

PRACTICAL ELECTRICAL KNOWLEDGE

# Solar PV & Net Metering

kWp, specific yield, and how net metering turns rooftop sun into a credit on the bill.

# How much will a roof **actually** make?

It is not the panel rating — it is the rating times the local yield. In Saudi sun, one kWp delivers far more than in cloudy climates.

DEFINITION · 1 OF 2

# kWp

Peak DC capacity at **STC**.



Rated at 1000 W/m<sup>2</sup>, 25°C. **The nameplate** — not what you get on a hot afternoon.

DEFINITION · 2 OF 2

# Net Metering

Surplus exported, **credited back.**



Per the Saudi small-scale PV scheme. **The meter runs both ways** and you net the difference.

THE ESTIMATE

$$\text{kWh/yr} \approx \text{kWp} \times \text{specific yield}$$

In the Kingdom the specific yield is roughly 1,600–1,900 kWh per kWp per year. Multiply by system size for a first-pass annual figure.

# One roof. Three scales.

System size by segment (illustrative).

## RESIDENTIAL

Villa rooftop

**5-20**

kWp

## COMMERCIAL

Warehouse / mall

**100**

kWp+

## UTILITY

Solar farm

**MW**

scale

# PV numbers you can screenshot.

Typical design figures for KSA rooftop PV (illustrative).

Specific yield

**~1,750** kWh/kWp

Performance ratio

**~0.80**

Module efficiency

**20–22** %

Temp. coefficient

**-0.35** %/°C

Inverter efficiency

**~98** %



# Sizing to the roof, not the bill.

Net metering credits surplus, but over-sizing past your own consumption can leave value on the table. **Match generation to load profile** and the scheme's export rules first.

NEXT TIME YOU SCOPE A PV SYSTEM

# Start from **load**, then **yield**.

Size to consumption and roof, estimate annual kWh from local yield, then check the net-metering terms.

- ✓ kWp vs annual consumption
- ✓ Specific yield & performance ratio
- ✓ Net-metering eligibility & export cap

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