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Green Button Connect, Home Area Network, Grid Edge Computing

Rhode Island Public Utilities Commission Technical Session

Docket No. 25-19-EL

October 29, 2025

Agenda



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- Introductions
- Green Button Connect
- Home Area Network (Sense)
- Grid-Edge Computing



Green Button Connect (GBC)

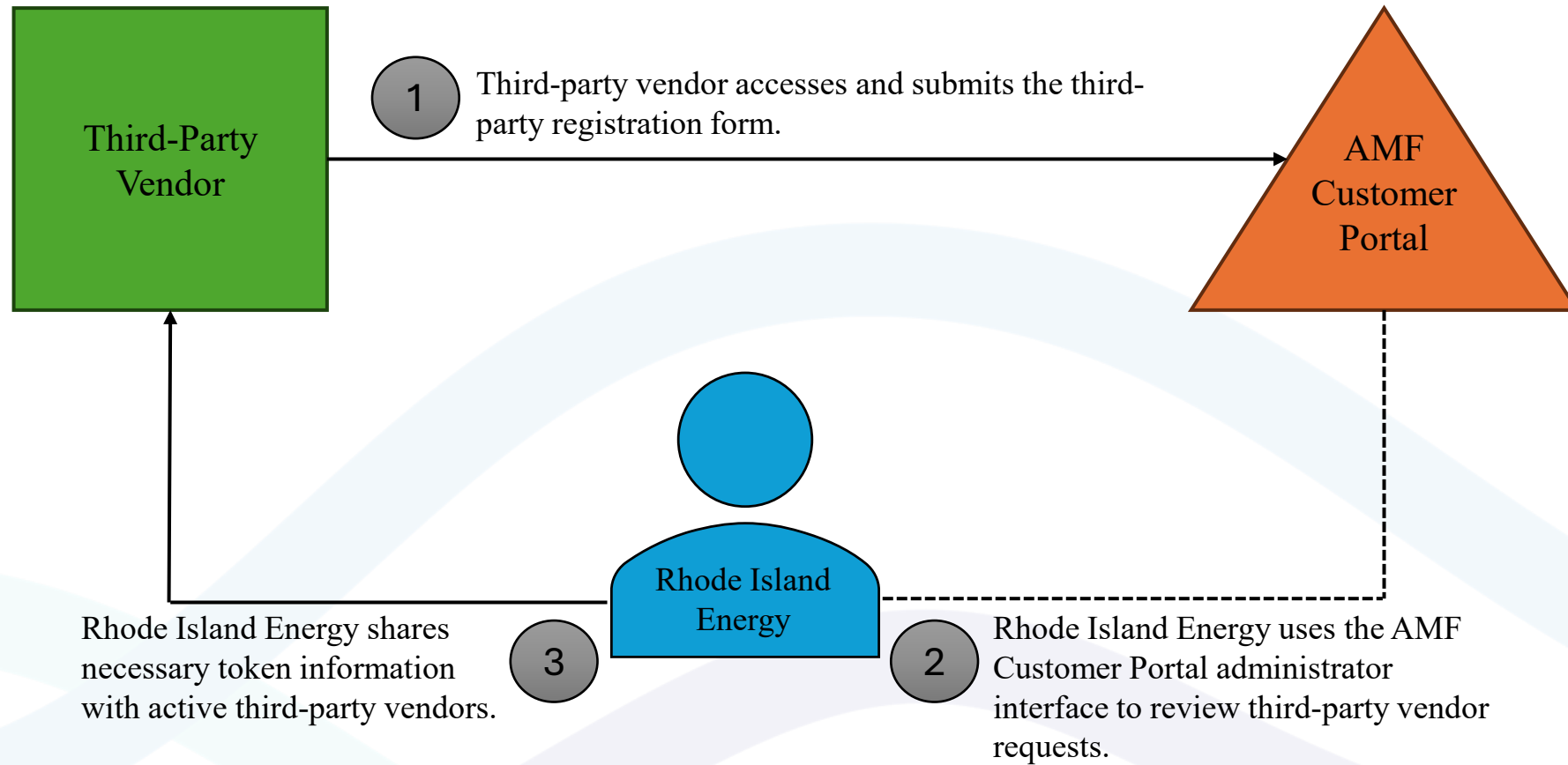
Green Button Overview



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- The Green Button initiative is an industry-led effort to provide utility customers with access to their energy usage information.
- Green Button Download allows customers to download their usage information in XML format which can be sent to third-party vendors. This is currently available on the RIE Customer Portal for both gas and electric.
- Green Button Connect facilitates computer-to-computer communication where customers can provide authorized third-parties direct access to energy usage data.
 - Green Button Connect will be available in the first quarter of 2026 for customers who have an AMF meter installed.
 - Rhode Island Energy received its Green Button Connect My Data Version 3.3 certification from the Green Button Alliance on June 27, 2025.

Third-Party Vendor Registration





Third-Party Vendor Approval

- RIE GBC administrator reviews:
 - ✓ The third-party vendor's technical capability to receive the customer data
 - ✓ The completeness of the application
 - ✓ The third-party vendor's website
 - ✓ The intended scope and use of the energy usage data
 - ✓ The additional data security information provided by third-party vendor

- If the application is **approved**:
 - ✓ A GBC-vendor-specific token is generated and sent via an encrypted email to the third-party vendor.

- If the application is **incomplete**:
 - ✓ RIE notifies the third-party vendor that the application needs more information.
 - ✓ The third-party vendor may resubmit an application with the necessary information.

Third-Party Vendor Registration Form



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Green Button Connect Registration

[View a reference guide to get help with filling out this form.](#)

Software Version *	Client Name *
<input type="text"/>	<input type="text"/>
Third-Party Name	Contact
<input type="text"/>	<input type="text"/>
Policy URI	Third-Party Application Description
<input type="text"/>	<input type="text"/>
Redirect URI *	Third-Party Application Status
<input type="text"/>	<input type="text"/>
Client URI	Token Endpoint Authentication Method *
<input type="text"/>	<input type="text"/>
Third-Party Application Type	Scope *
<input type="text"/>	<input type="text"/>
Third-Party Application Use	Grant Types *
<input type="text"/>	<input type="text"/>
Third-Party Phone	Response Types *
<input type="text"/>	<input type="text"/>
Third-Party User Portal Screen URI	Third-Party Notify URI *
<input type="text"/>	<input type="text"/>
Logo URI	Software ID *
<input type="text"/>	<input type="text"/>
Terms of Service URI	
<input type="text"/>	



Third-Party Vendor Data Security Requirements

- In addition to the application, the Company plans to include requirements that must be agreed to by the third-party vendor for the application to be approved. These include requiring the third-party vendor to:
 - Ensure that a customer's data cannot be sold and can be destroyed upon request.
 - Supply policies around data privacy and retention.
 - Provide mitigations and potential actions it would take in the event of a data breach.
- The Company will review these submissions as part of the application approval process and confirm the submissions are consistent with corporate policies that can be found in the AMF Data Governance Plan in Docket 22-49-EL Attachment G, Section B. These include:
 - Data Governance Policy
 - PPL Standards of Integrity
 - PPL Responsible Behavior Program
 - Information Security
 - Information Classification and Handling
 - Electronic Information Security
 - Records Management
 - PPL Electric Cybersecurity Policy
 - PPL FERC Standards of Conduct
 - PPL Enterprise Information Security Policy
 - Data Security Standard



Third-Party Vendor Management

Revoking Third-Party Vendor Access

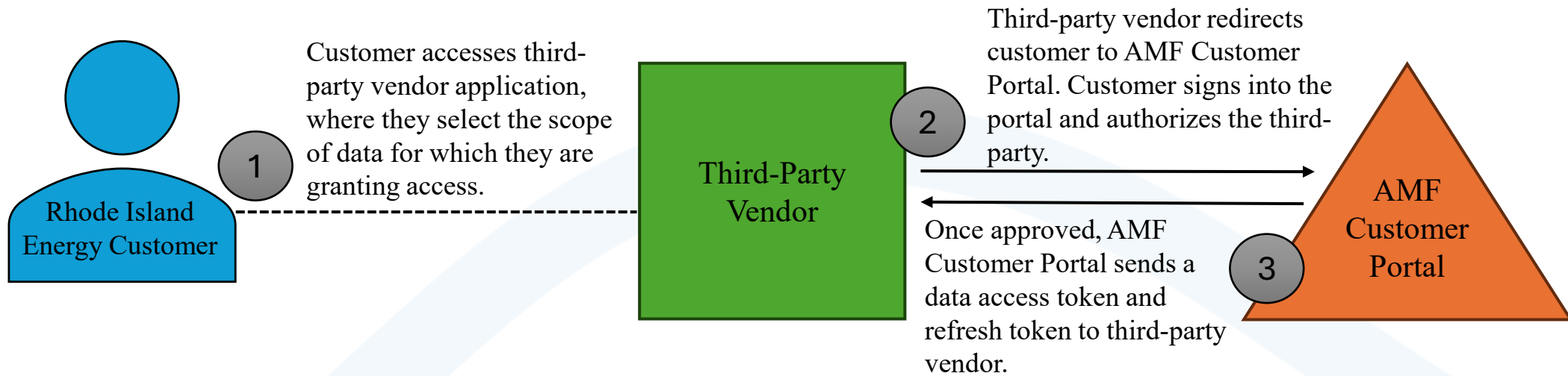
- Instances warranting third party vendor review could include:
 - Customer questions or complaints.
 - Instances where RIE finds an approved third-party vendor utilizing customer's data differently than noted in their application.
- This process will also include a discussion with customer who raised the concern and the third-party vendor.
- The RIE GBC administrator will not revoke a third party's access until the administrator has reviewed and found any reports or instances are valid, completed a peer check, and notified his or her manager.
- Customers can also remove third party vendors from receiving data on the AMF Customer Portal.

Reinstating Third-Party Vendor Access

- If RIE revoked and then reinstated access to a third-party vendor, all customers previously sharing access to their data with the vendor would be automatically re-enrolled.

Green Button Connect Third Parties		
Third Party Name	Authorized Date	Delete
gbc_1	3/29/2023 1:59:45 PM	Delete

Customer Enrollment in Green Button Connect





Customer Enrollment Details

- RIE will include a list of approved Green Button Connect third-party vendors on the RIE website, including links to the vendor websites.
- Customers must sign up for Green Button Connect directly from a third-party vendor's website or application.
- During the sign-up process, customers will need to:
 - ✓ Select the duration and timeframe of the data they choose to share. Third Party vendors can receive up to:
 - ✓ 13 months of electric interval data
 - ✓ 10 years of historical billing data
 - ✓ Connect to their RIE account to approve the sharing of that information

Do you want to grant TevinSales access to 395 days of 15-Minute, Hourly data?

Yes No

Privacy Policy | Terms of Use | Third Party Registration

Select Language v5.2.7.4 Powered By: mymeter

The image shows a screenshot of a web-based consent form. The main text asks for permission to grant access to 395 days of 15-minute and hourly data. There are two buttons, 'Yes' and 'No', for the user to click. At the bottom, there are links for 'Privacy Policy', 'Terms of Use', and 'Third Party Registration'. On the right side, there is a language selection dropdown and version information 'v5.2.7.4 Powered By: mymeter' with a logo.



Data Sent via GBC

- The Green Button Connect functionality only allows certain data fields to be transferred via token to the third-party vendor.
- The table below outlines the data that RIE is certified by the Green Button Alliance for and can be shared via GBC. These are uniform across different customer classes.

Customer Data Available to be Shared Via GBC

- | | |
|--|---|
| <ul style="list-style-type: none">▪ Billed Monthly Electricity Usage (kWh)▪ Billed Monthly Electricity Usage (kWh) from prior year*▪ Billing Meter Read▪ Meter Number▪ Billing Read Dates▪ Total Bill | <ul style="list-style-type: none">▪ Billed Electric Usage: Demand (kW)▪ 15-minute interval consumption (kWh)▪ Daily meter reads (kWh)▪ Daily consumption (kWh) |
|--|---|

*This is dependent on how much historical information the customer authorizes to be shared



GBC for Gas and Solar Customers

Gas Customers

- Green Button Download is currently available for RIE gas customers and will remain available.
- RIE does not currently have an estimated cost nor an implementation timeframe to include natural gas usage in GBC because natural gas was not in the approved scope and funding for the AMF project. Implementation costs would include:
 - MDMS and CIS modifications
 - AMF Customer Portal modifications
 - Green Button Alliance Recertification Costs
 - Additional ongoing maintenance costs

Solar Customers

- Solar customers can enroll in Green Button Connect.
- Both generation and usage will be shared as positive values and are flagged differently.

GBC User Support and Communications Plan

User Support

- The customer contact center will be equipped with GBC-related frequently asked questions.
- If a customer question needs to be escalated, the RIE GBC Administrator will be responsible for answering any additional customer support requests.
- RIE will include a list of approved Green Button Connect third-party vendors on the RIE website, including links to the third-party vendor websites.

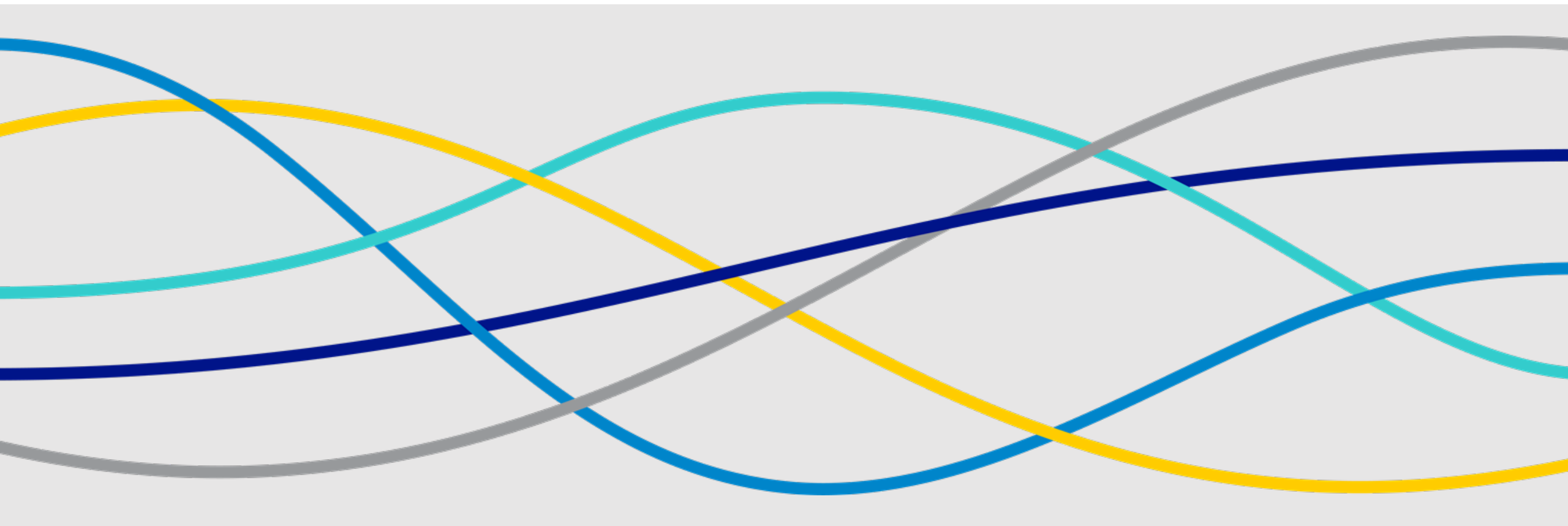
Communications

- Customer communications around GBC will begin in early 2026 via different channels such as:
 - The Rhode Island Energy Website
 - Email Notifications
 - Frequently Asked Questions
 - Fact Sheets
 - Social Media



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Green Button Connect Questions



Home Area Network (Sense)

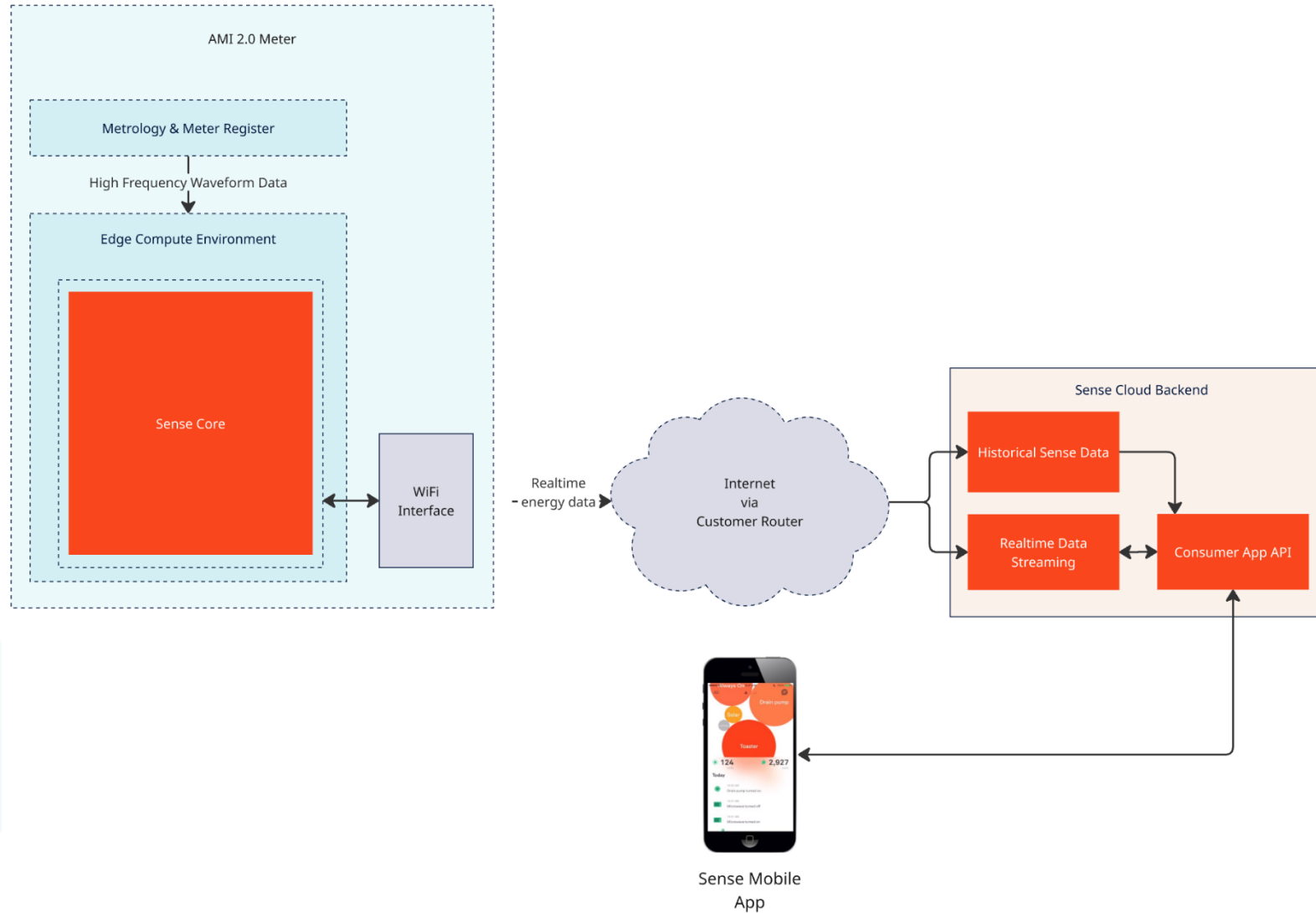
Home Area Network Overview



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- Home Area Network ("HAN") is an industry term used to describe the ability for an electric meter to connect to a device in the home for the purpose of providing customers with real time energy usage information.
- Customers who use HAN in other PPL operating companies (Kentucky and Pennsylvania) must purchase and connect devices that support Zigbee Smart Energy Profile 1.2b to their meters. These HAN implementations only provide real time energy usage information.
- The HAN functionality to be delivered by RIE as part of the AMF Project provides residential customers real time energy usage information and load disaggregation insight via the Sense application.
 - No additional device purchase is necessary as the AMF meter can connect to a customer's network via Wi-Fi.
 - There is no direct fee for customers to download and use the application.
 - This will be available beginning in the first quarter of 2026 for residential customers.

Data Flow from Meter to Sense Application



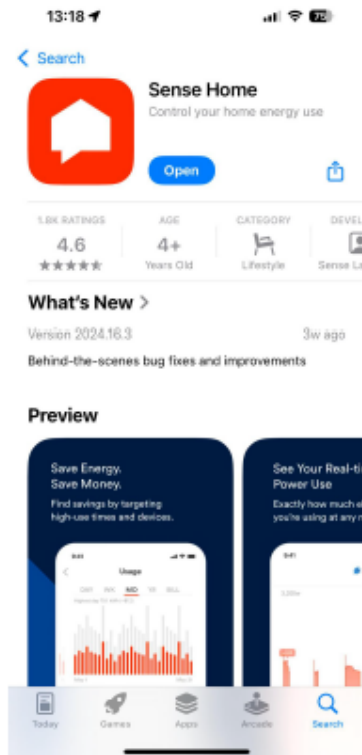
Creating a Sense Account



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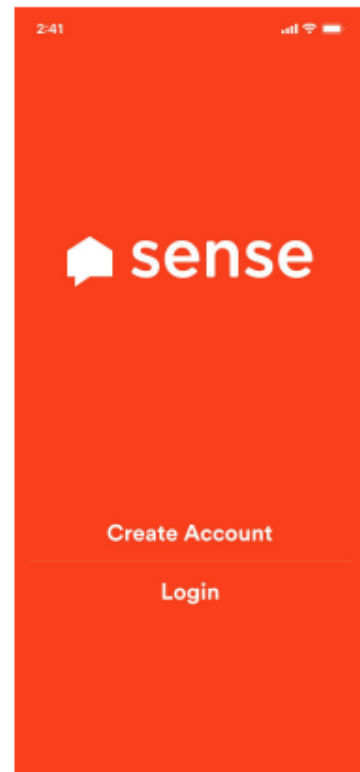
Download App

1



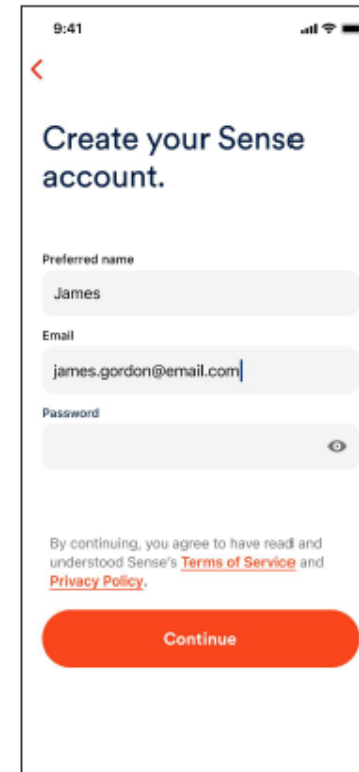
Install and Open

2



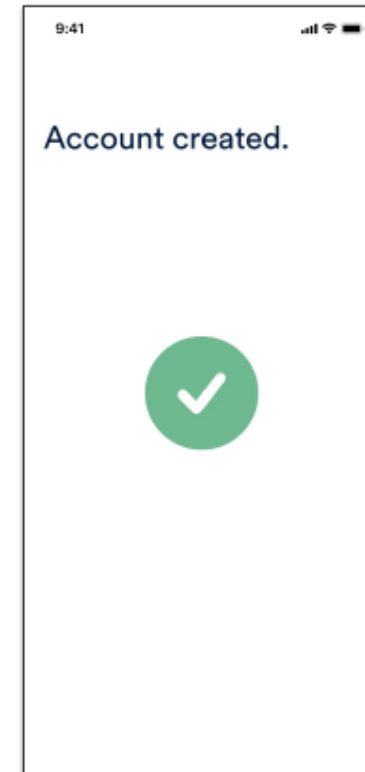
Create a Password

3



Account Created

4



Disclaimer: The images shown are for illustration purposes only and may not be an exact representation of the final product

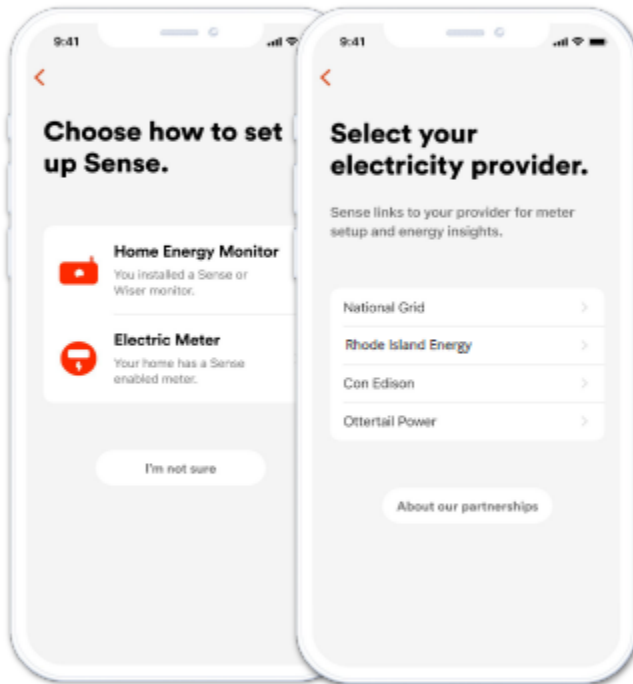
Link to a Utility Account



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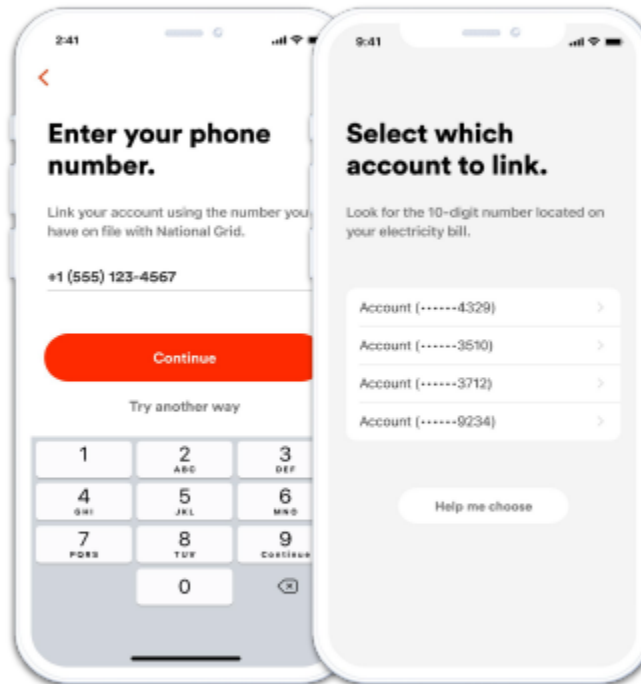
Confirm Utility

1



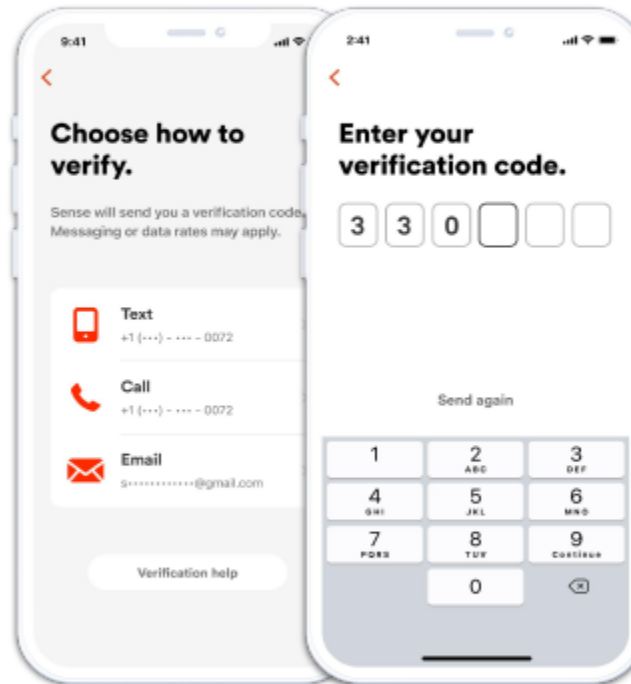
Validate Account

2



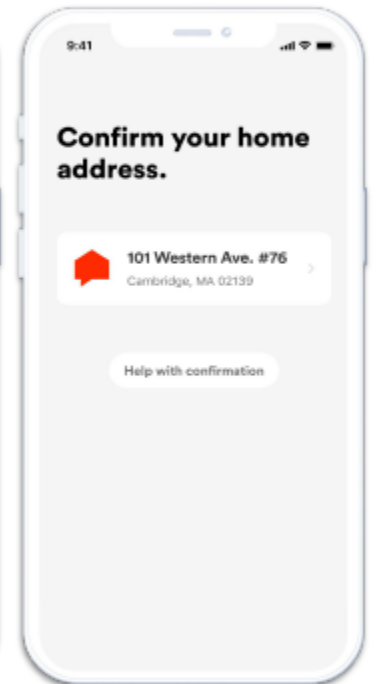
Verify Customer

3



Select Premise

4



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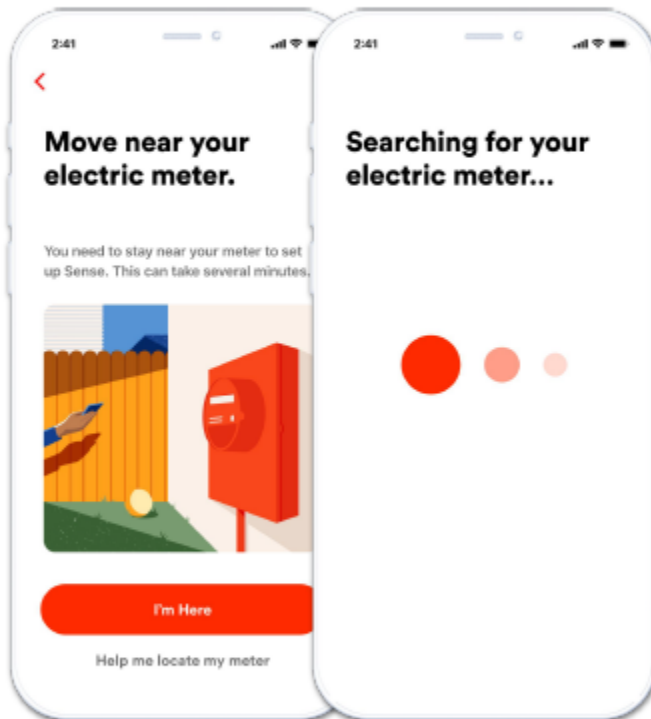
Register Meter and Connect to Wi-Fi



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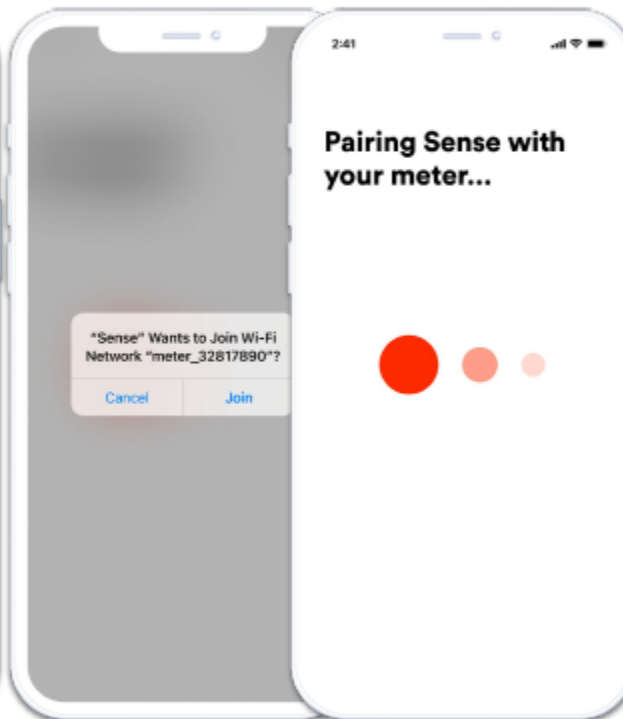
Locate the Meter

1



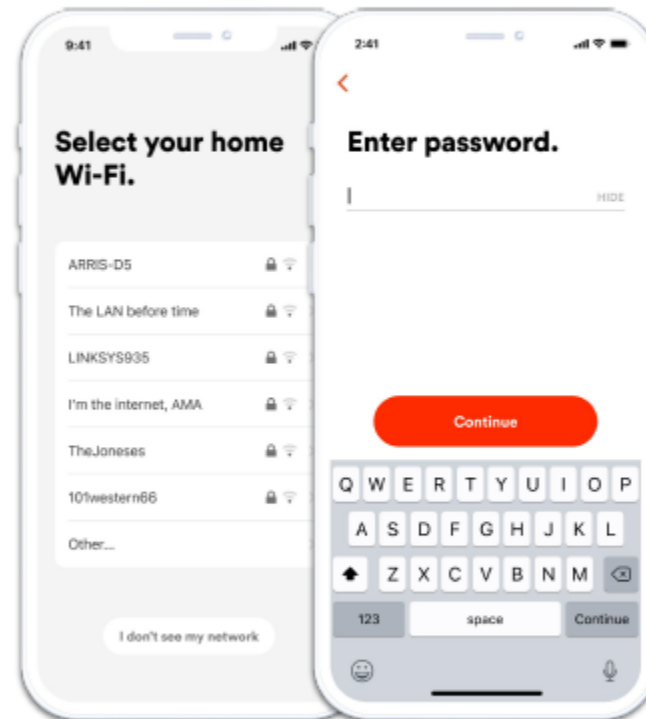
Pair with Meter

2



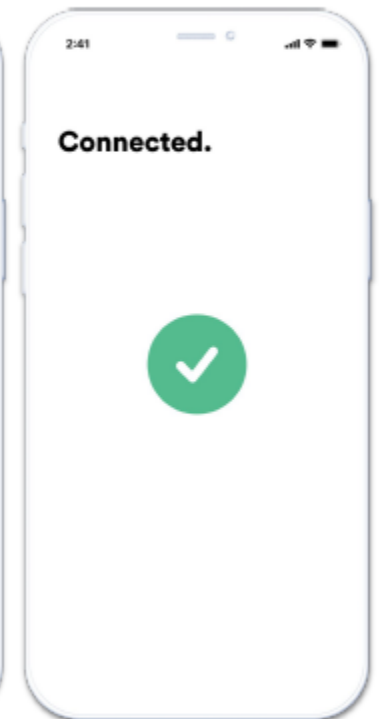
Select Wifi Network

3



Connect to Wifi

4



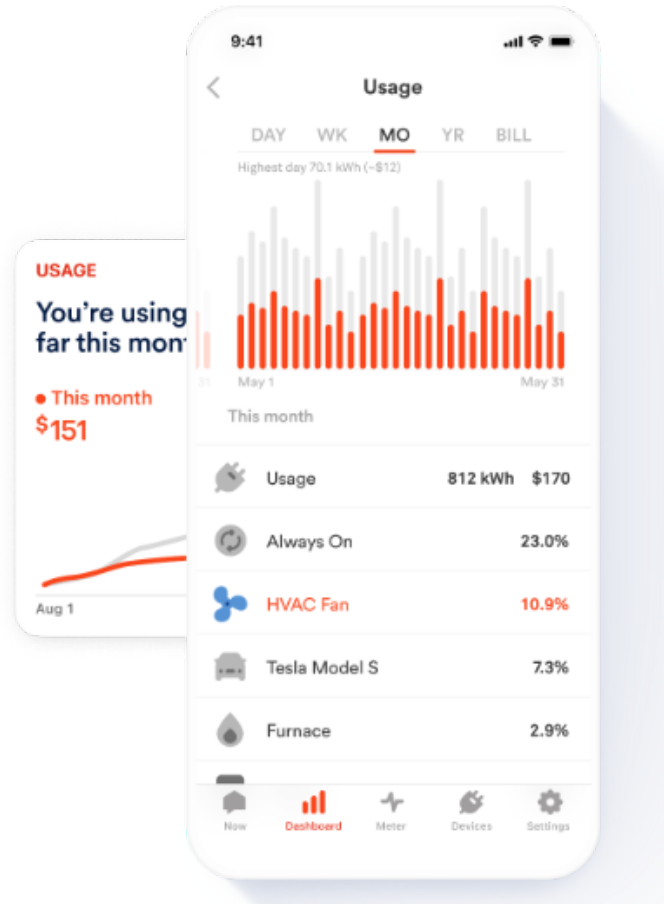
Disclaimer: The images shown are for illustration purposes only and may not be an exact representation of the final product

Customer Usage Insights

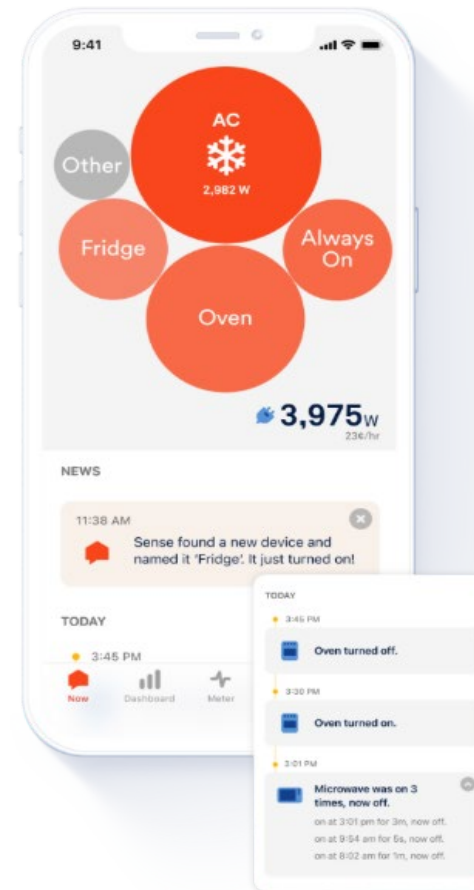


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Real-Time Energy Usage within the Sense Mobile Application



Additional Load Disaggregation Insights Provided within Sense Mobile Application



These images are for illustrative purposes and may differ slightly from the current app experience.



Sense Data Privacy & Security

- Sense's Privacy Policy includes key points such as:
 - Customer data will not be shared with third parties, nor do customers currently have the option to authorize the sale of their data.
 - Customer data cannot be sold to third parties under any circumstances.
 - A customer can request to have his or her data destroyed by Sense.
- Sense has automated and manual controls and tools in place and a compliance automation platform that assess infrastructure and services against industry standards.
- In the event of a data breach - Sense will coordinate with relevant stakeholders, including the Company and customers, to help ensure timely response to and communication of breaches to impacted parties, closely considering the nature of the breach and reporting requirements as set forth by applicable laws and regulations.
- Sense has completed all RIE required cybersecurity requirements.

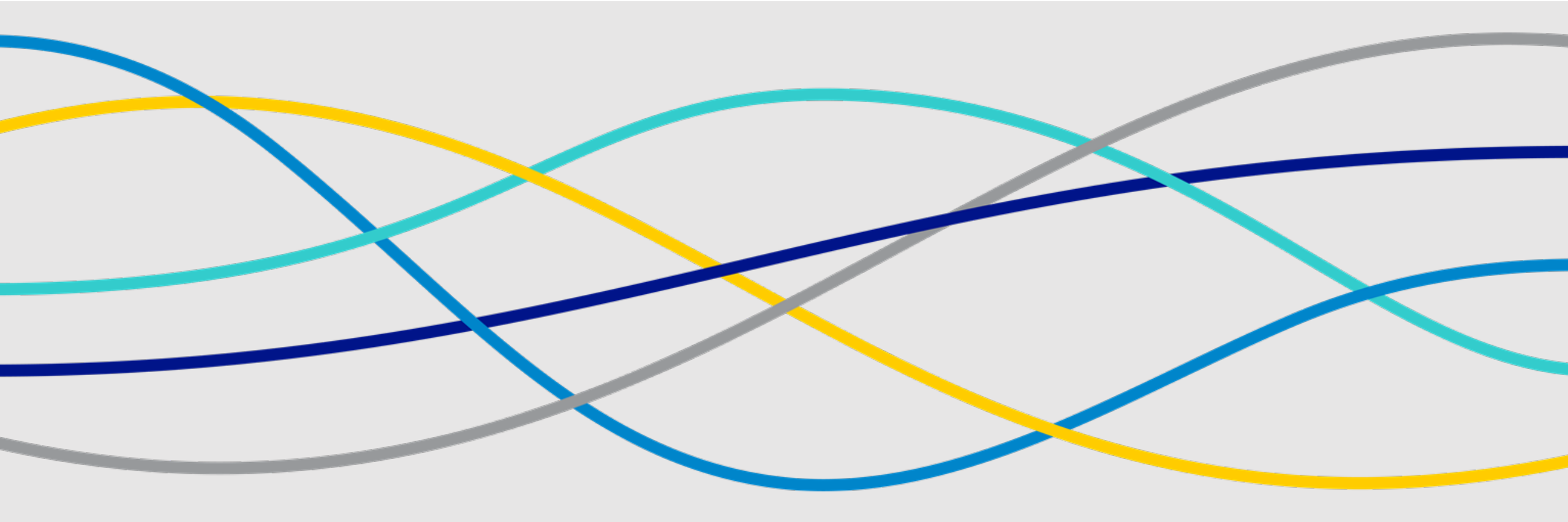
Sense User Support and Communications Plan

User Support

- Sense will provide customer support for Sense-related questions. RIE contact center will also be equipped with information about Sense-related frequently asked questions.
- RIE will have a dedicated Sense Admin who will work with Sense on any escalated concerns.
- Customers using Sense will also have access to a support library within the Sense mobile application and website as well as a virtual assistant.

Communications

- Customer communications around Sense will begin in early 2026 via different channels such as:
 - The Rhode Island Energy Website
 - Email Notifications
 - Frequently Asked Questions
 - Fact Sheets
 - Social Media
- Sense also has support library on its website that the Company will share with customers.



Home Area Network Questions



Grid Edge Computing



Grid-Edge Computing Overview

- Grid Edge Computing or “edge computing” is a computing platform where data is gathered close to its source and analyzed by applications installed on the meter to both enhance the customer experience and utility operations.
 - **Utility Facing Applications:** Applications that a utility can install on the meter that provide data back to the utility.
 - **Customer Facing Applications:** Applications that a utility can install on the meter that customers can enroll in to receive insights.
 - Sense is a customer-facing application and the only grid-edge application being deployed as part of the AMF project.
- The Company’s AMF Project is installing meters, network and systems to enable the evolving Grid-Edge Ecosystem.
- In the future, the Company will determine the applications to be installed on meters, the associated implementation plans and utilize the appropriate mechanism for cost recovery.

Roles in the Grid-Edge Computing Environment



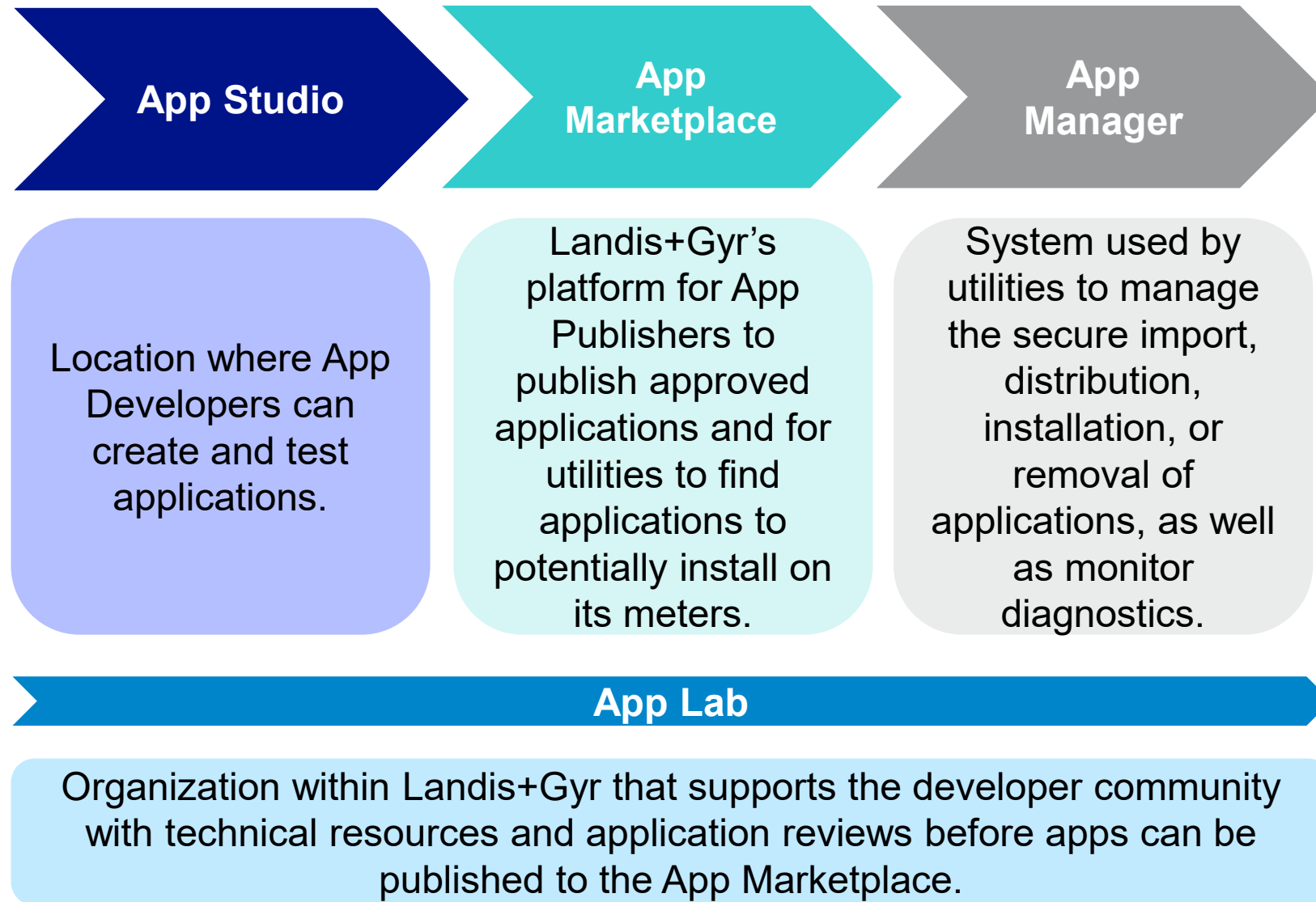
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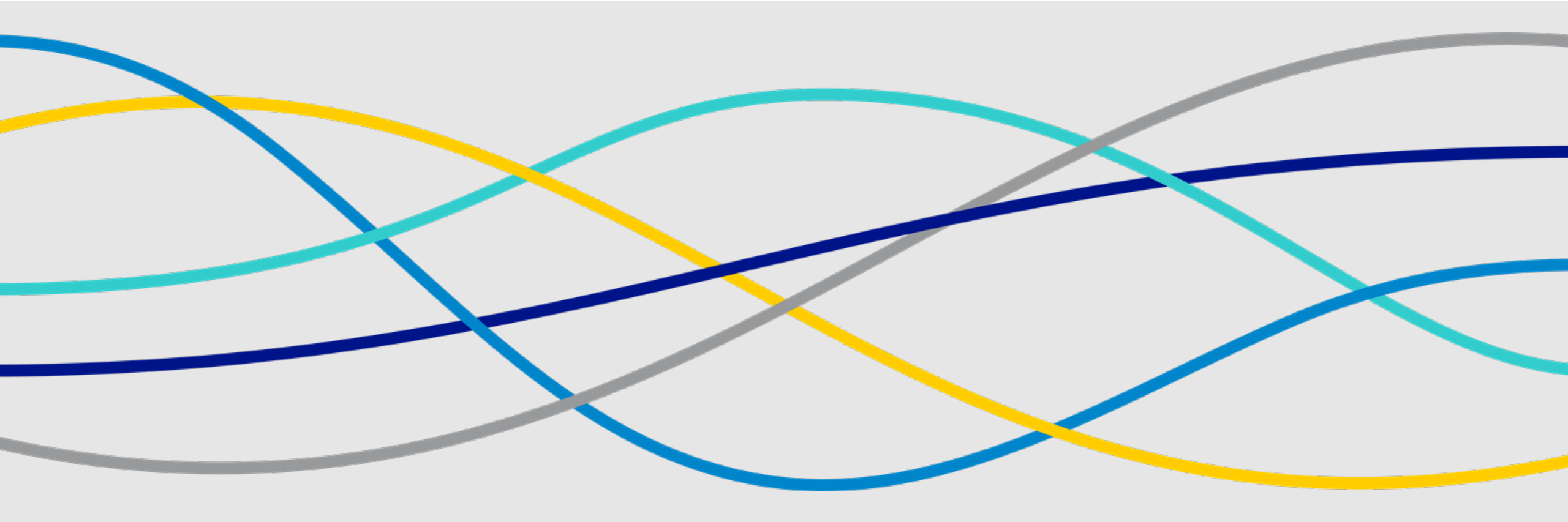
Role	Description
Landis+Gyr	<ul style="list-style-type: none">• Manage the Application Ecosystem including app development tools and guidelines, security reviews and approval.
App Developers	<ul style="list-style-type: none">• Pays the yearly developer license fee to gain access to the App Studio development environment and shared resources.• Create apps within the App Studio utilizing the Landis+Gyr software development kit and submits for review by Landis+Gyr.
App Publisher	<ul style="list-style-type: none">• Publishes approved applications to the App Marketplace and has a signed publisher agreement in place with Landis+Gyr that sets forth terms and conditions such as revenue sharing for any purchased applications.• Adds approved applications to the App Marketplace.• Can be either the App Developer or any entity that hires a third-party App Developer to create its application.
Rhode Island Energy	<ul style="list-style-type: none">• Select and installs applications on its meters via its head-end system and network.• Ensures app complies with Company's technical requirements and security requirements to be loaded on the meter's EIC.

Application Lifecycle



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Grid Edge Computing Questions