



UTILITY FOCUSED REGULATORY UPDATE AND OPPORTUNITIES

2024

HEATING  COOLING  WATER HEATING

Options for Load Management and Energy Use Reduction (Pre 2015)



Options for Load Management and Energy Use Reduction (Post 2015)

- Grid Enabled Water Heaters (Utility Only)
- Heat Pump Water Heaters

Grid Enabled
Marathon



Hybrid Heat Pump



REGULATION WILL DRIVE DEMAND FOR HEAT PUMP WATER HEATERS

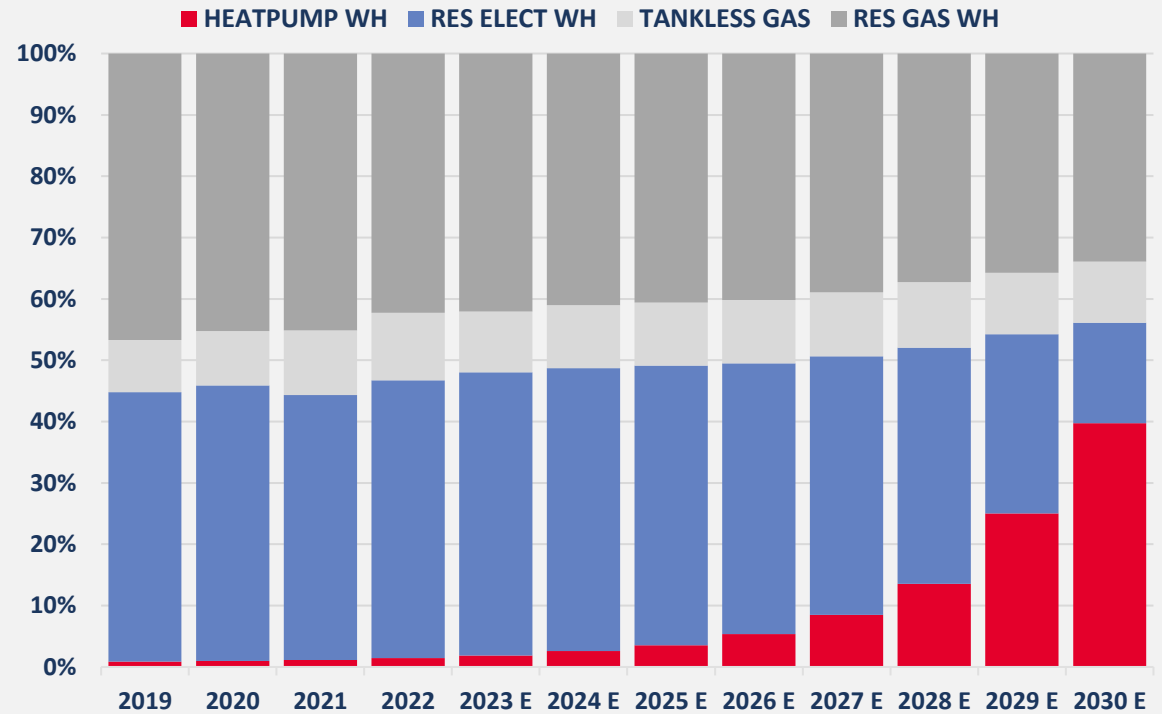


Hybrid HPWH expected to grow ~2,000% growth by 2030

By 2030, 65-75% of all electric tanks sold will be a HPWH

HPWH will make up 35-40% of the Residential WH market by 2030













RESIDENTIAL WATER HEATER MARKET PROJECTIONS



NAECA 4 Regulation finalized and effective 2029:
Electric WH 36+ gallons must be HPWH











DOE: ENERGY CONSERVATION STANDARDS FOR CONSUMER WATER HEATERS FINAL RULE

Current Baseline		changes*	New Requirements for 2029			
Electric Storage	 0.92 UEF	<div style="border: 1px solid red; padding: 5px;"> 5.6-year Payback Period Savings: 15.3 quads </div> Elec. Res. preserved where no heat pump replacement exists Includes circulating water heaters with storage tanks	New Elec. Res.  <20 gal 0.47 - 0.86 UEF	No Change Elec. Res.  ≥20 and ≤35 gal 0.92 UEF (<51 gal FHR)	Heat Pump  ≥20 and ≤120 gal 2.30 - 2.50 UEF	New Elec. Res.  >120 gal 0.76 - 0.80 UEF
	Gas-fired Tankless  <2 gal and >50 kBtu/h 0.81 UEF	<div style="border: 1px solid red; padding: 5px;"> No Change DOE to address in a subsequent rule </div>	 <2 gal and >50 kBtu/h 0.81 UEF			
Gas-fired Storage	 0.58 - 0.63 UEF	<div style="border: 1px solid red; padding: 5px;"> 9.1-year Payback Period Savings: 1.71 quads </div> Non-Condensing. Category I venting preserved Includes circulating water heaters with storage tanks	New Non-Cond.  <20 gal 0.44 - 0.49 UEF	Flue Damper Non-Cond.  ≥20 and ≤55 gal 0.64 - 0.68 UEF	No Change Cond.  >55 and ≤100 gal 0.78 - 0.79 UEF	New Non-Cond.  >100 gal 0.38 - 0.44 UEF



* Based on DOE analysis

DOE: ENERGY CONSERVATION STANDARDS FOR CONSUMER WATER HEATERS FINAL RULE

	Current Baseline	Changes*	New Requirements for 2029
Grid-Enabled	 <p>>75 gal 0.92 UEF</p>	No Change	<p>No Change</p>  <p>>75 gal 0.92 UEF</p>
Electric Tankless	 <p><2 gal 0.91 UEF</p>	<p>Existing: No Change</p> <p>New Class: Elec. Res.</p>	<p>No Change</p>  <p><2 gal 0.91 - 0.92 UEF</p> <p>New Elec. Res.</p>  <p>≥2 gal 0.76 - 0.80 UEF</p>
Tabletop	 <p>≥20 and ≤120 gal 0.81 UEF</p>	<p>Existing: No Change</p> <p>New Class: Elec. Res.</p>	<p>New Elec. Res.</p>  <p><20 gal 0.80 UEF</p> <p>No Change</p>  <p>≥20 and ≤120 gal 0.81 UEF</p>

Effective Storage Volume: The new standards are denominated using effective storage volume as determined pursuant to 10 CFR 429. 17. Effective volume accounts for the increased hot water capacity associated with high temperature operation.

High Temperature Testing: All electric storage water heaters capable of heating water >135°F must be tested at the highest tank temperature possible (currently at 125°F). Excluding water heaters that:

1. Cannot heat >135°F
2. Only heat >135°F for ≤120 hours
3. Only heat >135°F in response to a demand response signal
4. Are heat pumps
5. Have a measured storage volume of <20 gal or >55 gal

Heat pump water heaters may optionally make representations at high-temperature operation



* Based on DOE analysis



Residential Heat Pump Product Line Up



Heat Pump

Rheem Heat Pump Product: Offering-up To 4.07 UEF



ProTerra Plug-In

ProTerra Plug-In
w/ HydroBoost

Builder Hybrid

Utility Hybrid

ProTerra Plus
30amp/15amp

ProTerra Premium

Light Duty
Commercial

Commercial Split Heat
Pump System





PR T E R R A

HEATING  COOLING  WATER HEATING

HYBRID BUILDER

- **NEW! 40, 50, 65, 80 Gallon Capacities**
- **Remote Access (Integrated Wi-Fi)**
- **Zero Clearance Requirement**
- **Widest Range of Ambient Temp**
- **Less Than Two-year Payback**
- **Meets NEEA Tier 3**
- **Leak Detection Ready**



PRO TERRA

In addition to the Builder model features, this model includes...

- ✓ **Up to 4.07 UEF**
- ✓ **Demand Response Ready (CTA 2045)**
- ✓ **Quietest (< 46 dBA)**
- ✓ **Automatic Maintenance Alert**
- ✓ **\$4,800 Energy Cost Savings**
- ✓ **Leak Detection and Shutoff Valve Ready**
- ✓ **Meets NEEA Tier 4**



PRO TERRA W/LEAKGUARD

In addition to the Plus model features, this model includes...

- ✓ **Auto Water Shut-off Valve (LeakGuard)**
- ✓ **Integrated 360° Water Leak Detection (LeakSense)**



Pro Tip: When running recirculation with the hybrid, it is recommended to control the circulation pump and/or incorporate a “swing” tank for optimal performance.



Increased Installation Flexibility w/ side and top connects



Side & Top Connects:

- Factory capped
- Can be removed and used to cap the top
- Combination of top and side can be used



Sound Level - 45 Decibels

45 dB at 6.3 Ft

- Third party tested
- Open room and a small enclosure



Rheem “ECO PORT”



- CTA 2045
 - Open source plug which allows for the utility company to control the water heater during a demand response or load shift event.



What's New



- Sensors
 - New chip measures all current through the control board, providing 90% accuracy for energy usage. Previous generation based on calculations and algorithms. Board also features a battery to store data and settings



Contractor Friendly



208/240V 30 and
15Amp



Can Be Placed
Against a Wall*



Can Be Transported
On Its Side



100% Plumber
Serviceable

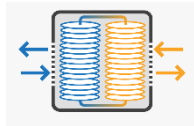


Modes Of Operation



ENERGY SAVER (default mode)

- A recovery using the heat pump and upper element. Primary recovery with Heat Pump (up to 1,700W equivalent) and element when needed (4,500W). In high output situations, heater is producing the equivalent of up to 6,200W



HEAT PUMP

- Delivers up to 1,700W to the water at standard ambient conditions
- Operating temperature of 37° - 145°



HIGH DEMAND

- Upper/lower element along w/heat pump simultaneously heats the water. Up to 6,200W of recovery. Elements in this mode activate quicker



ELECTRIC

- Either element is used to heat the water



VACATION

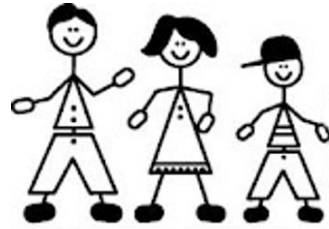
- Tank temperature will be maintained at 65° for 1-28 days or held indefinitely when “HOLD” feature is used



ProTerra Sizing Reference

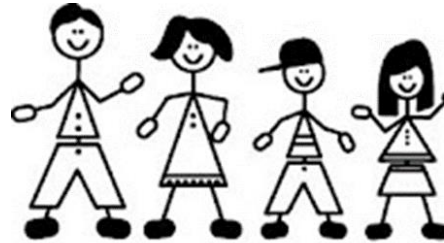
40 Gallon

Delivers 3 hot 8-minute showers back to back



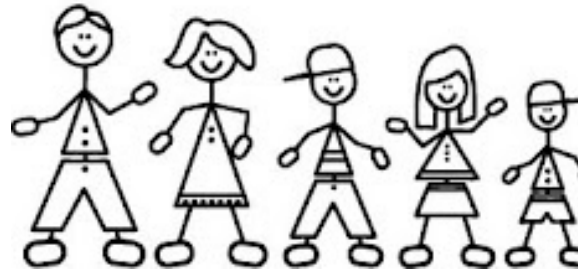
50 Gallon

Delivers 4 hot 8-minute showers back to back



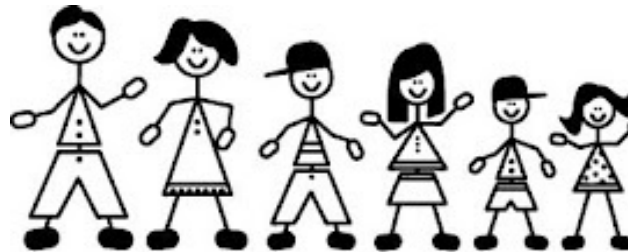
65 Gallon

Delivers 5 hot 8-minute showers back to back



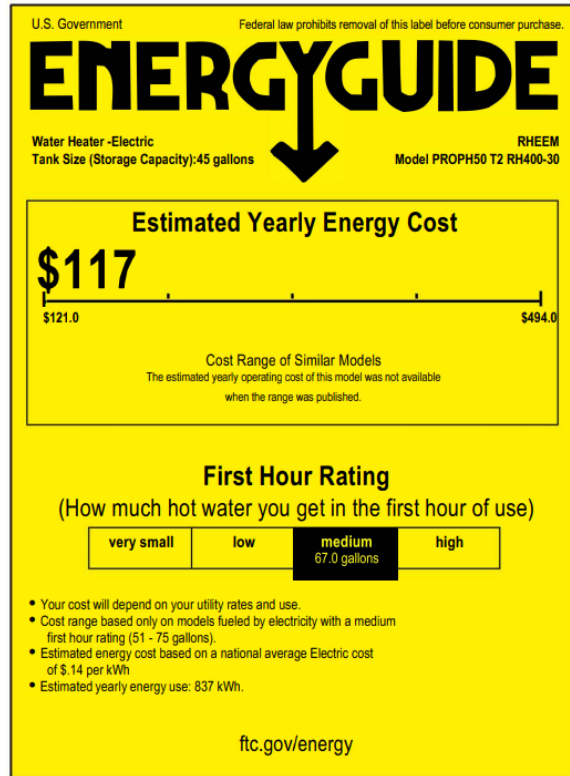
80 Gallon

Delivers 6 hot 8-minute showers back to back

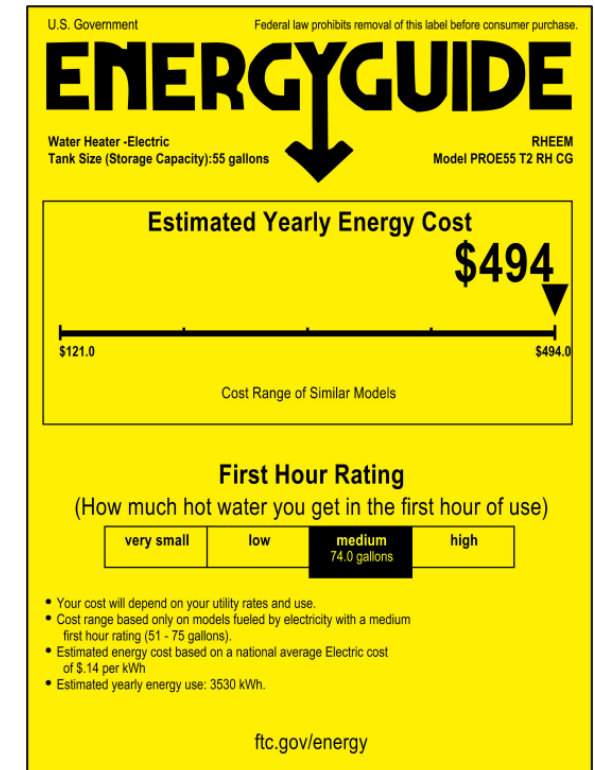


Electric: Over 75% Reduction In Energy Usage

837 kWh per Year



3,530 kWh per Year

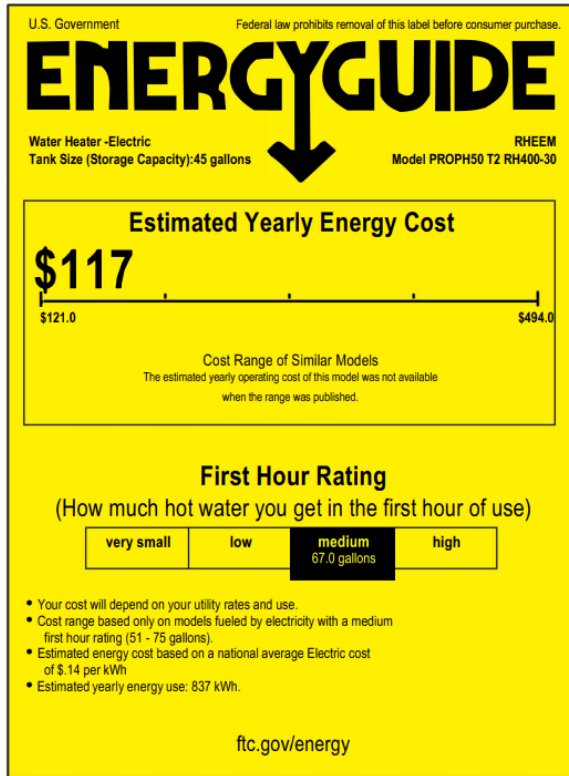


PROPH50 T2 RU400-30

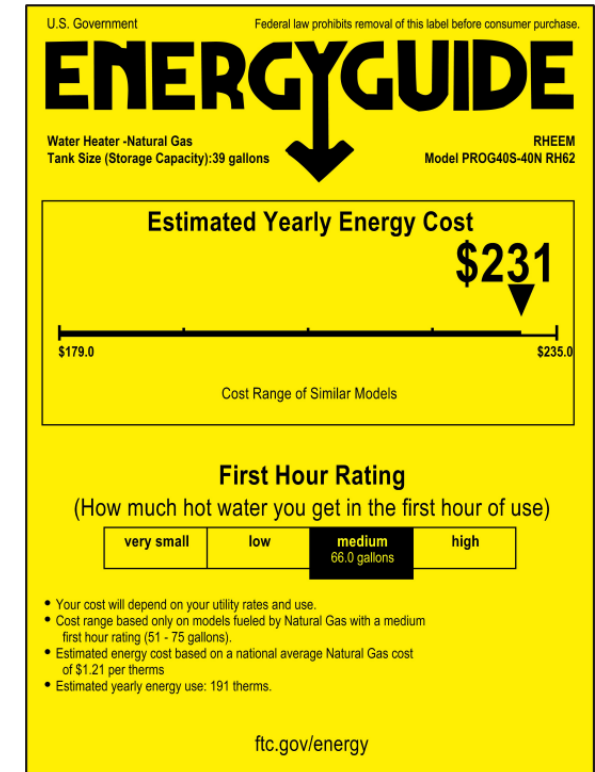
PROE55 T2 RH CG

Natural Gas: 50% Reduction Cost To Operate

837 kWh @ \$0.14



191 Therms @ \$1.21

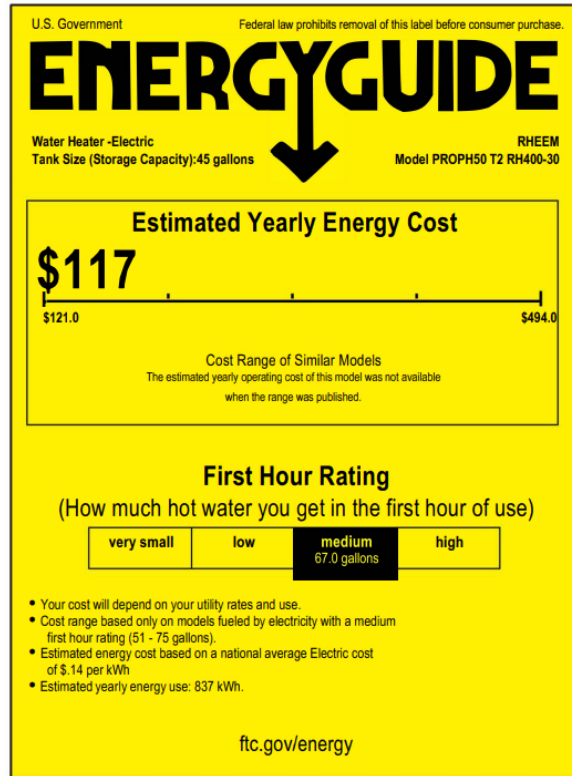


PROP50 T2 RU400-30

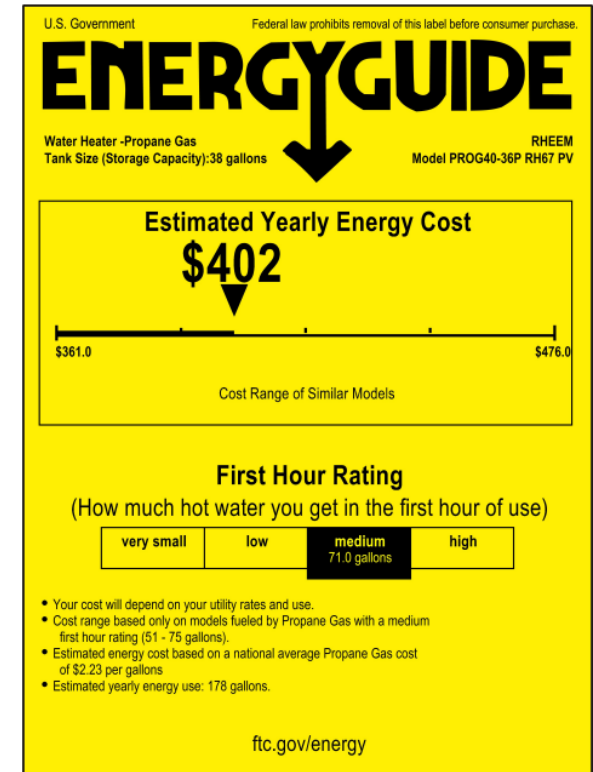
PROG40S-40N RH62

Liquid Propane: 70% Reduction Cost To Operate

837 kWh @ \$0.14



178 Gallons @ \$2.23



PROG40-36P RH67 PV



PROP50 T2 RU400-30

ProTerra vs N2 Standard Electric ROI Calculator

Total Savings For Rheem Hybrid Water Heater - 50 Gal 30 Amp		
Initial Investment	Annual Operating Cost	Hybrid Water Heater - Return on Investment
<p>\$1,642.00</p> <p>Hybrid Cost: \$1,642.00 Electric Cost: \$499.00</p>	<p>Electric, \$488</p> <p>Hybrid, \$87 Electric, \$488</p>	<p>Lifetime Return on Investment</p> <p>\$ 4,008</p> <p>Annual Energy Cost Savings</p> <p>\$ 401</p> <p>Pays For Itself In:</p> <p>-40.63 months</p>

kw/h Cost:	\$ 0.10
Local/Gov't Rebate:	\$ 500.00
Hybrid Cost:	\$ 1,642.00
Electric Cost:	\$ 499.00
Tax Credit	\$ 2,000.00





CONGRATULATIONS! PROTERRA HYBRID NAMED AS A 2021 GREEN INNOVATION OF THE YEAR.

Delivering energy savings while reducing our carbon footprint

- 4x more efficient than a standard electric water heater¹
- ENERGY STAR[®] certified and reduces the carbon footprint by 75%²
- Saves up to \$480 per year on energy costs³
- Qualifies for a \$300 Federal tax credit and up to \$1,000 in local utility rebates⁴



¹Based on comparison of a 50-gal Rheem Proterra Hybrid Electric Water Heater and a standard electric water heater of the capacity manufactured prior to 2015 under NAECA 1 which is likely being replaced.
²Based on comparison of a 50-gal Rheem Hybrid and a standard electric tank with minimum efficiency.
³Based on comparison against the estimated annual operating cost of a standard electric water heater of the capacity manufactured prior to 2015 under NAECA 1 which is likely being replaced.
⁴Rebates vary based on region.





PROTERRA™

PLUG-IN

HEATING  COOLING  WATER HEATING

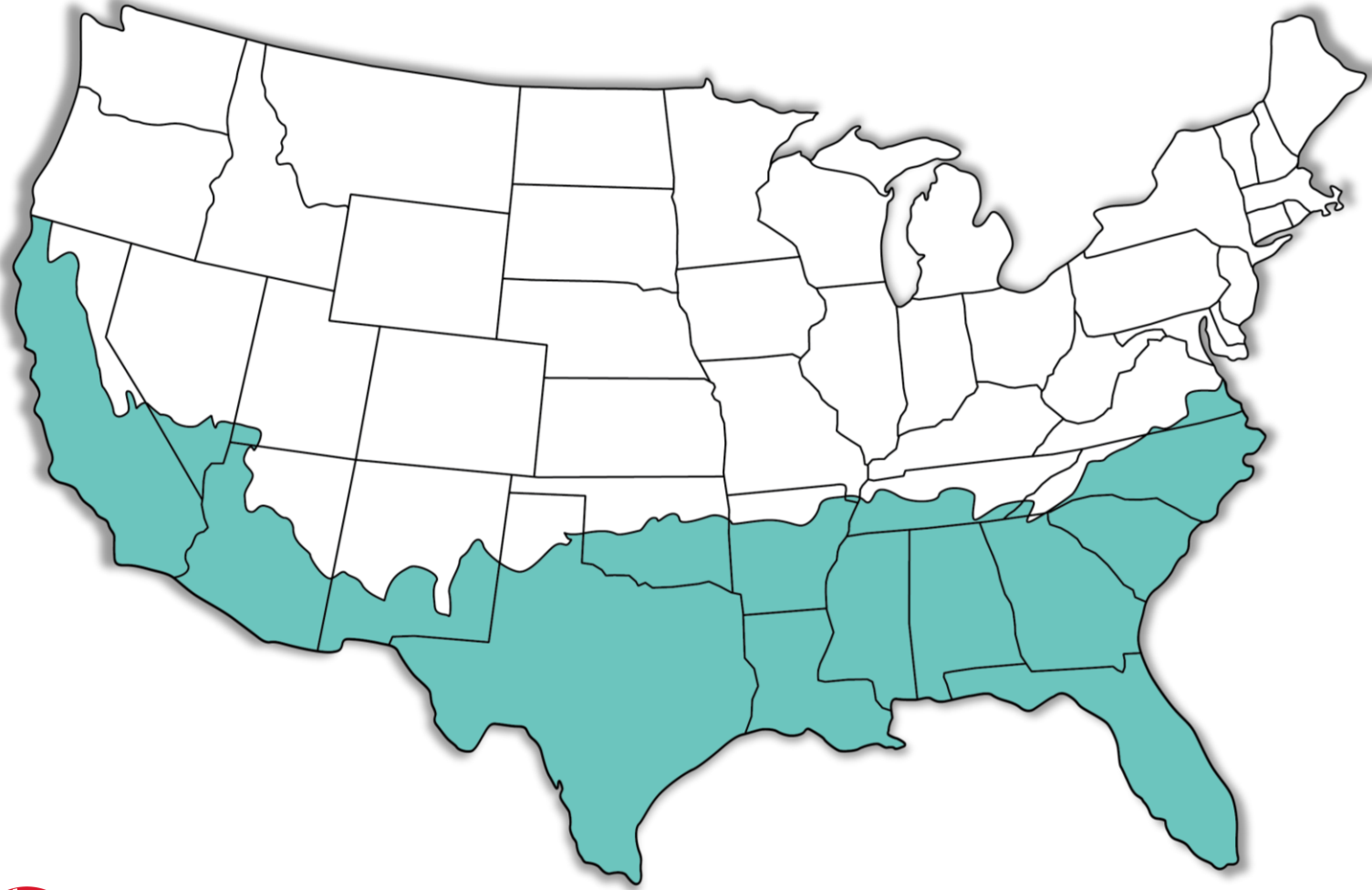
ProTerra Plug-in Models Selection Guide



Plug-in	Selection Consideration	Plug-in w/ HydroBoost
The unit being replaced has a cord, such as tankless or power damper. Verify that the receptacle is dedicated.	Replacing Gas Heater	The unit being replaced did not have a cord.
15A dedicated circuit	Electrical Circuit Requirements	15A shared circuit
Need the tank to recover quickly. Multiple showers in short time span.	Hot water usage	Not expecting to drain the entire tank during hot water usage.
40, 50	Available Tank Gallon Capacities	40, 50, 65, 80
Need 1200 cubic ft of make up air , Similar size room to 12'x10'x10'. Cannot vent inlet air. Outlet air can be vented out.	Heater location	Need 700 cubic ft of make up air , Similar size room to 7'x10'x10'. Can vent inlet air in if room does not have sufficient make up air. Can also vent outlet air.



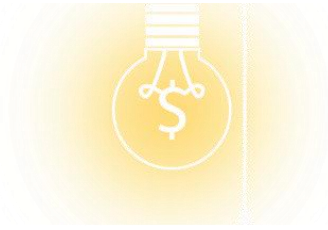
Target Regions



For **OPTIMAL OPERATION**, installation in the **teal - colored** areas of the US Map zone is recommended. The average ambient air temperature in January is above 37°F.



RHEEM PROTERRA ADVANTAGE



Lower Energy Costs

- ✓ Save up to \$491 per year in energy costs—that's almost \$5,000 over 10 years!

Energy Saving Scheduling

- ✓ Program your water heater to match your needs throughout the day—higher production during high use times, like the morning, and lower production for energy savings when no one is home

Demand Response Scheduling

- ✓ You can save up to \$400 over the life of the heater thanks to off-peak energy rate scheduling with built-in demand response scheduling—letting your utility company shift the energy usage in response to the overall demand for energy at a given time⁷

Smart Mobile Connection

- ✓ Built-in EcoNet WiFi technology lets you adjust water temperature, track energy usage and set operating mode—all from your mobile device

Most Efficient

- ✓ The Richmond ENCORE Series Hybrid utilizes heat pump technology to pull heat energy from the air around it to heat your water, making it the most efficient water heater on the market¹⁰ with up to a 4.0 UEF

Peace of Mind Protection

- ✓ LeakGuard™ Auto Water Shut-off Valve prevents water damage with all-inclusive leak detection and prevention system that limits leaks to no more than 20oz of water⁸

Save with Vacation or Away Mode

- ✓ Reduce water heating costs while you're away for a week or just for the day—it's easy to set from your phone even if you've already left home

Intelligent Service

- ✓ Plumbers can view detailed alerts and alarm codes while at the water heater via the Contractor App to expedite service¹¹



Demand Response Event



Demand Response Event

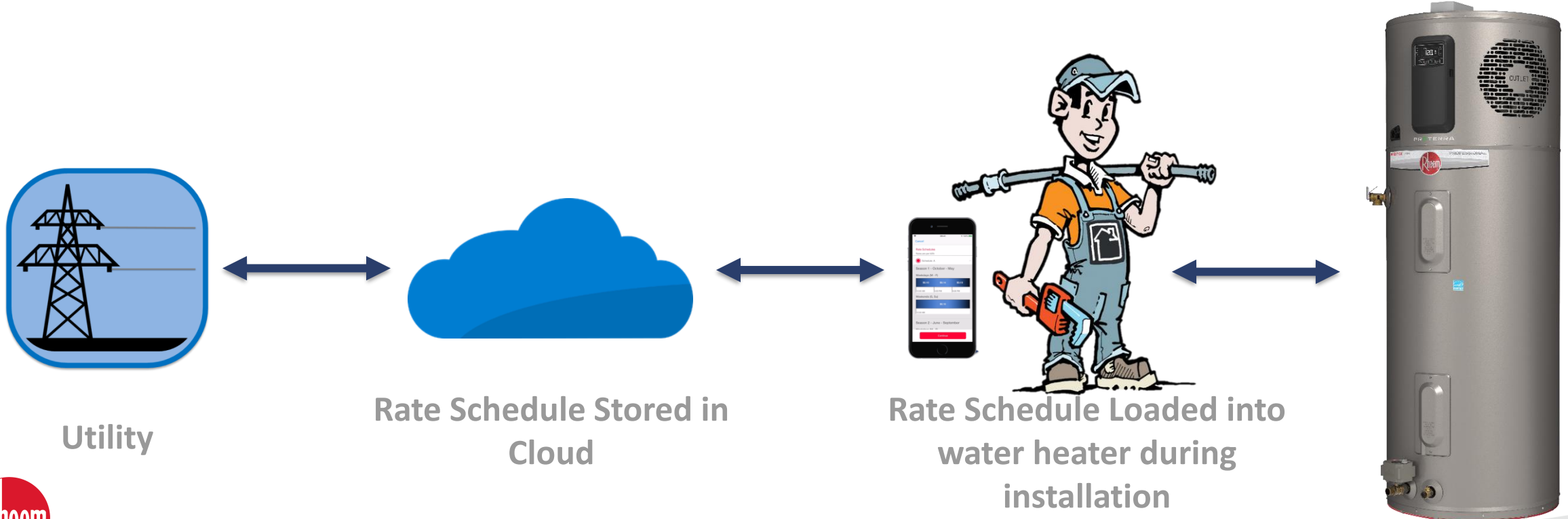


Demand Response Event

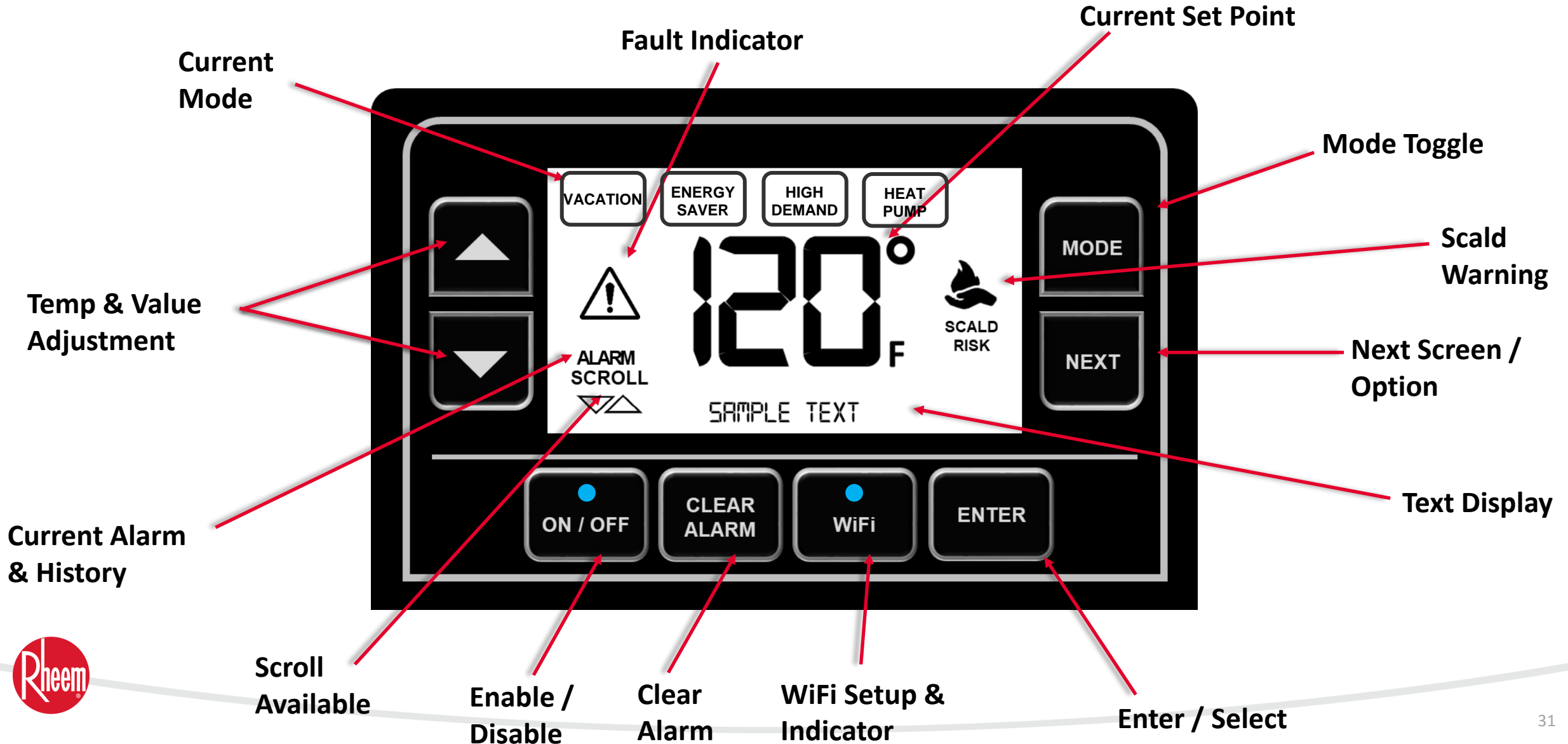


JA13 – Heat Pump Demand Management System

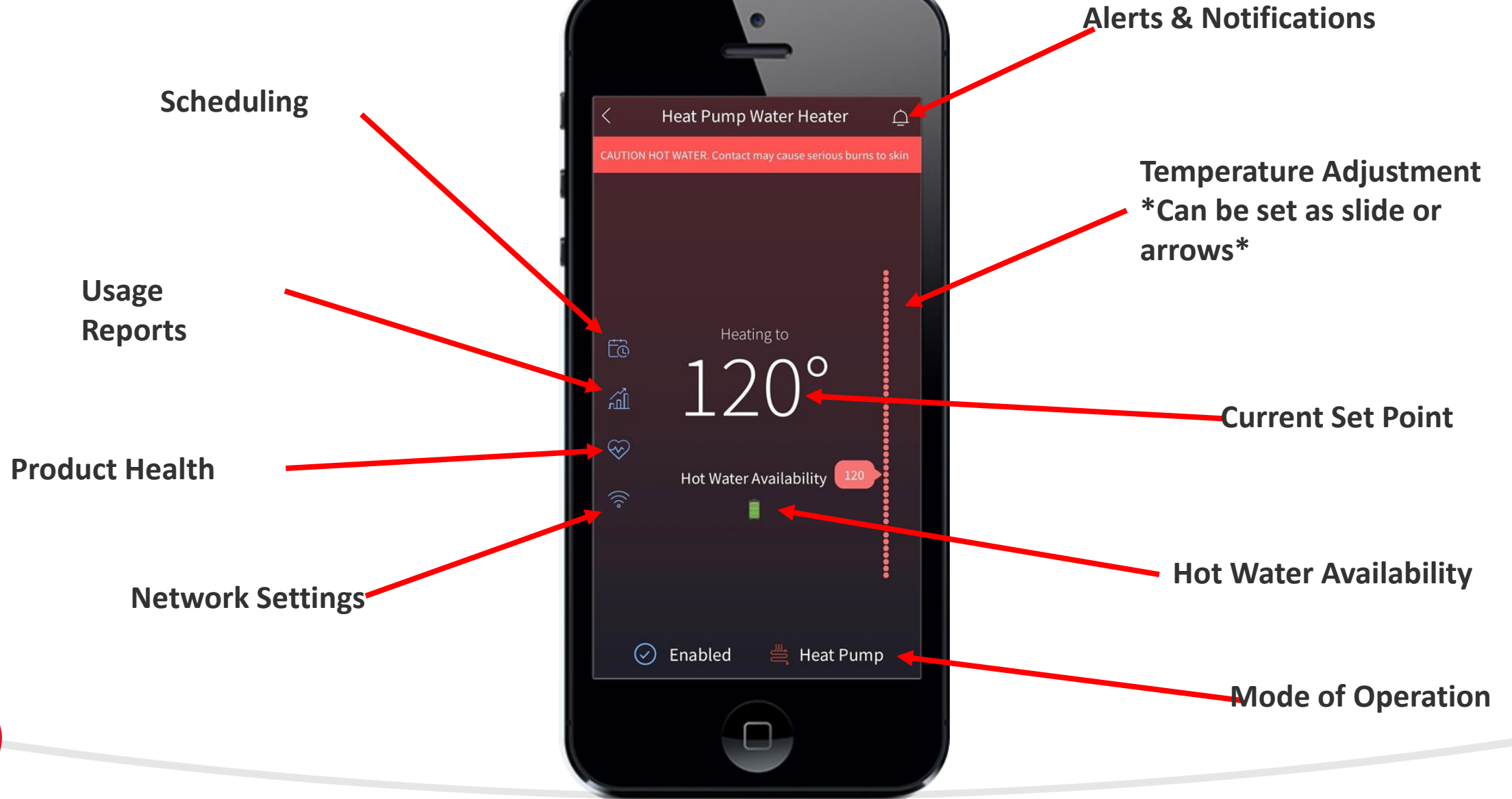
- JA13 scheduling allows for utilities to load a custom rate schedule via MyRheem portal. This custom rate schedule is then loaded into the water heater (wirelessly) at the time of installation. This data is then stored in the water heater until the unit is ready for use (new construction scenarios).



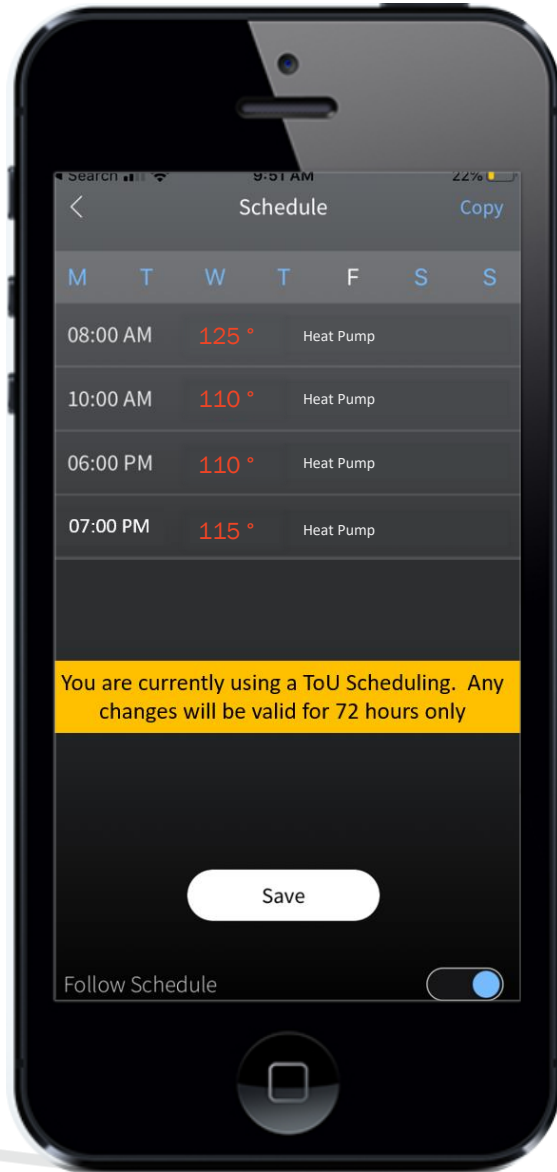
User Interface



EcoNet App Navigation



EcoNet App - Scheduling



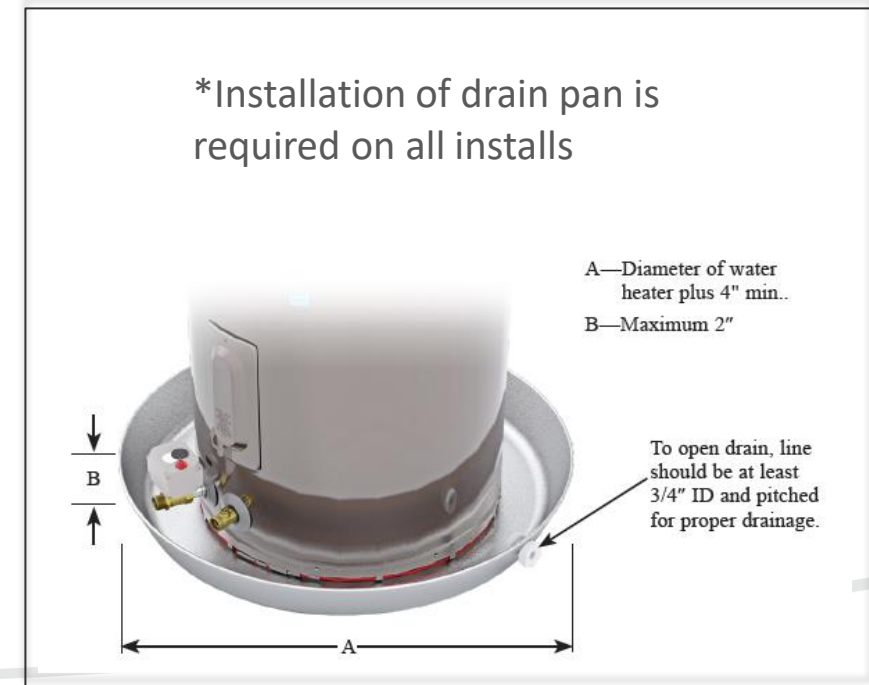
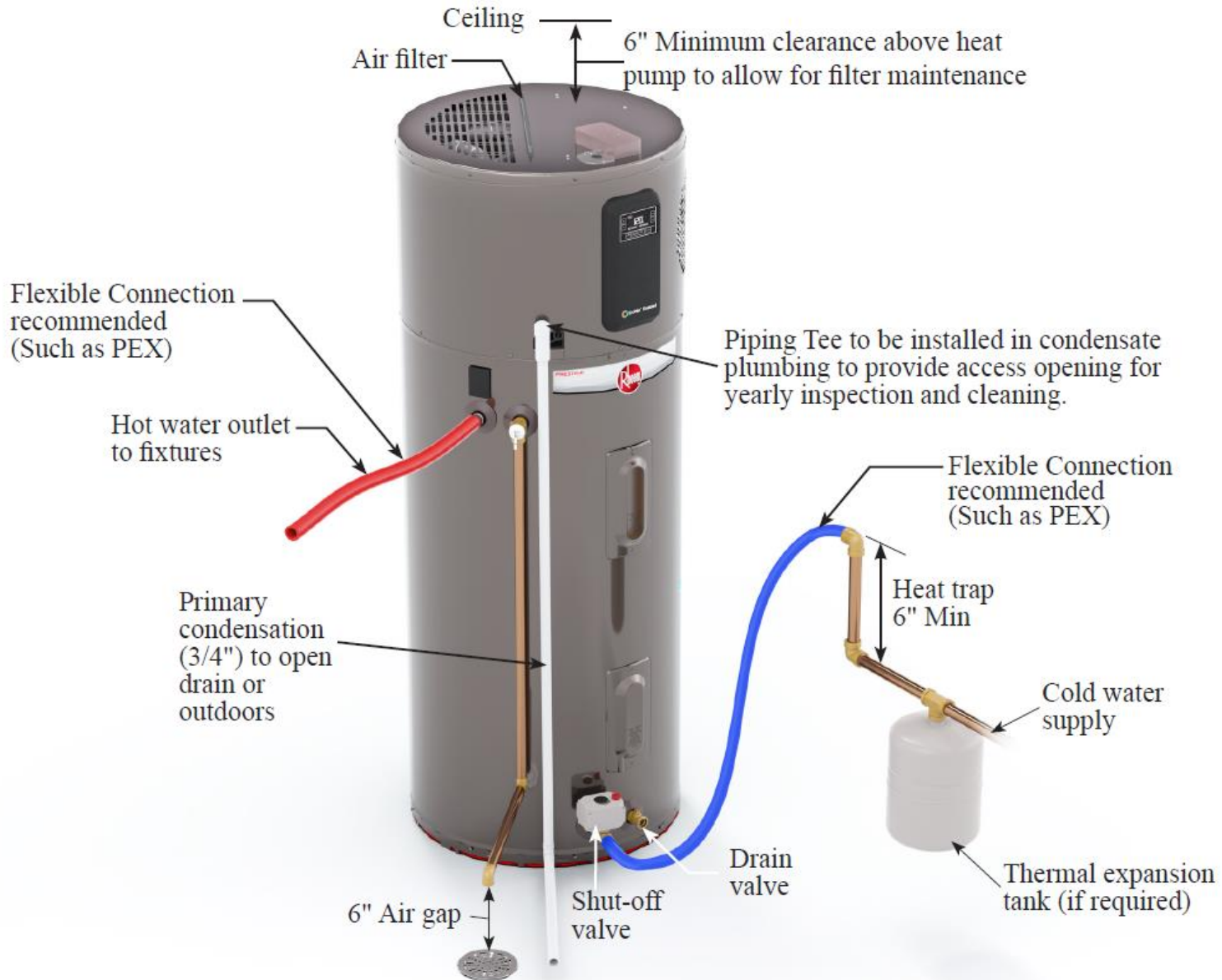
- The scheduling feature allows users to program the water heater to their desired temperature each day (using up to 4 different time blocks). This scheduling feature helps to conserve energy by reducing the set point of the water.



PHYSICAL INSTALLATION



Typical Installation



Duct Ready Intake and Exhaust

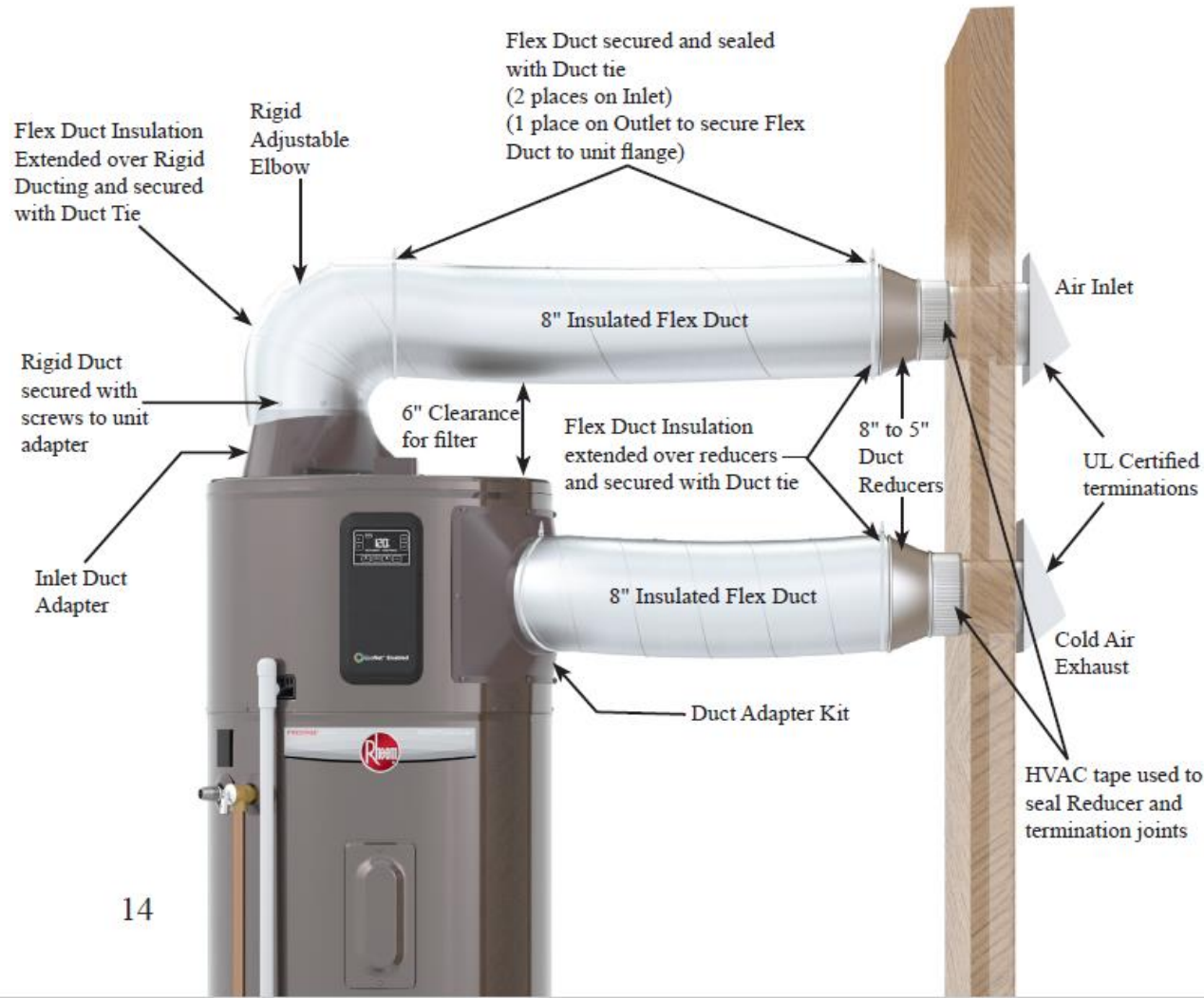


Duct ready:

- Bendable tabs
- 8" intake
- 10" exhaust



Ducting



14

Maximum Duct Lengths

Duct Type / Diameter	8"	7"	6"	5"
Rigid	340'	160'	65'	17'
Flexible	125'	65'	25'	--

Inflation Reduction Act



IRA being coordinated at the Federal level

- **Nonbusiness Energy Property Credit (Tax Section 25C Homes Program) “Available NOW”**

Water Heating

- Effective January 1, 2023, this tax credit gives homeowners equal to 30% of installation costs for the highest efficiency tier products, up to:
\$600 for gas-fired tankless with UEF \geq .95 and gas-fired storage with UEF \geq .86 water heaters; and
\$2,000 for heat pump water heaters with UEF \geq 2.2 for 120V and UEF \geq 3.3 for 240V models



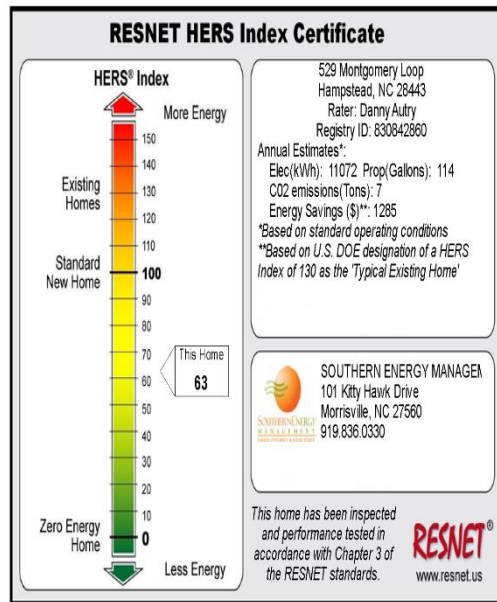
IRA being coordinated at the State level

- Residential Energy Efficient Property (Tax Section 25D HEAR Program)
- The High Efficiency Home Rebate Act is a 10 - year rebate program to support low and moderate income (LM) Households who choose to electrify.
- **This incentive will be based upon household income and many States have already applied.**
- **Homeowners can receive:**
 - Up to **\$8,000** for all-electric heat pumps
 - Up to **\$1,750** for heat pump electric water heater
 - Up to **\$4,000** for electrical load service center upgrade
 - Up to **\$2,500** for electric wiring
 - Up to **\$14,000** maximum for all eligible measures




45L Tax Credit for Energy Efficient Homes Extended and Improved

- **New Residential Construction:**
- Home builders are eligible for credits for building Energy Star qualified homes (\$2,500) or certified zero-energy ready homes (\$5,000)
- Invocation of the **Defense Production Act** has now been allocated \$500 million



U.S. DOE Zero
Energy Ready Home
Single Family Homes
National Program
Requirements
Version 2

Tools to “get the word out”!



**Manufacturer's Certification Statement
for the Nonbusiness Energy Property Credit**

Effective Dates
January 1, 2023 - December 31, 2032

Manufacturer
Rheem® Sales Company – Water Heating Division

Equipment Classification and Qualifications
The U.S. Internal Revenue Service (IRS) is providing consumers with a tax credit on high-efficiency water heating equipment under the provisions at Title 26 of the U.S. Code, Section 25C. The Federal tax credit is 30% of the water heater and installation costs up to \$600 for gas-fired water heaters and \$2,000 for heat pump water heaters.




Product Category UEF Eligibility Requirements	
240V 30 & 15 Amp Hybrid Electric Heat Pump	≥ 3.3 UEF
120V 15 Amp Plug-In Heat Pump	≥ 2.2 UEF
Gas-Fired Tankless	≥ .95 UEF
Gas-Fired Storage	≥ .86 UEF

Please keep this Certification Statement and your dated proof of purchase receipt for federal tax filing purposes. Homeowners must submit IRS Form 5695 and meet all federal tax credit requirements to qualify. Tax credit is limited to an existing home and must be the homeowner's primary residence. New construction and rentals do not apply. Any tax credit that exceeds the consumer's regular tax liability for the taxable year may not be refunded nor carried forward under Section 25C. *Please consult with a tax professional for complete details.*

Qualifying Rheem Models: See list of Tankless and Heat Pump model numbers on pages 2 and 3 of this document.

Certification Statement
Under penalties of perjury, I declare that I have examined this certification statement, and to the best of my knowledge and belief, the facts presented are true, correct and complete.

For further questions regarding this certificate, please call Rheem customer service at 800-621-5622.

Rheem Manufacturing Company –
Water Heating Division
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Suite 100
Roswell, Georgia 30076
www.rheem.com



Federal Tax Credits Water Heater Incentives

Beginning 2023, the expanded version of 25C, now called the Energy Efficient Home Improvement Tax Credit (under the Inflation Reduction Act of 2022), will provide up to \$2,000 in tax credits for qualified water heaters as well as credits for electrical upgrades. Unlike the existing program, the expanded 25C tax credit has generous annual limits (not lifetime limits), meaning that the same customer could receive the credit for qualified energy efficient upgrades annually. This expansion will extend the program out to 2032.

Note: Qualifying water heating products and corresponding credit limits are based on finalized CEE (Consortium for Energy Efficiency) highest product category tiering as of 12/2022. Rheem will communicate details on qualified equipment as new information becomes available.

HEAT PUMP WATER HEATER CATEGORY

30 & 15 Amp Hybrid Electric Heat Pump

Previous Water Heater/ Replacement Scenario	Qualifying UEF Based on Highest CEE Tier	Energy Efficient Home Improvement Tax Credit
Standard Electric	≥ 3.3	30% of product + installation cost, up to \$2000



All 120V 15 Amp Plug-in Heat Pump Models

Previous Water Heater/ Replacement Scenario	Qualifying UEF Based on Highest CEE Tier	Energy Efficient Home Improvement Tax Credit
Standard Gas	≥ 2.20	30% of product + installation cost, up to \$2000



HIGH EFFICIENCY GAS WATER HEATER CATEGORY

Gas-Fired Tankless - Rheem IKONIC SR/S-Series

Previous Water Heater/ Replacement Scenario	Qualifying UEF Based on Highest CEE Tier	Energy Efficient Home Improvement Tax Credit
Standard Gas	≥ .95	30% of product + installation cost, up to \$600



Gas-Fired Storage - Super High Efficiency Models (product updates coming soon)

Previous Water Heater/ Replacement Scenario	Qualifying UEF Based on Highest CEE Tier	Energy Efficient Home Improvement Tax Credit
Standard Gas	≥ .86	30% of product + installation cost, up to \$600

Rheem.com/water-incentives



Hybrid Marketing Materials

Counter Cards

Rheem® Prestige® Proterra Series Hybrid Electric Water Heater

SMART | SUSTANABLE | SAVINGS



Prestige Proterra Premium Model with Shut-off

40, 50, 65 and 80 Gallon

ELIGIBLE FOR NATIONAL UTILITY REBATES

PRO TERRA

The new

Why Rheem® Hybrid Electric Solutions?

	Rheem Hybrid Electric	Standard Electric Tank-type	Standard Gas Tank-type
Energy Efficiency	4.00 UEF (403% Higher)	0.93 UEF	0.69 UEF
Energy Use	2623 kWh (75% Reduction)	4622 kWh	7735 kWh (294 Therm)
5 Operating Modes	✓	✗	✗
Warranty	10-Year Tank & Parts Warranty	6	6
Water Leak Detection Alerts ¹	✓	✗	✗
Works with Alexa ¹	✓	✗	✗
Local Rebates ²	✓	✗	✗
Government & Utility Rebates & Credits ³	✓	✗	✗



Rheem® Hybrid Electric Heat Pump Water Heaters

3 Great Models to Choose From

Michigan Hybrid Available Rebates: \$150-\$1200 in Local Utility Rebates
Up to \$2,000 Tax Credits: SECTION 25C INVESTMENT TAX CREDIT FOR CLEAN ENERGY

For additional information on available utility rebates, visit:
<https://www.rheem.com/rebate-center>

For additional information on available tax credits, visit:
<https://energystar-mesa.force.com/ENERGYSTAR/article/How-Do-I-Apply-for-the-Tax-Credit-1600088463226>



1 ProTerra® Hybrid with Leakguard

- Save up to \$491 in annual energy costs¹
- Built-in **LeakSense™** and **LeakGuard™** to detect any water leak and shut the unit off to protect the home from potential water damage²



2 ProTerra® Hybrid without LeakGuard™

- 3.75 - 4.00 UEF reduces operating cost
- 4x the efficiency of a standard electric water heater³
- Best-in-class 10-year tank and parts warranty



3 Hybrid Builder

- 3.50 UEF
- Meets NEEA Tier 3 requirements
- EcoNet® smart technology with integrated WIFI and energy usage reports

The Smartest & Most Efficient Electric Water Heaters Available in North America

ALL 3 ARE AVAILABLE IN 40, 50, 65 & 80-GALLON CAPACITIES

For additional rebate & tax credit information, visit: <https://www.energystar.gov/rebate-center>
¹Based on estimated annual operating cost savings of the RH 50, 65 and 80 gallon Hybrid Electric models compared to a standard electric water heater with average efficiency. ²Leak detection and leak protection built into ProTerra Hybrid with Leak Guard only. ³Based on comparison of a 50-gallon Rheem Hybrid and a standard electric tank of the capacity with maximum efficiency.

1932 FORM WQ
RH-UEE-10-2023-1024702



Digital Rebate Info w/ hyperlinks

Rheem Resources – “we have you covered”!



RheemTraining.com

Internal Support	Help is at your fingertips!
Dedicated Service For HPWH's	800-995-0982
Plumbers Support Team	866-339-2388
EcoNet Technical Support	800-255-2388



Rheem Marathon

#1 Utility choice for load management for over 30 years

Rheem ProTerra HPWH

- Highest Efficiency
- Quietest
- Zero Clearance
- Connectivity
- Leak Detection/Prevention
- Recovery
- 10 - Year Warranty



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