



Master thesis supervisor's review

Master thesis: Off-grid Electrification Through Independent Solar

Photovoltaic System

Author: BSc. Dexter Chintu

Thesis supervisor: Mgr. Ing. Ghaeth Fandi, Ph.D

Rating (1 – 5)
(1 = best; 5 = worst):

- | | |
|----------------------------------------------------------------|--------------------------------|
| 1. Fulfillment of assignment requirements: | <input type="text" value="1"/> |
| 2. Self-reliance and initiative during the thesis solution: | <input type="text" value="1"/> |
| 3. Systematic solutions of individual tasks: | <input type="text" value="2"/> |
| 4. Ability to apply knowledge and to use literature: | <input type="text" value="2"/> |
| 5. Collaboration and consultations with the thesis supervisor: | <input type="text" value="1"/> |
| 6. Thesis formal and language level: | <input type="text" value="2"/> |
| 7. Thesis readability and structuring: | <input type="text" value="1"/> |
| 8. Thesis professional level: | <input type="text" value="1"/> |
| 9. Conclusions and their formulation: | <input type="text" value="1"/> |
| 10. Final mark evaluation (A, B, C, D, E, F): | <input type="text" value="A"/> |

verbal:
excellent

Brief summary evaluation of the thesis (compulsory):

The thesis presented is a commendable and comprehensive study focused on the design, simulation, and implementation of a stand-alone solar photovoltaic systems in Chalochasowa, a rural area in Zambia. The research is highly relevant and timely, addressing the critical issue of energy access in off-grid rural areas and contributing to sustainable development goals.

Methodologically, the thesis demonstrates a high degree of technical proficiency. The use of MATLAB/Simulink for simulating various operational scenarios of the PV system reflects a thorough understanding of the complexities involved in such systems. The detailed specification of system simulation is particularly noteworthy. The practical implications of this research are significant, offering a viable solution to energy poverty in rural areas of developing countries.

While the thesis is comprehensive, a more in-depth discussion of the challenges of implementing these systems, such as maintenance, cost, and skill requirements, would have added to its depth. Future research directions should include integrating existing energy infrastructure and exploring hybrid renewable energy systems.

Date: 24.01.2024

Signature: