

GREEN JOBS



# NEWSLETTER

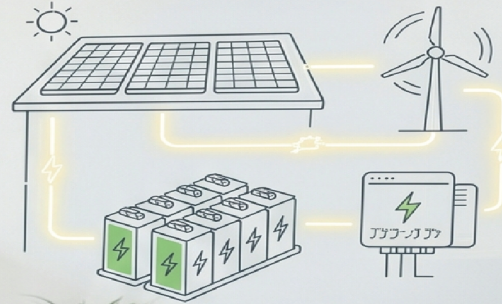
ISSUE 34 | APRIL 2026



**POWER SOURCE:**  
100% Renewables

Solar: 45kW	
Wind: 15kW	
Battery: 91%	
Workshop Usage: 40kW	

## ON-SITE RENEWABLE ENERGY



**FUTURE SKILLS HUB.**  
VOCATIONAL TRAINING & TECHNOLOGY

## ◆ INSIDE THIS ISSUE

01

### Message From the CEO's Desk

A word from the leadership — vision, milestones, and the road ahead for SCGJ in the coming quarter.

PAGE

02

02

### SCGJ Statistics

Key performance indicators, training numbers, certifications issued, and sector-wise progress

PAGE

04

03

### Current Projects and Training

An overview of ongoing green skills projects, active training programmes, and partnerships MOU signings driving impact on the ground.

PAGE

15

04

### SCGJ Activities

Highlights from events, workshops, stakeholder engagements, and outreach conducted this quarter.

PAGE

18

05

### Insights

Articals and informations .

PAGE

28

*This newsletter is published by the Skill Council for Green Jobs (SCGJ) to keep stakeholders informed of our progress, partnerships, and impact in building India's green workforce.*

## FROM THE CEO'S DESK



It is a privilege to share an update on our organization's continued progress and evolving priorities. We remain firmly guided by our commitment to excellence, innovation, and the creation of meaningful, long-term value for all stakeholders.

In the recent period, we have made steady advancements across our key areas of focus. Our efforts have been directed toward strengthening institutional capabilities, enhancing operational effectiveness, and delivering outcomes that are both measurable and sustainable. Through a combination of strategic clarity and disciplined execution, we continue to position ourselves to respond effectively to emerging opportunities and challenges.

Our progress is a direct reflection of the dedication and professionalism of our teams. Their commitment to quality, integrity, and collaboration has been instrumental in sustaining momentum and achieving our objectives. I extend my sincere appreciation to each member of the organization for their invaluable contributions.

We also remain deeply appreciative of the trust and engagement of our partners and stakeholders. Your continued support enables us to expand our reach, deepen our impact, and pursue our mission with confidence.

Looking ahead, we will continue to focus on strengthening our capabilities, fostering innovation, and upholding the highest standards of governance and performance. With a strong foundation and a shared sense of purpose, we are well-positioned to achieve sustained growth and lasting impact.

### **Arpit Sharma**

CEO, Skill Council for Green Jobs



We are delighted to formally announce the appointment of

## **MR. BHAVIK TRIVEDI**

Managing Director - India & Regional Director - Asia, Pacific, India, Middle East & Africa at TÜV Rheinland, South West RC Member - Indo-German CC, RSC Member - TIC Council.

as

## **CHAIRMAN** **Skill Council for Green Jobs**

Mr. Bhavik Trivedi assumes the role of Chairman, SCGJ (2026-2028) with immense responsibility, bringing distinguished leadership, strategic vision, and extensive industry expertise. We extend our sincere congratulations and look forward to higher achievements and continued progress under his leadership.

SECTION

01

# SCGJ STATISTICS

*Data, metrics & performance indicators for Q4 2026*

# TRAINING & ASSESSMENT REPORT

## Empowering India's Green Workforce | Data-Driven Insights

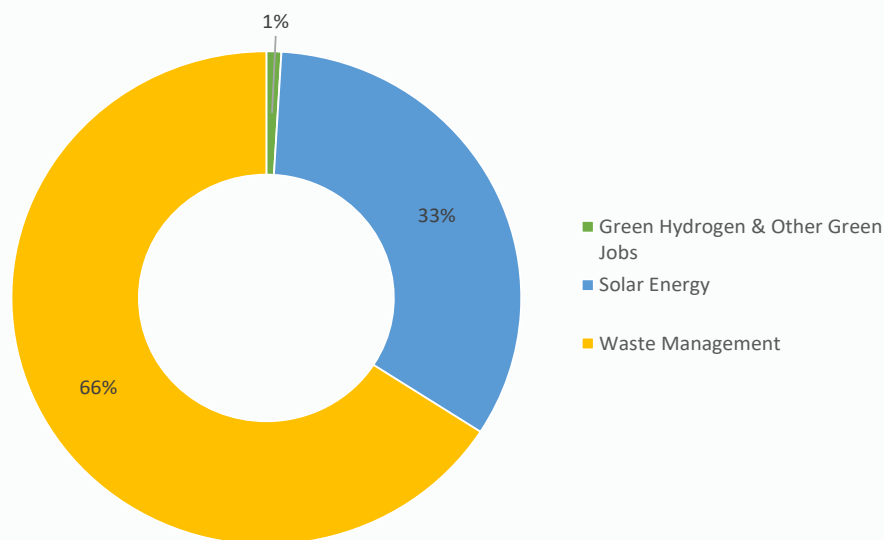
### Executive Summary

India's green skills ecosystem delivered a landmark quarter. Across renewable energy, waste management, green hydrogen, and allied sectors, training centres across 30+ states enrolled, assessed, and certified hundreds of thousands of candidates — a powerful signal of the nation's commitment to a sustainable, skilled workforce.

Total Enrolled	Total Assessed	Total Passed	Overall Pass Rate
6,84,372	6,52,001	6,41,500	98.38%

### Sector-Wise Performance

Sector	Enrolled	Assessed	Passed
Green Hydrogen	6,435	5,546	5,275
Small Hydro	1,416	1,252	1,220
Solar Energy	2,25,816	2,04,972	1,97,551
Sustainable Development	53	52	52
Waste Management	4,48,230	4,37,875	4,35,113
Wind Energy	2,015	1,949	1,934
Other Green Jobs	407	355	355



### Sector-Wise Performance

**Key Insight: Solar Energy and Waste Management collectively account for over 99% of training volume, reflecting national priority in PM Surya Ghar and SBM-Urban 2.0 mission areas.**

## Top 8 Job Roles by Training Volume

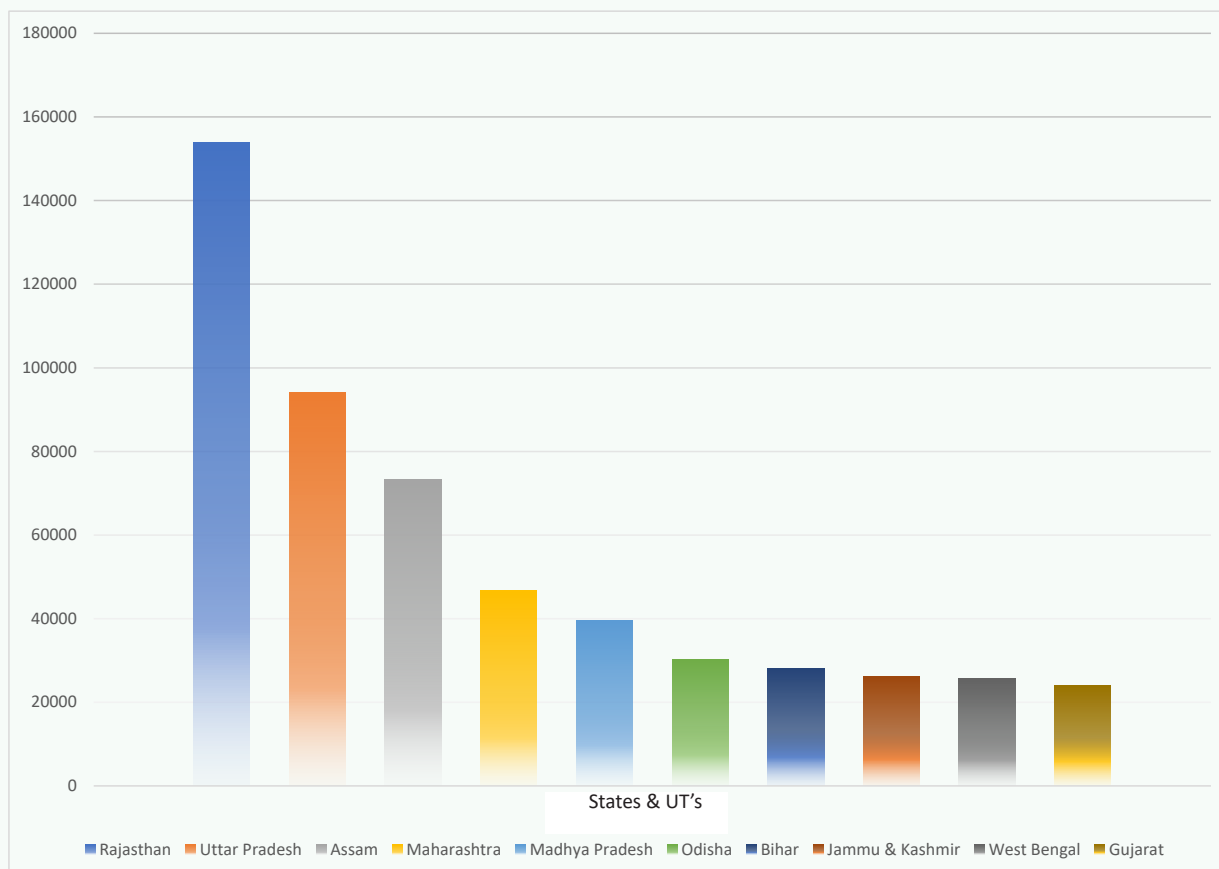
Job Role	Enrolled	Passed	Pass Rate
Safai Karamchari	4,29,300	4,20,824	98.0%
Solar PV Installer (Suryamitra)	1,44,355	1,32,758	91.94%
Solar PV Installation Helper	21,418	19,636	91.6%
Solar PV Installer – Electrical	21,224	18,890	89.0%
Recyclable Waste Collector	8,812	5,904	67.0%

**Spotlight: The Safai Karamchari programme leads with 4,29,300 candidates and posted an exceptional 98.0% pass rate, demonstrating the maturity and effectiveness of this training pipeline. Solar PV Installer (Suryamitra) follows with 1,44,355 enrolments and an 91.94% pass rate.**

## State-Wise Highlights

Programmes span 30+ states and Union Territories. Below are the key 10 contributing states this FY.

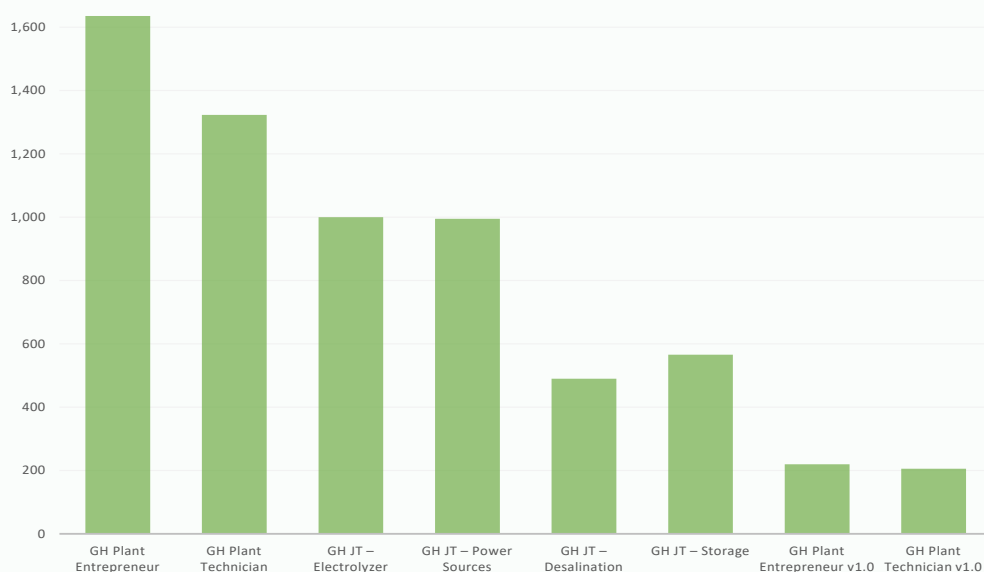
State	Enrolment
Rajasthan	1,53,865
Uttar Pradesh	93,969
Assam	73,343
Maharashtra	46,720
Madhya Pradesh	39,599
Odisha	30,310
Bihar	28,093
Jammu & Kashmir	26,232
West Bengal	25,739
Gujarat	24,109



## Green Hydrogen — A Sector in Ascent

India's National Green Hydrogen Mission is gaining visible traction in the training data. Eight distinct job roles were active this quarter:

Green Hydrogen Role	Enrolled	Passed	Top States
GH Plant Entrepreneur	1,635	1,346	Delhi / UP
GH Plant Technician	1,323	1,010	UP
GH JT – Electrolyzer	1,000	825	Haryana
GH JT – Power Sources	995	840	Rajasthan
GH JT – Desalination	490	391	Madhya Pradesh
GH JT – Storage	566	522	UP
GH Plant Entrepreneur v1.0	220	187	Uttarakhand
GH Plant Technician v1.0	206	154	UP



## Wind Energy & Small Hydro

**Wind Energy:** Three job roles recorded 2,015 enrolments across seven states up to FY 2024–25. Tamil Nadu and Maharashtra accounted for the majority of Wind O&M training activity, reflecting their significant installed wind energy capacity. Training outcomes remained strong, with the O&M Mechanical Technician role achieving a 99% pass rate and the O&M Electrical & Instrumentation Technician role recording a pass rate of 100%.

Role	Enrolled	Assessed	Passed	Pass Rate
O&M Electrical & Instrumentation Technician- Wind Power Plant	1527	1480	1471	99%
Wind Resource Assessor and Site Surveyor - Wind Power Plant	458	439	433	98.63%
O&M Mechanical Technician-Wind Power Plant	657	651	651	100%

**Small Hydro:** Small Hydro Power Plant Technician programmes enrolled 728 candidates across Uttarakhand, Maharashtra, Andhra Pradesh, Tamil Nadu, Odisha, Himachal Pradesh, Karnataka, and Gujarat. As of FY 2025–26, the programmes recorded a pass rate of 84.62%

Role	Enrolled	Assessed	Passed	Pass Rate
Small Hydro Power Plant Technician - (SGJ/Q4010) - 1.0	728	632	616	84.62%
Small Hydro Power Plant Technician – (Jal Urja Mitra)	628	589	573	91.24%

## Waste Management — Scale at Work

Waste Management is the second-largest sector and encompasses a wide spectrum of roles from frontline sanitation workers to plant engineers.

Role	Enrolled	Passed	Pass Rate
Safai Karamchari	4,28,460	4,19,981	98.0%
Recyclable Waste Collector & Segregator	8,812	5,904	67.0%
Jr. Technician – Mechanized Sewer Cleaning	1,399	1,040	74.3%
Agri-residue Aggregator	1,162	845	72.7%
Wastewater Treatment Plant Technician	1,218	1,068	87.7%
Waste Picker	3,764	3,583	95.2%
Manager – Waste Management	187	185	98.9%
Desludging Operator	493	272	55.2%

Observation: The Desludging Operator and Recyclable Waste Collector roles show relatively lower pass rates (55–67%), signalling the need for reinforced pre-assessment coaching and refresher modules.

## Quality & Assessment Performance

Performance Band	Pass Rate Range	Roles
Excellent	≥ 95%	Safai Karamchari, Manager WM, Waste Picker
Strong	85–94%	Suryamitra, Solar PV Installer Helper, WWTP Technician
Moderate	70–84%	GH Entrepreneur, Solar Lighting Assembler, Biomass Depot
Developing	< 70%	Recyclable Waste Collector, Desludging Operator, Agri-residue Aggregator

## Recommendations & Outlook

### 1. Scale Green Hydrogen slow

The programme should target 25,000+ enrolments per quarter in the next year by expanding to Odisha, Tamil Nadu, and coastal states with hydrogen export potential.

### 2. Improve Low-Performing Role Curricula

Roles with pass rates below 70% (Desludging Operator, Recyclable Waste Collector) should undergo curriculum review, with mandatory mock assessments and sector-specific literacy support introduced at training onset.

### 3. Deepen Reach in Tier-2 & North-East States

States such as Nagaland, Sikkim, Meghalaya, and Ladakh show minimal but growing enrolment. Targeted mobile training units and district-level centres can accelerate coverage in Q1 next year.

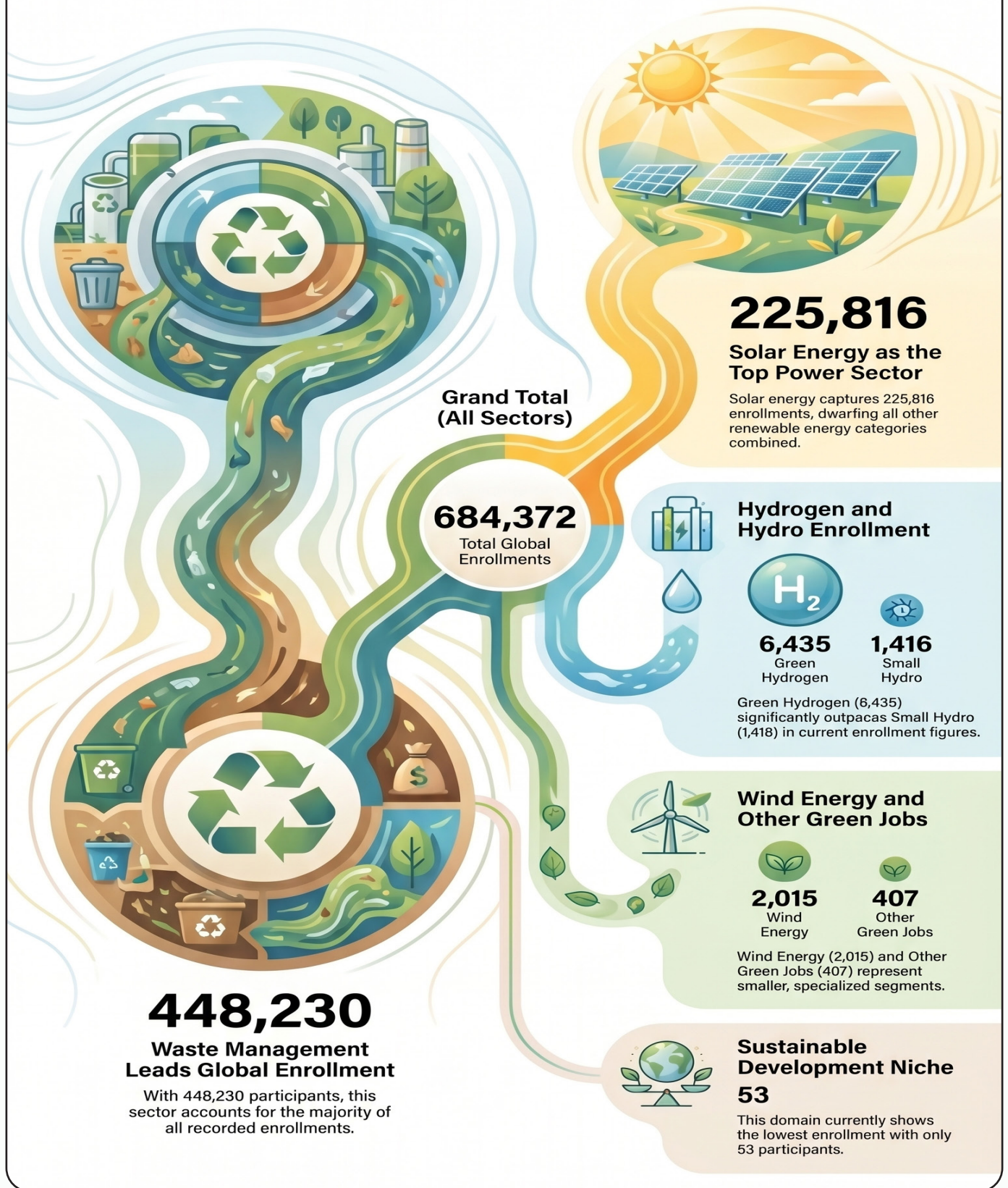
### 4. Leverage High-Volume Successes for Placement

The 6 lakh+ certified workforce represents an enormous placement opportunity. A dedicated industry connect drive — especially for Suryamitra, Solar PV Electrical Installer, and Wind O&M technicians — should be launched in partnership with sector councils and state DISCOMs.

**Together, building India's green future — one skilled worker at a time.**

For queries or data access, contact: [greenskills@nise.res.in](mailto:greenskills@nise.res.in)

# Global Enrollment Landscape: Green Energy & Waste Management



# MAPPING INDIA'S GREEN WORKFORCE: TRAINING & DISTRIBUTION

India's transition to a green economy is driving a massive skilling effort. This data highlights the workforce distribution across two primary pillars: the labor-intensive sanitation sector and the rapidly expanding solar energy technical ecosystem.

## SANITATION AND WASTE MANAGEMENT



## SOLAR AND RENEWABLE ENERGY



## SAFAI KARAMCHARIS

This represents the largest workforce segment, highlighting the scale of urban sanitation needs.

### LABOR-INTENSIVE FOUNDATION:

The sector remains the primary source of environmental employment through municipal services.



### CIRCULAR ECONOMY GROWTH

**OVER 12,500 PERSONNEL**

now focus on waste picking, segregation, and material recovery.



### SURYAMITRA INSTALLERS

Includes both flagship and updated 4.0 training versions to meet technical standards.



### EMERGING SPECIALIZATIONS

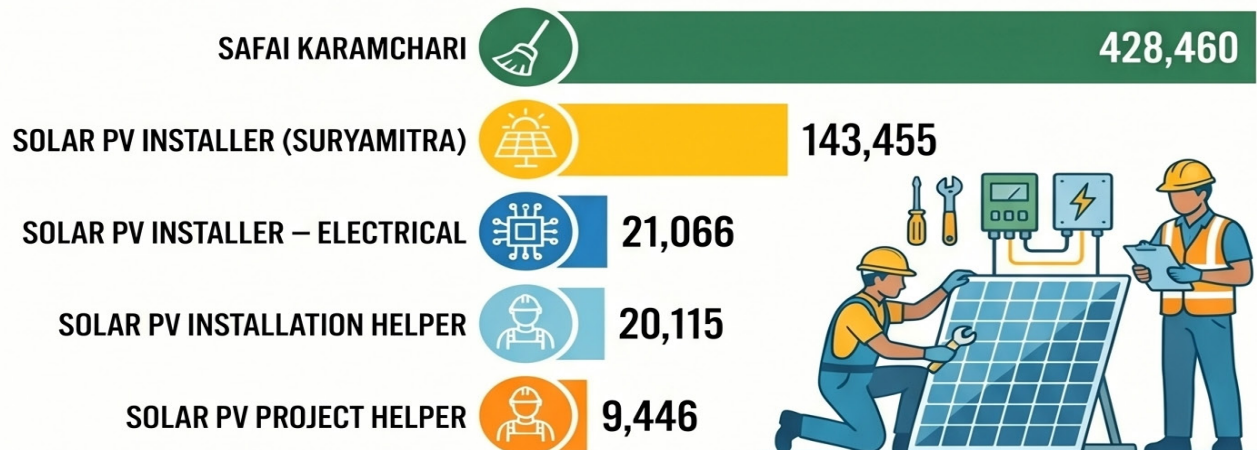
**OVER 21,066 WORKERS**

focus specifically on advanced electrical integration and grid connectivity.

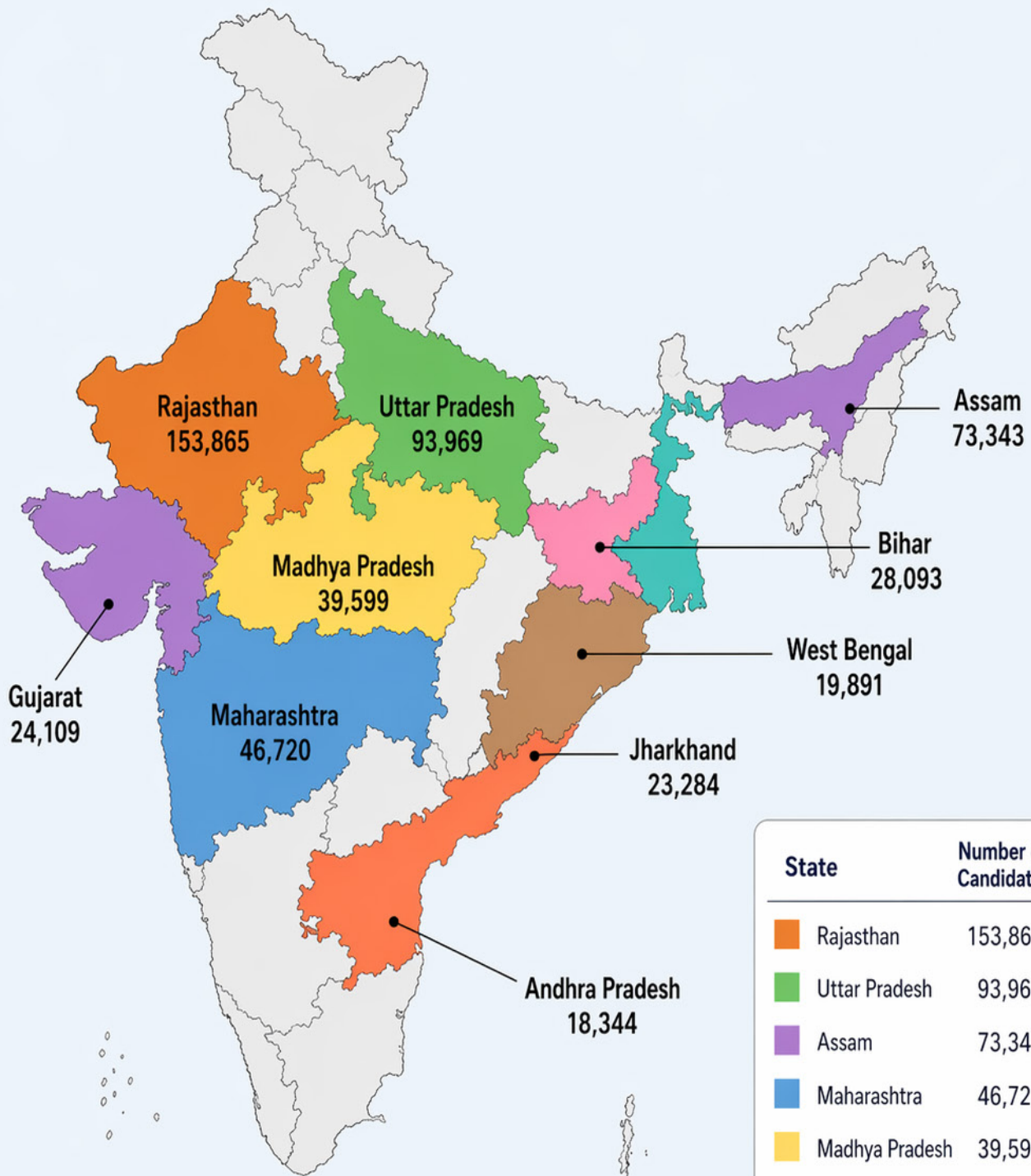
### GREEN ENTREPRENEURSHIP:

**2,674 INDIVIDUALS** are launching decentralized businesses in solar distribution and maintenance.

## TOP FIVE JOB ROLES (Based on Enrolment)



## Top 10 States by Number of Candidates Enrolled



State	Number of Candidates
Rajasthan	153,865
Uttar Pradesh	93,969
Assam	73,343
Maharashtra	46,720
Madhya Pradesh	39,599
Bihar	28,093
Gujarat	24,109
Jharkhand	23,284
West Bengal	19,891
Andhra Pradesh	18,344

# GREEN WORKFORCE DEVELOPMENT

## ACTIVE QUALIFICATION ROLES\*

Updated: 06 April 2025 | Total Qualifications: 62 Urgency Code: \* <12 months \*\* 12–23 months \*\*\* 23–36 months to expiry

### Solar Energy (19 Qualifications)

	Qualification Name	Code	NSQF Level	Hours	Expiry	Code
1	Solar PV Installation Helper	SGJ/Q0111	2	270 hrs	29 May 2027	**
2	Solar Domestic Product Assembler	SGJ/Q4902	2.5	270 hrs	31 Aug 2026	*
3	Solar Manufacturing Junior Technician	SGJ/Q4901	3	300 hrs	31 Aug 2026	*
4	Jr. Technician – Solar EV Charging Station	SGJ/Q4001	3	330 hrs	24 Feb 2029	***
5	Jr. Technician – Solar Cold Storage	SGJ/Q4002	3	330 hrs	11 Mar 2029	***
6	Solar PV Site Survey Assistant	SGJ/Q1203	3.5	390 hrs	31 Aug 2026	*
7	Solar PV Cell Manufacturing Technician	SGJ/Q0203	4	420 hrs	24 Feb 2029	***
8	Solar EV Charging Entrepreneur	SGJ/Q1801	4	390 hrs	11 Mar 2029	***
9	Solar Cold Storage Entrepreneur	SGJ/Q1802	4	390 hrs	11 Mar 2029	***
10	Solar Photovoltaic Technician	SGJ/Q4004	4	420 hrs	31 Aug 2026	*
11	Agrivoltaics Installer Electrical	SGJ/Q0122	4	510 hrs	31 Jan 2027	*
12	Solar PV Installer – Electrical	SGJ/Q0102	4	390 hrs	29 May 2027	**
13	Solar Lighting Assembler	SGJ/Q0201	4	450 hrs	29 May 2027	**
14	Solar PV Module Manufacturing Technician	SGJ/Q0119	4	420 hrs	29 May 2027	**
15	Solar PV Installer (Suryamitra)	SGJ/Q0101	4	420 hrs	30 May 2027	**
16	Solar Photovoltaic Entrepreneur	SGJ/Q0901	5	540 hrs	08 May 2028	***
17	Rooftop Solar Grid Junior Engineer	SGJ/Q0106	5	540 hrs	29 May 2027	**
18	Solar Water Pumping Junior Engineer	SGJ/Q0112	5	540 hrs	29 May 2027	**
19	Solar Enterprise Assistant Manager	SGJ/Q2601	5	510 hrs	31 Jan 2027	*

### Green Hydrogen (12 Qualifications)

	Qualification Name	Code	NSQF Level	Hours	Expiry	Code
20	GH Plant JT – Power Sources	SGJ/Q4301	3	360 hrs	31 Aug 2026	*
21	GH Plant JT – Electrolyzer	SGJ/Q4302	3	330 hrs	31 Aug 2026	*
22	GH Plant JT – Desalination	SGJ/Q4303	3	360 hrs	31 Aug 2026	*
23	GH Plant JT – Storage	SGJ/Q4304	3	360 hrs	31 Aug 2026	*
24	Green Hydrogen Plant Technician	SGJ/Q0120	4	420 hrs	11 Mar 2029	***
25	Electrolyzer Manufacturing Plant Technician	SGJ/Q4306	4	420 hrs	31 Jan 2027	*
26	Fundamentals of Hydrogen Fuel Cell	SGJ/MCr-0009	4	30 hrs	16 Dec 2027	**
27	Green Hydrogen Plant Entrepreneur	SGJ/Q0121	5	480 hrs	24 Feb 2029	***
28	Electrolyzer Manufacturing Plant Supervisor	SGJ/Q4305	5	510 hrs	31 Jan 2027	*
29	Fundamentals of Business Dev. for H2 Fuel Cell	SGJ/MCr-0012	5.5	30 hrs	16 Dec 2027	**
30	Fundamentals of Financing for Green Hydrogen	SGJ/MCr-0004	6	30 hrs	14 Mar 2027	*
31	Overview of I&C for Green Hydrogen Plant	SGJ/MCr-0005	6	30 hrs	14 Mar 2027	*

### Bio Energy (5 Qualifications)

Qualification Name	Code	NSQF Level	Hours	Expiry	Code	
32	Biomass Pellet Manufacturing Junior Technician	SGJ/Q4201	3	300 hrs	31 Aug 2026	*
33	Basics of Animal Waste Mgmt and Utilization	SGJ/N3801	3	45 hrs	24 Nov 2028	***
34	Bio-Energy Micro Entrepreneur	SGJ/Q4102	4	450 hrs	31 Aug 2026	*
35	Essentials of Biogas Plant Operations	SGJ/MCr-0017	4	30 hrs	12 Feb 2029	***
36	Circular Systems Manager	SGJ/Q6501	6	600 hrs	08 May 2028	***

### Waste Management (12 Qualifications)

Qualification Name	Code	NSQF Level	Hours	Expiry	Code	
37	Effective Aggregation of Agri-Residue	SGJ/MCr-0016	2.5	30 hrs	12 Feb 2029	***
38	Plastic Recycling Operator	SGJ/Q4005	3	360 hrs	31 Aug 2026	*
39	Safai Mitra	SGJ/Q6102	3	360 hrs	29 May 2027	**
40	Plastic Recycling Micro Entrepreneur	SGJ/Q4104	4	450 hrs	31 Aug 2026	*
41	Material Recovery Facility Micro-Entrepreneur	SGJ/Q4103	4	420 hrs	31 Aug 2026	*
42	Water Hyacinth Entrepreneur	SGJ/Q4105	4	390 hrs	08 May 2028	***
43	Biomedical Waste Mgmt – Nursing & Paramedical	SGJ/MCr-0002	4.5	30 hrs	30 Jan 2027	*
44	Installation and Upkeep of Toilet Systems	SGJ/N4801	3	45 hrs	24 Nov 2028	***
45	Essentials of Solid Waste Plant Operations	SGJ/N4088	4	45 hrs	24 Nov 2028	***
46	Swacchta Saarthi	SGJ/MCr-0015	2.5	30 hrs	24 Nov 2028	***
47	Desludging Assistant	SGJ/Q6403	3	360 hrs	24 Nov 2028	***
48	Waste Optimisation Professional	SGJ/Q5002	6	510 hrs	31 Jan 2027	*

### Water Management (2 Qualifications)

Qualification Name	Code	NSQF Level	Hours	Expiry	Code	
49	Jr. Technician – Mechanized Sewer Cleaning	SGJ/Q4006	3	330 hrs	11 Aug 2026	*
50	Sewer Entry Professional	SGJ/Q4007	3	330 hrs	11 Aug 2026	*

### Sustainability (8 Qualifications)

Qualification Name	Code	NSQF Level	Hours	Expiry	Code	
51	Green Logistics Practices	SGJ/N4601	4	30 hrs	30 Jan 2027	*
52	Approaches to Carbon Accounting	SGJ/MCr-0008	4.5	30 hrs	16 Dec 2027	**
53	Fundamentals of ESG Compliance	SGJ/MCr-0010	4.5	30 hrs	16 Dec 2027	**
54	GHG Accounting and Sustainability Reporting	SGJ/MCr-0001	6	30 hrs	30 Jan 2027	*
55	Soil Pollution Monitoring Specialist	SGJ/Q6901	5.5	600 hrs	08 May 2028	***
56	Environmental Impact Assessor	SGJ/Q5201	5	450 hrs	08 May 2028	***
57	Junior Parataxonomist	SGJ/Q0701	4.5	480 hrs	08 May 2028	***
58	EV Charging Installation Technician	SGJ/Q4011	4.5	450 hrs	08 May 2028	***

### Eco-Tourism, Forestry & Small Hydro (4 Qualifications)

Qualification Name	Code	NSQF Level	Hours	Expiry	Code	
59	Nature Conservator cum Ecotourism Guide	SGJ/Q1803	4	420 hrs	31 Jan 2027	*
60	Apiculturist (Wild Bee) NTFP	SGJ/Q3301	2	240 hrs	31 Jan 2027	*
61	Micro-Entrepreneur NTFP Plant Origin	SGJ/Q3101	4	420 hrs	31 Jan 2027	*
62	Small Hydro Power Plant Technician	SGJ/Q4010	4	600 hrs	17 Feb 2028	**

SECTION

02

## SCGJ PROJECTS

*Active programmes, partnerships & on-ground impact*

### Project 01 | GIZ–SCGJ Green Skills Collaboration

#### Strategic Partnership Launch

□ *New Delhi, December 2025*

A major step towards strengthening India's green workforce has been initiated through a new collaboration between an international development organization and a national skills institution. The agreement focuses on providing strategic and technical support to a large-scale programme aimed at promoting green skills and sustainable employment across the country.

The partnership is designed to enhance coordination among key stakeholders, including industry representatives, training institutions, and policymakers. The initiative will support the development of structured platforms for dialogue, enabling better alignment between skill development efforts and the growing demand for jobs in renewable energy and environmental sectors.

#### Programme Activities & Implementation

□ *Milestone*

The programme involves a series of consultations, working group meetings, and expert-led discussions to identify skill gaps and design targeted interventions. Activities include stakeholder workshops, policy discussions, and preparation of strategic recommendations to strengthen the green skills ecosystem.

A phased implementation plan has been outlined with clear milestones linked to key deliverables such as inception meetings, interim progress reviews, and a final report. The structured approach ensures accountability and measurable outcomes throughout the project duration.

Experts note that India's transition towards a low-carbon economy has significantly increased the demand for a skilled workforce in renewable energy, energy efficiency, and sustainable infrastructure — areas this initiative directly addresses.

### Project 02 | CSR Climate Awareness in Schools

#### TÜV Rheinland & SCGJ Climate Education Initiative

□ *New Delhi, Q4 2025*

A new climate awareness initiative is being implemented in schools as part of a Corporate Social Responsibility (CSR) programme supported by TÜV Rheinland and executed by the Skill Council for Green Jobs (SCGJ). The initiative aims to build environmental awareness among students and encourage sustainable practices at an early stage of education.

The programme targets school students in middle and secondary grades, focusing on key topics such as climate change, renewable energy, waste management, and responsible consumption.

## Delivery Methodology & Community Impact

### □ Programme Details

Structured training sessions are conducted using interactive methods such as presentations, discussions, and activity-based learning. The approach emphasises real-life relevance, enabling students to understand how climate change affects their daily lives and how simple actions contribute to environmental protection.

Industry experts and trained facilitators deliver the sessions to ensure both technical accuracy and engagement. The collaboration reflects a growing trend of private sector participation in sustainability initiatives through CSR, combined with institutional expertise in skill development.

By integrating awareness with practical learning, the programme aims to create long-term impact, encouraging behavioural change among students and their communities, and supporting India's transition towards a more sustainable future.

## MOUs Signed

January 2026 – March 2026

Sr. No	Date Signed	Signed With	Type
1	12.01.2026	Guru Govind Singh Polytechnic College	MOU
2	16.02.2026	Enviro Oil Savers Association (EOSA)	EOI
3	06.03.2026	AFC India Limited	MOU
4	16.03.2026	Nagaland Empowerment of People through Economic Development (NEPED)	MOU



NEPED and SCGJ representatives marking a new partnership with the signing of the MoU.

SECTION

03

## SCGJ EVENTS

*Workshops, conferences & stakeholder engagements*

## SCGJ EVENTS IN FOCUS

Competitions, Conferences & Collaborations

01

### IndiaSkills South Regional Competition — Renewable Energy

21–24 February 2026 | Kanha Shanti Vanam, Hyderabad

#### Champions of Clean Energy: South India's Best Take the Stage

The IndiaSkills South Regional Competition in Renewable Energy turned Hyderabad into a crucible of technical excellence from 21 to 24 February 2026. Eight of southern India's most accomplished young professionals — drawn from Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu — converged at the iconic Kanha Shanti Vanam Ground to push the boundaries of precision, problem-solving, and applied innovation in the renewable energy sector.



SCGJ CEO Mr. Arpit Sharma and Mr. Mukul Saxena (Head – Standards & Research) with participants and experts at the IndiaSkills South Regional Competition venue, Hyderabad.

SCGJ CEO Mr. Arpit Sharma and Mr. Mukul Saxena, Head – Standards & Research, graced the event with their presence, engaging directly with competitors and industry experts. The competition unfolded across four grueling days of hands-on technical challenges — rewarding not only speed and accuracy, but mastery of safety, diagnostics, and real-world application.

*“The future of renewable energy is in capable hands — and this competition proved exactly that.”*

#### Final Standings

Position	Participant	Details
1st Place	Mr. Jaffery Vibin James	Southern Regional Champion
2nd Place	Mr. Bharath S	Excellence in Technical Precision
3rd Place	Mr. Nikileshkumar Selvan	Outstanding Skills Performance

### Where Green Skills Meet the Race Track: SCGJ at Formula Bharat

The roar of innovation filled the Kari Motor Speedway in Coimbatore as the 10th edition of Formula Bharat 2026 brought together the country's finest engineering minds from over 60 colleges and institutions. SCGJ participated for the second consecutive year as a proud Supporting Partner, reinforcing its commitment to embedding green skills and sustainable mobility into the mainstream engineering education ecosystem.



SCGJ as Supporting Partner for Formula Bharat 2026 — celebrating EV innovation and sustainability-driven engineering talent across India.

The 10th edition was a landmark showcase of both combustion and electric vehicle engineering, highlighting the convergence of performance, precision, and environmental responsibility. Teams competed not merely for speed, but for the elegance of their engineering solutions — a philosophy that aligns deeply with SCGJ's mission.

**SCGJ's engagement at Formula Bharat reinforced the centrality of EV innovation and industry-aligned green competencies in shaping India's automotive future.**

### Category Winners

#### COMBUSTION CATEGORY

- Camber Racing — SRM Institute
- Eclipse Racing — Thakur College
- Ikshvaku Racing — NIE Mysore

#### ELECTRIC VEHICLE CATEGORY

- Veloce Racing — VIT
- Raftar Formula Electric — IIT Madras
- IIT Bombay Racing — IIT Bombay

## Championing Biodiversity: SCGJ at the Path to Sustainability Conclave



*Distinguished dignitaries at the Path to Sustainability 2026 Conclave release ceremony, including Chief Guest Rajendra Singh ('Waterman of India'), SPSU, and TERRE Policy Centre representatives.*

On International Wetlands Day — 2 February 2026 — SCGJ joined an assembly of India's foremost environmental thinkers and practitioners at the Conclave: Path to Sustainability 2026. Co-organised by Sir Padampat Singhania University, Udaipur, and TERRE Policy Centre, Pune, this high-impact gathering explored the nexus between biodiversity conservation, environmental education, and sustainable development.

SCGJ contributed to Panel Discussion II: 'Biodiversity Conservation — Challenges, Strategies and the Way Forward', with a dedicated focus on education and outreach. Ms. Sangeeta Patra, Senior Vice President at SCGJ, articulated how purposeful green skilling and community-driven capacity building can become transformative levers in the broader effort to conserve biodiversity and achieve sustainable development goals.

The conclave was anchored by the presence of Chief Guest Rajendra Singh — revered across India as the 'Waterman of India' — whose life's work in community-led water conservation inspired participants to connect grassroots action with systemic policy.

***Green skilling is not just about jobs — it is about equipping communities to protect the ecosystems on which all livelihoods depend.***

**SCGJ at ISUW26: Shaping the Future of Smart Energy & Inclusive Workforces**


*Distinguished panellists at the Gender Balance in the Energy Sector session, ISUW26, Hotel Lalit, New Delhi.*

SCGJ joined the 12th International Conference and Exhibition on Smart Energy and Smart Mobility — India Smart Utility Week 2026 (#ISUW26) — as an official Supporting Organisation. The landmark event convened India’s leading utilities, policymakers, regulators, global experts, and investors in a focused dialogue on building sustainable, future-ready energy and mobility systems.

A particularly resonant session focused on ‘Gender Balance in the Energy Sector’, exploring the current landscape of women’s participation across power generation, transmission, distribution, and renewables — and designing pathways for deeper inclusion. SCGJ’s Mr. Mukul Saxena, Head – Strategy and Research, participated as a distinguished speaker, underscoring the role of structured training, mentoring, and industry-linked certification in expanding women’s representation across energy professions.

The session examined granular National Classification of Occupation (NCO) frameworks, promoted the Equal by 30 initiative, and highlighted the urgent need for training facilities near wind and solar installations to facilitate practical, on-site learning for women entrants.

## The Hydrogen Question: Skills, Scale & Market at IIT Delhi



Session IV — ‘Innovating for Scale: Skills, Research, Startups & Market Acceleration’ at the National Conference on Green Hydrogen and Industrial Decarbonization, IIT Delhi, 10 February 2026.

On 10 February 2026, SCGJ participated in the National Conference on ‘Green Hydrogen and Industrial Decarbonization: Building India’s End-to-End Ecosystem for Energy Transition’ — a rigorous full-day convening at IIT Delhi that brought together researchers, policymakers, industry leaders, and startup founders united by a single question: What is the single biggest barrier to scaling green hydrogen in India?

The conference concluded with four interlocking answers: execution readiness and skilled manpower; demand visibility and price certainty over 15–20-year horizons; technology trust backed by bankable financing structures; and a policy sequencing that builds domestic demand certainty before pivoting to export ambitions.

**“Innovation is not just about technology. It is about aligning skills, markets, finance, and policy — together.” — Conference Keynote**

Session IV surfaced a critical insight for SCGJ’s work: the green hydrogen sector demands multi-skilled professionals who combine safety, operations, analytics, and compliance — a profile that requires entirely new approaches to curriculum and certification design.

## From Field to Certification: Building India's Biogas Skilling Ecosystem



*SCGJ–GIZ Compressed Biogas initiative: Validation Workshop and Training of Trainers Programme.*

SCGJ's collaboration with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH — under the BMZ-funded develoPPP programme — represents one of the most innovative applications of green skilling in 2025–26. Working with GPS Renewables Pvt. Ltd., the initiative targets the compressed biogas (CBG) sector, developing a comprehensive O&M training module titled 'Essentials of O&M for Biogas Plants' alongside a sectoral skill assessment benchmarking future employment potential.

A landmark Validation Workshop on 5 December 2025 at New Delhi brought together industry practitioners, academics, and training institution representatives to stress-test the training content and the Skill Assessment Report's findings.

Building on that momentum, SCGJ — in collaboration with GIZ and Greenloop CleanTech — launched a 5-Day Online Training of Trainers (ToT) Programme from 16–20 March 2026. Free of cost, and targeting professionals with at least one year of biomass or biogas experience, the programme aims to create a certified trainer workforce capable of rapidly scaling quality instruction across India's growing CBG plant network.

***Public–private collaboration, technical expertise, and focused skilling are together driving meaningful climate and air quality outcomes across India.***

## Driving EV Skilling & Offshore Wind Readiness: SCGJ on the National Stage



*Left: Multi-stakeholder Roundtable on EV Skilling, WSDS 2026. Right: Offshore wind skills discussion at India Habitat Centre, New Delhi.*

On 25 February 2026, SCGJ participated in a landmark Roundtable Discussion on ‘Partnerships for Accelerating the EV Skilling Ecosystem in India’, convened at the World Sustainable Development Summit hosted by TERI. The session convened government representatives, corporates, academia, and civil society actors to co-design the ‘EV Future In-Charge’ ecosystem — mapping skilling needs, identifying institutional gaps, and forging multi-sector commitments.

In a related engagement, SCGJ’s CEO delivered a keynote address at the release of ‘Socioeconomic Impacts and Skills Development for Indian Offshore Wind’ — a pioneering report by BVG Associates and ClimateHub India Advisors, held at the India Habitat Centre, New Delhi. The report, co-developed with SCGJ and supported by Shakti Sustainable Energy Foundation, sets out the workforce and skills landscape for India’s emerging offshore wind sector.

***India’s offshore wind ambitions will only be realised if the workforce is ready before the turbines spin — and SCGJ is ensuring exactly that.***



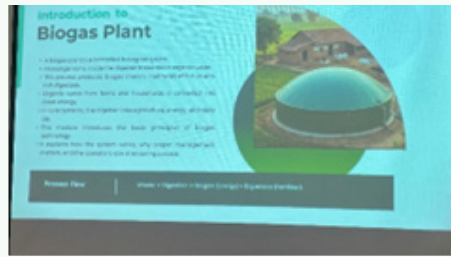
The Skill Council for Green Jobs (SCGJ) was privileged to be part of a high-level dialogue on “Empowering Circular Economy Transition in India: Jobs & Skills Roadmap”, organised by the Embassy of the Kingdom of the Netherlands in India, jointly with the Federal Republic of Germany and the EU Delegation to India, under the EU–India Resource Efficiency and Circular Economy Initiative (EU-I RECEI).

The session featured addresses from Bernd Schlotz, Frank Viault, and Meike Jaeger, highlighting the importance of India–EU collaboration, including progress on the FTA, policy alignment, and the growing role of German industries in India in driving employment and advancing circular economy practices.

The thematic address by Arpit Sharma, CEO, SCGJ, highlighted India’s circular economy transition from a jobs and skills perspective, emphasizing its role in supporting the country’s \$5 trillion economy ambition and driving sustainable growth across sectors such as plastics, textiles, electronics, automotive, and waste management.

Mr. Arpit Sharma highlighted SCGJ’s work on a green hydrogen skill gap study with USAID, noting the need for agile, future-ready skilling amid rapid technological change. He also emphasized SCGJ’s impact in waste management, with over 500,000 sanitation workers trained & certified, and the role of RPL in formalizing and upskilling the workforce.

The discussion reinforced that a future-ready workforce, backed by strong skills, partnerships, and innovation, will be key to advancing India’s circular economy ambitions.



The Skill Council for Green Jobs (SCGJ) commenced a five-day workshop in Lucknow on 24th April 2026, focused on the Essentials of Biogas Plant Operations. The initiative is being implemented with the support of GIZ.

The workshop is designed to strengthen participants' technical and operational understanding of biogas plant systems, including plant maintenance and safety and hygiene practices, thereby contributing to capacity building within the bioenergy sector.

On the first day of the programme, Sonia Parashar from the Skill Council for Green Jobs delivered an introductory session outlining the role and key initiatives of SCGJ, along with a detailed overview of the course structure and learning objectives. She also highlighted the key sectors covered under SCGJ and outlined the organisation's role in developing occupational standards, facilitating skill development, and promoting workforce readiness in the green jobs ecosystem. The session provided participants with valuable insights into the scope of the renewable energy sector and emphasized the importance of structured skilling interventions in enhancing technical competencies.

The commencement of this workshop underscores a focused effort towards strengthening workforce capabilities in the bio-energy sector and aligns with India's ongoing transition towards cleaner and more sustainable energy solutions.

SECTION

04

# INSIGHTS

*Perspectives, analysis & the road ahead*

# CARBON CAPTURE, UTILIZATION, AND STORAGE

*Powering the Path to Net Zero with Renewables*

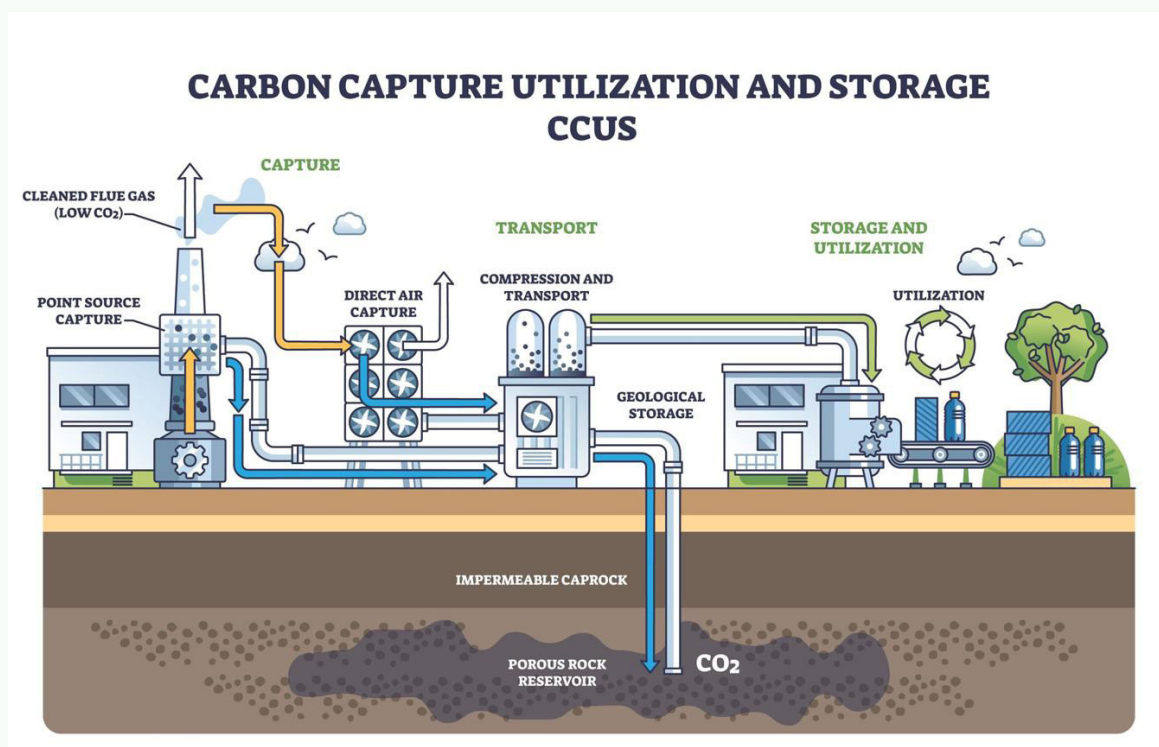
## Introduction

Carbon Capture, Utilization, and Storage (CCUS) integrated with renewable energy systems is emerging as a critical approach for achieving deep decarbonization in the global energy and industrial landscape. While renewable energy technologies such as solar and wind significantly reduce emissions at the source, they are insufficient to fully eliminate carbon dioxide (CO<sub>2</sub>) emissions from hard-to-abate sectors like cement, steel, and chemicals.

CCUS addresses this gap by capturing CO<sub>2</sub> either from industrial processes or directly from the atmosphere, and then either reusing it in productive applications or storing it permanently underground. When powered by renewable energy, CCUS systems become substantially more sustainable, enabling a transition toward a low-carbon and potentially carbon-negative economy.

*“When powered by renewable energy, CCUS systems become substantially more sustainable — enabling a transition toward a low-carbon and potentially carbon-negative economy.”*

## How CCUS Works



*The CCUS value chain — Capture, Transport, Storage & Utilization*

## Process & System Architecture

The CCUS value chain consists of three interconnected stages: capture, utilization, and storage. Carbon capture involves separating CO<sub>2</sub> from flue gases emitted by industrial facilities or extracting it directly from ambient air using Direct Air Capture (DAC) technologies. These processes rely on chemical solvents, solid sorbents, or membrane systems, and are typically energy-intensive.

The captured CO<sub>2</sub> is then either utilized or stored. In the utilization phase, CO<sub>2</sub> is converted into valuable products such as synthetic fuels, construction materials, or industrial chemicals. This conversion often relies on renewable energy inputs, especially in systems where green hydrogen — produced via electrolysis using solar or wind power — is combined with CO<sub>2</sub> to produce

hydrocarbons. Alternatively, CO<sub>2</sub> that is not utilized is transported and injected into deep geological formations such as saline aquifers or depleted oil and gas reservoirs.

## Key Integration Benefits

#	Integration Benefit
1	Renewable-powered CCUS avoids using fossil fuels to run capture processes, reducing lifecycle emissions.
2	Power-to-X systems combine green hydrogen with captured CO <sub>2</sub> to produce synthetic fuels for aviation and shipping.
3	Direct Air Capture paired with permanent storage creates a negative emissions pathway, actively removing CO <sub>2</sub> .
4	Existing oil and gas infrastructure can be repurposed for CO <sub>2</sub> transport and storage, preserving economic value.
5	Digital technologies, including AI, are being deployed to optimize performance and monitor storage integrity.

## Applications & Sectoral Relevance

CCUS with renewables has significant applications across multiple industrial sectors. In cement production, where CO<sub>2</sub> emissions arise not only from fuel combustion but also from the chemical process of calcination, CCUS offers one of the few viable mitigation options. Similarly, in steel manufacturing, CCUS can complement hydrogen-based reduction processes to lower emissions intensity.

The technology is also relevant in waste-to-energy systems, where it can capture emissions from the combustion of municipal solid waste, aligning climate mitigation with waste management objectives.

## Technological Developments & Challenges

Recent advancements in materials science and process engineering have improved the efficiency and feasibility of CCUS technologies. Innovations such as advanced solvents, solid sorbents, and membrane-based separation techniques are reducing the energy penalty associated with carbon capture. Additionally, digital technologies, including artificial intelligence, are being deployed to optimize system performance, monitor storage integrity, and enhance MRV processes.

Despite these advancements, several challenges persist. High capital and operational costs remain a major barrier to large-scale deployment. The energy intensity of capture processes necessitates robust renewable energy supply, and concerns related to long-term storage safety and public acceptance require strong regulatory frameworks and transparent governance.

## Policy Context & Conclusion

Globally, CCUS is increasingly recognized as an essential component of climate policy frameworks. Governments in regions such as Europe and North America are providing financial incentives and regulatory support to accelerate deployment. In India, CCUS is being explored in sectors such as cement and refining as part of broader net-zero strategies.

CCUS integrated with renewable energy represents a sophisticated and necessary evolution in climate mitigation strategies. Rather than replacing renewable energy deployment, it complements it by addressing emissions that cannot be eliminated through electrification alone. Its role in enabling carbon circularity, supporting industrial decarbonization, and facilitating negative emissions makes it a cornerstone of future low-carbon systems.

## WHAT WE ALREADY KNOW, AND CHOOSE TO IGNORE

*Why circular economy thinking must begin in Indian classrooms — before a generation grows up without it*

Article by Anand Maurya — Associate Manager

India does not have a waste problem because it never knew how to be circular. It has a waste problem because that knowledge stopped being passed on. Every morning, in millions of Indian homes, a child tears open a biscuit packet, drinks from a single-use pouch, and drops both on the way to school. On the same street, a kabadiwala does his rounds — collecting newspapers, bottles, and broken appliances from a cycle cart.

India generates roughly 62 million tonnes of solid waste every year. Only about 43 million tonnes is collected. Of that, just 12 million tonnes gets properly treated. The remaining 31 million tonnes ends up in dumpsites, drains, and open land. By 2030, that total is expected to hit 165 million tonnes.

### A Country That Was Already Circular

For most of India's history, there was no such thing as a 'circular economy.' Things were just used until they wore out, then repaired or repurposed. Steel tiffin boxes lasted generations. Copper utensils were fixed, not thrown away. Old sarees became quilts; worn cotton became dusters. The dhobi washed, the darzi stitched, the mochi resoled — a whole network of service providers whose work was built on making things last.

***The framework now being promoted globally as an innovation describes what Indian households did as a matter of course for centuries. The challenge is not to introduce circular thinking to India — it is to prevent a generation from growing up without it.***

The kabadiwala network is one of the most effective informal recycling systems in the world. Over 1.5 million waste pickers recover roughly 15–20 per cent of India's solid waste — keeping vast quantities out of landfills without any government subsidy or formal infrastructure.

### Why Children Are the Right Place to Start

India has over 230 million children in school. That is a huge number — and it means schools are one of the most powerful tools available for changing how the next generation thinks about waste and resources. The habits children form early tend to stick for life.

Research consistently shows that children who grow up in homes where things get fixed rather than thrown away carry that mindset into adulthood. This is what behaviour researchers call environmental identity — a sense of self tied to being careful about resources. It is built young, and through practice, not through posters on a wall.

There is also an economic case. India's green economy is growing fast. The ILO projects 8 million additional green jobs by 2030. A CEEW study estimates 48 million green jobs and USD 4.1 trillion in investment by 2047, spanning energy transition, circular economy, bio-economy, and nature-based solutions.

### The Problem with Stopping at 3R's

Reduce, Reuse, Recycle came out of the United States in the 1970s. It was designed for a high-consumption society that needed persuading to waste less. It found its way into Indian classrooms through curricula and public campaigns, but it fits poorly. India's waste problem is not mainly about attitudes — it is structural: not enough collection, not enough processing capacity, and a growing middle class buying more and more.

***The 3 Rs have collapsed into one: recycling. India has been teaching the weakest tool in the toolkit while ignoring the most powerful ones. The framework is being taught; the problem is getting worse.***

In practice, the 3R's have collapsed into one: recycling. Sort your waste, and you have done your part. But by the time a material reaches the recycling stage, most of the energy that went into making it has already been used. India's plastic recycling rate is still around 8 per cent — barely changed after decades of recycling campaigns.

## The 9R's: What Indian Children Already Know, Without Knowing It

The 9R's — Refuse, Rethink, Reduce, Reuse, Repair, Refurbish, Remanufacture, Repurpose, Recycle, Recover — cover a product's full life, from the decision to buy it to what happens when it wears out. Each one maps onto something most Indian children still see at home, even if nobody calls it that anymore.

Refuse and Rethink come first because they have the biggest impact — cutting out the cost of a product's whole lifecycle before it even begins. Repair deserves the most attention in Indian education. India already has a remarkable repair infrastructure — cobblers, tailors, mobile repair shops, cycle mechanics, appliance centres — one of the largest of its kind anywhere.

*Repair in India is not a gap in the system — it is the system. The task of education is not to introduce this idea but to restore its dignity: to teach children that fixing something is an act of intelligence, not an admission of poverty.*

## What This Looks Like in Indian Schools and Homes

Good circular economy education will not come as a new subject or standalone module. It will be woven into what already exists — science, craft, social studies, maths — through activities grounded in what children already see. Tracing a steel tiffin box from iron ore mine to kitchen shelf to repair shop to scrap heap makes material flows real.

The most powerful circular economy classroom in India is already built — it is called home. The task of formal education is to make visible what children already see, name what they already practise, and give it the value it deserves.

## The Inheritance Worth Reclaiming

India does not need to import circular economy inspiration. It is already here — in the kabadiwala's cart, the mochi's awl, the darzi's needle, the steel vessel that has been in the family for forty years and will outlast it by forty more. These are not nostalgic relics. They are working systems that ran at scale, created livelihoods, and produced almost no waste.

The 9R's give children words for what their grandparents did instinctively. The circular economy gives a framework to what India's informal sector has practised for generations, without much recognition or support. India's waste numbers will get worse before they get better. The policy frameworks are there — EPR rules, Swachh Bharat, the Draft National Resource Efficiency Policy. What they need to be backed by is a generation that understands why these things matter and carries that understanding into everyday decisions.

*Teaching children that they are personally responsible for India's waste crisis is neither fair nor useful. The goal is not guilt — it is the capacity to see systems clearly, and the confidence to know that better alternatives exist.*



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#### About SCGJ

A national organization under the National Skill Development Corporation, working with the Ministry of Skill Development and Entrepreneurship. It focuses on developing skills for environmentally sustainable sectors.

#### Key Partners

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