



# Introduction to Smart Meters and Advanced Metering Infrastructure (AMI)

April 2022



# Contents

- **AMI/Smart Meter Background**
- **AMI/Smart Meter Basics**
  - How They Work
  - Benefits They Provide
- **AMI/Smart Meter Safety and Cybersecurity**
- **AMI/Smart Meter Implementation**
  - Components
  - Timing
  - What Customers Can Expect
  - Communications
- **Summary and Questions**

# Company Overview

## PSE&G – a best in class regulated utility and New Jersey’s largest:

- Electric and gas distribution utility
- Investor in renewables and energy efficiency
- Transmission business
- Appliance service provider

	Electric	Gas	PSE&G YE 2021 Rate Base***
Customers 5-Year Annual Customer Growth*	2.3 Million 0.8%	1.9 Million 0.7%	<b>&gt;\$24.5B</b>  Distribution 52% Transmission 46% Solar & EE 2%
2021 Electric and Gas Sales	40,163 GWh	2,422M Therms**	
Sales Mix (2021)			
Residential	35%	59%	
Commercial	56%	37%	
Industrial	9%	4%	



## AMI/Smart Meter Background

Smart meters are devices that collect and send near real-time energy usage data from our customers' homes and businesses to PSE&G.

There are more than 100 million smart meters in service in the United States.

- These devices have along history of safe and beneficial use; the first smart meters were installed in the U.S. in 2006.

# AMI/Smart Meter Background

In 2018, PSE&G submitted a comprehensive AMI/smart meter proposal to the NJ Board of Public Utilities (BPU) as part of our Clean Energy Future filing.

In January 2021, the BPU approved a settlement to implement PSE&G's AMI/smart meter proposal.

- Cleared the way for the largest installation of smart meter technology in NJ history
- Marked a vital step toward achieving a smarter and cleaner energy future for the state
- Aligns with public policy & clean-energy vision for New Jersey
- Allows PSE&G to help customers use less energy while ensuring that the energy they do use is cleaner and delivered more reliably than ever

# AMI/Smart Meters Background

PSE&G's AMI/smart meter program will benefit New Jersey and the customers that we serve.

- PSE&G is investing approx. \$700 million between 2021 and 2024.
- We will replace 2.3 million existing electric meters in our service territory with smart meters.
- Meters will be replaced at residential and commercial electric customer locations.

# AMI/Smart Meter Basics



# What is AMI?

**AMI is a system that measures, collects and validates energy usage by communicating with customer metering devices.**

AMI is comprised of three parts:

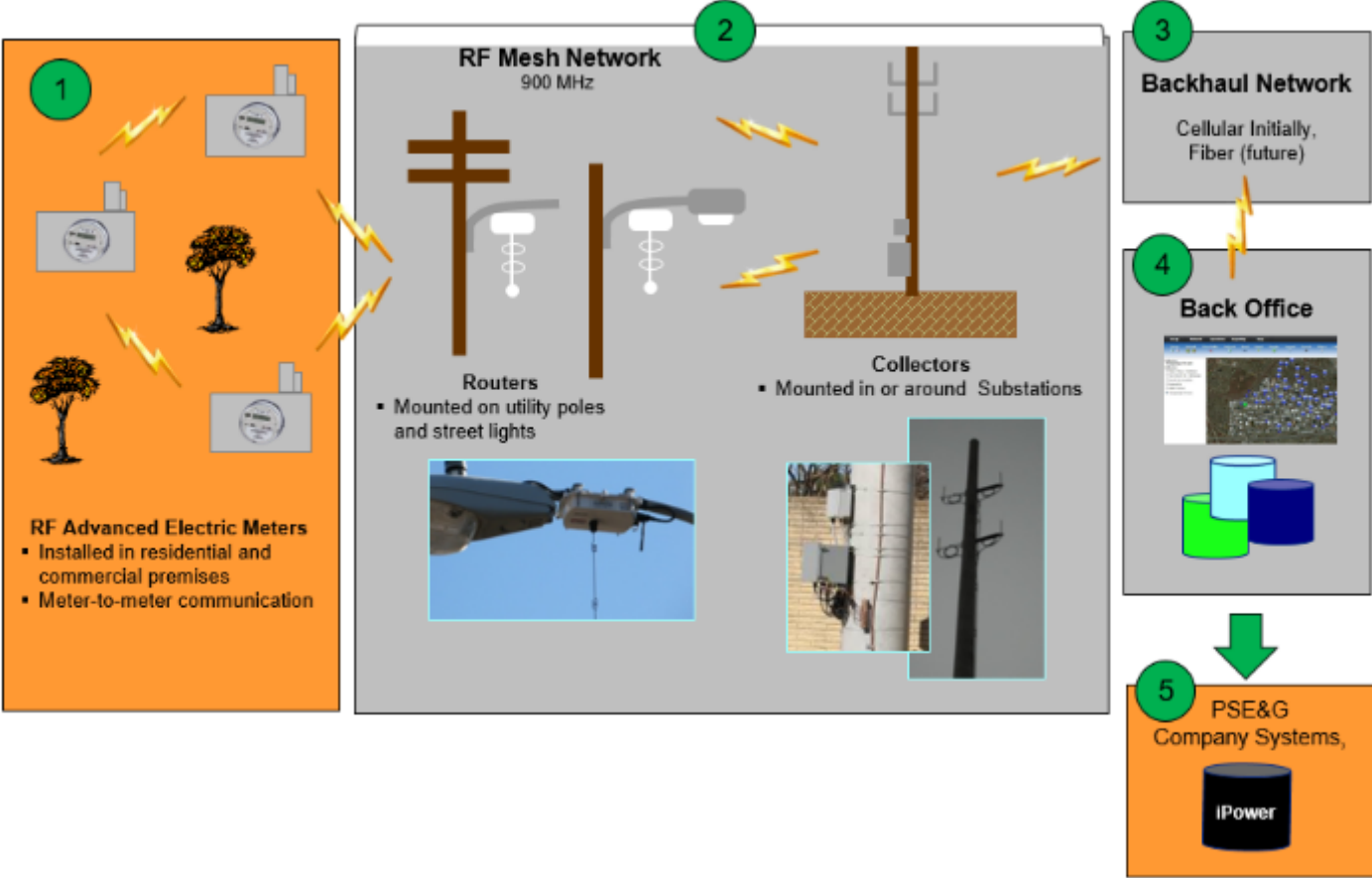
- smart meters
- a secure communications network
- utility system-monitoring and customer applications



**These three components work together to form a two-way communications system between customers and PSE&G.**



# AMI Components: A Closer Look



# AMI/Smart Meter Basics

What are smart meters and why are they important to AMI?

- Smart meters are devices that collect and send near real-time energy usage data from our customers' homes and businesses to PSE&G.
- This ability to collect and send energy usage information to PSE&G system-monitoring and customer applications is a crucial part of AMI.

# AMI/Smart Meters Provide Many Benefits

Near real-time  
meter reading

More accurate  
meter reading and  
billing

Near real-time  
power outage  
detection

Remote service  
connection and  
disconnection

Enhanced  
energy-usage  
information for  
customers

Elimination of  
almost all  
estimated utility  
bills

# AMI/Smart Meters Provide Many Benefits

Storm Restoration Will Be More Efficient  
Because AMI/Smart Meters Will Help PSE&G:

- Determine the scope of power outages
- Identify specific areas where outages exist
- Allocate and dispatch appropriate repair crews
- Confirm that power has been restored to all customers

# AMI/Smart Meters Provide Many Benefits

AMI/Smart Meters Will Provide Environmental Benefits.

Today...

- Reduce the number of utility trucks that are dispatched
- Cut PSE&G carbon dioxide emissions by an expected 2,800 tons annually

...and into the future

- Enable broader use of renewable energy resources
- Foster more robust energy efficiency efforts



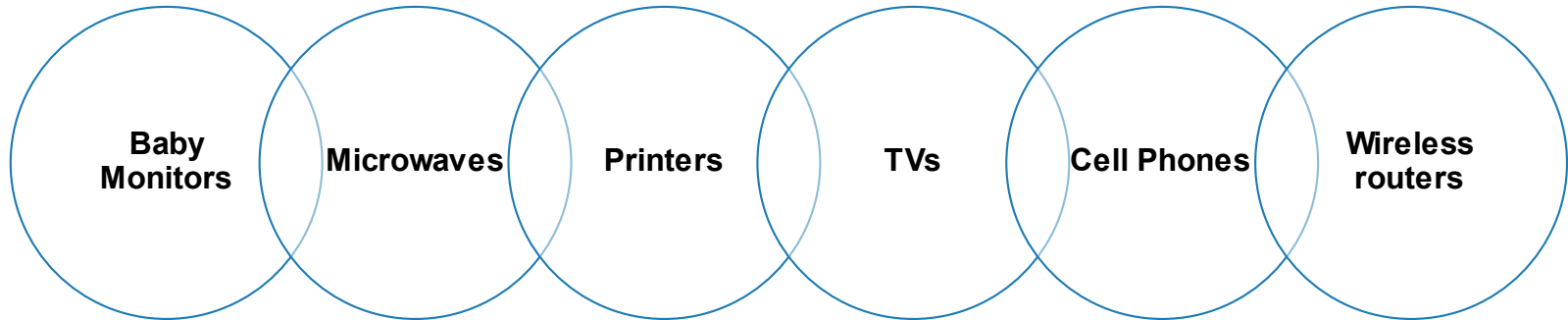
# AMI/Smart Meter Safety and Cybersecurity



# Smart Meter Safety

**Smart meters have a long history of safe and beneficial use:**

- **The first smart meters were installed in the United States in 2006**
- **Today more than 100 million smart meters have been installed across the county**
- **Smart meters utilize low power radio frequency (RF) that is generally far less than devices already in the home like:**



# Smart Meter RF Emissions vs. Other Devices

Smart meters transmit weak radio signals for about 45 seconds a day. The amount of radio waves emitted by a typical cellphone in one month is equal to the amount a smart meter will give off in approximately 1,000 years. Compare that with these examples of radio frequency in the everyday environment:



Milliwatts per square centimeter



Electric smart meter  
(3 feet, during transmission)

**.0001**



Wi-Fi wireless router  
(3 feet, constant when nearby)

**<.001**



Microwave oven  
(2 feet, when in use)

**<.2**



Cellphones  
(at head, during call)

**1-5**

Source: Electric Power Research Institute



# Cybersecurity and Customer Privacy



Smart meters DO NOT collect, store or transmit any personal information.



PSE&G has a comprehensive cybersecurity plan to protect customer usage data.



PSE&G will only use data obtained through smart meters to provide customers with better service.



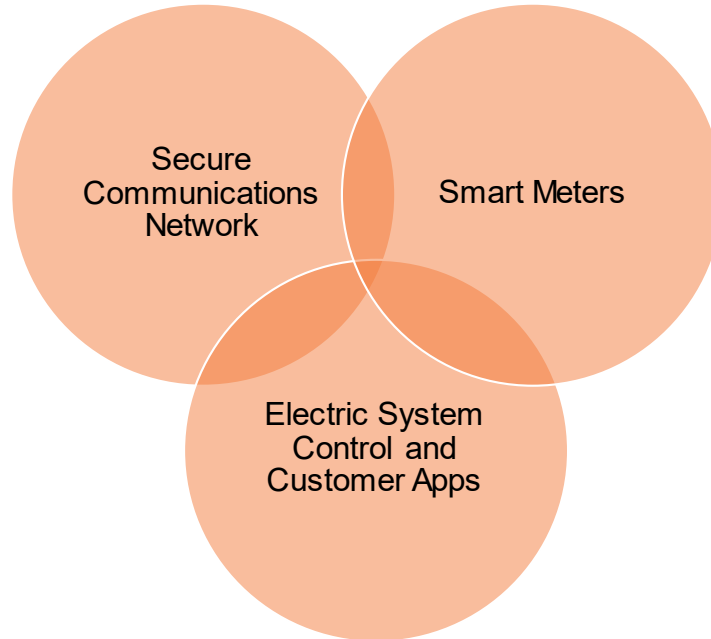
PSE&G will not sell this data to third parties.

# AMI/Smart Meter Program Implementation



# AMI/Smart Meter Implementation

The AMI/smart meter program has three components:



# AMI/Smart Meter Implementation

We expect it will take about four years to implement the AMI/smart meter program.

2021

- Began building secure wireless communication network
- Installed approx. 80,000 smart meters

2022-2024

- Finished building secure wireless communication network (early 2022)
- Install hundreds of thousands of smart meters annually until 2.3 million are installed.

# AMI/Smart Meter Implementation

Either a PSE&G employee or an employee from Contract Callers Inc. (CCI) will install the new smart meter



PSE&G has hired CCI to perform most smart meter installations.

Both PSE&G and CCI employees will use marked vehicles and carry photo identification.

# AMI/Smart Meter Implementation

---

What can customers expect?

PSE&G will contact customers before installing a smart meter.

---

If the electric meter is accessible, there is nothing a customer needs to do.

---

If the electric meter is not accessible, we will ask residential customers to make an appointment.

---

If we cannot access a meter, we will also leave info on how to make an appointment.

---

Installation takes a few minutes with a brief interruption in electric power.

---

We will let customers know that we installed a new smart meter.

---

# AMI/Smart Meter Implementation

## What changes will customers see?

- There will be no noticeable change to customers' electric service.
- Once smart meters are fully functional:
  - Customers' energy usage will be recorded remotely.
  - Meter-reader visits will stop.
  - Customers will have online access to daily usage down to 15-minute intervals.

# Summary and Questions





# AMI/Smart Meter Program Summary

---

NJ BPU approved the AMI/Smart Meter Program on January 7, 2021

---

PSE&G is replacing existing electric meters with smart meters in our service territory

---

We expect the process will take about four years (2021 – 2024) and total about 2.3 million meters

---

We will contact customers before we install a smart meter, leave a door hanger after an install and use other communications channels like bill communications, social media, etc.

---

Smart meters will ultimately provide a range of benefits including near real-time meter reading, more energy use info for customers, near real-time outage detection and more.

---

# Questions

---

Will every PSE&G electric customer receive a new smart meter?

Yes. The new smart meters will replace currently installed electric meters.

---

How many smart meters will PSE&G install?

PSE&G will install 2.3 million smart meters at residential and business electric customer locations.

PSE&G will not replace gas meters with smart meters at this time.

---

Can a customer request a meter change to the new smart meter?

We expect that PSE&G electric customers will have a new smart meter installed at their home or business before the end of 2024. There is no need to request a meter change. Installations will not be expedited.

---

# Questions

---

Can customers opt-out of having a smart meter installed?

Yes. Residential customers can opt-out of having a smart meter installed by calling PSE&G at 908-325-4020.

If a residential customer opts-out of a smart meter before installation, there will be a \$12 monthly fee added to their bill. This fee will cover the cost of the manual meter reading that will be required.

If a residential customer opts out of a smart meter after installation, they will incur a one-time \$45 meter change-out fee in addition to the \$12 monthly fee.

The \$12 monthly fee will not be charged until late 2024 when the project is complete.

Commercial/business customers cannot opt-out of a smart meter installation.

# Questions

---

Will customers still need to contact PSE&G to report a power outage?

Yes. Smart meters will alert PSE&G about most outages, but it is important that customers continue to tell us about any problems so that we can address them as quickly as possible.

---

Is there a charge for the smart meter installation or any monthly fees?

There is no charge for the smart meter installation and there are no monthly fees associated with smart meters.

---

Will PSE&G be able to monitor individual appliances?

No. Although smart meters will provide customers with more information on overall usage patterns, they will not allow PSE&G to monitor individual appliances or any other equipment or devices inside a home or business.

---

# Questions

---

When will customers with a smart meter see usage information?

We are developing an online portal that will allow customers to see detailed information about their electric use separated into 15-minute intervals. We expect that this portal will be available to customers in late 2022 or early 2023 as part of their *My Account* profile.

---

How do you know smart meters are accurate?

The smart meters we are using have already passed manufacturer tests to confirm accuracy during various load and weather conditions. PSE&G also tests a percentage of all meters we receive from the manufacturer prior to installing them and we continue to monitor meter accuracy after installation by conducting routine sampling and testing.

---

Will smart devices connect to the new smart meter?

Customers will not be able to connect a smart device directly to their smart meter. However, the information that smart meters will provide could allow customers to better use items like smart thermostats, smart lighting and other smart home-control devices.

---



**Thank You**