# GROW TECH

ENGINEERING THE FUTURE OF WASTE & ENERGY

ISO 9001:2015 CERTIFIED

# SOLAR PANEL PYROLYSIS & RECYCLING PLANTS

Turning End-of-Life Photovoltaic Waste into High-Value Reusable Raw Materials and Energy Solutions

Grow Tech is a premier, Faridabad-based engineering company specializing in the design, manufacture, and commissioning of industrial thermal conversion systems. We deliver complete, turnkey Engineering, Procurement, and Construction (EPC) solutions to help businesses extract significant economic and ecological value from complex and hazardous waste streams.

## THE SOLUTION: SOLAR PANEL VALORISATION

Our Solar Panel Pyrolysis Plants utilize controlled thermal processing to cleanly decompose polymeric layers (EVA, Tedlar) encasing solar PV cells, allowing clean structural separation. This solves the rising global challenge of photovoltaic waste disposal, avoiding land contamination and enabling near-total resource recovery.

### ELIGIBLE FEEDSTOCKS

- **End-of-Life PV Modules:** Decommissioned utility, commercial, & residential solar panels.
- **Damaged & Defective Cells:** Post-industrial rejects and panels broken during logistics.
- **Thin-Film & Silicon Scraps:** Solar manufacturing waste and trim off-cuts.

### HIGH-VALUE OUTPUTS

- **Recovered Silicon & Metal:** High-grade silicon wafers, silver, copper, and clean aluminum frames.
- **Pure Glass Fraction:** Undamaged, cleanly separated sheet glass ready for direct recycling.
- **Syngas & Heavy Oil:** Condensed fuels and combustible gases reused to power the plant.

## SUSTAINABLE & ECONOMIC IMPACT

**Circular Economy Excellence:** Combustible syngas recovered from the polymer decomposition process is dynamically routed back into the plant's thermal combustion chamber as a continuous heat source. This self-sustaining loop drastically minimizes external utility costs and maximizes operational profitability.

**Carbon Sequestration & Offsets:** Recovering silicon, glass, and metals through low-emission pyrolysis generates significant greenhouse gas offsets compared to mining virgin resources. Projects qualify for high-yield carbon credits and green manufacturing certifications worldwide.

**Resource Independence:** Re-routing critical elements like high-purity silicon, copper, and silver back into local semiconductor and photovoltaic supply chains provides strategic economic immunity against raw material cost volatility.

## WHY PARTNER WITH GROW TECH?

- **Turnkey EPC Accountability:** We handle the full project lifecycle under a single contract—spanning raw feedstock thermal test runs, customized P&ID designs, manufacturing, on-site installation, and final automation validation.
- **In-House Fabrication Control:** Our dedicated production facility at Pali, Faridabad handles precision heavy engineering of core reactors, condenser columns, and heat exchangers, ensuring rigid QA/QC inspection and accelerated delivery timelines.
- **Certified Quality & Support:** Operating under an ISO 9001:2015 certified process, every system is backed by a 12-month comprehensive warranty, a robust critical spare parts supply chain, and dedicated on-site engineering teams.

## OUR END-TO-END DELIVERY PROCESS

| PHASE | TITLE | FOCUS AREAS & KEY DELIVERABLES |
|---|---|---|
| **Phase 01** | **Feasibility & Scope** | Evaluating module dimensions, calculating polymer-to-glass ratios, thermal pre-testing, and analyzing site footprints. |
| **Phase 02** | **Detailed Engineering** | Drafting specialized system P&IDs, equipment layouts, structural load limits, and thermal mass/energy balance equations. |
| **Phase 03** | **In-House Fabrication** | Precision engineering of the rotary pyrolysis reactor core, condensing systems, and process piping at our Faridabad plant. |

## DELIVERY PROCESS (CONTINUED)

| PHASE | TITLE | FOCUS AREAS & KEY DELIVERABLES |
|---|---|---|
| **Phase 04** | **On-site Installation** | Precision heavy-machinery positioning, structural steel alignment, power/utility interconnection, and piping assembly. |
| **Phase 05** | **Commissioning** | Pneumatic and hydrostatic pressure testing, thermal refractory curing, automation calibration, and gas safety-loop validation. |
| **Phase 06** | **Training & Handover** | Operating standard guidelines, emergency shut-off safety drills, comprehensive manual packages, and full technical handover. |

## FACILITIES & GLOBAL HEADQUARTERS

### REGISTERED OFFICE

**Grow Tech**

SCF-66, Phase 2, Sector 16A
Faridabad - 121006, Haryana, India

**Phone:** +91 89538 45249

**Email:** info@growtech.com

### MANUFACTURING FACILITY

**Pali Heavy Engineering Works**

Plot No. 3, Gali No. 1
Dabua Pali Road, Pali
Faridabad, Haryana, India

**Capabilities:** Pyrolysis reactors, pressure vessels, shell-and-tube heat exchangers, process piping, and heavy structural systems.