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Cooler rooms, lower bills

Energy proposal · November 2026

Prepared by stillcurrent

The bill

LKR 237,207

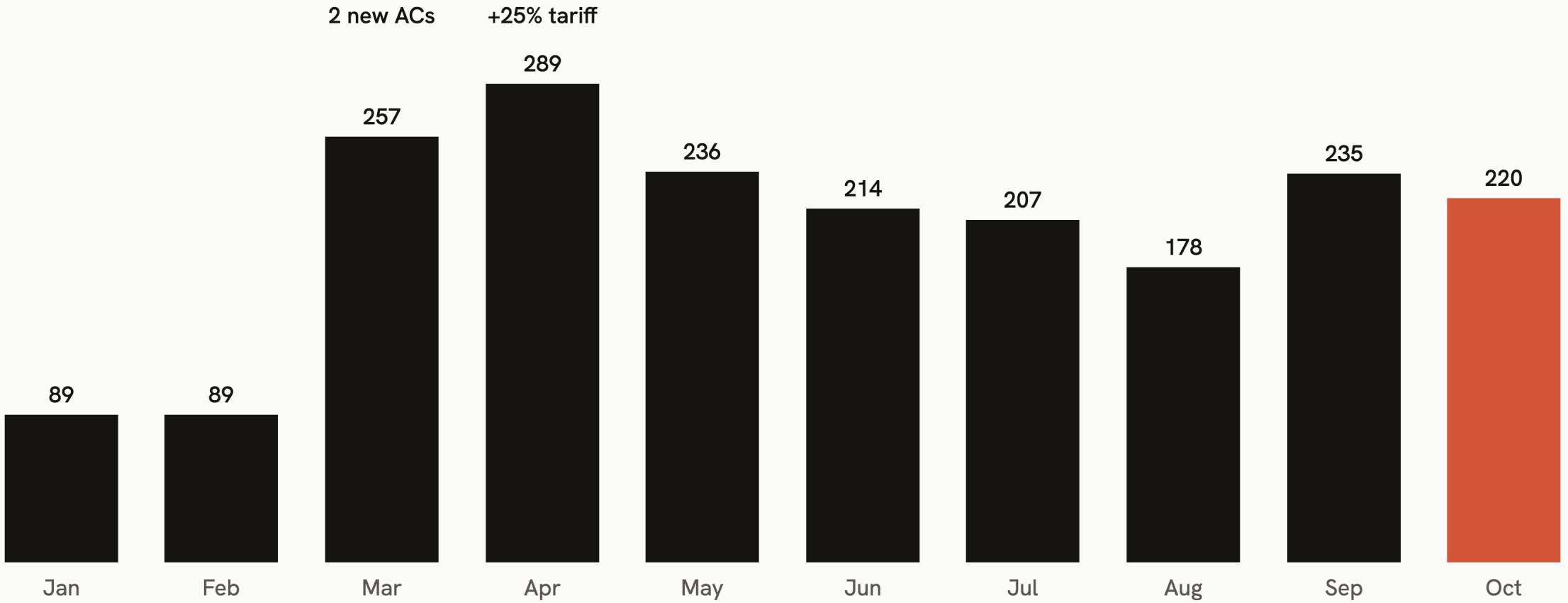
October
29 days · 6,380 kWh

1 kWh saved
= LKR 37

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The year

kWh per day



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El Niño 2027

Strong to very strong

NOAA outlook, October 2026: lasting into early 2027

WMO: higher chance that 2027 becomes the warmest year on record

Sri Lanka, past El Niño years: tend to be drier in the wet and intermediate zones, warmer in the Yala season

Results differ by region. One Dry Zone study found the opposite.

NOAA October 2026 outlook · WMO · Sri Lanka studies · forecasts and past patterns, not measurements at Mira

Where it goes

12

air conditioners

Probably more than half of the bill

Not measured yet

Dorm units: mostly old

Extra units added for hot rooms

Why it is so hot

Sun, roof and what was seen

Sun and building

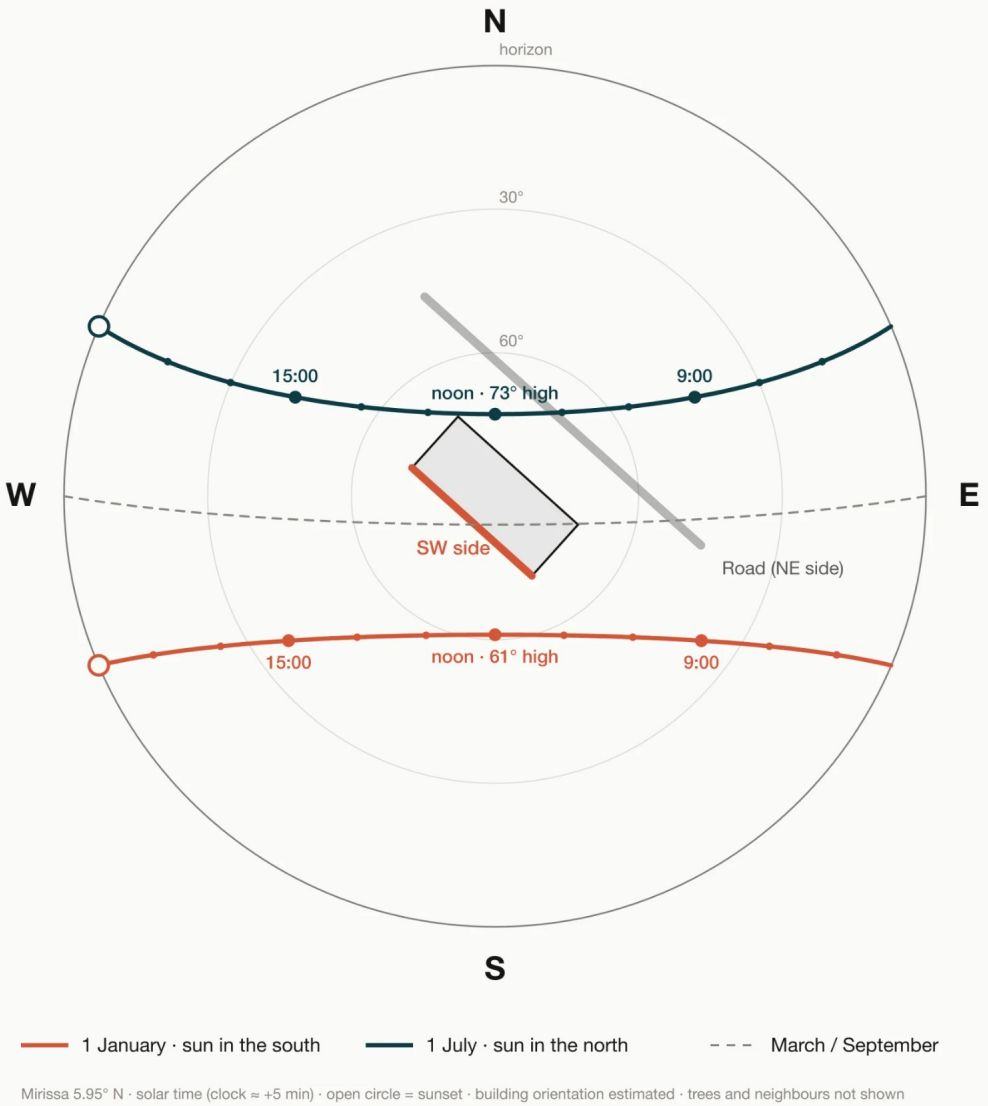
8 h

of sun a day on the SW side in January

about 5 h in July

Noon sun 61–73° high: the roof gets the most

Calculated for Mirissa · trees and neighbours not counted



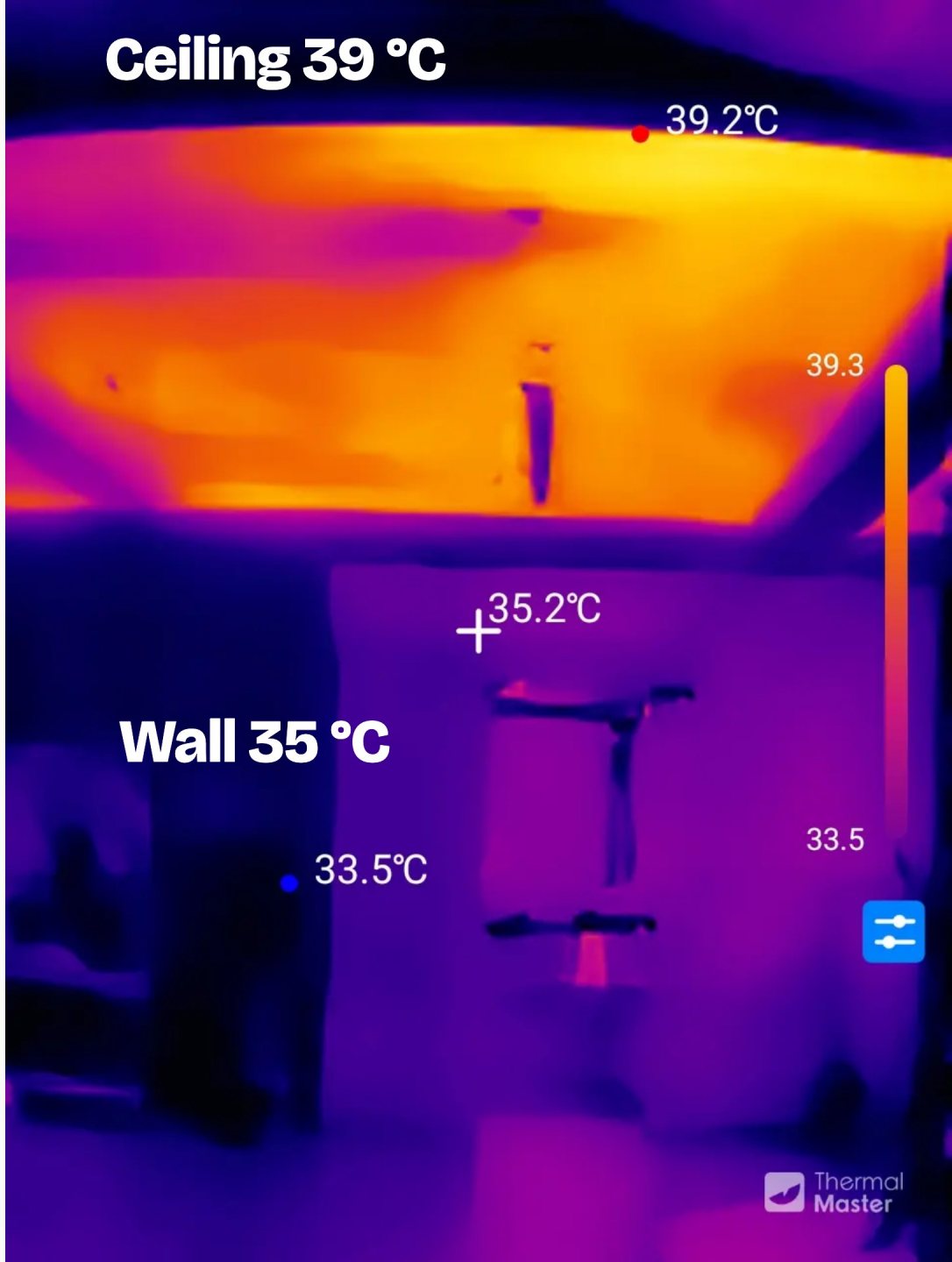
Mirissa 5.95° N · solar time (clock ≈ +5 min) · open circle = sunset · building orientation estimated · trees and neighbours not shown

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The roof heats the room

+4 °C

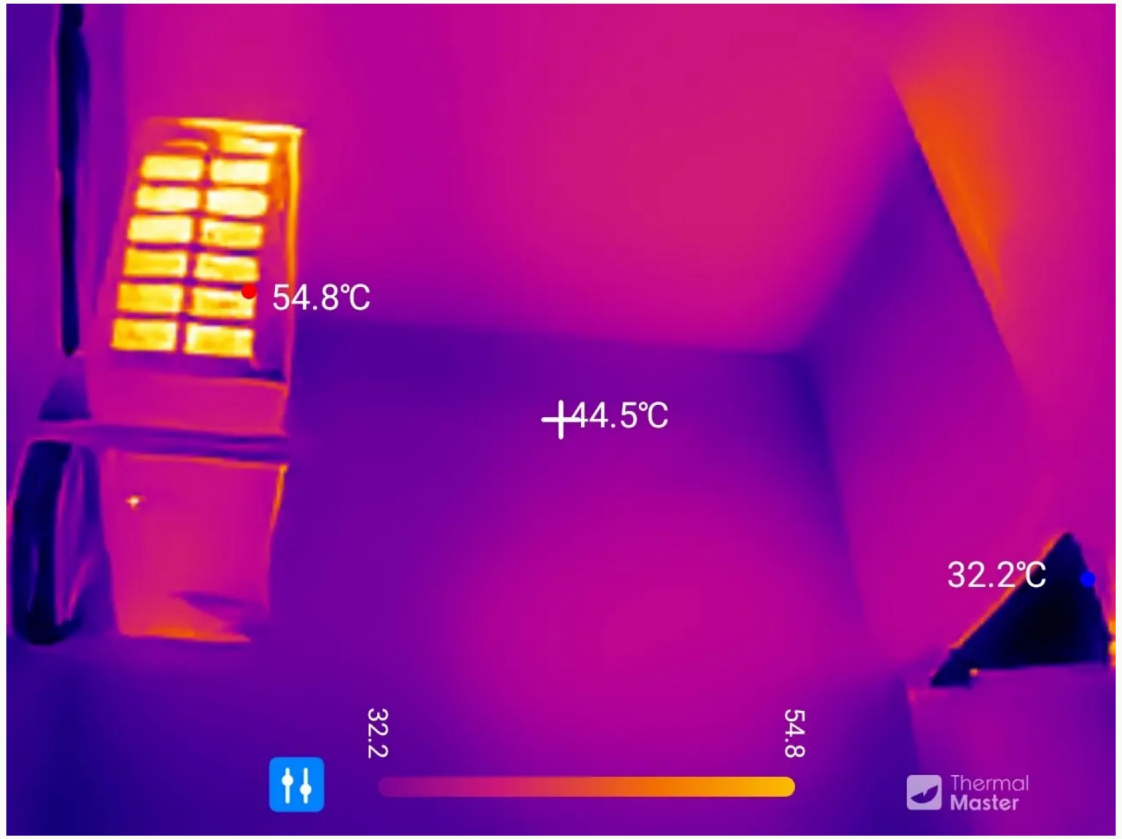
Yoga room · thermal camera · surface temperatures



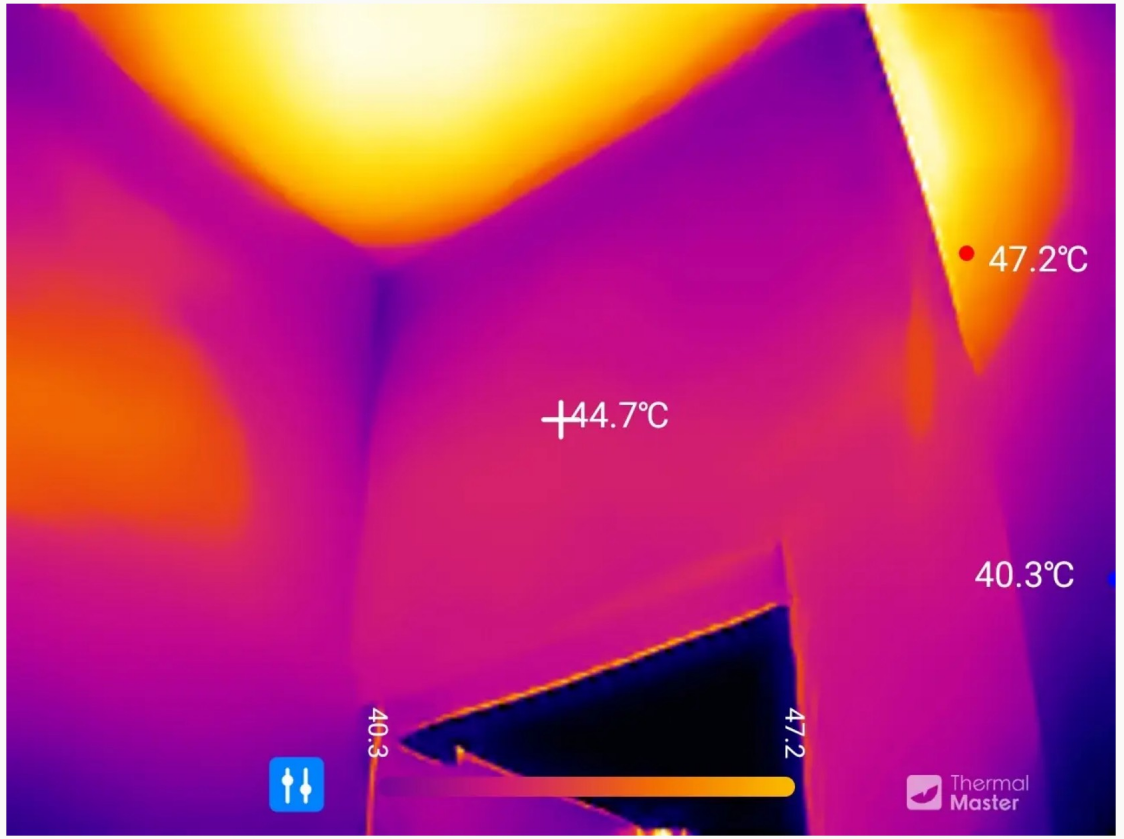
Heat with nowhere to go

Breakout stairwell · no exit for hot air

Thermal camera · surface temperatures



Outdoor unit 55 °C



Walls 45 °C

Ceiling 47 °C

The yoga room

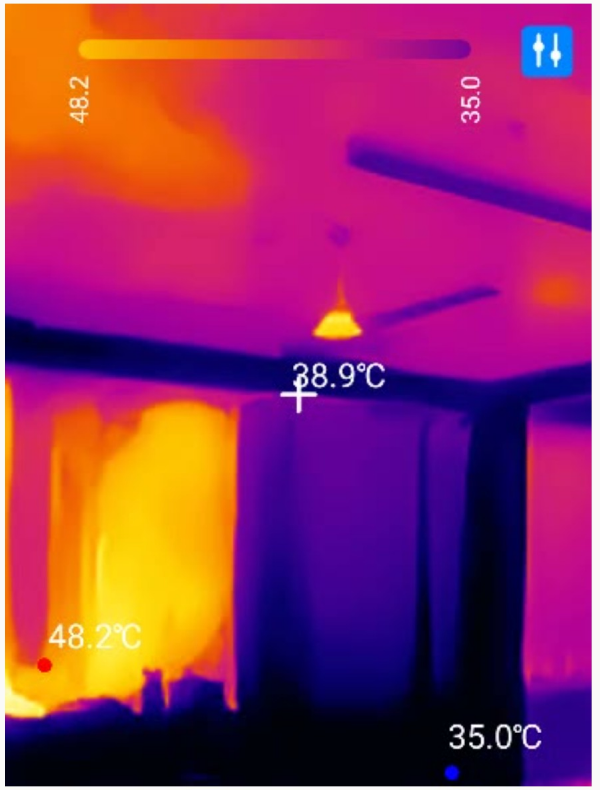
One room, two classes

Two ACs on for every class

Big SW windows · no fans, no fresh air



Yoga room



Thermal camera: windows and ceiling

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What was seen

1. Doors open, AC on
2. AC on, room empty
3. ACs left on
4. Hot roof
5. Afternoon sun on glass
6. Trapped hot air at the outdoor unit
7. Old ACs, no smart control

Two ways to cut the bill

Keep heat out

Roof · windows · divider · outdoor unit

By quote

Use the AC less

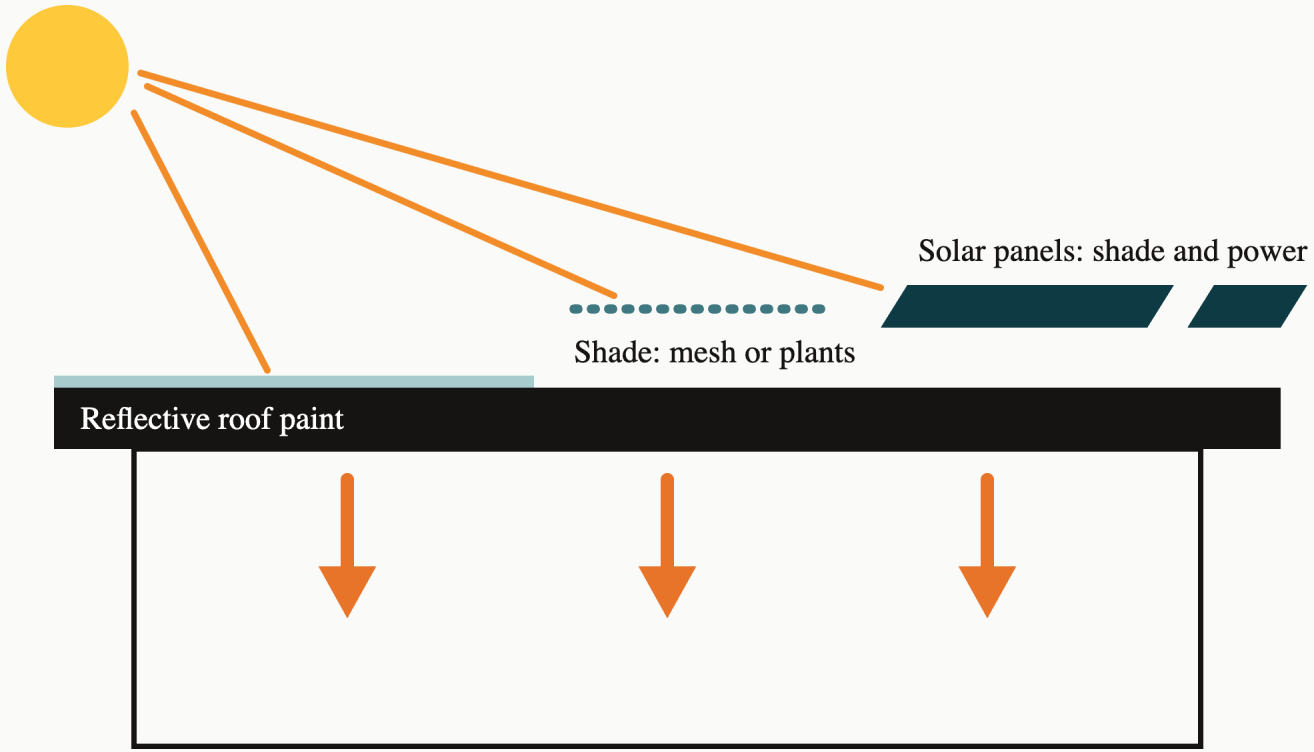
Habits · door closers · timers · controls

Priced

Keep the heat out

Roof · windows · divider · outdoor unit

Roof



Cool roof: up to 14 °C cooler surface, about half less roof heat

Zingre et al. 2015 · Singapore · model tested on two apartments

Solar panels as shade: about 60% less peak roof heat by day

Dominguez et al. 2011 · San Diego · field measurement

Next: check the roof · quote · thermal camera before and after

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Roof: three options

By quote

Example photos · not Mira



Reflective roof paint



Shade mesh on poles



Solar panels on a frame: shade and power

Reflective roof paint

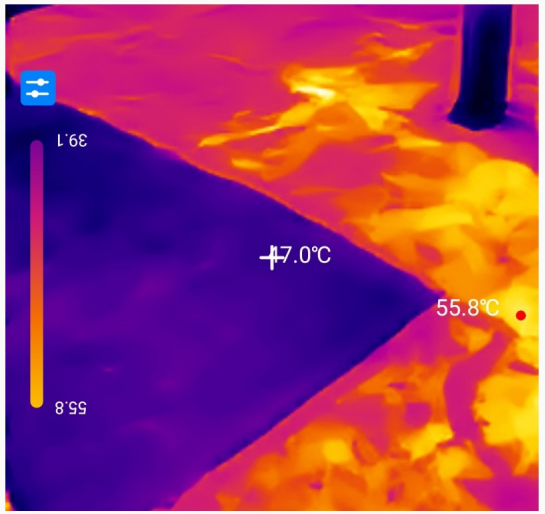
Measured at Mira · small study

Ceiling below: 34 °C instead of 40 °C

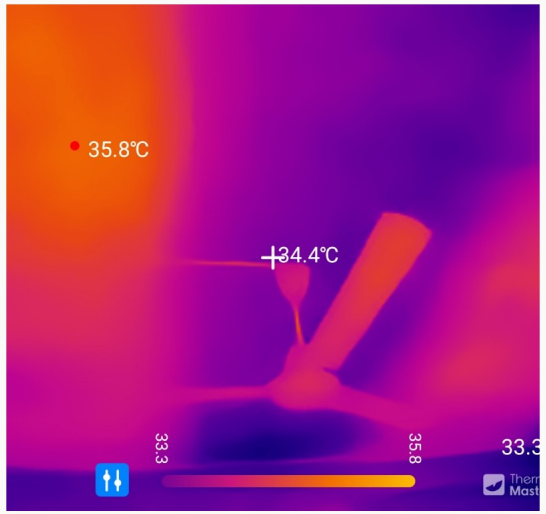
Part of the roof painted with simple white wall paint. Felt with bare feet, and measured with a thermal camera.



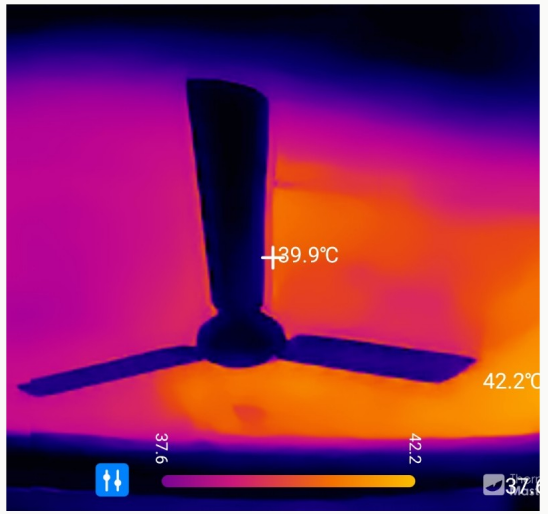
Roof: painted part



Roof: thermal camera



Ceiling under painted part



Ceiling under unpainted part

Windows

SW glass

Solar film outside: about 44% less sun heat through the glass

Yin et al. 2012 · Shanghai · calibrated simulation

Clear film keeps the view

Or: outside sun screens, down when the room is empty

By quote

Yoga divider



Open: one big room



Closed: one AC instead of two for a reformer class

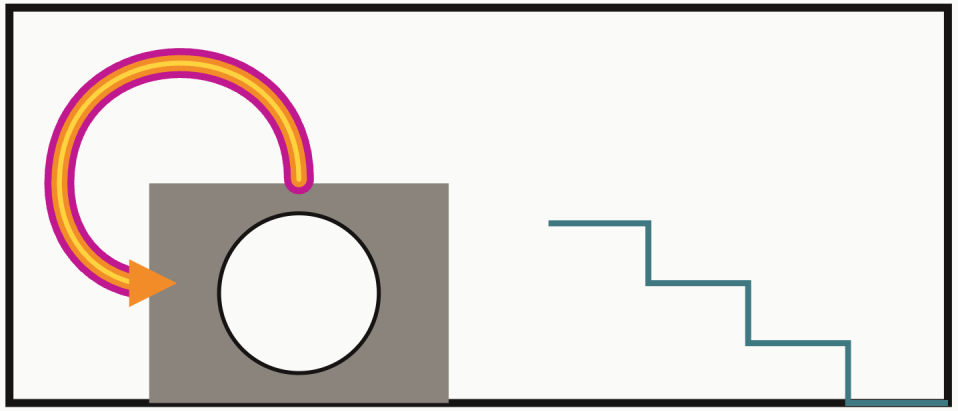
Saving: depends on the class timetable



Example: folding glass divider

The outdoor unit breathes its own hot air

An AC works harder when the air at its outdoor unit is hot



1 · Log the air at the unit for one day · free

2 · Only if it is hot: move the unit or add an extract fan

3 · Quote

Use the AC less

Habits · door closers · timers

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Free actions

Setpoint about 25 °C, checked with thermometers

Clean filters every 2–4 weeks

AC off while cleaning, doors closed

LKR 5,000–12,000 / month

Estimate

Door closers

21×

More outside air with the door open than closed

Same AC, same setpoint: the room stayed 5 °C warmer

Lee 2019 · measured in a shop with AC, Japan

First 7 closers: Dorm 1, Dorm 2, coworking

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Smart remotes



Sends the AC's own remote signal on a timetable · works with old ACs · normal remote still works

Coworking

business hours only

Breakout

off overnight

Yoga 1 and 2

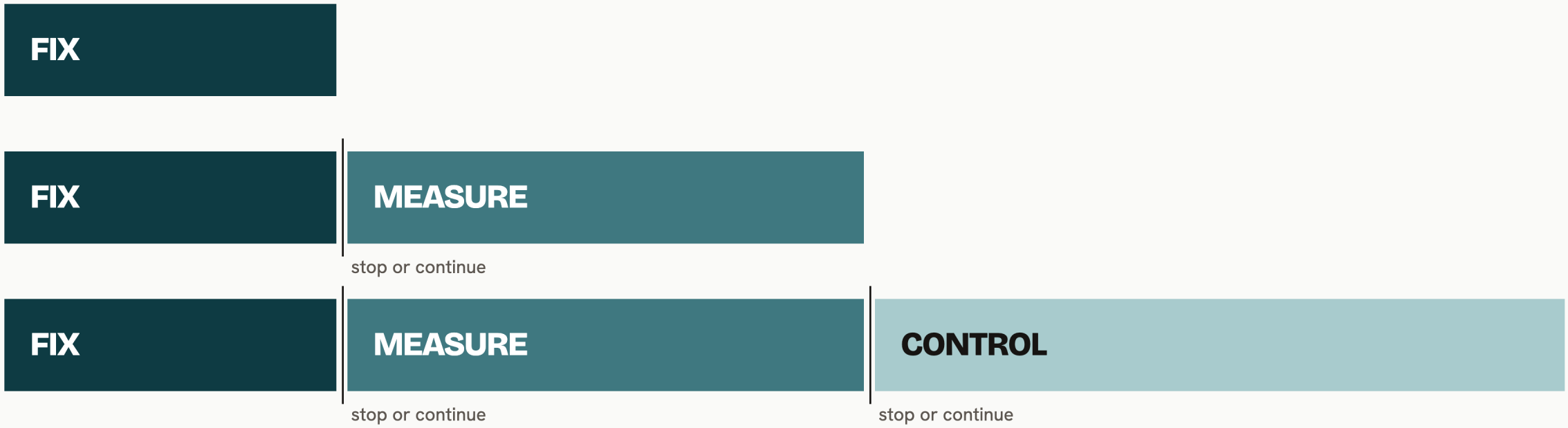
on 15 min before class, off 5 min before the end

First 3 weeks: staff note which ACs run in empty rooms

The plan

Three steps, priced

Three steps


FIX
FIX
MEASURE
stop or continue
FIX
MEASURE
CONTROL
stop or continue
stop or continue

Step 1 · Fix

LKR **46,000**

Rough estimate · at cost, no markup

Saves

LKR 10,000–22,000 / month

Estimate

7 door closers

4 smart remotes

Free actions

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Step 2 · Measure

+ LKR 114,000

160,000 including Fix

Rough estimate · at cost

Saves: nothing by itself

Gives: the real numbers

Power meters, door sensors, thermometers in 2 dorms

Nothing is switched

Step 3 · Control

+ LKR 60,000

220,000 including Fix and Measure

Rough estimate · at cost

Adds
LKR 2,000–5,000 / month

Estimate

AC off when a door/window stays open

AC off after 20 min in an empty room (daytime only)

Remote stays in the room · staff can override

Tested with the rule on and off in random 2-day blocks

Optional: +LKR 26,000 for two untreated comparison rooms

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Price

Rough estimate · at cost



LKR	Minimal	Measure · includes Minimal	Control · includes Measure
Equipment	46,000	160,000	220,000
Setup + installation (flat)	50,000	100,000	120,000
Total	**96,000**	**260,000**	**340,000**
Saves per month	10,000–22,000	10,000–22,000	12,500–27,000
Payback (months), all savings	4–9	12–25	13–27
Payback, paid items only	9–19	25–52	22–47

Equipment: rough estimates, rounded, passed through at cost. No markup, no commission. Final amount = actual receipts. Savings: low to high case. Building options (roof, film, divider, outdoor unit) not included: by quote. Excludes ongoing support.

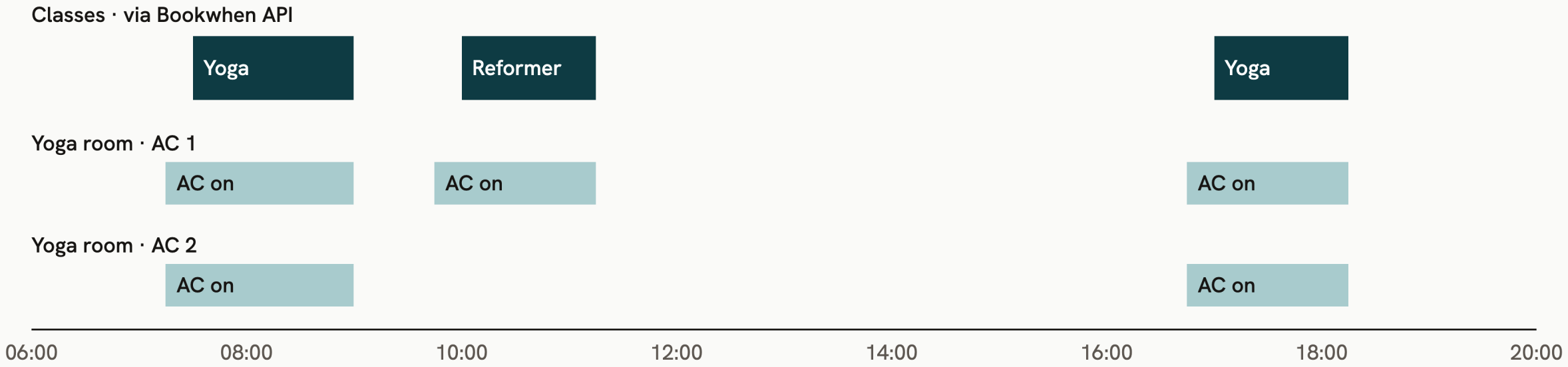
Connected

Beyond Step 3: bookings, classes, rooms and guests in one system

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The timetable runs the AC

Example day



On 15 minutes before class, off when it ends

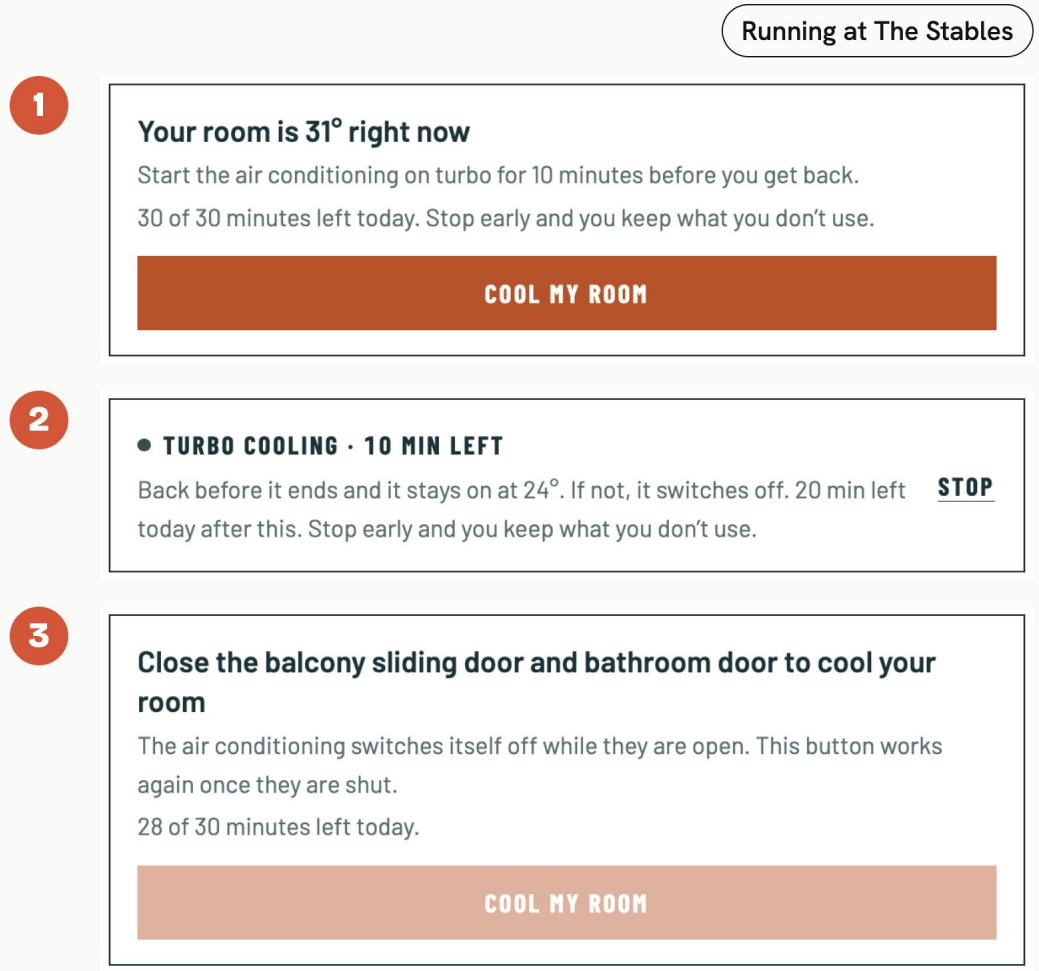
A reformer class needs one AC, not two. Rooms work the same way, from the bookings in Cloudbeds: check-in cools the room, check-out switches it off.

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Guests cool their own room

1. From the beach, one tap starts 10 minutes of turbo cooling
2. Back in time: it stays on. Nobody back: it switches off
3. Door or window open: the AC stops, and the page says what to close

The Stables · stay page, sent on WhatsApp at check-in · no app, no login



Each room, live

Running at The Stables

AC: on or off, set and room temperature

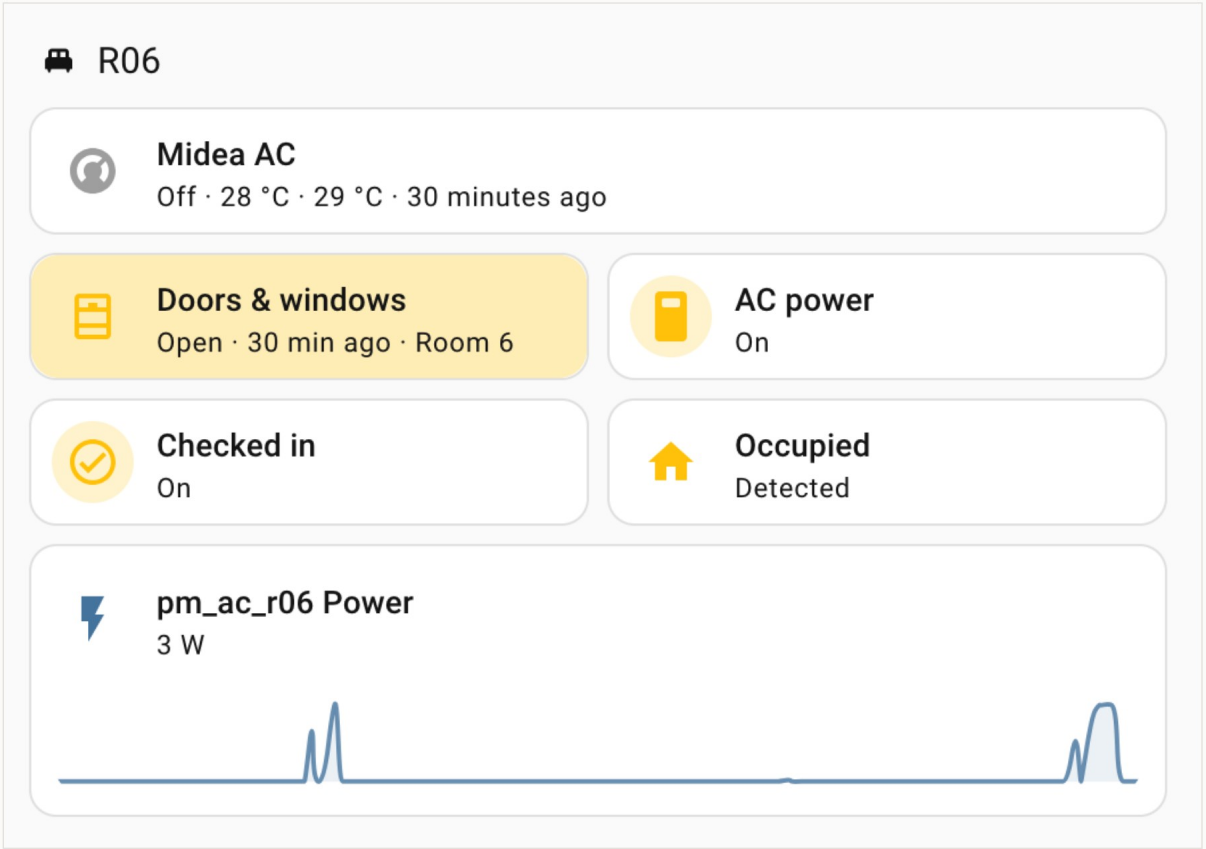
Doors and windows: open or closed

Checked in: from the bookings

Occupied: someone is in the room

AC power: live, in watts

Bookings and the building on one screen

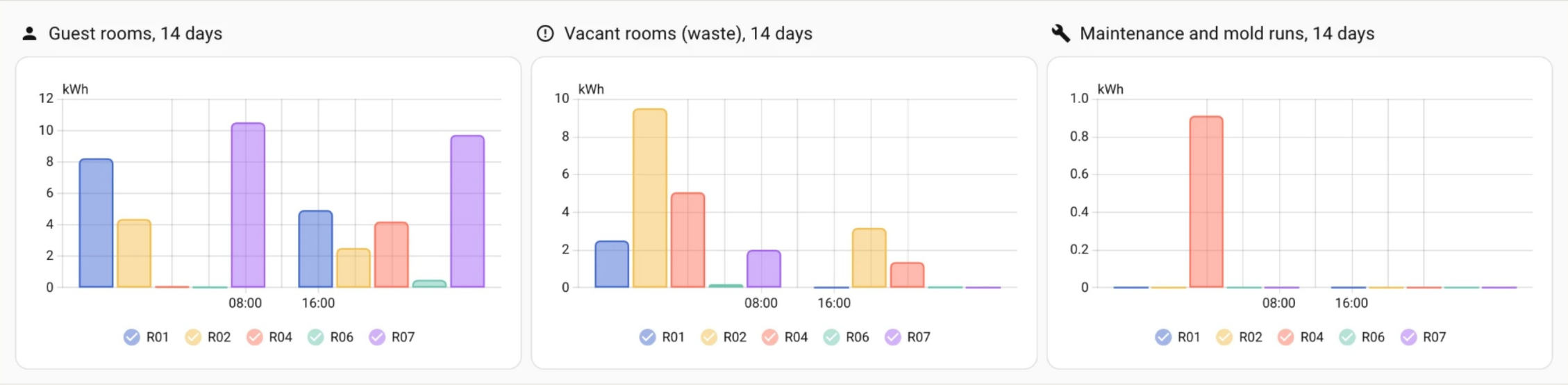


The Stables · room 6 · building dashboard

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Every kWh is labelled

Running at The Stables



The Stables · AC energy per room, 14 days · guest rooms, vacant rooms, maintenance and mould runs

An AC running in an empty room shows up as waste

The system knows who is checked in. Housekeeping cooling a room with the doors open counts as vacant, not as guest use.

Messages to the guests in the house

The system knows who is staying, so each message reaches only the guests it concerns.

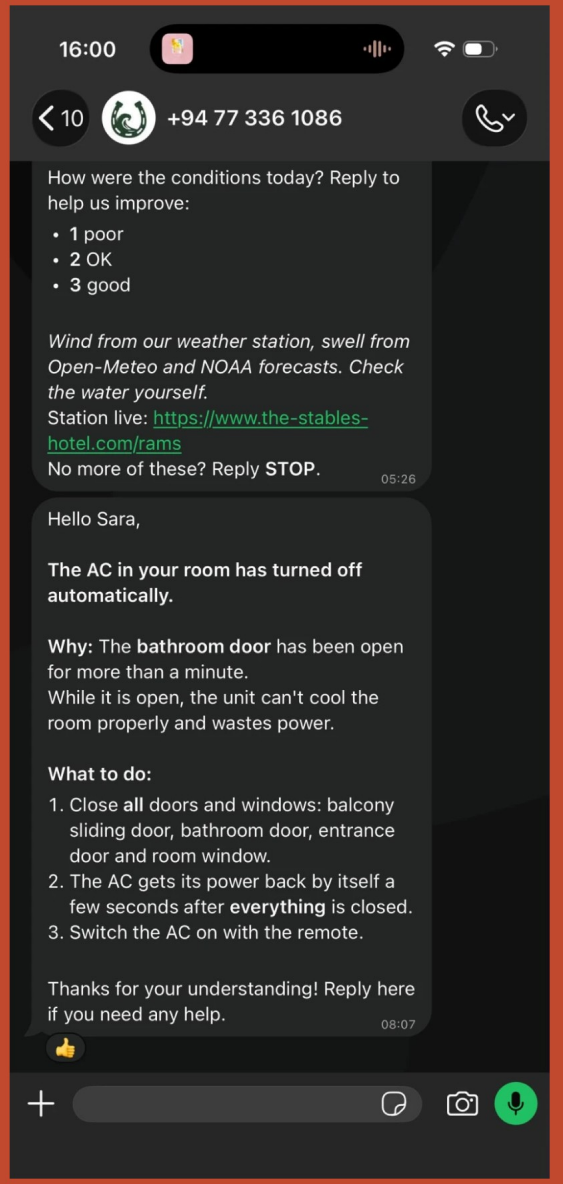
Running at The Stables

AC turned off — Which door or window is open, and what to do

Surf check at dawn — Worth getting up? From the hotel's own weather station

Power cut tomorrow — From the power company's calendar: charge your devices

Poya tomorrow — No alcohol sold. Sent the day before



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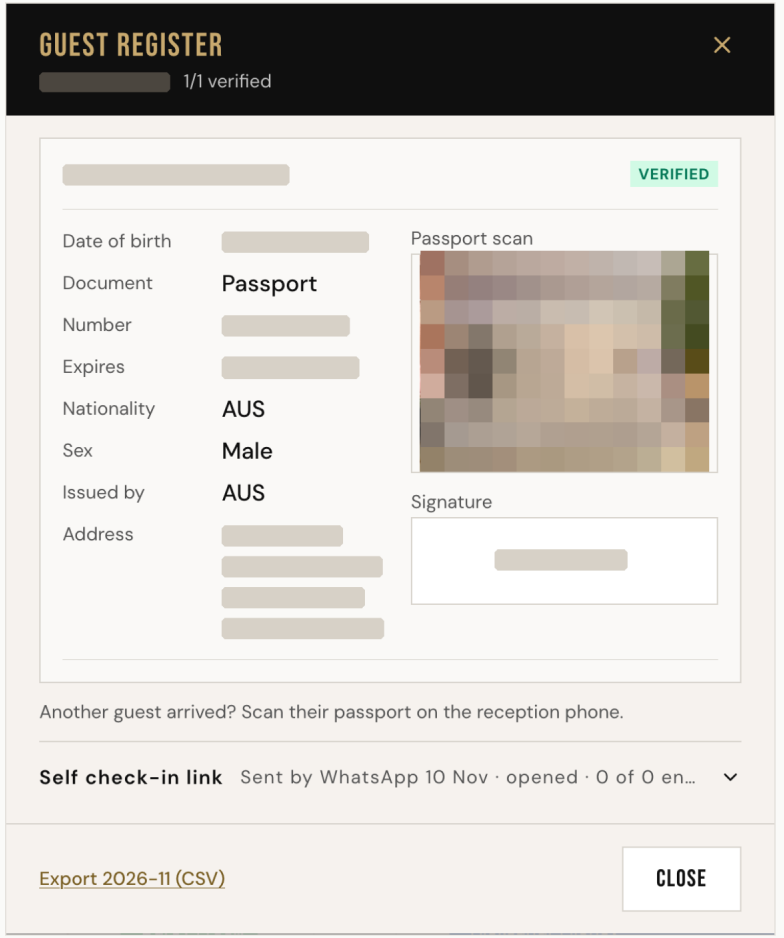
Passport check-in

Same system, beyond energy | Running at The Stables | Not priced for Mira

1. Before arrival: a WhatsApp link lets guests scan their own passport
2. Not done yet? Reception scans it on the phone at the desk
3. Either way the form fills itself in (read from MRZ). Reception checks and taps Verify

The SLTDA guest register, complete and ready for inspection

Passport read on the phone, not uploaded for reading · check digits verified · images deleted after a year · personal data hidden in this screenshot



What next

What is known and how it starts

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What is known, what is not

Know

The bill

The tariff

Hot roof and stairwell (measured)

What was seen on site (sun, open doors, AC on in vain)

Don’t know yet

How much goes to AC

How long ACs run idle

How much each fix saves here

Measured results are reported, whatever they are

The tariff

36

LKR / kWh · tariff (General Purpose)

18

LKR / kWh · Hotel tariff

Eligibility decided by EDL and SLTDA

The plan is calculated at 36

Ask EDL and SLTDA in writing: tariff and solar scheme

Next steps

Short visit: doors and AC labels

3 weeks: read the meter daily, change nothing

Free actions + Fix

Before vs after

Decide the next step

In parallel

Building quotes

Tariff and solar scheme: ask EDL and SLTDA in writing

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Appendix

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Bills, 2026

Month	Days	kWh	kWh / day	LKR
Jan	31	2,769	89	98,201
Feb	31	2,768	89	98,166
Mar	27	6,948	257	243,930
Apr	33	9,529	289	343,575
May	31	7,305	236	271,419
Jun	30	6,414	214	238,466
Jul	29	5,993	207	222,921
Aug	31	5,514	178	205,235
Sep	32	7,535	235	279,856
Oct	29	6,380	220	237,210
Total	**304**	**61,155**	**201**	**2,238,980**

EDL bills, month of the bill. LKR = month's charge incl. levy (October total due 237,207 after a −3 adjustment). Tariff LKR 34 / kWh until March, 36 from April.

Green on the roof



Real plants: bare roof 57 °C, under the garden 27 °C

Wong et al. 2003 · Singapore · field measurement



Artificial grass: no cooling, gets hotter than real grass

Devitt et al. 2008 · Las Vegas · field measurement

Roof must carry the weight · needs water

Example photos · not Mira

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Solar: rough numbers

About a fifth to a quarter of the bill

Estimate

Option	Roof	Saves LKR / month	Cost LKR	Payback
10 kWp, no battery	about 70 m^2	43,000–48,000	1.8–2.8M	3–5 years
15 kWp, no battery	about 100 m^2	52,000–71,000	2.7–4.2M	3–7 years
15 kWp + 15 kWh battery	about 100 m^2	62,000–68,000	4.1–7.0M	5–10 years
If all power must be sold to the grid (Net Plus)				
10 kWp		27,000–30,000 / month		5–9 years
15 kWp		34,000–37,000 / month		6–10 years
Battery		no gain		

Battery adds little: daytime use takes most of the power.
Which scheme applies: to ask EDL in writing.

Yield 1,576 kWh per kWp per year (Global Solar Atlas) · PUCSL feed-in tariffs Aug 2026 · installer prices 2026, quotes needed

Sources

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2. Roof, solar panels: Dominguez A., Kleissl J., Luvall J.C. (2011). Effects of solar photovoltaic panels on roof heat transfer. Solar Energy 85(9). doi:10.1016/j.solener.2011.06.010. Field measurement, San Diego, USA.

3. Windows, solar film: Yin R., Xu P., Shen P. (2012). Case study: energy savings from solar window film in two commercial buildings in Shanghai. Energy and Buildings 45, 132–140. Calibrated simulation.

4. Door closers: Lee S. (2019). Study on energy loss through door open while air conditioner running in commercial store. IOP Conf. Series: Materials Science and Engineering 609, 032069. doi:10.1088/1757-899X/609/3/032069. Measured in one shop, Japan.

5. Green roof: Wong N.H., Chen Y., Ong C.L., Sia A. (2003). Investigation of thermal benefits of rooftop garden in the tropical environment. Building and Environment 38(2), 261–270. doi:10.1016/S0360-1323(02)00066-5. Field measurement, Singapore.

6. Artificial grass: Devitt D.A., Young M.H., Baghzouz M., Bird B.M. (2008). Surface temperature, heat loading and spectral reflectance of artificial turfgrass. Journal of Turfgrass and Sports Surface Science 83, 63–82. Field measurement, Las Vegas, USA.

7. Tariff: PUCSL electricity tariff schedule, effective 11 May 2026.

8. Bills: EDL bills, January to October 2026. Thermal images: StillCurrent thermal camera, Mira, October 2026.

9. Solar yield: Global Solar Atlas (World Bank / Solargis), PV output for 5.948° N, 80.456° E: 1,576 kWh per kWp per year, accessed 5 November 2026.

10. Solar export rates: PUCSL, Decision on Feed-in Tariffs effective 25 August 2026 (valid to 24 February 2027). Net Plus for new connections: Ministry of Energy, reported by pv magazine, 22 September 2026.

11. Solar prices: Sri Lankan installer price lists, 2026. Estimates until quotes exist.