



**TAIYANG NEWS**  
**Solar Technology Conference**  
**Upstream Manufacturing-Cells**  
**6<sup>th</sup> Feb 2026**



# About Jakson Group

## India's leading diversified Energy, Renewables & Infrastructure Company



**78+ Years**  
of Trust



~**8000** (Cr.)  
(USD 930 Mn)  
FY25 Revenue



**3500+**  
Employees  
Across Locations



**30+** Offices in India  
**12** Offices World Wide



**75000+**  
Customers  
Served Globally



**100+** Channel  
Partners



**6**  
Manufacturing  
Plants



**AA Rated**  
A1+ ST and AA- LT  
Rating from CRISIL



**1.5+ GWp**  
Renewable  
IPP Portfolio



**9 GWp**  
Renewable  
EPC Portfolio



**5 GWp**  
Solar O&M  
Portfolio



**15000+**  
Annual Genset  
Manufacturing Capacity



**1.2 GW**  
Operating +  
**3GW** Integrated  
Cell & modules  
Capacity



**150 KLPD**  
Biofuel Plant



**300 MW**  
Electrolyser  
Manufacturing  
Capacity



# Our Energy & Infra Spectrum

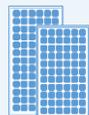


Energy Solutions for Defence Applications

Hybrid & Energy Storage

Solar Rooftop

Generator Sets



Solar PV Module

Solar Cell



Desalination

Electrolyser Manufacturing

Green Molecules

Utility Scale Hybrids

Utility Scale Solar-Storage



Civil Infra

Water Infra

Metro Electrification

Power Distribution

Power Transmission



Ethanol

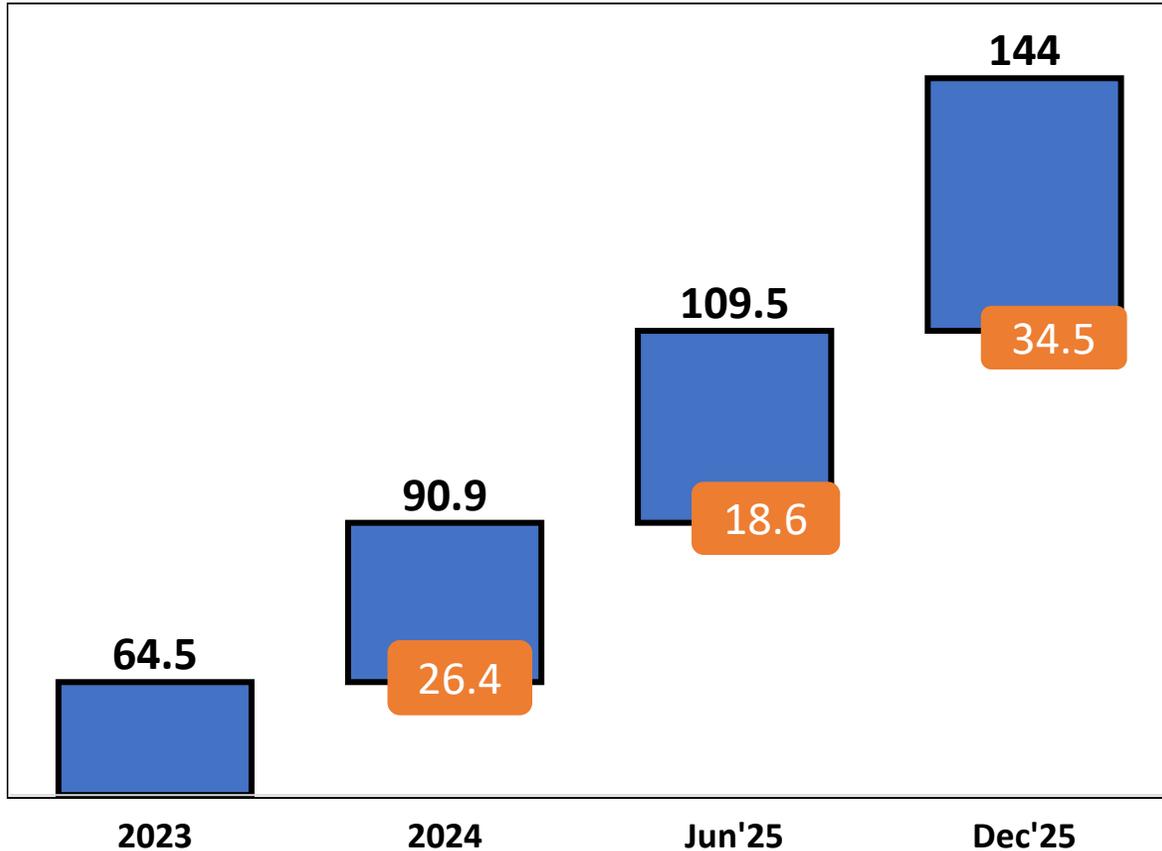
Compressed Bio-Gas



# Recap of Module & Cells Manufacturing in India

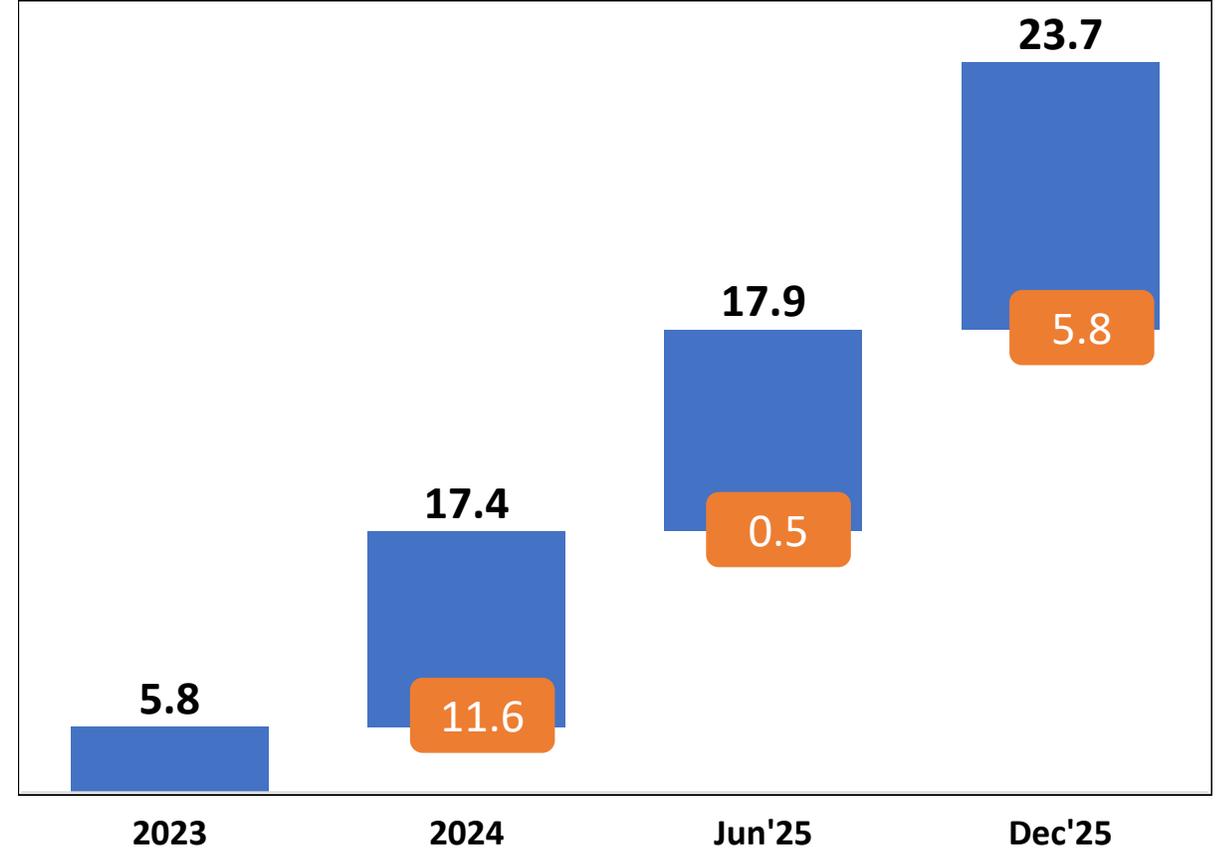


### Module Capacity (GW)



### Solar PV Module Capacity-Trend

### Cell Capacity (GW)



### Solar PV Cell Capacity-Trend

# SOLAR CELL TECHNOLOGIES: PRESENT LANDSCAPE AND FUTURE ROADMAP

## From Conventional Silicon to next generation high efficiency Solar cell

### Current Solar Cell Technologies

### Market Forecast

#### PERC

**Efficiency: 22.5-23.5%**

- ✓ Good rear side passivation and laser contact opening
- ✓ Mature technology
- ✗ Diminishing Efficiency Improvements
- ✗ LID/LeTID Issues

#### TOPCon

**Efficiency: 25.2-25.7%**

- ✓ High efficiency and low degradation
- ✓ Good bifaciality
- ✗ Process Sensitivity
- ✗ High thermal budget

#### HJT

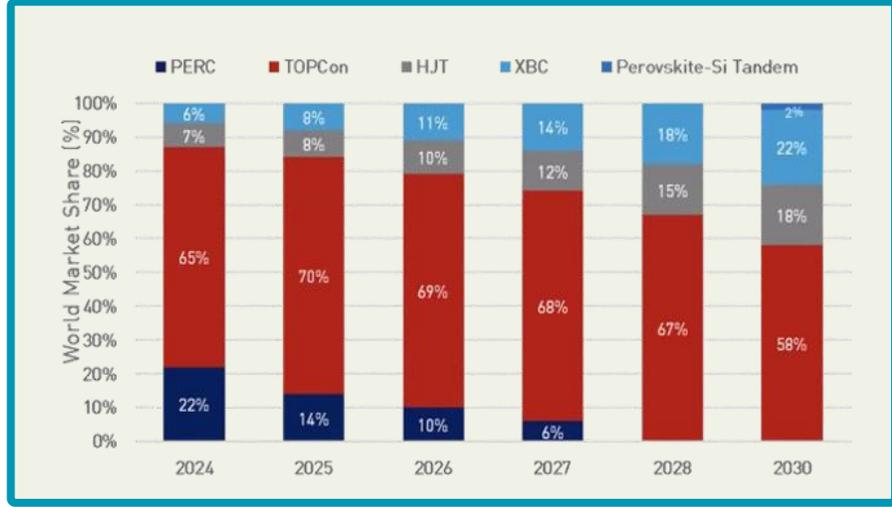
**Efficiency: 25.3-25.7%**

- ✓ Excellent Temperature coefficient
- ✓ Very high bifaciality
- ✗ High CAPEX and Lower throughput
- ✗ Equipment intensive

#### TBC

**Efficiency: 26-27%**

- ✓ Zero front side passivation loss
- ✓ High power density
- ✗ Higher CAPEX than TOPCon
- ✗ Process complexity



Source- RCT

### Future & Emerging Technologies

#### Tandem Solar Cell

#### TOPCon Back Contact

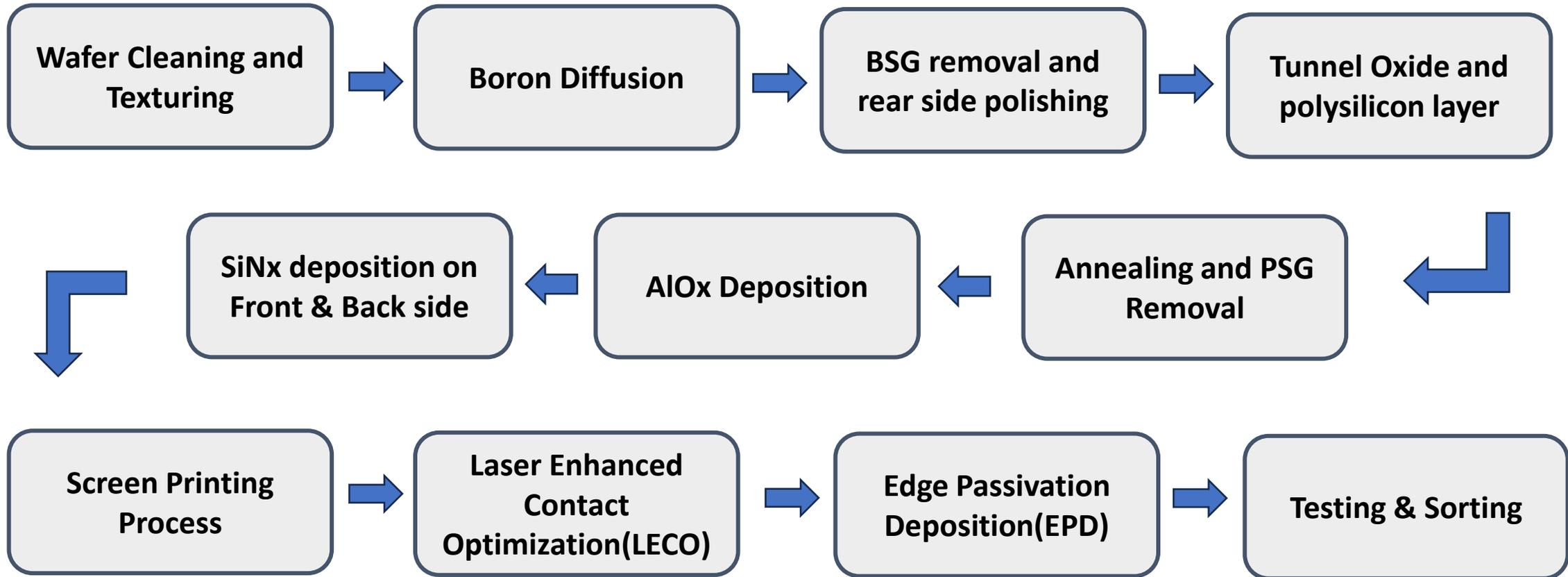
#### TOPCon

#### Future Direction

- Higher efficiency
- Lower degradation
- Lower cost per watt

**TOPCON is Current Leader**

# Process Flow for TOPCon Solar Cell Fabrication



# Challenges for Cell Manufacturing in India



- ***Fast Technology Evolution***
- ***Dependence on Other Nations***
  - ***Technology***
  - ***Equipments for manufacturing***
  - ***Raw Material – Process Gases/Spares/BOM for Cells***
- ***Economical and Financial Barrier – High Capex***
- ***Shortage of trained process engineers and technicians***
- ***Absence of upstream manufacturing (polysilicon and wafers)***
- ***High logistics and supply-chain Cost***
- ***Long Execution Period – Concept to Ramp Up***

This session will focus  
on Equipments for Cell  
Manufacturing