

# **Energy Generation, Purchasing and Distribution SWATeam**

- **Scott Willenbrock, Professor of Physics**
- **Angus Rockett, Professor of MATSE**
- **Mike Larson, Director Utility Operations**
- **Tim Mies, Director Energy Farm Operations**
- **Jack Morrissey, student**
- **Catherine Yee, student**
- **Ben Reeber, iSEE intern**
- **Morgan Johnston, iSEE Staff Liaison**

# Objective

- Lead an exploration of options for 100% clean campus energy during FY16

# Progress

- **Utilities Master Plan**
  - “Maintain the existing best-in-class diversified fuel cogeneration plant.” This entails the continued burning of fossil fuels on campus.
- **Possibilities to reduce carbon emissions**
  - Electric heat pumps/heat recovery chillers
  - Solar photovoltaics on/off campus
  - Wind off campus
  - Biomass

# Objective

- Expand on-campus solar energy production (12,500 MWh/yr by FY20, about 2.6% of load)

# Progress

- Solar photovoltaics: 8,260 MWh/yr
  - BRC: 20 MWh/yr
  - BIF: 40 MWh/yr
  - Solar Farm (soon): 7,800 MWh/yr
  - ECE Building (delayed): 400 MWh/yr
  - Proposed
    - North Campus Parking Deck: 1,600 MWh/yr
    - Other rooftops (typical): 200 MWh/yr

# Objective

- Expand purchase of clean energy (120,000 MWh/yr by FY20, about 25% of load)

# Progress

- Campus currently considering bids for 100,000 MWh/yr or 25,000 MWh/yr from Illinois wind farms

# Objective

- Offset all emissions from National Petascale Computing Facility

# Progress

- Preliminary discussions with NCSA