Green Jobs Handbook 2047

Skill Council for Green Jobs
NCVET Recognised Awarding Body

A comprehensive information handbook to foster career in Green Business.
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About Skill Council for Green Jobs

Skill Council for Green Jobs (SCGJ) is the sector skill council created by the Ministry of Skill Development and Entrepreneurship (MSDE) and is working in the domain of capacity building for green businesses and cutting edge climate friendly technologies. SCGJ has been incorporated as a Society in October, 2015, which is being managed by industry led Governing Council. The SCGJ scope covers the entire gamut of “Green Businesses”, viz Renewable Energy, Sustainable Development, Green Construction, Green Transport, Green Hydrogen, Solid Waste Management, Water Management & e-Waste Management, hence would have pan India impact.

National Council for Vocational Education and Training (NCVET) has recognised SCGJ as its Awarding Body.

The focus of SCGJ has been to establish a strong industry connect in all its areas of work. SCGJ is building on its industry connect with a government-industry interface and partnership with stakeholders from industry, labour as well as the academia. Its activities are linked to Skill India Mission, National Solar Mission, Swachh Bharat Mission and Make in India initiative of Government of India.

SCGJ is closely interacting with Ministry of New and Renewable Energy, Ministry of Environment, Forest & Climate Change, Ministry of Housing and Urban Affairs, Ministry of Jal Shakti and NITI Aayog to cater to the skilled manpower requirements for the changing scenario. Skill council for Green Jobs is working towards introducing environmental friendly and sustainability in existing job roles as well.

OUR MISSION

To capture the skilling needs for both service users and manufacturers/ service providers within the sector and implement a roadmap for a nation-wide, industry led collaborative skills and entrepreneur development initiatives that will enable meet India’s potential for “Green Businesses”.

OBJECTIVE

Quality training to meet industry expectation and to promote skill development for Green Business and energy and environment conservation.
Key Sectors covered under SCGJ

**01**

**Renewable Energy**
- Solar PV & Solar Thermal
- Wind
- Hydro
- Energy Storage
- Biomass Power/Cogen + CHP / - Waste to Energy
- Clean Cook-Stoves
- Bio fuels & Biogas
  - Compressed biogas / Bio CNG

**02**

**Environment, Forest and Climate Change**
- Solid waste management
  - Municipal
  - Agriculture & animal husbandry
- Water Management
  - Sewage treatment
  - Rain Water Harvesting & Micro-irrigation
- E-Waste Management
- Carbon Sinks
  - TBO-Oil Seeds
  - Agro-Forestry + Plantation

**03**

**Sustainable Development**
- Green Construction
  - Green Buildings
  - Green Campuses
- Green Transportation
  - Electric Vehicles
  - Bio-fuels
  - Bio-CNG
- Pollution Prevention & Control
- Green Hydrogen
- Energy Storage
Hon’ble Prime Minister
Shri. Narendra Modi
on 15th August 2021

"Make India energy independent before the completion of 100 years of independence (Year 2047).

The country is also emphasizing on Mission Circular Economy."
Environment and Renewable Energy

- There should be a network of CNG & PNG across the country. There should be a target of 20 percent ethanol blending (in petrol / diesel).
- India has set a target of 450 GW of renewable energy by the end of this decade - 500 GW non fossil energy by 2030.
- Announced the National Hydrogen Mission.
- Make India a Global Hub for Green Hydrogen Production and Export during next 25 years.
- Move towards Clean Energy Transition.

Waste and Water Management

- Campaign of water conservation.
- Plastic-free India, completely stop the use of single use plastic.
- To take the Swachh Bharat Mission to another new level.

New opportunities from Green Growth to Green Jobs are opening up today for our start-ups & youth.
At the Glasgow summit, Hon’ble Prime Minister announced that India will **attain net zero** emissions by 2070, to combat climate change. He also announced that India will raise its non-fossil energy capacity to 500 GW by 2030 while meeting 50% of its energy demand from renewable sources, and cut its carbon emissions by a billion tonnes by the same year.

**PANCHAMITRA at COP 26**

India’s five-point climate action plan, which PM Narendra Modi described as “Panchamitra (five values)”, is set to give a firm push to India’s plans for an accelerated transition to a low carbon economy.

01 Achieve the target of net-zero by 2070
02 50% of energy requirements to be met through RE by 2030
03 Emissions intensity of GDP to be reduced by 45% by 2030
04 Reduce 1 Billion tonne of Carbon Emissions by 2030
05 Non-fossil energy capacity to reach 500 GW by 2030
Wind Power
40,357 MW

Solar Power
53,996 MW

Small Hydro Power
4,848 MW

Bio-Power
10,682 MW

Source: MNRE, Programme/Scheme wise Cumulative Physical Progress as on March, 2022 | https://mnre.gov.in/the-ministry/physical-progress
Indian Energy Sector 2022-2047

**Generation Capacity (GW)**
- **Current**: RE: 151 GW, Total: 393 GW
- **2030**: RE: 506 GW, Total: 817 GW
- **2047**: RE: 1,125 GW, Total: 1,325 GW

**Electricity Production (BU)**
- **Current**: RE: 297 BU, Total: 1,372 BU
- **2030**: RE: 1,012 BU, Total: 2,518 BU
- **2047**: RE: 3,153 BU, Total: 4,721 BU

**RE Share in Generation Capacity**
- Current: 39%
- 2030: 62%
- 2047: 85%

**RE Share in Electricity Generation**
- Current: 22%
- 2030: 40%
- 2047: 67%

Key Renewable Energy Sectoral Strengths - Leading to future job opportunities

- **Abundant RE Potential**

- **Robust Grid Infrastructure**
  One Nation-One Grid, Green Energy Corridors

- **State-of-the-art Manufacturing Ecosystem**
  Available for Wind, Upcoming for Solar

- **Counter-Party Framework**
  For contracts, Payment security

- **Strong Policy Backing**
  For Renewables, Electricity Act, NDCs, State Policies

- **Ability to attract Domestic & International capital**
  Through proven, sustainable and profitable business models

- **Strong Institutional Framework**
  Dedicated Ministry, Regulatory Bodies and RE Implementing Agencies

- **Rich experience**
  In skillsets and capability building, regulations, project development, and financing

Source: MoP, MNRE, IEEMA and https://www.investindia.gov.in

*The potential estimates are likely to increase significantly with improvements in efficiency, land use optimization, etc.*
Government of India Goals & Plan

RE Sector Key Goals for India - 2047

- Energy Independence and Security
- Enhancing Decarbonization of the Energy Sector
- Self sufficiency in manufacturing of RE Technologies
- Global hub for Green Hydrogen Production and Exports

Government Plan towards Programmatic Interventions

01 National Green Hydrogen Mission
02 Interventions to promote Domestic Manufacturing of RE equipment
03 Innovative Market Mechanisms for RE
04 Policies & Regulations to promote decarbonization and circularity across value chains
05 Scaling up programmes for Off-shore wind, waste to energy, DRE, farmers (KUSUM), rooftop solarization
06 Strategic bilateral and multilateral partnerships on technology, finance, trade
07 Measures to build supply chains for critical materials and components
08 Strengthening institutional capacity and industrial competitiveness
Renewable Energy Projections by 2047

1,125 GW
Installed RE Capacity

50 GW\(^1\)
Equipment Manufacturing Capacity

2.5 bn. tonnes\(^2\)
Emissions Averted

67\(^3\)%
Share of RE in Electricity Generation

₹ 50-60 Lakh Cr.\(^4\)
Total Investment

Top 1000 Corporations\(^5\)
All energy requirement met through RE

Allied technologies including electrolyzers, energy storage, EVs, biofuels processing units etc. to further expand manufacturing capacity and attract additional investments.

1 Indicated annual capacity to manufacture power generation equipment (solar PV modules, wind turbines) to meet 100% of new-build of domestic demand plus 20% capacity designated for equipment exports.

2 Based on a CO\(_2\) emissions factor of 0.8 kg/kWh, annual CO\(_2\) emissions abated by 3,153 BU of RE generated by 2047 as per CEA estimates.

3 RE share in installed generation capacity is projected to be ~85%.

4 Based on KPMG analysis.

5 To include top 1000 companies (PSUs, private, international companies in India) by revenue from Indian operations.

Job Projections in Green Business

The Green Energy and Energy Independence vision of Government of India translates into a huge opportunity for Additional Job Creation in multiple cross cutting sectors.


The initial estimates indicates that about 3 - 3.50 crore additional jobs will be created across sectors by 2047.
Future sectors with high Job potential in Green Business

01 Green Hydrogen Energy
02 Floating Solar Power Plants
03 Off Shore Wind Power Plants
04 Hybrid Solar Wind and other Renewable Energy Systems
05 Biomass /Biofuels/ Bio CNG Production and Supply Chain
06 Large Size Energy Storage
07 EV Charging Through Solar Energy Plants
08 Pollution Prevention and Control Network
09 E-waste Management
10 De-Carbonisation of Energy intensive Sectors

Key existing and emerging thematic areas for accelerating job creation

- Renewable Power Generation
- Green Hydrogen
- EV Charging
- Energy Storage
- Make in India for the world
- India as a new hub for global investment in Clean Energy
- Creating market demand & supply chain structures
- India’s role in component development and manufacturing
- Job creation in component development, installation and renewable energy
- Green jobs in climate policies

Factors driving skilling and employment opportunities in a Low carbon Indian economy
- Renewable energy installation and O&M technicians
- Clean energy entrepreneurs
- Biomass plant/Biofuel production operator
- Storage System operator
- Battery Management system operator
- Green Hydrogen Production operator
- Green Hydrogen application analyst
- Solar Charging operator
- Battery swapping operators
- Solar PV Manufacturing operator
- Wind Turbine manufacturing technician
- Energy storage
- Renewable power generation
- Green Buildings
- O&M technicians
- Manager - Circular economy
- Product and packaging technicians
- EV charging and clean transportation
- Make in India for the world
- Energy Efficient Building designer
- Green Building material sourcing manager

Opportunities for multi-skilling and new jobs creation
**SCGJ Goal 2030**

- **10 Lakh**
  Short term trainings in clean and Green Technologies

- **20 Lakh**
  Virtual, blended mode, market mode upskilling and reskilling trainings across all sectors.

- **20 Center of Excellence**
  PAN India

- **750**
  Affiliated Training Centers

- **7500**
  Certified Trainers

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**SCGJ Vision 2047**

- Every Job role will contribute in the **Green Energy Transition**.
- Green Energy will be **part of every household and Industry**.
- Traditional Job roles will be superimposed with **new, green and future technologies**.
- **Unlimited job opportunities** and need of upskilling based on new technological advances.
- 3 - 3.50 crore additional jobs will be created across sectors by 2047
- **Over 1.00 crore skill trainings and job facilitation**
Future Outlook of SCGJ

- **Skilling & Entrepreneurs Development**
  SCGJ intends on implementation of Skilling & Entrepreneurs Development related trainings with a focus on Sustainable Cities, under “Green Business” Framework in all Smart Cities. The initial program will encompass all Green Businesses relevant to sustainable development of cities, including but not limited to Energy, Waste, Water, Green Buildings & Green Transport.

- **Training on Carbon Neutral Processes**
  Introduce customized training modules on Carbon Neutral processes for every manufacturing job role.

- **Partnerships to Upskill Existing Workforce**
  SCGJ to work more closely with Industry for upskilling of existing workforce including on greening the jobs by introducing energy and material efficiency and waste management.

- **Partnerships with Educational Institutions**
  Provide increased focus on skill training with educational institutions with localized training contents on recycling / upcycling, green mobility, emissions reduction practices, entrepreneurship development through technology sharing and flexible financial products, etc.

- **Adopt Global Best Practices**
  Identify globally adopted best practices on zero emission processes for large scale production units, SMEs, Industrial clusters, farm practices, etc.; develop training modules & delivery platforms.
Qualifications in Green Business
Present & Future
Solar Energy

1. **Solar PV Installer (Suryamitra) SGJ/Q0101 v2.0**
   - NQR Code: 2021/EHW/SCGJ/04257
   - **DESCRIPTION:**
     The Learner will be able to check, configure, install, inspect, test, and commission different components of photovoltaic systems, that meet the performance and reliability needs of customers by incorporating quality craftsmanship and complying with all applicable codes, standards, and safety requirements.
   - **Overview of QP**
     - **NSQF Level:** 4
     - **Course Duration/Training Hours:** 300
     - **Trainee Qualification:** 10th pass + ITI / Diploma (Electrical, Electronics, Civil, Mechanical, Fitter, Instrumentation/Welder)
     - **Entry Age (Years):** Minimum age: 18

2. **Solar PV Installer – Electrical SGJ/Q0102 v2.0**
   - NQR Code: 2021/EHW/SCGJ/04258
   - **DESCRIPTION:**
     The Learner will install, test, and commission different electrical components of photovoltaic systems, that meet the performance and reliability needs of customers by incorporating quality craftsmanship and complying with all applicable codes, standards and safety requirements.
   - **Overview of QP**
     - **NSQF Level:** 4
     - **Course Duration/Training Hours:** 220
     - **Trainee Qualification:** 10th + I.T.I (Electrical and Electronics)/Diploma (Electrical, Electronics) OR 10th pass+3 years of experience as Electrician
     - **Entry Age (Years):** Minimum age: 18
3 Solar PV Solar PV Installer – Civil SGJ/Q0103 v2.0
NQR Code: 2021/EHW/SCGJ/04259

DESCRIPTION
The Learner will install different civil and mechanical components of photovoltaic systems that meet the performance and reliability needs of customers by incorporating quality craftsmanship and complying with all applicable codes, standards, and safety requirements.

Overview of Qualification
NSQF Level: 4
Course Duration/Training Hours: 170
Trainee Qualification: 10th pass + ITI / Diploma (Civil/Mechanical/Fitter/Welder) OR 10 pass+3 years of experience as Mason
Entry Age (Years): Minimum age: 18

4 Solar Proposal Evaluation Specialist SGJ/Q0105 v2.0
NQR Code: 2021/EHW/SCGJ/04260

DESCRIPTION
The Learner will be able to review feasibility report of the site for installation, assess the techno-commercial feasibility and financial viability of setting up a Solar PV Power Plant. S/He will be able to providing techno-commercial advice, preparing lending or funding documents and write or review Solar PV project reports.

Overview of Qualification
NSQF Level: 5
Course Duration/Training Hours: 80(O:20)
Trainee Qualification: Any Graduate with 3 Years of experience in a financial institution/bank/managing project finance/Post Graduate (MBA/CA)
Entry Age (Years): Minimum age: 23

5 Rooftop Solar Grid Engineer SGJ/Q0106 v2.0
NQR Code: 2021/POW/SCGJ/04261

DESCRIPTION
The Learner will be able to checks, audits, inspects and tests different components of the grid connected Solar PV Power Plant in compliance with all relevant codes, standards, and safety requirements. S/He will be able to interconnect the solar plant with grid and perform post commissioning tests.

Overview of Qualification
NSQF Level: 5
Course Duration/Training Hours: 80
Trainee Qualification: B.E./B.Tech (Electrical, Mechanical or equivalent) OR Graduate (Science) with 2 Year of experience OR Diploma (Electrical or equivalent) with 1 Year of experience
Entry Age (Years): Minimum age: 20

6 Solar PV Business Development Executive SGJ/Q0107 v2.0
NQR Code: 2021/POW/SCGJ/04262

DESCRIPTION
The Learner will be able to tell to the client advantages of using solar power devices and systems to develop and generate business for the organization. S/He would have understanding of the rooftop SPV market, ground mount SPV market and decentralized SPV system market and will be able to suggest right kind of solar solution to meet the specific needs of the clients. S/He would have fair understanding of the solar PV technology, its applications and economics. S/He would keep track of central and state solar policies/programs to inform the client and let him avail the benefits of same.

Overview of Qualification
NSQF Level: 5
Course Duration/Training Hours: 200
Trainee Qualification: 10th Class+ 2 years ITI/Diploma with 3 years of relevant experience; OR BBA/B.Com, with 1 year of experience; OR B.Tech/BE/B.VoC (Renewable Energy or equivalent) with no experience
Entry Age (Years): Minimum age: 21
**Solar PV Structural Assistant Design Engineer SGJ/Q0109 v2.0**

**NQR Code:** 2021/POW/SCGJ/04263

**DESCRIPTION**
The learner would be able to design the module mounting structures, foundations for the module mounting structures, inverters and transformers and the complete layout of the solar PV power plant including walkways between the module mounting structures civil/structural work for the control room, and allied structural works for the rooftop or ground mount solar PV power plant.

**Overview of Qualification**

- **NSQF Level:** 5
- **Course Duration/Training Hours:** 200
- **Trainee Qualification:** Diploma in Civil Engineering/Structural Engineering
- **Entry Age (Years):** Minimum age: 20

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**Solar PV Designer SGJ/Q0110 v2.0**

**NQR Code:** 2021/POW/SCGJ/04264

**DESCRIPTION**
The Learner would be able to review civil and electrical design of the Solar PV power plant & prepare the energy simulation report.

**Overview of Qualification**

- **NSQF Level:** 7
- **Course Duration/Training Hours:** 200
- **Trainee Qualification:** Graduates (B. Tech/ B.E. in Solar/Electrical, Electronics, Civil, Mechanical/Energy Systems) with 5 years of Solar PV experience OR Post- Graduates (M. Tech in Solar/ Renewables/ Energy Studies) with 3 years of experience in the sector
- **Entry Age (Years):** Minimum age: 25

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**Solar PV Project Helper SGJ/Q0111 v2.0**

**NQR Code:** 2021/EHW/SCGJ/04265

**DESCRIPTION**
The Learner would be able to assist in site survey, erection and commissioning activities and maintenance activities for ground mounted solar PV power plants as well as roof top and also assist in installation of off grid solar systems.

**Overview of Qualification**

- **NSQF Level:** 2
- **Course Duration/Training Hours:** 200
- **Trainee Qualification:** Ability to read and write
- **Entry Age (Years):** Minimum age: 18

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**Solar PV Engineer SGJ/Q0112 v2.0**

**NQR Code:** 2021/EHW/SCGJ/04266

**DESCRIPTION**
The Learner would be able to take responsibility of design, installation and commissioning of solar power plant at site, its quality QA and HSE issues. S/he would also prepare site feasibility report. Learner also given an option to opt training on Solar Water Pumping, as a part of learning, S/he would also be able to design, install and commission solar water pumping systems.

**Overview of Qualification**

- **NSQF Level:** 5
- **Course Duration/Training Hours:** 300 (Optional: 120)
- **Trainee Qualification:** B.E./B.Tech OR Diploma (Electrical/Electronics/ Civil/Mechanical) with 2 years of relevant experience
- **Entry Age (Years):** Minimum age: 20
11. **Solar PV Project Manager (E&C) SGJ/Q0114 v2.0**  
NQR Code: 2021/EHW/SCGJ/04267

**DESCRIPTION**
The Learner with her/his team of site in-charge and commercial manager, receives different components of the solar PV power plant (modules, inverter, transformers etc.) procure as per the design, checks the components for specifications and quality, installs the solar PV power plant as per the design, constructs the substation and grid interface incorporating grid code and regulatory provisions incorporated in the design.

**Overview of Qualification**
- **NSQF Level:** 7
- **Course Duration/Training Hours:** 200
- **Trainee Qualification:** B.E./B.Tech. in Engineering and Technology with 6 years’ of experience in renewable energy/power sector utilities/consulting firms/solar PV power plant installation and commissioning OR M.Sc. / BVoc with 5 years of experience in renewable energy/power sector utilities/consulting firms/solar PV power plant installation and commissioning OR M Tech/MBA, with 3 years of relevant experience in renewable energy/power sector utilities/consulting firms/solar PV power plant installation and commissioning
- **Entry Age (Years):** Minimum age: 30

12. **Solar PV Maintenance Technician - Electrical (Ground Mount) SGJ/Q0115 v2.0**  
NQR Code: 2021/EHW/SCGJ/04268

**DESCRIPTION**
The Learner would be able to periodically check and maintain all the electrical components of the solar PV power plant for proper electrical connectivity, incorporating quality craftsmanship and complying with all applicable codes, standards, and safety requirements.

**Overview of Qualification**
- **NSQF Level:** 4
- **Course Duration/Training Hours:** 200
- **Trainee Qualification:** ITI - Electrical and Electronics
- **Entry Age (Years):** Minimum age: 18

13. **Solar PV Manufacturing Operator SGJ/Q0119 v2.0**  
NQR Code: 2021/EHW/SCGJ/04269

**DESCRIPTION**
The Learner would be able to clean and check front glass cover for the PV module; monitor the process of soldering solar cells to the strings to make interconnect, lamination of modules, framing of solar PV module, module testing and packaging for transit.

**Overview of Qualification**
- **NSQF Level:** 4
- **Course Duration/Training Hours:** 200
- **Trainee Qualification:** 10th pass
- **Entry Age (Years):** Minimum age: 18

14. **Solar Lighting Assembler SGJ/Q0201 v2.0**  
NQR Code: 2021/EHW/SCGJ/04270

**DESCRIPTION**
The Learner would be able to perform assembly of different types of solar lamps, repair of solar lamps with safety. With an elective, s/he would be able to assemble and repair of solar home lighting systems and solar street lights.

**Overview of Qualification**
- **NSQF Level:** 4
- **Course Duration/Training Hours:** 220 (Elective: 40/40)
- **Trainee Qualification:** 8th Pass
- **Entry Age (Years):** Minimum age: 18
DESCRIPTION

The Learner would venture into Solar market to lead an enterprise. He/She has the understanding of solar business models, market, technical knowledge of solar PV plants/system, along with components procurement and financing. Learner can prepare the feasibility study report and perform basic energy generation forecasting using simulation software for solar PV system and is also responsible for the managing the complete Solar PV project lifecycle.

Learner may choose at least one elective out of four electives. After the training, the candidate would be suitable to work as a Solar PV Entrepreneur across solar rooftop, solar pumping or ground mounted/utility scale solar space. S/he would create and operate a successful solar enterprise across the concerned sub domains.

Overview of Qualification

**NSQF Level:** 5

**Course Duration/Training Hours:** 520 hours including 120 Hours with Entrepreneurship + 200 hours of 1 elective + 200 hours Mandatory OJT Or 720 hours including 120 Hours with Entrepreneurship + 400 hours of 2 electives + 200 hours Mandatory OJT

**Trainee Qualification:**
- Class 12th with 3 years of relevant experience in solar sector Or
- 10th plus ITI or Diploma in relevant trade, with 2 years of relevant experience in solar sector Or
- Previous NSQF level attained: Level 4 with solar installation or related job role with at least one year of relevant work experience in solar sector Or
- Graduate (BA/B.Sc/B Com/BBA) with one year of relevant work experience in solar sector Or
- BE/BTech/ Post Graduate in relevant discipline

**Entry Age (Years):** Minimum age: 21
Qualifications (Skill Course)

Wind Energy

16. Project Assistant Planner – Wind Power Plant SGJ/Q1201 v2.0
NQR Code: 2021/POW/SCGJ/04651

**DESCRIPTION**
The Learner would assist in carrying out planning of workflow for turbines & electrical systems, Erection & Commissioning (E&C), help in conducting statistical studies of product quality and time usage and support to analyze production costs while complying with all operational manuals, applicable codes, standards and safety requirements.

**Overview of Qualification**
- **NSQF Level:** 3
- **Course Duration/Training Hours:** 250
- **Trainee Qualification:** Class 12th with Science OR ITI after Class 10th (in Electrical/ Mechanical/ Civil/ and related trades) or Government recognized 3 years Diploma (Electrical/ Mechanical/ Civil/Electronics & Communication / Control & Instrumentation)
- **Entry Age (Years):** Minimum age: 18

17. Wind Resource Assessor and Site Surveyor-Wind Power Plant SGJ/Q1202 v2.0 NQR Code: 2021/POW/SCGJ/04652

**DESCRIPTION**
The Learner would carry out wind energy site inspection, site assessment, checking site access, approach roads, grid availability for power evacuation, substation availability & its capacity and other relevant proximity of site.

**Overview of Qualification**
- **NSQF Level:** 5
- **Course Duration/Training Hours:** 120 hours +100 hours (Optional OJT)
- **Trainee Qualification:** B.E./B.Tech (Electrical/ Mechanical/ Civil/ Electronics and Communication / Control & Instrumentation) Or Government recognised 3 years Diploma after class XII (Electrical/ Mechanical/ Civil/Electronics & Communication / Control & Instrumentation), with 2 years of relevant work experience
- **Entry Age (Years):** Minimum age: 21
18 Construction Technician - Wind Power Plant SGJ/Q1401 v2.0
NQR Code: 2021/POW/SCGJ/04656

DESCRIPTION
The Learner would carry out installation, testing, erection & commissioning of all parts & components of wind power plant including WTG, transformer, blades, nacelle, junction boxes and other associated accessories as per design drawing. With an elective of mechanical, electrical and civil, s/he would carry out installation and commissioning of respective components.

Overview of Qualification
NSQF Level: 4
Course Duration/Training Hours: 350 hours including common NOS: 50 hours; Elective: 200 hours and OJT (Optional 100 hours)
Trainee Qualification: Class 12th with science with 1 year relevant work experience OR ITI after class 10th (in Electrician / Mechanical/ Fitter/Welder/ and related trades) with 1 year of relevant work experience OR Government recognized 3 years Diploma (in Electrical / Mechanical/ Civil/Electronics & Communication / Control & Instrumentation)
Entry Age (Years): Minimum age: 18

19 CMS Engineer - Wind Power Plant SGJ/Q1501 v2.0
NQR Code: 2021/POW/SCGJ/04653

DESCRIPTION
The Learner would be able to carry out installation and commissioning of Condition Monitoring System (CMS) of Wind Power Plant. S/he would also monitor the operation and maintenance of the CMS with a continuous stream of system data, mostly based on vibration monitoring and other operating conditions.

Overview of Qualification
NSQF Level: 5
Course Duration/Training Hours: 200+ 100 hours (Optional OJT)
Trainee Qualification: B.E./B.Tech (Electrical /Electronics/Instrumentation and control engineering/Mechanical/Computer and Communications)
Entry Age (Years): Minimum age: 21

20 O&M Mechanical Technician – Wind Power Plant SGJ/Q1502 v2.0
NQR Code: 2021/POW/SCGJ/04654

DESCRIPTION
The Learner would carry out operations and maintenance of mechanical components of wind power plant, complying with all operational manuals, applicable codes, standards, and safety requirements.

Overview of Qualification
NSQF Level: 4
Course Duration/Training Hours: 200 hours + 100 hours (Optional OJT)
Trainee Qualification: Class 12th with science with 1 year relevant work experience or ITI after class 10th (Electrician / Mechanical/ Fitter/Welder/ and related trades) with 1 year of relevant work experience OR Government recognised 3 years Diploma (in Electrical/ Mechanical/ Civil/Electronics & Communication / Control & Instrumentation)
Entry Age (Years): Minimum age: 18

21 O&M Electrical & Instrumentation Technician – Wind Power Plant SGJ/Q1503 v2.0 NQR Code: 2021/POW/SCGJ/0465

DESCRIPTION
The Learner would perform operation and maintenance of switchgear, transformer, O/H and U/G Lines, SCADA, communication system (Fibre Optics) and complying with all operational manuals, applicable codes/standards, and safety requirements.

Overview of Qualification
NSQF Level: 4
Course Duration/Training Hours: 200 hours + 100 hours (Optional OJT)
Trainee Qualification: Class 12th with science with 1 year relevant work experience OR ITI after class 10th (in Electrician / Mechanical/ Fitter/Welder/ and related trades) with 1 year of relevant work experience OR Government recognised 3 years Diploma (in Electrical/ Mechanical/ Civil/Electronics & Communication / Control & Instrumentation)
Entry Age (Years): Minimum age: 18
Qualifications (Skill Course)

Small Hydro

Overview of Qualification

**NSQF Level:** 4

**Course Duration/Training Hours:** 250

**Trainee Qualification:** Class 12th with science with 1 year relevant work experience or ITI after Class 10th (in Electrical/ Mechanical/ Civil/ Instrumentation and related trades) with 1 year of relevant work experience or Government recognised 3 years Diploma (Electrical/ Mechanical/ Civil/ Control & Instrumentation)

**Entry Age (Years):** Minimum age: 18

**DESCRIPTION**

The Learner would be specialized to operate, test and maintain different electrical, hydro-mechanical, civil components of Small Hydro Power plant to meet the performance and reliability needs by incorporating quality workmanship and complying with all applicable codes, standards and safety requirements.

Scan QR Code to access related content
Qualifications (Skill Course)

Biomass Management

Recyclable Waste Collector and Segregator SGJ/Q6101 v2.0
NQR Code: 2021/WSSWM/SCGJ/04271

DESCRIPTION
The Learner would be able to properly collect, identify different types of waste and segregate at source or at collection center as per recycling / reuse / disposal requirement. S/he also ensure health and safety at the workplace. As an entrepreneur S/he would be able to venture into entrepreneurship for recyclable waste collection.

Overview of Qualification
NSQF Level: 4
Course Duration/Training Hours: 160
Trainee Qualification: Ability to read and write
Entry Age (Years): Minimum age: 16

Safai Karamchari SGJ/Q6102 v2.0
NQR Code: 2021/WSSWM/SCGJ/04272

DESCRIPTION
The Learner would be able to sweep with a broom and / or other suitable equipment to remove dust, debris and garbage. In buildings, s/he will be able to sweep the floor, scrub the floor using appropriate cleaning solution to remove the fine dust. As an elective for wet cleaning, S/he would specialize in wet cleaning, cleaning and washing bathrooms, lavatory and removing garbage and other waste in closed dustbin. As an elective for mechanized cleaning, S/he will specialize in mechanized cleaning sweeps, cleaning and removing garbage with the help of vacuum cleaner, mechanical sweeper, mechanical sweeper ride and mechanized scrubbing machine.

Overview of Qualification
NSQF Level: 3
Course Duration/Training Hours: 200 (Elective:40/40)
Trainee Qualification: Ability to read and write
Entry Age (Years): Minimum age: 18
### Waste Picker SGJ/Q6103 v2.0

**NQR Code:** [2021/WSSWM/SCGJ/04273](#)

**DESCRIPTION**
The Learner would be able to identify equipment used for waste collection, identify source of waste generation in local area including the streets, bins, landfills, material recovery facilities, processing and waste disposal facilities. S/he recognize different color codes used in waste management. As per type of refuse, s/he would suitably modify the collected waste, possibly for a better value.

**Overview of Qualification**
- **NSQF Level:** 3
- **Course Duration/Training Hours:** 160
- **Trainee Qualification:** Not Applicable
- **Entry Age (Years):** Minimum age: 18

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### Animal Waste Manure Aggregator SGJ/Q6302 v1.0

**NQR Code:** [2019/ES/SCGJ/3325](#)

**DESCRIPTION**
The Learner would be able to collect and aggregate animal manure from sources such as animal farms, gausshalas, rural households etc., aggregate supplies, as per the market requirement for various end-uses. As an option for Biogas Operator, S/he would monitor, operate and maintain biogas plant. As an option for Compost Plant Operator, S/he would monitor, operate and maintain compost plant.

**Overview of Qualification**
- **NSQF Level:** 4
- **Course Duration/Training Hours:** 45 (Optional: 45/45)
- **Trainee Qualification:** 5th Pass
- **Entry Age (Years):** Minimum age: 18

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### Plant Head- Operations (Compressed Biogas/Waste To Energy) SGJ/Q0607 v1.0

**NQR Code:** [2022/WSSWM/SCGJ/05145](#)

**DESCRIPTION**
The Learner would develop and implement organizational Strategies and Policies to monitor Operation and Maintenance of the Production Unit. S/he would ensure Resource Optimization, Waste Management and Appropriate Documentation. S/he would also manage Human Resources in the CBG Plant and other administrative activities with applicable statutory compliances.

**Overview of Qualification**
- **NSQF Level:** 7
- **Course Duration/Training Hours:** 600 hours including 400 hours of compulsory modules and 200 hours of mandatory OJT
- **Trainee Qualification:** B.Tech./B.E (Agriculture/ Environment /Civil/Mechanical/Electrical Engineering or Equivalent) with 8 Years of experience in the relevant field OR M.Tech /Post Graduate (Agriculture/Environment science) or in any relevant discipline with 6 years of experience in the relevant field OR NSQF level 6 certified in relevant job role (e.g. Manager- Waste Management) with 2 years of relevant experience OR Certified Supervisor – Operations and Maintenance Compressed Biogas/Waste to Energy - Level 5 with 5 years of relevant work experience.
- **Entry Age (Years):** Minimum age: 28

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### Biomass Depot Operator SGJ/Q6207 v1.0

**NQR Code:** [2019/ES/SCGJ/3326](#)

**DESCRIPTION**
The Learner would be appropriately able to handle, store and manage biomass at the storage depot. He/she will suitably undertake activities such as biomass receipt from suppliers, biomass pre-processing/densification and store in a manner so as to ensure its quality and safety from hazards as per standards.

**Overview of Qualification**
- **NSQF Level:** 4
- **Course Duration/Training Hours:** 72
- **Trainee Qualification:** 10th Pass
- **Entry Age (Years):** Minimum age: 18
Manager - Waste Management SGJ/Q6501 v2.0
NQR Code: 2022/WSSWM/SCGJ/05149

DESCRIPTION
The Learner would be appropriately able to carry out market analysis and formulate the business plan for the center. S/He will be able to manage the overall operation of the center and ensure health and safety at the workplace. S/He would ensure compliance of applicable statutory laws, policies and procedures relating to the center. As an elective for Biomass Depot, S/he specialize in overall operations of biomass depot and associated business. As an elective for Compost Yard, S/he specialize overall operations of compost yard and associated business. As an elective for Dry Waste Center, S/he specialize overall operations of dry waste collection center and associated business.

Overview of Qualification
NSQF Level: 6
Course Duration/Training Hours: 520 hours including 220 hours of compulsory modules +100 hours of mandatory “on the job training” + 100 hours of optional “on the job training”, with one compulsory Elective of 100 hours
Trainee Qualification: Diploma (Government recognised 3 years Diploma in a relevant discipline) with 4 years of experience in the relevant field Or Graduate in relevant discipline with 3 years of experience in the relevant field Or NSQF level 5 certified in relevant job role (e.g. Supervisor Operations and Maintenance Compressed Biogas/Waste to Energy) with 2 years of relevant experience
Entry Age (Years): Minimum age: 23

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Technician – Operations and Maintenance (Compressed Biogas/Waste to Energy) SGJ/0606 v1.0 NQR Code: 2022/WSSWM/SCGJ/05146

DESCRIPTION
The Learner would support effective and efficient operation and maintenance of a CBG plant by troubleshooting, repairing and ensuring maximum up-time of the plant. S/he would also assist in Monitoring and Handling Major Breakdown in the CBG Plant.

Overview of Qualification
NSQF Level: 4
Course Duration/Training Hours: Theory: 92, Practical: 168 OJT: 160; Total: 420 hours
Trainee Qualification: 12th Class (Science) with 1 Year of relevant work experience Or 10th Class + I.T.I (Electrician /Mechanical/ Fitter/Welder/ and related trades) with 1 Year of relevant work experience Or Diploma (Government recognised 3 years Diploma (Electrical /Mechanical/Civil/Agriculture/ Electronics & Communication /Control & Instrumentation or in a related discipline) Or NSQF level 3 certified in relevant job role with 2 years of relevant experience
Entry Age (Years): Minimum age: 18

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Supervisor – Operations & Maintenance (Compressed Biogas/Waste to Energy) SGJ/Q0605 v1.0 NQR Code: 2022/WSSWM/SCGJ/05147

DESCRIPTION
The Learner would supervises the team of Operations and Maintenance (O&M) technicians and maintains the operations of plant systems and equipment of a Compressed Biogas (CBG) plant to ensure smooth and profitable functioning of the business and streamlining the workflow.

Overview of Qualification
NSQF Level: 5
Course Duration/Training Hours: 500 hours including 400 Hours + 100 hours of Mandatory on the Job training
Trainee Qualification: Diploma (Government recognised 3 years Diploma (Electrical/ Mechanical/Civil/Agriculture/ Electronics & Communication /Control & Instrumentation) with 2 Years of experience in relevant field Or Graduate; BE/BTech (Agriculture/ Environmental Engineering or equivalent) OR Post Graduate (MSC Environment Science or equivalent),MTech (Agriculture/ Environmental Engineering or Equivalent) OR Certificate-NSQF (Level - 4 Technician - O&M CBG/WTE) with 3 Years of experience
Entry Age (Years): Minimum age: 20

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Feedstock Manager - Procurement and Composition SGJ/Q0501 v1.0 NQR Code: 2022/WSSWM/SCGJ/05144

DESCRIPTION
The Learner would analyze and manage the feedstock supply, standard and storage. S/he monitor resource mobilization and waste management, perform cost optimization and ensure compliance with Applicable Statutory Laws, Policies and Procedures.

Overview of Qualification
NSQF Level: 6
Course Duration/Training Hours: 600 hours including 400 Hours of compulsory modules+ 100 hours mandatory OJT + 100 hours Recommended OJT
Trainee Qualification: Graduate with 3 Years of experience in the relevant field Or Diploma (Government recognised 3 years Diploma) with 4 Years of experience in the relevant field Or Supervisor – Operations and Maintenance(Compressed Biogas/Waste to Energy)- Level 5 with 3 years of relevant work experience
Entry Age (Years): Minimum age: 24

Scan QR Code to access related content
Qualifications (Skill Course)

Biomass Management

Potential Job role

- Overview of Qualification
  - NSQF Level: 4
  - Course Duration/Training Hours: 72
  - Trainee Qualification: 5th Pass
  - Entry Age (Years): Minimum age: 18

Description

The Learner would be able to appropriately collect agriculture residue from farmers, establish collection points, make assessment of quality and quantity of agriculture residues and accordingly decides price. S/He would be able to appropriately sort, densify and suitably store the low density bales. S/he would also perform sale of the bales based on end requirements.

Agri-residue Aggregator SGJ/Q6201 v1.0

NQR Code: 2019/ES/SCGJ/3324

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**Clean Cooking**

**Improved Cookstove Installer SGJ/Q2101 v1.0**

**Description:**
The Learner would be able to select materials, prepare appropriate mixture, construct the Cookstove as per standard mould(s), embedding non-masonry items, fire for curing, installation at the appropriate site and demonstrate functioning of the Cookstove.

**Overview of Qualification**
- **NSQF Level:** 4
- **Course Duration/Training Hours:** 120
- **Trainee Qualification:** 5th Pass Preferably
- **Entry Age (Years):** Minimum age: 18

**Portable Improved Cookstove Assembler SGJ/Q2102 v1.0**

**Description:**
The Learner would be able to assemble and fit various parts of the cookstove to manufacture the final product which meets performance and reliability standards. He/She will be able to incorporate quality craftsmanship and comply with all applicable standards.

**Overview of Qualification**
- **NSQF Level:** 3
- **Course Duration/Training Hours:** 120
- **Trainee Qualification:** 10th pass preferred
- **Entry Age (Years):** Minimum age: 18
### Portable Improved Cookstove Sales and Maintenance Executive

**SGJ/Q2104 v1.0**

**NQR Code:** [2019/ES/SCGJ/3333](#)

**DESCRIPTION**

The Learner would be able to identify equipment used for waste collection, identify source of waste generation in local area including the streets, bins, landfills, material recovery facilities, processing and waste disposal facilities. S/he recognize different color codes used in waste management. As per type of refuse, s/he would suitably modify the collected waste, possibly for a better value.

**Overview of Qualification**

- **NSQF Level:** 4
- **Course Duration/Training Hours:** 80
- **Trainee Qualification:** 8th pass
- **Entry Age (Years):** Minimum age: 18

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### Portable Improved Cookstove Distributor

**SGJ/Q2105 v1.0**

**NQR Code:** [2019/ES/SCGJ/3334](#)

**DESCRIPTION**

The Learner would be able to increase market share of portable improved cookstoves through vendor selection, warehouse development, logistics and aftersales service support. S/He would develop a portfolio of products, undertake targeted promotion, and ensure availability of the products to potential customers. S/he would ensure statutory compliances and safety in operations.

**Overview of Qualification**

- **NSQF Level:** 6
- **Course Duration/Training Hours:** 80
- **Trainee Qualification:** 12th Pass + 2 years of experience in any distribution or similar operations
- **Entry Age (Years):** Minimum age: 21
Qualifications (Skill Course)

Waste water Management

38 Wastewater treatment plant technician SGJ/Q6601 v2.0
NQR Code: 2021/WSSWM/SCGJ/04274

DESCRIPTION
The Learner would be able to operate Wastewater Treatment Plant and other related equipment. S/He would be able to perform the operation and cleaning of different screens, valves in a Wastewater Treatment Plant and charge the slurry tank. S/He would be able to do add desired quantity of chemicals and microbes to treat water. S/He would also facilitate the calibration of process control equipment as needed.

Overview of Qualification
NSQF Level: 4
Course Duration/Training Hours: 200
Trainee Qualification: 12th Pass, 10th Pass + ITI/Diploma, 8th pass + 4 years of experience as Wastewater Treatment Plant Helper
Entry Age (Years): Minimum age: 18

39 Wastewater treatment plant Helper SGJ/Q6602 v2.0
NQR Code: 2021/WSSWM/SCGJ/04275

DESCRIPTION
Learner would be able to help in operation of Wastewater Treatment Plant and other related equipment. S/He would be able to measure and record all meter and gauge readings, perform maintenance on filters and valves, Cleaning of Tanks, cleaning of work area and equipment.

Overview of Qualification
NSQF Level: 3
Course Duration/Training Hours: 160
Trainee Qualification: 8th pass
Entry Age (Years): Minimum age: 18
**Septic Tank Technician SGJ/Q6402 v1.0**

NQR Code: **2019/ES/SCGJ/3328**

**DESCRIPTION**
The Learner would be able to excavate, fabricate and install fixed septic tanks as per as per Central Public Health and Environmental Engineering Organization (CPHEEO) norms. S/he also able to install prefabricated septic tanks at the site (commercial/institutional/residential). He/ She also undertake the work of repair and maintenance of existing septic tanks.

**Overview of Qualification**
- NSQF Level: 4
- Course Duration/Training Hours: 80
- Trainee Qualification: 5th Pass, Minimum experience of 3 year in masonry work
- Entry Age (Years): Minimum age: 19

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**Faecal Sludge Treatment Plant O&M Technician SGJ/Q6404 v1.0**

NQR Code: **2019/ES/SCGJ/3330**

**DESCRIPTION**
The Learner would carry out day-to-day operations of the FSTP. He /She would be able to identify repair and maintenance tools and equipment at FSTP and responsible for routine maintenance of pumps, engines, motors, filters, bar screens, valves, pipes, and any other equipment used in FSTP.

**Overview of Qualification**
- NSQF Level: 4
- Course Duration/Training Hours: 200
- Trainee Qualification: ITI or Equivalent
- Entry Age (Years): Minimum age: 18

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Qualifications (Skill Course)

Waste water Management
Potential Job role

Overview of Qualification

NSQF Level: 4
Course Duration/Training Hours: 120
Trainee Qualification: 5th Pass
Entry Age (Years): Minimum age: 18

Desludging Operator SGJ/Q6403 v1.0
NQR Code: 2019/ES/SCGJ/3329

DESCRIPTION
The Learner would be able to empty, transport and dispose faecal sludge from the septic tank to desludging site / Faecal Sludge Treatment Plant. He/She would demonstrate preventive maintenance and operate pumps, suction hoses and other machinery/equipment to empty the septic tank and appropriately dispose the sludge. As an entrepreneur he/she would venture into desludging services for managing Faecal Sludge.
Qualifications (Skill Course)

**Sustainable Practices**

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**Technician-Paper Bag Manufacturing SGJ/Q8701 v1.0**
NQR Code: [2020/PPP/SCGJ/03879](#)

**DESCRIPTION**
The Learner would make eyelets and fix the handle or paste paper twisted rope handle to manufacture the final product and suitably pack the finished product for dispatch to the customer. S/he would follow applicable safety standards and improve soft skills.

**Overview of Qualification**
- **NSQF Level:** 3
- **Course Duration/Training Hours:** 225
- **Trainee Qualification:** Ability to read and write
- **Entry Age (Years):** Minimum age: 18

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**Paper Bag Maker SGJ/Q8702 v1**
NQR Code: [2020/PPP/SCGJ/038803324](#)

**DESCRIPTION**
The Learner would source and use different kind of papers as per client requirement and sell paper bags through different channels. S/he ensures compliance with statutory requirements for setting up of the production unit. S/he develop Entrepreneurship skills to acquire requisite infrastructure/land. S/he is also responsible for overall management, recruitment and sustenance of the business.

**Overview of Qualification**
- **NSQF Level:** 5
- **Course Duration/Training Hours:** 130
- **Trainee Qualification:** 8th Pass with 2 Years ITI program or 10th Class or Certified Paper Bag Technician with 3-5 Years of experience
- **Entry Age (Years):** Minimum age: 18
SCGJ e-learning Management System (SEMS) | www.sems.training

An initiative of Skill Council for Green Jobs to facilitate online skill activities in the Green Jobs sector by aggregating all its partners on a single digital platform and then making learning activities accessible to all candidates across India.

**Build skills with online training & certificates from experts in green energy sector.**

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**Key Highlights**

1. **Online Trainings**
   Dedicated portal to put information about your online trainings supported by SCGJ. TPs can spread awareness about innovative e-learning initiatives (webinars etc.).

2. **Candidate Mobilization**
   Option for candidates to register in your e-learning activities from SEMS portal. Candidates can view Training partner details (website) before registering.

3. **MCQ Tests**
   Feature for TPs to create online MCQ test for each e-learning activity. Option for candidates to attempt assessment test and view their result.

4. **Online Training Certificate**
   Instant certification generation for candidates who clear assessment. Study resources related to e-training can be made accessible to students.

5. **Communication Interface**
   Interface to interact with SCGJ for all TOT programs conducted online. Personalized TP Dashboard to monitor self performance.
Skill Council for Green Job’s Rozgar Portal is a unique technology intervention which makes job opportunities for skilled professional in green energy sector accessible by connecting them with coveted employers across India.

This technologically advanced solution is the brainchild of Skill Council for Green Jobs, which automates the entire talent acquisition process for employers, provides job opportunities to skilled workforce and help SCGJ make necessary interventions in Skill development activities to meet industry needs.

Rozgar Portal will support SCGJ mission to provide **10 Lakhs Jobs by 2030**

**EMPLOYER**
Automates talent acquisition process for employers

**CANDIDATE**
Provides job opportunities to skilled workforce in green energy sector

**SCGJ ADMIN**
Interventions in skill development activities to meet industry needs