

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR GREEN JOBS



Contents

1. Introduction and Contacts.....P1
2. Qualifications PackP2
3. Glossary of Key Terms.....P3
4. OS UnitsP4
5. Annexure: Nomenclature for QP & OS....P22
6. Assessment Criteria.....P24

What are Occupational Standards (OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

Contact Us:
Skill Council for Green Jobs,

CBIP Building, Malcha Marg, Chanakyapuri
New Delhi – 110021
Ph. 011- 41792866

E-mail:
info@sscgj.in



Introduction

Qualifications Pack- Solar Proposal Evaluation Specialist

SECTOR: GREEN JOBS

SUB-SECTOR: Renewable Energy

OCCUPATION: SOLAR PROJECT EVALUATION

REFERENCE ID: SGJ/Q0105

ALIGNED TO: NCO-2015/NIL

Solar Proposal Evaluation Specialist in an individual specialized for providing techno - commercial advice, preparing lending or funding documents, writing and reviewing of Solar PV project report.

Brief Job Description: Solar Proposal Evaluation Specialist reviews the feasibility of the site for installation, assess the techno - commercial feasibility and financial viability of setting up a Solar PV Power Plant.

Personal Attributes: This job requires the individual to concentrate on the job at hand and complete it without any error. Therefore, diligence and hardworking are desired attributes for individuals performing this role. He must also demonstrate strong work ethics, an ability to solve problems, manage time and communicate courteously with co-workers.



Job Details

Qualifications Pack Code	SGJ/Q0105		
Job Role	Solar Proposal Evaluation Specialist This job role is applicable in both national and international scenarios		
Credits(NSQF)	TBD	Version number	1.0
Sector	Green Jobs	Drafted on	18/04/2016
Sub-sector	Renewable Energy	Last reviewed on	16/06/2016
Occupation	Solar Project Evaluation	Next review date	01/06/2019
NSQC Clearance on	03/03/2017		

Job Role	SOLAR PROPOSAL EVALUATION SPECIALIST
Role Description	Solar Proposal Evaluation Specialist reviews the feasibility of the site for installation, assess the techno - commercial feasibility and financial viability of setting up a Solar PV Power Plant.
NSQF level	7
Minimum Educational Qualifications	B.E. / B.Tech. / BBA / B.Com. / B.Sc. / C.A.
Maximum Educational Qualifications	Not applicable
Training (Suggested but not mandatory)	N/A
Minimum Job Entry Age	23 years
Experience	Minimum 2 year of experience in a financial institution / bank / managing project finance for B.E. / B.Tech. / BBA / B.Com. / B.Sc. No experience required for MBA / CA
Applicable National Occupational Standards (NOS)	Compulsory: SGJ/N0114: Check the site feasibility of Solar PV Power Plant SGJ/N0115: Assess the technology feasibility of Solar PV Power Plant SGJ/N0116: Determine the financial viability of Solar PV Power Plant Optional: SGJ/N0111: Entrepreneurship Skills
Performance Criteria	As described in the relevant OS units.

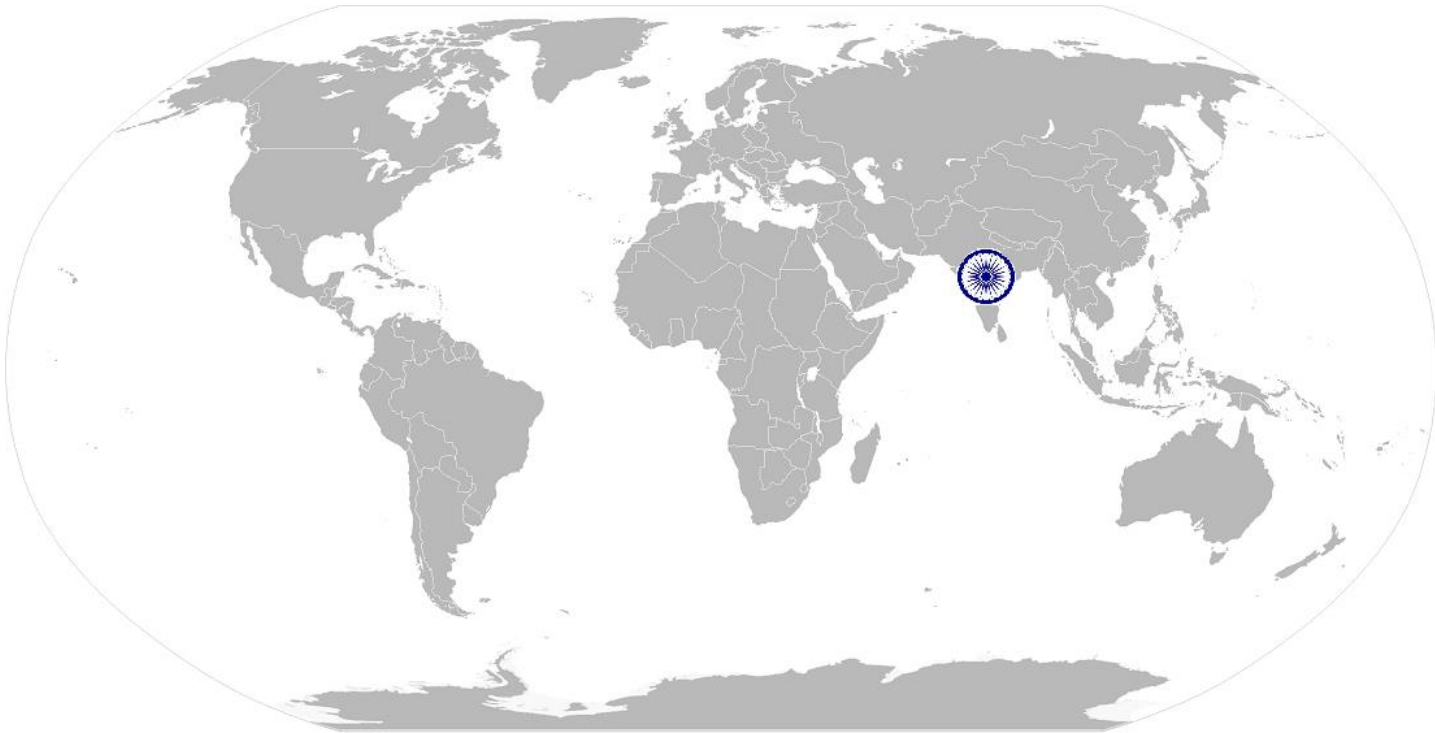


Definitions	Keywords/Terms	Description
	Sector	Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
	Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
	Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry.
	Function	Function is an activity necessary for achieving the key purpose of the sector, occupation or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS.
	Job Role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization
	OS	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and understanding they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
	Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
	NOS	NOS are Occupational Standards which apply uniquely in the Indian context.
	Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack
	Qualifications Pack	Qualifications Pack comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification pack code.
	Unit Code	Unit Code is a unique identifier for an Occupational Standard, which is denoted by an ‘N’.
	Unit Title	Unit Title gives a clear overall statement about what the incumbents should be able to do.
	Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
	Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual needs in order to conform to the required standard.
	Organizational Context	Organizational Context includes the way the organization is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities.	
Core Skills or Generic Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.	

SGJ/ N0114

Check the site feasibility of Solar PV power plant

National Occupational Standard



Overview

This unit is about the site feasibility analysis of Solar PV power plant.

SGJ/ N0114

Check the site feasibility of Solar PV power plant

National Occupational Standard

Unit Code	SGJ / N0114
Unit Title (Task)	Check the site feasibility of Solar PV power plant
Description	This unit is about the site feasibility analysis of solar photovoltaic plant.
Scope	This OS unit/task covers the following: <ul style="list-style-type: none"> • Analysis of the site conditions • Analysis of the solar resource
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Analysis of the site conditions	To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> PC1. identify the suitability of the land or rooftop, whether free hold, lease, rent etc. PC2. assess suitability of foundations & structures of ground mount Solar PV power plant based on soil testing report including wind sustainability PC3. assess suitability of foundations & structures of rooftop Solar PV power plant based on structural stability report including wind sustainability PC4. assess the availability and capacity of the local grid and substation PC5. identify required permits and clearances from local authority for the proposed project
Analysis of the solar resource	To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> PC6. assess the solar resource availability for the site and its potential variability
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company /Organization and Its processes)	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. the services the company deals in. KA2. different accounting system/procedure/processes that are followed by the company. KA3. organizational guidelines for dealing with different types of project. KA4. processes and methods of payments of compensation and recovery of loan/advances to employees.
B. Technical Knowledge	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KB1. definition of the terms: energy and power, cell, module, string, array and different module technologies KB2. functioning and operating principle of different Solar PV power plants KB3. site surveying methods and evaluation parameters. KB4. different types of soils and its appropriateness for installing a Solar PV Power Plant KB5. effect on array output of current and voltage based on series / parallel connections of modules, tilt angle, orientation and shading. KB6. shading analysis and its importance. Also, determining whether any shading will occur and estimate its effect on the system. KB7. list of various permits and clearances required for setting up of Solar PV Power Plant KB8. ground based measurement & satellite derived data for solar resource and its variation with respect to energy generation. KB9. the terms and its values - Direct normal irradiation, diffuse horizontal irradiation, global horizontal irradiation and albedo. KB10. solar Resource data and Typical Meteorological Year (TMY) data

SGJ/ N0114

Check the site feasibility of Solar PV power plant

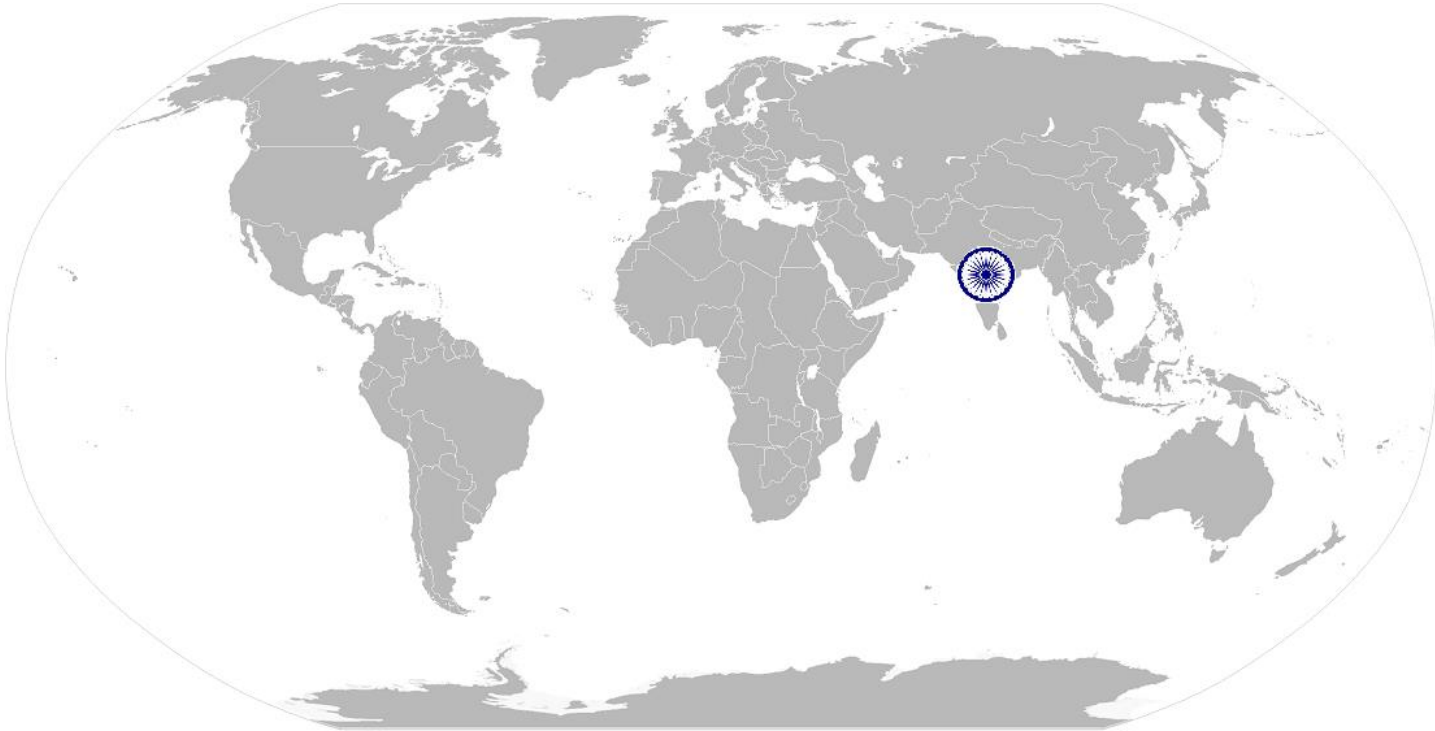
Skills	
A. Core Skills/ Generic Skills	Writing Skills
	The user/ individual on the job needs to know and understand how to: SA1. prepare and maintain proper documentation.
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA2. read and understand organizational and regulatory guidelines. SA3. read and verify legitimacy of documents submitted by concerned person. SA4. read and explain terms to the other party. SA5. read and understand manuals, health and safety instructions, memos, other company documents.
	Oral Communications
	The user/individual on the job needs to know and understand how to: SA6. express statements or information clearly so that others can hear and understand SA7. participate in and understand the main points of simple discussions SA8. respond appropriately to any queries SA9. communicate with employees
	Decision Making
	The user/individual on the job needs to know and understand how to: SB1. follow organization rule-based decision making process. SB2. take decision with systematic course of actions and/or response.
B. Professional Skills	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB3. planning and organization of work to meet deadlines. SB4. work constructively and collaboratively with others.
	Customer Centricity
	The user/individual on the job needs to know and understand how to: SB5. follow code of conduct. SB6. manage relationships with customers with intent on satisfying its requirements for service delivery.
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB7. recognize problems and search for solutions. SB8. choose best methods to complete assigned tasks. SB9. approach relevant authority when required.
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB10. apply domain knowledge, observations and data to select course of action to perform tasks.
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB11. critically evaluate information obtained from customers. SB12. ask questions for better understanding.

SGJ/ N0114

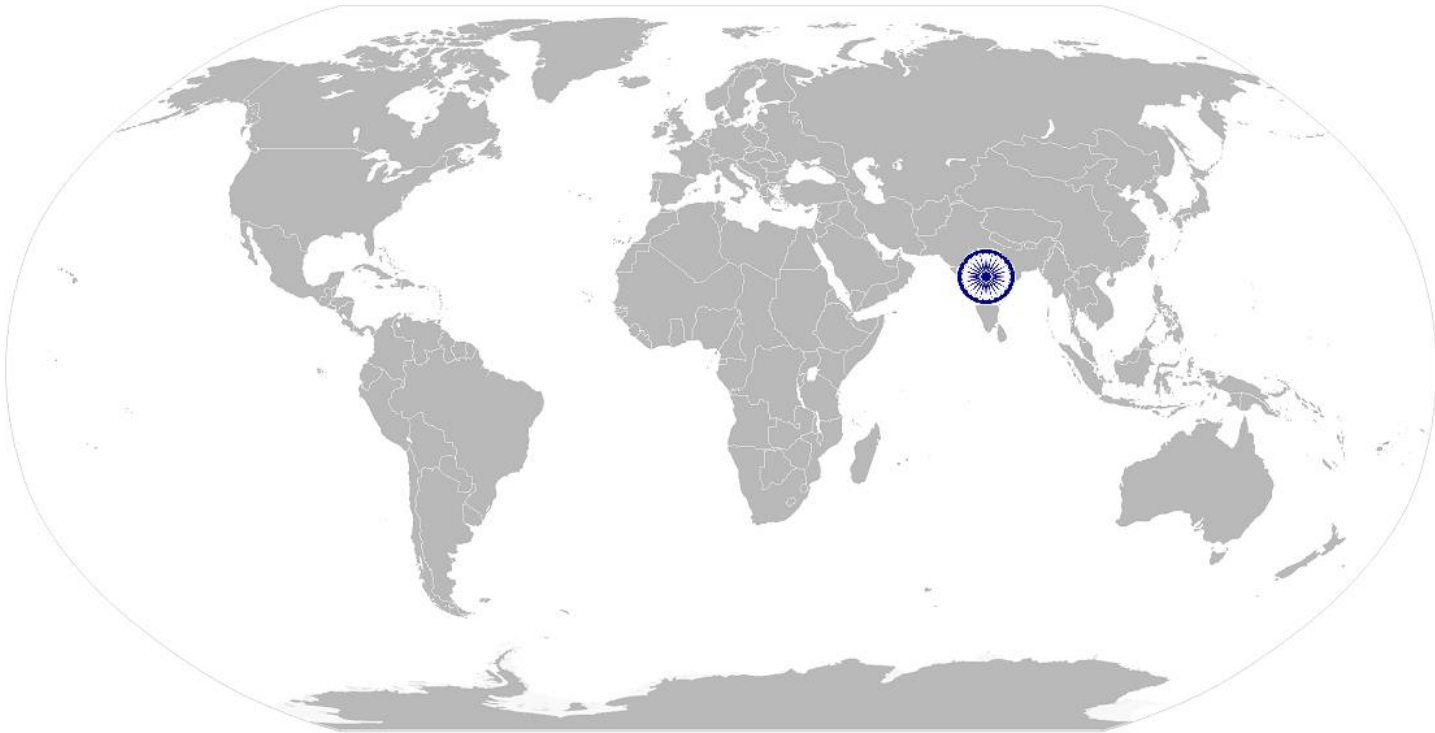
Check the site feasibility of Solar PV power plant

NOS Version Control

NOS Code	SGJ/N0114		
Credits (NSQF)	TBD	Version number	1.0
Industry Sector	Green Jobs	Drafted on	18/04/2016
Industry Sub-sector	Renewable Energy	Last reviewed on	08/06/2016
Occupation	Solar Project Evaluation	Next review date	01/06/2019



National Occupational Standard



Overview

This unit is about the analysis of feasibility of technology used in Solar PV power plant.



SGJ/N0115

Assess the technology feasibility of Solar PV power plant

National Occupational Standard

Unit Code	SGJ / N0115
Unit Title (Task)	Assess the Technology feasibility of Solar PV Power Plant
Description	This unit is about Solar Photovoltaic Technology and Plant components.
Scope	This unit/task covers the following: <ul style="list-style-type: none"> Assess the technology selected for Solar PV Power Plant Evaluate the performance of a Solar PV Power Plant
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Assess the technology selected for Solar PV power plant	To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> PC1. Identify whether the selected technology is proven PC2. Assess the viability of the certificates and specification datasheets of the Solar PV power plant components for quality and adherence to standards PC3. Assess the warranty conditions and check the basic safety parameters of the components in terms of lifespan and quality
Evaluate the performance of a Solar PV Power Plant	To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> PC4. Read and interpret the software simulation report of any solar modeling software for Performance Ratio, Annual Energy Yield, loss analysis, ROI, Payback period, cash flow, etc. For e.g. PV*SOL®, PVsyst, etc. PC5. Evaluate the performance of the Solar PV Power Plant
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company /organization and its processes)	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. The Keywords and its definitions used in industry KA2. Complete Technical and Commercial Knowledge of the report. KA3. Document Information using appropriate corporate forms
B. Technical Knowledge	The individual on the job needs to know and understand the following aspects: <ul style="list-style-type: none"> KB1. Typical Specification, types, functioning and operating principle of complete Solar PV Power Plant including solar PV modules, inverters, charge controllers, mounting structures, cables, junction Boxes, Earthing and lightning arrestors. KB2. Understand grid interconnection and different configuration of metering system, gross metering and net metering. KB3. System size, module degradation rate, Energy losses in Solar PV power plant KB4. Understand the performance indicators of a Solar PV Power Plant like Performance Ratio, Energy Yield and Capacity Utilization Factor KB5. Understand how to read and interpret software based simulation for solar resource assessment and variability analysis using PV*SOL®, PVsyst, Meteonorm, etc. KB6. Inverter response to abnormal conditions like over voltage and under voltage trip function, over and under frequency trip functions and unintentional islanding function.

SGJ/ N0115

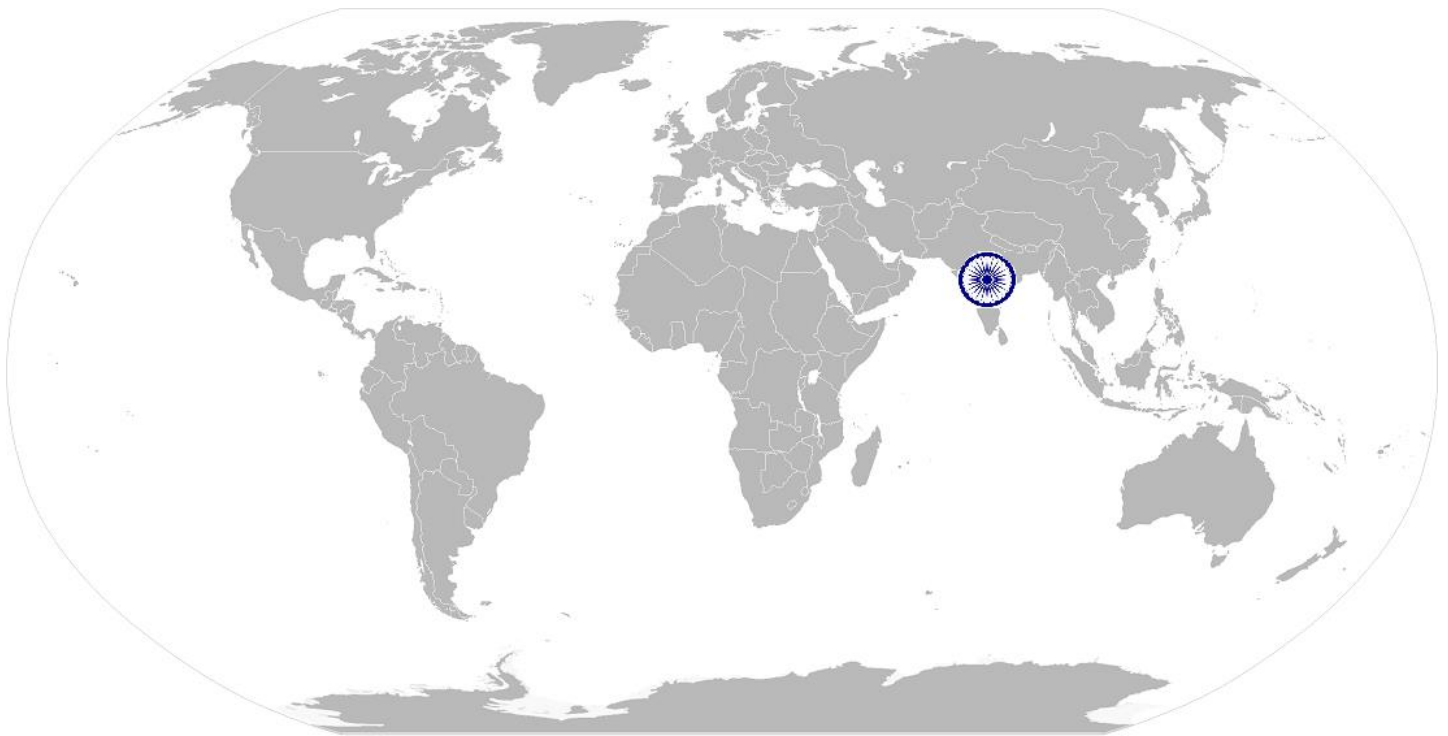
Assess the technology feasibility of Solar PV power plant

	<p>KB7. National technical regulations and technical standards such as CEA, IEEE, IEC and metering class & standard.</p> <p>KB8. Current Indian regulation on harmonics, flicker, frequency range and voltage range and its effect on quality of power.</p>
Skills	
A. Core Skills/ Generic Skills	Writing Skills
	The user/ individual on the job needs to know and understand how to: SA1. Prepare reports and summary for review.
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA2. Read and understand organizational and regulatory guidelines. SA3. Read and verify legitimacy of documents submitted by concerned person. SA4. Read and explain terms to the other party.
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA5. communicate clearly with the customer using language that he/she understands. SA6. communicate and share knowledge with peers and supervisors. SA7. participate in and understand the main points of simple discussions. SA8. respond appropriately to any queries.
	B. Professional Skills
	Decision Making
The user/individual on the job needs to know and understand how to: SB1. follow organization rule-based decision making process. SB2. take decision with systematic course of actions and/or response.	
Plan and Organize	
The user/individual on the job needs to know and understand how to : SB3. planning and organization of work to meet deadlines. SB4. work constructively and collaboratively with others.	
Customer Centricity	
N.A	
Problem Solving	
The user/individual on the job needs to know and understand how to: SB5. recognize problems and search for solutions. SB6. choose best methods to complete assigned tasks. SB7. approach relevant authority when required.	
Analytical Thinking	
The user/individual on the job needs to know and understand how to: SB8. apply domain knowledge, observations and data to select course of action to perform tasks related to appraisal. SB9. calculate accurately any tax to be charged, discount allowed etc., w.r.t. the customer's account as per the company policy.	

SGJ/ N0115

Assess the technology feasibility of Solar PV power plant

	Critical Thinking
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB10. be self-driven, take initiatives and deliver results set by the organization and respective seniors</p> <p>SB11. consistently obtain feedback and improve their performance.</p> <p>SB12. exercise judgment in unforeseen situations which preserve company values and are in line with organizational guidelines</p>

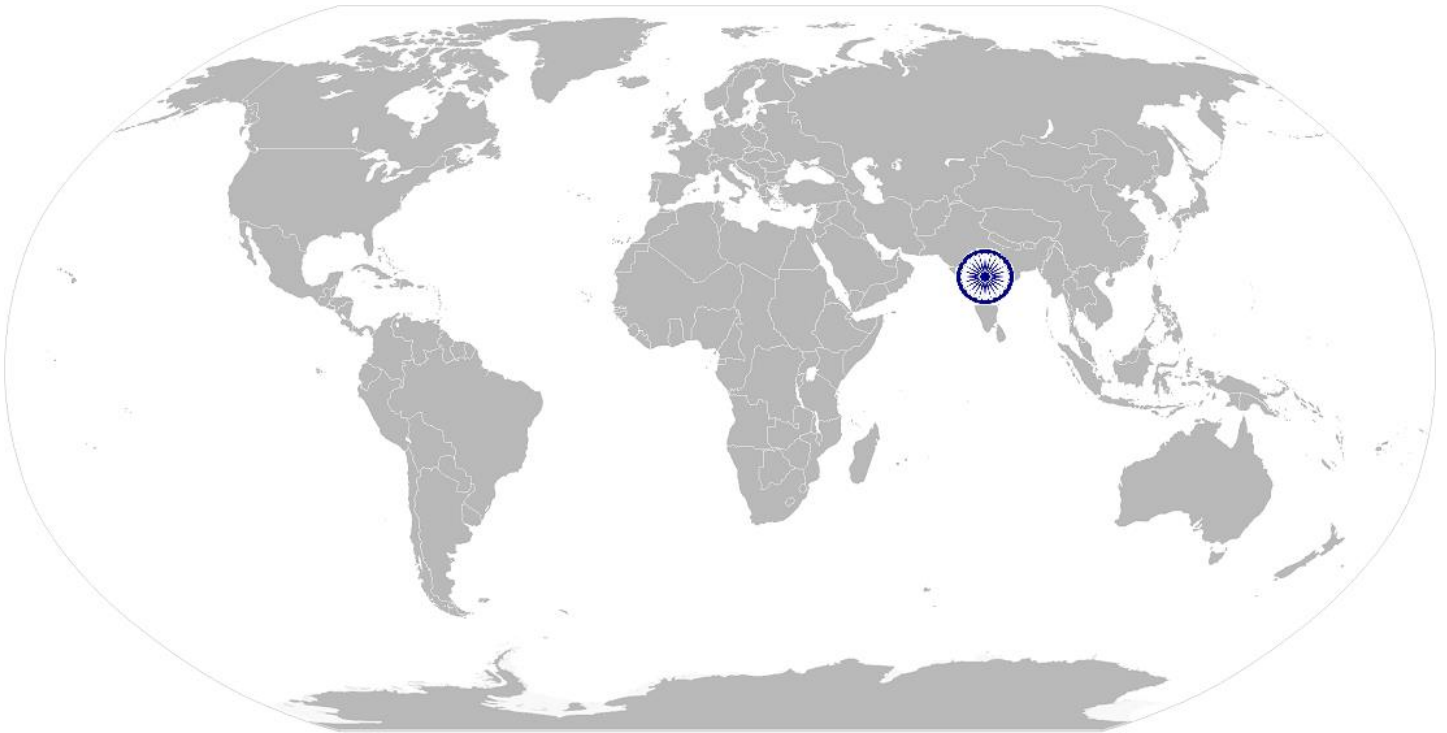


SGJ/ N0115

Assess the technology feasibility of Solar PV power plant

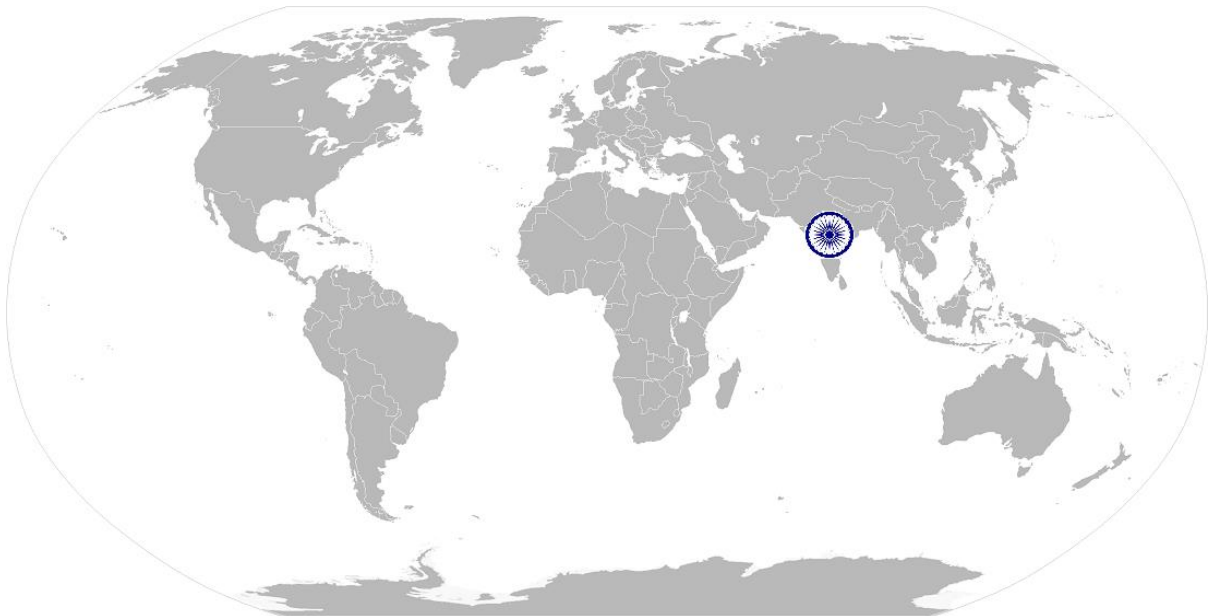
NOS Version Control

NOS Code	SGJ/N0115		
Credits (NSQF)	TBD	Version number	1.0
Industry Sector	Green Jobs	Drafted on	18/04/2016
Industry Sub-sector	Renewable Energy	Last reviewed on	08/06/2016
Occupation	Solar Project Evaluation	Next review date	01/06/2019





National Occupational Standard



Overview

This OS unit is about the financial analysis and determining the financial viability of Solar PV project.



SGJ/N0116

Determine the financial viability of Solar PV power plant

Unit Code	SGJ/N0116
Unit Title (Task)	Determine the financial viability of Solar PV power plant
Description	This OS unit is about the financial analysis of Solar PV project
Scope	This unit/ task covers the following: <ul style="list-style-type: none"> • identify the lifecycle cost of a solar project • identify the risk involved in lending to a Solar PV project • evaluate the financial viability of Solar PV Power Plant
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Identify the lifecycle cost of a solar project	To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> PC1. identify the capital cost of a Solar PV Power plant including module, inverter, balance of system and other development costs PC2. identify and assess the replacement cost of the solar components PC3. identify and assess the operation and maintenance cost PC4. identify the government policy and procedures as well as benefits available, if any PC5. assess a reasonable gestation period for erection and commissioning of a Solar PV Power Plant PC6. calculate the Levelized Cost of Electricity (LCOE) from a Solar PV Power Plant
Identify risk involved in lending to a Solar PV project	To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> PC7. read and interpret the Power Purchase Agreement and other contractual agreements PC8. assess the various risks involved in a Solar project and identify the possible risk mitigation measures
Evaluate financial viability of Solar PV Power Plant	To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> PC9. 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.
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The individual on the job needs to understand: <ul style="list-style-type: none"> KA1. company's policies on: incentives, personnel management KA2. company's code of conduct KA3. importance of individual's role in the work flow organisation culture KA4. company's reporting structure KA5. company's documentation policy KA6. company's different department and concerned authority KA7. company's customer support policy
B. Technical Knowledge	The individual on the job needs to know and understand: <ul style="list-style-type: none"> KB1. lifecycle cost and Capital cost of a Solar PV Power Plant including capital cost of module, inverter, mounting structure and balance of system. KB2. development costs and Operational & Maintenance expenses. KB3. how to take advantage of solar energy modelling simulation software such as PV*SOL®, PVsyst, etc. KB4. viable options of DSCR, IRR, NPV and Payback period of Solar PV Power Plant. KB5. government policies and incentives such as feed-in-tariffs, net-metering, income tax benefit through accelerated depreciation, viability gap funding, central financial assistance (CFA) as a capital subsidy on Solar PV projects.

SGJ/N0116

Determine the financial viability of Solar PV power plant

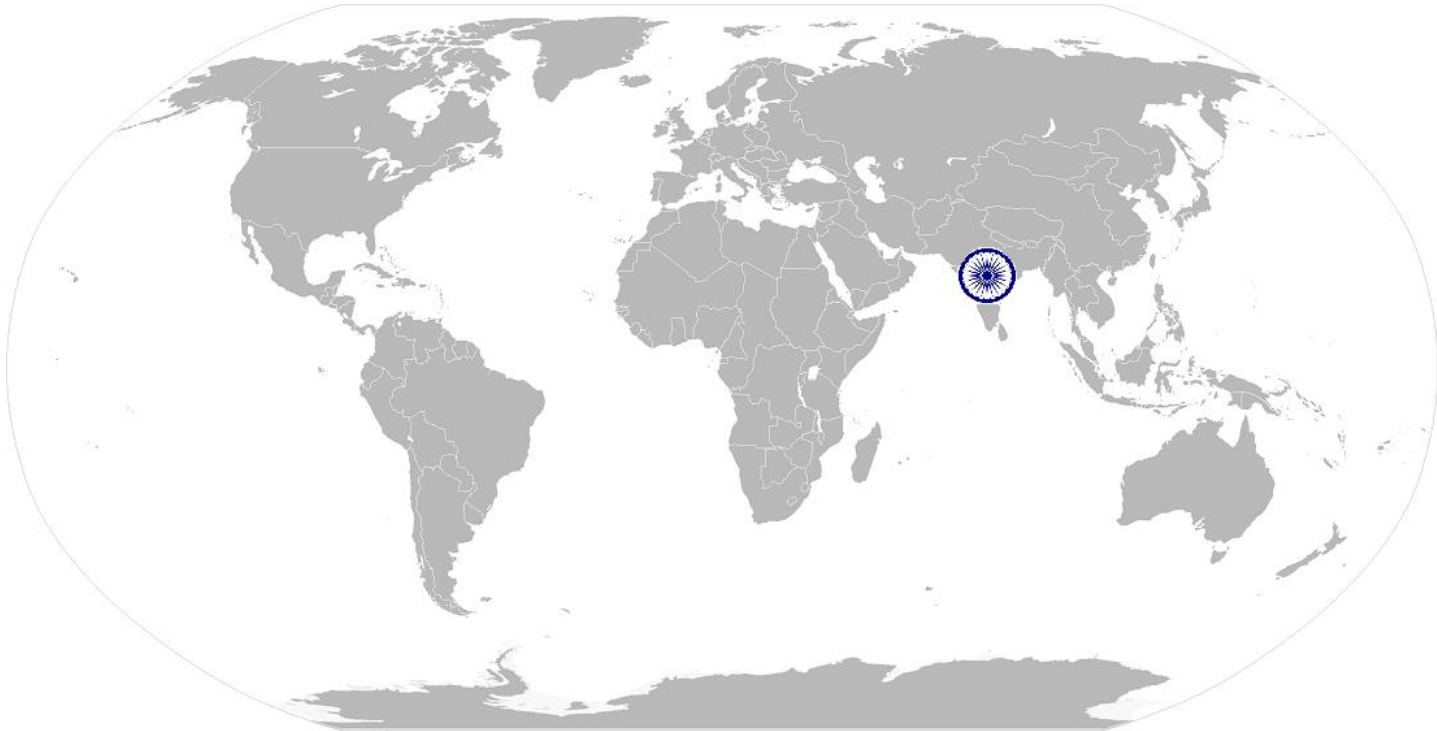
	<p>KB6. government schemes such as renewable purchase obligation (RPO), renewable generation obligation (RGO) and renewable energy certificates (REC).</p> <p>KB7. key features of basic business model such as capex, opex, ppa-based model.</p> <p>KB8. understanding of various risks involved in the project and its mitigation. for, e.g. technology risk, solar resource data risk, power off taker risk, policy and regulatory uncertainty, developer risk, low credit profile of borrowers, theft risk, etc.</p>
Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills
	The user/ individual on the job needs to know and understand how to: SA1. prepare and maintain documentation
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA1. read vernacular/English language SA2. read and understand manuals, health and safety instructions, memos, other company documents SA3. read from different sources- books, screens in machines and signage read various colour codes, as per standard electrical, mechanical and civil nomenclature
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA4. express statements or information clearly so that others can hear and understand SA5. participate in and understand the main points of simple discussions SA6. respond appropriately to any queries communicate with employees
B. Professional Skills	Decision Making
	The user/individual on the job needs to know and understand how to: SB1. follow organization rule-based decision making process. SB2. take decision with systematic course of actions and/or response.
	Plan and Organize
	The user/individual on the job needs to know and understand how to : SB3. planning and organization of work to meet deadlines. SB4. work constructively and collaboratively with others.
	Customer Centricity
	The user/individual on the job needs to know and understand how to: SB5. follow code of conduct. SB6. manage relationships with customers with intent on satisfying its requirements for service delivery.
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB7. recognize problems and search for solutions. SB8. choose best methods to complete assigned tasks. SB9. approach relevant authority when required.
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB10. apply domain knowledge, observations and data to select course of action to perform tasks related to Solar Photovoltaic Systems.

SGJ/N0116

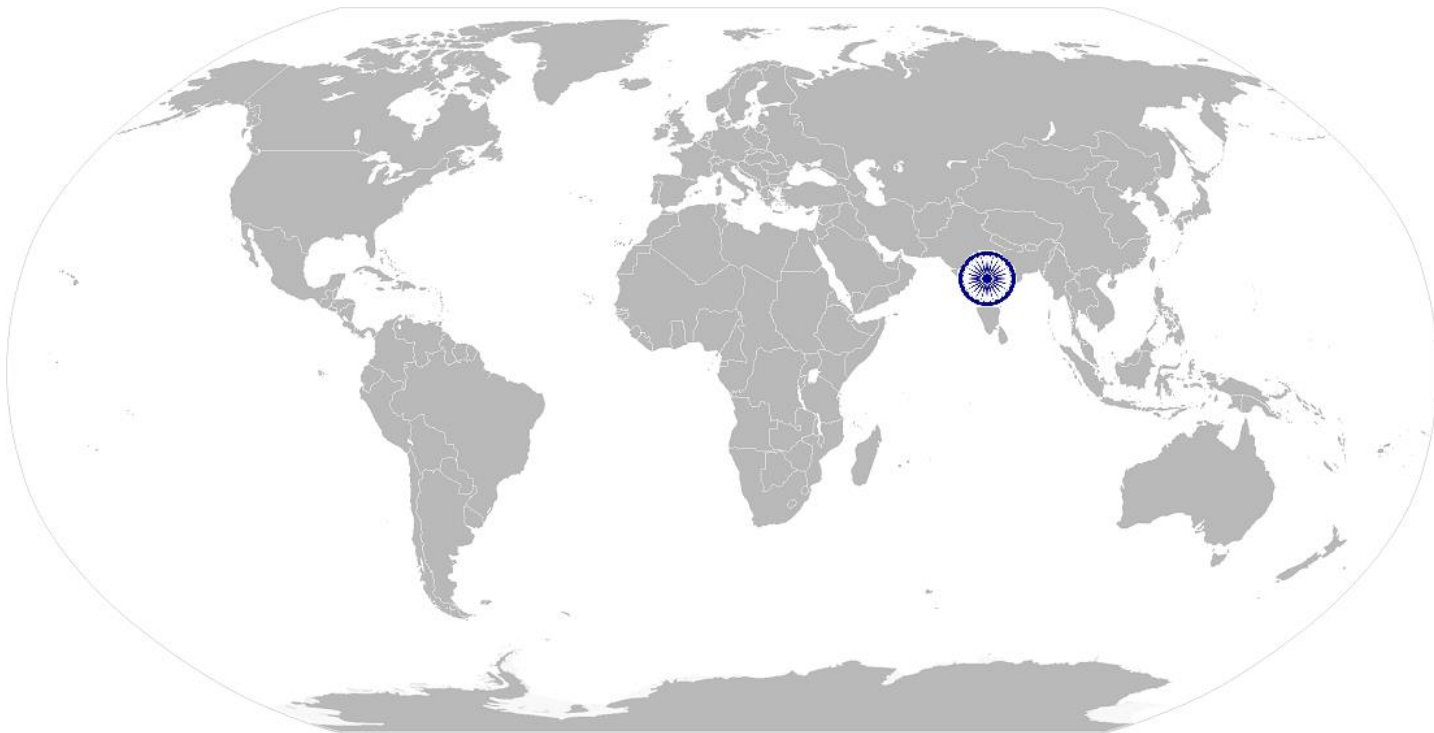
Determine the financial viability of Solar PV power plant

NOS Version Control

NOS Code	SGJ/N0116		
Credits (NSQF)	TBD	Version number	1.0
Industry Sector	Green Jobs	Drafted on	18/04/2016
Industry Sub-sector	Renewable Energy	Last reviewed on	16/06/2016
Occupation	Solar Project Evaluation	Next review date	01/06/2019



National Occupational Standard



Overview

This unit is about developing entrepreneurship skills for starting a new business and managing it.

SGJ/ N0111

Entrepreneurship Skills

National Occupational Standard

Unit Code	SGJ/N0111
Unit Title (Task)	Entrepreneurship Skills
Description	This unit is about developing entrepreneurship skills for starting a new business and managing it.
Scope	This unit/ task covers the following: <ul style="list-style-type: none"> starting a new venture. maintaining a business.
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Starting a new venture	To be competent, the user/individual on the job must be able to: PC1. describe the process for setting up a new venture PC2. identify the key ingredients of a business plan PC3. distinguish between fixed and working capital requirements PC4. describe the components of a loan application for fund raising PC5. demonstrate good etiquettes and manners while communicating with the client PC6. demonstrate the importance of time management PC7. demonstrate leadership skills and effective resource management techniques
Maintaining a business	To be competent, the user/individual on the job must be able to: PC8. demonstrate the use of ms word and ms excel for preparing a proposal PC9. prepare a workable presentation for marketing and business development PC10. choose the right buyer in a given situation of market parameters PC11. identify the challenges and risks for new entrepreneurs and the possible mitigation measures
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. government/corporate policies and guidelines on solar pv, solar rooftop KA2. company's work safety policy KA3. company's customer support policy. KA4. company's documentation policy. KA5. obtain authorization from specified field safety officer and supervisor. KA6. company's different department.

SGJ/ N0111

Entrepreneurship Skills

<p>B. Technical Knowledge</p>	<p>The individual on the job needs to know and understand the following aspects:</p> <p>KB1. definition of entrepreneurship from different perspectives</p> <p>KB2. outline the importance of entrepreneurship: enhances creativity and innovation, builds self confidence in people, serves as a tool for nation building, serves as the engine of growth for the nation's economy.</p> <p>KB3. explain the reasons why entrepreneurship should be developed in a country: reasons include: employment generation, increased national production and re-investing national resources</p> <p>KB4. state the characteristics of an entrepreneur: characteristics of the entrepreneurs, risk taking, innovation and creativity, opportunity orientation</p> <p>KB5. explain the challenges/problems facing small businesses like financing and access to markets, government policies and inadequate managerial skills</p> <p>KB6. describe the procedure for registering a business by defining a business idea, source of business idea, programs/ procedure and available schemes.</p> <p>KB7. state the process of starting a new enterprises process by mobilizing and reorganizing resources.</p> <p>KB8. study of different pictorial expression of non-verbal communication and its analysis</p> <p>KB9. components of effective communication- conviction, confidence & enthusiasm, listening</p> <p>KB10. kiss (keep it short & simple) in communication – composing effective messages</p> <p>KB11. identifying one's strength and weakness</p> <p>KB12. time management concepts including discipline, punctuality, act in time on commitment and quality productive time</p> <p>KB13. ability to shape and direct working/process methods according to self-defined criteria</p> <p>KB14. empathize: comprehend other opinions points of views, and face them with understanding</p> <p>KB15. learn ms word and ms excel: creating, organizing & formatting content, collaborating – merge, insert, view, edit, track mode etc.</p> <p>KB16. understand the fixed and capital working requirements for running a business</p> <p>KB17. understand how to make a business plan</p>
<p>Skills</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA7. prepare and maintain documentation</p> <p>Reading Skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA8. read vernacular/english language</p> <p>SA9. read and understand manuals, health and safety instructions, memos, other company documents</p> <p>SA10. read from different sources- books, screens in machines and signage</p> <p>SA11. read various colour codes, as per standard electrical, mechanical and civil nomenclature</p> <p>Oral Communication (Listening and Speaking skills)</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA12. express statements or information clearly so that others can hear and understand</p> <p>SA13. participate in and understand the main points of simple discussions</p> <p>SA14. respond appropriately to any queries</p> <p>SA15. communicate with employees.</p>

SGJ/ N0111

Entrepreneurship Skills

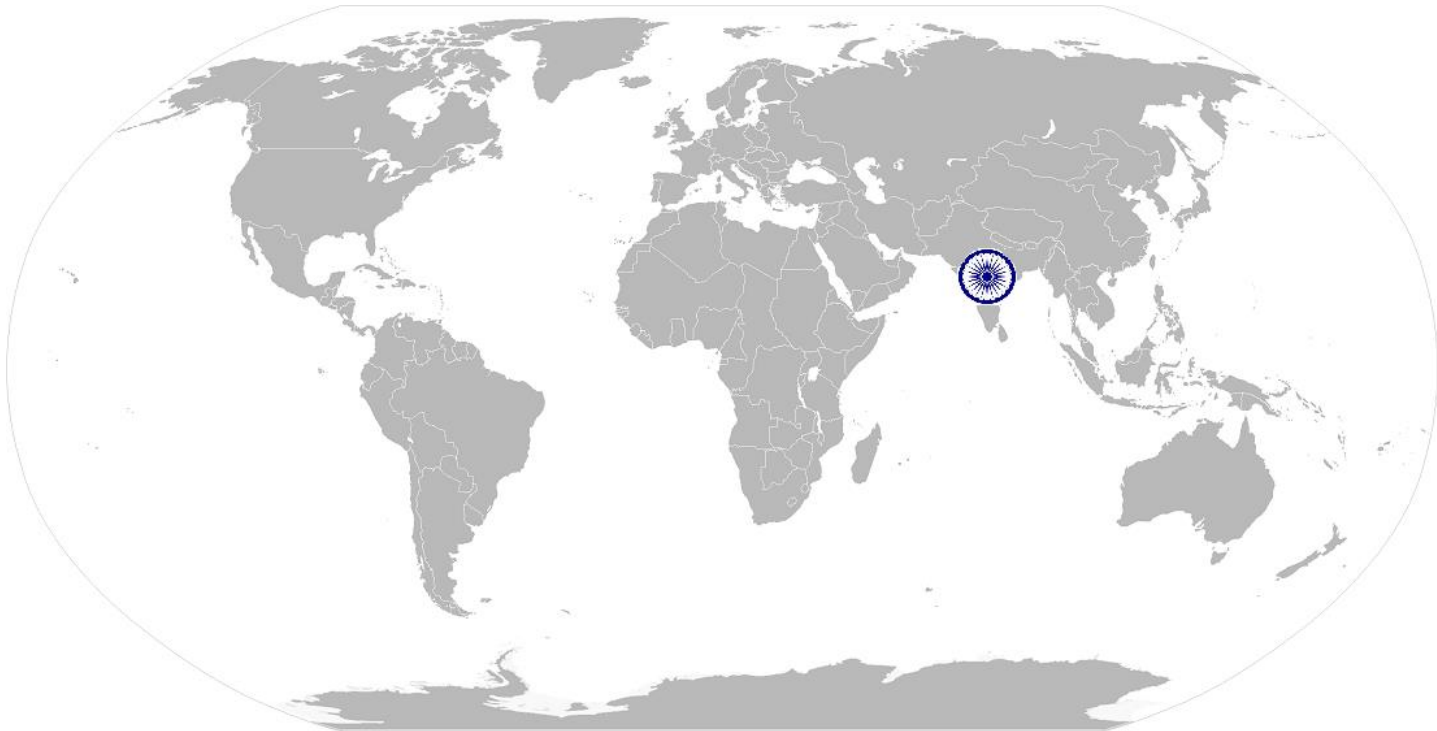
A. Professional Skills	Decision making
	The user/individual on the job needs to know and understand how to: SB1. define organization rule- based decision making process SB2. take decision with systematic course of actions and/or response
	Plan and organize
	The user/individual on the job needs to know and understand how to: SB3. plan and organize work schedule to meet deadlines SB4. work constructively and collaboratively with others
	Customer centricity
	The user/individual on the job needs to know and understand how to: SB5. prepare organization code of conduct SB6. manage relationships with customers with intent on satisfying its requirements for service delivery
	Problem solving
	SB7. recognize problems and search for solutions SB8. choose best methods to complete assigned tasks
	Analytical thinking
	The user/individual on the job needs to know and understand how to: SB9. apply domain knowledge, observations and data to select course of action to perform tasks related to solar photovoltaic power plant.
	Critical thinking
The user/individual on the job needs to know and understand how to: SB10. critically evaluate information obtained from customers and workers to perform day to day activities SB11. ask questions for better understanding	

SGJ/ N0111

Entrepreneurship Skills

NOS Version Control

NOS Code	SGJ/N0111		
Credits (NSQF)	TBD	Version number	1.0
Industry Sector	Green Jobs	Drafted on	15/04/2016
Industry Sub-sector	Renewable Energy	Last reviewed on	02/05/2016
Occupation	Entrepreneur	Next review date	01/05/2019



Qualification pack for “Solar Proposal Evaluation Specialist”

Annexure

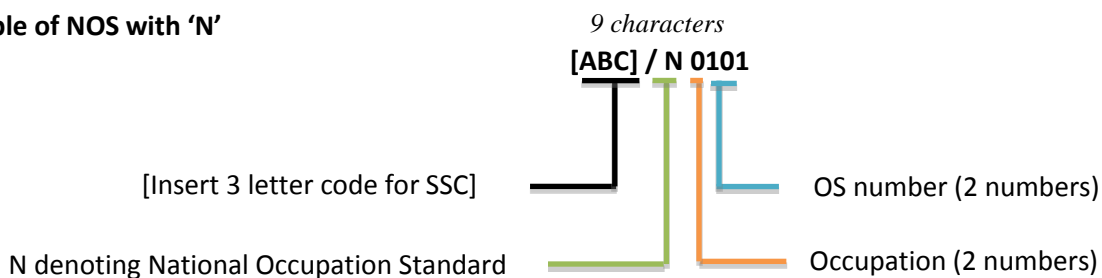
Nomenclature for QP and NOS

Qualifications Pack



Occupational Standard

An example of NOS with ‘N’



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The following acronyms/codes have been used in the nomenclature above:

Sub-sector		Range of Occupation numbers
Renewables (01-35)	Solar Photovoltaic	01-05
	Solar Thermal	06-10
	Wind	11-15
	Hydro	16-20
	Biomass	21-25
	Geothermal	26-30
	All Renewables (Cross-cutting/ Enabling Activities)	31-35
Green Transportation (36 - 40)	Alternative Fuel Transportation	36-40
	Bio-fuels and Farming	40-45
	Other Green Transportation	46-50
Green Construction (51- 60)	Green Buildings	51-55
	Energy Efficiency	56-60
Waste Management (61- 65)	Waste Management	61-65
Water Management (66-70)	Water and Wastewater Management	66-70
Co- Generation (71 - 75)	Co-generation	71-75
Other Green Jobs (76- 99)	Carbon Sinks	76-80
	Environmental Compliance and Sustainability Planning	81-85
	Other Green Jobs	85-99

Sequence	Description	Example
Three letters	Industry name	SGJ
Slash	/	/
Next letter	Whether QP or NOS	N
Next two numbers	Occupation code	01
Next two numbers	OS number	01

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CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role Solar Proposal Evaluation Specialist

Qualification Pack SGJ/Q0105

Sector Skill Council Green Jobs

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria
5. To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS
6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack

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.	100	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
	TOTAL		100	45	55
SGJ/N0115: Assess the Technology feasibility of Solar PV power plant	PC1. Identify whether the selected technology is proven	100	10	5	5
	PC2. Assess the viability of the certificates and specification datasheets of the solar PV power plant components for quality and adherence to standards.		20	10	10
	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 modeling software for performance ratio, Annual Energy Yield, Loss analysis, ROI, Payback Period, cash flow, etc. for e.g. PV*SOL®, PVsyst,		30	10	20

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	PC5. Evaluate the performance of the Solar PV Power Plant.		20	10	10
		TOTAL	100	40	60
SGJ/N0116 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.	100	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
		TOTAL	100	39	61
		TOTAL	300	124	176

Optional NOS SGJ/N0111: Develop Entrepreneurship Skills					
SGJ/N0111 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
		TOTAL	100	45	55