strong objections to view impacts.*
- *"J" high political impact area.*
- *Prefer G2-5 [photo simulation], higher pole longer span.*

## Group 6

- *Too many unknowns at this point about property values and aesthetics.*
- *Aesthetics and views is objective to those who live there.*

# Key messages to the Committee

## **Group 7**

- *Directly address all the options.*
- *Consult with realtors re: view impacts.*
- *Will PSE compensate?*
- *Lots of schools and kids in the area.*
- *Neutral technical consultant to answer questions.*
- *Live forum so people can see questions and answers.*

## **Group 9**

- *Keep coal out.*
- *Conservation is key – change lifestyle – habitat.*
- *Incentivize less energy use.*
- *Sustainable business model while using less energy.*
- *Require solar on new construction.*
- *Local energy.*
- *Rethink infrastructure.*

## **Group 8**

- *Concerned about the stability of the slopes, as well as the visual impacts concerned about the health and safety.*

## **Group 10**

- *Property value impact is an objective criteria that must be considered.*
- *Aesthetics is an unacceptable subjective criteria that does not capture visual impacts.*
- *Want alternatives (underwater or underground, in lake).*

# Key messages to the Committee

## **Group 11**

▪ *We want to see alts to PSE proposals: conservation, SCL partnership, partnership with BPA, undergrounding, submerging, co-generation, battery farm.*

## **Group 12**

▪ *[We are] really disappointed that no alternatives to PSE proposals have been included for consideration. For the community outreach activity (workshops etc.) to be productive additional alternatives suggested by the community need to be addressed.*

## **Group 13**

▪ *It is disappointing that other alternatives that do not involve contributing to industrial blight through so many residential neighborhoods. Surely some of the alternatives that I've heard being put forward could have been explored further, with more effort. Instead we are being asked to choose amongst options that the members of the community have already made abundantly clear are totally unacceptable. Running industrial height high-power lines through residential neighborhoods does not serve our community as a whole. It merely serves those who would profit financially from it in the short term, but leave a blight on our communities for decades to come.*

# Committee discussion



# Upcoming meetings

- **Community Advisory Group Meeting #3**  
June 4 from 5:30 to 8:30 p.m. at the Old Redmond Schoolhouse

**Thank you!**