

# Model Curriculum

## Solar Proposal Evaluation Specialist

**SECTOR:** GREEN JOBS  
**SUB-SECTOR:** RENEWABLE ENERGY  
**OCCUPATION:** Solar Project evaluation  
**REF ID:** SGJ/Q0105, V1.0  
**NSQF LEVEL:** 7



## Certificate

### CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

**SKILL COUNCIL FOR GREEN JOBS**

for

**MODEL CURRICULUM**

Complying to National Occupational Standards of  
Job Role/ Qualification Pack: 'Solar Proposal Evaluation Specialist' OP No. 'SGJ/Q0105 NSQF Level 7'

Date of Issuance: 15/02/2017  
Valid up to\*: 01/06/2019

\*Valid up to the next review date of the Qualification Pack or the  
'Valid up to' date mentioned above (whichever is earlier)



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Authorised Signatory  
(Skill Council for Green Jobs)

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# Solar Proposal Evaluation Specialist

## CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Solar Proposal Evaluation Specialist”, in the “Green Jobs” Sector/Industry and aims at building the following key competencies amongst the learner

<b>Program Name</b>	<b>Solar Proposal Evaluation Specialist</b>		
<b>Qualification Pack Name &amp; Reference ID. ID</b>	SGJ/Q0105, v1.0		
<b>Version No.</b>	1.0	<b>Version Update Date</b>	15 <sup>th</sup> February 2017
<b>Pre-requisites to Training</b>	<p>B.E. / B.Tech. / BBA / B.Com. / B.Sc. / C.A.</p> <p>Minimum 2 year of experience in a financial institution / bank / managing project finance for B.E. / B.Tech. / BBA / B.Com. / B.Sc.;</p> <p>No experience required for MBA / C.A.</p>		
<b>Training Outcomes</b>	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> <li>• Check the site feasibility of Solar PV Power Plant.</li> <li>• Assess the technology feasibility of Solar PV Power Plant.</li> <li>• Determine the financial viability of Solar PV Power Plant.</li> </ul>		

This course encompasses 3 out of 3 National Occupational Standards (NOS) of “Solar Proposal Evaluation Specialist” Qualification Pack issued by “Skill Council for Green Jobs”.

S. No	Module	Key Learning Outcomes	Equipment Required
1	<b>Introduction to Solar PV Sector in India</b>  <b>Theory Duration</b> (hh:mm) 8:00 <b>Practical Duration</b> (hh:mm) 4:00  <b>Corresponding NOS Code</b> SGJ/No114	<ul style="list-style-type: none"> <li>overview of Renewable Energy and Solar Sector in India</li> <li>overview of Rooftop Solar Sector in India</li> <li>overview of Solar PV Technology</li> <li>definitions of terms in Electricity</li> <li>type of Rooftop Solar PV Power Plants and working principles</li> <li>system components and operating principles</li> <li>metering arrangement for Rooftop Solar</li> <li>business Models for Rooftop Solar Deployment</li> <li>policy and regulatory framework</li> </ul>	Nil
2	<b>Check the Site feasibility of Solar PV Power Plant</b>  <b>Theory Duration</b> (hh:mm) 8:00 <b>Practical Duration</b> (hh:mm) 16:00  <b>Corresponding NOS Code</b> SGJ/No114	<ul style="list-style-type: none"> <li>identify the suitability of the land or rooftop, whether free hold, lease, rent etc.</li> <li>assess suitability of foundations &amp; structures of ground mount Solar PV power plant based on soil testing report including wind sustainability</li> <li>assess suitability of foundations &amp; structures of rooftop Solar PV power plant based on structural stability report including wind sustainability</li> <li>assess the availability and capacity of the local grid and substation</li> <li>identify required permits and clearances from local authority for the proposed project</li> <li>assess the solar resource availability for the site and its potential variability</li> </ul>	Nil
3	<b>Assess the Technology Feasibility of Solar PV Power Plant</b>  <b>Theory Duration</b> (hh:mm) 8:00 <b>Practical Duration</b> (hh:mm) 24:00  <b>Corresponding NOS Code</b> SGJ/No115	<ul style="list-style-type: none"> <li>Identify whether the selected technology is proven</li> <li>Examine the certificates and specification datasheets of the Solar PV power plant components for quality and adherence to standards</li> <li>Assess the warranty conditions and check the basic safety parameters of the components in terms of lifespan and quality</li> <li>Read and interpret the software simulation report of any solar modelling software for performance ratio, Annual Energy Yield, loss analysis, ROI, Payback period, cash flow, etc. For e.g. PV*SOL®, PVsyst, etc.</li> <li>Evaluate the performance of the Solar PV Power Plant.</li> </ul>	Nil

<p>4</p>	<p><b>Determine the financial viability of Solar PV Power Plant</b></p> <p><b>Theory Duration</b> (hh:mm) 06:00</p> <p><b>Practical Duration</b> (hh:mm) 06:00</p> <p><b>Corresponding NOS Code</b> SGJ/No116</p>	<ul style="list-style-type: none"> <li>• identify the capital cost of a Solar PV Power plant including module, inverter, balance of system and other development costs</li> <li>• identify and assess the replacement cost of the solar components</li> <li>• identify and assess the operation and maintenance cost</li> <li>• identify the government policy and procedures as well as benefits available, if any</li> <li>• assess a reasonable gestation period for erection and commissioning of a Solar PV Power Plant</li> <li>• calculate the Levelized Cost of Electricity (LCOE) from a Solar PV Power Plant</li> <li>• read and interpret the Power Purchase Agreement and other contractual agreements</li> <li>• assess the various risks involved in a Solar project and identify the possible risk mitigation measures</li> <li>• assess the financial viability of solar PV power plant based on the return on investment (ROI), payback period, net present value (NPV), IRR, Debt Service Coverage Ratio (DSCR), etc.</li> </ul>	<p>Nil</p>
	<p><b>Theory Duration</b> (hh:mm) 30:00</p> <p><b>Practical Duration</b> (hh:mm) 50:00</p>		

Grand Total Course Duration: 80 **Hours, 0 Minutes**

*(This syllabus/ curriculum has been approved by [Skill Council for Green Jobs](#))*

**OPTIONAL NOS**

S. No	Module	Key Learning Outcomes	Equipment Required
4	<b>Entrepreneurship Skills</b>  <b>Theory Duration</b> (hh:mm) 08:00 <b>Practical Duration</b> (hh:mm) 12:00  <b>Corresponding NOS Code</b> SGJ/No111	<ul style="list-style-type: none"> <li>Describe the Process of New venture</li> <li>Identify the Key Ingredients of a business Plan</li> <li>Distinguish between fixed and working capital requirement</li> <li>Describe the components of a loan application for fund raising</li> <li>Demonstrate the importance of time management</li> <li>Demonstrate the use of MS word and MS excel for preparing a proposal</li> <li>Demonstrate the use of MS word and MS excel for preparing a proposal</li> <li>Prepare a workable presentation for marketing and business development</li> <li>Choose the right buyer in a given situation of market parameters</li> <li>Identify the challenges and risks for new entrepreneurs and the possible mitigation measures.</li> </ul>	

## Prerequisites for Job role: “Solar Proposal Evaluation Specialist” mapped to Qualification Pack: “SGJ/Q0105, v1.0”

Sr. No.	Area	Details
1	<b>Description</b>	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “SGJ/Q0105, Version 1.0”.
2	<b>Personal Attributes</b>	Aptitude for conducting training, and pre/ post work to ensure competent, employable candidates at the end of the training. Strong communication skills, interpersonal skills, ability to work as part of a team; a passion for quality and for developing others; well-organised and focused, eager to learn and keep oneself updated with the latest in the mentioned field.
3	<b>Minimum Educational Qualifications</b>	B.E. / B.Tech. / BBA / B.Com. / B.Sc. / C.A.
4a	<b>Domain Certification</b>	Certified for Job Role: “Solar Proposal Evaluation Specialist” mapped to QP: “SGJ/Q0105, Version 1.0”. Minimum accepted score as per respective as per SCGJ guidelines is 80%.
4b	<b>Platform Certification</b>	Recommended that the Trainer is certified for the Job Role: “Trainer”, mapped to the Qualification Pack: “MEP/Q0102” or equivalent. Minimum accepted score as per SCGJ is 80%.
5	<b>Experience</b>	<ul style="list-style-type: none"> <li>Minimum 2 projects or 20 MW of consulting or project finance experience on ground mount solar PV power plants</li> <li>Or</li> <li>Minimum 10 projects or 1000 kWp of consulting or project finance experience on Rooftop solar PV power plants</li> </ul>



### Annexure: Assessment Criteria

Assessment Criteria for Rooftop Solar Grid Engineer	
<b>Job Role</b>	<b>Solar Proposal Evaluation Specialist</b>
<b>Qualification Pack</b>	<b>SGJ/Qo105, Version 1.0</b>
<b>Sector Skill Council</b>	<b>Green Jobs</b>

Sr. No.	Guidelines for Assessment
1	Criteria for assessment for Qualification Pack has been created based on the NOSs and performance criteria by SCGJ. Each Performance Criteria (PC) has been assigned marks proportional to its importance within NOS and weightages have also been given among the NOSs accordingly. SCGJ has laid down the proportion of marks for Skills, Theory/Knowledge and Behaviour / Attitudes for each PC.
2	The assessment of the theory/knowledge will be based on written test/viva-voce or both while skill test shall be hands on practical. Behaviour and attitude will be assessed while performing the task.
3	The assessment shall be done as per the assessment sheets devised by SCGJ and accordingly the assessment agencies in consultation with SCGJ will create unique question papers for theory/knowledge and attitude for each candidate at each SCGJ accredited testing centres (as per assessment criteria below)
4	The assessment agencies will conduct the assessment as per the guidelines given by SCGJ having unique evaluations for skill practical for every student at each SCGJ accredited testing centre based on this criteria
5	To pass the Qualification Pack, every trainee should score a minimum of 70% in the overall assessment.
6	The marks are allocated PC wise; however, every NOS will carry a weight age in the total marks allocated to the specific QP

NOS	Performance Criteria	Marks Allocation			
		Total Mark	Out Of	Theory	Skills Practical
SGJ/N0114 Check the site feasibility of Solar PV power plant	PC1. Identify particulars of land or rooftop, whether free hold, lease, rent etc.	<b>100</b>	25	10	15
	PC2. Assess suitability of foundations & structures of ground mount Solar PV power plant based on soil testing report including wind sustainability.		25	10	15
	PC3. Assess suitability of foundations & structures of ground mount solar PV power Plant based on structural stability report including wind sustainability.		10	5	5
	PC4. Assess the availability and capacity of the local grid and substation.		10	5	5
	PC5. Identify required permits and clearances from local authority for proposed project.		10	5	5
	PC6. Assess the solar resource availability for the site and its potential variability.		20	10	10
	<b>TOTAL</b>		<b>100</b>	<b>45</b>	<b>55</b>
SGJ/N0115: Assess the Technology feasibility of	PC1. Identify whether the selected technology is proven	<b>100</b>	10	5	5
	PC2. Assess the viability of the certificates and specification datasheets of the solar PV power		20	10	10

Solar PV power plant	plant components for quality and adherence to standards.				
	PC3. Assess the warranty conditions and check the basis safety parameters of the components in terms of lifespan and quality.		20	10	10
	PC4. Read and Interpret the software simulation report of any solar modelling software for performance ratio, Annual Energy Yield, Loss analysis , ROI, Payback Period, cash flow, etc. for e.g. PV*SOL®, PVsyst,		30	10	20
	PC5. Evaluate the performance of the Solar PV Power Plant.		20	10	10
		<b>TOTAL</b>	100	40	60
SGJ/No116 Determine the financial viability of Solar PV power plant	PC1. Identify the capital cost of a Solar PV power plant including module, inverter, balance of system and other development costs.	<b>100</b>	10	4	6
	PC2. Identify and asses the replacement cost of the Solar components.		10	4	6
	PC3. Identify and asses the operation and maintenance cost		10	4	6
	PC4. Identify the government policy and procedures as well as benefits available, if any		5	3	2
	PC5. Assess a reasonable gestation period for erection and commissioning of a Solar PV power plant.		10	3	7
	PC6. Calculate the levelized cost of Electricity (LCOE) from a solar PV power plant.		10	3	7
	PC7. Read and interpret the power purchase agreement and other contractual agreements		10	3	7
	PC8. Assess the various risks involved in a solar project and identify the possible risk mitigation measures		20	8	12
	PC9. Assess the financial viability of Solar PV plant based on Return on investment (ROI), Payback period, Net present Value(NPV), IRR, Debt service coverage ratio (DSCR) , etc.		15	5	10
		<b>TOTAL</b>	100	39	61
		<b>TOTAL</b>	300	124	176

**(Optional NOS) SGJ/No111: Entrepreneurship Skills**

SGJ/No111 Entrepreneurship Skills	PC1. Describe the Process for setting up a new venture	100	8	4	4
	PC2. Identify the key ingredients of a business plan		12	5	7
	PC3. Distinguish between fixed and working capital requirements		8	3	5
	PC4. Describe the components of a loan application for fund raising		8	4	4
	PC5. Demonstrate good Etiquettes and manners while communicating with the client		8	4	4
	PC6. Demonstrate the importance of time management		8	4	4
	PC7. Demonstrate leadership skills and effective resource management techniques		8	4	4
	PC8. Demonstrate the use of MS word and MS excel for preparing a proposal		10	4	6
	PC9. Prepare a workable presentation for marketing and business development		10	4	6
	PC10. Choose the right buyer in a given situation of market parameters		10	4	6
	PC11. Identify the challenges and risks for new entrepreneurs and the possible mitigation measures		10	5	5
	<b>Total</b>	<b>100</b>	<b>45</b>	<b>55</b>	