Hanze East Africa Hub (HEAH) assignments

Client	ENTRANCE Centre of Expertise Energy
Related project	
Start date	Semester 2 2025-2026 Semester 1 2026-2027
Suitable for training course(s)	All courses
Learning Community	Hanze East Africa Hub

The Hanze East Africa Hub (HEAH) is a meeting place where companies, educational institutions and the government work together to find innovative solutions to (interdisciplinary) issues. The cooperation takes place between companies in East Africa, students/lecturers of the Hanze University Groningen and students/lecturers of partner institutions in the respective country. The HEAH focuses on the themes: Energy, Food, Health, IT and the sub themes Entrepreneurship and Communication.

TANZANIA

Tanzania Geothermal Development Company limited (TGDC)

Tanzania Geothermal Development Company Limited (TGDC), a subsidiary wholly owned by the government of Tanzania under the Tanzania Electric Supply Company Limited (TANESCO), was established in December 2013 to lead the charge in harnessing the nation's geothermal resources. Officially commencing operations in July 2014, TGDC's mandate spans the exploration, drilling, and utilization of geothermal resources for both power generation and direct heat applications.
They have 4 projects:

- Capture of CO_2, ammonia, and hydrogen from geothermal resources
- Innovative technologies for geothermal direct heat utilization, e.g. using geothermal energy for fruit (banana) drying.
- Optimization of concrete curing using geothermal heat: A Case Study of the Songwe Geothermal Field, Tanzania
- Innovative technologies for geothermal direct heat utilization, e.g. using geothermal energy for cooling of milk and/or meat. Such a system would greatly support Maasai communities.

Frostan Group Limited

Frostan operates a number of market-driven converging agricultural value chains with primary focus on the mid-stream activity i.e. processing, conditioning, value addition and storage of product. The objective is to become a one-stop shop for a wide range of locally produced food items like

vegetables, fish, chicken, beef (https://www.frostan.com/Story).

Projects options include:

- Identification and feasibility assessment of alternative renewable energy solutions suitable for our processing facilities.
- Exploration of opportunities to convert organic waste particularly horticultural and slaughterhouse by-products into biogas, animal feed, and organic fertilizer.
- Development of an energy system model that optimizes current and future energy needs, including solar, biomass, and biogas options.
- Recommendations on the technical and socio-economic viability of proposed energy transition options.
- How to build a carbon credit asset strategy.

UGANDA

Biogas Solutions Uganda Limited

Biogas Solutions Uganda Limited (BSUL), a company limited by guarantee, was established in October 2014 to support the growth of the biodigester sector in Uganda. BSUL currently serves as the national implementing partner for the Africa Biodigester Component (ABC), a regional project spanning five African countries. In Uganda, the ABC project is led by a consortium comprising the Netherlands Development Organisation (SNV) as the lead implementer, and Gesellschaft für Internationale Zusammenarbeit (GIZ) Uganda, focusing on creating an enabling environment. BSUL with support from OFVI is supporting the valorization of bioslurry to form the Bioslurry Enriched Compost (BEC) and bioslurry concentrate (BC).

In the bid to increase access to clean cooking, BSUL ventured in the sensitization of communities on the use of Electric Pressure cooker (EPCs). This has been the latest addition to the BSUL's clean cooking package. The proposed project consists of several aspects that are related the optimisation of biodigester processes.

Council for Women in Energy & Environmental Leadership CWEEL under the Association of Energy Engineers

The Council for Women in Energy & Environmental Leadership (CWEEL) is a division of the Association of Energy Engineers (AEE) and the Energy Efficiency Association of Uganda (EEAU) under UNREEA dedicated to supporting and advancing the role of women in energy and environmental sectors. CWEEL's mission focuses on career development, mentoring, networking, and scholarships for aspiring women in technical and leadership careers. We implement projects under our University chapters in different Universities: Makerere University, Kyambogo University and Ndejje University.

Despite CWEEL's mandate to advance women in the energy and environmental sectors, there is still no structured, scalable pathway that connects women and youth to practical skills, innovation projects, and industry linkages across East Africa. CWEEL is in the process of developing these tangible projects and getting partners. CWEEL inspires to have Partnerships on board and models to enhance University chapters.

Partnering with HEAH would help CWEEL transform its mission into concrete joint projects, internships, innovation labs and exchange programmes that give women and youth real experience, visibility, and opportunities in the energy and environmental space.

The assignment focuses on developing projects, conduct research to map the gender gaps in the Energy sector, offer trainings for Women and youth led Clean energy enterprises in Business Development Support, and Access to finance trainings.

FRES Uganda Ltd

FRES Uganda is a Dutch-owned energy service provider dedicated to expanding access to renewable energy for last-mile communities across Uganda. Operating under an energy-as-a-service model, the company currently serves over 5,000 customers—including households, small businesses, and institutions—across more than 40 districts in Western Uganda. Since its incorporation in 2010, FRES Uganda has focused on delivering reliable, affordable solar solutions tailored to underserved populations. In line with its commitment to productive use of energy (PUE), the company has recently added community mini-grids to its portfolio, with four new sites under development and scheduled for completion by late 2026.

FRES seeks innovative, scalable community initiatives that harness renewable energy to enhance livelihoods in rural areas. FRES aims to apply its technical expertise to deliver dependable energy infrastructure that unlocks long-term rural development and economic opportunity.

Dieleman Potatoes Ltd

Dieleman Potatoes delivers Ugandan farmers high quality CERTIFIED seed potatoes for planting. With this high quality input, they start with an early generation tuber that will provide them, if IPM and new agricultural practices are applied correctly, a much higher yield, already in the first cultivation season.

Most of the farmers in Uganda are rainfed based farmers. With a changing climate, it's every season more difficult to estimate when it will rain. With high quality certified seed potatoes as their basic (very expensive input), only relying on rain is risky. Besides we stimulate crop rotation, which need to push them keeping the soil healthy and cultivate more than one crop. We think that irrigation can really help the farmer, though solutions normally are very expensive. We would like to find out different systems, their effects and an advise what can work. With the report we can also incorporate money lenders to step into it.

Novetat Group

Novetat Group is a multi-company innovation ecosystem building solutions for our communities across technologies. We turn research-level ideas into real, market-ready products and businesses. Our work spans AI adoption, logistics, education technology, digital outsourcing, tourism, and smart agriculture. We exist to commercialize innovation, not just create it, ensuring solutions reach users, generate value, and scale sustainably. Our mission is to build products that solve real community problems and position the continent as a creator, not just a consumer of technology.

We face limited exposure to international and East African markets for our products, Sipi Digital (outsourcing), Baruhk (peer-to-peer logistics), Echelon AI (enterprise AI tools), and Trekka (tourism & cultural experiences). We also lack globally-experienced talent to position these solutions beyond Uganda, and we need support in marketing, sales reach, and visibility across regional/global markets. Additionally, we require more developer capacity to improve and complete product builds currently underway.

Kenya

MOMA Renewable Energy

MOMA Renewable Energy is a Kenyan social enterprise producing clean-burning bioethanol from organic waste. Our circular model converts food waste and agricultural byproducts into affordable cooking fuel and valuable byproducts such as organic fertilizer and animal feed. We prioritize women's employment and are scaling access to clean energy in rural and peri-urban areas across Kenya.

MOMA Renewable Energy is exploring innovative feedstock options for bioethanol production to reduce Kenya's dependence on imported fossil-based fuels and sugarcane ethanol. We are currently researching the viability of producing ethanol from rose stems, a high-volume, cellulose-rich agricultural waste product. Interest has already been expressed by a local flower export firm looking to minimize waste while contributing to circular economy models.

Secondary areas of interest include:

- Partnering with landowners in ASAL (Arid and Semi-Arid Lands) counties to plant sweet sorghum, whose stems can be processed into ethanol while providing a drought-resistant crop with multiple value chains.
- Exploring the use of contaminated grain, which is abundant in Kenya due to poor post-harvest handling and transport, as a feedstock for safe, industrial-grade ethanol.

In all three pathways, we are keen to research the downstream viability of using process waste to create high-quality briquettes for industrial clients.

Kongoni River Farm (part VP Group)

Kongoni River Farm is a fully vertically integrated Floricultural business cutting across breeding, production, freight and marketing of flowers. We are currently moving to a new packaging method that involves moving blocks of boxes on a pallet to reduce touch points across the supply chain and improve better quality of flowers reaching our customer.

For the project we want to analyse the logistic process and understand where we can improve on the dimensions and strength of the new method of packaging.

Florensis Kenya Ltd

Florensis Kenya propagates and exports unrooted plant cuttings to Florensis Netherlands, where they are rooted and sold to professional growers worldwide as young plants.

We are a horticultural farm located along Lake Naivasha in Kenya's Rift Valley region. Established 27 years ago, the farm covers 15 hectares of production area and hosts more than 400 plant varieties grown in greenhouses with closed-loop water circulation. We employ approximately 400 permanent staff and up to 200 seasonal workers during peak periods.

The farm extracts lake water for irrigation and general farm activities, while borehole water is used for domestic purposes. Due to the high salinity of Naivasha's borehole water, we rely on a reverse osmosis system to produce safe drinking water. Our energy mix includes solar power, grid electricity, and diesel. Our current annual carbon footprint is approximately 1,300 tonnes of CO_2, with the main sources being cold storage refrigerants, diesel consumption in boilers, and air freight. At present, we do not have an on-site waste processing facility.

We are planning to establish a new production facility within the next two years. To minimise ESG risks, our goal is to design a farm that is modern, efficient, and future-ready in every aspect.

The assignment will address design of an advances water irrigation system, waste stream management, renewable energy installation and cold storage facilities.

Dümmen Orange

Dümmen Orange's Naivasha farm is a key location for breeding, propagation, and production, specializing in high-quality roses, cut mums, carnations, and summer flowers for both local markets and export. The farm has made significant investments in state-of-the-art propagation techniques and breeding technologies, allowing for the development of innovative, high-impact flower varieties. Sustainability is at the core of operations in Naivasha, where Environmental, Social, and Governance (ESG) principles are integrated to promote responsible agricultural practices. Through these efforts, Dümmen Orange not only drives sustainable growth but also contributes positively to the local Kenyan community. We are located along Moi South Lake Road, Naivasha, Kenya.

Recently we face a challenge with waste disposal of our green waste. This comes from propagated plants and stems cut off the roses. Currently we are paying a waste disposal company to cut the waste off. This is obviously an expense and we would like to find alternatives to someone carrying it away in a lorry. The assignment is to conduct a research on other ways to handle green waste accumulated.

General information

Final Product	Depending on the assignment
Location	To be decided
Parties involved	
Contact person	Wim Timmerman w.h.timmerman@pl.hanze.nl Phone: 050 – 595 4045
Guidance	Depending on the number of participants, (bi)weekly learning community sessions will be organised
Details	

What are we and where can you find us?

ENTRANCE is a learning knowledge community, in which students and teacher researchers from various programmes work together with researchers, companies, governments and civil society organisations to accelerate the energy transition.

ENTRANCE is the place where you, as a student, work together with lecturers, researchers, businesses, governments and/or civil society organisations on complex issues. We do this at the following locations:

- Location Proeftuin, Zernikelaan 17
- Location Energy Academy Europe, Nijenborgh 6.

What do we offer?

ENTRANCE offers you a multidisciplinary, inspiring learning, working and research environment in which you can develop the competencies needed to shape and accelerate the energy transition. There is room for collaboration with professors, researchers, lecturers and the professional field. In addition, you will be supervised by professionals who are part of the ENTRANCE Learning Communities (ELC).

Contact us

Are you interested in the vacancy? Do you have questions or would you like to apply directly?

- Jacqueline Joosse, Coordinator ENTRANCE Learning Communities.
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