University of Pannonia, Faculty of Information Technology

Doctoral School of Information Science and Technology

Veszprém

Ph.D title submitted by Andreja Nemet

OPTIMISATION AND INTEGRATION OF RENEWABLE ENERGY GENERATION AND MANAGEMENT OPTIONS

I would like express my appreciation to Prof. Alajos Mészáros for reviewing my thesis. The reviewer positively commented on the structure of the thesis and also each chapter separately.

The acceptance of all four thesis points, which are the following, has been very much appreciated.

1. *Creating Combined Time Slices for the integration of Solar Thermal Energy.*
   This thesis point serves for the reduction of number of time intervals to Time Slices with longer time horizons with assumed constant loads at acceptable tolerance. After obtaining Time Slices on both the supply and demand -sides, they are joined to one time frame only, which are the Combined Time Slices. This is especially useful, when graphical approches is applied for visualization of the problem.

2. *Ensuring feasible integration of Solar Thermal Energy.*
   The second thesis point describes, how a graphical tools can be useful, when integrating the solar thermal energy.

3. *Estimation of storage size and required solar collector area.*
   The third thesis point sets a method for quick preliminary evaluation of the required integration system design that enables a selection of potentially viable systems.

4. *Model for monitoring and short term estimation of the integrated amount of Solar*
   The last thesis point focuses on the analysis after the design has been set already. As it provides a simple steady-state model a short term estimation of potentially integrated amount of solar thermal energy can be provided in order to support the planning of other energy sources.

I am very grateful to the reviewer to recommend the authorities at the University of Pannonia to award Ph.D. degree after the successful defence.

Veszprém, 10.9.2014

Mrs. Andreja Nemet