iWG Assessment

SWATeam Recommendation Ref #: Energy005 Modeling for Energy Code Compliance
Date of iWG Assessment Started: 2-25-21 **Assessment Transmitted:** **4-15-21**

---

iWG Recommendation: We recommend that Facilities & Services assign a staff member from Capital Programs or Utilities and Energy Services (possibly from Design Review) to work with Dr. Yun Yi's class to develop the related energy models, on a timeline that matches the academic course abilities.

iWG Routing Direction (*department name, SWATeam, or Council*): Facilities & Services

Individual comments from each iWG member:

iWG Member Name	iWG Member's Comments
Ximing Cai (iSEE)	I support this recommendation. This effort is consistent with iSEE's goals on Energy. I hope the School of Architecture will support Dr. Yun Yi's effort since the amount of work is likely beyond the courses. Dr. Yun Yi may also collaborate with other faculty members on this effort. F&S and Dr. Yi may have an agreement about data sharing.
Morgan White (F&S)	The development of accurate energy models will be a great learning tool for students, provide data for research, and identify potential improvements to the campus Facilities Standards.
Sandy Yoo (System Office)	The UOCP/System Office supports this effort. Coordinating selection of needs/buildings with F&S and agreement between the groups to share the information and resources will make the information real and useful. This will but benefit UIUC and the students, making the information real and useful.
Matthew Tomaszewski (Provost Office)	
Qu Kim (College Facilities)	Not able to comment because was not able to attend the presentation/meeting.
John Dallesasse (Academic Senate)	I support this recommendation.
Marcus Jackson (Auxiliaries)	Did not see the presentation
Joey Kreiling (SSLC)	I support this recommendation, and I fully support the idea of including both students (through course work) and an outside contractor in developing the building energy models.
Jonah Messinger (SSC)	I support this recommendation.
Creen Ahmad (ISG)	We fully support this recommendation as it serves as a standard for campus buildings to be in compliance with Energy Codes that can be used across multiple buildings. We also support its push to include students on this project as it will benefit and prepare students in fields to incorporate sustainability. We support this

	recommendation and would also offer our outreach services and resources if needed for student recruitment and participation.

Original SWATeam Recommendation:

The aim of this recommendation is to ensure compliance of current and recent projects with State of Illinois Energy Codes and Facilities Standards

1. *F&S will identify a contractor—which may be a student group or include a student group—capable of creating 25 models of building whole energy use in campus buildings. F&S will contract to provide electronic files so they can be run on a common platform such as Trane700, Energyplus, eQuest, DOE-2 or BLAST. Preference will be given to contractors who make maximum use of student effort.*
2. *F&S will identify five buildings completed recently but prior to 2019 for which breakdown meter energy use data is available, and five campus buildings currently under construction. F&S may identify buildings for which the required requested model energy files are available, at a cost saving on the project.*
3. *The contractor – in collaboration with a student group -- will complete for each of the ten buildings*
    1. *a model file of the building which follows the Energy Code prescriptive requirements (baseline energy model) in use at the time of construction in order to determine an Energy Cost Budget, (10 files)*
    2. *a model file of the building as constructed (10 files), and*
    3. *a determination of the level of compliance with Energy Codes and Facilities Standards in terms of design and construction.*
    4. *For the five already-completed buildings, the contractor will calibrate the as-constructed model to fit the measured energy consumption data, using historical weather data. The calibrated model (5 files) should replicate actual energy use for a minimum of one year within 5% on a monthly basis and within 20% on a daily basis.*
    5. *If energy modeling files are available in project files on a common platform listed above, and may be distributed, then this may be considered one of the deliverables, and the work need not be redone, at a cost saving for the project.*
    6. *The contractor will provide a final report that describes the level of compliance in the ten buildings with the State of Illinois Energy Code (in use at the time of design and construction, as applicable) and Facilities Standards. The energy model files will be made available publicly, and primarily to students and faculty in engineering and architecture for their study.*

iWG Assessment of budget and policy impacts (*check one*):

__X__ moderate budget and/or policy impact OR ____ major budget and/or policy implications

iWG Routing Need (*check one*):

_____ more detailed study OR __X__transmit recommendation OR _____ forward to Sustainability Council