



Potential of Nano Grids as a Source of Affordable & Clean Energy for Zambia (1.9.2022-31.12.2024)



FINNISH NATIONAL AGENCY FOR EDUCATION

About the Project

The Nano Grids project aims at promoting competence growth by investigating the potential of Nano Grids as a source of affordable and clean energy in Zambia in line with the SDG 7. This project is a collaboration between **Novia university of Applied Science** & two Zambian HEIs- the **University of Zambia** & **Copperbelt University**. The objective of the projects are achieved through the following activities 1-3;

1. Staff & Student Mobility: To promote cultural exchange to enhance effective and sustainable partnerships



Novia visits Zambia

Zambia visits Novia



3. Workshops & seminars: Information dissemination

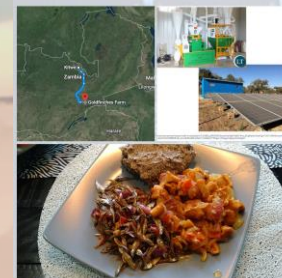
- Knowledge exchange
- Stakeholder engagement
- Project results

Closing Seminar: 13.12.2024



Energy for Zambia

2. Peer-to-Peer Collaborations: Tudents Project-System Performance Analysis for Solar Powered Hammermills in Zambia



Student Collaborations Case study : Solar-Powered Hammermills

- Hammermills are used to grind maize to fine flour – staple food
- Govt installed 2000 units across Zambia
- Hammermills owned by Zambia Farmers Union & REA owns solar panels in some parts
- Case study 1: Scenarios- Novia EPS Team 1 students
 - Two cases 400km apart
 - Case 1_CRU: Standalone- ZFU- done
 - Case 2_ UNZA: Part connected to 70 Households- lighting- ongoing
- Novia EPS Team 2 analysed both cases
- Analyse system performance to create models of the rest
 - Overly sized?

Case study for students

EPS Students(Novia) meets students from Zambia



Project Results

- Student case study: SPHs are under-utilized
- Mobility: Development of new project idea- HEP SF-BioVac Project
- Education: Curriculum review for renewable energy- global south partners

Next steps: IoT in Energy Systems: Digital Twins as a tool for system optimizations

- Dependency on renewable energy sources in the energy mix
- Integration of energy systems