



TERMS OF REFERENCE (TOR)

on

The Implementation Activities for Training Group II and III Companies under NIGERIA HCFC PHASE-OUT MANAGEMENT PLAN STAGE III 190173

1. ORGANIZATIONAL BACKGROUND

The United Nations Industrial Development Organization (UNIDO) is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability. The mission of UNIDO, as described in the Lima Declaration adopted at the fifteenth session of the UNIDO General Conference in 2013 as well as the Abu Dhabi Declaration adopted at the eighteenth session of UNIDO General Conference in 2019, is to promote and accelerate inclusive and sustainable industrial development (ISID) in Member States. The relevance of ISID as an integrated approach to all three pillars of sustainable development is recognized by the 2030 Agenda for Sustainable Development and the related Sustainable Development Goals (SDGs), which will frame United Nations and country efforts towards sustainable development. UNIDO's mandate is fully recognized in SDG-9, which calls to "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation". The relevance of ISID, however, applies in greater or lesser extent to all SDGs. Accordingly, the Organization's programmatic focus is structured in four strategic priorities: Creating shared prosperity; Advancing economic competitiveness; Safeguarding the environment; and Strengthening knowledge and institutions.

Each of these programmatic fields of activity contains a number of individual programmes, which are implemented in a holistic manner to achieve effective outcomes and impacts through UNIDO's four enabling functions: (i) technical cooperation; (ii) analytical and research functions and policy advisory services; (iii) normative functions and standards and quality-related activities; and (iv) convening and partnerships for knowledge transfer, networking and industrial cooperation. Such core functions are carried out in Departments/Offices in its Headquarters, Regional Offices and Hubs and Country Offices.

The present task is within Montreal Protocol Unit (TCS/MPD) and the incumbent reports to the project manager in the unit. The MPD is responsible for planning, developing and implementing activities in Member States to facilitate compliance with the Montreal Protocol and, in particular, it's Kigali Amendment and to support countries to achieve their determined contributions to reduce emissions of greenhouse gases under the Paris Agreement. Making use of the capacity building and policy support, the services of the Unit foster transformation in manufacturing concerning technologies used in the refrigeration, air conditioning and insulation with the effect of a reduction and change in working fluids and chemicals and ultimately a reduction of total greenhouse gas emissions.

PROJECT CONTEXT

The HPMP for Nigeria, approved at the 62nd meeting of the Executive Committee, will result in the complete phase-out of HCFCs in Nigeria by 1st January 2040 in line with the obligation taken by the

Government of Nigeria under the Montreal Protocol on Substances that Deplete the Ozone Layer. This is based on the combination of interrelated institutional and regulatory measures and investment activities including conversion of production facilities and strengthening of national capacities for local manufacture of hydrocarbon-based alternative refrigerants. UNDP is the lead agency for the implementation of this plan, UNIDO being the cooperating agency. Nigeria obtained financial support from the Multilateral Fund for the first stage, which resulted in the country attaining its 10% phase-out target of the baseline level by 2015. Nigeria also obtained at the 81st Executive Committee Meeting in June 2018 approval for its Second Stage of the HPMP, for a phase-out of 51.35% by 2023. For Stage II, UNDP was the coordinating agency, and both UNIDO and the Government of Italy are cooperating agencies.

After the ExCom Decision 81/40(c) noted that “approval of stage II of the HPMP did not preclude Nigeria from submitting, the 91st ExCom approved the HPMP Stage III.

Phase-out of HCFC-22 in the commercial refrigeration manufacturing sector

In the Nigeria market, there are already equipment using HC refrigerants on sale. The market and customers have gradually accepted such equipment and have certain application foundation and experience.

For the refrigerator, freezer, ice maker and RAC sector, the charging amounts of these refrigeration equipment are relatively small, and the overall design does not need after-sales installation (except RAC), so the risk of leakage is low. As an environmentally friendly high-performance refrigerant, HC can be used in small charges. At the same time, the compressor and other main parts are sufficiently supplied with many varieties, which can be applied to different refrigeration systems. The survey conducted in 2019 renewed the country’s portfolio of small and medium manufacturing companies in the field of commercial refrigeration. For eligible companies, the total HCFC-22 consumption in this sector is 232.29 MT (12.78 ODP tonnes) in 2019. Among them, 1 company consume more than 6 MT, 13 companies in the range of 3 to 6 MT, 53 companies less than 3 MT, and 115 companies less than 1MT.

UNIDO’s survey of HCFC consumption in the RAC manufacturing sector conducted in 2019 showed that out of 259 companies surveyed, only 183 companies in the commercial refrigeration manufacturing sector and 2 companies in air-conditioning manufacturing sector were found eligible to receive MLF support to phase out HCFC-22. Of the 185 eligible companies, only two produce air conditioning equipment, while other companies produce ice block making machines for walk-in refrigerators/freezers or install the walk-in refrigerators/freezers.

With the MLF Secretariat’s encouragement during its recent review of energy efficiency projects, it is convincing that R290 (not R32) technologies should be fully promoted in the commercial refrigeration sector. This choice has been supported by the fact that Sanden Intercool in Nigeria has fully converted its manufacturing line to R290. In April 2024, a training on the safe handling of R290 was conducted for 13 companies of group I in Lagos and Ibadan respectively. The R290 training mainly targeted commercial refrigeration manufacturers and assemblers. They were engaged in assembling, installing, and maintaining various types of refrigeration and air-conditioning equipment including cold rooms, ice making machines, central and residential AC, etc.

Kigali Implementation Plan (KIP) in Nigeria

Nigeria ratified the Kigali Amendment in 2018. The enabling activities funded by the Multilateral Fund with support from UNEP, assisted Nigeria in creating awareness of HFC phase-down, and supported the amendment of the *National Environmental (Ozone Layer Protection) regulations*. However, it was only in 2022, after the adoption of the amendment of the ODS regulation, that Nigeria started the

implementation of the licensing system for HFCs. Quota allocations will be implemented fully in 2025 with the implementation of the KIP.

HCFC consumption of Nigeria in 2023 reached 1,844MT. Implementing agencies including UNDP and UNIDO are supporting Nigeria on the implementation of stage II and Stage III HPMP in parallel, Stage IV of the HPMP will be developed to completely phase out HCFCs by 2030. It is expected that HPMP and KIP could be designed and implemented in a complementary manner to strengthen the infrastructure and capacity of the country for a sustainable HCFC phase-out and HFC phasing down for Nigeria.

Table 3.1: Summary of Eligible Companies by HCFC-22 Consumption in the commercial refrigeration sector

Enterprise Category	HCFC-22 Consumption (MT)	Number of Companies	Total HCFC-22 Consumption	
			(MT)	(ODP tonnes)
Individual conversion	HCFC-22 > 6 MT	1	10.07	0.55
Group conversion 1	3 < HCFC-22 ≤ 6 MT	13	57.2	3.15
Group conversion 2	1 < HCFC-22 ≤ 3 MT	53	120.5	6.63
Group Conversion 3	HCFC-22<1MT	115	44.52	2.45
Total		182	232.29	12.78

In order to promote and accelerate the phase-down of HCFC and shift towards low GWP alternatives, the eligible companies are divided into three groups in designing the technical assistance in Stage III:

- i) **Individual Conversion:** Solutions for the enterprises will be highly customized and HC will be selected wherever possible. Efforts would be made to understand each company's situation and capacity, and tailor-made solutions would be proposed and implemented;
- ii) **Group Conversion 1:** The enterprises could choose from ready-made equipment components needed for handling HC-290 within the project budget. The companies could choose to incorporate additional solutions with additional payments; and
- iii) **Group Conversion 2:** The enterprises would be provided with technical assistance and training.
- iv) **Group Conversion 3:** The enterprises would be provided with technical assistance and training.

See list of Group II enterprises to be trained below:

S/n	Company	Location	Geo-political zone
1	Perabeam Limited	Lagos State	South West
2	Baosam Concepts	Ibadan	South West
3	A O A Technical Company	Oyo/Ibadan	South West
4	Chris Sunny Refrigeration	Kwara/Ilorin	South West
5	Edencool Technical Works	Oyo/Ibadan	South West

6	Ade Tech	Oyo/Iseyin	South West
7	Awosco Cooling Works	Oyo/Ibadan	South West
8	Adekola Adewale Tech Engineering	Oyo/Ibadan	South West
9	Odunyemi Commercial Enterprises	Oyo/Ogbomoso	South West
10	Folab Technical Works	Oyo/Ibadan	South West
11	Souna Ventures	Kogi/Lokoja	North Central
12	ABIODUN TECHNICAL SERVICE	OGUN STATE	South West
13	Das Bam and Company Ltd	Lagos/Lagos	South west
14	MICHAEL FAST COOL NIG.	BENIN	South South
15	Gab Technical Works	Kano/Kano	North West
16	OBI ELECTRICAL ENGINEERING	ONITSHA	South East
17	CHARLES ORANEBO INVESTMEENT NIG.	OBOSI/Anambra	South East
18	VIC - MON TECHNICAL	Abuja/Abuja	North Central
19	FELIX COOLING TECHNICAL	BENIN	South South
20	Amusat Oladoke Enterprises	Oyo/Saki	South West
21	Mazadu Technical Enterprises	Kano/Kano	North West
22	S. ABBEY NIGERIA COMPANY ENT.	ABEOKUTA	South West
23	Supreme Refrigeration Works	Kwara/ Ilorin	South West
24	Femtek Nig Enterprises	Oyo/Iseyin	South West
25	TAJUDEEN ALIMU CASH AND CARRY TECHNICAL SERVICES	Kano/Kano	North West
26	Aliiko Refrigeration Services	Kwara/Ilorin	North Central
27	A K Faithful Technical Industries	Oyo/Ibadan	South West
28	Easy Solution Technical Works	Kwara/Ilorin	North Central
29	JOE TECHNICAL & COMPANY	ABUJA	North Central

30	Soltech Refrigeratiuon Works (Nigeria)	Oyo/Ibadan	South West
31	Jide Tech Co.	Kano/Kano	North West
32	PHILIP COOL TECH. COMPANY	ABUJA	North Central
33	ADVANTAGE TECHNICAL SEERVICES	Abuja	North Central
34	AKAND-ALADE ALLIU TWINS TEC	Lagos/ Lagos	South West
35	Clem Makanjuola Nig Ent.	Lagos/Lagos	South west
36	Ubani Technical Services	Kano/Kano	North West
37	Evercurrent Technical Company	Kano/Kano	North West
38	DEVY TECHNICA SERVICES	ABUJA	North Central
39	Jubson Technical Company	Akure/ Ondo	South West
40	Abiodun Morakinyo Nig Enterprises	Oyo/Oyo	South West
41	Morakinyo De Cool Merchant Nig Company	Oyo/Oyo	South West
42	Mofol Cool	Oyo/Iseyin	South West
43	Fash Tech Consult	Oyo/Ibadan	South West
44	Sam Goodness Technical Enterprise	Oyo/Ibadan	South West
45	Missty Tee Tech Multiservice4s	Oyo/Ibadan	South West
46	Bencool Tech Int	Akure/Ondo	South West
47	A Honesty Tech/General Ent.	Kano/Kano	North West
48	MAKANOH TECH. NIG.	ABUJA	North Central
49	Dare Kilaso Ventures	Kano/Kano	North West
50	ASSURANCE TECH. ENG. WORK	ABUJA	North Central
51	Nino Technical Services	Abuja	North Central
52	AMUDA JAMIU AFOLABI JAMOTECH VENTURE	Lagos State	South West
53	Elharun Construction Company	Kaduna/Kaduna	North West

See a list of all 115 Group III companies to be trained below:

S/n	Company	Location	Geo-political zone	Type of business
1	Sholl-Sammy Associate (ENGR) Works	Kano/Kano	Norh West	ICE MAKING MACHINE/ COLD ROOM
2	MARTINS TECHNICAL COMPANY	ABUJA	North Central	ICE MAKING MACHINE
3	AUSREAL TECHNICAL CO.	ABUJA	North Central	ICE MAKING MACHINE
4	Johnson Kay Services	Kwara/Ilorin	North Central	ICE MAKING MACHINE/ COLD ROOM
5	Koseru Technical Services	Kwara/Ilorin	North Central	ICE MAKING MACHINE/ COLD ROOM
6	Oyotech Nig	Kwara/Ilorin	North Central	ICE MAKING MACHINE/ COLD ROOM
7	R & A Place	Kwara/Ilorin	North Central	ICE MAKING MACHINE/ COLD ROOM
8	HOLY WATER TECHNICAL ENTERPRISE	ABUJA	North Central	ICE MAKING MACHINE/ WATER COOLING MACHINE
9	OKOTI TECHNICAL COMPANY LTD	ABUJA	North Central	ICE MAKING MACHINE
10	Flamin go Cooling (NIG) enterprise	Kogi/Ajaokuta	North Central	ICE MAKING MACHINE
11	MACHI TECH	ABUJA	North central	ICE MAKING MACHINE
12	JASMOD NIG ENTERPRISES	Abuja	North central	ICE MAKING MACHINE
13	J. J. Johnson Engineering Enterprises	Kogi/Lokoja	North central	ICE MAKING MACHINE/ COLD ROOM
14	FEMOO COOL NIGERIA LTD	Abuja	North Central	ICE MAKING MACHINE/ COOLER BOX
15	FRANCO ELECTRICAL WORK	Abuja	North Central	ICE MAKING MACHINE
16	BAABAGIDA IBRAHIM ELECTRICAL	Abuja	North Central	ICE MAKING MACHINE
17	THEERMOCOOL COOL WORLD ENTERPRISES	Abuja	North Central	ICE MAKING MACHINE
18	JOHNYCOOL TECH. VENTURE	Abuja	North Central	ICE MAKING MACHINE

19	JODAMAF TECH. NIG. LTD	Abuja	North central	ICE MAKING MACHINE
20	DANY BEST TECHNICAL VENTURE	ABUJA	North Central	ICE MAKING MACHINE
21	JOF-TECH TECHNICAL COMPANY	Abuja	North Central	ICE MAKING MACHINE
22	JOHN OSIKE FABRICATION WORK	Abuja	North Central	ICE MAKING MACHINE
23	DE-RAY AND CO TECH	Abuja	North Central	ICE MAKING MACHINE
24	ALIU COOLS TECH. CO	Abuja	North Central	ICE MAKING MACHINE
25	ELECTRO-DATERO NIGERIA LIMITED	Abuja	North central	ICE MAKING MACHINE
26	OLALEYE TECHNICAL LTD	Abuja	North Central	ICE MAKING MACHINE/ COLD ROOM/PURE WATER
27	SHONCOOL REFRIGERATINO AIR COND. ENTERPRISES	Abuja	North Central	ICE MAKING MACHINE /COLD ROOM/FRIDGE/ AIR CONDDITIONER
28	COOLCITY FRIDGE TECHNICAL COMPANY	Abuja	North central	ICE MAKING MACHINE/ OVEN/ LOCAL BAKERY
29	USARIK ENG. NIG LTD	Abuja	North Central	ICE MAKING MACHINE
30	AZEMOH & AZEMOH TECH SERVICE	Abuja	North Central	ICE MAKING MACHINE
31	ALBARKA WAVES CONCEPT LTD	ABUJA	North central	ICE MAKING MACHINE/ COLD ROOM
32	EZETHEC TECHNICAL SERVICES	Abuja	North Central	ICE MAKING MACHINE
33	Dens and Sons Nig Ent	Kogi/Lokoja	North Central	ICE MAKING MACHINE
34	FRIJIM ELECTRICAL ELECTRONIC	ABUJA	North central	ICE MAKING MACHINE /COLD ROOM
35	EMMANCO ANHERI ENT.	Abuja	North Central	ICE MAKING MACHINE
36	CHAN - THE COOL ENT.	Abuja	North Central	ICE MAKING MACHINE/ COLD ROOM
37	CHUKS COOL TECH. COMPANY	Abuja	North Central	ICE MAKING MACHINE

38	KAYBETH TECHNICAL	ABUJA	North Central	ICE MAKING MACHINE
39	DOECCOOL TECHNICAL	Abuja	North Central	ICE MAKING MACHINE
40	ISIAKU MUSA ELECTRICAL WORK	Abuja	North central	ICE MAKING MACHINE
41	FANEX SYSTEM NIG.	ABUJA	North central	ICE MAKING MACHINE
42	SOLOTECH ELECT. NIG. ENT. A/C & REF.	ABUJA	North central	ICE MAKING MACHINE
43	Ibrahim Muazu Tech Works	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
44	United Tech Enterprises (Babington Technical Enterprises)	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
45	Patrick Abu Technical Company	Kano/Kano	North West	ICE MAKING MACHINE
46	N U Engineering Tech	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
47	Rivers Electrical & Mechanical Company	Kano/Kano	North West	ICE MAKING MACHINE
48	Hamadex Technical Services	Kano/Kano	North West	ICE MAKING MACHINE
49	Suleiman Technical Company	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
50	OC Technical Company	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
51	BESTMAN TECHNICAL WORKS	Abuja	North West	ICE MAKING MACHINE
52	Taoteco Technical Works	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
53	Aray Home Air Conditioning Clinic	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
54	God With Us Feel Engineered Works	Kaduna/Kaduna	North West	ICE MAKING MACHINE
55	Tunde Technical Services	Kano/Kano	North West	ICE MAKING MACHINE
56	Tadlok enterprises	Kano/Kano	North west	ICE MAKING MACHINE/ COLD ROOM
57	Champion Technical Company	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM

58	Taiye Technical Works	Kano/Kano	North west	ICE MAKING MACHINE/ COLD ROOM
59	Abbey Technical Company	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
60	Tajudeen Abdulsalam Tech Works	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
61	Sam Technical Refridgelant	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
62	Amark Technical Company	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
63	Tunde Technical Works	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
64	Achyman Global Link Services	Kaduna/Kaduna	North West	ICE MAKING MACHINE/ COLD ROOM
65	ADAMS TECH. EMERGENCY	Abuja	Noth Central	ICE MAKING MACHINE
66	Olurotimi Olufowose NIG Ent	Oyo/Ibadan	South West	ICE MAKING MACHINE
67	IFECO CONSRUCTINO CO. NIG.	Obosi/Anambra	South East	ICE MAKING MACHINE/ ICE CREAM, BOTTLE WATER, DEEP FREEZER
68	N-NDU ELECTRICAL	Aba	South East	ICE MAKING MACHINE
69	PEE COOLING TECH.	Aba	South East	ICE MAKING MACHINE/ COLD ROOM
70	GODS OPINIO TECHNICAL NIG.	ONITSHA	South East	ICE MAKING MACHINE
71	E-PAL ENTERPRISES NIG LTD	Aba	South East	ICE MAKING MACHINE
72	UGOWE ENG. COMPANY	Benin	South South	ICE MAKING MACHINE/COLD ROOM/ BUILDING OF MINI COLD
73	GEOWHO ENINGEERING INTERNATIONAL COMPANY	Portharcourt	South South	ICE MAKING MACHINE/ CENTRAL UNIT, COLD STORE
74	CHRISTOLY NIG. ENTERPRISES	PORT HARCOURT	South south	ICE MAKING MACHINE

75	OGTECH ELBART LTD	PORT HARCOURT	South South	ICE MAKING MACHINE/ COLD ROOM
76	A. Z. MOMOH NIGERIA LTD	Port Harcourt	South south	INDUSTRIAL COLD ROOM, MARINE COLD ROOM, BOX TRUK COLD ROOM
77	BAYOSON TECHNICAL	Lagos	South West	ICE MAKING MACHINE/ COLD ROOM
78	OHAVIC VENTURES	PORT HARCOURT	South South	ICE MAKING MACHINE
79	SAROCOOL TECHNICAL SERVICES	PORT HARCOURT	South South	ICE MAKING MACHINE
80	NESCO TECHNICAL SERVICE CO.	PORT HARCOURT	South south	BOX TRUCK COLD ROOM, MARINE COLD ROOM, INDUSTRIAL COLD ROOM
81	AUSTIN LAZ & CO PLC	BENIN	South South	ICE MAKING MACHINE
82	DE HEROES REFRIGERANTINO CO.	PORT HARCOURT	south south	COLD ROOM/ INDUSTRIAL REFRIGERATION
83	ANGSONS ENTERPRISES	PORT HARCOURT	South south	ICE MAKING MACHINE/ COLD ROOM
84	COOLMAN TECH SERVICES	Akwa Ibom	South south	COLD ROOM
85	Pauli Brothers and Company	Enugu/Enugu	South East	ICE MAKING MACHINE
86	Samuel Technical Works	Oyo/Oyo	South West	ICE MAKING MACHINE
87	Jumascoi Technical Engineering Company	Oyo/Ibadan	South West	ICE MAKING MACHINE/ COLD ROOM
88	BEST JOHNNY TECHNICAL COMPANY	Abeokuta	South West	ICE MAKING MACHINE
89	AJAYI EZEKIEL	Lagos	South West	ICE MAKING MACHINE/ COLD ROOM
90	Castrol Joe Tech.	Akure/Ondo	South West	COLD ROOM
91	SIKFAT COMM. ENT.	Lagos	South West	ICE MAKING MACHINE/ COLD ROOM

92	ELECTRICAL ENG. CO.	Lagos	South West	ICE MAKING MACHINE/ COLD ROOM
93	OLALEKANCOOL SERVICES NIG.	Lagos	South West	ICE MAKING MACHINE
94	AJITECH TECHNIAL SERVICES	Lagos	South West	ICE MAKING MACHINE/ COLD ROOM
95	Oyegoke Electrical Works	Oyo/Ibadan	South West	ICE MAKING MACHINE/ CHILLERS, AIR CONDITIONERS
96	Nurudeen Adeojua Ice Block Making Machine	Oyo/Ibadan	South West	ICE MAKING MACHINE/ COLD ROOM
97	Orosun Nigeria Limited	Ogun/Ijebu Ode	South west	ICE MAKING MACHINE
98	OLU-ADE TECHNICAL SERVICES	ABEOKUTA OGUN STATE	South West	ICE MAKING MACHINE
99	Dansfocus Technical Company	Oyo/Ibadan	South West	ICE MAKING MACHINE
100	FAVOUR ONA VENTURE	ABEOKUTA OGUN STATE	South west	ICE MAKING MACHINE
101	Deekay and Sons Nigeria LTD	Lagos/Lagos	South West	Nexus refrigeration appliances and air conditioners
102	SUNNY OKEOWO NIGERIA ENTERPRISE	Lagos State	South west	ICE MAKING MACHINE
103	Moonlight Electrocooling Services	Oyo/Ibadan	South west	ICE MAKING MACHINE/ COLD ROOM
104	Adrosh Co Ltd	Lagos State	South West	ICE MAKING MACHINE
105	Hamzat Technical Services	Lagos/Lagos	South West	ICE MAKING MACHINE
106	Popson Technology Service Works	IBADAN	South west	ICE MAKING MACHINE
107	BIDBELL VENTURES	Lagos	South West	ICE MAKING MACHINE/ COLD ROOM
108	Polade	Lagos State	South West	ICE MAKING MACHINE/ COLD-ROOM PANES, SPRAY WORK
109	DEKOOLAR NIG LTD	Papalanto/Ogun State	South west	ICE MAKING MACHINE/ COLD ROOM/ FREEZER/ OVEN

110	Fakeye Corporate Enterprises	Oyo/Ibadan	South West	ICE MAKING MACHINE
111	AjibadeTech Work	Oyo/Ibadan	South West	ICE MAKING MACHINE
112	Samdeb (Nig) Enterprises	Ibadan/Oyo	South west	ICE MAKING MACHINE/ CHILLERS, AIR CONDITIONERS
113	OLATEECH	Lagos	South west	ICE MAKING MACHINE/ COLD ROOM
114	Coldcare Nigeria Ltd	Lagos State	South West	commercial, industrial and residential refrigeration
115	OSENI TECH. ENTERPRISE	OGUN STATE	South West	ICE MAKING MACHINE

KIP companies

S/n	Company	Location	Name of geo-political zone	Type of business
1	Fouani Nig Ltd	Lagos	South West	Refrigerators, Freezers and Acs (LG, Hisense)
2	New Homes Distribution Africa Ltd	Lagos	South West	ACs and Frigdes (Midea and Scanfrost)
3	Cold Hubs Ltd	Lagos	South West	Cool rooms
4	Koolboks Nig. Ltd	Lagos	South West	Koolboks Freezers
5	SIM Nig. Ltd	Lagos	South West	Refrigerators/Freezers
6	JMG Ltd Abuja	Abuja	North Central	Fridges, Freezers and ACs (TCL, AEON, Toshiba)
7	JNC Motors Ltd	Abuja	North Central	ACs (Gee)
8	Choice International Group (CIG) Motors Co. Ltd	Abuja	North Central	GAC Motors, JMC Motors and Wulling Motors
9	JAC Motors Ltd	Lagos	South West	JAC Motors
10	Innoson Vehicle Manufacturing co. Ltd	Anamabra	South East	Innoson Motors

2. Purpose of the Term of Reference

The primary objective of the terms of reference is to guide on the training activities for the Nigerian commercial refrigeration enterprises on their conversion to R290 under the HPMP Stage III project. This contract is for the logistical organization of training for 53 companies of Group II, as well as for 115 companies of Group III and for 10 companies of KIP, which will be conducted in the government identified centers of excellence across the country.

The planning of the logistical organization of training sessions must be done in close coordination with the National Ozone Office (NOO) of Nigeria and two trainers, who will share the training materials and any other additional considerations.

After completion of these training sessions, a separate final training (one day) must be held. This session will host Group I, Group II, Group III and 15 KIP companies **(in total 196 companies/ trainees)** again and will summarize the most important lessons learned, as well as a demonstration of usage of a logbook.

Training Modules and Topics

Participants' training module will be mostly focused on the areas mentioned below:

- Thermodynamics and refrigeration cycles
- H-P chart
- Types and physio-chemical properties of refrigerants HFCF, HFCs, HFOs, HC, CO₂, NH₃ and blends and safe handling of the flammable and toxic refrigerants and lubricants
- Type of commercial refrigeration and AC systems
- Electrical wiring basics and safety
- Vacuum and vacuum pumps including anti-explosion (ATEX) pumps
- Choice of appliances and systems
- Installation, servicing, maintenance, repair or decommissioning of the equipment
- Leak checks of the equipment
- Minimizing leaks
- Refrigerant identification
- Safe handling of cylinders (disposable and recovery cylinders)
- Contamination test kits
- Storage of used refrigerants
- Hermetic seals (blazing v.s. lockring, etc.)
- Good servicing practices
- Environmental impacts
- Energy efficiency of different refrigerants
- HCFC Phase-out Management Plan and Kigali Implementation Plan
- Key manufacturing process (pre-foaming, foaming, post-foaming, vacuuming, charging, leak check, electrical testing, etc.)
- Effective data and record keeping

The last day of trainings must be dedicated to the maintenance and proper cleaning of the devices and equipment. This means demonstrating to the trainees how to take care of the equipment in order to ensure a safe, sustainable and long usage of the equipment.

3. Scope of work

Under the direct supervision of the UNIDO Project Manager and in close coordination with the National Ozone Office, the contractor shall implement the following tasks:

a. Secure identified training centres for the duration of training programme and support the successful execution of the training exercises

Under this task, the contractor will be responsible for:

- Organizing ten three-days training sessions in three training centres in three locations: Lagos, Kano and Port Harcourt;
 - Developing a sex segregated list of trainers and trainees;
 - Advising and guiding the training plans and methodology, for review by UNIDO and NOO;
 - Developing training agenda, in close coordination with the UNIDO trainers, and sharing with UNIDO and NOO for review;
 - In close coordination with NOO and UNIDO, identify suitable dates for all the trainings;
 - Liaise with the identified training centres, and ensure all materials and equipment is there before the training
 - In close coordination with the UNIDO trainers, administer pre and post-test questionnaires and submit to UNIDO;
 - Print training materials and manuals for the dissemination to training participants.
- Developing general evaluation sheet of the training (to include venue, equipment, logistics, coordination etc), administer to trainee enterprises and submit to UNIDO;
- Submitting a detailed training report alongside a segregated list of participants and identifying areas of improvement to plan, direct, organize, and schedule for subsequent training programs.

b. Coordinate all logistic and training actions

The contractor shall perform the following:

- Identify and provide suitable accommodation for all trainees; within the UNIDO Daily Sustenance Allowance (DSA)
- Book air/bus/train tickets or transportation for participants attending from other cities to the designated training location;
- Provide intra city transportation for transfers to and from the hotel and the training centre after each day's training and for any other necessary destinations;
- Book hotels/any other suitable accommodation booking for all trainees;
- Pay the trainees Daily Sustenance Allowance (DSA) as appropriate and as agreed by UNIDO and NOO. The exact DSA amount should comply with UNIDO rules and the exact amount to be disseminated to trainees will be shared with a successful bidder.

c. Media/visibility:

In consultation with UNIDO and NOO;

- Design and print UNIDO and NOO branded training materials and banners. UNIDO will share training materials in doc and pdf formats for further printing. Two banners must be designed and printed per location: two for Kano, two for Port Harcourt and two for Lagos. Additional two banners must be designed and printed for the final workshop in Lagos, where all companies would be invited. The contractor is to print hard copies of the training materials. The material should be in A4 size, 80 gsm (thickness 0.09 mm - 0.11 mm) and either spiral or

thread bound. In total 178 trainees will attend the trainings, with a buffer in case of loss or damage, the contractor should print 200 hard copies.

- Design and bring UNIDO and NOO sets of branded souvenirs to the training center. One set of branded souvenirs should contain one jotter (A5, hardcover, paper thickness of 80 gsm (0.09mm - 0.11mm), one pen, one hat and one workshop bag. In total 178 trainees will attend the trainings, with a buffer in case of loss or damage, the contractor must bring 200 sets of branded souvenirs.
- In close coordination with NOO and UNIDO trainers, a Certificate of Participation to be shared with trainees for NOO and UNIDO's signature. The UNIDO template for Certificates will be provided by UNIDO.
- Bring 200 copies of a logbook for the final training. The logbook must have a paper density of **110 gsm (0.12 mm)**. **This logbook must also be provided in digital form to UNIDO and NOO.**
- Provide professional pictures from all training sessions through a verified and safe link and a copy in an external hard drive;
- Develop a media briefing and submit to UNIDO, not later than 3 working days after the trainings sessions in one location have been finished. A final report is expected after the final training in Lagos.
- Procure new safety boots and reflective jackets for the purpose of the training (200 safety boots and 200 reflective jackets to be disseminated for the training participants);
- Provide media coverage for the training at the designated training locations e.g. TV, radio, prints, social media etc. Each training shall be reported in at 5 different media sources;
- Develop a communications video for each of the training locations and a joint video for all the Group 2 and Group 3 trainings. Two versions shall be submitted; an abridged version of not more than 3 minutes each and an original version.

d. Others:

- Ensure that UNIDO's name and brand is protected at all times;
- Organize the provision of water and coffee during the training session;
- Ensure safe storage at each training centre, UNIDO procured equipment/materials for enterprises and in the presence of UNIDO and NOO ensure distribution and presentation of equipment to trainee enterprises

4. Location

Locations of Training

The trainings will be held for the 53 Group II enterprises and 115 Group III and 10 KIP companies at 3 designated Centres of Excellence as designed by the National Ozone Office (NOO) of Nigeria. The training will be held at Kano, Port Harcourt and Lagos.

Sr. No.	Training Center	Location (City/State)	Equipment Available	Classroom Capacity
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1.	Cool Plus Limited	Plot 23, Theophilus Oji Street, off Fola Osibo Road, Lekki Phase 1, Lagos State	Recovery Machines for R-22, Recovery tank, Refrigerant recovery cylinders (30lb), Vacuum pump, Vacuum gauge Brazing set, Pinch off tool, Electronic refrigerant scale, Normal Leak detector, service manifold, electronic gauges, electronic hoses and assesories, hoses with valves Service port coupler, set Core removal tool Piecing plier including valve Charging hose and cylinder connections Heating belt with thermostat, Thermometer, electronic Multimeter with clamp on amp measurement Tools for tubing General tube cutters Capillary tube cutter Pinch off plier Flaring tool Tube bender Tube expander Brazing equipment and tips Igniter Consumables, 1 set Safety equipment Safety Glasses Gloves Hydro Carbon Service Tools N2 flushing equipment HC Leak detector HC Charging equipment Venting hoses and asesories Refrigerant Identifier Portable recycling machine External filter kits Burn out filter assesories Test rack with instruments.	Each group will have three-day training Group II 27 trainees (1 per enterprise) Group III 42 trainees (1 per enterprise) + 10 trainees (1 per enterprise from KIP)
2.	Government Technical College	No 1 State Road, Opposite Kano Line, Kano. Kano State	Recovery Machines for R-22, Recovery tank, Refrigerant recovery cylinders (30lb), Vacuum pump, Brazing set, Pinch off tool, Electronic refrigerant scale, Normal Leak detector, service manifold, gauges and assesories, hoses with valves, Service port coupler, set Core removal tool, Piecing plier including valve, Charging hose and cylinder connections, electronic Multimeter with clamp on amp measurement, General tube cutters, Pinch off plier, Flaring tool, Tube bender, Tube expander, Brazing equipment and tips, Igniter, Consumables, 1 set, Safety equipment, Safety Glasses, Gloves Hydro Carbon Service Tools, N2 flushing equipment, HC Leak detector, HC Charging equipment, Venting hoses and asesories, Refrigerant Identifier Portable recycling machine, External filter kits, Test rack with instruments.	Three-days training session for: Group II 22 trainees (1 per enterprise) Group III 65 trainees (1 per enterprise)

3.	Government Craft Development Center	Aba Road, by Garison Junction, GRA, Port Harcourt, Rivers State	Recovery Machines for R-22, Recovery tank, Refrigerant recovery cylinders (30lb), Vacuum pump, Brazing set, Pinch off tool, Electronic refrigerant scale, Normal Leak detector, service manifold, gauges and assesories, hoses with valves, Service port coupler, set Core removal tool, Piecing plier including valve, Charging hose and cylinder connections, electronic Multimeter with clamp on amp measurement, General tube cutters, Pinch off plier, Flaring tool, Tube bender, Tube expander, Brazing equipment and tips, Igniter, Consumables, 1 set, Safety equipment, Safety Glasses, Gloves Hydro Carbon Service Tools, N2 flushing equipment, HC Leak detector, HC Charging equipment, Venting hoses and asesories, Refrigerant Identifier Portable recycling machine, External filter kits, Test rack with instruments.	Three-days training session for one group Group II 4 trainees (1 per enterprise) Group III 18 trainees (1 per enterprise)
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The 53 Group 2 enterprises will be divided across the three locations according to the geographical locations and their nearness to any of the designated training centres.

Enterprises for training at Kano designated centre

S/n	Company	Name of contact person	Number of contact person	Email address of contact person	Geo-political zone	Type of business	Training session
1	Souna Ventures	Chief olukoyade Olonishuwa	08055615938	sounaventure.sniglt@gmail.com	North Central	ICE MAKING MACHINE	Session #1 (one trainee per company)
2	Aliiko Refrigeration Services	Babatunde Ayinde Musa	08030691076	-	North Central	ICE MAKING MACHINE	
3	Easy Solution Technical Works	Ibrahim Isiaka	07030611668, 07034356211	-	North Central	ICE MAKING MACHINE/ COLD ROOM	
4	Joe Technical & Company	Joseph N. Nwaru	08032883551, 07010666507	-	North Central	ICE MAKING MACHINE	
5	Philip Cool Tech. Company	Philip Thomas	0-8036905053	-	North Central	ICE MAKING MACHINE	
6	Advantage Technical Services	Ugwoegbulem Addindu Hyacinth	0-8033596398	Okotidavid@yahoo.com	North Central	ICE MAKING MACHINE	

7	Devy Technical Services	David Onoja	0-8036127845	jimohmakasa@gmail.com	North Central	ICE MAKING MACHINE
8	Makanoh Tech. Nig.	Mathew K.C. Onuoha	0-8059467963	-	North Central	ICE MAKING MACHINE
9	Assurance Tech. Eng. Work	Clement O. Ekunke	0-8037052123 / 0-8075828735	omomejifo@gmail.com	North Central	ICE MAKING MACHINE
10	Nino Technical Services	Austin Okhumhoya	08037016238 08054678050	austinokhumhoya@gmail.com	North Central	COLD ROOM
11	Gab Technical Works	Gabriel Okhari	08039642468	okharigabriel68@gmail.com	North West	COLD ROOM
12	Mazadu Technical Enterprises	Ado Mohammad	08034556440	adomuhmma@gmail.com	North West	ICE MAKING MACHINE/ COLD ROOM
13	Tajudeen Alimi Cash and Cary Technical Services		08137250027	jsanni54@gmail.com	North West	ICE MAKING MACHINE
14	Jide Tech Co.	Jide Komolafe	08037867567	jidetechincalco@gmail.com	North West	ICE MAKING MACHINE/ COLD ROOM
15	Ubani Technical Services	Isreal Ejure	08065897533	shalomegure2015@gmail.com	North West	ICE MAKING MACHINE/ COLD ROOM
16	Evercurrent Technical Company	Engr, Daniel O. Adebayo	08065417390	everncurrent@gmail.com	North West	ICE MAKING MACHINE/ COLD ROOM
17	A Honesty Tech/General Ent.	Akande Aderemi	08028378782	-	North West	ICE MAKING MACHINE/ COLD ROOM
18	Dare Kilaso Ventures	Dare Kilaso	08095358605	darekilasovernures@gmail.com	North West	ICE MAKING MACHINE
19	Elharun Construction Company	Ilyasu Abdulhameed	8023101662 08028672143	iharunmusa57@gmail.com	North West	ICE MAKING MACHINE/

						COLD ROOM/ REFRIGERATO R	
20	Chris Sunny Refrigeratio n	Balogun Christopher S.	0803503529 8	-	North Central	ICE MAKING MACHINE/ COLD ROOM	
21	Supreme Refrigeratio n Works	Isaac Kunle Oni	0803466068 5	oniisaac@gmail.com	North Central	ICE MAKING MACHINE/ COLD ROOM	
22	Vic-Mon Technical		0706828445 8 0805518368 0	-	North Central	ICE MAKING MACHINE	

Enterprises for training at Lagos designated centre

S/n	Company	Name of contact person onwer	Number of contact person	Email address of contact person	Geo-political zone	Type of business	Training session
1	Perabeam Limited	Adeola Akindele	0-8095389001	adeola.akindele@perabeam.com	South West	ICE MAKING MACHINE	Session #2 (one trainee per company)
2	Baosam Concepts	Ajayi Babatunde Samuel	08028765707, 08033849871	ajayibabatundesamuel@gmail.com	South West	ICE MAKING MACHINE	
3	A O A Technical Company	Akinniyi Olusegun	08131518148, 08055519428	akinniyi-olusegun9@gmail.com	South West	ICE MAKING MACHINE	
4	Edencool Technical Works	Adeniyi Adeleke Emmanuel	08056024699, 08034173401	edencooltechnicalworks@gmail.com	South West	ICE MAKING MACHINE / COLD ROOM	
5	Ade Tech	Adeoye Liadi	'08059750447		South West	ICE MAKING MACHINE/ COLD ROOM	
6	Awosco Cooling Works	Oluwalusin Olajumoke	08038303003	oluwalusinolajumoke@gmail.com	South West	ICE MAKING MACHINE/ COLD ROOM	
7	Adekola Adewale Tech Engineering	Adekola Adewale	08034301195	adekolaadewale@gmail.com	South West	ICE MAKING MACHINE/ COLD ROOM	
8	Odunyemi Commercial Enterprises	Moronfoye Akinwumi Odunyemi	08037554450		South West	ICE MAKING MACHINE	
9	Folab Technical Works	Areo Afolabi Foley	'08061300169	afolabifoley@yahoo.com	South West	ICE MAKING MACHINE/ COLD ROOM	

10	ABIODUN TECHNICAL SERVICE	ABIODAN ADETUNJI	08033957130		South West	ICE MAKING MACHINE	
11	Amusat Oladoke Enterprises	Alhaji Sulaiman Opeloyeru	08072150590/ 08027270229	opeloyerubiz@gmail.com	South West	ICE MAKING MACHINE	
12	S. ABBEY NIGERIA COMPANY ENT.	ABIODUN BAMIDELE OLUWAGBOY EGA	08033804994/ 08053171920/ 07055298031/ 08186777014	duadolechmcalservices@yahoo.com	South West	ICE MAKING MACHINE/ ICE FREEZING MACHINE	
13	Femtek Nig Enterprises	Femi Jayeoba	07053688873	femijayeoba61@gmail.com	South West	ICE MAKING MACHINE	
14	Abiodun Morakinyo Nig Enterprises	T. Morankinyo	08057976317		South West	ICE MAKING MACHINE/ COLD ROOM	
15	Morakinyo De Cool Merchant Nig Company	Morakinyo Ismaila Yusuff	08034970478 07055323621		South West	ICE MAKING MACHINE	Session #3 (one trainee per company)
16	Mofol Cool	Latifa Niyi Folorunso	08038268706		South West	ICE MAKING MACHINE/ COLD ROOM	
17	Fash Tech Consult	Fasola Rafiu Idowu	08026313955	fasholaraifu@gmail.com	South West	ICE MAKING MACHINE/ COLD ROOM	
18	Sam Goodness Technical Enterprise	Adeoti Olusegun Samuel	08077163908	adeotisegun14@gmail.com	South West	SERVICING	
19	Misty Tee Tech Multiservice4s	Abdulkareem Agbolagade	08033565482 08182932236	adebisi406@gmail.com	South West	ICE MAKING MACHINE/ COLD ROOM	
20	AMUDA JAMIU AFOLABI JAMOTECH VENTURE	AMUDA JAMIU	0-8089438288/ 0-8103112121	ogidansikuru@gmail.com	South West	ICE MAKING MACHINE/ COLD ROOM	
21	Soltech Refrigeratiuon Works (Nigeria)	Aina Olusola	08038176772/ 08099214571		South West	ICE MAKING MACHINE	
22	Das Bam and Company Ltd	Sunday Bamidele Olowookere	0-8023424089	dasbamcompany@gmail.com	South West	ICE MAKING MACHINE/ COLD ROOM	
23	A K Faithful Technical Industries	Abdulkareem Yakubu	0803478112 08055530792	akfaithfultechnicalindustries22@gmail.com	South West	ICE MAKING MACHINE	
24	AKAND-ALADE ALLIU TWINS TEC	AKANDE ALADE	0-8034065253		South West	ICE MAKING MACHINE/ COLD ROOM	

25	Clem Makanjuola Nig Ent.	Clement Makanjuola	0-8023055265	clemmakanjuola@gmail.com	South West	ICE MAKING MACHINE	
26	Jubson Technical Company	Mrs Rukiayat Ogundana	08033776568	jubrilogundana@yahoo.com	South West	ICE MAKING MACHINE	
27	Bencool Tech Int	Benjamin Olorunda	08038592799/09039546369		South West	ICE MAKING MACHINE	

Enterprises for training at Port Harcourt, Rivers State training centre

S/n	Company	Name of contact person	Number of contact person	Email of contact person	Geo-political zone	Tupe of business	Training session
1	Obi Electrical Engineering	Obi Olovo	0-8037424039		South East	ICE MAKING MACHINE	Session #4 (one trainee per company)
2	Felix Cooling Technical	Felix Imumonlen Eromosele	0-8023371730	ozavesheade@gmail.com	South South	ICE MAKING MACHINE	
3	Michael Fast Cool Nig	Michael Akaya	0-7033677546		South South	ICE MAKING MACHINE	
4	Charles Oranebo Investment Nig.	Charles Ohanebo	0-8036081729		South East	ICE MAKING MACHINE	

Location of Training: Group III companies

The trainings will also be held for the 115 Group III enterprises at the same aforementioned three designated Centers of Excellence as designed by the National Ozone Office (NOO) of Nigeria. The training will be held at Kano, Port Harcourt and Lagos.

Enterprises for training at Kano designated centre

S/n	Company	Location	Geo-political zone	Type of business	Training session
1	Sholl-Sammy Associate (ENGR) Works	Kano/Kano	Norh West	ICE MAKING MACHINE/ COLD ROOM	Session #5 (one trainee per company)
2	MARTINS TECHNICAL COMPANY	ABUJA	North Central	ICE MAKING MACHINE	
3	AUSREAL TECHNICAL CO.	ABUJA	North Central	ICE MAKING MACHINE	
4	Johnson Kay Services	Kwara/Ilorin	North Central	ICE MAKING MACHINE/ COLD ROOM	
5	Koseru Technical Services	Kwara/Ilorin	North Central	ICE MAKING MACHINE/ COLD ROOM	

6	Oyotech Nig	Kwara/Ilorin	North Central	ICE MAKING MACHINE/ COLD ROOM	Session #6 (one trainee per company)
7	R & A Place	Kwara/Ilorin	North Central	ICE MAKING MACHINE/ COLD ROOM	
8	HOLY WATER TECHNICAL ENTERPRISE	ABUJA	North Central	ICE MAKING MACHINE/ WATER COOLING MACHINE	
9	OKOTI TECHNICAL COMPANY LTD	ABUJA	North Central	ICE MAKING MACHINE	
10	Flamin go Cooling (NIG) enterprise	Kogi/Ajaokuta	North Central	ICE MAKING MACHINE	
11	MACHI TECH	ABUJA	North central	ICE MAKING MACHINE	
12	JASMOD NIG ENTERPRISES	Abuja	North central	ICE MAKING MACHINE	
13	J. J. Johnson Engineering Enterprises	Kogi/Lokoja	North central	ICE MAKING MACHINE/ COLD ROOM	
14	FEMOO COOL NIGERIA LTD	Abuja	North Central	ICE MAKING MACHINE/ COOLER BOX	
15	FRANCO ELECTRICAL WORK	Abuja	North Central	ICE MAKING MACHINE	
16	BAABAGIDA IBRAHIM ELECTRICAL	Abuja	North Central	ICE MAKING MACHINE	
17	THEERMOCOOOL COOL WORLD ENTERPRISES	Abuja	North Central	ICE MAKING MACHINE	
18	JOHNYCOOL TECH. VENTURE	Abuja	North Central	ICE MAKING MACHINE	
19	JODAMAF TECH. NIG. LTD	Abuja	North central	ICE MAKING MACHINE	
20	DANY BEST TECHNICAL VENTURE	ABUJA	North Central	ICE MAKING MACHINE	
21	JOF-TECH TECHNICAL COMPANY	Abuja	North Central	ICE MAKING MACHINE	
22	JOHN OSIKE FABRICATION WORK	Abuja	North Central	ICE MAKING MACHINE	
23	DE-RAY AND CO TECH	Abuja	North Central	ICE MAKING MACHINE	
24	ALIU COOLS TECH. CO	Abuja	North Central	ICE MAKING MACHINE	
25	ELECTRO-DATERO NIGERIA LIMITED	Abuja	North central	ICE MAKING MACHINE	

26	OLALEYE TECHNICAL LTD	Abuja	North Central	ICE MAKING MACHINE/ COLD ROOM/PURE WATER
27	SHONCOOL REFRIGERATINO AIR COND. ENTERPRISES	Abuja	North Central	ICE MAKING MACHINE /COLD ROOM/FRIDGE/ AIR CONDDITIONER
28	COOLCITY FRIDGE TECHNICAL COMPANY	Abuja	North central	ICE MAKING MACHINE/ OVEN/ LOCAL BAKERY
29	USARIK ENG. NIG LTD	Abuja	North Central	ICE MAKING MACHINE
30	AZEMOH & AZEMOH TECH SERVICE	Abuja	North Central	ICE MAKING MACHINE
31	ALBARKA WAVES CONCEPT LTD	ABUJA	North central	ICE MAKING MACHINE/ COLD ROOM
32	EZETHEC TECHNICAL SERVICES	Abuja	North Central	ICE MAKING MACHINE
33	Dens and Sons Nig Ent	Kogi/Lokoja	North Central	ICE MAKING MACHINE
34	FRIJIM ELECTRICAL ELECTRONIC	ABUJA	North central	ICE MAKING MACHINE /COLD ROOM
35	EMMANCO ANHERI ENT.	Abuja	North Central	ICE MAKING MACHINE
36	CHAN - THE COOL ENT.	Abuja	North Central	ICE MAKING MACHINE/ COLD ROOM
37	CHUKS COOL TECH. COMPANY	Abuja	North Central	ICE MAKING MACHINE
38	KAYBETH TECHNICAL	ABUJA	North Central	ICE MAKING MACHINE
39	DOECCOOL TECHNICAL	Abuja	North Central	ICE MAKING MACHINE
40	ISIAKU MUSA ELECTRICAL WORK	Abuja	North central	ICE MAKING MACHINE
41	FANEX SYSTEM NIG.	ABUJA	North central	ICE MAKING MACHINE
42	SOLOTECH ELECT. NIG. ENT. A/C & REF.	ABUJA	North central	ICE MAKING MACHINE
43	Ibrahim Muazu Tech Works	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
44	United Tech Enterprises (Babington Technical Enterprises)	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM

45	Patrick Abu Technical Company	Kano/Kano	North West	ICE MAKING MACHINE
46	N U Engineering Tech	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
47	Rivers Electrical & Mechanical Company	Kano/Kano	North West	ICE MAKING MACHINE
48	Hamadex Technical Services	Kano/Kano	North West	ICE MAKING MACHINE
49	Suleiman Technical Company	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
50	OC Technical Company	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
51	BESTMAN TECHNICAL WORKS	Abuja	North West	ICE MAKING MACHINE
52	Taoteco Technical Works	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
53	Aray Home Air Conditioning Clinic	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
54	God With Us Feel Engineered Works	Kaduna/Kaduna	North West	ICE MAKING MACHINE
55	Tunde Technical Services	Kano/Kano	North West	ICE MAKING MACHINE
56	Tadlok enterprises	Kano/Kano	North west	ICE MAKING MACHINE/ COLD ROOM
57	Champion Technical Company	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
58	Taiye Technical Works	Kano/Kano	North west	ICE MAKING MACHINE/ COLD ROOM
59	Abbey Technical Company	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
60	Tajudeen Abdulsalam Tech Works	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
61	Sam Technical Refridgelant	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
62	Amark Technical Company	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM
63	Tunde Technical Works	Kano/Kano	North West	ICE MAKING MACHINE/ COLD ROOM

Session #7 (one trainee per company)

64	Achyman Global Link Services	Kaduna/Kaduna	North West	ICE MAKING MACHINE/ COLD ROOM	
65	ADAMS TECH. EMERGENCY	Abuja	Noth Central	ICE MAKING MACHINE	

Enterprises for training at Port Harcourt, Rivers State training centre

S/n	Company	Location	Geo-political zone	Type of business	Training session
1	N-NDU ELECTRICAL	Aba	South East	ICE MAKING MACHINE	
2	PEE COOLING TECH.	Aba	South East	ICE MAKING MACHINE/ COLD ROOM	
3	GODS OPINIO TECHNICAL NIG.	ONITSHA	South East	ICE MAKING MACHINE	
4	E-PAL ENTERPRISES NIG LTD	Aba	South East	ICE MAKING MACHINE	
5	UGOWE ENG. COMPANY	Benin	South South	ICE MAKING MACHINE/COLD ROOM/ BUILDING OF MINI COLD	
6	GEOWHO ENINGEERING INTERNATIONAL COMPANY	Portharcourt	South South	ICE MAKING MACHINE/ CENTRAL UNIT, COLD STORE	
7	CHRISTOLY NIG. ENTERPRISES	PORT HARCOURT	South south	ICE MAKING MACHINE	
8	OGTECH ELBART LTD	PORT HARCOURT	South South	ICE MAKING MACHINE/ COLD ROOM	
9	A. Z. MOMOH NIGERIA LTD	Port Harcourt	South south	INDUSTRIAL COLD ROOM, MARINE COLD ROOM, BOX TRUK COLD ROOM	
10	OHAVIC VENTURES	PORT HARCOURT	South South	ICE MAKING MACHINE	
11	SAROCOOL TECHNICAL SERVICES	PORT HARCOURT	South South	ICE MAKING MACHINE	
12	NESCO TECHNICAL SERVICE CO.	PORT HARCOURT	South south	BOX TRUCK COLD ROOM, MARINE COLD ROOM, INDUSTRIAL COLD ROOM	
13	AUSTIN LAZ & CO PLC	BENIN	South South	ICE MAKING MACHINE	Session #8 (one trainee per company)

14	DE HEROES REFRIGERANTINO CO.	PORT HARCOURT	south south	COLD ROOM/ INDUSTRIAL REFRIGERATION
15	ANGSONS ENTERPRISES	PORT HARCOURT	South south	ICE MAKING MACHINE/ COLD ROOM
16	COOLMAN TECH SERVICES	Akwa Ibom	South south	COLD ROOM
17	Pauli Brothers and Company	Enugu/Enugu	South East	ICE MAKING MACHINE
18	IFECO CONSRUCTINO CO. NIG.	Obosi/Anambra	South East	ICE MAKING MACHINE/ ICE CREAM, BOTTLE WATER, DEEP FREEZER

Companies for training at Lagos designated centre

S/ n	Company	Location	Geo-political zone	Type of business	Training session
1	Samuel Technical Works	Oyo/Oyo	South West	ICE MAKING MACHINE	
2	Jumasoi Technical Engineering Company	Oyo/Ibadan	South West	ICE MAKING MACHINE/ COLD ROOM	
3	BEST JOHNNY TECHNICAL COMPANY	Abeokuta	South West	ICE MAKING MACHINE	
4	AJAYI EZEKIEL	Lagos	South West	ICE MAKING MACHINE/ COLD ROOM	
5	Castrol Joe Tech.	Akure/Ondo	South West	COLD ROOM	
6	SIKFAT COMM. ENT.	Lagos	South West	ICE MAKING MACHINE/ COLD ROOM	
7	ELECTRICAL ENG. CO.	Lagos	South West	ICE MAKING MACHINE/ COLD ROOM	
8	OLALEKANCOOL SERVICES NIG.	Lagos	South West	ICE MAKING MACHINE	
9	AJITECH TECHNIAL SERVICES	Lagos	South West	ICE MAKING MACHINE/ COLD ROOM	
10	Oyegoke Electrical Works	Oyo/Ibadan	South West	ICE MAKING MACHINE/ CHILLERS, AIR CONDITIONERS	
11	Nurudeen Adeojua Ice Block Making Machine	Oyo/Ibadan	South West	ICE MAKING MACHINE/ COLD ROOM	
12	Orosun Nigeria Limited	Ogun/Ijebu Ode	South west	ICE MAKING MACHINE	Session #9 (one trainee per company)

13	OLU-ADE TECHNICAL SERVICES	ABEOKUTA OGUN STATE	South West	ICE MAKING MACHINE	
14	Dansfocus Technical Company	Oyo/Ibadan	South West	ICE MAKING MACHINE	
15	FAVOUR ONA VENTURE	ABEOKUTA OGUN STATE	South west	ICE MAKING MACHINE	
16	Deekay and Sons Nigeria LTD	Lagos/Lagos	South West	Nexus refrigeration appliances and air conditioners	
17	SUNNY OKEOWO NIGERIA ENTERPRISE	Lagos State	South west	ICE MAKING MACHINE	
18	Moonlight Electrocooling Services	Oyo/Ibadan	South west	ICE MAKING MACHINE/ COLD ROOM	
19	Adrosh Co Ltd	Lagos State	South West	ICE MAKING MACHINE	
20	Hamzat Technical Services	Lagos/Lagos	South West	ICE MAKING MACHINE	
21	Popson Technology Service Works	IBADAN	South west	ICE MAKING MACHINE	
22	BIDBELL VENTURES	Lagos	South West	ICE MAKING MACHINE/ COLD ROOM	
23	Polade	Lagos State	South West	ICE MAKING MACHINE/ COLD-ROOM PANES, SPRAY WORK	Session #10 (one trainee per company) 10 companies from Group III + 10 KIP companies
24	DEKOOLAR NIG LTD	Papalanto/Ogu n State	South west	ICE MAKING MACHINE/ COLD ROOM/ FREEZER/ OVEN	
25	Fakeye Corporate Enterprises	Oyo/Ibadan	South West	ICE MAKING MACHINE	
26	AjibadeTech Work	Oyo/Ibadan	South West	ICE MAKING MACHINE	
27	Samdeb (Nig) Enterprises	Ibadan/Oyo	South west	ICE MAKING MACHINE/ CHILLERS, AIR CONDITIONERS	
28	OLATEECH	Lagos	South west	ICE MAKING MACHINE/ COLD ROOM	
29	Coldcare Nigeria Ltd	Lagos State	South West	commercial, industrial and residential refrigeration	
30	OSENI TECH. ENTERPRISE	OGUN STATE	South West	ICE MAKING MACHINE	

31	BAYOSON TECHNICAL	Lagos	South West	ICE MAKING MACHINE/ COLD ROOM
32	Olurotimi Olufowose NIG Ent	Oyo/Ibadan	South West	ICE MAKING MACHINE
1	Fouani Nig Ltd	Lagos	South West	Refrigerators, Freezers and Acs (LG, Hisense)
2	New Homes Distribution Africa Ltd	Lagos	South West	ACs and Frigdes (Midea and Scanfrost)
3	Cold Hubs Ltd	Lagos	South West	Cool rooms
4	Koolboks Nig. Ltd	Lagos	South West	Koolboks Freezers
5	SIM Nig. Ltd	Lagos	South West	Refrigerators/Freezer s
6	JMG Ltd Abuja	Abuja	North Central	Fridges, Freezers and ACs (TCL, AEON, Toshiba)
7	JNC Motors Ltd	Abuja	North Central	ACs (Gee)
8	Choice International Group (CIG) Motors Co. Ltd	Abuja	North Central	GAC Motors, JMC Motors and Wulling Motors
9	JAC Motors Ltd	Lagos	South West	JAC Motors
10	Innoson Vehicle Manufacturing co. Ltd	Anamabra	South East	Innoson Motors

8) Training

As noted in above, both Group II and Group III , as well as 10 KIP companies are to be trained. In total this amounts to 178 companies, Group II accounts for 53 enterprises, Group III accounts for 115 and KIP accounts for 10 enterprises.

The training sessions have been divided according to the least distance of the companies to the three above mentioned training centres. See below the total number of training sessions established per location.

Total number of training sessions

Training Centre	Group II (53 companies)	Group III (115 companies)	
Kano State	1	3	Each session lasts for three days
Port Harcourt	1	1	
Lagos	2	2	
Total	10 sessions		

	Session	Location	Amount of trainees
Group II	Session #1	Kano	22

Group III	Session #2	Lagos	14
	Session #3	Lagos	13
	Session #4	Port Harcourt	4
	Session #5	Kano	22
	Session #6	Kano	22
	Session #7	Kano	21
	Session #8	Port Harcourt	18
	Session #9	Lagos	22
	Session #10	Lagos	20 (10 KIP)

Final training

As mentioned above, a separate, final training (one day) with 196 companies must be held in order to recall all important information that the trainees were taught. In addition, the usage and importance of keeping a logbook must be demonstrated at this training.

	Location	Topics	Beneficiary companies	Trainees
1st half of the training	UNIDO Office in Lagos	Equipment dissemination Logbook usage	GI, GII, GII, 15 KIP	196
2nd half of the training	UNIDO Office Lagos	Maintenance	GI, GII, GII, 15 KIP	196

5. General Time Schedule

This contract shall be executed within a twelve-month period. Each training session will hold for three days each which will include both theory and practical exercises. There shall be one training for three days per group of maximum 22 persons per location as stated in the three location tables above. The successful bidder will work in cooperation with the NOO and UNIDO, training invitation letters shall be developed and sent to trainee enterprises not less than two weeks before the travel date of the start of the training sessions. After completion of all the above mentioned trainings, a one-day training session for Group I, Group II, Group III and KIP companies (196 enterprises) shall be held in Lagos at a future date.

6. Technical Requirements

Experience:

The contractor responsible for organizing logistics and administration must possess relevant experience organizing similar technical training workshops for refrigeration and air-conditioning technicians and to have prior experience of work (at least three years) with government and UN institutions. The contractor should have substantial experience in organizing workshops and provide three samples of previous work done. CVs of the proposed key personnel are to be provided. A list of minimum three similar project references is to be provided.

The contractor should also provide a list of equipment and material necessary for conducting the trainings (i.e. projector, flipcharts etc.) In addition to this, the contractor must provide UNIDO with intermediate reports after finishing the trainings at each location, as well as a final report after completion of the final training. Up until three days after completion of the trainings in Kano, UNIDO is to receive an intermediate report. After completion of the trainings in Port Harcourt, UNIDO shall receive an intermediate report up until three days after completion. The same counts for completion of trainings in Lagos and the final report.

Proposal content:

- Proposal shall include a preliminary time schedule with a proposal for executing the project. The total project duration should not exceed eight months from the date of award to the date of handover.
- Bidders may choose to provide financial proposal for the required services and related equipment for all three locations in Nigeria. Partial bids (for one or two locations only) would not be accepted.

7. Language Requirements

All official communications and training sessions will be done in English. All the training materials have been prepared in English. In addition, the contractor must be able to understand Pidgin English.

8. Deliverables

Schedule	Deliverables	Payments
Upon signature	<ul style="list-style-type: none">• Signed contract;• Workplan;• A list separating the enterprises by businesses into training groups 22 people maximum;• Pre- and post-evaluation questionnaires;• Draft designs for banners, flyers, jotter, pen bags and any other training materials, which were developed in cooperation with NOO of Nigeria;• Design of certificate of participation;• Training sessions agenda for Kano, Lagos, Port Harcourt and a final session in Lagos;• Invoice.	40%
Completion of the contract	<ul style="list-style-type: none">• A sex segregated list of participants• Photos links and hard drive• Copies of printed training manuals and materials	60%

	<ul style="list-style-type: none"> • Report on final evaluation for each participant • Transaction records for hotels and bus services, air tickets, including proof of payment of allowances • Copies of certificates given to each participant • Copies of media reports from prints, TV, radios etc • Social media report with links to the publications on X, Instagram, Face book and any other social media platforms • Detailed training report (four in total) with feedback from participants on training sessions including consultant's recommendation on areas of improvement and schedule of subsequent training programs • Signed distributed list of distributed equipment to enterprise trainees • Final contract report 	
	Invoice	

1. PROPOSALS

Proposals shall be quoted in USD including levies, taxes in line with the attached Technical Specifications.

2. TECHNICAL REQUIREMENTS AND SUPPLIER RESPONSIBILITY

The supplier shall consider all the details presented in these technical specifications and shall request any further information, which is considered necessary for the correct supply of the equipment (safety boots, charts, souvenirs etc.). The supplier should fill in the table with costs and relevant information.

All deviations from these technical specifications should be clearly indicated and explained in the offer. All partial and/or non-binding offers will be rejected. In close consultation with UNIDO, the Bidder will supply the following items:

- Warranty Terms
- Terms

The supplier should bring materials such as projectors and flipcharts to each training centre prior the trainings

The supplier should bring safety-boots and reflective jackets to each training centres prior the trainings and then to disseminate it among trainees.

3. Language Requirements

All official communications and training sessions will be done in English. All the training materials have to be prepared in English.