CEP-DSP
Community Learning Lab # 2

October 27, 2022





Agenda

9:00 – 9:10 am: Welcome & Meeting Logistics

9:10 – 9:35 am: DSP Lessons Learned, Partner Comments, PGE actions

9:35 – 9:50 am: Update on ETO Collaboration

9:50 – 10:00 am: Continuation of IRP 101

10:00 – 10:10 am: Break

10:10 – 11:10 am: Grid Needs and NWS

11:10 – 11:55 am: DSP/CEP Intersection: NWS/CBI/CBRE

11:50 – 12:00 pm: Next Steps & Closing Remarks

Meeting Objectives

- Inform about related efforts
- Follow through on engagement related to Non-wires Solutions (NWS) and Large Projects
- Develop next steps for project-specific Community Engagement
- Explore the intersection of DSP and CEP concepts

Meeting Logistics


Audio


Microphone


Chat box


Video


Raise Hand


Closed Caption


Mural Board

Operating Agreements

Establishing norms with our communities is foundational to building trust.

To create a **safe space**, we established **common agreements** such as **respect, diversity of thought** and **inclusivity**.

Practice curiosity and **seek to understand different perspectives**.

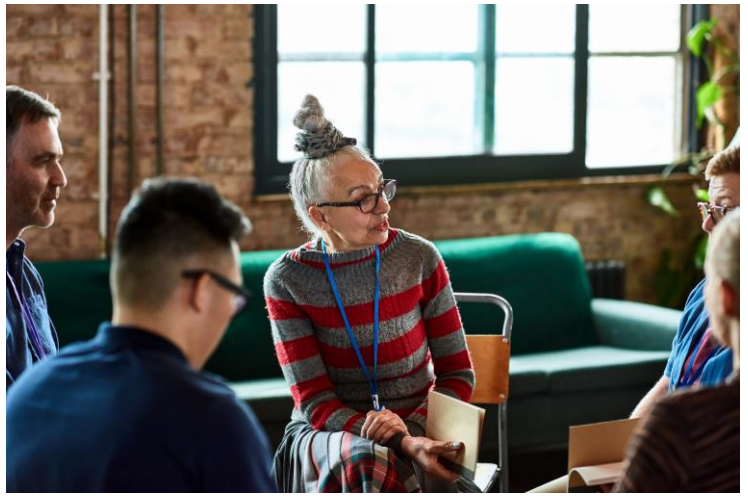
Stay Engaged

Be Willing To Experience Discomfort

Speak your Truth

Expect and Accept Non-closure

Share the Airtime



The courageous conversations framework
By Glenn Singleton and Curtis Linton

DSP Recap/Lessons Learned

Joe Boyles, Project Manager, Distributed Energy Resources

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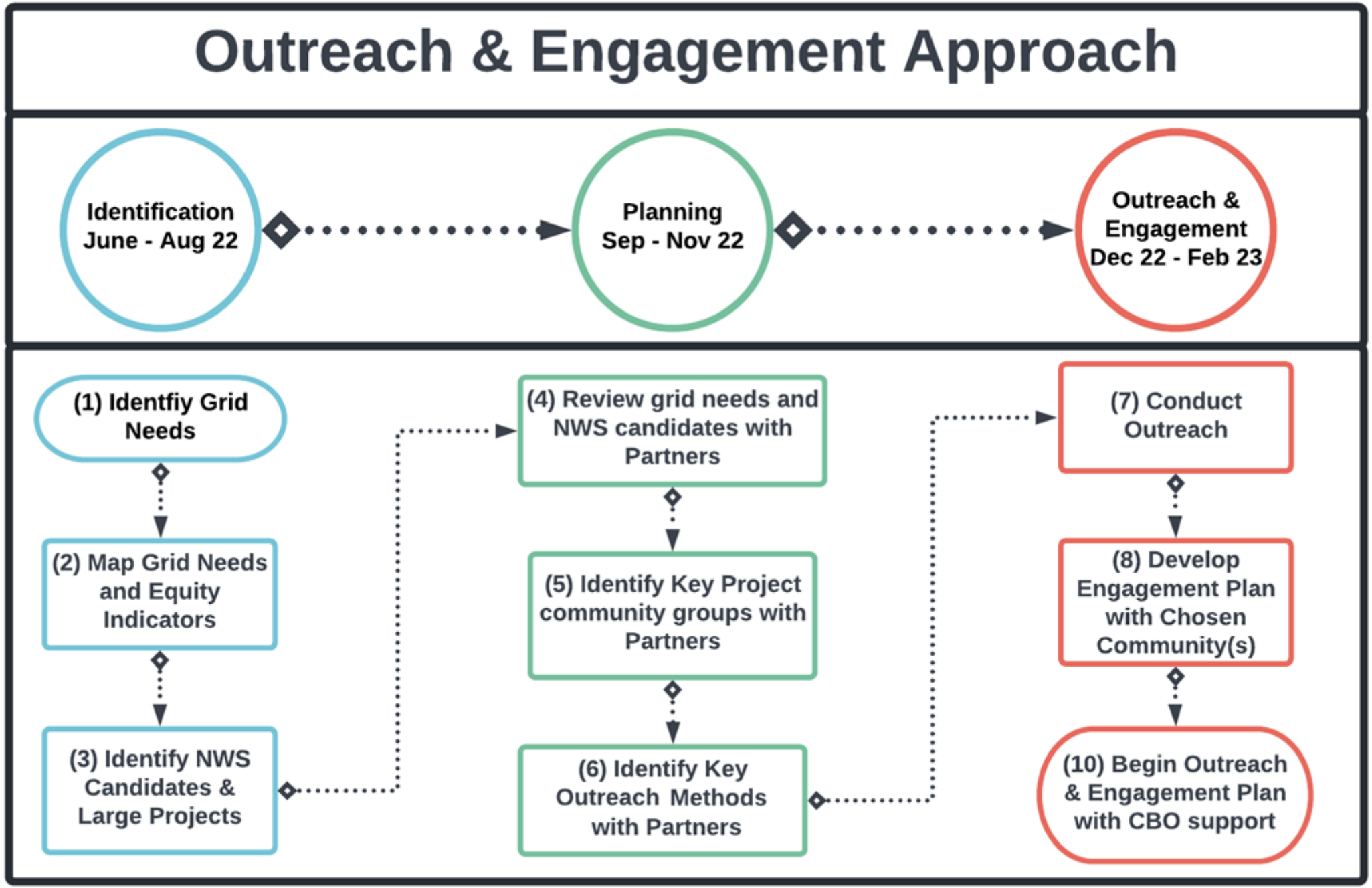
Outreach & Engagement Approach



Desired Outcomes

(1) Community Acknowledgment & Participation in NWS & Large Projects

(2) Increased CBO capacity for Engagement Partnerships in Future Planning Cycles

(3) Continual Process of Documenting Lessons Learned, & Growing from our Actions + Feedback.

Assumptions

(1) DSP Team can find orgs to Partner with.

(2) DSP Team can find a reliable method of funding partners

Qualitative Results

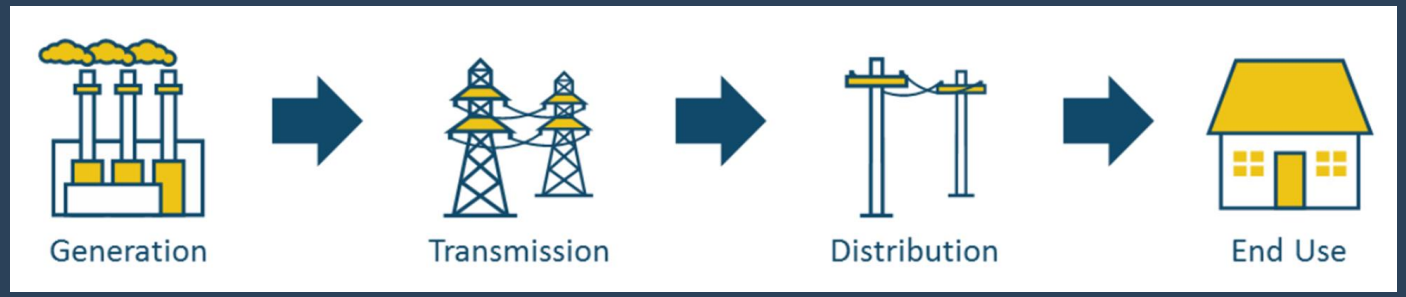
Areas of Opportunity

- Compensation
- Duration of meetings
- Advanced notice of meeting times
- A regular schedule /meeting cadence
- Clarity on how participation effects internal PGE actions and policies
- Need a broader array of people in workshops

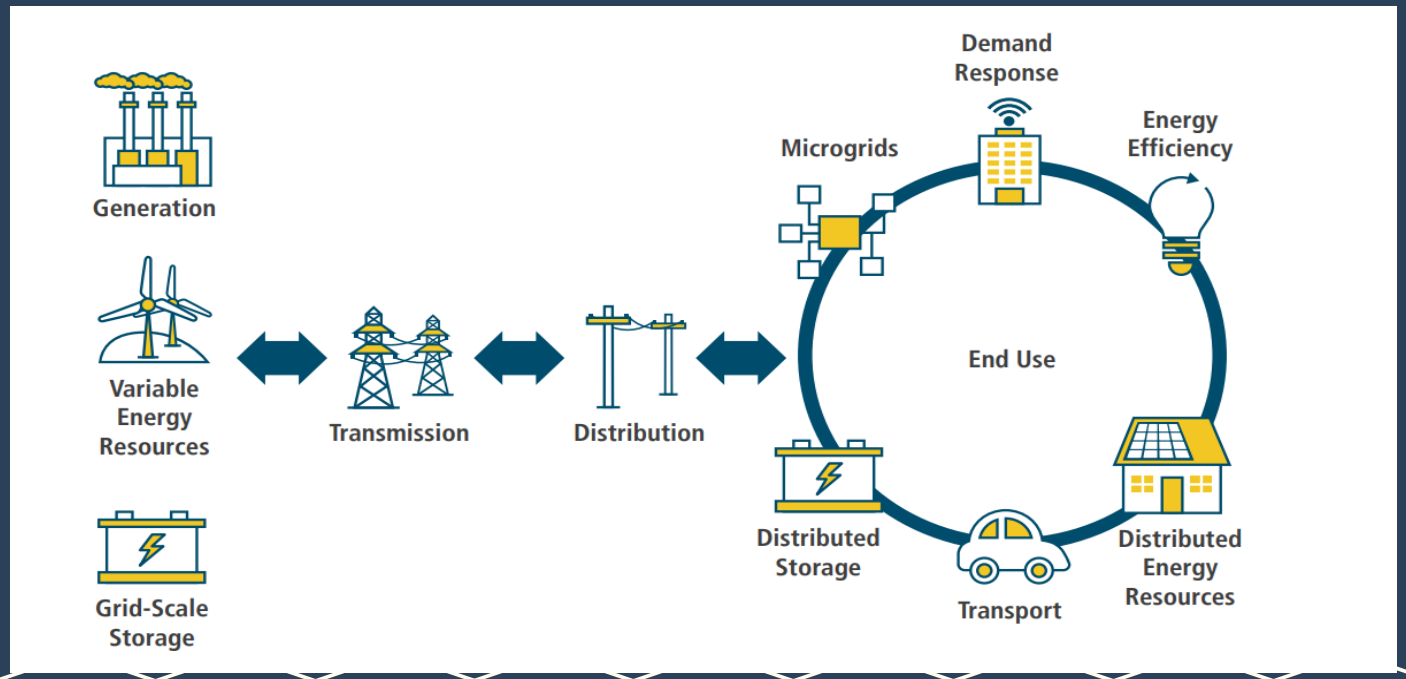
Areas of Appreciation

- Accessible facilitation & format
- Real-world examples
- Progression & level setting of topics
- NWS & DER stacking

Modern Electric Grid

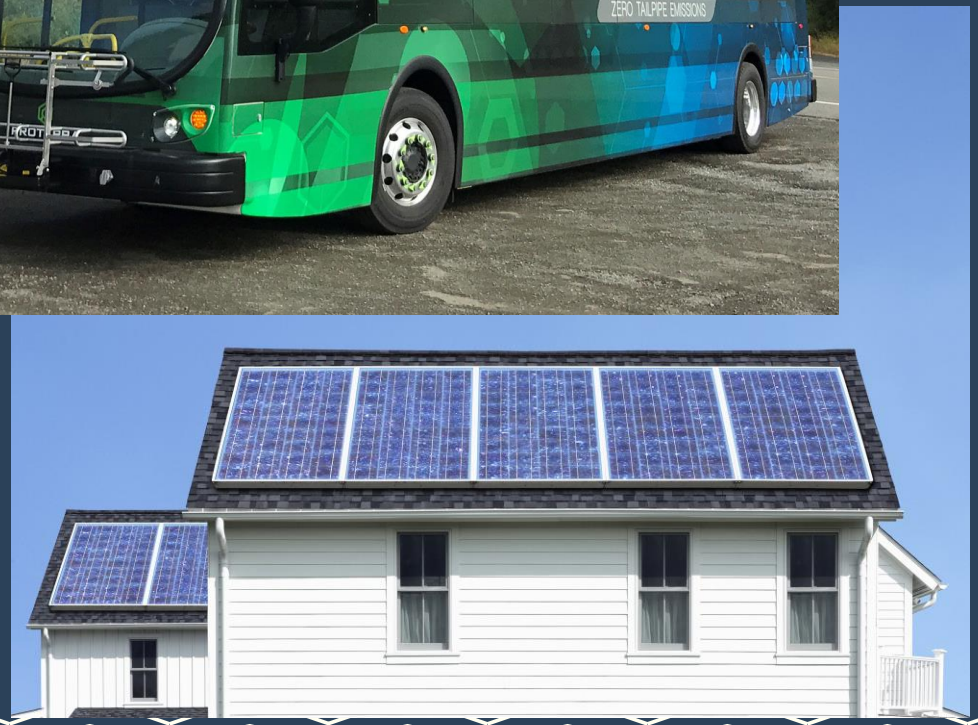


From one-way power flow - large generation facilities to end users/customers



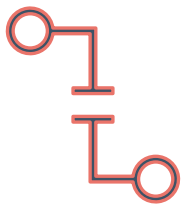
To two-way power flow – end users/customers can also generate power and/or interact with the electric grid

Distributed Energy Resources (DERs)



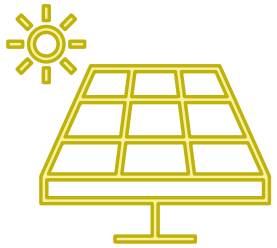
Potential Grid Solutions

Wired Solutions



Upgrading assets such as transformers

Solar



Distributed solar PV systems

Energy Efficiency

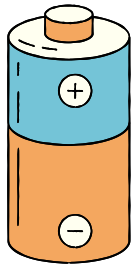
Range of energy efficiency technologies such as weatherization, HVAC, water heater

Thermostats

Thermostats and other HVAC controls

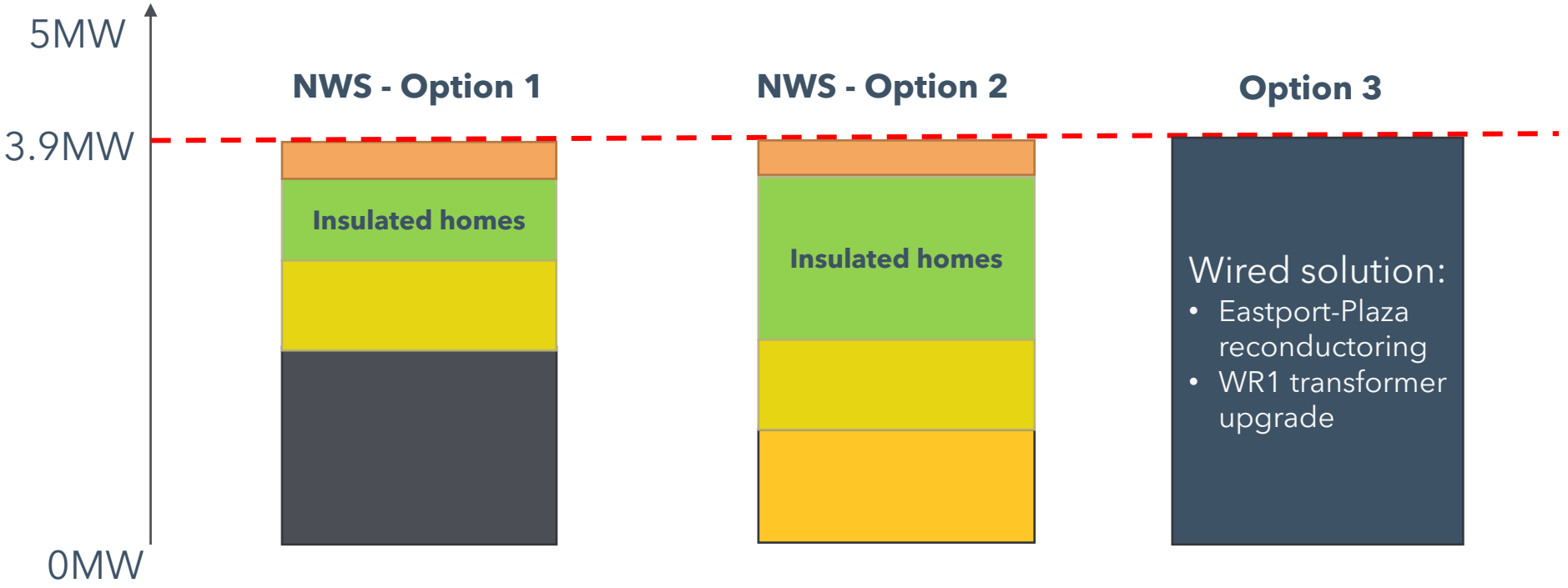
Battery - Customer

Battery - Utility



Front of and behind the meter battery energy storage system

Illustrative Example Only



DER Solutions

Thermostats	$
Energy Efficiency	$$
Battery - Utility	$$$
Solar	$$$
Battery - Customer	$$

Wired Solutions

	$$

Outcomes	**Option 1 Customer Resilience Focused**	**Option 2 Customer Bill-Relief Focused**	**Option 3 Wired solution**
Short-term rate impact	Higher ($$$)	Highest ($$$$)	Lowest ($)
Long-term rate impact	Lower ($$)	Lowest ($)	Higher ($$$)
Community impacts	Short-duration outage resilience	Some customers see reduced outages	More resilient to short-term extreme weather Applicable to all customers
Customer participation	Low-average	Aggressive	None

Spectrum of Community Engagement to Ownership

A human-centered approach requires a **long-term orientation**

PGE aims to engage our communities and build relationships that move to the right on the spectrum

	0	1	2	3	4	5
Stance toward community	**Ignore**	**Inform**	**Consult**	**Involve**	**Collaborate**	**Defer to**
Impact	**Marginalization**	**Placation**	**Tokenization**	**Voice**	**Delegated power**	**Community ownership**
Community engagement goals	Deny access to decision-making processes	Provide the community with relevant information	Gather input from the community	Ensure community needs and assets are integrated into process and inform planning	Ensure community capacity to play a leadership role in implementation of decisions	Foster democratic participation and equity through community-driven decision-making; bridge divide between community and governance
Message to community	Your voice, needs and interests do not matter	We will keep you informed	We care what you think	You are making us think (and therefore act) differently about the issue	Your leadership and expertise are critical to how we address the issue	It's time to unlock collective power and capacity for transformative solutions

DSP Part 2 Focus Areas

Focus Area	Goals	Objectives	Outcomes
Develop Competency	Build skills and resources that help PGE address our gap in competency in community engagement and operationalizing equity	In NWS, Part 2, ensure frequent communication, feedback loops, follow-thru, early and often engagement and transparent report outs.	Build durable, long-lasting, and mutually beneficial relationships with community partners and after relationship is cultivated, work towards partnership with community-based organizations (CBOs) representing environmental justice communities.
Activate CBO Participation	Center meaningful participation of environmental justice communities	In NWS, Part 2, advocate for representation on House Bill 2021 Community Benefit and Impact Advisory Group (CBIAG), build CBO capacity/resources via financial assistance, and pursue direct community engagement as a complement to CBO partnership	Members of environmental justice communities are able to contribute and be involved in a meaningful way
Unlock Demographic Data	Rely upon a diversity of data (GARE Racial Equity Tool, Step #2) and diversity of research (including both quantitative and qualitative)	Ensure engagement is informed by data and tailored to the needs and interests of affected communities.	Understand community energy needs, desires, barriers and interest in clean energy planning and projects and where opportunities exist.

Co-creating Energy Equity

Equity refers to the fair treatment, access, opportunity, and advancement for all people.

– Department of Energy & Environment (DOEE)

Community Engagement Principles

Engagement

- Develop relationships and channels for communication with local communities
- Share potential NWS project information
- Work with the community to understand preferences
- Incorporate community preferences
- Survey customers after implementation of NWS to learn and improve the process
- Engage customers in an approachable, fully accessible manner
- Empower all customers to participate

Development of NWS

- Create inclusive and equitable access to opportunities across customer types, with particular attention to opportunities that reduce energy burden
- Create procedural inclusion for new stakeholders who are traditionally not represented
- Promote collaboration between utilities and community-based organizations (CBOs) to broaden perspectives and representation in planning processes and outcomes

Community Needs & Equity Variables

Community Needs

- Reduce energy burden
- Safety during emergencies
  - ✓Protect from smoke during wildfires
  - ✓Manage temperatures during power outrages
  - ✓Maintain power for critical medical equipment customers
- No community left behind with poorly maintained system

Equity Variables

- Energy burden
- Housing type
- Race
- Household without internet
- Household with disabilities
- Rent vs Own

DSP Part 2: Comments About Engagement

RNW

"PGE invested significant time in learning how to engage with, educate, and listen to their CBO partners and community members, which positions them to **implement their new process for co-development of solutions for their 2024 capital cycle**."

"…PAC's **open-ended approach to developing the Non-Wires Solution** (NWS)… only utility that **solicited proposals from all stakeholders** (DSP partners and community members) up front and incorporated them into its NWS evaluation **rather than bringing proposals to the community for input.**"

"PGE used an **iterative approach to its community-focused workshops in order to adapt** to participants' needs and incorporate lessons learned… sought input on several questions related to working within communities, responding to their needs, and communicating grid needs/solutions effectively; and the recommendations received from community partners are included as well… We appreciate that PGE took the time to compile, analyze, and distill into common themes what the company heard in all of the workshops (community and technical)… commitment to active listening, a cornerstone of effective communication."

"**CEPs provide a formal means of integrating work done through the DSP process into broader utility system planning**. This new mechanism will help ensure DSPs are not siloed but are co-optimized with or integrated into other planning efforts, and **both PGE and PAC discuss that they are planning closer coordination between the IRP and DSP processes** in their plans."

NWEC

"We encourage PGE to **continue engaging meticulously** with its communities."

"We encourage PGE to **continue to hold these capacity-building workshops**… NWEC, therefore, encourages PGE to follow up on this good work by **creating dedicated spaces for community members to co-develop** climate-smart and resilient projects to actually be built."

"We encourage PGE to **ramp up its on-the-ground community engagement** and equity considerations in this docket while **also streamlining this work with other relevant dockets** and planning processes. We continue to push PGE to engage with its stakeholders in co-developing projects from the solution identification phase through the project implementation phase."

Energy Trust of Oregon Partnership

Utility-Specific Action Plan Briefing

Jake Wise – Energy Efficiency Liaison

October 27, 2022, DSP-CEP Community Learning Lab # 2

HB 3141 Overview

Implementation of this legislation established a Budget Coordination Memorandum

Jointly develop utility-specific action plans

Coordinate activities that require joint investment and deployment

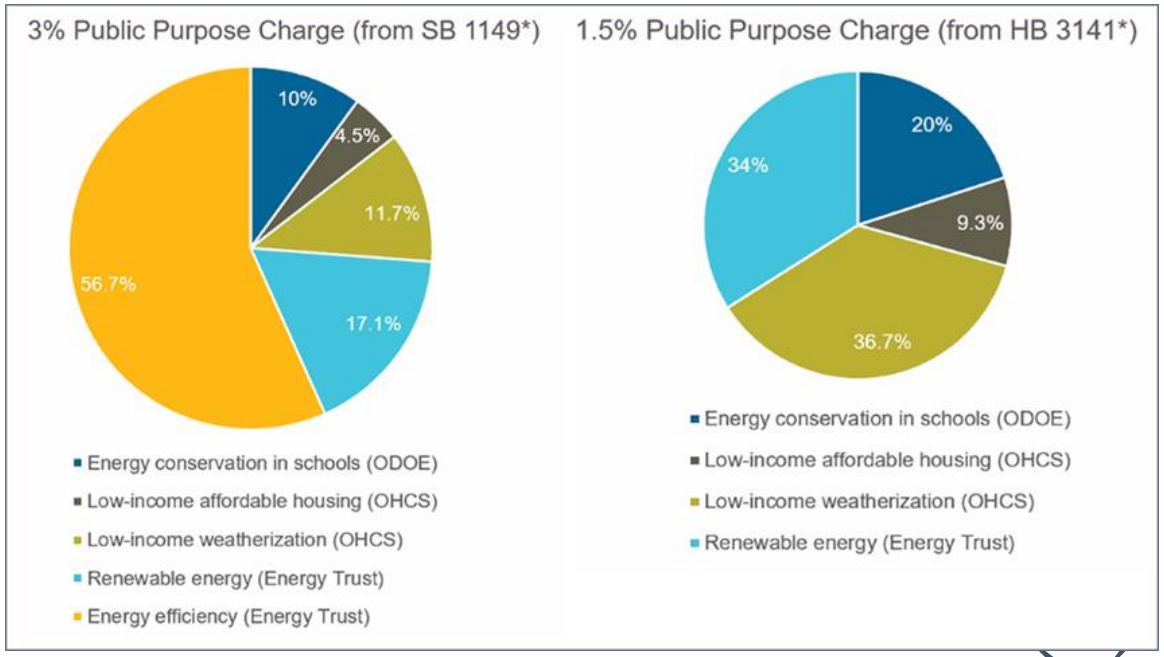
Reflect stakeholder feedback gathered through a public process

Introduce two new definitions

Reallocate Public Purpose Charges

The memorandum serves to codify a new HB 3141 Budget and Action Plan Process which follows four main steps:

Step 1: Market Assessment (Apr-May)
Step 2: Action Planning (Jun-Nov)
Step 3: Budget + Utility-Specific Action Planning (Jul-Nov)
Step 4: Final Plans + Tariff Filing (Oct-Dec)



HB 3141 (UM 2195) New Definitions

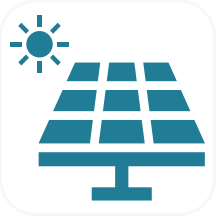
Low-and-Moderate-Income Customers (LMI)

Draft interim definition: "LMI customers" are PGE or Pacific Power's residential customers whose household income is less than or equal to **120 percent of state median income** adjusted for household size.

Energy Trust currently operates its Solar Within Reach and Savings Within Reach programs using this definition. Those programs provide higher incentives for customers with incomes that meet this definition.

Distribution System-Connected Technologies (DSCT)

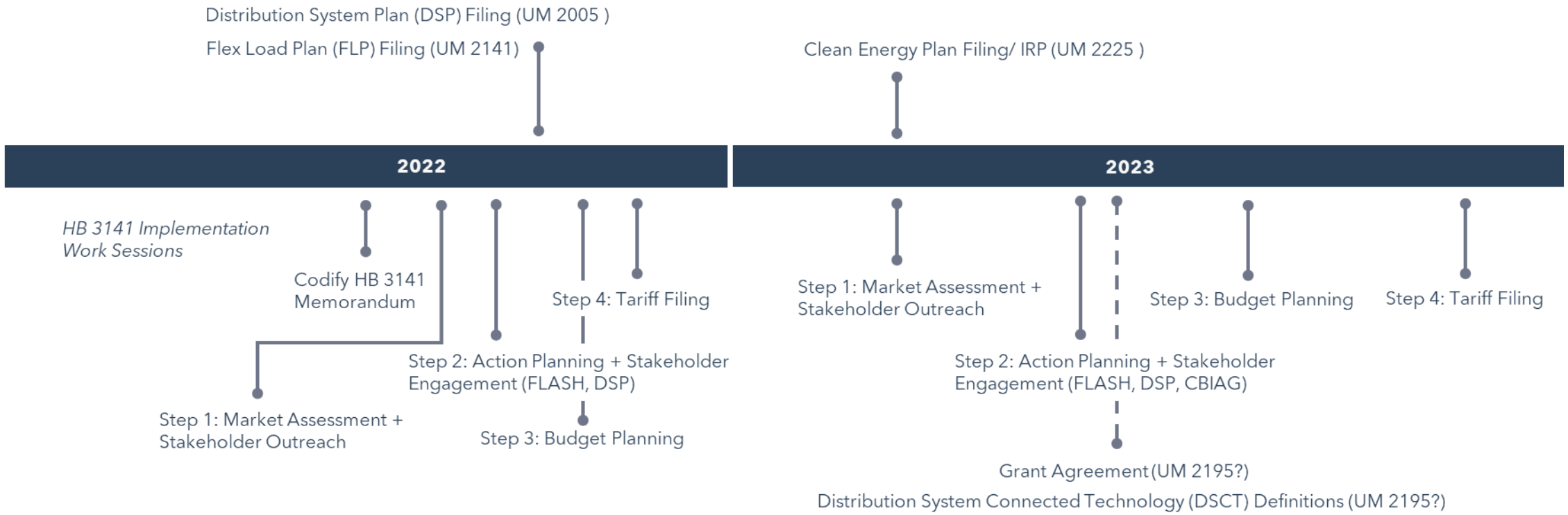
Draft interim definition: A qualified DSCT is one of the following two technologies, connected to the distribution grid at the customer's site, and installed for use by the customer.



A "**smart inverter**" that is part of a solar generation system and is capable of providing grid support; or

Battery energy storage system with a smart inverter and/or integrated controls capable of providing grid support, installed as either stand-alone storage or storage paired with a renewable energy system, and charged by either on-site renewable energy or the electric grid.

Stakeholder Timeline



Key:
- FLP Flex Load Advisory Stakeholders (FLASH)
- DSP Community Workshops
- Community Benefit and impact Advisory Group (CBIAG)

Draft Utility Specific Action Plan

Objective: To show up together to maximize customer benefit and realize operational efficiencies.

**Feedback appreciated by November 11th. Mail to: jake.wise@pgn.com*

Action Plan Element	2023-2024 Key Activities
Outreach and Engagement	• Establish new routine staff coordination meeting • Streamline engagement between CBIAG and CBO cohorts to further community capacity building efforts • Support community-led energy sustainability or climate plan development for municipalities including Gresham, Lake Oswego, Oregon City, Tigard, Salem, Hillsboro, Portland, and Milwaukie.
Marketing	• Establish new routine staff coordination meeting • Launch Efficient Heating/Cooling for All campaign: Electric Resistance (ER) > Heat Pump (HP) • Monitor Inflation Reduction Act (IRA) incentives, tax credits and home energy audits with focus on low-income
Planning and Evaluation	• Establish new routine staff coordination meeting • Pursue co-funded measure development for non-residential controls-based efficiency solutions • Monitor hybrid (gas furnace and heat pump) HVAC pilot development
Energy Efficiency (EE)	• Pilot affordable multi-family ductless heat pump (DHP) retrofits (2022-2025) • Co-deliver controls-based efficiency solutions that include distribution system connected technologies (DSCT) • Co-deliver strategic energy management (SEM) with flexible load portfolio
Renewable Energy (RE)	• Conduct Community-Based Renewable Energy (CBRE) portfolio planning inclusive of resilience hubs • Continue SGTB (Jan 2022 – Dec 2026): Solarize campaign, flexible feeder, smart inverter and battery pilots
Targeted Initiatives	• Establish new routine staff coordination meeting • Co-design/deploy DSP non-wires solutions (NWS) for targeted areas w/ both equity and grid need (2023+) • Continue SALMON (June 2022 – June 2027): Retrofit approximately 580 buildings in North Portland with distributed energy resources (DERs) such as smart thermostats, smart water heaters, solar with smart inverters, storage and managed electric vehicle charging.

ACRONYMS: Community Benefit and Impact Advisory Group (CBIAG); Electric Resistance (ER); Heat Pump (HP); Ductless Heat Pump (DHP)
NOTE: Smart Grid Test Bed (SGTB) and Smart Grid Advanced Load Management & Optimized Neighborhoods (SALMON) are not a public purpose charge (PPC) funded projects but are included with the intent to be holistic in communicating the areas of partnership for our stakeholders.

Partner Success Metrics

PGE **utility-specific action plan** will establish and track metrics that demonstrate the value of the partnership. These metrics serve to both complement UM 1158 measures as well as to inform shared outcomes between the two organizations and its stakeholders. (*Note: UM 1158 Equity Metrics Data Review Workshop (2 of 4): 1:30-3:00pm, Thursday, October 27th*)

Metric	Description
Participation	Number of incentives relative to total customers
Incentives	Budgeted total incentives paid relative to total costs incurred
Low-Income Electrification	Number of PGE income qualified bill discount (IQBD) participants that receive a heat pump incentive
New Initiatives	Funding allocated outside the annual budget process, (e.g., SGTB/SALMON)
Enablement	Track number of energy efficiency investments that enable beneficial electrification and/or flexible load

Integrated Resource Planning (IRP) Overview

Tomás Morrissey – Principal Integrated Resource Planning Analyst

October 27, 2022, DSP-CEP Community Learning Lab # 2

IRP vs. RFP

The IRP establishes needs, models, and methodologies. It builds the preferred portfolio using proxy resources, which *generally* represent resource options.

The RFP uses IRP defined needs, models, and methodologies to select specific resources via a competitive bidding process.

The exact resources selected (location, technology, etc.) will vary between the IRP and RFP depending on the bids received.

Integrated Resource Plan (IRP)

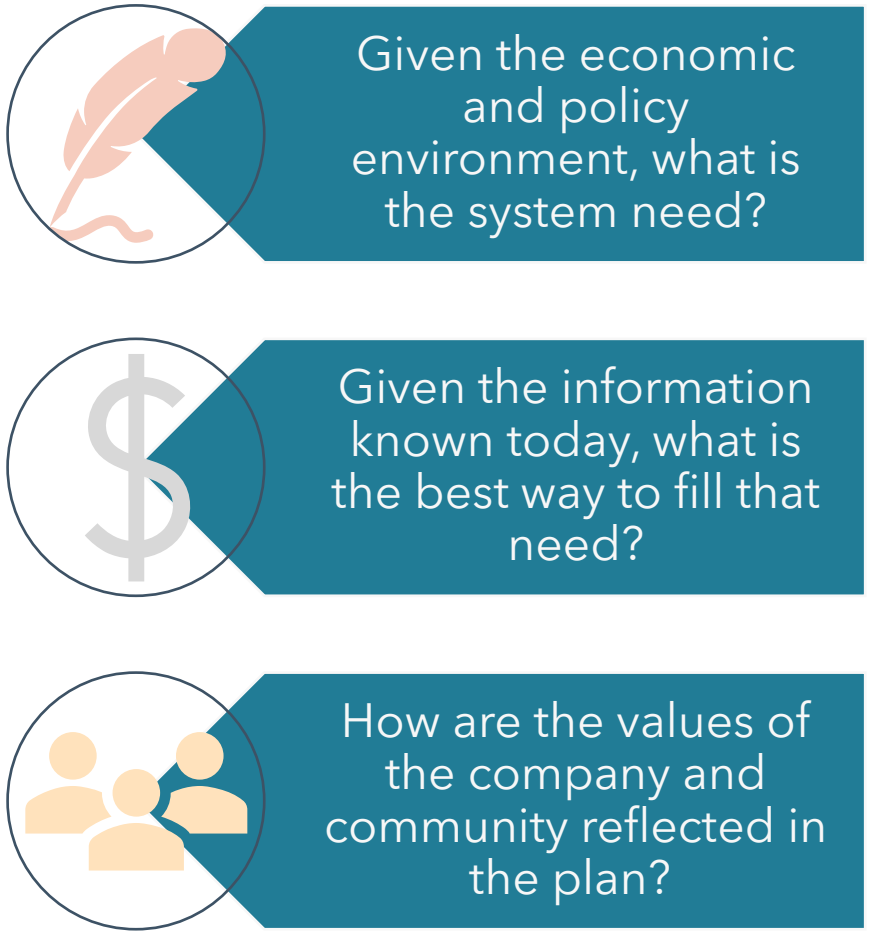
The IRP's goal is to achieve two main objectives:

1. Estimate system resource need

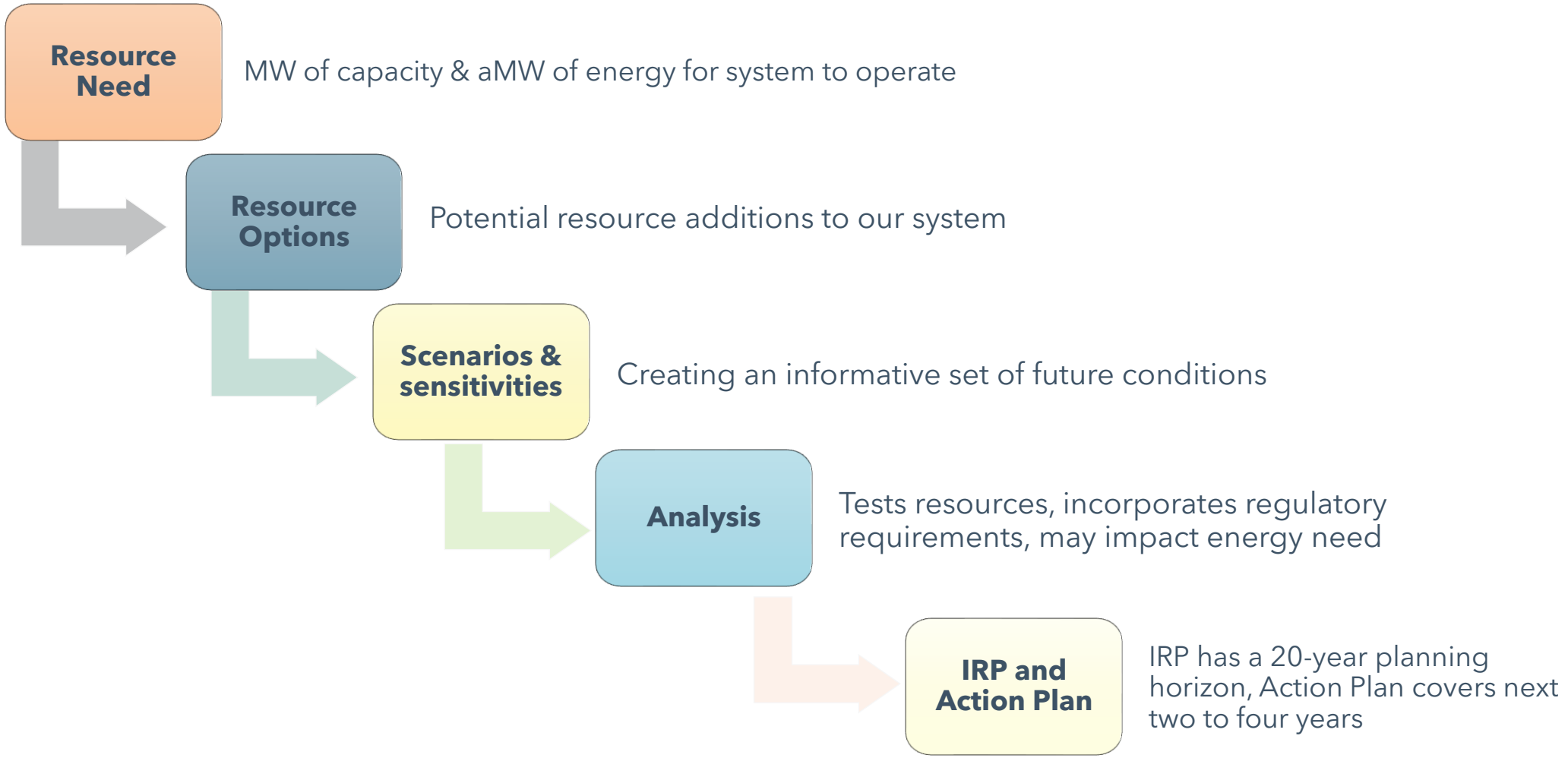
- Forecasted long-term demand growth
- Projected generation from existing and contracted assets

2. Propose a pathway to fill that need

- Evaluates supply-side options
- Meets system needs and objectives
- Meets regulatory requirements (like HB 2021)
- Determines the optimal size, & timing of resource additions



Current IRP High Level Workflow

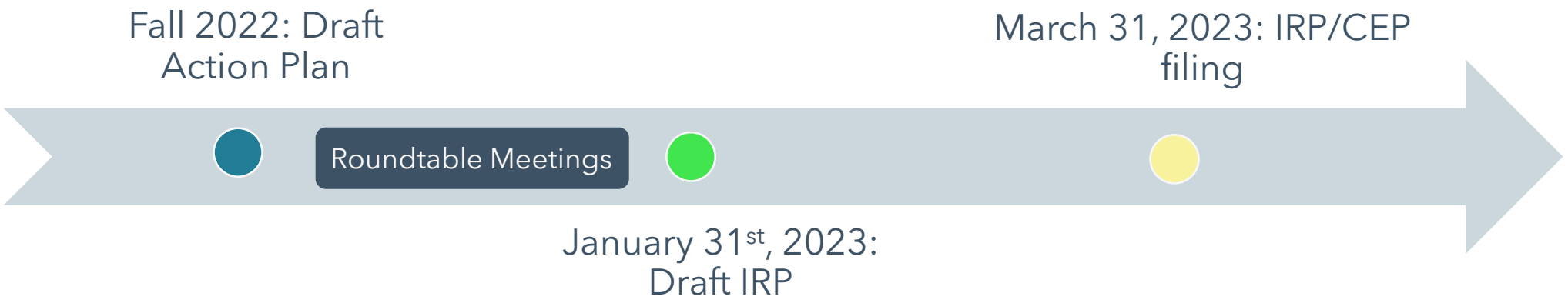


Example of IRP Questions

The IRP uses scenarios and sensitivity analysis to explore power system questions, like:

- Do we need more transmission to meet our decarbonization and adequacy objectives?
- How will vehicle and other end-use electrification impact resource needs?
- How does climate change impact the PGE power system?
- Would a resource technological breakthrough impact our near-term decisions?

Current IRP Timeline



Next public IRP roundtable meeting:

November 16, 9 AM

BREAK (10 min)

Grid Needs – NWS

Jennifer Galaway, Manager Planning Distribution Engineering, Distribution Planning

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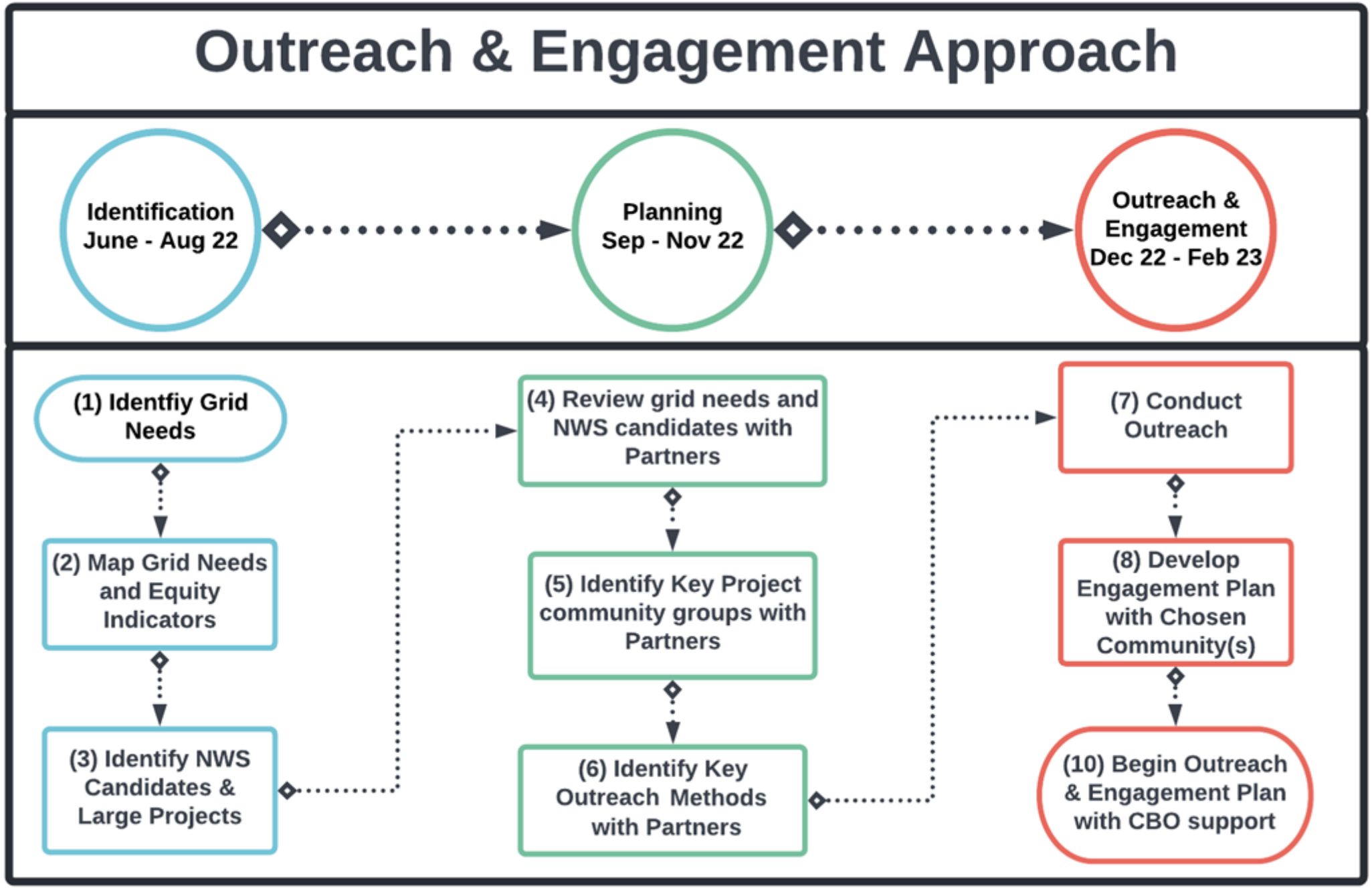
Outreach & Engagement Approach



Objectives

- Review revised Ranking Matrix
- Review 2024 capital cycle grid needs and non-wires solution candidates
- Identify next steps for non-wires solution candidates

Ranking Matrix Evolution

Equity is now incorporated into the Ranking Matrix, score ranges from 1 to 5

DSP Stakeholder Feedback stated Ranking Matrix levels were too lopsided in the scoring
For example, Level 5 could get a score of 75 due to the multiplier, while Level 1 could get a score of 1

Revamped ranking matrix to remove levels, and adjusted some numbers to reinforce the criticality for things like safety and customer-driven needs

Result is the highest possible score for a single criterion in the matrix is a 20

New Tie Breaker criteria includes all the former Level 5 and Level 4 criteria, as well as Equity

Ranking Matrix Evolution

Title	Max Possible Score	Weighting
Addresses safety concern? **Yes = 20, No = 0**	**20**	15.5%
Must do for customer commitment? **Yes = 20, No = 0**	**20**	15.5%
Grid need has compliance-driver or mitigates transmission/sub-transmission constraint? **115 kV+ = 15, 57 kV = 5, No = 0**	**15**	11.6%
Precursor to mitigating other grid needs? **Two or More = 15, One = 5, No = 0**	**15**	11.6%
Frees up or mitigates mobile/temporary equipment or configuration? **Temp Sub = 15, Temp Config. = 5, No = 0**	**15**	11.6%

Ranking Matrix Evolution

Title	Max Possible Score	Weighting
Equity index metric **1-5**	**5**	3.9%
Feeder % loading of seasonal limit (N-0) **>100% = 4 | 90%-99% = 3 | 80%-89% = 2 | 67%-79% = 1 | <67% = 0**	**4**	3.1%
Transformer % loading of LBNR (N-0) **>100% = 4, 90%-99% = 3, 80%-89% = 2, <80% = 0**	**4**	3.1%
Existing total asset and geo risk (Substation) **Top 10 = 4, Top 30 = 2, Top 50 = 1, Other = 0**	**4**	3.1%
Existing CMI impact (Substation) **Top 10 = 4, Top 30 = 2, Top 50 = 1, Other = 0**	**4**	3.1%

Ranking Matrix Evolution

Title	Max Possible Score	Weighting
Existing total asset and geo risk (feeder) **Top 10 = 4, Top 30 = 2, Top 50 = 1, Other = 0**	**4**	3.1%
Existing CMI impact (feeder) **Top 10 = 4 | Top 30 = 2 | Top 50 = 1 | Other = 0**	**4**	3.1%
Known load growth impact to equipment **Exceeds limits in 1-5 years = 4 | exceeds planning criteria = 2 | other or no growth = 0**	**4**	3.1%
Substation SCADA **Adds new = 3 | replace obsolete = 1 | no or new sub = 0**	**3**	2.3%
Multiple Feeders or Xfmrs Exceed Planning Criteria? **Three or more = 3 | Two = 2 | No = 0**	**3**	2.3%

Ranking Matrix Evolution

Title	Max Possible Score	Weighting
Overload or voltage issue for a N-1 condition (feeder) **Yes = 1 | No = 0**	1	0.8%
Overload or voltage issue for a N-1 condition (transformer) **Yes = 1 | No = 0**	1	0.8%
Distribution Xfmr utilization index **If summer & winter Xfmr peaks are ≥ 80% = 1 | otherwise = 0**	1	0.8%
Distribution Feeder Utilization Index **If summer & winter feeder peaks are ≥ 67% = 1 | otherwise = 0**	1	0.8%
Makes Substation DG Ready? **Yes = 1 | No = 0**	1	0.8%

Prioritized List of Grid Needs

Prioritized list of grid needs presented here are the grid needs identified in 2022 that are being analyzed for the 2024 capital planning cycle

Six grid needs prioritized for detailed analysis; three of these are customer-driven projects

The projects required to mitigate grid needs for the 2023 capital cycle are multi-year projects, limiting the funding availability for new projects

Pursuing additional non-wires solution opportunities for other grid constraints

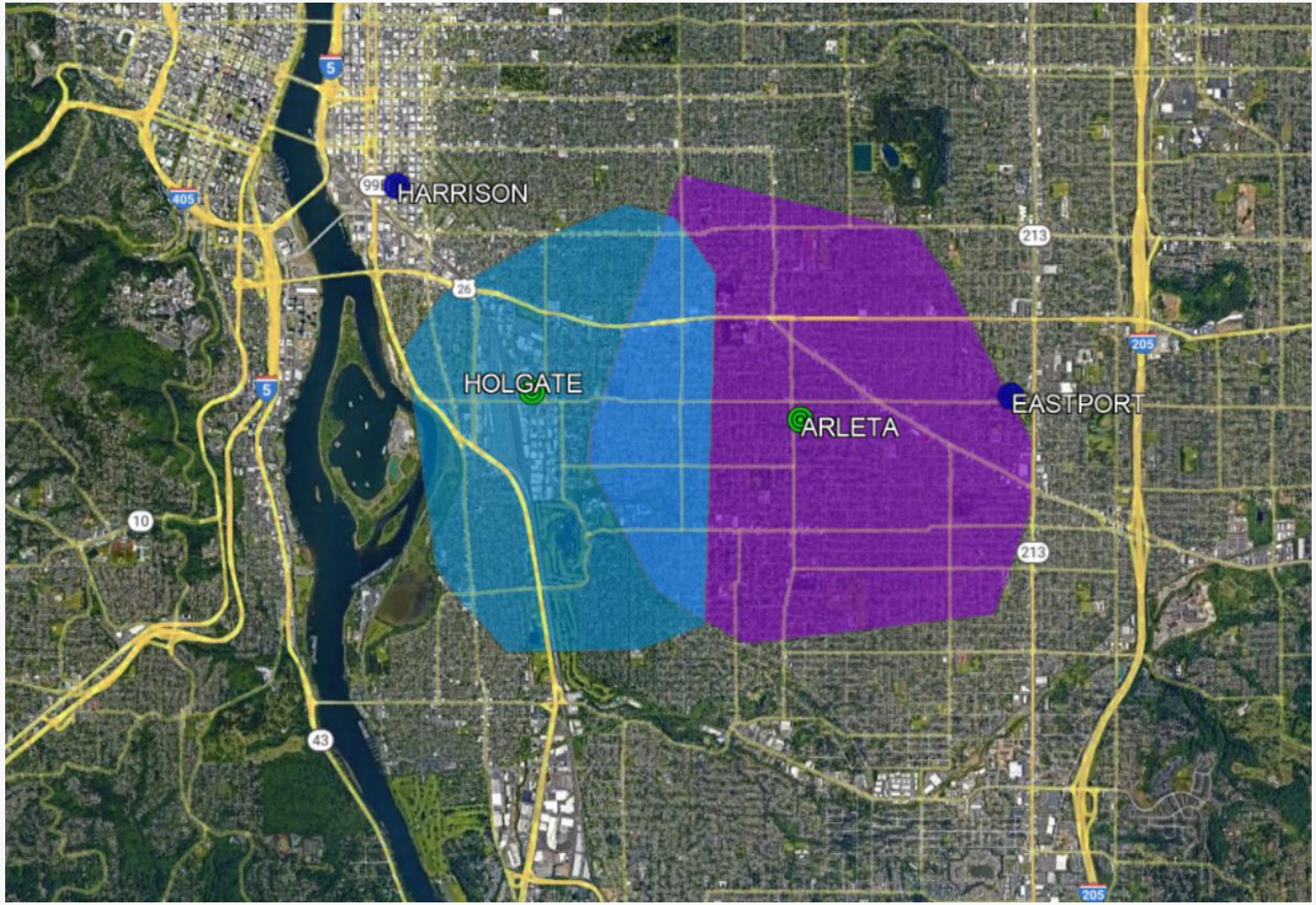
Prioritized List of Grid Needs

Ranking	Grid Need	Substation	Type of Need/Constraint	Size of Need/Constraint	Timing/Duration of Need/Constraint	Total	Tie Breaker
1	Industrial load growth in North Portland	New	Load Growth	21 MVA in 2024, growing to 75 MVA in 2026	24/7 due to the nature of data center operations	**42**	38
2	Industrial load growth in Hillsboro	New	Load Growth	14 MVA in 2025, growing to 162 MVA in 2027	24/7 due to the nature of data center operations	**40**	36
3	Arc flash concerns, aging infrastructure, lack of telemetry north of Estacada	Eagle Creek	Safety, aging infrastructure, lack of SCADA telemetry, N-1 undervoltage issues	Safety/Aging Infrastructure is the primary driver	24/7	**34**	24
4	Industrial load growth in Hillsboro	West Union	Load Growth at an existing substation, lack of capacity to serve new load	Starting in 2024, growing to 40 MVA	24/7 due to the nature of data center operations	**28**	22
5	Existing loading issues, aging infrastructure, lack of telemetry in SE Portland	Arleta	Overload, aging infrastructure, lack of SCADA telemetry	3.5 MVA for N-1 redundancy, current state	Summer, 3 pm-7 pm for loading; 24/7 for aging infrastructure and lack of telemetry	**27**	5
6	Existing loading issues, aging infrastructure, lack of telemetry in SE Portland	Holgate	Overload, aging infrastructure, lack of SCADA telemetry, dependency to mitigate another grid need	5.5 MVA for N-1 redundancy, current state	Summer, 3 pm-7 pm for loading; 24/7 for aging infrastructure and lack of telemetry	**24**	10

Arleta/Holgate Grid Needs

Substations adjacent to each other in SE Portland

- Heavily loaded equipment
- Aging infrastructure
- Lack of SCADA telemetry



Arleta/Holgate Grid Needs

Arleta BR3 substation transformer and Arleta-Harold feeder exceed Planning Criteria

Holgate-Bybee feeder exceeds Planning Criteria

The adjacent substations and feeders from the substations tie to each other and can be combined into one grid need and have multiple components for a solution

Arleta/Holgate Grid Needs

No known safety issues at either substation or any customer commitments

No compliance or sub-transmission drivers at either substation

If we were to rebuild both substations, we would need to rebuild Holgate before Arleta to have capacity to offload Arleta to Holgate. Similarly, the 2023 Harrison Project must be complete before we would rebuild Holgate.

No mobile/temporary equipment or configurations at either substation

Both substations have the top equity score of 5

Holgate is in the Top 10 and Arleta is in the Top 30 of total substation risk, and both substations are in Top 10 of CMI

Both substations lack SCADA telemetry and are not DG ready

Arleta/Holgate Grid Needs

With the aging infrastructure, asset risk and CMI, lack of SCADA telemetry, and lack of DG-readiness, it is very likely that the solution will recommend rebuilding both substations

- Both substations are also projected for electrification load growth

However, we want to evaluate non-wires solution options to address feeder and redundancy constraints, and we want these solutions to be beneficial to and meet the needs of the community

What we want from you:

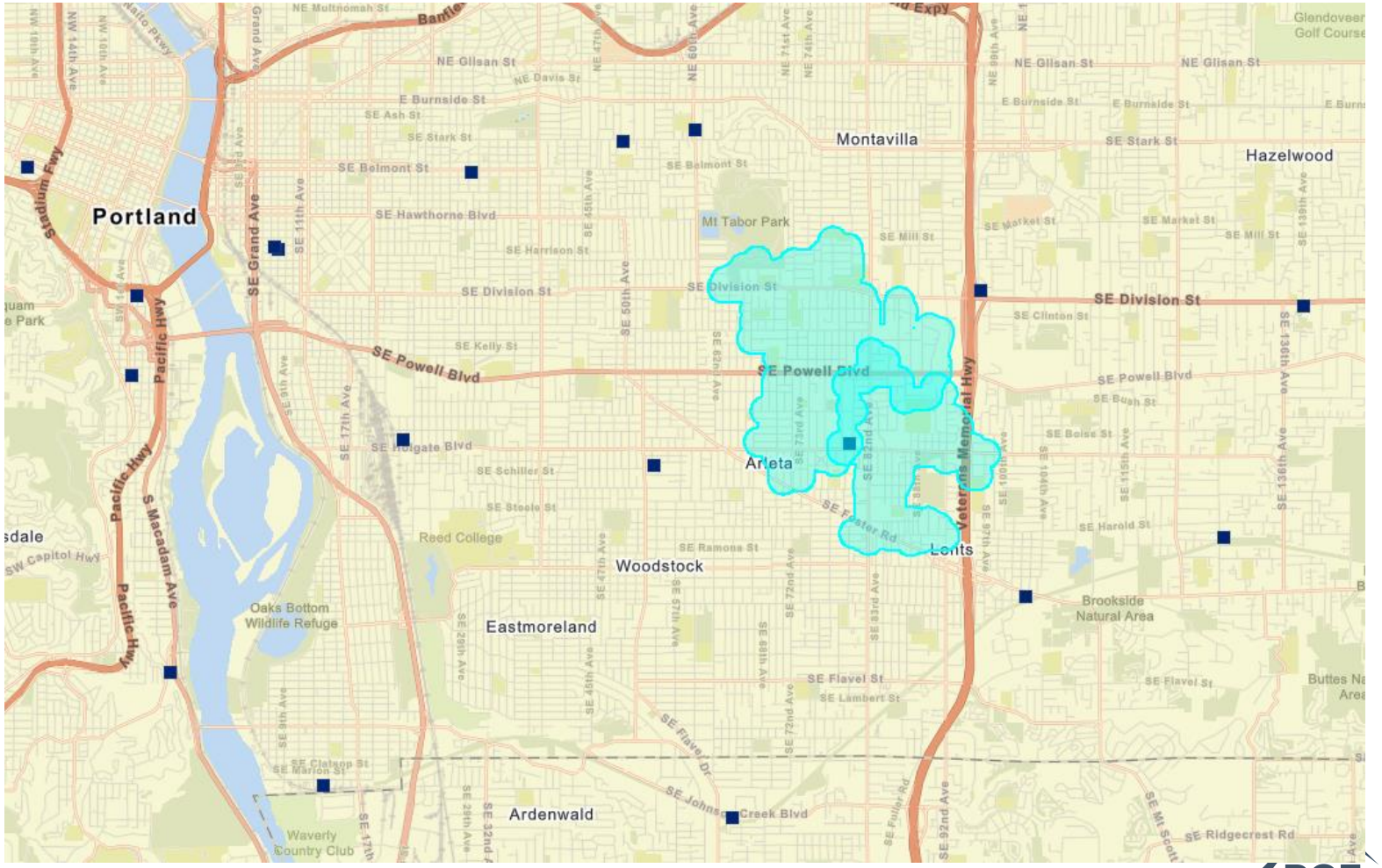
- Who in the community should we engage?
- What is the preferred method of engagement?

Mural exercise here

1. Who do we engage in that community?
2. How do we engage them?
3. Will you participate in/help facilitate the engagement?

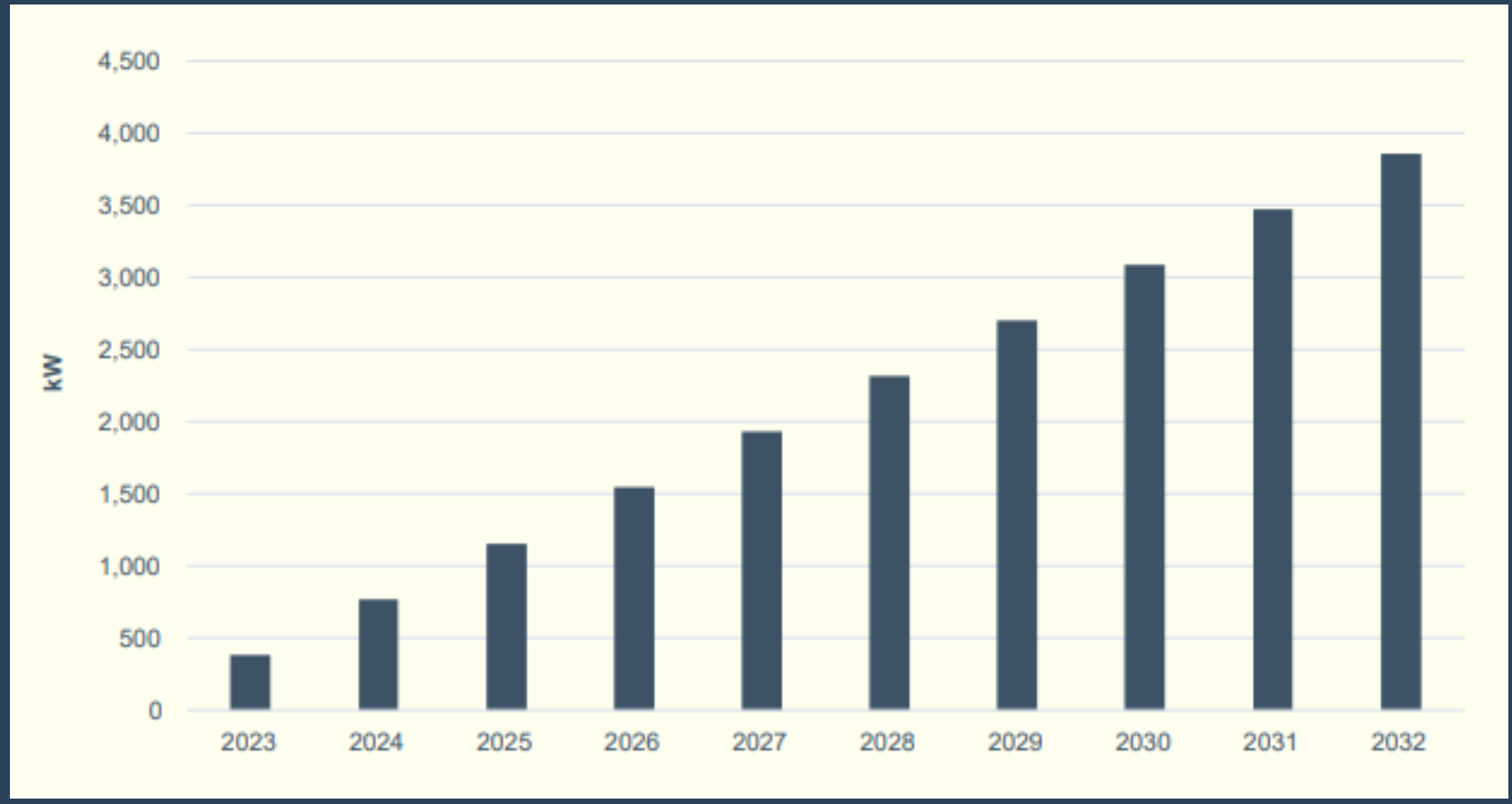
Eastport NWS Geographic area

- Eastport Plaza area near SE Powell Blvd and I-205
- N-0 condition* covers two feeders highlighted to the right
- N-1** brings in additional 3 feeders, including sites east of I-205
- Good mix of building types, public purpose entities (schools, public agencies, etc.)
- Overlaps with efforts around 82nd Ave transit planning and economic development activity



* N-0 normal conditions
** N-1 contingency analysis

Eastport: Load Relief Needed Over Time

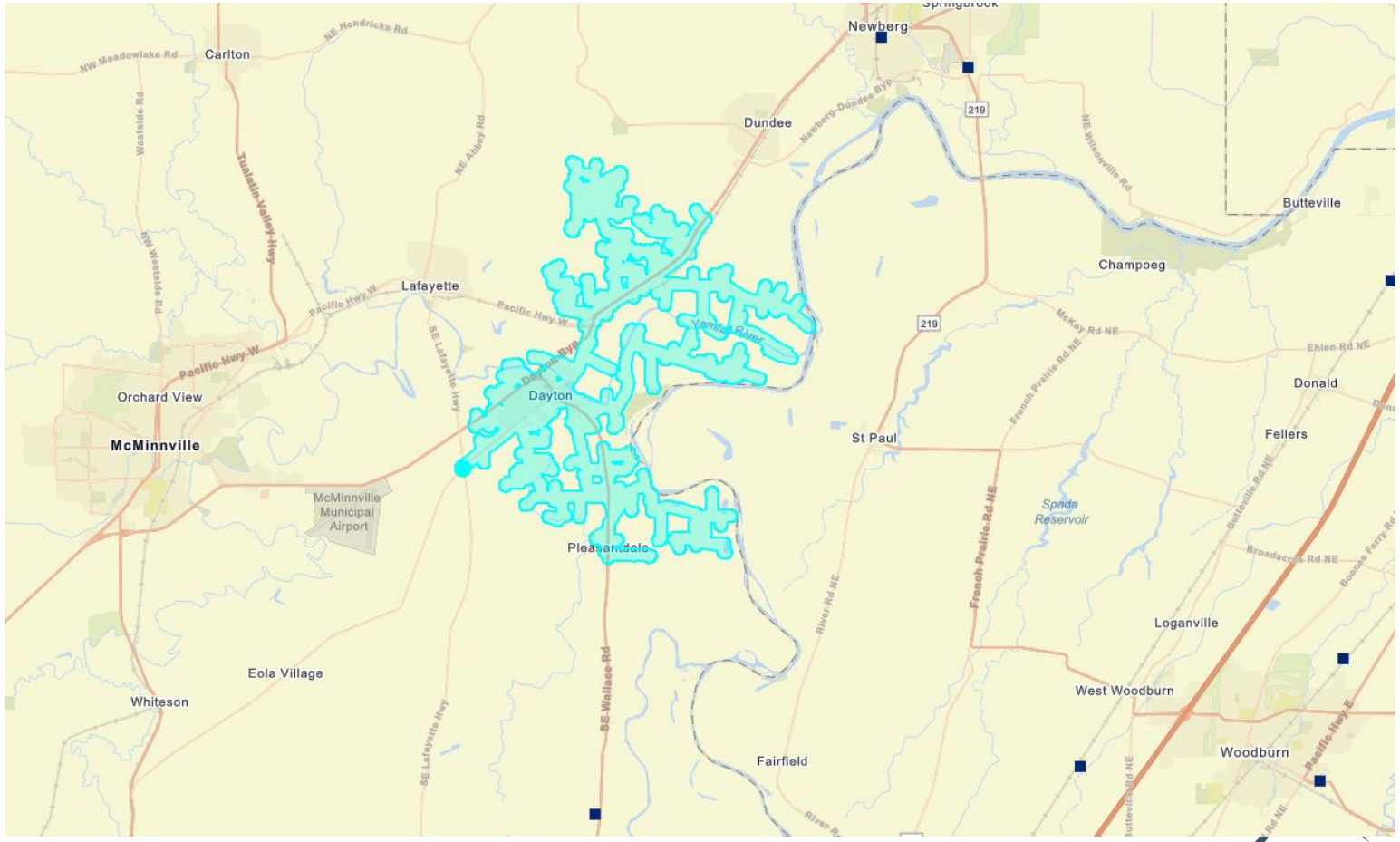


Summary of Eastport NWS Solution

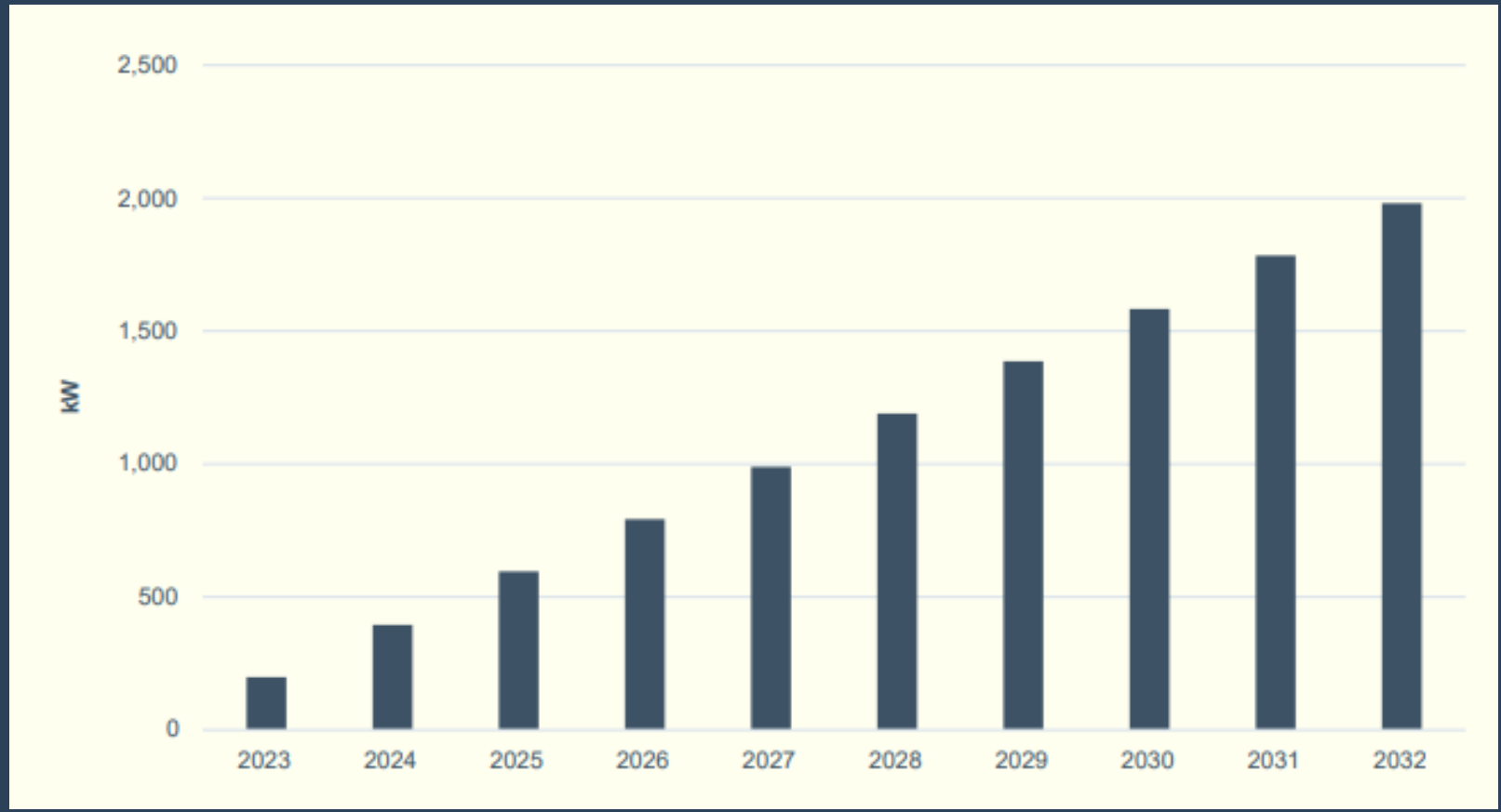
NWS element	Wired solution	Option 1 Customer Resilience Focused	Option 2 Customer Bill-Relief Focused
Total cost	$2,100,000	TBD	TBD
EE potential	N/A	4,000,000 kWh/yr	5,500,000 kWh/yr
DR / Flex potential	N/A	1.6 MW	2.2 MW
Solar potential	N/A	2.1 MW (nameplate)	4.7 MW (nameplate)
Distributed customer storage	N/A	1.2 MW / 2.4 MWh (2-hr)	1.8 MW / 3.6 MWh (2-hr)
Utility-scale storage	N/A	1.5 MW / 6 MWh (3-hr)	250 kW / 500 kWh (4-hr)

Dayton NWS Geographic Area

- Dayton NWS project located southwest of Newberg
- More rural than Eastport
- Potential for irrigation projects (both energy efficiency and direct load control)
- Wine country! Presents potential for emerging technology to serve that sector



Dayton: Load Relief Needed Over Time



Summary of Dayton NWS Solution

NWS element	Wired solution	Option 1 Customer Resilience Focused	Option 2 Customer Bill-Relief Focused
Total Upfront Capital cost	$3,302,526	$3,670,000	$2,252,000 *
EE potential	N/A	N/A	1,734,480 kWh/yr
DR / Flex potential	N/A	N/A	1.5 MW
Solar potential	N/A	N/A	380 kW nameplate
Distributed customer storage	N/A	N/A	1.2 MW / 2.4 MWh (2-hr)
Utility-scale storage	N/A	2 MW / 12 MWh (6-hr)	1.5 MW / 6 MWh (4-hr)

Mural exercise here

1. Who do we engage in that community?

2. How do we engage them?

3. Will you participate in/help facilitate the engagement?

Community-Based Renewable Energy (CBRE)

Joe Boyles, Project Manager, Distributed Energy Resources

October 27, 2022, DSP-CEP Community Learning Lab # 2

Objectives

Explore Community-based Renewable Energy resources – what could they look like

Determine whether NWS could be addressed by Community-based Renewable Energy

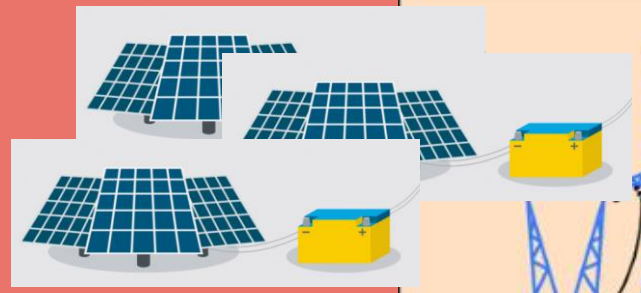
Determine whether DSP data/tools can be used to identify CBRE opportunities

CBRE: "Community-based renewable energy" means one or more renewable energy systems that interconnect to utility distribution or transmission assets and may be combined with microgrids, storage systems or demand response measures, or energy-related infrastructure that promotes climate resiliency or other such measures, and that:

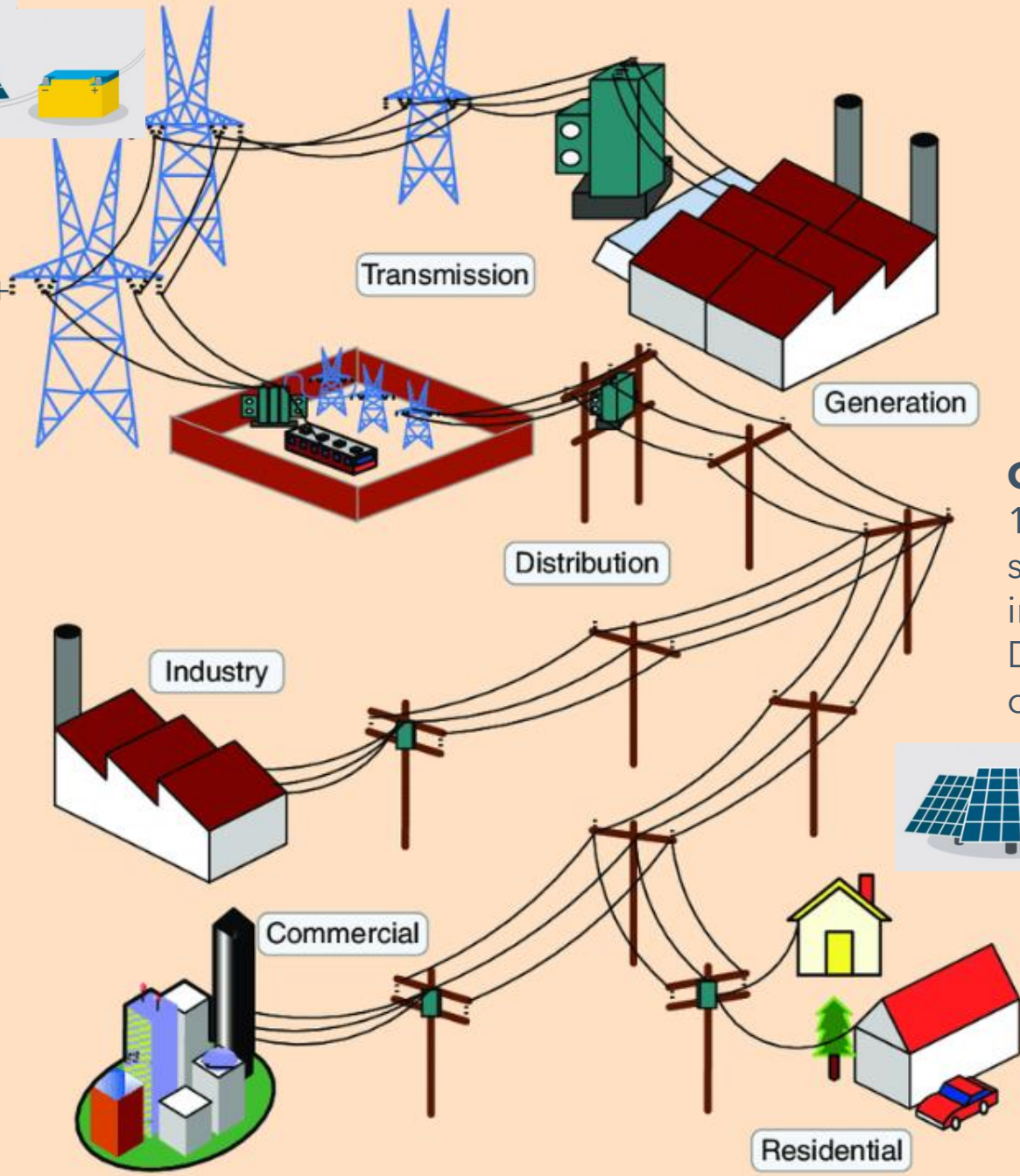
(a) Provide a direct benefit to a particular community through a community-benefits agreement or direct ownership by a local government, nonprofit community organization or federally recognized Indian tribe; or

(b) Result in increased resiliency or community stability, local jobs, economic development or direct energy cost savings to families and small businesses.

For illustrative purposes only



CBRE 1:
10 MW solar+ storage in Central OR, Transmission connected



CBRE 2:
1 MW solar+ storage microgrid in SE Portland, Distribution connected

Mural exercise here

1. What are some examples of CBREs?

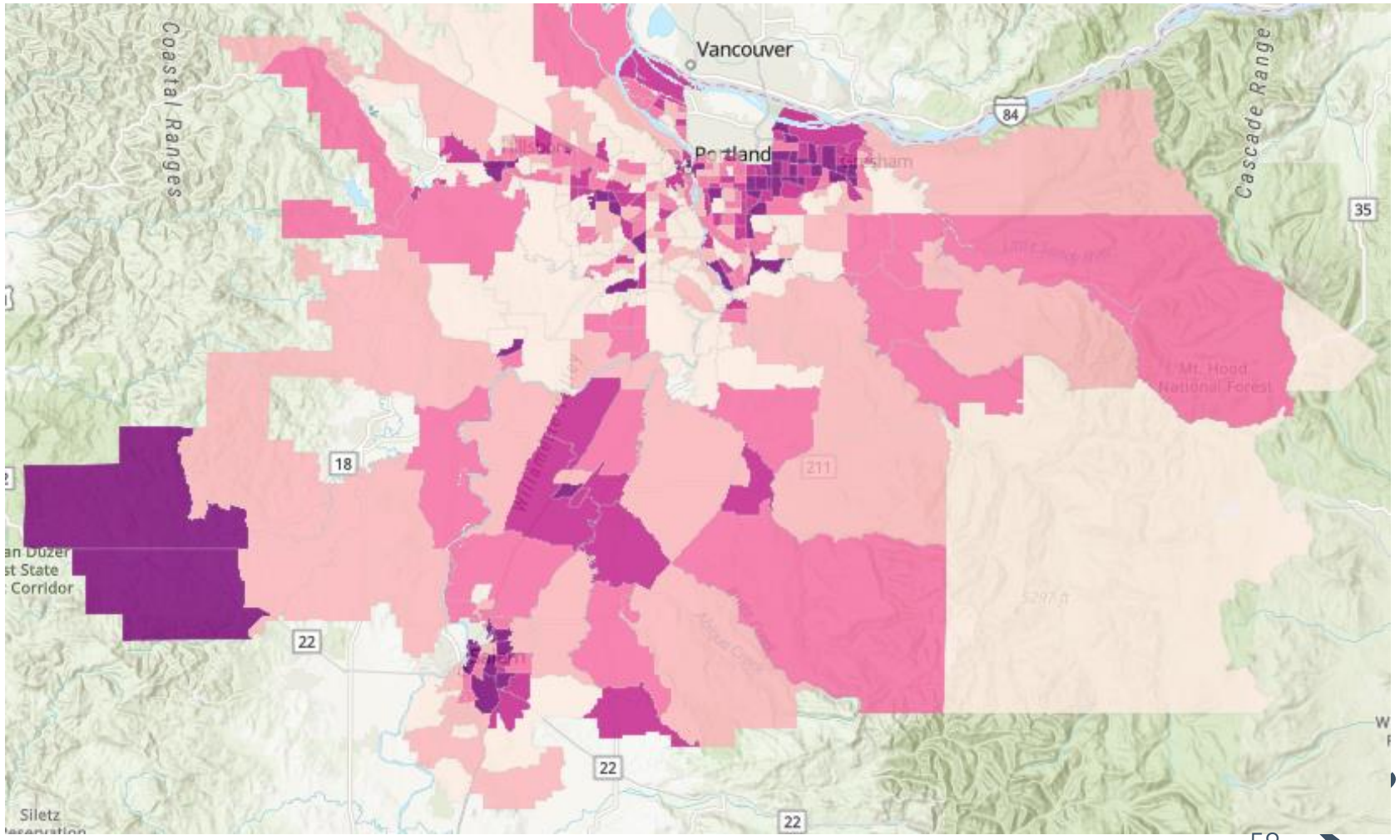
2. Identify ideas regarding how to pursue them.

Example of DEI Mapping

Equity Index Map
(Darker area = more burdened)

Information included in the index:

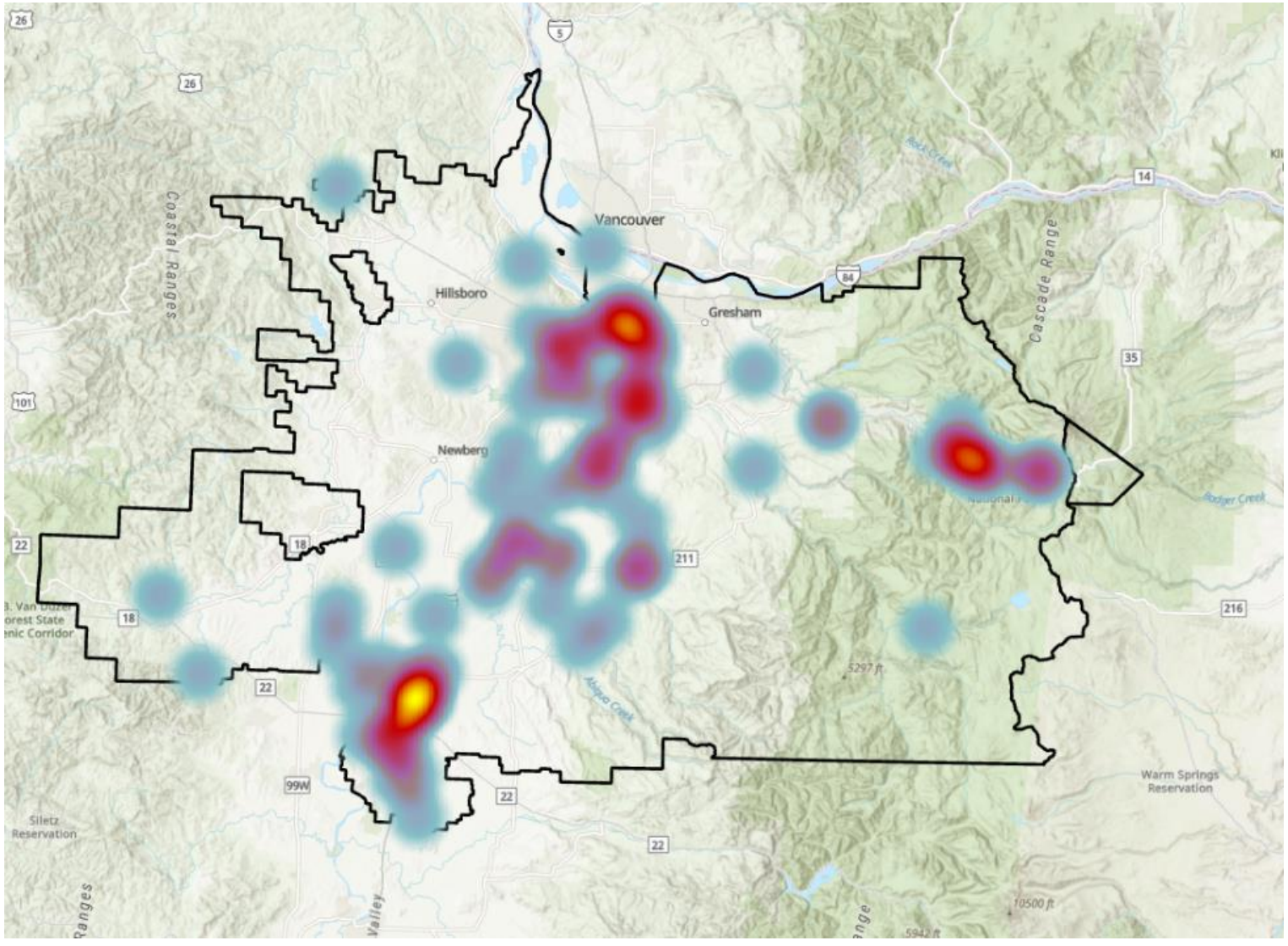
- Energy burden
- Housing type
- Owner/renter
- Race
- Households without internet
- Households with disabilities



Example of Resilience Risk

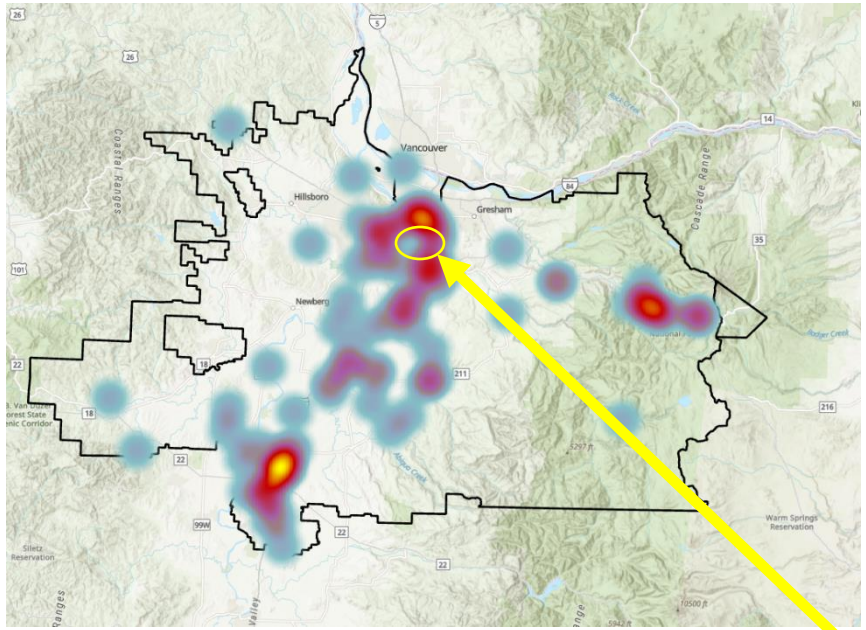
Heat map representing CEMI6
(Darker area = more interruptions)

CEMI6 = Customers Experiencing Multiple Interruptions (>=6)

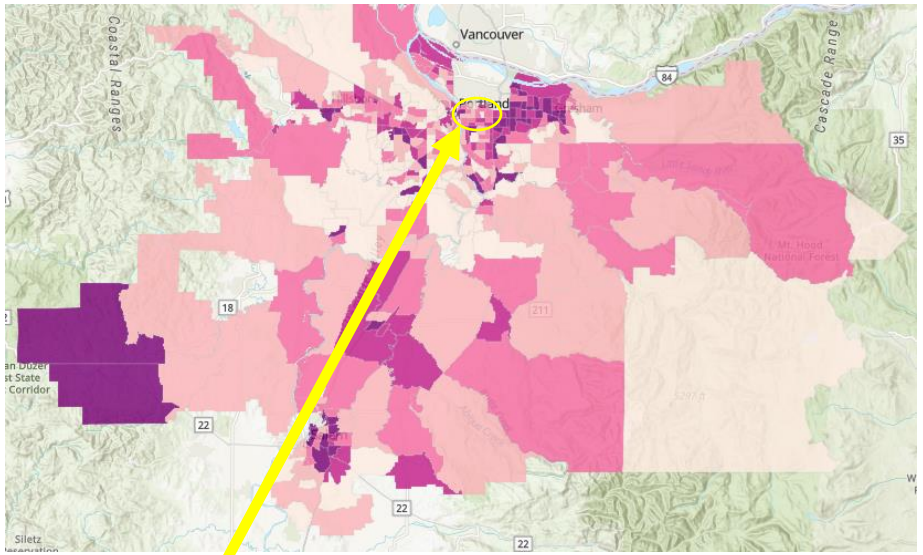


Identifying CBRE Opportunities

Heat map representing CEMI/CELID
(Darker area = more interruptions)



Equity Index Map
(Darker area = more disadvantaged)



Arleta-Holgate Neighborhood in SE Portland

NWS/CBRE: Microgrid and Resiliency Hub(s)

Distribution Planning identified the Arleta substation (and this geographical area) as a candidate for a Non-wire solution – need to provide load relief.

- Schools
- Mt. Scott Comm. Ctr.
- Arleta Substation
- Solar + Storage
- Storage

Each school can be a resilience ctr as well as Mt. Scott community ctr.

The batteries also can provide grid services (load relief) as needed.

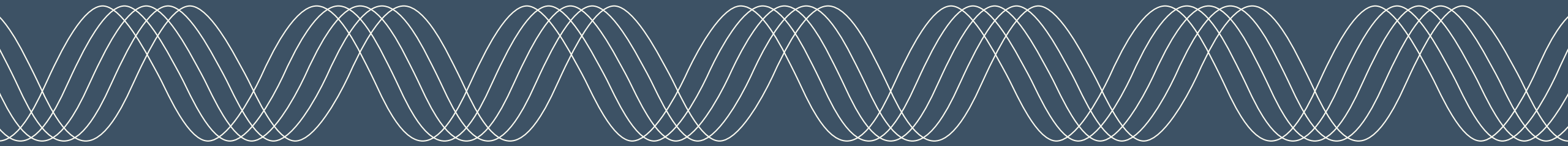
For illustrative purposes only

Mural exercise here

1. Identify pros/cons of this approach.

2. Suggest how this approach could be improved/expanded.

Next Steps & Closing Remarks



Meeting Objectives

- Inform about related efforts
- Follow through on engagement related to Non-wires Solutions (NWS) and Large Projects
- Develop next steps for project-specific Community Engagement
- Explore the intersection of DSP and CEP concepts

Next Steps and Closing Remarks

Share your feedback with us

- Please share your thoughts with us via our survey
- In 2023, meetings will be every third Thursday of the month
- Create topics for future Learning Labs
- For more information or if you have questions, please email us at CEP@pgn.com

Let's meet the future together.