



UNET Workshop 7 13-16 May 2024

University Network on PhD programs in Energy Technology (UNET Erasmus+ project)

NTNU – Department of Energy and Process Engineering Host:

Venue: NTNU campus, Trondheim, Norway

Time: 13-16 May 2024

Ole Jørgen Nydal <ole.j.nydal@ntnu.no> Report:

In Workshop7 we meet for progress review, and for jointly support the documentation efforts on UNET results and activities. The participants for the Workshop7 contribute to:

- Final Report on WP2 Course Catalogue (AAU Lead)
- Final Report on WP3 Training Nodes (MAK Lead)
- Dissemination WP6 Updating Web pages and document templates (MU Lead)
- WP4 Mobility and implementation status and reporting requirements (UEM Lead)
- WP7 MoU on future access to results (NTNU Lead)
- WP5 Quality Assurrance, status and reporting (USGM Lead)
- Final UNET report requirements (NTNU Lead)

Thursday was devoted to ENET project, with presentations from the PhDs.























Agenda

		Monday 13 May UNET WP2 Room: Varmeteknisk C201
Morning	NTNU	Welcome and introduction of attendants
9:00 – 12:30	NTNU	Plan for the week
	AAU	Preparation of final report on WP2: Course Catalogue
		Work in groups with Course Coordinators
	MU	Web updates and improvement
		Work in groups
12:30-13:00	Lunch	
Afternoon	AAU	Completion of report on WP2: Course Catalogue
	MU	Web updates and improvement
		Work in groups

Tuesday 14 May UNET WP3, WP6 Room: Varmeteknisk C201		
Morning		
9:00 - 12:30	MAK	Preparation on final report on WP3: Equipment and Training Nodes
		Work in groups
12:30-13:00	Lunch	
Afternoon	MAK	Completion of report on WP3: Equipment and Training Nodes
	MU	WP6 Status on dissemination and plans for end of project
Dinner 17:00		Ladekaia

Wednesday 15 May UNET WP4, WP5, WP7			
Room: Varmeteknisk C201			
Morning			
9:00 - 12:30	USGM	Status WP5 QA	
	UEM	Status on WP4 Implementation and final reporting	
12:30-13:00			
13:00	NTNU	Picture taking (Meet outside Kjelhuset canteen at 13:00)	
13:30-14:00	NTNU	Tour of Fluid Mechanics Laboratory and Wind Tunnel	
Rest of the	NTNU	MoU on future access	
afternoon	UEM/NTNU	Plans for final Workshop	
	NTNU	WP7 Financial status and plans for final reporting	























Thursday 16 May ENET Room: Varmeteknisk C201			
Morning 9:00 – 12:00	NTNU	Welcome Status and review on 2023 Notes on administrative issues: Financial documentations	
		Short overall status presentation from partners	
11:30-13:00			
Afternoon from		Short presentations from PhDs	
12:30		Jimmy Chaciga - PV and heat storage for solar cooking Gashaw Getenet – PCM injera fryer Fikadu Geremu – Off-grid pasteurization and cooling of milk Tsige Gebregergs – Hybrid wind and PV to heat Emmanuel Nyirenda – Pumps as Trubine Tito Achire – Computational analysis of heat storage concepts Mesele Hayelom – Solar direct injera fryer Hailay Kiros – Medium scale wind turbines	

Friday 17 May ENET		
All day		Constitution day in Norway
		Organized celebration activities in Trondheim

























Attendance

The attendants for the Workshop 7 are listed in the table

NTNU Norwegian University of Science and Technology, Norway

USGM Università degli Studi Guglielmo Marconi, Italy

University of Dar es Salaam, Tanzania **UDSM**

Makerere University, Uganda MAK

University of Eudardo Mondlane, Mozambique **UEM**

AAU Addis Ababa University, Ethiopia BU Busitema University, Tanzania MU Mekelle University, Ethiopia

(UDOM and UniSAVE not present)

Qiaoqiao: Fyllle ut fra signatur listen

Name	Partner	Country
Leonzio Donato	USGM	Italy
Matteo		
Torbjorn Nielsen	NTNU	Norway
OJ Nydal	NTNU	Norway
Qiaoqiao Wang	NTNU	Norway
Ida		
		Mozambique
		Mozambique
Boaventura Cuamba	UEM	Mozambique
Antonio Leao	UEM	Mozambique
Rogério José Uthui	UEM	Mozambique
Cuthbert Z. M. Kimambo	UDSM	Tanzania
Joseph Kihedu	UDSM	Tanzania
Abraham Kimangano TEMU	UDSM	Tanzania
Karidewa Nyeinga	MAK	Uganda
Denis Okello	MAK	Uganda
Jimmy Chaciga	MAK	Uganda
Masera Geoffrey	MAK	Uganda
Nelson Ndugu	MAK	Uganda
Abdulkadir Aman Hassen	AAU	Ethiopia
Yilma Tadesse Birhane	AAU	Ethiopia
Tilahun Nigussie Gemechu	AAU	Ethiopia
Wondwossen Bogale Eremed	AAU	Ethiopia
Mesele Hayelom	MU	Ethiopia
Petros Gebray	MU	Ethiopia
Gebremichael Teame	MU	Ethiopia
Akatew Haile	MU	Ethiopia
Asfafaw Haileselassie	MU	Ethiopia

























Samson Rwabwire;	BU	Uganda

























Summary of the Workshop

Welcome

The Workshop was opened and the agenda reviewed by OJ Nydal. Each of the attendants introduced themselves shortly.

WP2: Course Catalogue. Chair: AAU/Abdulkadir Aman

The preparations for the WP2 on the Course Catalogue and WP3 on the Training Nodes was completed in WP1, with UDSM/Joseph Kihedu as Lead. The list of courses with Working Groups for each course and types of equipment for the Training Nodes was defined in WP1.

A course description was prepared at the start of WP2 and submitted to the Internal Evaluation Board for review and approval. The review was conducted under WP5, Quality Assurance.

The report to the Internal Evaluation Board is the starting point for the final report on the WP2: The final report will include responses to the comments from the board and extensions with descriptions of the course material, which has been developed following the course description (Workshop 6).

The Course Catalogue was reviewed (see presentation). Two courses were on hold, but have now been completed after MU came back as active partners. A template for the description of the course material has been prepared and shared with the Working Groups for each course. The templates were filled in during the Workshop7 and the results are ready for review by the Internal Evaluation Board, in the form of the final report on the Course Catalogue.

Actions AAU: AAU/Abdulkadir to complete the report and submit to USGM/Matteo for the final review as part of WP5.

Accreditation

UNET is not developing new PhD Programs, but rather the courses which can be part of existing PhD programs at the partner universities. It is therefore in general not a need for accreditation of individual courses as part of the UNET project. UEM is working towards a new taught based PhD program, and courses from the Course Catalogue will then become part of the curriculum.

Actions MU: MU will provide a template for Course Attendance to be used by the participants in the Implementation phase of UNET (ongoing WP4).























WP6: Dissemination Chair:MU/Akatew

There is a need for updating of the web pages, including accumulation of dissemination events and material at the partner sites. MU takes the lead to review and provide improvements, to be forwarded to the web manager at NTNU.

WP3: Equipment and Training Nodes MAK/Karidewa Nyienga

The equipment list for the Training Nodes were reviewed by the Internal Evaluation Board, and the partners proceeded with the procurements. The status is:

- MAK Completed
- AAU Completed
- MU Not completed. MU is in the process of restarting normal operations after the shutdown period
- UEM Almost completed. The last 18% is now ready for processing
- UDSM Not completed. The university has changed financial system to be in line with the governmental system in Tanzania. The university has committed the procurement, but delays occur from the suppliers.

<u>Actions NTNU</u>: NTNU/OJ and Ida to send a request to PO, on whether the final procurements can go through, in spite of the delays. UEM, UDSM and MU to provide short description of the status and the reasons for the delays.

It is important that soft copies of the invoices are posted on the Equipment folder on Teams under each partner folder. This is already done. Hard copies must be stored at the partner universities for a least 5 years after the project period.

A template for the reporting of WP3 has been provided by MAK/Karidewa. Each partner worked on the contributions from each side during the Workshop7.

<u>Actions MAK</u>: MAK/Karidewa will compile the contributions into a final report on WP3: Training Nodes, and forward to USGM/Matteo for review.

WP5: Quality Assurance USGM/Matteo Martini

The status on WP5 was presented, giving an overview of the actions up to date and on what is remaining (see presentation). WP5 has organized the reviews on the Course Catalogue and on the equipment lists for the Training Nodes. WP5 will also organize the review of the final reports from WP2 and WP3.

A review of the Training Nodes is to be launched as well as a survey on the experiences with the Workshops.

























We also remind all to respond to the survey being made by the External Evaluation Board, as organized by T-Hap.

WP4: Implementation: Training and Knowledge Exchange UEM/Boaventura Cuamba

UNET includes an implementation phase where PhDs among the partner universities will attend selected courses and visit Training Nodes for evaluation and feedback. A plan has been designed to combine the mobilities regarding both the Course Catalogue and the Training Nodes, and a matrix was agreed upon during the previous Workshop6. UEM, UDSM, AAU and MAK will host visiting Phds who will be introduced to the Training Nodes and attend and evaluate the selected courses.

2024 is the implementation phase which is now half way. UEM and UDSM has hosted visitors, and AAU and MAK will follow up next. Due to an unfortunate misunderstanding, the UDSM period had some overlap with the UEM period.

Actions:

- UEM to distribute a template for the reporting from each hosting event, including evaluation forms
- UEM to confirm the plans with MAK and AAU
- MAK and AAU to clear with UEM before organizing the event
- UDSM to reformat the report to conform with the template from UEM
- UEM to decide on a common format for Certificate of Attendance with WP6
- UEM to accumulate all reports, in a final WP4 report and forward to WP5/USGM

WP7: Management NTNU/OJ Nydal and Ida Kristin Antonsen

Future access to the UNET results

The MoU on Future Access to the UNET results was discussed, based on a draft supplied before the Workshop. The results form the discussion can be summarized as:

- The project document on future access will be formulated as an intent in an MoU rather than in the form of an Agreement which would commit the partners beyond what is already covered in the project Agreement.
- The MoU will cover the results (Course Catalogue and Training Nodes) as they are given by the end of the project period and as they are documented in the UNET final report.
- The MoU is to be signed by the suitable administrative level at each partner university. At NTNU
 this will be the department level.
- NTNU will keep the Microsoft TEAMS for UNET for the 5 year period after the project ends, in accordance with the requirements in the Agreement. The TEAMS site will serve as a repository for the results.

<u>Actions NTNU</u>: NTNU/OJ and Ida to finalize the MoU and distribute among the partners for modifications and subsequent approvals.

























Financial status

All partners must update the financial status with Tonje.

An overview shows unused travel and stay budgets. One reason for this is that the Erasmus rates for air tickets based on km are very often significantly lower than the actual ticket costs, particular for internal travels in Africa.

Actions NTNU: NTNU/OJ to enquire with PO on whether the 80% coverage on exceptional costs can be applied for the remaining travels.

Actions All: All need to plan for the remaining travel/stay budget. This can apply to

- Final UNET meeting
- Further travels/stay within the WP4, e.g. visits to Training Nodes

10% of one budget item can be shifted to another budget item without requiring approval from PO. Larger changes (e.g. transfers to staff time) require approval. Unused funds by the end of the year will have to be returned.

Final UNET project meeting

The plan has been that UEM should host the final UNET meeting. This was confirmed and the timing was set to the first week of December 2024.



















