TETFund CENTRE OF EXCELLENCE FOR NIGERIAN CONTENT DEVELOPMENT IN RENEWABLE ENERGY UTILIZATION (COEREU)

Kaduna Polytechnic, Kaduna, Nigeria

www.tetfundkadpoly_coereu.com

Implementation Plan

2022 – 2026

1.0 TITLE OF CENTRE OF EXCELLENCE (COE)

TETFund CENTRE OF EXCELLENCE FOR NIGERIAN CONTENT DEVELOPMENT IN RENEWABLE ENERGY UTILIZATION (COEREU)

1.1 Overview of the Centre of Excellence

Nigeria has a skill demand-supply gap and differences in the levels of skill acquisition, which has led to imbalances in employment rates across regions and groups, wage disparities and varying productivity levels across workers. The central aim of this Project is to establish a Skill Development Centre of Excellence financed by TETFund. The Centre will run Programmes that will lead to the development of our skills base so as to increase both the quantity and the productivity of labour employed in the economy, particularly women and youths.

Inadequate education and skills development has kept the Nigerian economy trapped in a vicious circle of low education, low productivity and low income. The strategy employed by the institution is first to identify the areas that skill gaps exist in the North-West region of the country and come up with ways to up-skill and enhance skills training in the selected skill areas thereby improving access to employment and encourage more women and the vulnerable population to be self-employed. The Institution has reviewed data on the skill areas and notes that there is a substantial skills gap in the country in the energy sector. Therefore, the focus of the Centre would be on how to build local capacity and enhance energy production in the country. The supply of energy is important to Nigeria's economic development. Another consideration in this selection is the gender attractiveness of the selected area.

1.2 Vision of the Centre of Excellence

To become a foremost Skills Development, Research and Facilitation Centre of Excellence for Nigerian Content Development in Renewable Energy Utilization.

1.3 Mission of the Centre of Excellence

A Skill Acquisition and Development Centre that promotes Nigerian Content Development in Renewable Energy Utilization *by focusing on well-tested Innovative and Entrepreneurial approaches in this Sector.*

2.0 IDENTIFIED NATIONAL DEVELOPMENTAL CHALLENGE

A productive, competent, and flexible workforce is a prerequisite for furthering economic development. The demand for skilled workers and technicians is already acute and will become ever more intense as acquisition of the relevant skills becomes the necessary requirement for economic employment. Presently the Vocational and Technical Education (VTE) and tertiary education sub-sectors are unable to respond to the changing labour market requirements because of its present supply-driven (instead of demand-driven) orientation. Its curricula,

instructional equipment, teaching methods, and evaluation techniques are outdated, leading to inappropriately low internal and external efficiencies.

The lack of power supply to make cost of production relatively cost effective has led to the near collapse of the most industries. The lack of skilled labour in the energy sector has limited the ability many industries to compete globally. The outbreak of the coronavirus pandemic has affected billions of people worldwide and it is also having a growing impact on the global economy, especially the energy sector.

The electricity system in Nigeria centers on PHCN, which accounts for about 98% of the total electricity generation. Power generation by other agencies such as the Nigerian Electricity Supply Company relies on thermal power for electricity generation unlike PHCN, which relies on both hydro- and thermal power. However, electricity is also a consumer of fuel and energy such as fuel oil, natural gas, and diesel oil. The importance of these sources of energy and fuel for generating electricity has been decreasing in recent years. However, hydropower that is relatively cheaper than these sources has grown to be more important than other sources. However, more recently, the Power Authority has generated electricity through a mix of both thermal and hydro systems. All the power, distribution, and substations are specially interlinked by a transmission network popularly known as the national grid. The entire electricity generated nationwide is pooled into the National Control Centre, Osogbo, from where electricity is distributed to all parts of Nigeria.

Effective skills development systems – which connect education to technical training, technical training to labour market entry and labour market entry to workplace and lifelong learning – can help Nigeria sustain productivity growth in the Energy sub-sector and translate that growth into more and better jobs. With competing areas needing funds for development in the country, special focus in training are needed in the Renewable Energy Utilisation to address these challenges.

3.0 OBJECTIVES OF THE SKILL DEVELOPMENT CENTRE OF EXCELLENCE

The Objectives of the Skill Development Centre of Excellence include:

1. Conduct various skill development training programmes in Nigerian Content Development in Renewable Energy Utilization to enable unemployed and vulnerable youths improve their employability.
2. Skill, Reskill, Cross-skill and Upskill the populace in Nigerian Content Development in Renewable Energy Utilization to ensure or improve their employability;
3. Reviewing and upgrading the curricula of the various programmes relevant to renewable energy utilization in the country;
4. Ensure that the programmes relevant to renewable energy meet national and international standards.
5. Provide and promote entrepreneurship training in Nigerian Content Development in Renewable Energy Utilization
6. Improve present teaching methodologies in Nigerian Content Development in Renewable Energy Utilization by the development of practical based curricula and instructional materials;

7. Promote close collaborations and partnerships between the institution and the industry;
8. Promote quality Workshop Practice and innovations in Nigerian Content Development in Renewable Energy Utilization
9. Produce trainees that are self-reliant and able to compete favourably in the labour market both locally and internationally in the Renewable Energy Industry;
10. Carry out Research in Nigerian Content Development in Renewable Energy Utilization;
11. Improvement in ICT skills and knowledge acquisition for both staff and trainees in Nigerian Content Development in Renewable Energy Utilization;
12. Capacity building in Renewable Energy Utilization for academic, technical and management staff of the institution;
13. Ensure trainees in the Renewable Energy Utilization programme gain useful employment when they graduate.

4.0 EDUCATION AND RESEARCH OBJECTIVES.

The education objectives of the Centre of Excellence include:

a. The Development and revision of National Occupational Standards (NOS) for various levels in Renewable Energy Utilization;
b. Ensuring that our graduates are competitive;
c. Training of the Management and technical Team;
d. Development of Instructional Materials (Manuals and Modules) for Renewable Energy Utilization;
e. Conducting train-the-trainer Workshops;
f. Procurement and installation of training facilities (equipment, consumables, training aids, etc);
g. Training on the use of the equipment;
h. Provision of short-term training to unemployed youths;
i. Enhance the capacity of trainers by sponsoring them for further training;
j. Provide entrepreneurial facilities for the selected training programme.

The Research Objectives for the Centre of Excellence is to conduct research that will lead to patents in renewable energy utilization in the country. The research will focus on how to use local resources to build and improve the energy sector and the use of local content in improving energy use in the country

5.0 EXPECTED IMPACT OF THE CENTRE OF EXCELLENCE

The expected impacted of the Centre of Excellence include:

a. The quality of TVET in Renewable Energy Sector in Nigeria is improved.
b. Nigerian youth shall have improved skills in Renewable Energy Utilization for productive employment in the selected skill areas.

c. The CoE shall work to improve the opportunities for Nigerian youth and adults to find productive employment in the Renewable Energy Sector.
d. The pro-employment framework for small businesses and companies in Renewable Energy Sector in Nigeria shall improve.
e. The institutional capacities for job oriented TVET in Renewable Energy Utilization shall improve.
f. TVET in the occupational field in Renewable Energy Utilization shall be better aligned with labour-market needs.
g. The CoE shall contribute its quota to national development through producing job providers in Renewable Energy Sector of the economy rather than job seekers.
h. The range of active labour market measures offered by job placement, vocational training and counselling institutions for integration or reintegration into the labour market shall improve with this intervention.
i. By the end of first Phase of the Project, over 400 beneficiaries shall be trained in the various competency levels of National Occupational Standards (NOS) in renewable Energy Utilization. Women shall make up 40 percent of this number.
j. The Centre shall assist the beneficiaries trained to have gainful employment in Energy Sector of the economy as a result of our work.

6.0 METHODOLOGY FOR BOTH LEARNING (PEDAGOGY) AND RESEARCH + HOW THE TWO ARE INTEGRATED

The training at the Centre will be geared towards improving the quality of graduates to compete nationally and globally. Therefore, all training will be focus on improving the energy sector in Nigeria by incorporating renewable energy. All training will be result-oriented and ensuring that all researches are focused on the solution of energy challenges in the country.

7.0 ANTICIPATED RESULTS BOTH QUANTITATIVE (TABLE) AND QUALITATIVE (GRADUATES' KNOWLEDGE/SKILLS/ATTITUDE AND TYPES OF APPLIED RESEARCH RESULTS)

S/No	Item	2023	2024	2025	2026
1	Curricula reviewed	1	1		
2	National Accreditation		1	1	
3	International Accreditation		1	1	
4	Male trained – short courses	50	50	50	50
5	Female Trained– short courses	30	30	30	30

6	Master students sponsored	3	4	3	2
7	PhD Students sponsored	2	2	2	1
8	Equipment Designed and fabricated	2	2	2	2
9	Researches Carried out	4	4	4	4
10	Publication in Standard Journals	10	10	10	10
11	Workshop organized	1	2	2	1
12	Conferences/Workshop attended	2	2	2	2
13	Fair/Exhibition attended	1	1	1	1

8.0 ROLES OF PARTNERS OF THE CENTRE OF EXCELLENCE

There are 5 identified Partners for the Centre. They are:

1. Old Panteka Market Development Association (OPMDA)

a. Provide trainees for trades amongst its Apprentices and artisans,
b. Facilitate apprenticeship and provide mentorship for trainees attachment for our short time programmes
c. Supervise the apprentice training and receive visitations for standardization of the training
d. Provide sites banks to meet the requirement of the NSQ Certification

2. Ahmadu Bello University, Zaria

The University shall provide training for our PhD and Masters Programmes

3. HANIGHA Nigeria Limited, Kaduna

The Corporation shall participate in the provision of Trainers for the short-term Programmes

4. The Centre of Excellence, Renewable Energy, Bayero University

Symbiotic Corporation with the Centre in our various activities

5. The Centre of Excellence, Clean Energy, Federal Polytechnic Nasarawa

Symbiotic Corporation with the Centre in our various activities

9.0 EXPECTED CHALLENGES DURING THE PROJECT LIFETIME

- Challenges in the timely release of funds

- Institutional bureaucracy
- Security challenges that hinders mobility
- Power supply challenges
- Non- Performance by Partners
- Enrolment of female trainees
- Sourcing of Trainers
- Sourcing of Trainees
- Industrial Action by staff and students
- Industrial Action by Labour Unions
- Lockdowns by State or Federal Government

10.0 VARIOUS PLANS

Table 1: TCoE OVERALL REVENUE

TCoE Results	*% of the DLI*	*Unit Price*	*Total Revenue*
DLI1 Basic Readiness	***15***		***150,000,000***
DLI 2 Quantity of Students	***10***		***100,000,000***
DLR 2.1a. New PhD Students Male ***DLR 2.1b. New PhD Student Female***	*2*	*NA*	*0*
DLR 2.2a New Masters Students Male ***DLR2.2b New Masters Students Female***	*3*	*NA*	*0*
DLR 2.3a. New Short Courses Students Male ***DLR 2.3b New Short Courses Students Female***	*5*	*500,000* *700,000*	*40,000,000* *60,000,000*
DLI 3 Quality of Education	***40***		***400,000,000***
DLR 3.1 National Accreditation	*3*	*10,000,000*	*30,000,000*
DLR 3.2 International Accreditation	*7*		*70,000,000*
DLR 3.3. Research Publication in indexed Journals	*10*	*1,000,000/ publication*	*100,000,000*
DLI 3.4 Infrastructure Improvement	*20*		*200,000,000*
DLR 3.4a Award of Contract Completed	*5*	*50,000,000*	
DLR 3.4 b Foundation/ Renovation/ Supply Completed	*5*	*50,000,000*	
DLR 3.4c Completion/ Installation	*5*	*50,000,000*	
DLR 3.4d Made Functional	*5*	*50,000,000*	
DLI 4 Relevance of Education & Research	***25***		***250,000,000***

DLR 4.1 Externally Generated Revenue	*10*	*1 for 1*	*100,000,000*
DLR 4.2a Male student with One Month internship	*10*	*500,000,*	*100,000,000*
DLR 4.2b Female student with one month internship		*600,000*	
DLR 4.2c Staff with one month internship		*1,000,000*	
DLR 4.3 New entrepreneurship and Spin-offs	*5%*	*-*	*50,000,000*
DLI 5 Financial Management	*5%*	*10,000,000 per year*	***50,000,000***
DLR 5.1.Timely fiduciary reports			
DLR 5.2. Functional Internal Audit Unit			
DLR5.3. Web transparency of fiduciary reports			
DLI 6 Procurement Management	*5%*	*10,000,000 per year*	***50,000,000***
DLR 6.1. Timely Procurement Audit			
DLR 6.2. Timely and satisfactory Procurement Process			
Total			***1,000,000,000***

Table 2: Expected Revenue for Year 1

TCoE Results	*Expected Output in Numbers*	*Unit Price*	*Expected Revenue*	*Max. Allocation*
DLI 1 Basic Readiness			*150,000,000*	***150,000,000***
DLI 2 Quantity of Students				***100,000,000***
DLR 2.1a. New PhD Students Male ***DLR 2.1b. New PhD Student Female***	*NA*	*NA*	*NA*	*NA*
DLR 2.2a New Masters Students Male ***DLR2.2b New Masters Students Female***	*NA*	*NA*	*NA*	*NA*
DLR 2.3a. New Short Courses Students Male ***DLR 2.3b New Short Courses Students Female***	*50* *30*	*500,000* *700,000*	*25,000,000* *21,000,000*	
DLI 3 Quality of Education				***400,000,000***
DLR 3.1 National Accreditation	*2*	*10,000,000*	*20,000,000*	
DLR 3.2 International Accreditation	*0*			
DLR 3.3. Research Publication in indexed Journals	*20*	*1,000,000*	*20,000,000*	
DLI 3.4 Infrastructure Improvement				
DLR 3.4a Award of Contract Completed		*50,000,000*	*50,000,000*	
DLR 3. b Foundation/ Renovation/ Supply Completed		*50,000,000*	*50,000,000*	
DLR 3.4c Completion/ Installation		*50,000,000*	*50,000,000*	
DLR 3.4d Made Functional		*50,000,000*	*50,000,000*	
DLI 4 Relevance of Education & Research				***250,000,000***
DLR 4.1 Externally Generated Revenue		*1 for 1*	*20,000,000*	

DLR 4.2a Male student with One Month internship	*20*	*500,000,*	*10,000,000*	
DLR 4.2b Female student with one month internship	*20*	*600,000*	*12,000,000*	
DLR 4.2c Staff with one month internship	*10*	*1,000,000*	*10,000,000*	
DLR 4.3 New entrepreneurship and Spin-offs		-	-	
DLI 5 Financial Management		*10,000,000 per year*	*10,000,000*	***50,000,000***
DLR 5.1.Timely fiduciary reports				
DLR 5.2. Functional Internal Audit Unit				
DLR5.3.Web transparency of fiduciary reports				
DLI 6 Procurement Management		*10,000,000 per year*	*10,000,000*	*50,000,000*
DLR 6.1. Timely Procurement Audit				
DLR 6.2. Timely and satisfactory Procurement Process				
Total			**N578,200,000.00**	***1,000,000,000***

Table 3: Overview of expected activities and expenditures within the first project year

Code	***Priority Rank***	***Result/Activity/Task***	***Budget Estimate (N)***		
			TCoE institution	*Partners*	*Total*
Action Plan 1	*(1 highest 5 lowest)*	*Plan to achieve education, teaching and learning objective and results*	*(Component total for TCoE institution)*	*(Component total for partners)*	*(Total of component)*
1.1		***Enhance Capacity to deliver high Quality training***			
1.1.1	*1*	*Enroll students for short-term courses in selected Renewable Energy Programmes.*	*20,000,000.00*	*100,000.00*	*20,100,000.00*
1.1.2	*1*	*Review/Develop short-term, National Occupational Standards (NOS) with Stakeholders to meet accreditation status and Engage accreditation agencies for Accreditation of programs. (National and International)*	*13,500,000*	*0.00*	*13,500,000.00*
1.1.3	*1*	*Renovate Laboratory/Workshops.*	*5,000,000.00*	*0.00*	*5,000,000.00*
1.1.4	*2*	*Procure/install Laboratory/Workshop/teaching equipment/ Installation of solar powered borehole Systems*	*130,000,000.00*	*0.00*	*130,000,000.00*
1.1.5	*1*	*Procure and install Internet (wired/wireless) facilities.*	*35,000,000.00*	*0.00*	*35,000,000.00*
1.1.6	*1*	*Procure/Installation ICT teaching equipment in 2 Digital Classrooms*	*35,000,000.00*	*0.00*	*35,000,000.00*
1.1.7	*1*	*Improve e-library facilities in the Library*	*10,500,000.00*	*0.00*	*10,500,000.00*
1.1.8	*1*	*Procure and install Backup 250kVAGenerator/Backup inverters/solar/ Lithium ion systems for the Laboratory*	*35,000,000.00*	*0.00*	*35,000,000.00*
1.1.9	*1*	*Procurement of Operational Vehicle*	*7,000,000.00*	*0.00*	*7,000,000.00*
1.1.10	*1*	*Procurement of Centre Bus*	*40,000,000.00*	*0.00*	*40,000,000.00*
Action Plan 1.3		***Improve teaching and learning environment for high quality teaching and learning:***			

1.3.1a	*2*	*Improve female students' research capacity and expertise through one month Internship Programmes.*	*1,500,000.00*	*0.00*	*1,500,000.00*
1.3.1b	*1*	*Improve male students' research capacity and expertise through one month Internship Programmes*	*1,500,000.00*	*0.00*	*1,500,000.00*
1.3.1c	*1*	*Improve staff research capacity and expertise through one month Internship Programmes.*	*2,000,000.00*	*0.00*	*2,000,000.00*
1.3.2	*1*	*Engage in research collaboration with industry and other partners.*	*4,950,000.00*	*50,000*	*4,000,000.00*
1.3.3	*1*	*Increase subscription to selected databases and journals at E-library to support research activities.*	*7,000,000.00*	*0.00*	*7,000,000.00*
1.3.4	*2*	*Organize/attend research and innovation fairs.*	*2,000,000.00*	*0.00*	*2,000,000.00*
1.3.5	*2*	*Write research proposals to attract grants from partners as well as national and international research agencies to fund research activities of the Park.*	*2,000,000.00*	*0.00*	*2,000,000.00*
1.3.6		*Provision of Research Grant in renewable Energy Research*	*9,950,000.00*	*50,000.00*	*10,000,000.00*
1.3.7	*2*	*Support of Staff for Publications in reputable journals*	*20,000,000.00*	*0.00*	*20,000,000.00*
1.3.8	*1*	*Procurement of relevant computer softwares and training on use to support teaching and learning*	*8,000,000.00*	*0.0*	*8,000,000.00*
1.3.9	*2*	*Procurement of consumables for workshop/laboratories*	*10,000,000.00*	*0.00*	*10,000,000.00*
2.1		***Management and Governance (Financial + Procurement***			
2.1.1	*1*	*Provision of Office Equipment/Furniture/Provision of Safety Equipment*	*2,000,000.00*	*0.00*	*2,000,000.00*
2.1.2	*1*	*Sponsorship for staff to attend Conferences/Workshops/ Seminars*	*4,000,000.00*	*0.00*	*4,000,000.00*
2.1.3	*1*	*Utility bills*	*2,000,000.00*	*0.00*	*2,000,000.00*
2.1.4	*1*	*Running of the secretariat*	*1,000,000.00*	*0.00*	*1,000,000.00*
2.1.5	*1*	*Meetings*	*1,000,000.00*	*0.00*	*1,000,000.00*
2.1.6	*1*	*Training Workshops of team members*	*4,000,000.00*	*0.00*	*4,000,000.00*
2.1.7	*1*	*Progress Evaluation*	*5,100,000.00*	*0.00*	*5,100,000.00*

2.1.8		*Procurement Management*	*10,000,000.00*	*0.00*	*10,000,000.00*
		TOTAL BUDGET	***428,000,000.00***	***200,000.00***	**N428,200,000.00**

Table 4: Overview of budget distribution among partners for year 1

Code	***Result/Activity/Task***							
		Partner A **Old Panteka Market Development Association (OPMDA)** ***(N)***	***Partner B Ahmadu Bello University, Zaria (N)***	***Partner C National Board for Technical Education (N)***	***Partner D Hanigha Nigeria Limited (N)***	***Partner D: Centre of Excellence, Renewable Energy, Bayero University, Kano (N)***	***Partner D: Centre of Excellence, Clean Energy, Federal Polytechnic, Nasarawa (N)***	***Total Partner Budget***
Action Plan 1	***Plan to achieve education, teaching and learning objective and results:***							
	Enhance Capacity to deliver high Quality training:							
1	***Enroll students and faculty for short-term courses.***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***100,000.00***	***100,000.00***
Action Plan 2	***Plan to research excellence objectives and results***							
2	***Host split-site Postgraduate programs.***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
	Organize research and innovation fair.	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***50,000.00***	***50,000.00***
	Engage in research collaboration with industry and other partners.	***0.00***	***0.00***	***0.00***	***50,000***	***0.0***	***0.0***	***50,000***

	Total				***50,000.00***		***150,000.00***	***200,000.00***

Work Plan for the Project Period

Centre Name: TETFund Centre of Excellence for Nigerian Content Development in Renewable Energy Utilization
Institution: Kaduna Polytechnic, Kaduna Nigeria
Centre Director: Dr S.N. Mumah

Table 5: Overview of Work plan for the project period

S/N	***Key Activities***	***Timeline***																			
		2022				***2023***				***2024***				***2025***				***2026***			
		Q1	***Q2***	***Q3***	***Q4***	***Q1***	***Q2***	***Q3***	***Q4***	***Q1***	***Q2***	***Q3***	***Q4***	***Q1***	***Q2***	***Q3***	***Q4***	***Q1***	***Q2***	***Q3***	***Q 4***
Enhance Capacity to deliver high Quality training																					
1	*Enroll students for short-term courses in selected Renewable Energy Programmes.*																				
2	*Review/Develop short-term, National Occupational Standards (NOS) with Stakeholders to meet accreditation status and Engage accreditation agencies for Accreditation of programs. (National and International)*																				
3	*Engage accreditation agencies for Accreditation of programs. (National and International)*																				

4	*Renovate Laboratory/Workshops.*																				
5	*Procure/install Laboratory/Workshop/teaching equipment/ Installation of solar powered borehole Systems*																				
6	*Procure and install Internet (wired/wireless) facilities.*																				
7	*Procure/Installation ICT teaching equipment in 2 Digital Classrooms*																				
8	*Improve e-library facilities in the Library*																				
9	*Procure and install Backup 250kVAGenerator/Backup inverters/solar/ Lithium ion systems for the Laboratory*																				
10	*Procurement of Operational Vehicle*																				
11	*Procurement of Centre Bus*																				
Plan to research excellence objectives and results																					
12	*Improve female students' research capacity and expertise through one month Internship Programmes.*																				
13	*Improve male students' research capacity and expertise through one month Internship Programmes*																				

	Improve staff research capacity and expertise through one month Internship Programmes.																				
14	*Engage in research collaboration with industry and other partners.*																				
15	*Increase subscription to selected databases and journals at E-library to support research activities.*																				
16	*Organize/attend research and innovation fairs.*																				
17	*Write research proposals to attract grants from partners as well as national and international research agencies to fund research activities of the Park.*																				
18	*Provision of Research Grants in Renewable Energy Research*																				
19	*Provision of Research Grants in Renewable Energy Research*																				
20	*Support of Staff for Publications in reputable journals*																				
21	*Procurement of relevant computer softwares and training on use to support teaching and learning*																				
22	*Procurement of consumables for workshop/laboratories*																				
23	*Host split-site programs.*																				

24	*Invite Experts to mentor new recruited staff students.*																				
25	*Increase subscription to selected databases and journals at E-library.*																				
Improve teaching and learning environment for high quality teaching and learning:																					
Management and Governance (Financial + Procurement																					
26	*Provision of Office Equipment/Furniture/Provision of Safety Equipment*																				
27	*Sponsorship for staff to attend Conferences/Workshops/ Seminars*																				
28	*Utility bills*																				
40	*Running of the secretariat*																				
29	*Meetings*																				
30	*Training Workshops of team members*																				
31	*Progress Evaluation*																				
32	*Procurement Management*																				

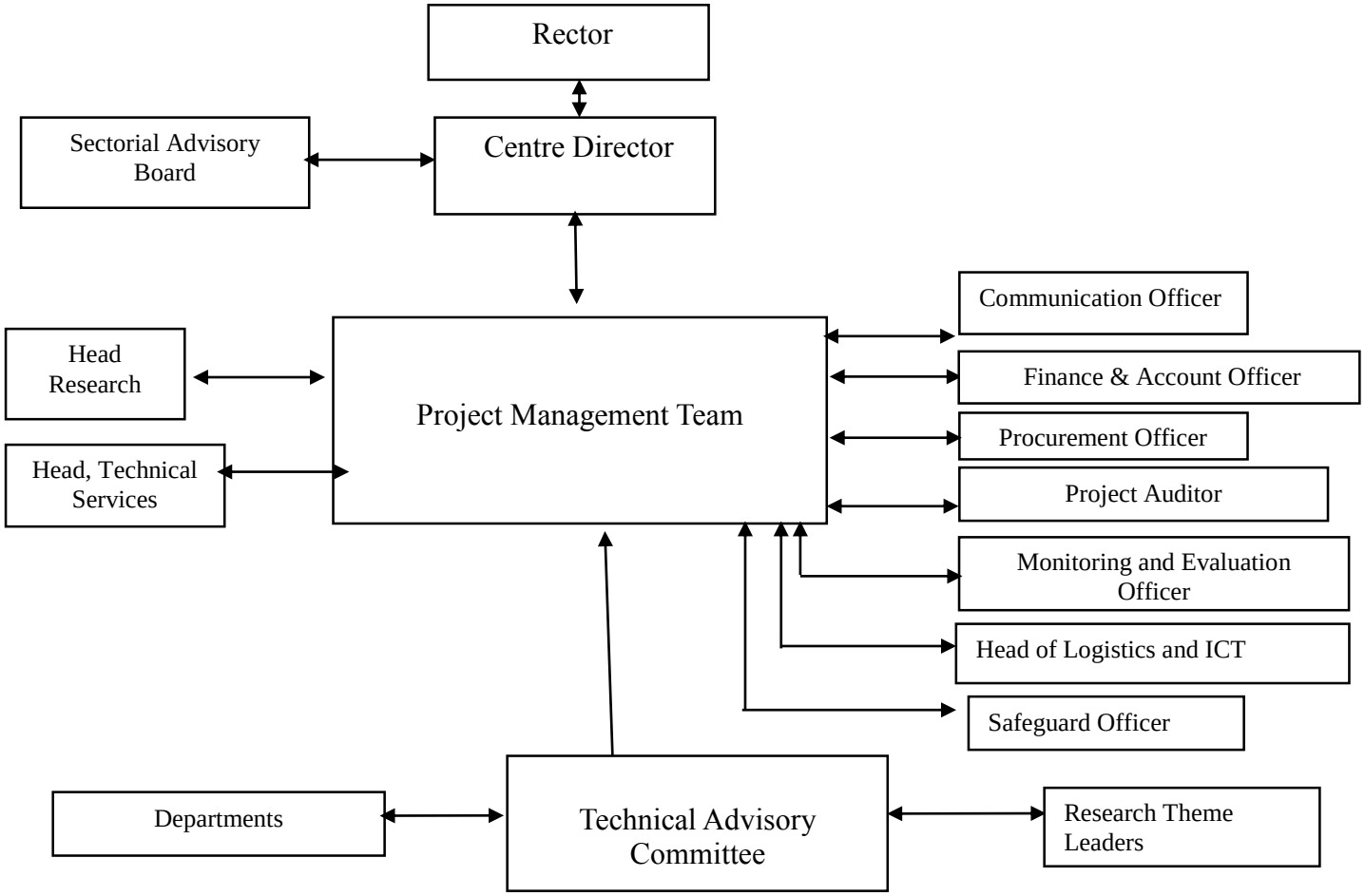
33	*Summative Evaluation*																			

Table 6: Overview for Entire Budget

Expenditure Category	**Estimated Costs in (N)**						
	YR 1	YR 2	YR3	YR 4	YR5	Total	%of total
A: Budget by Activity Plan							
DLI 1	***150,000,000.00***	0.0	0.0	0.0	0.0	150,000,000.00	15%
DLI 2	*20,100,000.00*	*20,100,000.00*	*20,100,000.00*	*20,100,000.00*	*20,100,000.00*	100,500,000.00	10.05%
DLI 3	311,000,000.00	86,300,000.00	40,000,000.00	30,000,000.00	30,000,000.00	496,700,000.00	49.67%
DLI 4	68,000,000.00	20,000,000.00	20,000,000.00	20,000,000.00	20,000,000.00	148,000,000.00	14.8%
DLI 5	19,100,000.00	7,900,000.00	5,000,000.00	5,000,000.00	6,000,000.00	50,000,000.00	5%
DLI 6	10,000,000.00	10,000,000.00	10,000,000.00	10,000,000.00	10,000,000.00	50,000,000.00	5%
Contingency	0.0	1,800,000.00	1,000,000.00	1,000,000.00	1,000,000.00	4,800,000.00	4.8%
TOTAL	**578,200,000.00**	**121,800,000.00**	**100,000,000.00**	**100,000,000.00**	**100,000,000.00**	**1,000,000,000.00**	**100**
% of budget							
B: Budget by partners							
(Lead institutions name)	578,000,000.00	121,800,000.00	100,200,000.00	100,000,000.00	100,000,000.00	1,000,000,000.00	

Kaduna Polytechnic, Kaduna							
(Name of partner 1) **Old Panteka Market Development Association (OPMDA)** ***(N)***	0.00	0.00	0.00	0.00	0.00	0.00	
(Name of partner 2) ***Ahmadu Bello University, Zaria***	0.00	0.00	0.00	0.00	0.00	0.00	
(Name of partner 3) ***National Board for Technical Education***	0.00	0.00	0.00	0.00	0.00	0.00	
(Name of partner 4) ***Hanigha Nigeria Limited, Kakuri, Kaduna***	50,000.00	0.00	0.00	0.00	0.00	50,000.00	
(Name of partner 5) ***Centre of Excellence, Renewable Energy, Bayero University, Kano***	0.0	0.00	0.00	0.00	0.00	0.00	
(Name of partner 6) ***Centre of Excellence, Clean Energy, Federal Polytechnic, Nasarawa***	150,000.00	0.00	0.00 0.00	0.00	0.00	150,000.00	
TOTAL	**N578,200,000.00**	**N121,800,000.00**	**N100,200,000.00**	**100,000,000.00**	**100,000,000.00**	**N1,000,200,000.00**	

11.0 CENTRE ORGANOGRAM



Organogram of the Centre of Excellence

12:0 CORE PROJECT TEAM MEMBERS

Table 8: Overview of core project team

Position	***Qualification***	***Responsibilities***
Dr S.N. Mumah *Centre Director*	*PhD, FNSChE, Reg. COREN*	a. Keeps the TCoE and all its related processes running smoothly; b. Distributes duties and responsibilities to project team members; c. Coordinates TCoE activities, resources and equipment, as well as track progress and effectiveness of the entire project; d. Coordinates monitoring activities and other fiduciary responsibilities, and e. Communicates with counterparts involved in the TCoE.
Job O. Belamo *Communication Officer*	*BSc.Business Administration, MSc, Industrial and Labour Relationship*	a. Serves as the Secretariat's rapporteurs at TCoE Workshops; b. Designs and manages TCoE website; c. Upload news, announcements, events and images; d. Covers events of the TCoE, with a view to drafting reports and/or stories; e. Drafts Communique from workshops organised by the TCoE; f. Serves as staff writer for the TCoE Project's Newsletter, and g. Drafts minutes of meetings of the TCoE.

Ahmad Attahir *Project Accountant*	*BSc. MBA, ANAN*	a. Superintends over the Finance and Accounts team; b. Monitors the progress of the TCoE project finances, and ensure that financial c. reports are generated as at when due; d. Assigns task to finance team members and ensure their productivity and effectiveness; e. Carries out any other assignments assigned by the Project Coordinator; f. Maintains/Reconciles TCoE (Secretariat) Naira/Dollar/ A/C Cash books; g. Prepares Statement of Expenditure; h. Submits withdrawal application; i. Prepares Interim Financial Report: j. Oversees Remita Payments; k. Prepares CBN Mandates/other documents for the TCoE; l. Processes payments vouchers for the TCoE; m. Prepares Interim Financial Report (IFR); n. Prepares Statement of Expenditure (SOE); o. Manages the TCoE store and store keeping; p. Maintains Assets Register; q. Files documents/ Payment Vouchers; r. Processes outflow and inflow payment report, and s. Carries out other functions as may be assigned by the Centre Leader

Umar Muhammad *Procurement Officer*	*B.Tech. Quantity Surveying*	**a.** Supervises and coordinates procurement activities of the TCoE and procurement committee members; **b.** Coordinates Bid Opening (Financial and Technical Bids) for the TCoE and **c.** participates at the bid opening exercise for the TCoE; **d.** Represents the TCoE on external assignment pertaining to Procurement issues and the entrenchment of Due Process mechanism at the TCoE **e.** Prepares Pre-qualification and Bid Evaluation Reports on major procurement; **f.** Carries out appropriate market surveys for requests made; **g.** Aggregates procurement requirements to obtain economy of scare; Monitors compliance with Tenders procedures within the TCoE; **h.** Follows-up on "Certificate of No objection" with the BPP for the TCoE where necessary; **i.** Ensures compliance with specification of goods, works and services supplied or rendered, and **j.** Ensures that the TCoE complies with extant procurement rules.
Seidu Momoh Atebune *AUDITOR*	*HND Acct, PGD Accountancy, CNA*	a. Prepares auditing of payment vouchers by carrying out detailed checks of all processes leading to payment and ensuring their completeness'; b. Carries out Expenditure Verification/Certification; c. carries out price verification in order to make appropriate price recommendations on requests and proposals for procurement purposes while also enforcing the due process principle of transparency and value for money; d. Ensures physical inspection of goods and services to ensure strict adherence to quality and specification;

		e. Ensures complete and continues verification of assets, stock records carrying and out bi-annual stock taking; as well as safeguarding the assets of the TCoE; f. conducts periodic checks on the operations and books of accounts of the TCoE to ensure adequate and accurate financial records are maintained for all transactions; g. Ensures strict adherence to quality, quantity and specification are met in all transactions; h. Ensures that Payee Tax, value Added Tax and withholding Tax guidelines are followed and deductions are remitted to the appropriate agencies of the government, and i. Prepares and submits the TCoE Internal Audit reports.
Tanimu Garba Ibrahim *MONITORING AND EVALUATION OFFICER*	*MSc Mechanical Engineering*	a. Ensures smooth flow of communication on project monitoring and reporting requirements; b. Oversees monitoring and evaluation activities related to monitoring of inputs and activities as well as monitoring progress towards results, c. ensuring that data collection is focused on core set of key indicators as per the Results Framework; d. Develops logistics plan and schedule with performance monitoring matrixes; e. Outlines the matrixes for monitoring and evaluation activities including data to be collected, when, how, and by whom and reporting mechanisms to feed into the progress reports and/or annual reviews; f. Ensures that data collected is gender inclusive and reports include consideration of how equity is being addressed; g. Monitors progress towards achievement of results;

		h. Reviews drafts of the progress reports to ensure that they follow the agreed report template and guidelines set down and advise on strengthening of reports; i. Compiles monitoring and evaluation reports in a format acceptable to TETFund and for review and analysis by the National Project Coordinator and the Regional Facilitation Unit, and j. Develops and assists with the dissemination of the achievements of the TCoE in user-friendly formats to relevant stakeholders.
Dr David Duniya Adams *SAFEGUARD OFFICER*	*PhD Environmental Science*	a. Describes TCoEs including location and distance for material sourcing, especially aggregates, water, stones, etc.; b. Ensures that TCoEs comply with national & local legislation & permits that apply to the project activity; c. Ensures that TCoEs comply with all relevant Government policies; d. Ensures that public consultation process takes place (where applicable); e. Compiles capacity building needs of the TCoEs with emphasis on environmental safeguards are identified, and that the necessary capacity building programs are designed and implemented; f. Ensures that the potential issues involved in the following activities of the TCoE are identified: - New construction - Rehabilitation of existing buildings - Management of solid, liquid and gaseous wastes - Hazardous or toxic materials - Health and occupational safety - Protection of forest lands and wild life, etc' g. Ensures that the impact of all site activities are identified and appropriate mitigation measures put in place, including: - Notification and worker safety - Air and water quality

		- Noise - Waste management (including toxic waste) - Cultural heritage - Land acquisition - Protection of forests, wetlands and protected areas - Disposal of medical and infrastructural wastes - Traffic and Pedestrian safety h. Ensures that the TCoE strictly complies to the approved Environmental Safeguards Monitoring Plan (ESMP)
Technical and Research Sub-Committee Members -	*1. Director, ICT Division, Kaduna Polytechnic, Kaduna* *2. HOD, Electrical and Electronics, Kaduna Polytechnic, Kaduna* *3. HOD, Mechanical Engineering, Kaduna Polytechnic, Kaduna* *4. HOD, Chemical Engineering* *5. HOD Applied Physics, Kaduna Polytechnic, Kaduna* *Engr . E. A Adebayo* *Engr. H.F. Akande*	

13.0 CENTRE SUSTAINABILITY

The sustainability of the project will be determined by:

a. increased private sector participation,
b. ownership by key stakeholders in Renewable Energy Utilisation industry,
c. the implementation capacity of Management of the Centre,
d. the timely availability of adequate financial resources, including counterpart funds.
e. marketing of training products in Renewable Energy Utilisation that meet commercial standards.

A concerted effort will be made to build into the project design appropriate interventions such as:

a. stakeholder participation,
b. income-generating activities,
c. competency-based and demand-driven skills training,
d. policy dialogue, and women's participation,
e. all of these will strengthen local ownership and contribute to sustainability.

Institutional sustainability will also be enhanced through training and the establishment of staffing norms and enabling the availability of trained personnel to continue delivery of quality training. It will also ensure technical sustainability by building sufficient safeguards against dependency through the promotion of active transfer of skills (through training of trainers) at all levels. The revenue to be generated through service provision and production activities together with improvements in the management of the Centre is expected to produce the synergy needed for the training activities to be sustainable.

The Centre shall draw up plans for:

a. promoting and marketing training programs,
b. run production and service activities with a view to incrementally increasing revenue that will contribute to recurrent and developmental costs.

All training shall be designed to be demand-driven. Consequently, the trainings will be monitored closely, and emerging lessons and practices carefully analysed to inform policy and decision-making. Other cost savings initiatives will be undertaken such as energy-saving equipment/alternative energy source for powering/running tools and equipment.

Stakeholders will be approached with proposals to further support the Centre include, State Governments, African Development Bank, The African Union, ECN, NASENI, ECOWAS, World Bank, UNESCO (Capacity building), UNDP through its Sustainable Development Goals Project, USAID, DFID, etc.

14.0 SECTORAL ADVISORY BOARD

4.3 Sectoral Advisory Board

1. ***Name: Renewable Energy***	
Position/Title: Prof Eli Bala	***Company/Organization:*** *Energy Commission of Nigeria*
Tel. #: +234-8051128884	*Email: dg@energy.gov.ng*
Expertise: Energy Policy	
Anticipated Contribution: Renewable Energy Research and data provision	
2. Name: Renewable Energy	
Position/Title: Prof Ayoade Kuye	***Company/Organization:*** *University of Port Harcourt*
Tel. #: +234-805 386 4959	*Email: ayo.kuye@uniport.edu.ng*
Expertise: Renewable Energy Utilisation	
Anticipated Contribution: Renewable Energy Research	
3. ***Name: Renewable Energy***	

Position/Title: Prof Kenneth Okpara	***Company/Organization:*** *Federal University of Technology, Owerri, Imo State, Nigeria*
Tel. #: +234-8033437317	*Email: kenokpara@yahoo.com*
Expertise: Energy Policy	
Anticipated Contribution: Renewable Energy Research and data provision	
4. ***Name: Renewable Energy Equipment Design***	
Position/Title: Dr H.F. Akande	***Company/Organization:*** *Kaduna Polytechnic, Kaduna*
Tel. #: +234-8033686645	*Email: hassan.akande@kadunapolytechnic.edu.ng*
Expertise: Equipment Design and fabrication	
Anticipated Contribution: Renewable Energy Research and Equipment Design	
5 Name: Renewable Energy Utilisation	
Position/Title: Director; Research and Development - Dr Stephen Momoh	***Company/Organization:*** *National Agency for Science and Engineering Infrastructure (NASENI)*

Tel. #: +234-8033784716	***Email**: stevmomoh@yahoo.com*
Expertise: Research and Development in Engineering Infrastructure	
Anticipated Contribution: Technical Expert for Design and Fabrication	
5 Name: Renewable Energy Utilisation	
Position/Title: Assist. Director; Research and Development –Engr Dr Jafaru O. Mahmud	***Company/Organization:*** *National Agency for Science and Engineering Infrastructure (NASENI)*
Tel. #: +234-8166985279	***Email**: jafaru,mahmud@yahoo.com*
Expertise: Research and Development in Engineering Infrastructure	
Anticipated Contribution: Technical Expert for Design and Fabrication	

15.0 INTERNATIONAL SCIENTIFIC ADVISORY BOARD

Table 7a: International Scientific Advisory Board

1. Name: Prof. Thaddeus Ityokumbul

Position/Title:	*Pennsylvania State University, USA/Advisory Board Chair*
Tel. #: +81 48-6340-375	*Email: m_ityokumbul@yahoo.com*
Expertise: Expert in the Nigerian Energy Sector and Optimization of Renewable Energy Processes	
Anticipated Contribution: Curricula Design, Research assessment and winning Grant and Research Proposal drafting	
2. Name: Prof. James Katende	
Position/Title: Prof.	*Namibia University of Science and Technology*
Tel. #: +264 612072537	*Email: jkatende@nust.na*
Expertise: Expert in renewable energy utilization	
Anticipated Contribution: Research assessment and equipment design and fabrication	
3. Name: Engr Joseph Pemndje	
Position/Title: Director	*Local Raw Materials Promotion Authority, Yaoundé, Cameroon*

Tel. #.	*Email: joseph.pemndje@gmail.com*
Expertise: Expert in local raw materials utilization	
Anticipated Contribution: Research assessment and equipment design and fabrication	
4. Name: Prof. Mohammed Takase	
Position/Title: Prof	*Department of Environmental Science, University of Cape Coast, Cape Coast Ghana*
Tel. #.+233(03321)32440	*Email: mohammed.takase@ucc.edu.gh*
Expertise: Expert in Environmental Impact Assessment of Energy utilization	
Anticipated Contribution: Environmental impact of Renewable energy Utilization	