Assessment of diploma work supervisor

Title: Feasibility study for power generation off-grid hybrid system in rural area of Ethiopia

Name of student: Mathewos Erabo Basore

Student’s task was to make both basic technical and economical evaluation of the electricity supply with renewable sources in small village in Ethiopia. The theme of the diploma thesis is standard but applied to unusual location compared to standard studies in the CR. Student prepared an analysis of the potential electricity demand in the village and created a plan of the electricity network with diesel, photovoltaic and wind sources. This project was evaluated from the economic point of view and finally the scenario analyses were conducted.

My cooperation with student and coordination of work on diploma thesis was far from perfect and I was not fully satisfied with that. The last advance of the work in “normal mode” was made one year ago. The communication via email was established but an advance of work were quite slow. The biggest progress was made in December when I received Excel tables with economic evaluation and many new pages in diploma thesis. Finally, he accomplished all guidelines of the diploma work successfully but some of them are solved in a very basic level.

From the technical point of view the necessary calculations were accomplished and described. The author studied the load diagrams of the village and designed the network using his calculations. My opinion is that this part of the diploma thesis is the most satisfactory one.

Formal level of the work is very weak probably due to the lack of time. Citation and references are made in acceptable manner.

Questions for the author:
1. How you planned the lifetime and the replacement time of the batteries?
2. You use a fraction 44/12 in the formula 3.4. How this constant is derived?
3. Explain the difference between the electricity price from your system and the usual price in Ethiopia.

The final assessment of the diploma work is

– E sufficient –

18. 1. 2024

Ing. Martin Beneš