



Solar Energy for Sustainable Solution

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Running a 24-hour miner on solar

How to cover a 3.75 kW crypto miner with solar, starting from an 8 kW hybrid inverter, 13 kWp of panels and a 48 kWh battery.

Miner every day

90 kWh

$3.75 \text{ kW} \times 24 \text{ h}$

Needed at night (18:00–08:00)

≈ 52 kWh

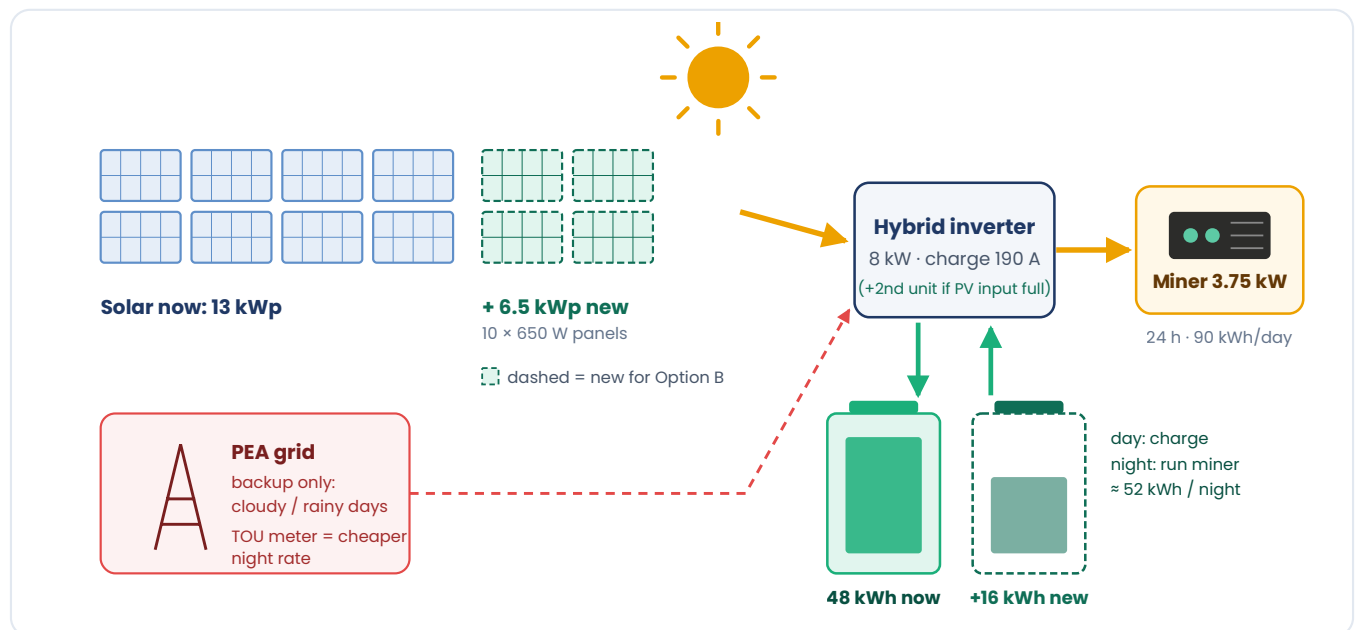
must come from the battery

So the system needs

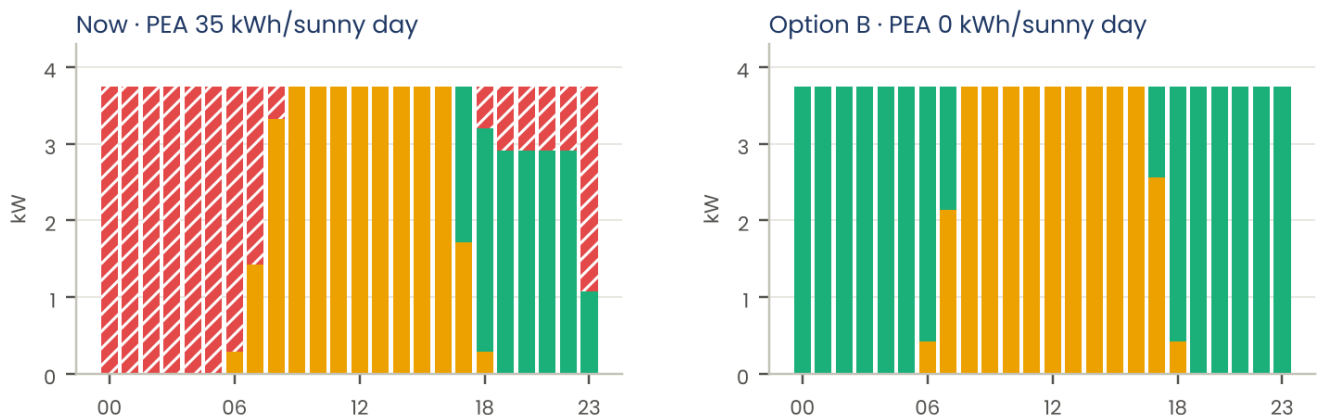
PV + battery + fast charging

to fill the battery in sunny hours

Option B: the recommended system



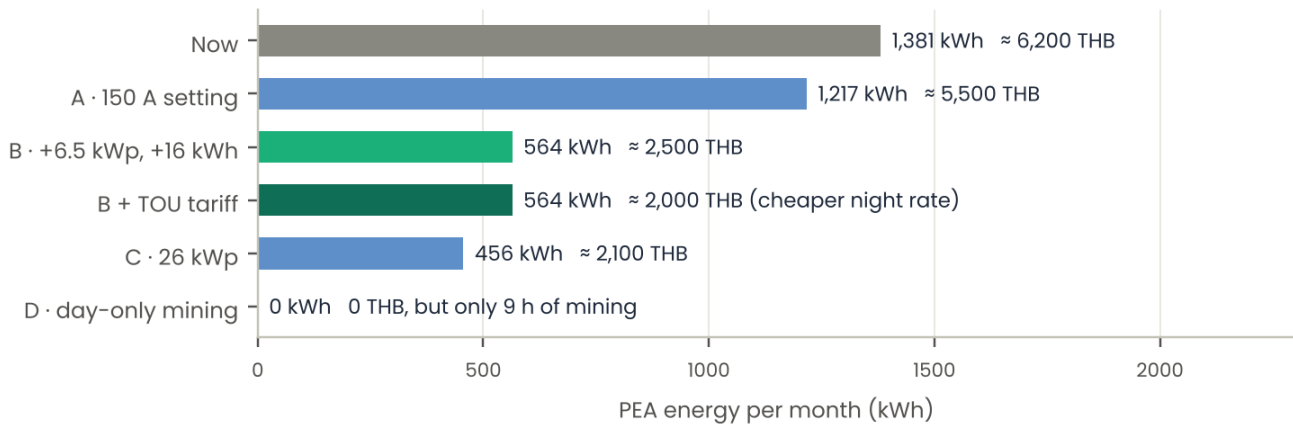
A sunny day: now vs Option B



Yellow = solar, green = battery, red = PEA. Now, the battery is empty by 23:00 and PEA runs the night. With Option B, the bigger battery and faster charging carry the miner through to the morning sun.



PEA use per month for each option



20 sunny + 10 cloudy days a month, ≈ 4.5 THB/kWh (TOU night rate lower). Check the actual PEA rate on the bill.

Three steps

1 Today, free

Raise the battery charge/discharge current from 60 A to 150 A (within inverter and battery limits).

PEA -12%

2 Option B upgrade

Add ≈ 6.5 kWp of panels (10 × 650 W) and one 16 kWh battery; set charging to ≈ 190 A. Add a second inverter if the PV input is full.

PEA -60% · 0 on sunny days

3 TOU meter

Ask PEA to switch to a TOU (time-of-use) meter. The PEA power left over is mostly at night, at the cheaper off-peak rate.

Bill ≈ 2,000–2,500 THB/month

Why not 100% solar all year? On cloudy and rainy days the panels give about a third of normal output, so PEA still supplies ≈ 45–55 kWh on those days. Removing PEA completely would need about twice the panels and batteries, which does not pay back. Bigger than Option B, extra panels mostly go to waste on sunny days because the battery is already full.

Electrical: dedicated 25 A breaker and THW 4 mm² cable for the miner; IEC C19/C20 cords are rated 16 A, so use a 20 A-rated cord or hard-wire. Connect the miner on the grid side, not the inverter's backup output.