

20
13

MEMBER
FORUM
XVI

ENERGY IN MOTION

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Vice President
Energy/Business Services

25 October 2013

Energy Northwest in Motion:
Serving the Region

Member Focused
Today's Resources
Tomorrow's Solutions
End User is King

Guided Motion – last year's input

Motion is Change – react to external forces

Change with Relevance – benchmarking

Perform with Excellence – accountable

Changes Evolving – seeing around the corner

Listening & Moving – transitions

Doing & Listening in Parallel – new sparks

Round Table Pre-brief – voice of the Customer

Guiding Motion . . .

One year ago, we asked for your feedback



...What we heard

- Build member confidence; maintain visible interaction at PUD level
- Investigate regional conservation/demand response
- Plan for future need by banking technologies and sites
- Consolidate buying power for common purchases
- Assist with talent recruitment and retention systems

How we've responded

- CEO, VP visits to members and association meetings
- EN formed Demand Response team and submitted pilot project proposal to BPA
- EN partnering on NuScale Small Modular Reactor proposal
- Studying feasibility of establishing aggregate buying program
- 2013 Member Forum breakout sessions on talent acquisition, leadership assessments, succession planning, and the Excellence Model

Motion is Change . . .

Public Power

FY12	FY13	FY14	FY15 +
<ul style="list-style-type: none"> > Tier 2 power need emerging <ul style="list-style-type: none"> > Improve Demand Forecasting > Refurbish Member existing generation assets > Develop key additional generation projects 	<ul style="list-style-type: none"> > Improve existing generation plant performance > Offer low-price, low-risk power supply options <ul style="list-style-type: none"> > Technical Workforce challenges > Improve Transmission efficiency 	<ul style="list-style-type: none"> > Energy demand flat, reduced > Load impacts of Distributed Generation, Net Metering <ul style="list-style-type: none"> > Bank Sites for need-based development > Conservation, Energy Efficiency 	<ul style="list-style-type: none"> > Energy demand flat, reduced > Demand Side Management: <ul style="list-style-type: none"> • Demand Response • Distributed Storage > Establish development partnerships

Continuously evolving

Energy Northwest has changed

2010

- Resurgence
of Columbia
Station

- Banking
Generation
- Demand
Response
- Energy
Solutions

- Demand Side
Management
- Net metering
- Micro-grid
- Innovation
Development

- Over the
Horizon

... and will continue to change going forward

Change with Relevance . . .

Benchmarking to Better Serve

- Utah Associated Municipal Power Systems (UAMPS)



- Platte River Power Authority (PRPA)



- Nebraska Public Power District (NPPD)



- Municipal Electric Authority of Georgia (MEAG)



Preliminary thoughts

How do other joint agencies manage their Member Construct?

- Simple Board structure
- Board listening sessions
- Board governance of Agency
- Agency leads the business
- Proactive member participation
- Member project definition
- Member project leadership
- Member skin in the game
- End user is king



Perform with Excellence . . .

Well Run Generation Diversity is Essential



Excellence Model is Key

Public Power User Groups

- Application of power technologies
- Expertise from around the region
- Knowledge sharing

- Wind (Northwest Wind Operators Group)
- Small hydro
- Demand Side Management
- Micro-grid



Cost, Performance & Market Benchmarking

Lawrence Berkeley National Laboratory – Wind

Oak Ridge National Laboratory – Hydro

Banking generation sites

Viable generation options ready when members need them

- Kalama CCGT – mothballed
- Most recent activity – neoen (solar)
- Others simmering; wind, biomass



Less emphasis today – but always ready

Changes Evolving . . .

What's on the Horizon?

- Demand Side Management
- Demand Response
- Energy Storage
- Distributed resources
- Net metering
- Micro-grid
- Others

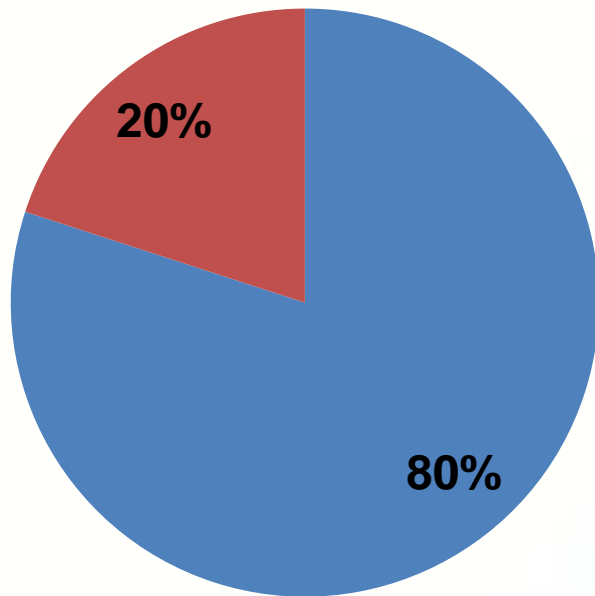
Listening



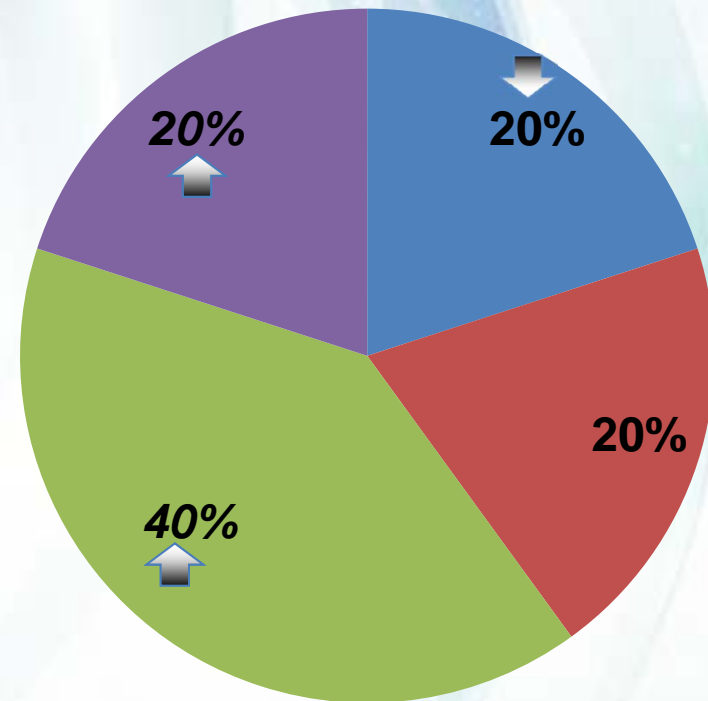
Moving

Generation Project Development

Today

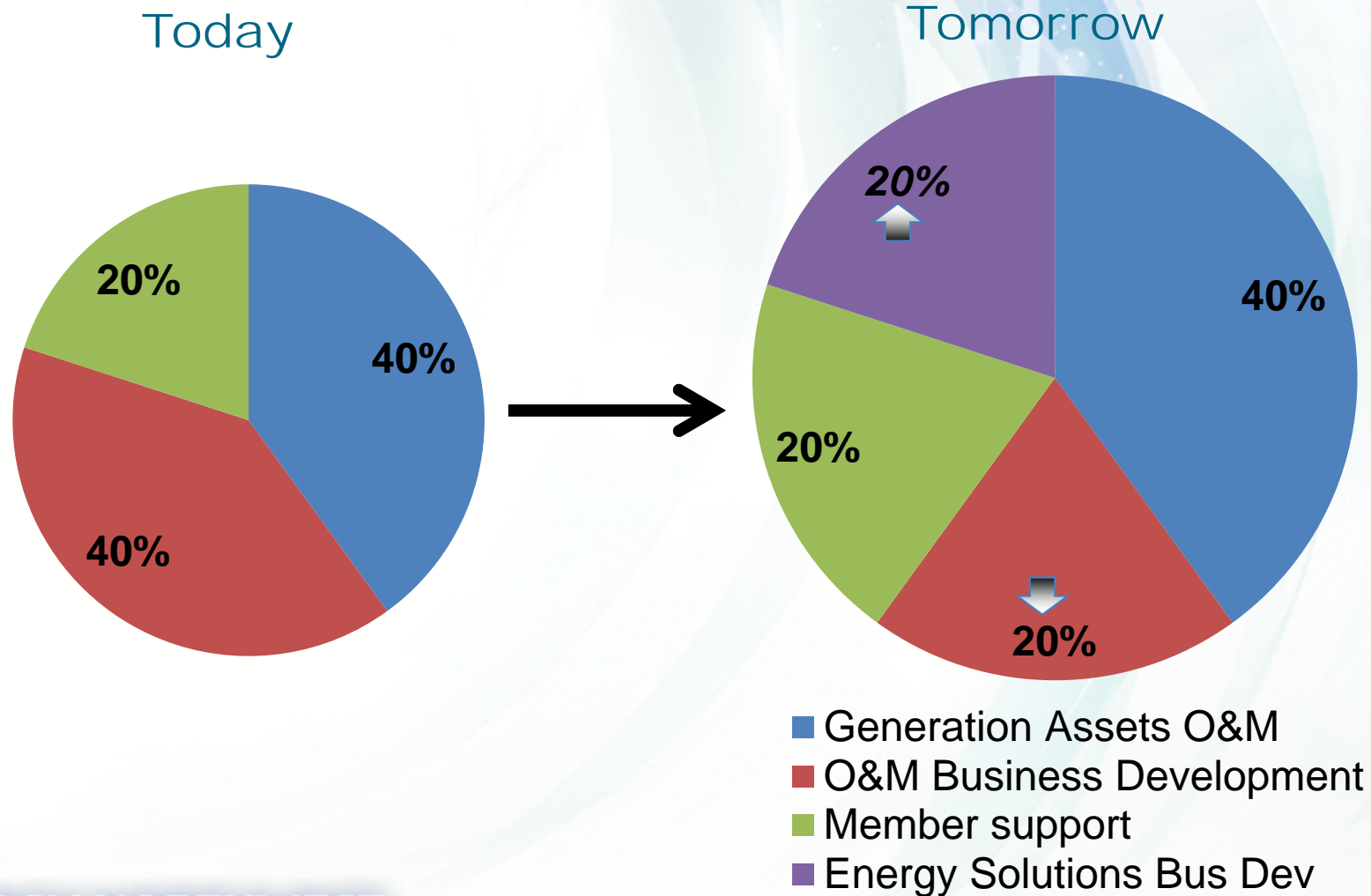


Tomorrow



- Generation Development
- Member Support
- Demand Side Management
- Energy Storage

O&M and Professional Services

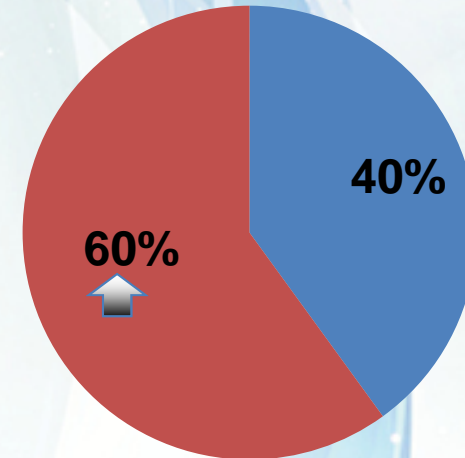
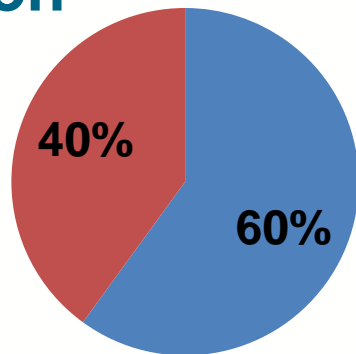


Laboratories

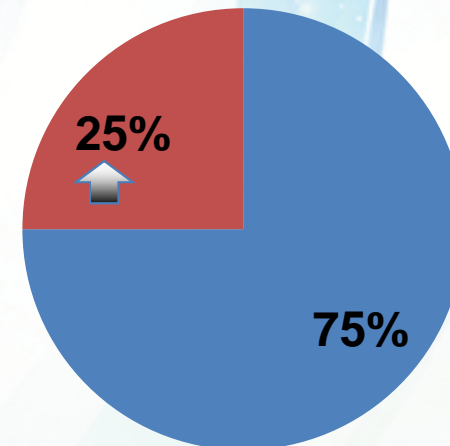
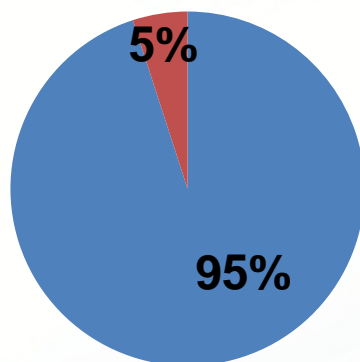
Today

Tomorrow

Calibration



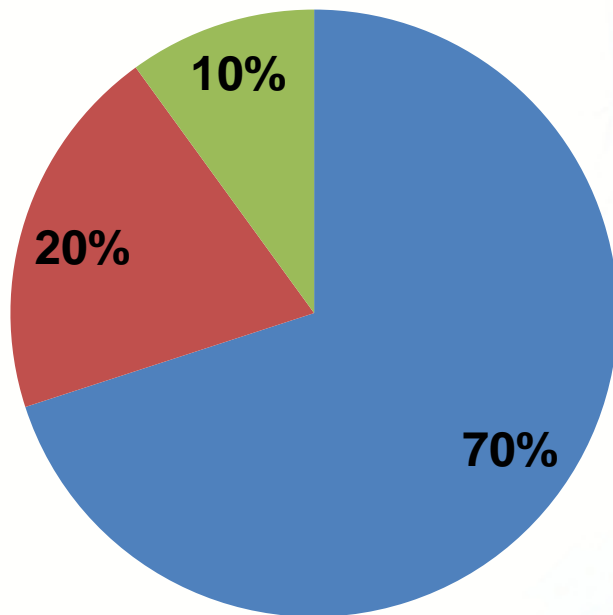
Environmental



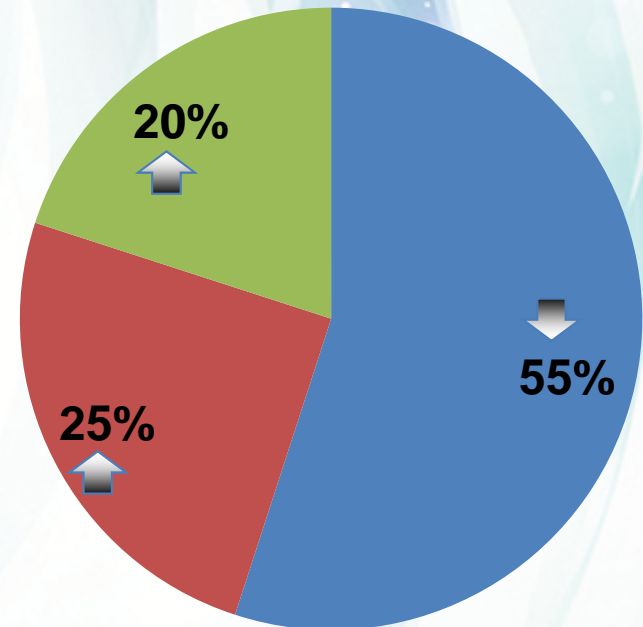
■ EN (internal) ■ Commercial

Facilities

Today



Tomorrow



■ Leasing ■ Restoration ■ Disposition
(WNP 1/4)

Doing & Listening in Parallel . . .

Professional Energy Services

- Project management
- Professional labor
- Craft labor
- Construction
- Operation
- Maintenance
- Deal structuring
- Power marketing
- Bond financing



Solutions in motion

Consulting & Reports



- Power technology
- Brainstorming
- Facilitation
- Scoping & Order of Magnitude
- Root Cause Analysis
- Finance; Training; Audits
- Environmental Management System/ISO-14001
- Human Resources
- Integrated resource planning
- Equity Outlook & Cost per Meter

Indicative Pricing

CALIBRATIONS SERVICES

Torque Wrench
Pressure Gauge
Digital Multimeter
Force Gauge
Caliper
Rotometer
Laboratory fan
Oscilloscope
Site Support

(1) Indicates five point calibration
 (2) Site Support Services are
 Indicative pricing for common services offered. To receive a quote for services and/or discount pricing for long-term contracts, please call 509-377-8232

ENVIRONMENTAL SERVICES

Used Oil Sampling
Drinking Water Analysis
Cooling System Analysis
Fisheries Services (1)
Botanical Services
Habitat Services (1)

(1) Prices indicated are per hour of service.
 Indicative pricing for common services offered. To receive a quote for services and/or discount pricing for long-term contracts, please call 509-377-8232

Project Development / Operations

Supply Planning / Project Management
Project Developer
Project Development Coordinator
Administrative Assistant


(1) Prices listed as hourly cost of service.
 Indicative pricing as of September 2013. To receive a quote for services and/or discount pricing for long-term contracts, please call 509-377-8610

Professional Services (1)

	EN Member Utility	Non-Member
Project Management	\$127	\$141
Project Engineer	\$59	\$66
Electrical Engineer Sr.	\$115	\$128
Electrical Engineer	\$57	\$63
Mechanical Engineer Sr.	\$109	\$121
Mechanical Engineer	\$54	\$60
Wind Technician Lead	\$68	\$75
Wind Technician	\$56	\$62
Hydro Operator Lead	\$93	\$103
Hydro Operator	\$65	\$72

(1) Prices listed as hourly cost of service.
 Indicative pricing as of September 2013. To receive a quote for services and/or discount pricing for long-term contracts, please call 509-377-8610

Verify Revision Information Prior To Use		Initials	
		Date	
Number: EBSI-2.6	Use Category: INFORMATION	Major Rev: 005	
Title: Pricing And Margin Guidelines		Minor Rev: N/A	
		Page: 1 of 7	

ENERGY/BUSINESS SERVICES INSTRUCTIONS	PCN#: N/A
	Effective Date: 06/17/13
EBSI-2.6	

eRECs

Example Only

ENERGY NORTHWEST REC TRADING DATABASE

Home

What Are RECs?

Energy Independence Act

RECs for Sale

Looking to Sell?

Forecasting Calculator

Contact Us

Member Portal

Certifications

Helpful Links

Login

Not a member? Click [here](#)

Welcome to Energy Northwest's Renewable Energy Credit Trading Database. We have created this website to more easily facilitate the transfer of REC's from the producers to the customers. Simply log in using your username and password to see the list of REC's available from suppliers across the region.

Wind Solar Biomass Overall Average

\$12.00
\$10.00
\$8.00
\$6.00
\$4.00
\$2.00
\$0.00

January February March April May June July August September October November December

Wind
Solar
Biomass
Overall Average

Need help? Click [Here](#)

ENERGY NORTHWEST
Energy Business Services
3000 George Washington Way
Richland, WA 99354
RECtrading@energy-northwest.com

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eRECs

Example Only

ENERGY NORTHWEST REC TRADING DATABASE: Looking to Sell?

Once submitted, your listing application will be reviewed and uploaded as quickly as possible. You will receive an email to the given address when the listing is uploaded to the site.

Login
Not a member? Click [here](#)

Name	• Greyson Siegel
Company	• White Bluffs
Work Email	• gtsiegel@whitebluffs.com
Work Phone	• 509.377.8043
Type of RECs Selling	• Solar
Number of REC's Selling	• 50
Vintage	• 2012
Price	• \$9.87
Contract Length	• 2 years

Submit

Home
What Are RECs?
Energy Independence Act
REC's for Sale
Looking to Sell?
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Energy Business Services
3000 George Washington Way
Richland, WA 99354
RECtrading@energy-northwest.com

Need help? Click [Here](#)

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[f](#) [t](#) [v](#)

eRECs

ENERGY NORTHWEST REC TRADING DATABASE: REC's for Sale

This page is for the sale of certified REC's only. If you have REC's which you wish to certify, click [here](#).

For any sales of REC's, please contact the seller directly through the information provided.

Price: Low to High | RECs: Low to High | Contract: Low to High | Date: Most Recent

Harvest Wind Price: \$8.33 RECS: 50	Phone: 123-456-7890 Contract: 5 years	06/24
Stateline Wind Price: \$8.45 RECS: 30	Phone: 123-456-7890 Contract: 5 years	07/04
Wild Horse Solar Price: \$8.59 RECS: 20	Phone: 123-456-7890 Contract: 10 years	07/16
Nine Canyon Wind Price: \$8.60 RECS: 70	Phone: 123-456-7890 Contract: 10 years	08/08
White Bluffs Solar Price: \$8.75 RECS: 50	Phone: 123-456-7890 Contract: 15 years	08/12

Filter

Type:
All (15)
Wind (7)
Solar (5)
Biomass (3)

Price
\$0-2 (0)
\$3-5 (0)
\$6-8 (7)
\$9-11 (8)
\$12-14 (0)
\$15+ (0)

RECs
1-10 (1)
11-20 (3)
21-30 (3)
31-40 (4)
41-50 (3)
50+ (1)

Contract
1-5 years (2)
6-10 years (4)
11-15 years (2)
15-20 years (4)
21+ years (1)

Need help? Click [Here](#)

Energy Business Services
3000 George Washington Way
Richland, WA 99354
RECtrading@energy-northwest.com

eOil_Test

ENERGY NORTHWEST Oil Testing Site: Request Services

Example Only

Number of Tests

1	<input checked="" type="checkbox"/>	Acid Number
1	<input checked="" type="checkbox"/>	Color
12	<input checked="" type="checkbox"/>	Demulsibility
	<input type="checkbox"/>	Foam
5	<input checked="" type="checkbox"/>	Ftir
10	<input checked="" type="checkbox"/>	Karl Fischer Water
7	<input checked="" type="checkbox"/>	Membrane Patch Colorimetry
	<input type="checkbox"/>	Particle Counting
3	<input checked="" type="checkbox"/>	Rotating Pressure Oxidation
6	<input checked="" type="checkbox"/>	Ruler
5	<input checked="" type="checkbox"/>	Rust A
	<input type="checkbox"/>	Spectroscopic Analysis
2	<input checked="" type="checkbox"/>	Ultra Centrifuge
1	<input checked="" type="checkbox"/>	Viscosity

Click to add tests to order

Home Request Services Tests Available About Us Your Account Contact Us

Name of Company • Energy Northwest

Name of Contact • Greyson Siegel

Phone • 123-456-7890

Email • gtsiegel@energy-northwest.com

Street Address • 3000 George Washington Way

City, State • Richland, WA

Use • Wind Turbine

Member ID • NineCanyon1257

Not a member? Click [here](#) to sign up for free!

Submit

ENERGY NORTHWEST Energy Business Services
3000 George Washington Way
Richland, WA 99354
REctrading@energy-northwest.com

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eOil_Test

ENERGY NORTHWEST Oil Testing Site: Your Account

Welcome, **NineCanyon1257**

Home Request Services Tests Available About Us **Your Account** Contact Us

Front Page [See All Reports](#) [See Account Details](#)

Click the box to see the most recent report or click the machine to see its history.

	Acid Number	Color	Demulsibility	Foam	Fir	Karl Fischer Water	Colorimetry Patch	Membrane Counting	Particle Oxidation	Rotating Pressure	Ruler	Rust A	Spectroscopic Analysis	Ultra Centrifuge	Viscosity
Turbine1	Red	Grey	Green	Red	Yellow	Green	Red	Grey	Red	Yellow	Grey	Grey	Green	Green	Yellow
Turbine2	Yellow	Grey	Green	Red	Yellow	Green	Green	Grey	Red	Yellow	Grey	Grey	Green	Green	Yellow
Turbine3	Red	Grey	Yellow	Green	Yellow	Green	Green	Grey	Red	Yellow	Grey	Grey	Green	Green	Green
Turbine4	Red	Grey	Yellow	Green	Yellow	Green	Green	Grey	Red	Yellow	Grey	Grey	Green	Green	Red
Turbine5	Green	Grey	Green	Green	Yellow	Green	Green	Grey	Red	Yellow	Grey	Grey	Yellow	Green	Green
Turbine6	Green	Grey	Green	Yellow	Green	Green	Yellow	Grey	Red	Green	Grey	Grey	Yellow	Green	Green
Turbine7	Green	Grey	Red	Yellow	Green	Green	Yellow	Grey	Red	Green	Grey	Grey	Yellow	Green	Green

■ - Good
■ - Caution
■ - Critical
■ - Not Applicable

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- Energy Northwest is ~7% member
- 2010 U.S. DoC grants; ~80% of \$138.8MM spent
- 1,000 miles fiber and 8 new microwave sites
- Enabling; 300 community anchor institutions + 1000's end users



What's next?

- Build-out?
- Future directions?
- Upcoming vision discussions w/ CEO (Greg Marney) & COO (Dave Spencer)

Round Table Pre-brief . . .

Let's discuss opportunities!

- Structured roundtable discussions: coming together to share information
- 8 tables:
 - 4 in this main room
 - 2 in the atrium (where you had lunch)
 - 2 in the Clearwater Room (across the hall from where the Board meeting was held)
- GMs, Power Managers and staff: after the break, please go the Atrium Room and seat yourselves at Tables 7 and 8
- Board members and commissioners: after the break, please come back here and seat yourselves at Tables 1 - 6

Structured roundtables

- To stimulate new ideas, we encourage you to sit with colleagues that are not from your own utility
- Each table will meet for about 10 minutes with rotating Energy Northwest staff, who will facilitate and take notes
 - Facilitators will present topics and scenarios for discussion
 - Note Takers will gather comments and suggested actions
 - Facilitators will rotate; Note Takers will stay at the same table
 - 10 minutes per question
- We'll close the activity by posting the clear themes and actions on wall charts and provide the opportunity for all participants to vote their top choices using "dots"

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Questions?

Comments?



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