



**Tawanai Energy**

**Reliable power for  
existing generator  
users.**

**Large home and office 5kw solution.**

**All items included with installation.**

**Prices and estimates are based on our own experience gained from actual installed and delivered systems.**

You shall be charged the actual costs because our project management charges are fixed and separated from the items in the project.

**5KW inverter hybrid**

**48V Battery 280 Ah**

**460 watt modules x 4 for 1840 watt array.**

Updated on : 23 June 2022

Fixed Amounts :

Project management : **Rs 75,000**

Electrician : **Rs. 75,000**

Inverter : **Rs 77,500**

MaxPower Sunglow VMII 5KW Rs 77,500

MaxPower 5KW INFINI VII Rs 84,525

Solar Module Frames : **Rs 12,000**

Batteries : Rs 110,000

Phoenix Tubular Lead Acid Battery TX3500 09 Plates 280 Ah

$52,000 \times 4 = 108,000 + 2,000 \text{ transport} = \mathbf{110,000}$

<http://web3.atrc.net.pk/products/tawanai/batteries/tawanai%20battery%20prices%2017%20june%202022-1.pdf>

Wooden box cover for batteries : Rs **40,000**

Solar Modules : Rs 128,800 + 5000 transportation = **133,800**

**75000 + 75000 + 77500 + 12000 + 110000 + 40000 + 133800 = \**  
**Rs. 523,300**

Fixed total : Rs. 523,300

Ranges :

DC breakers, fuses and wiring : Rs 10,000 – Rs. 20,000

AC Wiring, parts and wiring fix range : Rs. 30,000 to Rs. 120,000

Solar Array wiring range : Rs 20,000 – Rs 50,000

Ranges minimum : 50,000 Maximum : 190,000. Difference = 140,000

Total range :

Minimum :  $523,300 + 50,000 = 573,300$

Maximum :  $523,300 + 190,000 = 713,300$

1 Ton split air conditioner inverter based with UPS option Rs. 100,000

Contact : + 92 343 270 2932

Email [tawanai@atrc.net.pk](mailto:tawanai@atrc.net.pk)

Web : <http://atrc.net.pk/tawanai>

## **Elevated steel structure.**

Usually Rs 20 - 25 per watt for 10 KW.

Higher rate for less watts. Depends on design.

Considerations are safety and design for wind loads.

## **Return on investment**

This system shall save about Rs 300 per day and has an ROI of about 5.4 years if there is no utility power failure.

If the load shedding is 5 hours per day and you used a diesel generator to cope, then this system shall save about Rs 500 per day and has shall have an ROI of about 3.3 years.

These estimates are based on our experience. Please understand that it is an estimate and based on our measurements of delivered systems so far.

Every system and case is different and the savings could be more or less depending on how it is used and how much load shedding occurs in your area.

We can upgrade the system to meet any unexpected developments which were not known during the design and implementation phase of the system.

We do offer systems in multiple phases so you get an optimized spending instead of having to spend all of your resources in one installation. You can choose to do it in one phase or multiple. We shall guide you in the benefits of different choices.

### **Initial visit for feasibility.**

Karachi : Rs. 3000. Can be reduced or eliminated for existing customers and contacts.

For other cities, please get estimate for visit.

We send one of our representatives who shall get the following information for you.

Roof for checking placements of solar array

Routes possible for wires

Existing wiring quality and situation

Estimate wiring required for separations.

List which items are to be on the ups/inverter. Not all are recommended in the beginning.

Location of distribution boxes

Location possibilities for ups distribution box or boxes

Generator location and current wiring and changeovers

KE meter location and Wiring condition

All of your requirements and what you are expecting.

Your bills preferably for last 12 months. Just send pictures.

Timings of use of power during the day.

Please write all these notes and send pictures of the notes so a better analysis and suggestion can be provided.

Send to [khawar@atrc.net.pk](mailto:khawar@atrc.net.pk) or also can be sent via whatsapp.

To WhatsApp at high quality send the picture as a document.

## **Full day visit for detailed measurements.**

Karachi : Rs. 5000.

For other cities, please get estimate for visit.

We send one of our representatives who shall get do detailed measurements.

Labeling of existing wires.

Measurements of all required wires based on initial visit and finalized requirements.

Making of detailed drawings for wiring.

Design of required change overs, breakers, and fuses.

Wiring plan for distribution box or boxes.

Wiring plan for solar modules to inverter.

Wiring fix plan for existing wiring.