

GREEN BUILDING ENERGY CONSUMPTION ANALYSIS
AT OPERATIONAL STAGE

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A project report submitted in partial fulfillment
of the requirements for the award of the degree of
Master of Science (Construction Contract Management)

Faculty of Built Environment
Universiti Teknologi Malaysia

AUGUST 2012

“I declare that this project report entitled “Green Building Energy Consumption Analysis at Operational Stage” is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree”

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Date : 08 AUGUST 2012

to my beloved wife and daughter for being strong...

to my beloved mom and dad for being honest...

to the world...for a better future...

ACKNOWLEDGEMENT

First of all, thanks to Allah SWT, no power and effort besides Allah SWT help, and for Prophet Muhammad, greeting and shalawat upon him.

I would like to say thanks to my supervisor, Assoc. Prof. Dr. Roslan bin Amirudin, for his guidance, advice, and suggestions throughout the preparation of my thesis. To see how he spent his time to assist me during his busy time, I really appreciate it.

I really thankful Ministry of Public Works to give me such opportunity to enhance my knowledge by give Master Degree scholarship at Universiti Teknologi Malaysia. I hope this special QS and CCM knowledge will help Ministry of Public Works to develop a better construction development in Indonesia.

I would like to thank PT. Pembangunan Perumahan as general contractor of New Green Building Ministry of Public Works Development, by giving all the data required to finish my thesis, and to Green Building Council Indonesia for giving me all knowledge about assessment and certification of green building.

For UTM, all the lectures and staff at FAB, thanks for the support and cooperation, especially in academic matters. Thanks for giving all the best you can do to support us.

And finally I would like to thank all my friends at postgraduate CCM, especially my friends from Indonesia, thank you for your support and cooperation during this year, and all the parties that I cannot mention one by one here, thanks

ABSTRACT

Energy consumption in a building is one of the main aspects of green building certification, according to GBCI GREENSHIP for New Building Standard, energy consumption ranked first in terms of evaluation. This means that energy consumption in a green building should really be considered to get a good rating in the certification process. In Indonesia, the only government building that is certified as platinum is Ministry of public works new green building, that rank is the highest rank, that certification rank achieved at design stage, however, for the operation stage, the building has not yet received certification from the GBCI. One of the aspects that affect energy consumption in green buildings at the operational stage is the behavior of its occupant. That is why the aim of this study is to find out whether the energy consumption in building operation stage, which is affected by the behavior of its occupant, will be more than the energy consumption at the design stage, which later will affect the rank of certification by the GBCI. To calculate the energy consumption at operational stage, the data collection of energy at design stage based on the drawing plan and operational stage through an observation is needed, using this two data then the comparison will be made. Based on the analyzed results which was done by calculating the energy consumption both at the design stage and on operational stage which is affected by its behavior of its occupant, showed that the Ministry of Public Works building energy consumption operation stage not exceed the energy consumption at the design stage. This is happened because at the design stage the calculation of energy consumption is flat, without considering the behavior of its occupant. Based on the analysis results we also know that the behavior of the occupant is indeed affected the energy consumption but it is not to make the energy consumption at operational stage exceeds energy consumption at design stage, so based on this initial results, the new green building of Ministry of public works certification for energy feature at operational stage will remain platinum.