



# Advanced Electric and Water Meters: Program Update and Customer Benefits

Tacoma City Council and Public Utility Board  
Joint Study Session  
March 3<sup>rd</sup>, 2020



# Agenda

1. Program Update
  - Scope
  - Milestones
  - Schedule
  - Budget & Rates Impact
2. Customer Benefits
  - Customer Benefits Timeline
3. Meter Deployment Readiness
  - Readiness Scorecard
  - Communications

# Advanced Meter Infrastructure



# Advanced Meters in the Pacific Northwest



Neighboring utilities with or currently deploying advanced metering technology:

- Puget Sound Energy
- Seattle City Light
- Avista
- Grant County PUD
- Snohomish PUD
- Clark Public Utilities
- Peninsula Light
- Lakewood Water District
- Woodinville Water District
- Portland General Electric
- City of Bellevue
- City of Renton

***Over 70% of US electric meters have been upgraded to smart meters.***

***75% of US water utilities are planning to make smart water investments in the next 24 months.***

***Existing metering technology is becoming obsolete.***

# Program Scope

## Infrastructure

- Installation of approximately:
  - 180,000 electric meters
  - 107,000 water meters & modules
- Installation of the Advanced Meter Communication Network, approximately:
  - 65 base stations (radio communication units)

### Power & Water Meters



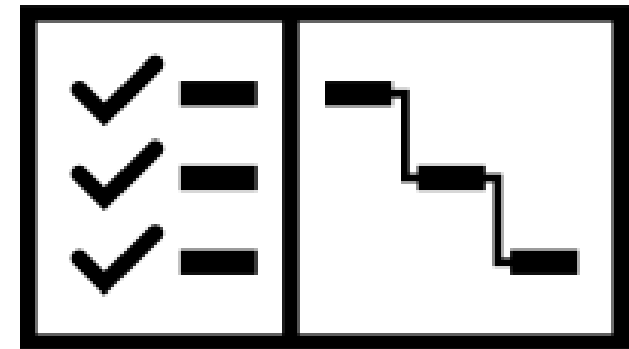
### Base Stations



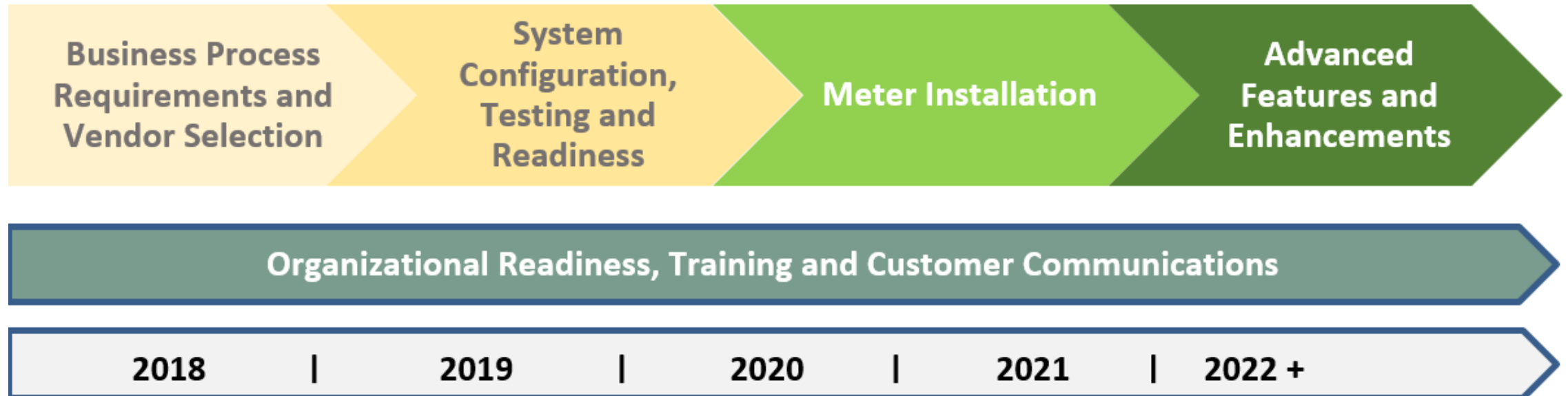
# Program Scope

## Software

- Utility Data Systems:
  - Advanced Meter System to SAP integration
  - Meter Data Management System (MDMS)
- Transition to monthly billing
- Deployment of a customer usage portal
- All applications and functionality associated with Phase 1 of the AMI roadmap



# Program Timeline



## Current Priorities:

- System Integration
- Network Deployment
- Meter Deployment Planning & Communications
- Policy Updates

# 12 Month Look Ahead

## Winter 2019-2020

- System Integration
- Utility Process and Policy Updates
- Network Deployment Begins
- Meter Deployment Planning

## Spring 2020

- Technical System Testing
- Deployment Readiness and Communications

## Summer 2020

- Technical System Readiness and Training
- Mobilize Meter Installation Vendor

## Fall 2020

- Advanced Meter Technical Go-Live
- Meter Deployment Begins





# Utility Modernization Strategy

*Integrate technology & foster innovation to deliver affordable, flexible, secure, resilient, and sustainable power & water services for our customers*

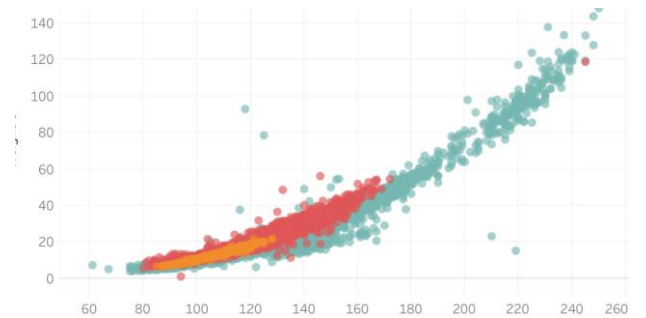
## Advanced metering deployment



## Customer digital engagement



## Advanced data analytics



## Mobile workforce mgmt.



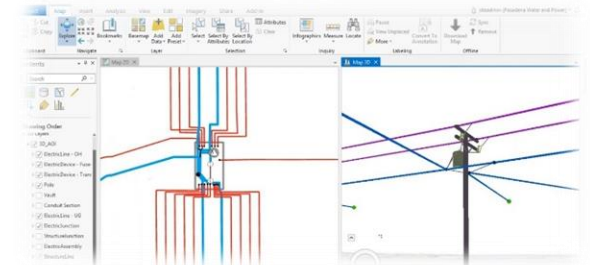
## Cybersecurity maturity



## Energy imbalance market



## Geospatial systems



# Customer Benefits Timeline

2020



- Automated Meter Reading
- Enhanced Personal Privacy



- Easier Move In & Move Out
- Remote Reconnect/Disconnect for Electric



- Abnormal Consumption Notifications
- Emergency Water Leak Notifications

2021



- Monthly Billing



- Basic Prepay for Electric

2022



- Enhanced Customer Web Portal
- Expanded Ways to Save: AMI Data Available on Web Portal



- Enhanced Prepay Via Web Portal for Electric
- Choose Your Own Bill Date



- Enhanced Customer Outage Notifications

## Advanced Meter Customer Benefits



Benefits Available As  
Customers Receive  
New Meters Over Time:  
2020-2022

**DRAFT: Revised 2/21/2020**

# Budget & Rates Impact

Category	Current Forecast <sup>1</sup>
Electric Meter Deployment	\$ 26,059,039
Water Meter Deployment <sup>3</sup>	\$ 21,363,073
Communications Network Deployment	\$ 3,280,816
System Integration	\$ 8,891,422
Capital Internal Labor	\$ 2,043,167
Professional Services	\$ 3,788,946
Operations & Maintenance (O&M) Costs	\$ 9,491,736
AMI Customer Engagement Portal <sup>4</sup>	\$ 250,000
<b>Projected Total</b>	<b>\$ 75,168,200</b>
<i>Contingency</i>	<i>\$ 6,597,243</i>
<b>Total With Contingency<sup>2</sup></b>	<b>\$ 81,765,443</b>

<sup>1</sup>Actual costs through November 2019.

<sup>2</sup>TPU Internal Support Costs, in addition to business case costs shown above, are tracked separately and do not incrementally impact rates.

<sup>3</sup>Complementary budget for replacing end of life water meters is budgeted within the Water Division.

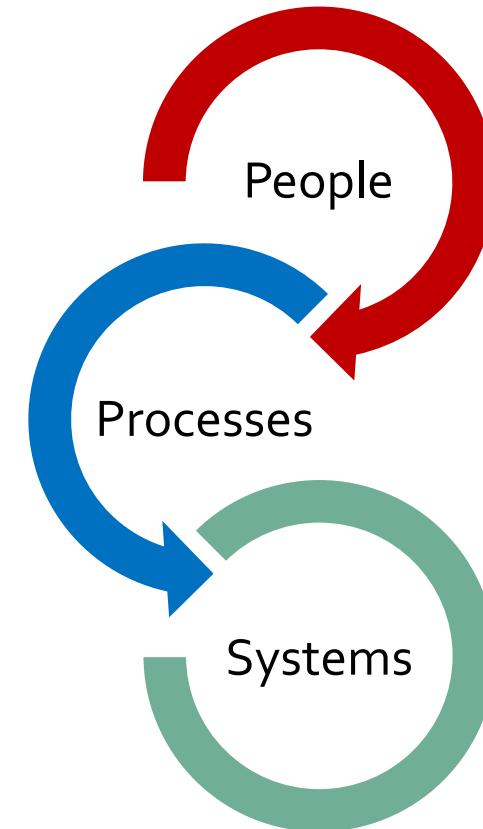
<sup>4</sup>Budget for AMI specific web portal integration requirements.

## Rates Impact:

- Costs for advanced meters are already factored into current rates.
- The additional cost each year for the next ten years is about:
  - 8 cents per month for the average residential power customer
  - 11 cents per month for the average residential water customer in the City of Tacoma
  - 13 cents per month for the average residential water customer outside the City of Tacoma

# Meter Deployment Readiness

- Learn from industry and neighboring utility experiences
- Understand areas of strength and risk before beginning deployment
- Readiness Scorecard
  - TPU Readiness
  - Program Readiness
  - Technical Readiness
  - Communications Readiness



# Customer Communications

## TACOMA PUBLIC UTILITIES Advanced Meter Project

The Tacoma Public Utilities (TPU) Advanced Meter Project will provide you with greater control, choice, and convenience. Starting in mid 2020, TPU will begin upgrades to its electric and water meters with modern digital technology that brings many new customer benefits over time, including monthly billing, remote electric service reconnection, more options to control your costs, improved reliability through faster outage and leak detection, and more flexible payment options in a safe and secure way.

TPU has been a trusted service provider in the region for more than 125 years and will continue to provide you with the reliable, affordable, and environmentally-responsible service you expect by replacing and upgrading aging meters. With technology that is used in more than 75 million households nationwide, the advanced meter project enables a shift to a modern digital utility, making operations more efficient and helping the environment through reduced carbon emissions.

### Your benefits over time

 <b>Your Control, Choice, and Convenience</b> Access more usage data anytime to manage your use and costs.	 <b>Automated Meter Reading</b> More accurate, timely bills based on real-time data.
 <b>Monthly Billing</b> Advanced meters will allow a switch to monthly utility bills, which most people prefer.	 <b>Enhanced Personal Privacy</b> No need for regular physical access to read your meter.
 <b>Easier Move In, Out, and Reconnection</b> Remote turn on and off of electric service saves you time.	 <b>Expanded Ways to Save</b> Providing data about your use increases your ability to save money, water, and energy.
 <b>Faster Outage and Leak Detection</b> Locating and fixing issues helps us restore service to you sooner.	 <b>Flexible Payment Options</b> More options over time include prepay for electric service and custom due dates.
 <b>Improved Operational Efficiency</b> Better information about our systems helps us manage costs.	 <b>Reduced Environmental Impact</b> Fewer vehicle miles traveled for meter reading, basic field services, and outage detection lowers our carbon footprint.

MyTPU.org/AdvancedMeters



## TACOMA PUBLIC UTILITIES

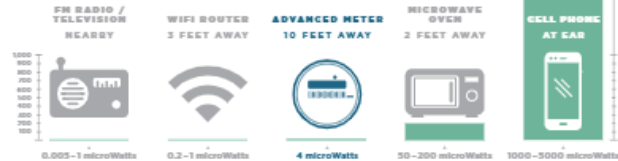
### Facts about Advanced Meters and Radio Frequency Emissions

Your concerns about radio frequency (RF) emissions are important. The intent of the information below is to help you better understand advanced meters and provide reassurance about the health and safety questions often associated with them.

#### How do advanced meters work?

Advanced meters measure your usage throughout the day, just like your current meter. The meters transmit data via RF to us up to twenty-four times per day. The meters emit RF only when they transmit data, which is typically less than one minute per day.

Radio Frequency (RF) Exposure Values (in microWatts)  
*\*based on average usage*

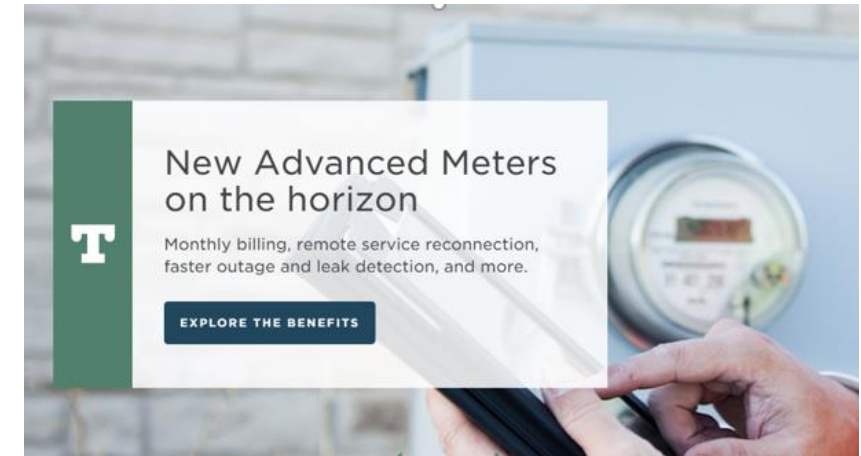


#### Scientific Research about Advanced Meters and Health

- A study by Washington State University determined the amount of energy absorbed from advanced meter radio frequency is substantially less than the Federal Communications Commission (FCC) safety guidelines, even when a person stands close to a meter.

*continued on reverse >*

MyTPU.org/AdvancedMeters



PAYMENT & BILLING OUTAGES & SAFETY WAYS TO SAVE COMMUNITY & ENVIRONMENT CUSTOMER SERVICE

Community & Environment > Projects > Advanced Meters > Public Process

### Public Process

## Advanced Meter Public Process

We host several outreach events to provide an opportunity for members of the community to learn more about the Advanced Meter project.

### Public Utility Board Meetings

[View agendas and minutes from the Public Utility Board Meetings online.](#)

### Neighborhood Council Meetings

- April 10, 5:30 p.m. - New Tacoma Neighborhood Council - Tacoma Municipal Building
- May 2, 7 p.m. - Central Neighborhood Council - Tacoma Nature Center
- June 3, 6 p.m. - North End Neighborhood Council
- June 17, 7 p.m. - South End Neighborhood Council
- June 19, 6:30 p.m. - South Tacoma Neighborhood Council
- June 20, 6 p.m. - Northeast Neighborhood Council

Customer communications  
before, during, and after meter installation.

# Deployment Customer

## Communications Plan - *DRAFT*



General Awareness	Initial Deployment Area	Residential Deployment	Commercial Deployment
Web Content - Constant	Open House Invite - Letter	45, 30, 14 Days - Install Letter	90 Days - Meeting with Account Executive
Web Banner Ads	45, 30, 14 Days - Install Letter	7 Days - Install Reminder Postcard	60 Days - Install Letter
U* Article, Jan 2020 issue	7 Days - Install Reminder Postcard	2 Days - Auto Dial Call (from MIV)	35 Days - Install Letter Reminder
Tacoma T-Town Expo	2 Days - Auto Dial Call (TBD)	Completed Door Hanger	14 Days - Reminder From Account Executive
E-newsletter	Completed Door Hanger		2 Days - Reminder From Account Executive
U*Articles, July & Sept 2020 Issues			
Bill Insert July/Aug 2020			
Bill Insert Sept/Oct 2020			
Community Outreach			
Social Media	Communication materials will be available in multiple languages.		

5 specific customer communications **before** meter installation.



# Questions?

[MyTPU.org/AdvancedMeters](https://MyTPU.org/AdvancedMeters)

