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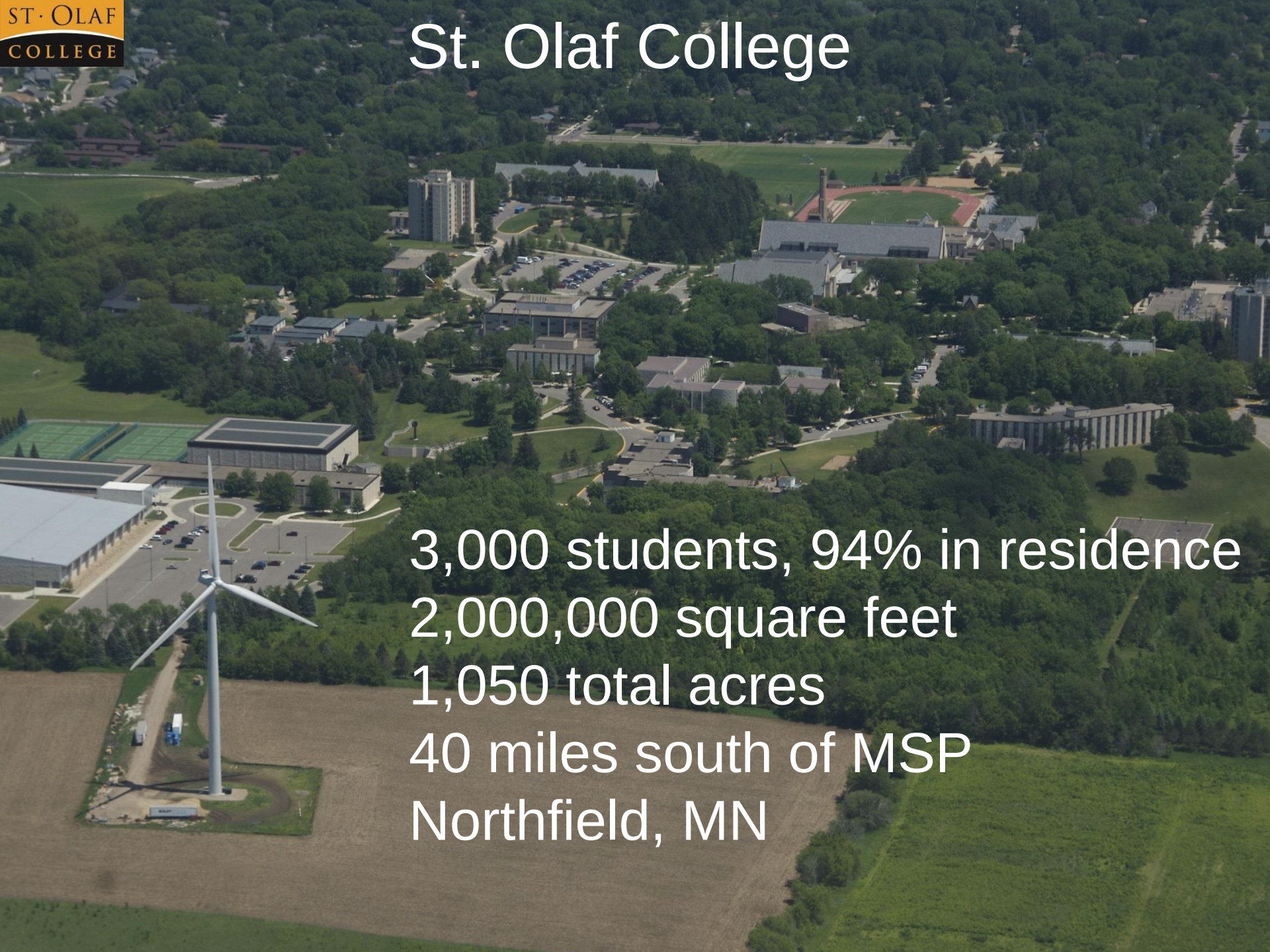
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St. Olaf College
3,000 students, 94% in residence
2,000,000 square feet
1,050 total acres
40 miles south of MSP
Northfield, MN


St. Olaf is doing comprehensive sustainability, including green distributed generation


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# Minnesota Community Solar Garden Initiative

- Opportunity for residential, commercial, and institutional electric consumers to participate in solar if they cannot at their property
- A CSG is up to one mW, and five CSGs can be co-located
- Each CSG must have at least five “subscribers”, and none can subscribe to more than 40% of the production

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- The subscription is for a percentage of the CSG potential.
- Subscriber can “buy in” to the project up front, or…
- Pay as you go

- Utility bills as normal, but includes a credit for the production attributed to the subscription
- The Utility takes the power, along with the RECs
- We use the credit to pay the developer and get a small net income

# Why?

- Simply buying green power does not assure that new clean generation comes on line
- Subscribing, and so paying for the generation, does
- We will use the small net to buy a mix of PV and wind kWH that comes with RECs

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- St. Olaf is subscribed to CSGs for a projected yield of 14,600,000 kWH
- We can subscribe up to 120% of consumption, minus other renewables (14,100,000 kWH net)
- We reserve the balance for on-campus self-generation projects


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Future Northfield Business Park
Five one megawatt Community Solar Gardens

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# Future renewables may evolve on the Tostrud Center roof (500 kW), and at the wind turbine (I.5 mW)


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Standby Generation, 4.2 mw
Utility Feed
1.65 mw Wind Turbine
Internal Distribution Loop
N
E
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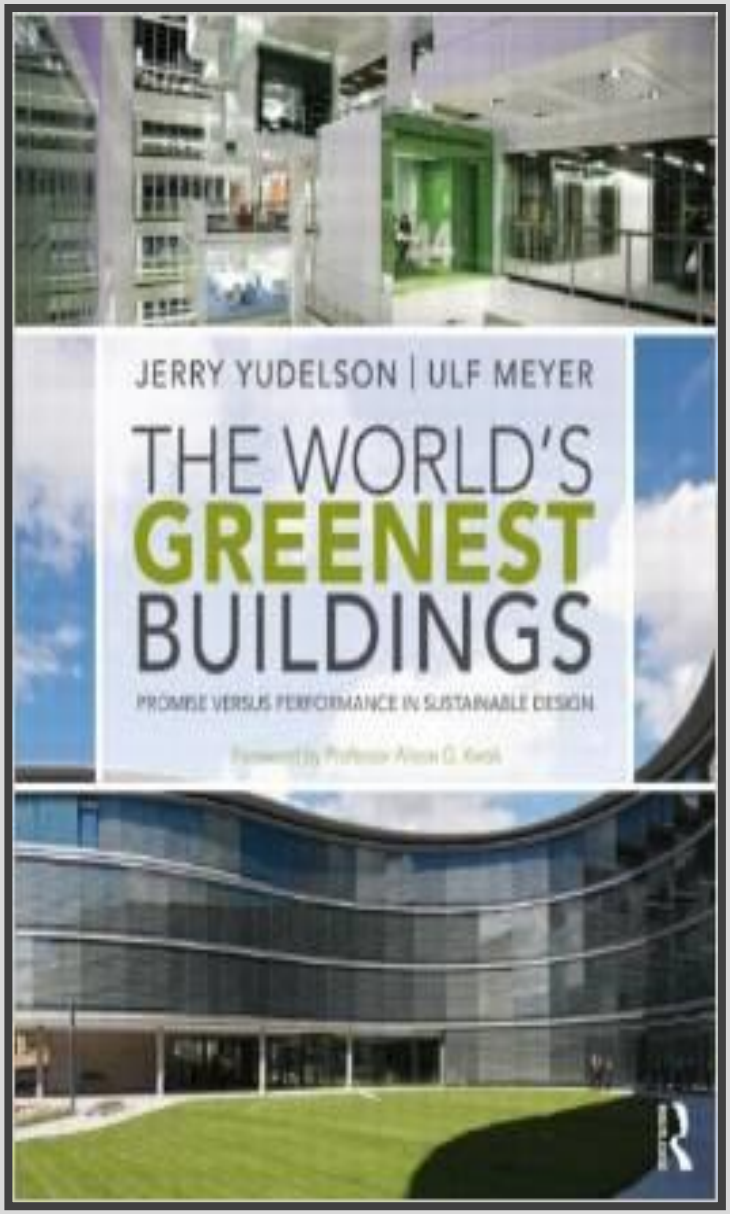
# 100% standby electricity – preserves utility capacity for the town and industry, sets up the campus as civil defense site for the town and county


Sustainable Design Guidelines inform all of our work today

Intended to be equivalent to LEED Gold, but…




Regents consumes just 25% of predicted energy, and that comes from the wind turbine.

Since 2001 we have added 250,000 gsf and reduced total electric consumption 5%

As we renovate, buildings are completely insulated and air in- and ex-filtration eliminated. Here, Holland Hall, 1925, walls are being prepared for spray insulation

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# Comparisons from 2001 to 2015:

- 15% MORE Gross Square Feet (250,000 GSF)
- -34% MTCDE per GSF
- -5% Electric consumption
- -28% MTCDE per Student FTE
- -21% Purchased KWH
- 4.97 MTCDE per Student, and 8.18 MTCDE per 1,000 GSF


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