

Waiting Room

One moment please, while we wait for people to join

Song by artist:

[Hang Massive - Once Again - 2011](#)

Please use the QR code to check-in:
[Name and Organization](#)



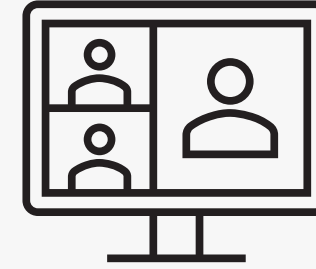
Distribution System Planning (DSP)

Angela Long, Manager, Distributed Resource Planning (DRP)

June 09, 2021 | Workshop 6



Meeting Logistics



- We are available at: DSP@pgn.com
- Teams Meeting
 - Please click the meeting link sent to your email or [Click here to join the meeting](#)
 - +1 971-277-2317 (dial this number into your phone for best results)
 - PW: 885 018 032#
 - Please use Microsoft Edge or Google Chrome with Teams as it will give you the best experience
 - During the presentation, all attendees will be muted; to unmute yourself via computer, click on the microphone that appears on the screen when you move your mouse
 - To unmute yourself over the phone, press *6
 - If you call in using your phone in addition to joining via the online link, please make sure to mute your computer audio
 - There is now a meeting chat feature rather than a Q&A feature. Pull this up on the menu bar when you move your mouse and look for the little message icon

Agenda

Opening Remarks (5 mins)

Community Engagement Plan: Education and Workshops Update (15 mins)

Hosting Capacity Analysis: Technical Working Group (TWG) Update (45 mins)

Baseline Data and System Assessment: Visualizations and Demographic Data Update (30 mins)

BREAK (5 mins)

Long Term Plan: General Framework and Report Template (45 mins)

Non-Wire Alternatives (NWA) : Definitions and Resources (15 min)

Quick Updates!

- Please visit us at www.portlandgeneral.com/dsp

- We'd like to hear from you

- [Online Feedback Form](#)



- Reminder about the future OPUC TWG Meetings

- Wednesday, June 30, 2021 from 9:00 am – 12:00 pm Pacific
 - Wednesday, July 28, 2021 from 9:00 am – 12:00 pm Pacific
 - Wednesday, August 25, 2021 from 9:00 am – 12:00 pm Pacific

Proposed Partner Engagement Timeline

		2021									
		January	February	March	April	May	June	July	August	September	October
Distribution System Planning (DSP) plan - Part 1	Baseline data and system assessment	Data collection, organization, QA/QC, and visualization				Presented to partners and requested feedback on datasets	Data visualizations and demographics	Final draft shared with partners	Integrate more feedback if needed	PGE review process	Filed on Oct 15th
	Hosting capacity	System evaluation map and hosting capacity option analysis and iterate with OPUC's Technical Working Group (TWG)					Present to all partners feedback received from OPUC's TWG	Enhancements to Map as necessary	Final draft shared with partners	PGE review process	Filed on Oct 15th
	Community engagement plan	Development of the Community Engagement Plan and hosted Community Input Workshops							Present to partners for feedback	PGE review process	Filed on Oct 15th
	Long term planning	Development of long-term plan						Present to partners for feedback	Final draft shared with partners	PGE review process	Filed on Oct 15th

Community Engagement Plan: Education and Workshops

Jenn Latu (15 mins)

Community Outreach Manager, DEI Office

DSP – Part 1

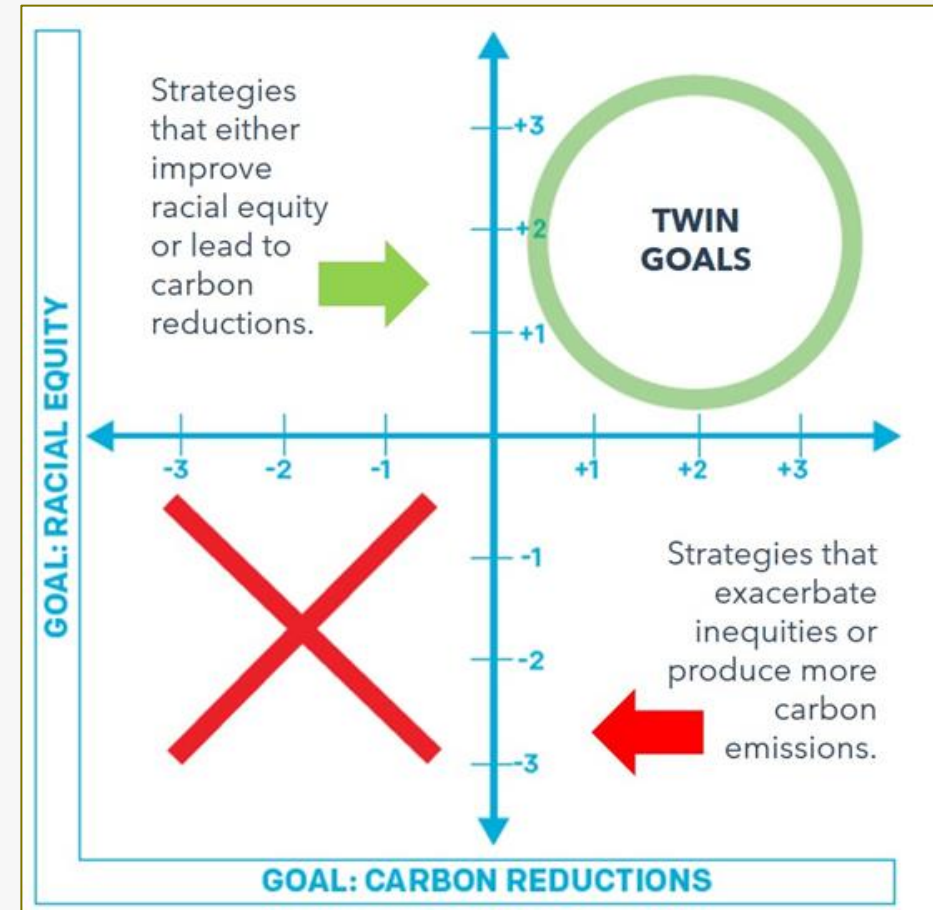


UM2005 Stated Policy Goals

- Empower all customers with **authentic choices**, including access to diverse providers.
- Create **inclusive, nondiscriminatory, equitable access** to opportunities across customer types, with particular attention to those that **reduce energy burden**.
- Engage customers in an **approachable, fully-accessible manner**.
- Provide **access to detailed, real-time information** on electricity use and costs to help customers manage use and costs and understand how to save.
- Create **procedural inclusion** for new stakeholders traditionally not represented.
- **Promote collaboration** between utilities and community-based organizations to broaden perspectives and representation in planning process and outcomes.

What are the Intended Equitable Outcomes?

- Acknowledge structural and systemic inequities
- Integrate an explicit consideration of racial equity in decisions
- Foster procedural equity by ensuring community has a seat at the table
- Promote transparency and candor



Integrated Community Approach

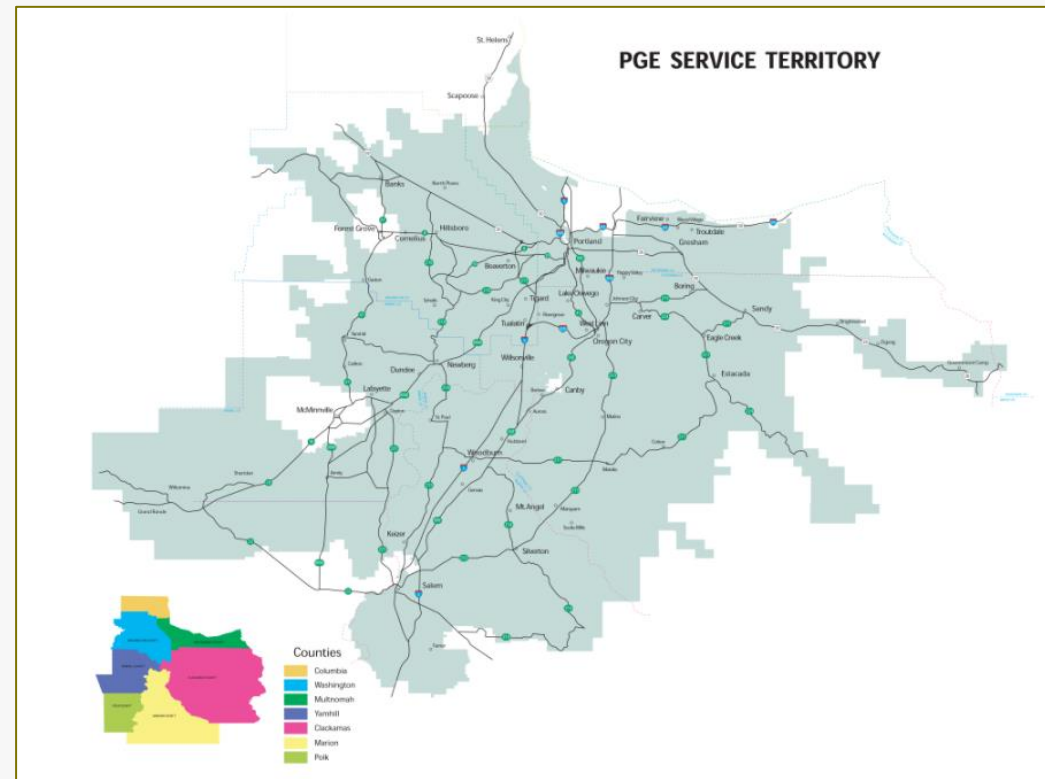
Objective: Apply equity lens to internal coordination and external engagement

Turn Eye Inward

Apply equity lens to various DSP requirement areas to ensure alignment with UM2005 stated policy goals

Partner With Community

Defer to community-based organizations (CBO) to lead development of energy curriculum and engagement model



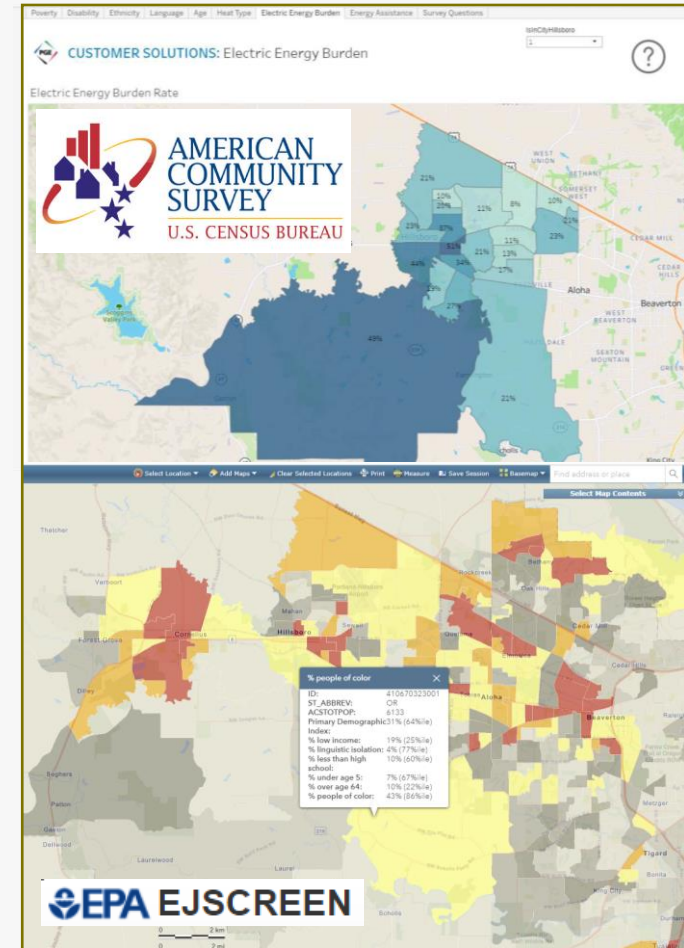
What Does the Data Tell Us?

TOOLKIT

Racial Equity Toolkit: An Opportunity to Operationalize Equity

Government
Alliance on
Race and Equity

In response to partner feedback, and to integrate the application of an equity lens throughout the DSP, we identified data sources that may serve as an overlay to other baseline data.



CBO Partnerships



Technical Advisory



Education:

- Assess/ Translate
- Energy 101
- DSP 101

Best Practice:

- Recruit/ Convene
- Workshops/ Surveys
- Collect Feedback

Best Practice:

- Analyze
- Synthesize
- Recommend

Workshop Update

Learning from our CBO Partners:





- Why is this relevant to me?
- What general problem are we trying to solve?
- What new information do you need to solve it?
- How will this feedback and information being gathered be used?

Format and Logistics:

- 2 days, 3hr sessions, 40+ participants
- Energy/DSP 101 (Sat); DER 101 (Sun)
- 1/3 context, 2/3 discussion; same day

Electricity and Climate Resilience
Part 1

Resiliencia Climática Y Electricidad
Parte 1



Today's focus:
Introduction to
Electricity and
Natural Disasters

Enfoque de hoy:
Introducción a la
Electricidad y
Desastres
Naturales

Hosting Capacity Analysis: Technical Working Group (TWG) Update

Misty Gao | Strategy & Planning Analyst (45 mins)

Joe Boyles | Distributed Resource Project Manager

DSP – Part 1



Hosting Capacity Analysis Runway



Crawl

- Conduct a system **evaluation to identify areas of limited DER growth**
- **Provide a plan to conduct hosting capacity evaluations**
 - Plan may address alternate tool options that may **provide more approachable and instructive data for communities**
- **Initial Requirements**
 - Update Net-Metering Map to include Public Safety Power Shutoff
 - Conduct Options Analysis (e.g., cost and timeline of 3 options)



Walk

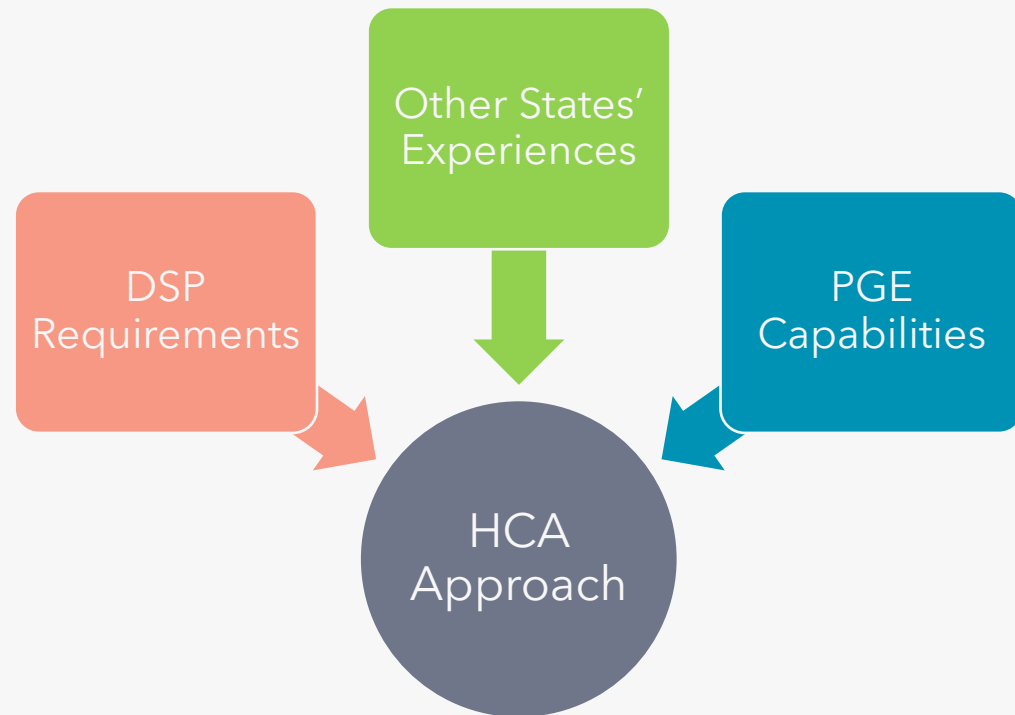
- If determined through Docket **UM 2111**, conduct hosting capacity analysis as an interconnection use case
- Include **distribution-level impacts to the substation and transmission system.**
- Conduct **hosting capacity evaluations**



Run

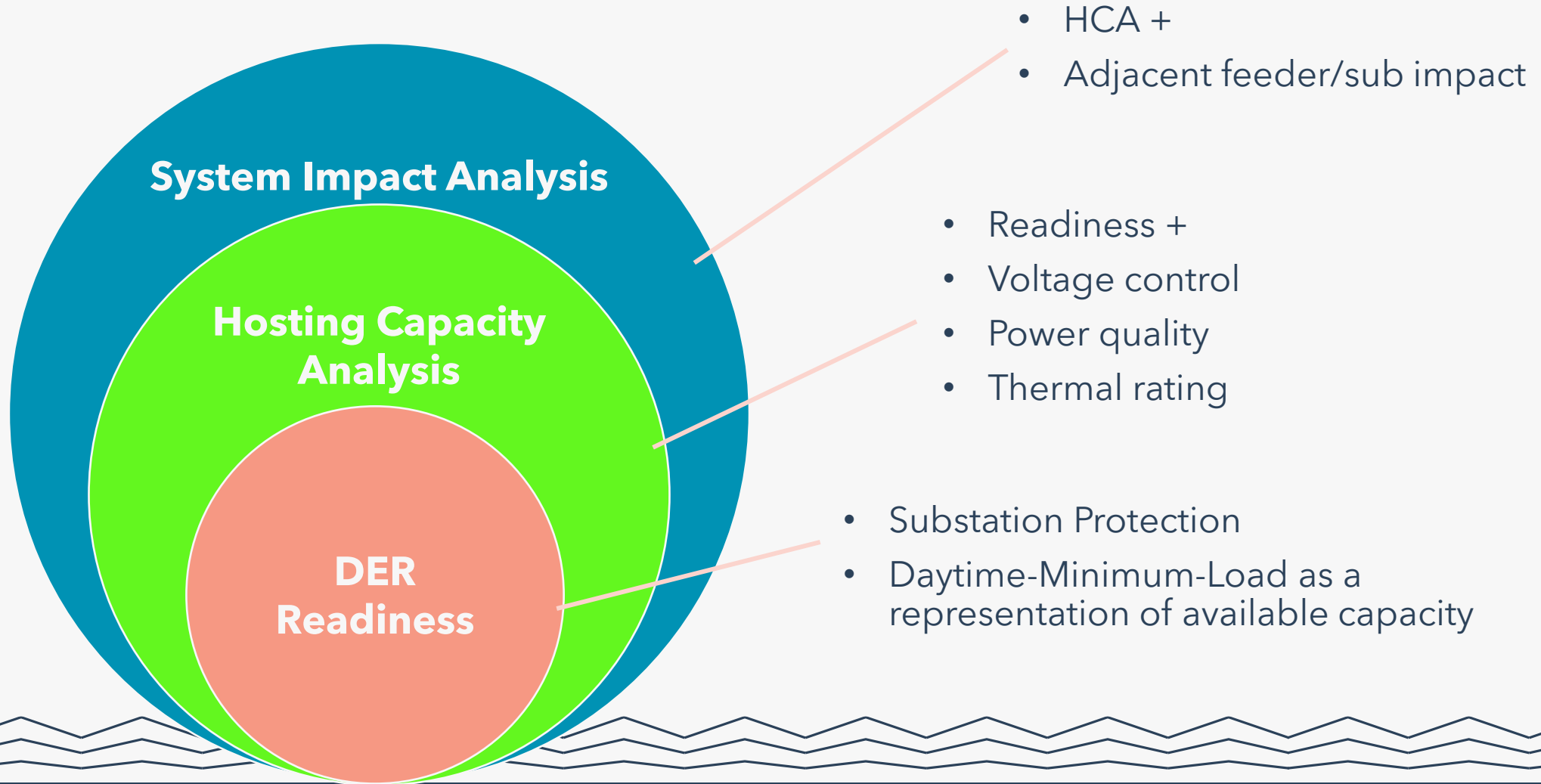
- **Comprehensive hosting capacity evaluations**
- **Increased level of detail** regarding distribution constraints, asset performance, and DER performance metrics
- **Address emerging technology development**

HCA Approach: Goals, Inputs and Considerations



- **Enable Decision Making** – support stakeholders' siting/investment decisions and accelerate the Distribution Planning screens
- **Focus on DER Readiness** – ability to support DER integration, based on distribution system characteristics
- **Develop the Minimum Viable Product** – begin sharing distribution system characteristics ASAP to collect feedback from stakeholders and shape the conversation about level of HCA required
- **Evolve** – ADMS/DERMS dependency – ability to take advantage of granular (e.g., spatiotemporal) Hosting Capacity information is dependent on PGE's ability to communicate with and operate DERs

Relationship Among Screening Activities



HCA Timeline: DER Readiness

Crawl

- Conduct a system **evaluation to identify areas of limited DER growth**

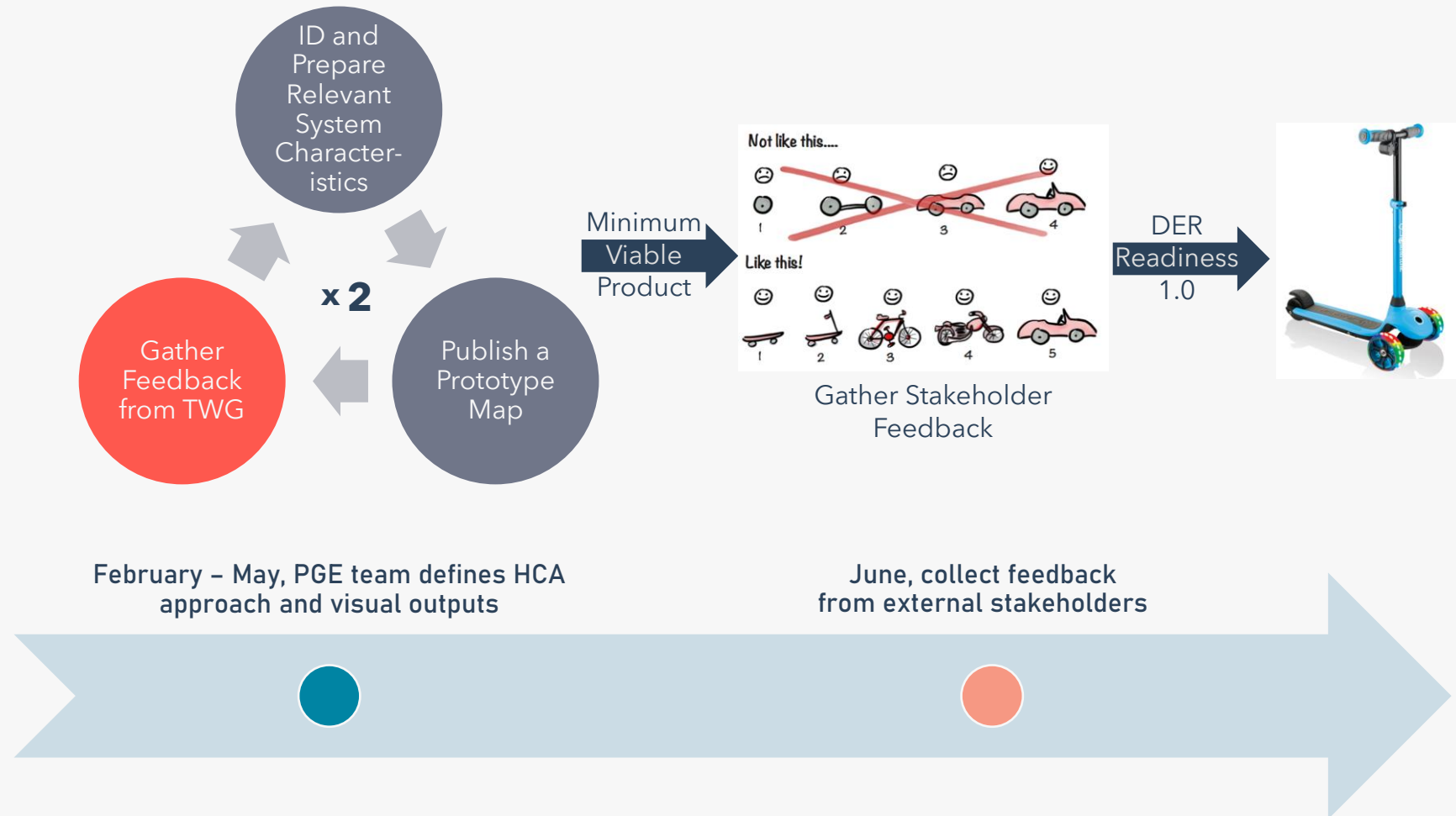
- Provide a plan to conduct hosting capacity evaluations

- Plan may address alternate tool options that may **provide more approachable and instructive data for communities**

- Initial Requirements

- **Update Net-Metering Map to include Public Safety Power Shutoff**

- Conduct Options Analysis (e.g., cost and timeline of 3 options)



HCA Timeline: HCA Plan



Crawl

– Conduct a system **evaluation to identify areas of limited DER growth**

– **Provide a plan to conduct hosting capacity evaluations**

- Plan may address alternate tool options that may **provide more approachable and instructive data for communities**

– **Initial Requirements**

- Update Net-Metering Map to include Public Safety Power Shutoff
- Conduct Options Analysis (e.g., cost and timeline of 3 options)



February – May, PGE team defines HCA approach and visual outputs

June, collect feedback from external stakeholders

Feedback Process

Sprint Format: 2 to 3 three-week Sprints with TWG, then prepare for publication in Q3

Week 1 Feedback

Map-Reviewing Audience:

- Receive map link and materials
- Review map and materials (1 - 3 hrs. during the week)
- Submit feedback via email or in spreadsheet

Week 2 Design

HCA Team Feedback-Processing:

- Consolidate
- Evaluate
- Conceptualize (Map-design with PGE GIS team)

Week 3 Develop

- Incorporate feedback (PGE GIS Team)
- Review map (HCA Team)
- Publish revised map

Sprint 1: 5/3 - 5/21
(Complete)

Sprint 2: 5/24 - 6/11
(In Progress)

Sprint 3: 6/14 - 7/2
(if needed)

Review Exhibits and Discuss

- DER* Readiness Map (screenshot on slide 24 for reference)
- DER Readiness Map User Guide
- Feedback Template
- Q&A with Stakeholders

*DER refers only to Distributed Generation, primarily solar PV, in this context

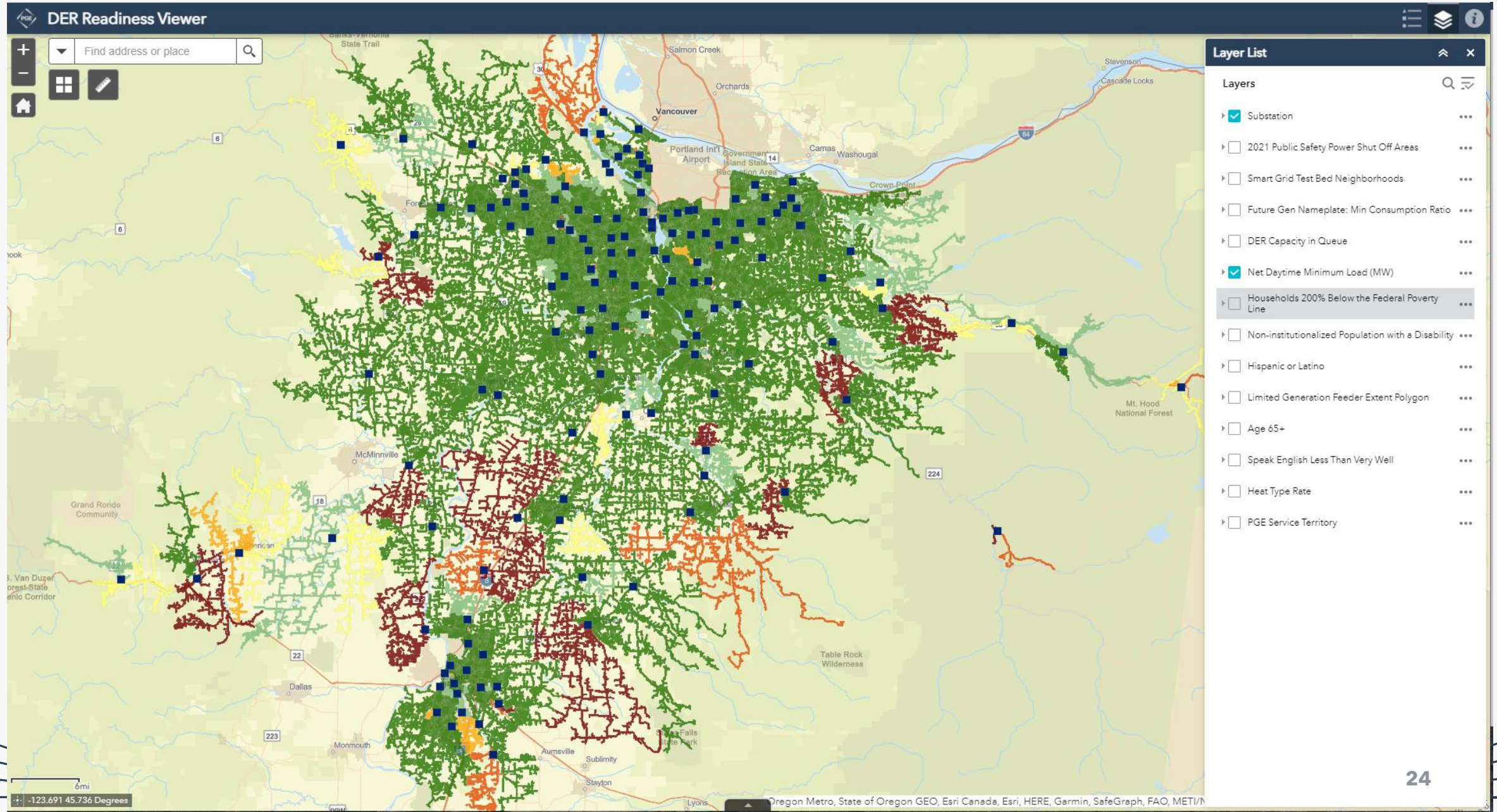
What We've Learned So Far

- This is a valuable exercise for PGE
 - Has it been valuable for the volunteers?
- PGE needs to:
 - Change the name from "DER" to something else, like "DG"
 - Work on definitions, e.g., "DER Ready"
 - Fill some holes in data
 - Figure out how to incorporate other data sets
- The map is a good vehicle to spark conversation

Next Steps

- Determine whether to have a 3rd Sprint
- Determine a better name for the map
- Determine whether the current map provides sufficient value to publish for public consumption
 - Needs to be intuitive
 - Needs to serve a purpose
 - Shouldn't generate a lot of questions
- Execute HCA pilot
- Start writing

DER Readiness Map



Baseline Data & System Assessment: Data Visualizations and Demographics

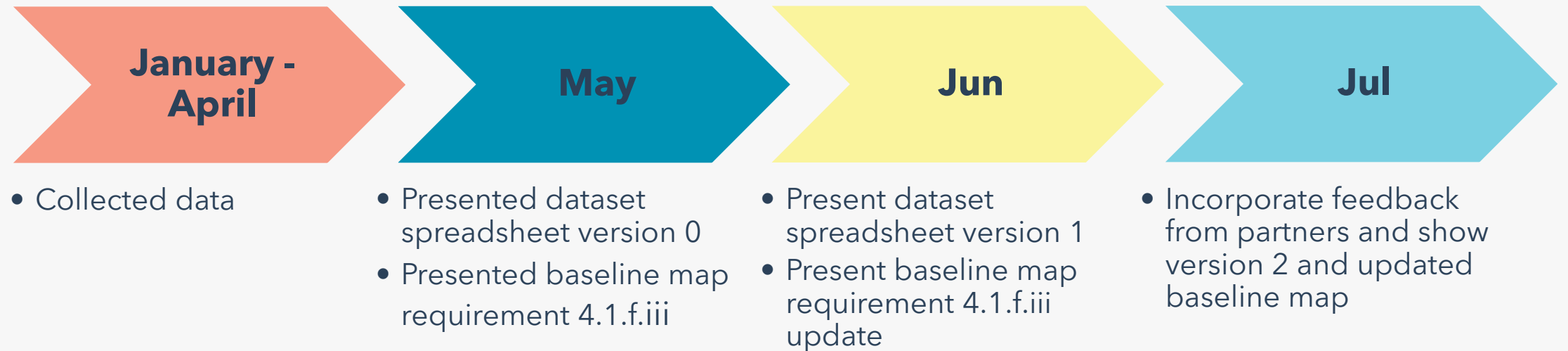
Tony Grentz (30 mins)

Distributed Resource Planning Engineer

DSP Part 1



Baseline Workstream Timeline

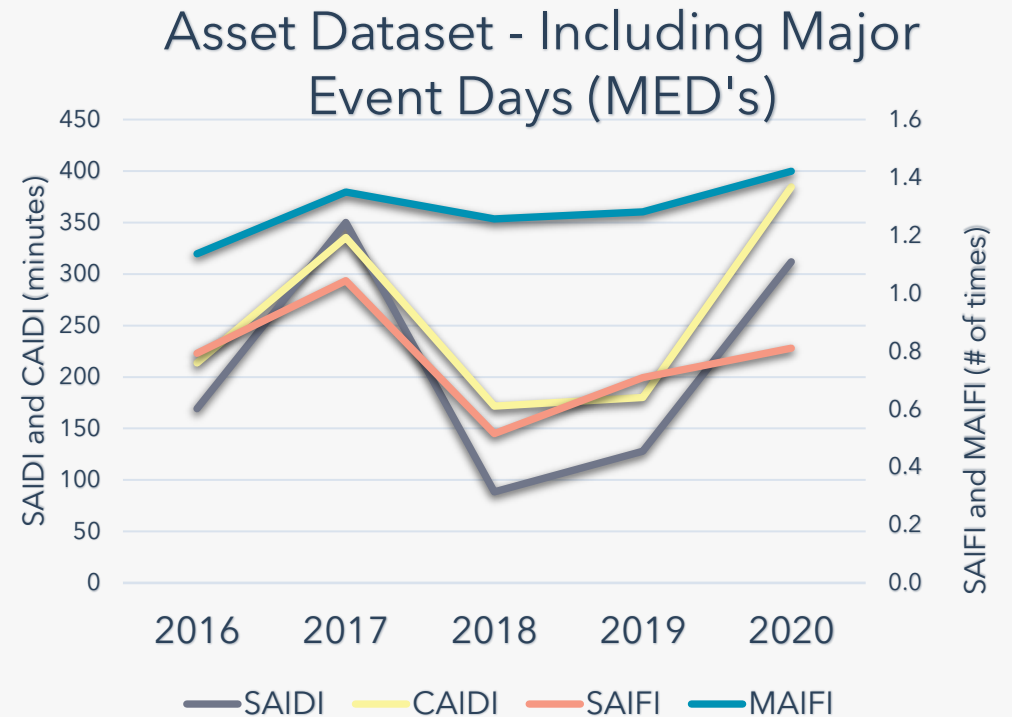
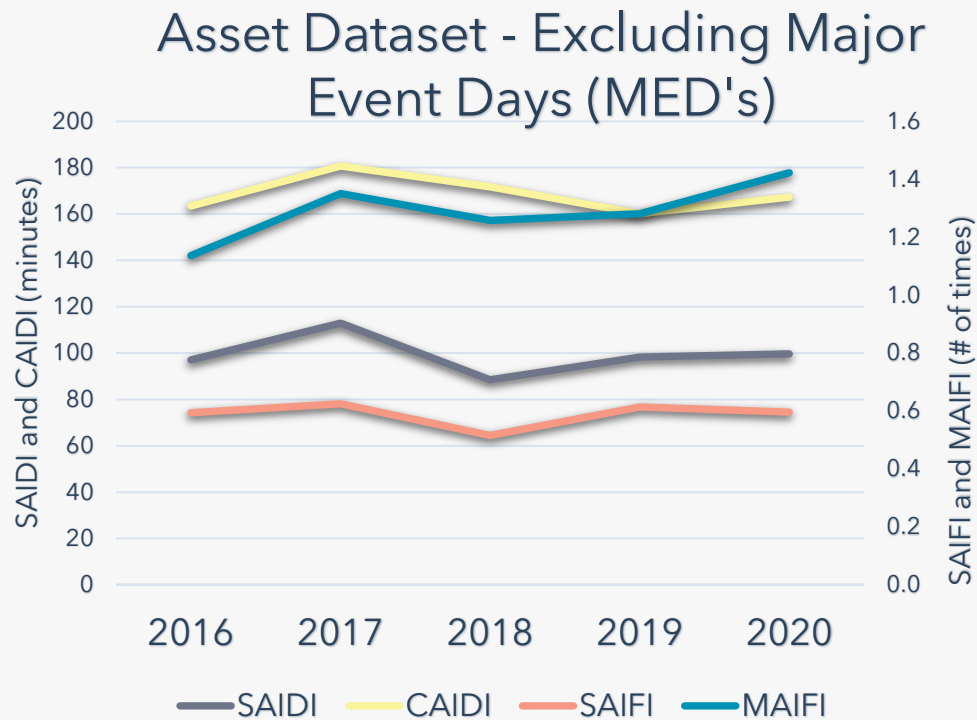


Baseline Data & System Assessment

- PGE posted the Baseline Data & System Assessment Workbook Template to it's DSP Website in May.
- Since our May Workshop, we have not received additional feedback on the template.
- We have updated the template!
 - We'll post a new version to our website this month.
 - The following graphs are examples of the updated visuals.
- In the May Workshop, we heard the need to integrate other datasets; specifically, demographics and socioeconomics.
 - We meet separately with ODOE and PacifiCorp to discuss opportunities for collaborations.
 - We'd like to have a broader more coordinated conversation with the other IOUs, ODOE, and OPUC in the future!

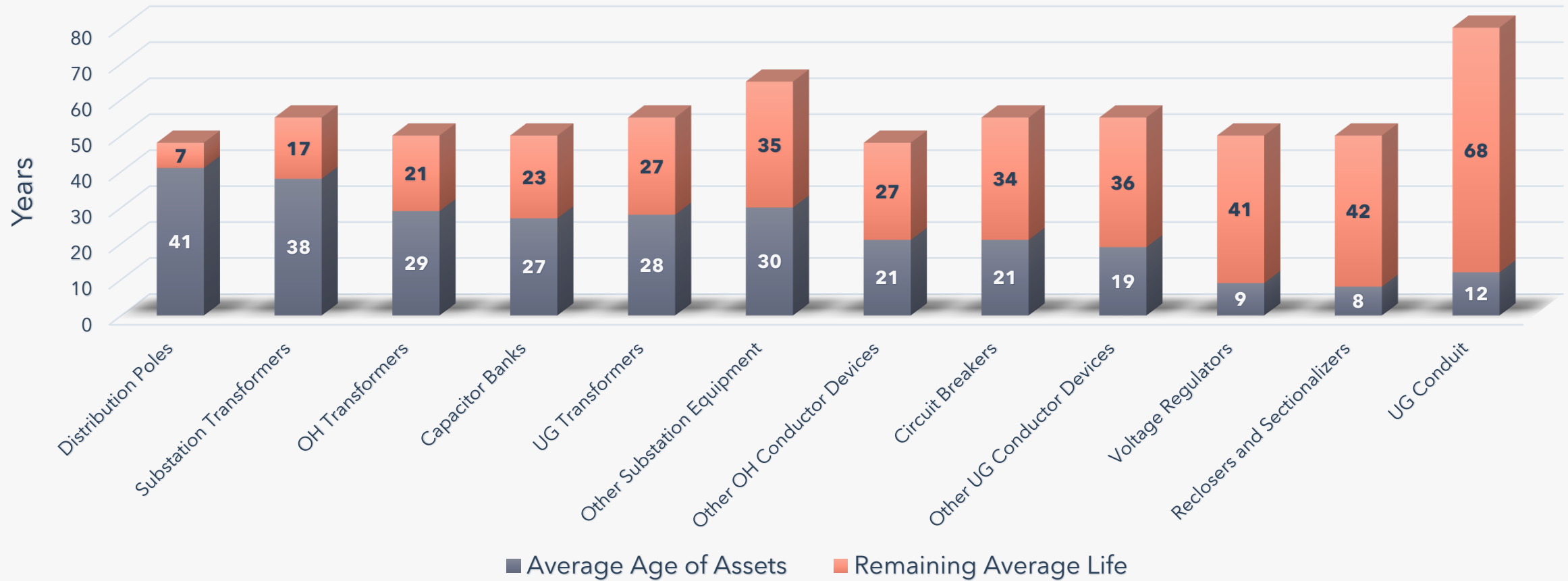
Outage Metrics

SAIDI – CAIDI – SAIFI – MAIFI

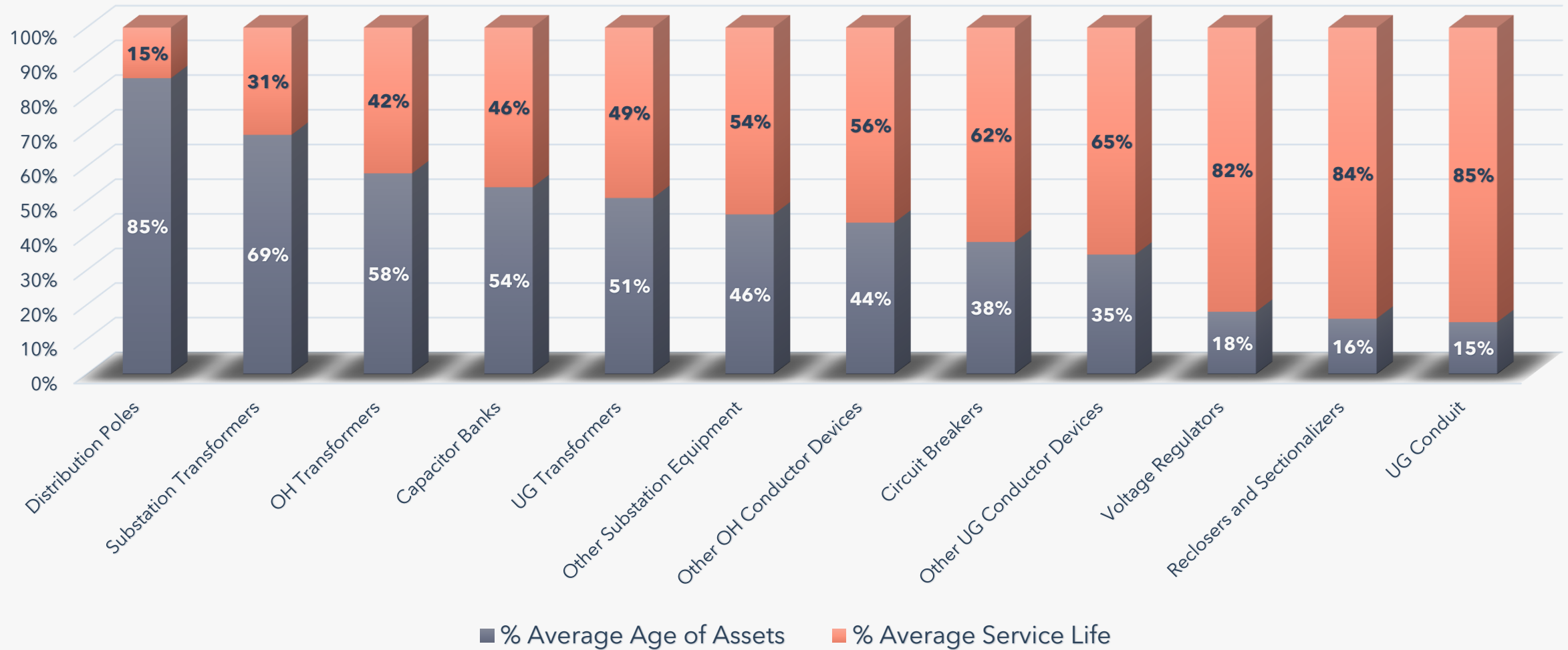


- SAIDI and CAIDI are outage duration metrics in minutes
- SAIFI and MAIFI are outage frequency metrics in number of times

Asset Average Life (In years – Q1 2021)

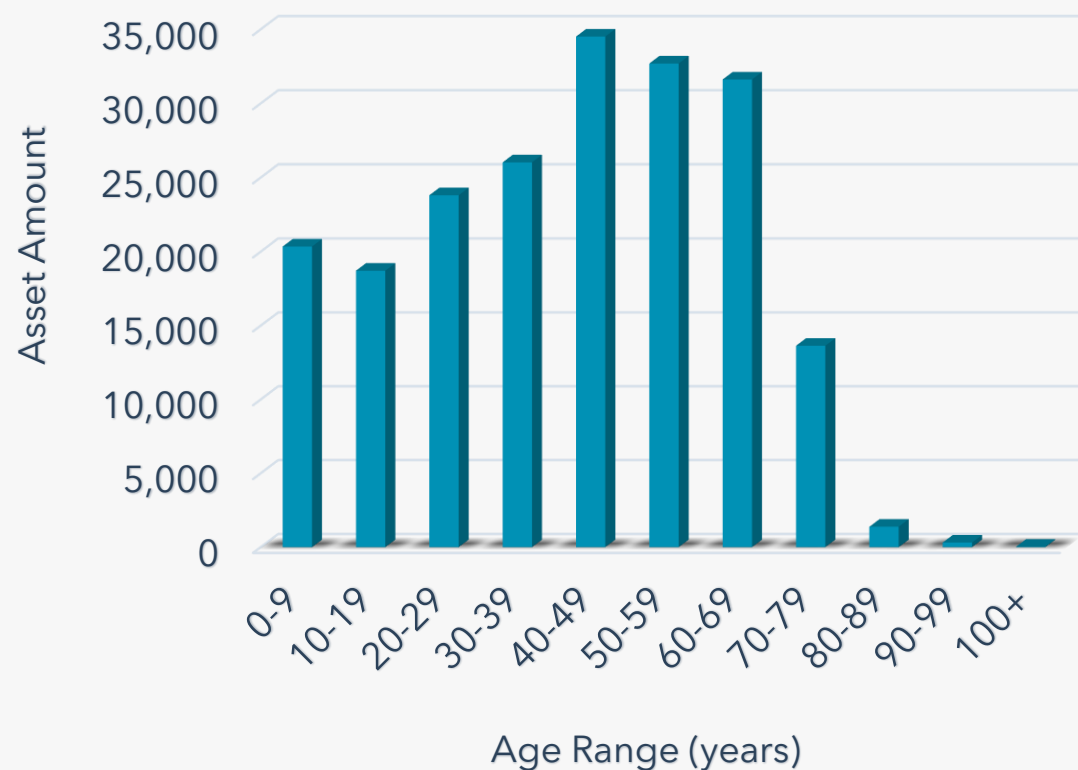


Asset Average Life (In percent – Q1 2021)

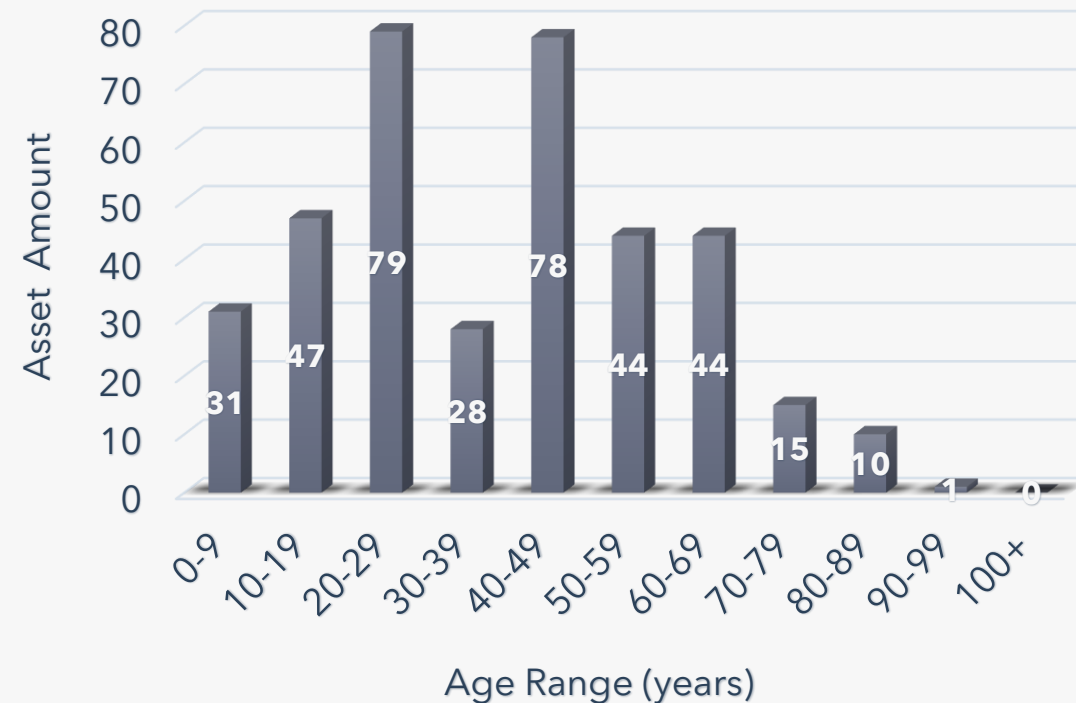


Distribution Poles & Substation Transformers by Age Range (Q1 – 2021)

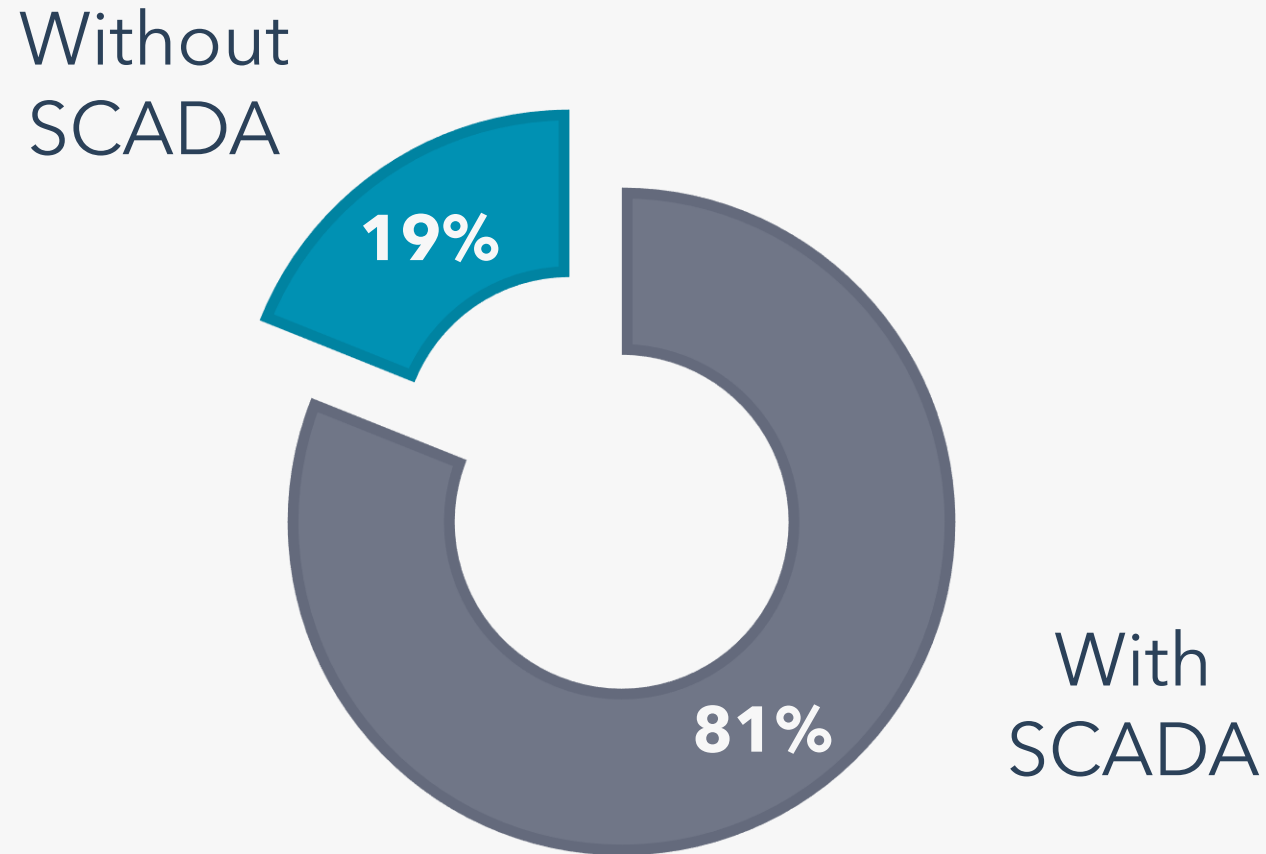
Distribution Poles by Age Range



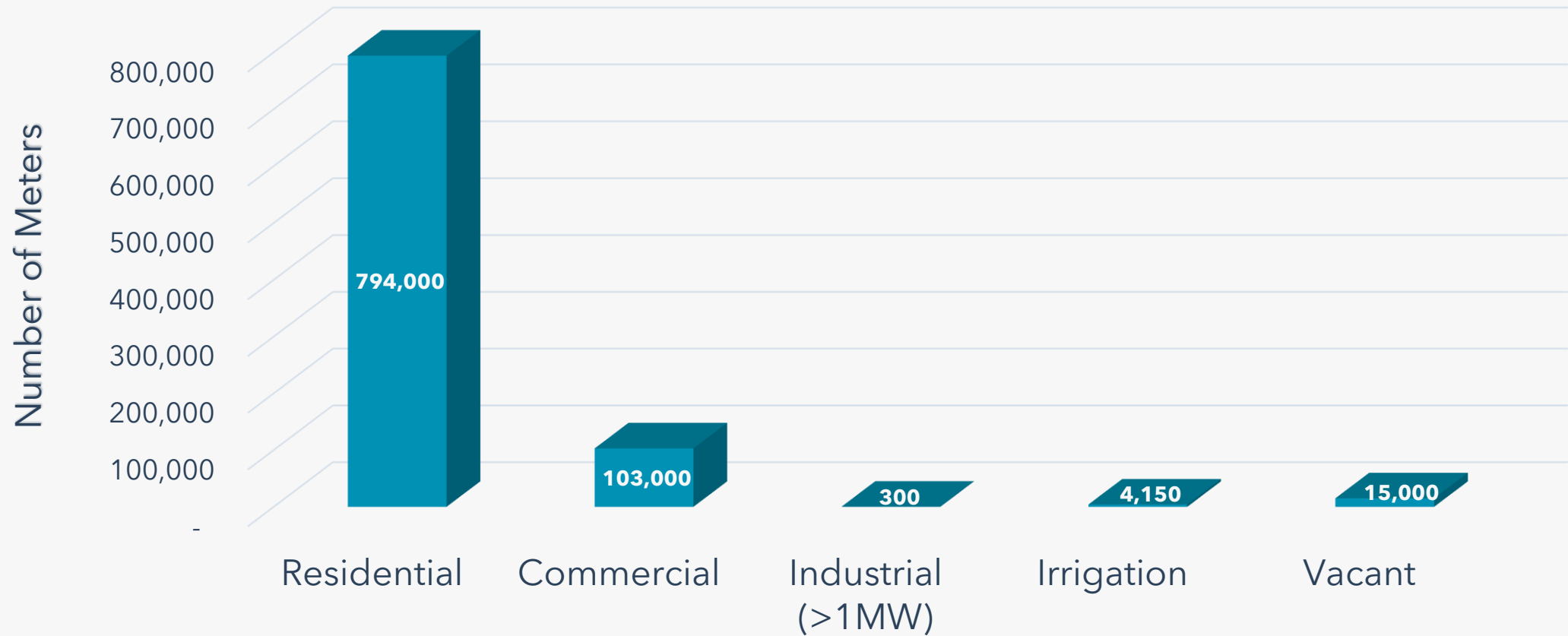
Distribution Substation Transformers by Age Range



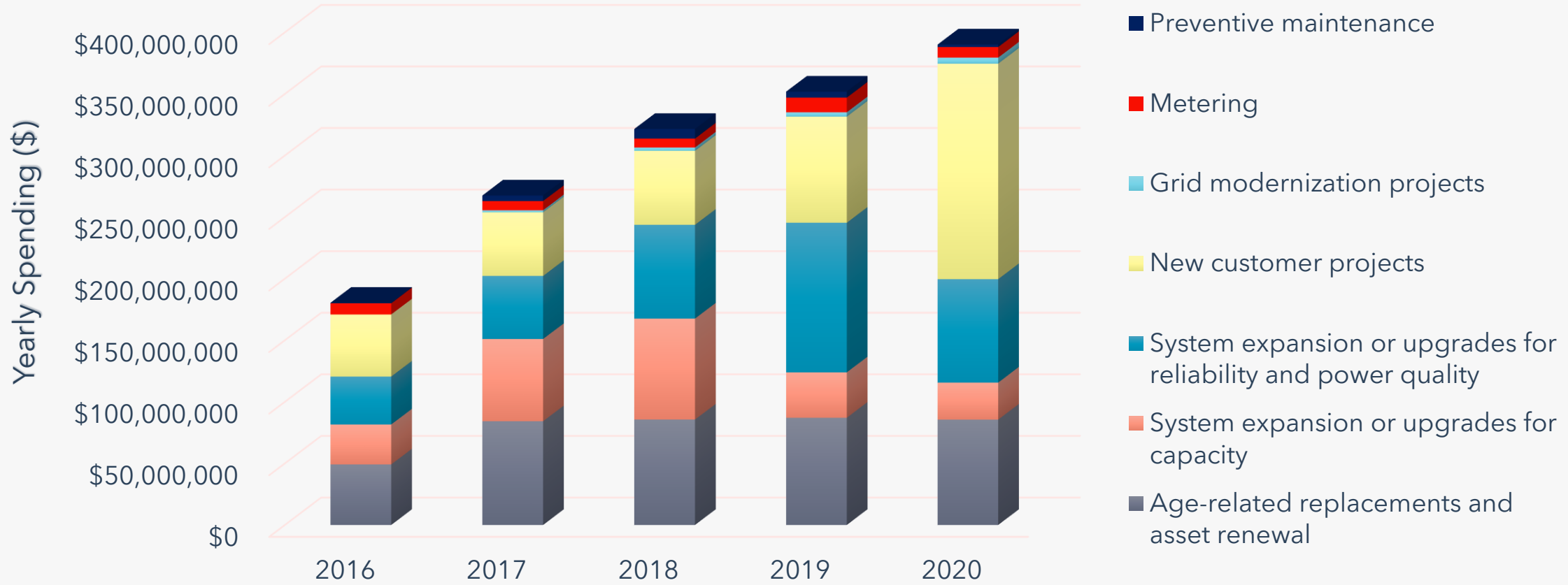
Distribution Substations Deployed with and without SCADA (Q1 – 2021)



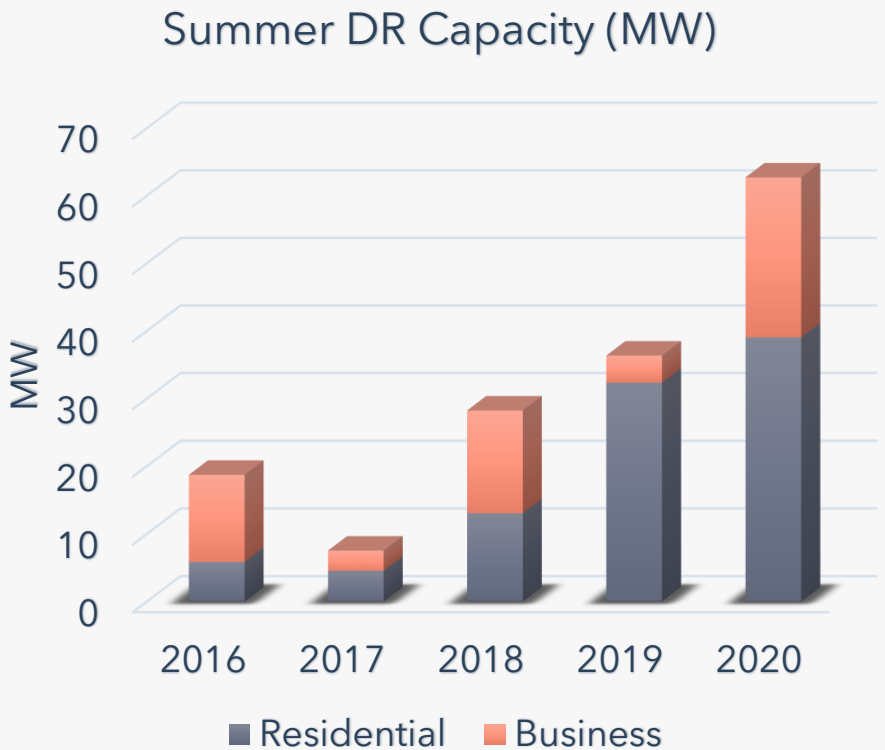
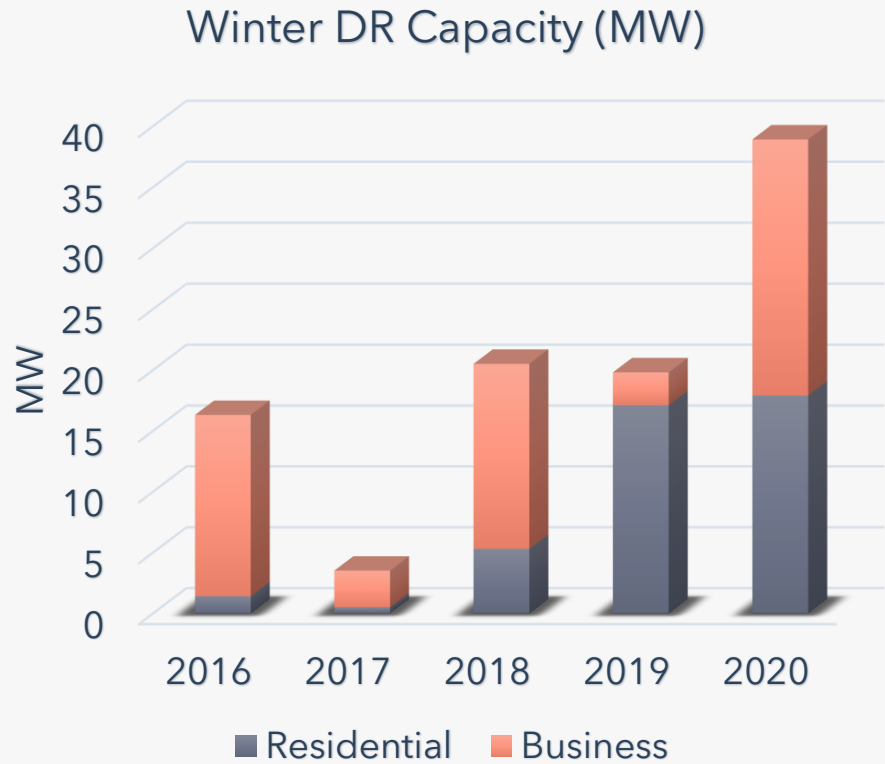
PGE Meters (Q1 -2021)



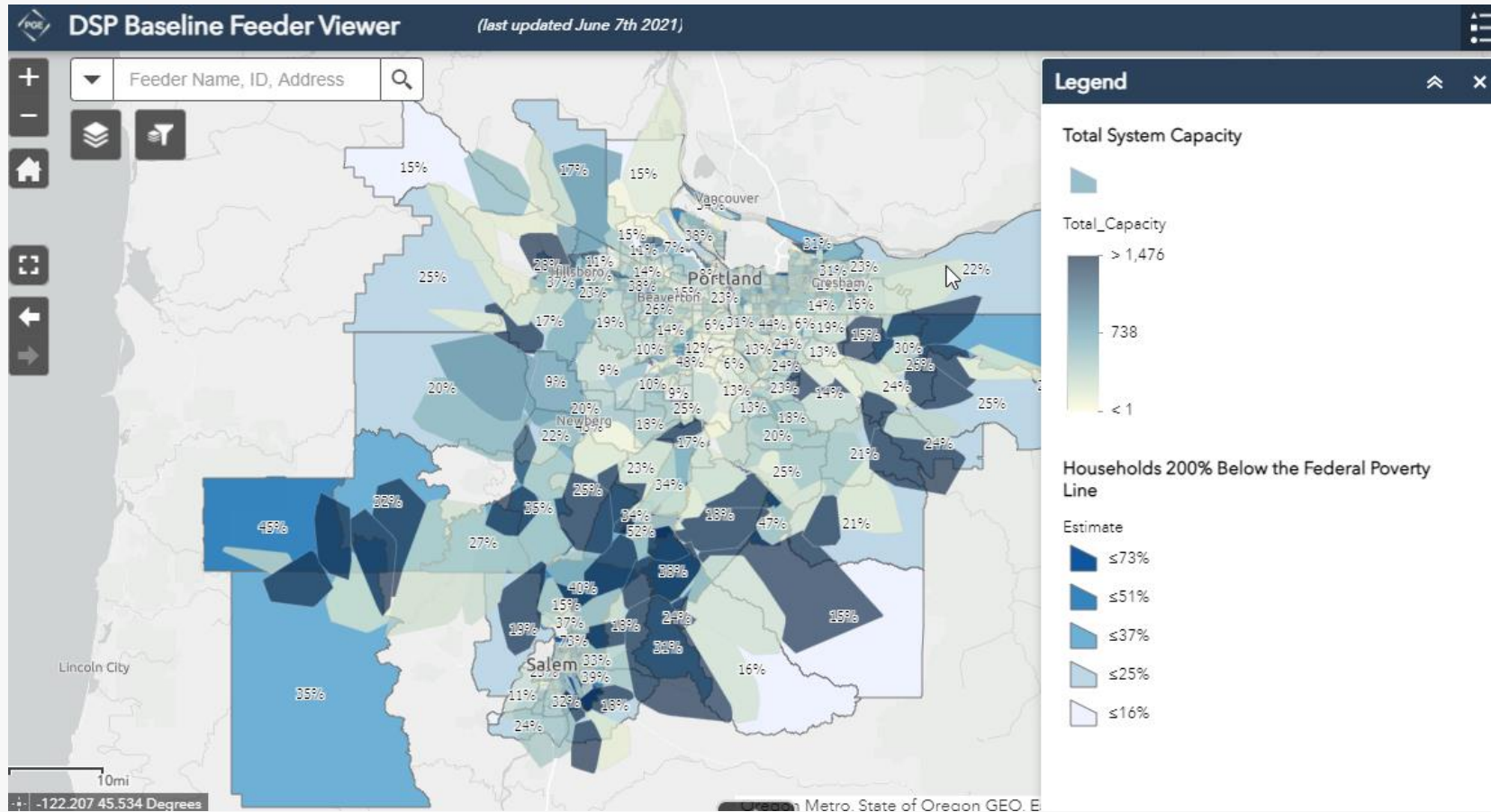
Yearly Distribution Spending by Category



Demand Response (DR) Capacity by Type of Customer and Season (MW)



DSP Baseline Feeder Viewer





Break

Long Term Plan: General Framework

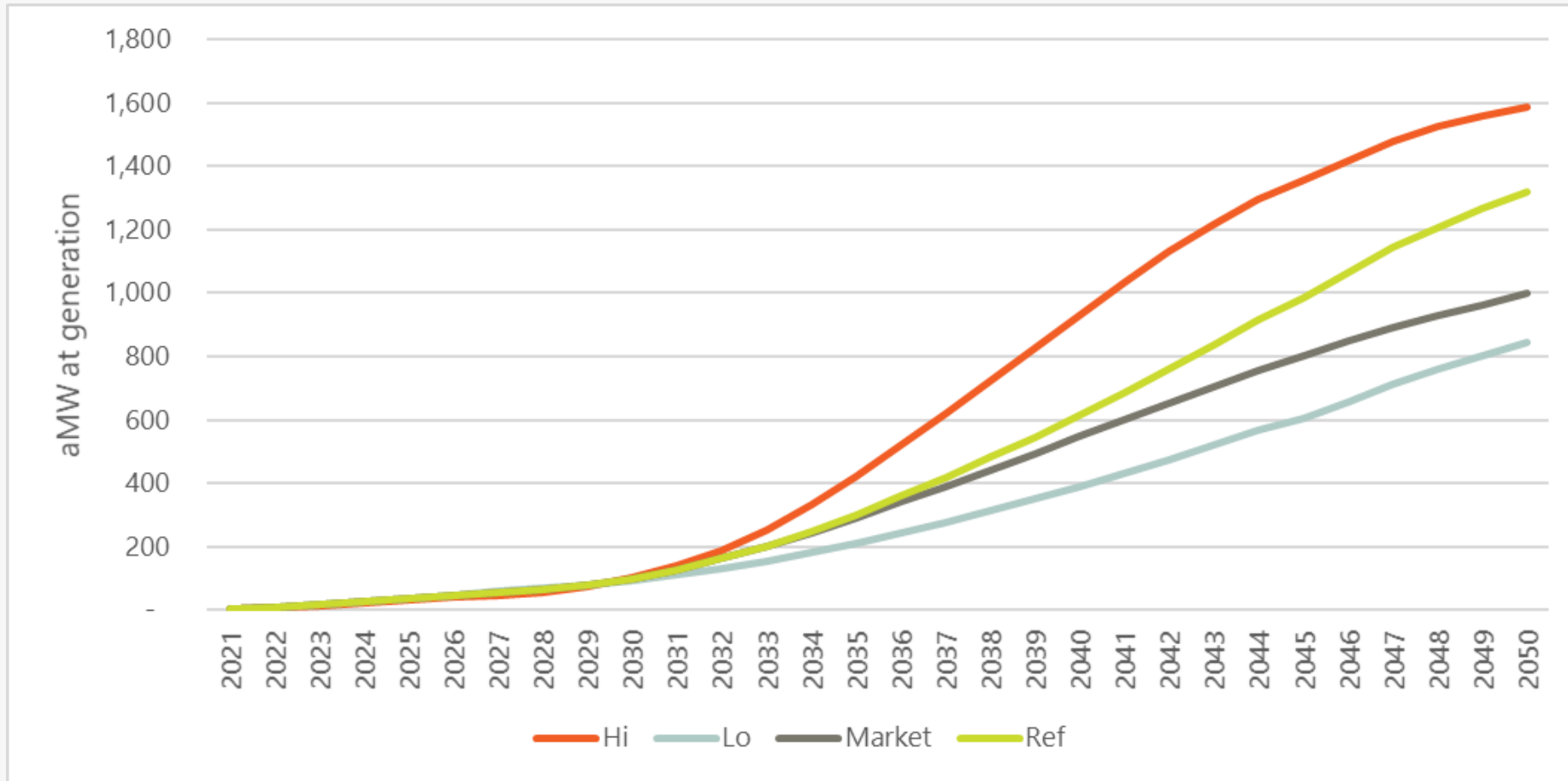
Nihit Shah (45 mins)

Senior Strategy & Planning Analyst

DSP – Part 1

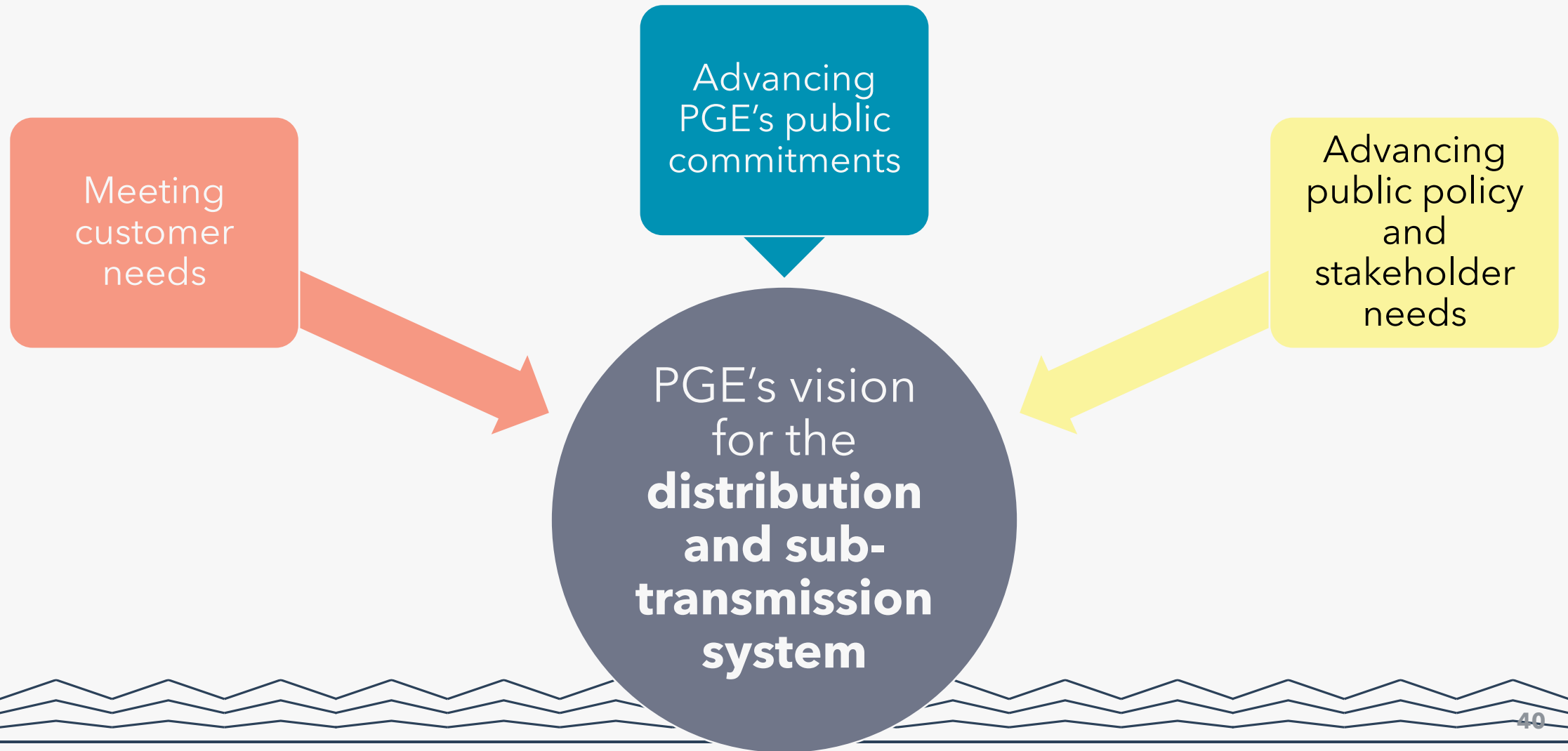


System Impact of DERs



Aggregate energy impact of behind the meter DERs by scenario

The Inputs to the Distribution and Sub-transmission System Vision



PGE's 10-year Vision for Distribution and Sub-transmission System (DRAFT EXAMPLE)

PGE will further partner with communities and modernize the grid to empower customers through **community inspired, innovative products and services** that enable the clean energy transition in a fair and equitable manner.

**Empowered
communities**

**Modernized
grid**

**Plug and
play**

Evolution

Pillars that Enable PGE's Vision

Empowered communities

Ensuring equitable access in the clean energy transition

Modernized grid

Planning and operating a multi-directional grid that optimizes system planning, and operations needed for the clean energy transition





















Plug and play

Enabling seamless interconnection and improved access to grid edge technologies to accelerate customers in their clean energy transition

Evolution

Working with partners, commission staff and other utilities to identify critical regulatory and rulemaking required to ensure equitable, resilient energy delivery that keeps pace with the clean energy transition

Operationalizing this Vision (DRAFT EXAMPLE)

Example Customer needs	Example of possible PGE services	Empowered communities	Modernized grid	Plug and play	Fair market framework
Affordability	<ol style="list-style-type: none"> 1. Non-wire solutions (NWS) 2. Flexible load programs 3. Customer analytics 4. Residential line extension allowance 				
Reliability and resiliency	<ol style="list-style-type: none"> 1. Fault location isolation system restoration (FLISR) 2. Conservation Voltage Regulation (CVR) 3. Battery and PV programs 4. Hardening and wildfire mitigation 				
Social impact	<ol style="list-style-type: none"> 1. NWS 2. Flexible load programs 				
Environmental impact	<ol style="list-style-type: none"> 1. NWS 2. Green Future Choice 				
EV and fleet needs	<ol style="list-style-type: none"> 1. Transportation line extension 2. Electric avenue 				

How Does this Vision Translate to the Report?



Non-Wire Alternatives (NWA): Definitions and Resources

Bachir Salpagarov (15 mins)
Analyst

DSP – Part 2



Background

UM2005 Guidelines for first utility DSP filing contain guidance on **non-wire solutions NWSs = non-wire alternatives NWAs**

Guidance shows prominently in section 6:



Solution Identification

- Utilities must file minimum of **two non-wire solutions pilots** with Part II of the initial filing (due date August 2022)
- In its pilot concept proposals, a utility should discuss:
 - the grid need(s) addressed
 - various alternative solutions considered
 - provide detailed accounting of the relative **costs and benefits** of the **chosen and alternative solutions**
- Emphasizes need for community involvement in developing solutions

Non-Wire Solutions Focus



Develop a fair approach toward T&D planning, considering all solutions equally from a societal perspective when making investment decisions



Work to balance current policies, customer desires, and a growing number of investment priorities as we consider (as well as being encouraging of) alternative solutions, including customer-sited DERs

Draft Definition for NWS

PGE proposes the draft definition below for discussion.

"An NWS is an **investment** intended to **defer, reduce, or remove** the need for a **specific wired solution** to an identified grid need such as **managing load, generation, reliability, voltage regulation**, and/or other wide-ranging grid needs. NWS can range from policy mechanisms such as tariffs, technology solutions such as utility or customer owned DERs, to control solutions such as automated switching - to name a few. Most NWS in the field are likely **a combination of several different solution types**."



Questions/Next Steps

Next Steps

Feedback Survey



Propose Meeting Topics

- Email us at DSP@pgn.com with suggested topics

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An

Oreanon
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Oregon

kind of energy

Additional Resources & Materials

Runway

Overview of May Meeting

Topics included:

Presentation:

Forecasting of Load Growth, DER Adoption, EV Adoption:
DER Potential & Flex Load Analysis – Phase 1

DSP Details:

Workstream Updates

- Community Engagement Plan: Education and Workshop Results
- Hosting Capacity Analysis: Option 1
- Baseline Data and System Assessment: Datasheet compilation

Parking Lot

Question/Comment	Partner	Name	Response
Socializing Data on DSP workstreams			We are investigating it
Will you be implementing a green button/utility API type solution for the interval data from customers?	Community Energy Labs	Tanya Barham	To be considered during DSP Part II in 2022

Appendix

DSP acronyms

ADMS = Advanced Distribution Management System

AMI = Automated Metering infrastructure

BIPOC = Black, Indigenous, and People of Color

CAIDI = Customer Average Interruption Duration Index

C&I = Commercial and Industrial

CBO = Community-Based Organization

CE = Community Engagement

CEP = Community Engagement Plan

CTA = Consumer Technology Association

DCQC = Direct Current Quick Charge

DEI = Diversity, Equity, and Inclusion

DER = Distributed Energy Resource

DERMS = DER management system

DHP = Ductless Heat Pump

DR = Demand Response

DRMS = DR management system

DSP = Distribution System Plan

EJ = Environmental Justice

EMS = Energy Management System

ERWH = Electric Resistance Water Heater

EV = Electric Vehicle

EVSE = Electric Vehicle Supply Equipment

FAN = Field Area Network

HPWH = Heat Pump Water Heater

HVAC = Heating, Ventilation, and Air Conditioning

IRP = Integrated Resource Plan

kW = kilowatt

L2 = Level 2 EV Charging

LDV = Light-duty Vehicle

LIDAR = Light Detection and Ranging

MAIFI = Total number of customer momentary interruptions events / Total number of PGE customers served on feeders with MV90 or SCADA

MDHDV = Medium- and Heavy-duty Vehicles

MW = Megawatt

MWh = Megawatt-hour

NAN = Neighborhood Area Network

NWA = Non-Wire Alternatives

NWS = Non-Wire Solutions

NREL = National Renewable Energy Lab

OMS = Outage management system

PTR = Peak Time Rebates

PV = Photovoltaic

SGTB = Smart Grid Test Bed

SAIDI = System Average Interruption Duration Index

SAIFI = Total number of customer sustained interruptions / Total number of PGE customers served = SAIDI / CAIDI

T&D = Transmission & Distribution

Tstat = Thermostat

TOU = Time of Use

VPP = Virtual Power Plant

WAN = Wide Area Network