



## QUALIFICATION FILE

### Bio-Energy Micro Entrepreneur

Short Term Training (STT)

General Qualification

NCrF/NSQF Level: 4

**Submitted By:**

**Skill Council for Green Jobs**

**Chief Executive Officer**

**CBIP Building, Malcha Marg,**

**Chanakyapuri, New Delhi - 110021**

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## Section 1: Basic Details

1.	<b>Qualification Name</b>	Bio-Energy Micro Entrepreneur	
2.	<b>Sector/s</b>	Environmental Science	
3.	<b>Type of Qualification:</b> <input checked="" type="checkbox"/> New	<b>NQR Code &amp; version of existing/previous qualification:</b>	<b>Qualification Name of existing/previous version:</b>
4.	<b>a. OEM Name</b> <b>b. Qualification Name</b> (Wherever applicable)	Bio-Energy Micro Entrepreneur	
5.	<b>National Qualification Register (NQR) Code &amp;Version</b>	QG-04-ES-00912-2023-V1-SCGJ & version 1	<b>6. NCrF/NSQF Level:</b> 4
7.	<b>Award (Certificate/Diploma/Advance Diploma/ Any Other</b>	Certificate	
8.	<b>Brief Description of the Qualification</b>	<p>Bio-Energy Micro Entrepreneur is responsible for setting up a production unit for manufacturing biomass pellets from agriculture waste or setting up small biogas unit at site.</p> <p>He/She would be responsible for developing a business plan, hiring the human resources, acquiring financial and material resources, providing leadership, and their vision drives the company's strategy.</p>	

9.	<b>Eligibility Criteria for Entry for Student/Trainee/Learner/Employee</b>	<b>a. Entry Qualification &amp; Relevant Experience:</b> <table border="1" data-bbox="1025 220 2031 949"> <thead> <tr> <th data-bbox="1025 220 1133 300">S. No.</th> <th data-bbox="1133 220 1599 300">Academic/Skill Qualification (with Specialization - if applicable)</th> <th data-bbox="1599 220 2031 300">Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td data-bbox="1025 300 1133 375">1</td> <td data-bbox="1133 300 1599 375">10th grade pass and pursuing continuous schooling</td> <td data-bbox="1599 300 2031 375">NA</td> </tr> <tr> <td data-bbox="1025 375 1133 491">2</td> <td data-bbox="1133 375 1599 491">12th grade pass (all streams) with no experience</td> <td data-bbox="1599 375 2031 491">NA</td> </tr> <tr> <td data-bbox="1025 491 1133 603">3</td> <td data-bbox="1133 491 1599 603">Completed 2nd year of 3-year diploma (after 10th)</td> <td data-bbox="1599 491 2031 603">NA</td> </tr> <tr> <td data-bbox="1025 603 1133 751">4</td> <td data-bbox="1133 603 1599 751">10th grade pass with two years of any combination of NTC/NAC/CITS or equivalent.</td> <td data-bbox="1599 603 2031 751">NA</td> </tr> <tr> <td data-bbox="1025 751 1133 831">5</td> <td data-bbox="1133 751 1599 831">8th pass plus 2-year NTC plus 1-Year NAC plus 1-Year CITS</td> <td data-bbox="1599 751 2031 831">NA</td> </tr> <tr> <td data-bbox="1025 831 1133 871">6</td> <td data-bbox="1133 831 1599 871">Grade 10 pass</td> <td data-bbox="1599 831 2031 871">2 years of relevant experience</td> </tr> <tr> <td data-bbox="1025 871 1133 949">3</td> <td data-bbox="1133 871 1599 949">Previous relevant Qualification of NSQF Level 3</td> <td data-bbox="1599 871 2031 949">3-years relevant experience</td> </tr> </tbody> </table> <p data-bbox="949 954 1151 986"><b>b. Age: 16 years</b></p>		S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1	10th grade pass and pursuing continuous schooling	NA	2	12th grade pass (all streams) with no experience	NA	3	Completed 2nd year of 3-year diploma (after 10th)	NA	4	10th grade pass with two years of any combination of NTC/NAC/CITS or equivalent.	NA	5	8th pass plus 2-year NTC plus 1-Year NAC plus 1-Year CITS	NA	6	Grade 10 pass	2 years of relevant experience	3	Previous relevant Qualification of NSQF Level 3	3-years relevant experience
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)																									
1	10th grade pass and pursuing continuous schooling	NA																									
2	12th grade pass (all streams) with no experience	NA																									
3	Completed 2nd year of 3-year diploma (after 10th)	NA																									
4	10th grade pass with two years of any combination of NTC/NAC/CITS or equivalent.	NA																									
5	8th pass plus 2-year NTC plus 1-Year NAC plus 1-Year CITS	NA																									
6	Grade 10 pass	2 years of relevant experience																									
3	Previous relevant Qualification of NSQF Level 3	3-years relevant experience																									
10.	<b>Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))</b>	15	<b>11. Common Cost Norm Category:</b> II																								
12.	<b>Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)</b>	NA																									

13.	<b>Training Duration by Modes of Training Delivery</b> (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)	<input checked="" type="checkbox"/> Offline <input checked="" type="checkbox"/> Online <input checked="" type="checkbox"/> Blended						
		<b>Training Delivery Modes</b>	<b>Theory (Hours)</b>	<b>Practical (Hours)</b>	<b>OJT Mandatory (Hours)</b>	<b>OJT Recommended (Hours)</b>	<b>Employability (Hours)</b>	<b>Total (Hours)</b>
		<b>Classroom (offline)</b>	100	170	120		60	450
	<b>Online</b>							
		(Refer Blended Learning Annexure for details)						
14.	<b>Aligned to NCO/ISCO Code/s</b> (if no code is available mention the same)	NCO-2015/ 2433.0601						
15.	<b>Progression path after attaining the qualification</b> (Please show Professional and Academic progression)	Vertical Progression: Bio-Energy Entrepreneur						
16.	<b>Other Indian languages in which the Qualification &amp; Model Curriculum are being submitted</b>	Nil						
17.	<b>Is similar Qualification(s) available on NQR-if yes, justification for this qualification</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
18.	<b>Is the Job Role Amenable to Persons with Disability</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>If "Yes", specify applicable type of Disability:</b> <input checked="" type="checkbox"/> Deaf <input checked="" type="checkbox"/> Hard of Hearing <input checked="" type="checkbox"/> Acid Attack Victims <input checked="" type="checkbox"/> Dwarfism						
19.	<b>How Participation of Women will be Encouraged</b>	The programme would be proposed to be incorporated in women ITIs and diploma colleges to train women candidates on the job role. TPs shall be encouraged to onboard at least a certain number of female candidates in each batch						
20.	<b>Are Greening/ Environment Sustainability Aspects Covered</b> (Specify the NOS/Module which covers it)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
21.	<b>Is Qualification Suitable to be Offered in Schools/Colleges</b>	Schools <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Colleges <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						

22.	<b>Name and Contact Details of Submitting / Awarding Body SPOC</b> (In case of CS or MS, provide details of both Lead AB & Supporting ABs)	<b>Name:</b> Dr. Praveen Saxena <b>Email:</b> <a href="mailto:ceo.greenjobs@gmail.com">ceo.greenjobs@gmail.com</a> <b>Website:</b> <a href="https://sscgi.in/">https://sscgi.in/</a>	<b>Contact No.:</b> 9871119101
23.	<b>Final Approval Date by NSQC:</b> 31.08.2023	<b>24. Validity Duration:</b> 3 years	<b>25. Next Review Date:</b> 30.08.2026

## Section 2: Module Summary

## NOS/s of Qualifications

*(In exceptional cases these could be described as components)*

## Mandatory NOS/s:

Specify the training duration and assessment criteria at NOS/ Module level. For further details refer curriculum document.

**Th.-Theory Pr.-Practical OJT-On the Job Man.-Mandatory Training Rec.-Recommended Proj.-Project**

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/Non-Core	NCrF/N SQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	Emp.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
1.	Introduction of Entrepreneurship and describes the basics of biomass energy sector	SGJ/N4102	Core	4	1	20	10	120		30	23	27			50	14
2.	Manage financial budget and developing business plans	SGJ/N4103	Core	4	2	20	40			60	60	40			100	28
3.	Utilize government schemes and perform financial management of the business	SGJ/N4104	Core	4	2	15	45			60	35	15			50	14
4.	Maintain Personal Health & Safety in Bioenergy manufacturing facility	SGJ/N4050	Core	4	1	15	15			30	25	25			50	14
5.	Employability Skills (60 hours)	DGT/VSQ/N0102	Non-Core		2					60	20	30			50	14
6.	On the Job training				4					120						

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/Non-Core	NCrF/N SQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	Emp.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
<b>Duration (in Hours) / Total Marks(with either one elective)</b>				4	12	70	110	120	60	<b>360</b>	200	200			400	100

## Elective Nos/s:

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/Non-Core	NCrF/N SQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
1.	Ensure Manufacturing of Biomass pellet (Elective 1)	SGJ/N4105	Core	4	3	30	60			90	25	25			50	16
2.	Ensure installation and operation of small biogas plant(Elective 2)	SGJ/N4106	Core	4	3	30	60			90	60	40			100	16

## Assessment - Minimum Qualifying Percentage

**Minimum Pass Percentage – Aggregate at qualification level: 70 %** (Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)

## Section 3: Training Related

1.	<b>Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)</b>	12 <sup>th</sup> Pass with two years of relevant experience Or Certified under relevant Craft Instructor Training Scheme (CITS) course
2.	<b>Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)</b>	12 <sup>th</sup> Pass with four years of relevant experience
3.	<b>Tools and Equipment Required for Training</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If "Yes", details to be provided in Annexure)
4.	<b>In Case of Revised Qualification, Details of Any Upskilling Required for Trainer</b>	Not Applicable

## Assessment Related

1.	<b>Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</b>	12 <sup>th</sup> pass with four years of relevant experience Or Certified under relevant Craft Instructor Training Scheme (CITS) course
2.	<b>Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</b>	12 <sup>th</sup> pass with six years of relevant experience
3.	<b>Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</b>	12 <sup>th</sup> pass with six years of relevant experience
4.	<b>Assessment Mode (Specify the assessment mode)</b>	Online and offline both
5.	<b>Tools and Equipment Required for Assessment</b>	<input checked="" type="checkbox"/> Same as for training <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (details to be provided in Annexure-if it is different for Assessment)

## Section 5: Evidence of the need for the Qualification

Provide Annexure/Supporting documents name.

1.	<b>Latest Skill Gap Study (not older than 2 years) (Yes/No):</b> Yes, Skill Council for Green Jobs done Occupational Mapping and Skill Gap Analysis in the waste management sub-sectors. The report is attached.
2.	<b>Latest Market Research Reports or any other source (not older than 2 years) (Yes/No):</b> Yes <a href="#">CEEW-Working-Paper-Techno-economic-assesment-of-bio-pellets-25Oct16.pdf</a>
3.	<p><b>Government /Industry initiatives/ requirement (Yes/No):</b> A major growth driver for Skill Development in this sector is in biomass pellet manufacturing which aligns with the Scheme to “Support Promotion of Manufacturing of Briquettes &amp; Pellets and Biomass (Non-Bagasse) Based Cogeneration in Industries in the Country (Up to March 2026)” promoted by MNRE(<a href="https://mnre.gov.in/img/documents/uploads/file_s-1669197487948.pdf">https://mnre.gov.in/img/documents/uploads/file_s-1669197487948.pdf</a>) . As per a recent study sponsored by MNRE, the current availability of biomass in India is estimated at about 750 million metric tonnes per year. The Study indicated estimated surplus biomass availability at about 230 million metric tonnes per annum covering agricultural residues corresponding to a potential of about 28 GW. This apart, about 14 GW additional power could be generated through bagasse-based cogeneration in the country’s 550 Sugar mills, if these sugar mills were to adopt technically and economically optimal levels of cogeneration for extracting power from the bagasse produced by them.</p> <p>The Ministry of New and Renewable Energy (MNRE) has announced Biomass Programme is to support setting up of Biomass Briquette/Pellet manufacturing plants and to support Biomass (nonbagasse) based cogeneration projects in Industries in the country. The broader objectives of the scheme are to reduce stubble burning by utilizing surplus agricultural residue, to provide additional source of income to farmers through sale of surplus agro residue and to enable better environmental practices and reduce pollution.</p> <p>The policy offers central financial assistance (CFA) for projects employing biomass like bagasse, agriculture based industrial residue, crop residues, through energy plantations, weeds and wood waste produced in industrial operations. It provides CFA of Rs. 9 Lakh per MTPH (metric ton/hour) manufacturing capacity (maximum CFA of Rs 45 Lakhs per plant)</p>
4.	<b>Number of Industry validation provided:</b>
5.	<p><b>Estimated nos. of persons to be trained and employed:</b> Job related to biomass pellet manufacturing technician include jobs related to material management of agro-residues, biomass densification and maintain production of biomass pellets. Based on the secondary data research and interactions with stakeholders and technical experts, it is reflected that one person (Biomass technician) can handle an estimated 1 TPH pellet plant which form our base estimate of manpower requirement for production of biomass pellets.</p> <p>The estimated surplus biomass available is 230 million Metric ton. (Source: <a href="https://mnre.gov.in/bio-energy/current-status">https://mnre.gov.in/bio-energy/current-status</a>) We are considering 50% of surplus biomass availability for pellet manufacturing to estimate the job potential. It is projected that a single pellet unit of 1 TPH generated 4-person job based on OEM consultation and this factor is consider for calculate the total number of direct jobs. Indirect job includes employment for biomass aggregators, biomass collection and storage labor, raker and bailing worker, trolley driver. It is estimated that one unit of 1 TPH capacity creates 15 indirect jobs, and this factor is consider to calculate the total number of indirect jobs. With consideration of 50% availability of biomass, it is estimated that 107810 direct and 323430 indirect jobs will available.</p>

6.	<b>Evidence of Concurrence/Consultation with Line Ministry/State Departments:</b> Concurrence has been requested from the Ministry of New and Renewable Energy
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## Section 6: Annexure &amp; Supporting Documents Check List

Specify Annexure Name / Supporting document file name

1.	<b>Annexure:</b> NCrF/NSQF level justification based on NCrF level/NSQF descriptors ( <i>Mandatory</i> )	Annexure: Evidence of Level
2.	<b>Annexure:</b> List of tools and equipment relevant for qualification ( <i>Mandatory, except in case of online course</i> )	Annexure: Tools and Equipment (Lab Set-Up)
3.	<b>Annexure:</b> Detailed Assessment Criteria ( <i>Mandatory</i> )	Annexure: Detailed Assessment Criteria ( <i>Mandatory</i> )
4.	<b>Annexure:</b> Assessment Strategy ( <i>Mandatory</i> )	Annexure: Assessment Strategy
5.	<b>Annexure:</b> Acronym and Glossary ( <i>Optional</i> )	Annexure: Acronym and Glossary
6.	<b>Supporting Document:</b> Model Curriculum ( <i>Mandatory – Public view</i> )	Attached
7.	<b>Supporting Document:</b> Career Progression ( <i>Mandatory - Public view</i> )	Annexure: Career progression and OM
8.	<b>Supporting Document:</b> Occupational Map ( <i>Mandatory</i> )	Annexure: Career progression and OM
9.	<b>Supporting Document:</b> Assessment SOP ( <i>Mandatory</i> )	Annexure: Assessment Strategy

[Annexure: Evidence of Level](#)

Title/Name of qualification/component: <b>Bio-Energy Micro Entrepreneur</b>			Level: <b>3</b>
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relate to the NSQF level descriptors	NSQF Level
<b>Professional Theoretical Knowledge/Process</b>	<p>Bio-Energy Micro Entrepreneur is responsible for setting up a production unit for manufacturing biomass pellets from agriculture waste or setting up small biogas unit at site.</p> <p>He/She would be responsible for developing a business plan, hiring the human resources, acquiring financial and material resources, providing leadership, and their company vision that drives their company's strategy.</p>	<p>A professionally trained individual who will be responsible for carrying out creating a range of employment generation that may require limited range of activities, routine and are predictable in nature. For example, an entrepreneur sets up a production unit for manufacturing biomass pellets or small biogas unit based on agriculture waste. Hence it can be placed at level 4.</p> <p>The entrepreneur is expected to exhibit basic knowledge of biomass sector, process and densification technology applied in production of pellets with an understanding of agro-residue collection, its storage and management, testing, sales and marketing of biomass pellets. For example, s/he is expected to know the managerial skills to manage all the operation in pellet plant and sales of pellets. Since all the above-mentioned areas are related to basic factual knowledge in agriculture waste, the role qualifies for Level 4.</p> <p>He/she should have knowledge for fermentation of biomass as well.</p>	4
<b>Professional and Technical Skills/ Expertise/ Professional Knowledge</b>	<p>He should be able to apply principles of professional practice at the workplace.</p>	<p>The entrepreneur is expected to develop professional skills, must have excellent communication skills and talent in recruiting while he must also be able to manage all operations and track employee outcomes.</p> <p>Since all the above-mentioned professional skill are related to management skills to handle all the operations to achieve the business goals. So, the role qualifies for Level 4.</p>	4

Title/Name of qualification/component: Bio-Energy Micro Entrepreneur			Level: 3
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relate to the NSQF level descriptors	NSQF Level
<b>Employment Readiness &amp; Entrepreneurship Skills &amp; Mind-set/Professional Skill</b>	The entrepreneur is expected to check the quality of raw materials & manage the production of pellets. Further, the job holder must be able to take the day-to-day decisions and solve problem/s in plant.	<p>It should be focusing on cultivating the top entrepreneurial skills and characteristics that can help to become more successful in a business venture Example, S/he is expected to know fundamentals of management such as manpower management, finance management human resources and should be able to build good relation between management and employees Hence, the role can be placed at Level 4.</p> <p>The entrepreneur is expected to represent and demonstrate practical skills with broad range of application such as checking the mechanical and electrical equipment's. pellet quality testing using standard protocols.</p> <p>Since all the above-mentioned professional skill are related to demonstrating practical skills, the role qualifies for Level 4.</p>	4
<b>Broad Learning Outcomes/Core Skill</b>	The entrepreneur is expected to have good practical knowledge of repair and servicing of all mechanical and electrical equipment's.	<p>The entrepreneur is expected to exhibit basic knowledge of basic mechanical, electrical and thermal equipment's so he identifies processes where energy/electricity utilization can be optimized and safe operation of these equipment.</p> <p>He should communicate effectively with employees, vendors and clients to develop a long-term relationship for achieving business goals. Hence, the entrepreneur can be placed at Level 4.</p>	
<b>Responsibility</b>	The Entrepreneur is primarily responsible to manage all aspects of business activities such as biomass aggregation, production,	The Entrepreneur is responsible for all activities to develop the business and complete targets within defined limits.	4

Title/Name of qualification/component: Bio-Energy Micro Entrepreneur			Level: 3
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relate to the NSQF level descriptors	NSQF Level
	storage and supply of biomass pellets. S/he is also expected to update self with the biomass energy market.	S/he is expected to update self with the market trends to manage the demand and supply of biomass pellets. S/he is also expected to have significant role on the creating employment opportunity by setting a pellet plant. Thus s/he can be placed at level 4.	

## Annexure: Tools and Equipment (Lab Set-Up)

## List of Tools and Equipment

## Batch Size:

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1	Biomass fuel-burning boiler, Pellet Mill, Hammer Mill, Chipper and Shredder	Standard Make	
2	Personnel Protective Equipment, First aid kit, Material Safety Data Sheet, Gas leakage detector	Standard Make	


## Classroom Aids

The aids required to conduct sessions in the classroom are:

Marker, chart and visual aid, Pellet production flowchart, raw material supply chain flow chart , Schematics of biomass pellet production plant;

## Annexure: Industry Validations Summary

Provide the summary information of all the industry validations in table. This is not required for OEM qualifications.

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile (if available)
1	Bio Trend Energy Pvt. Ltd.	Sunil Dhingra	Director	244, First Floor, DLF South Court, Saket, New Delhi-110017	9911221173	Sunil.dhingra@biotrendenergy.com	NA
2	ENFIVE SYSTEMS PRIVATE LIMITED	SASIKANTH	Director	No.10, MS Nagar, Ponnagaram,	7867081021	sasi@enfive.in	NA

				Dindigul - 624003			
3	Hi Tech Agro Energy Private Limited	Anil Kumar	GM Project	Plot No.521, 2 <sup>nd</sup> Floor, Sector-19, Dwarka, New Delhi-10075	9582904448	gmprojects@hitechagro.org	NA
4	Jay Bio Energy	Kalpesh Patel	Partner	Khodla, Gadh Road, Palanpur Banaskantha, Gujrat - 385001	9898084662	jaybioenergy@gmail.com	NA
5	Koshish Sustainable Solutions Pvt. Ltd.	Dr. Ratnesh Tiwari	MD and Co - Founder		9990562620	Ratnesh.tiwari@koshishindia.in	N/A
6	Non-conventional Energy and Rural development Society	Prof. Dr. S. Kamaraj	Director	No.249, Chitthi Vinayagar Colony, Vadavalli, Coimbatore-641041	9443934139	kamarajs@hotmail.com	NA
7	Shubh Energies Pvt. Ltd.	Mohit Verma	Director	Plot No. G220/221, IInd Centre RICCO Industrial Area, Kota Road, Baran, Rajasthan - 325205	9713011114	mohit@shubhtradingcorporation.com	NA

8	Sun Naturals	Manisha Shah	Managing partner	101 Top Tower Hirji Mistry Road Nr Jain Derasar Oswal Colony , Jamnagar 361005	9510930222	Sunnaturals22@gmail.com	NA
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## Annexure: Blended Learning

**Blended Learning Estimated Ratio & Recommended Tools:**

**Refer NCVET “Guidelines for Blended Learning for Vocational Education, Training & Skilling” available on:**

<https://ncvet.gov.in/sites/default/files/Guidelines%20for%20Blended%20Learning%20for%20Vocational%20Education,%20Training%20&%20Skilling.pdf>

S. No.	Select the Components of the Qualification	List Recommended Tools – for all Selected Components	Offline : Online Ratio
1	<input checked="" type="checkbox"/> Theory/ Lectures - Imparting theoretical and conceptual knowledge	Biomass fuel-burning boiler, Pellet Mill, Hammer Mill, Chipper and Shredder	60:40
2	<input checked="" type="checkbox"/> Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners		
3	<input checked="" type="checkbox"/> Showing Practical Demonstrations to the learners		
4	<input checked="" type="checkbox"/> Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training		
5	<input checked="" type="checkbox"/> Tutorials/ Assignments/ Drill/ Practice		
6	<input checked="" type="checkbox"/> Proctored Monitoring/ Assessment/ Evaluation/ Examinations		

7	<input checked="" type="checkbox"/> On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training		
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## Annexure: Detailed Assessment Criteria

Detailed assessment criteria for each NOS/Module are as follows:

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes			
	Theory	Practical	Project Marks	Viva Marks
Introduction of Entrepreneurship and describes the basics of biomass energy sector	23	27		
Manage financial budget and developing business plans	60	40		
Utilize government schemes and perform financial management of the business	35	15		
Maintain Personal Health & Safety in Bioenergy manufacturing facility	25	25		
Employability Skills (60 hours)	20	30		
Ensure Manufacturing of Biomass pellet (Elective 1)	25	25		
Ensure installation and operation of small biogas plant(Elective 2)	60	40		
On the Job training				
<b>Grand Total</b>	200	200		

#### Annexure: Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the Candidate on the required competencies of the program.

##### 1. Assessment System Overview:

- Batches assigned to the assessment agencies for conducting the assessment on SDSM/SIP or email
- Assessment agencies send the assessment confirmation to VTP/TC looping SSC
- Assessment agency deploys the ToA certified Assessor for executing the assessment
- SSC monitors the assessment process & records

##### 2. Testing Environment:

- Confirm that the centre is available at the same address as mentioned on SDMS or SIP
- Check the duration of the training.
- Check the Assessment Start and End time to be as 10 a.m. and 5 p.m.
- Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.
- Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
- Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
- Check the availability of the Lab Equipment for the particular Job Role.

##### 3. Assessment Quality Assurance levels / Framework:

- Question papers created by the Subject Matter Experts (SME)
- Question papers created by the SME verified by the other subject Matter Experts
- Questions are mapped with NOS and PC

- Question papers are prepared considering that level 1 to 3 are for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management
- Assessor must be ToA certified & trainer must be ToT Certified
- Assessment agency must follow the assessment guidelines to conduct the assessment

4. Types of evidence or evidence-gathering protocol:

- Time-stamped & geotagged reporting of the assessor from assessment location
- Center photographs with signboards and scheme specific branding
- Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
- Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos

5. Method of verification or validation:

- Surprise visit to the assessment location
- Random audit of the batch
- Random audit of any candidate

6. Method for assessment documentation, archiving, and access

- Hard copies of the documents are stored
- Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage
- Soft copies of the documents & photographs of the assessment are stored in the Hard Drives

**On the Job:**

OJT Monitoring Report

- As in Green Jobs Sector, reproducing the evidence for assessment is not feasible due to constraints like cost, confidentiality and controlled environment, every
- apprentice is required to record the evidences performed during the OJT and the same gets authorized by his/her supervisor.
- The evidence recording is done in a structured monitoring report, termed as OJT Monitoring report.
- During the OJT, every trainee is required to fill the OJT monitoring report which is required to be signed by his/her supervisor.
- Towards the end of OJT period these reports are submitted with the HR department of company
- These duly submitted reports are then verified by an Industry nominated assessor for verification of evidence.

Theory, Practical & Viva:

- Scope – Is used to test the knowledge and understanding and skills acquired during the OJT as well as to conform the OJT monitoring

report.

- Some personality traits and generic skills (such as – promptness, sharpness, communication skills, depth of knowledge, comprehension, presentation, patience
- etc) can also be tested, which is also required for the QP.
- Tools – The assessment’s questions should be aligned with the Qualification Pack, covering the PCs. There will be summative assessment at the end of the OJT.
- Method – Direct questions open and close ended questions, situation-based questions, analytical questions, and decision-making based questions for Viva,
- MCQ for the theory and performing QP related operations for practical. Different questions in theory, practical and viva are included to test relevant PCs from
- the QP
- Analysis – Assessor draws a spectrum of ready answers to be expected from trainee for Viva. This reduces effect of subjectivity of the assessor. Comparative
- quality of trainees within a batch or different institutes can be gauged. The skill is gauged by observing the practical work.

Execution of OJT Assessment:

- HR department hands over the individual OJT monitoring report with Industry nominated assessor and schedules an assessment meeting for each trainee.
- Industry nominated assessor assesses each trainee based on OJT monitoring report, viva on each PC and also takes into account attendance of each trainee towards the end of the OJT period.
- The OJT marks are compiled for each NOS by the Industry nominated assessor and submitted with HR department of company.
- The OJT assessment results are then sent to SCGJ by HR department of company in a sealed envelope for compiling the assessment results in case of offline assessment.

#### Annexure: Acronym and Glossary

Acronym

Acronym	Description
AA	Assessment Agency
AB	Awarding Body

<b>ISCO</b>	International Standard Classification of Occupations
<b>NCO</b>	National Classification of Occupations
<b>NCrF</b>	National Credit Framework
<b>NOS</b>	National Occupational Standard(s)
<b>NQR</b>	National Qualification Register
<b>NSQF</b>	National Skills Qualifications Framework
<b>OJT</b>	On the Job Training

## Glossary

<b>Term</b>	<b>Description</b>
<b>National Occupational Standards (NOS)</b>	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
<b>Qualification</b>	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
<b>Qualification File</b>	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
<b>Sector</b>	A grouping of professional activities on the basis of their main economic function, product, service or technology.
<b>Long Term Training</b>	Long-term skilling means any vocational training program undertaken for a year and above. <a href="https://ncvet.gov.in/sites/default/files/NCVET.pdf">https://ncvet.gov.in/sites/default/files/NCVET.pdf</a>

Annexure: Career Progression and OM

