

15A APPLICATION BRIEF

# Hot water that *moves*, not burns.

For Philippine condos, villas, guest houses, B&Bs, clinics, salons and small offices currently running per-bathroom electric showers. One central AquaHERO 200 L or 300 L unit replaces three or four wall-mounted resistance heaters — on the same plumbing, on a single 13 A plug.

**1.5 yr**

**Incremental payback**

On the ₱82K extra over the ₱70K of electric showers you were buying anyway

**₱53K**

**Saved per year · verified**

Philippine guest house · 360 L/day @ 60 °C · replaces 4 electric showers (verified)

**₱783K**

**TCO saved over 15 years**

AquaHERO design life vs electric-shower replacement cycle

— WHAT GOES IN · WHAT COMES OUT



FEATURED · DROP-IN

### AquaHERO 200L

2.2 kW rated · 200 L enamel tank · COP 4.0 · 70 °C outlet · R290 · 13 A plug

The condo / villa / 1-2-bathroom answer. Replaces 2-3 wall-mounted electric showers with one central tank. Ø570 × 1810 mm, ~100 kg, sits in a utility room or on a balcony. **13 A standard plug — the same socket the electric showers were on.** Pulls heat from the 28-35 °C indoor or balcony air and pushes it into the tank at COP 4.0. MCS certified to the UK BUS-grant spec.



### AquaHERO 300L

2.4 kW rated · 300 L enamel tank · COP 3.48 · 65 °C HP outlet (70 °C with E-heater) · 13 A plug

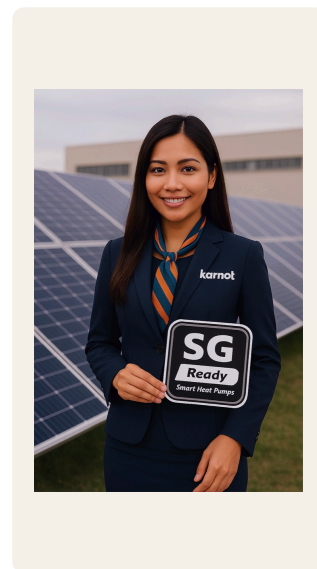
The guest-house / 4-bedroom B&B / small clinic / salon answer. **One tank replaces 3-4 per-bathroom electric showers.** Ø640 × 2002 mm, ~140 kg. 50 L/hour continuous yield, ~360 L/day duty (the verified guest house). Built-in 1.5 kW electric backup for sub-7 °C ambients only — never used to plug a 10 °C Legionella gap, because the heat pump already delivers 65 °C natively.



### Karnot scope of supply

Unit · factory testing · **on-site commissioning by a Karnot engineer** · 1-day operator training · O&M manual

What we deliver: the AquaHERO, factory-tested and commissioned on your site by our engineer, with operator training and the documentation pack. **What you (or your contractor) deliver:** the electrical feed from your distribution board, the cold-water supply and hot-water piping, condensate drainage, and any minor civil works for the unit base. Turnkey install on request — quoted per site, not a fixed fee.



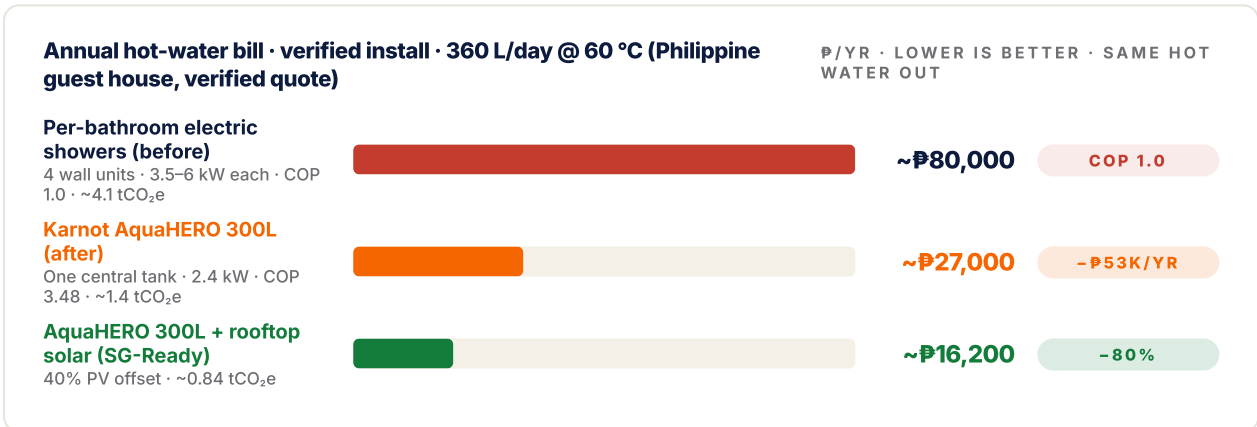
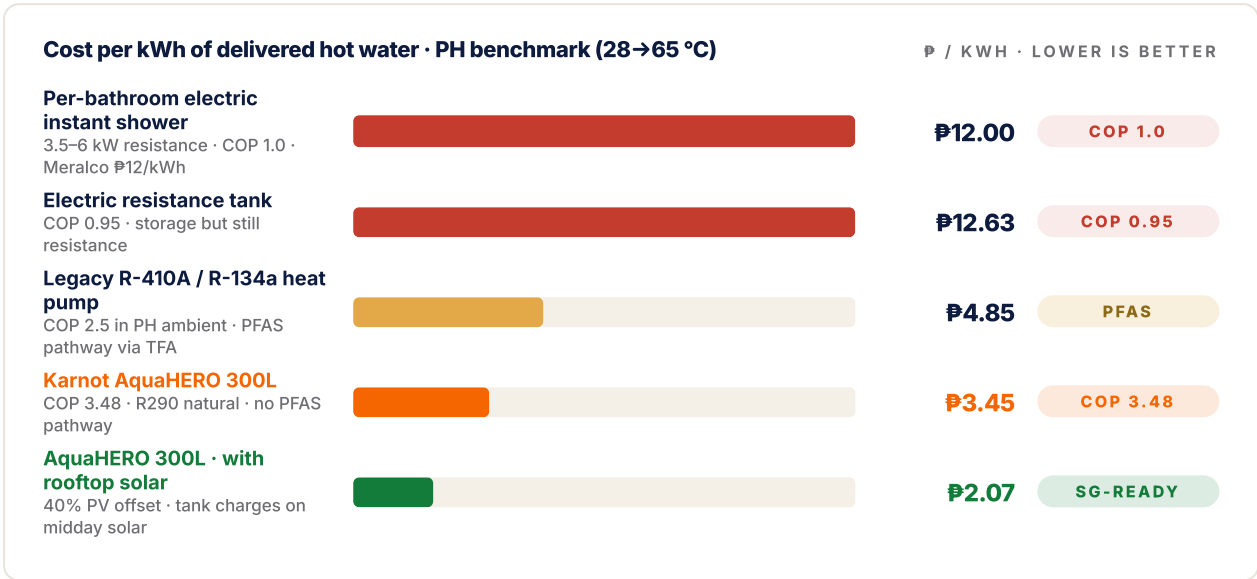
### Solar + SG Ready

SG-Ready interface as standard · PV- and tariff-aware scheduling

Every AquaHERO ships SG-Ready — not next year, today. Add rooftop PV whenever you're ready and the unit shifts heating to the cheapest hour, charging the tank on free midday solar. Most sites take **another 30-50% off the electric bill** the day the panels go live.

— THE MATHS NOBODY MADE YOU DO

Same hot water. **A quarter of the bill.**



**The real liability isn't the LPG. It's the R-410A heat pump someone sold you in 2018. HFC refrigerants are this decade's asbestos — and the regulators have already named them. [karnot.com/compliance](https://karnot.com/compliance)**

<p><b>ECHA UNIVERSAL PFAS RESTRICTION</b> 5-country REACH proposal (DE, DK, NL, NO, SE) explicitly names HFC-125, HFC-134a, HFC-143a, HFO-1234yf in scope. <b>RAC adopted opinion 3 Mar 2026, SEAC draft opinion 11 Mar 2026.</b> Commission decision next.</p>	<p><b>TFA BREAKDOWN PATHWAY</b> When R410A / R134a / R1234yf leak, they break down to <b>trifluoroacetic acid (TFA)</b> — HFO-1234yf at 100%, HFC-134a at up to 20% per ECHA. TFA is OECD-classified PFAS, water-soluble, accumulates in drinking water + breast milk. EFSA reference values under review 2026.</p>	<p><b>WHY R290 / R744 ARE EXEMPT</b> R290 (propane) breaks down to CO<sub>2</sub> + water. R744 (CO<sub>2</sub>) IS the breakdown product. <b>No fluorine, no TFA pathway, no PFAS classification.</b> Not in scope of F-gas Regulation. Not in scope of the ECHA PFAS proposal. Never will be.</p>
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— WHAT YOU STOP PAYING

**Four electric showers out, one AquaHERO in — verified install, Philippine guest house, May 2026.**


REAL QUOTE · VERIFIED QUOTE · 360 L/DAY @ 60 °C	BEFORE · 4 ELECTRIC SHOWERS	AFTER · AQUAHERO 300L	DELTA
<b>Kit CAPEX (the spend you make anyway)</b>	~₱70,000 · 4 wall units	₱151,594 VAT-inc	<b>+₱81,594 incremental</b>
<b>Annual OPEX</b>	~₱80,000/yr · COP 1.0	~₱27,000/yr · COP 3.48	<b>-₱53,022/yr</b>
<b>Peak draw at the meter</b>	Up to 15 kW concurrent	<b>2.4 kW continuous</b>	<b>No simultaneous-shower spike</b>
<b>15-year total cost of ownership</b>	~₱1,340,000 (1x replacement)	~₱556,594	<b>-₱783,000 over 15 yr</b>
<b>Incremental payback · the headline number</b>	—	<b>1.54 years</b>	<b>On the ₱81,594 extra you spend</b>


*Verified install · Philippine guest house · verified Karnot quote, May 2026. 360 L/day at 60 °C, replacing 4 per-bathroom electric instant showers. AquaHERO 300L unit price: ₱159,237 list, ₱135,351 net of VAT after 15% discount, ₱151,594 VAT-inclusive. Karnot scope: unit + factory testing + on-site commissioning + 1-day operator training + O&M manual. Client scope: electrical feed, plumbing, condensate drainage, civil works. Electric-shower CAPEX baseline ~₱70,000 = 4 wall units at typical PH branded retail (Joven / Panasonic / Ariston, 4–6 kW). Electric showers carry a 5–7 year service life vs AquaHERO 15-year design life, so the 15-year TCO assumes **one full replacement of the wall units**. Gross payback against zero CAPEX baseline (per the quote): **3.9 years**. **Incremental payback against the ₱70K you were going to spend anyway: 1.54 years**. CO<sub>2</sub> reduction: **2.67 t/yr**. Excludes the further 30–50% bill reduction available when rooftop PV is added via the SG-Ready interface.*


**“ The honest payback on this isn't 3.9 years. It's 1.5. You were going to spend ₱70,000 on electric showers anyway — and again in five years when they fail. The extra you spend to put in AquaHERO is ₱82,000, and that pays back in eighteen months on the running cost alone. Everything after that is free hot water for another thirteen-and-a-half years. The reason there are still four electric showers in the house is not that they work. It's that nobody made you do the maths. ”**

**Stuart Cox · Founder & CEO · Karnot Energy Solutions Inc.**  
*Verified install · Philippine guest house · verified Karnot quote · May 2026*

— IN THE PRICE

 **We file the paperwork**  
 LGU outdoor-R290 pack, RA 11285 incentive registration and BOI green-loan note — all in scope. You sign at the end.

 **3-year warranty, fixed-price service**  
 Heat-pump core covered 3 years. Annual service quoted up front in pesos — not discovered after a fault. Refrigerant compliance is our problem.

 **A receipt every month**  
 Cloud M&V on every install. Cost-per-litre of 65 °C water, brownout ride-through events, Scope 1 elimination — reported whether you ask or not.