KERN CENTER METERING

(9) Water Meters
  • (3) Incoming: Municipal and Cisterns
  • (4) Use: Finished (total), Cold, Hot, Irrigation
  • (2) Waste: Indoor and Outdoor Planters

(25) Electricity Meters
  • (1) Main
  • (13) Subpanels
    - (1) Solar PV
    - (2) Mechanical
      * (11) Mechanical Submeters: fans, pumps, water heaters, indoor heat pumps, outdoor heat pumps
    - (5) Lighting
    - (5) Plug Loads
KERN CENTER METERING

What does a dashboard look like?

<table>
<thead>
<tr>
<th>Overview</th>
<th>Power and Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Power: 31.63 kW</td>
<td>Energy today: 67.51 kWh</td>
</tr>
<tr>
<td>Energy this month: 186.58 kWh</td>
<td>Lifetime energy: 93.78 MWh</td>
</tr>
<tr>
<td>Lifetime revenue: $14,687.2</td>
<td></td>
</tr>
</tbody>
</table>

System Production: 7.99 MWh

Choose a site (insert at least 3 letters to search):
Hampshire College Kern Center

<table>
<thead>
<tr>
<th>Id</th>
<th>Hampshire College Kern Center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Country: United States</td>
</tr>
<tr>
<td></td>
<td>State: Massachusetts</td>
</tr>
<tr>
<td></td>
<td>City: Amherst</td>
</tr>
<tr>
<td></td>
<td>Address: Bay Road 670-504</td>
</tr>
<tr>
<td></td>
<td>Installed: 09/05/2016</td>
</tr>
<tr>
<td></td>
<td>Last updated: 03/02/2017 12:22</td>
</tr>
<tr>
<td>Peak power</td>
<td>112.315 kWp</td>
</tr>
</tbody>
</table>

Weather:
Weather information for this site could not be found.

Thursday: 8° - 14° | Cloudy
Friday: 2° - 9° | Cloudy
KERN CENTER METERING
What does a dashboard look like?

(11) Inverters
(345) Panels
All awake and talking to me, except one.
KERN CENTER METERING

What does a dashboard look like?
KERN CENTER METERING

Energy Report is not a dashboard
KERN CENTER METERING

A Building Management System (BMS) is not a dashboard

![Image of metering system interface]

<table>
<thead>
<tr>
<th>CAMPUS</th>
<th>Real Power</th>
<th>Daily kWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Building</td>
<td>-16.37 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel P22</td>
<td>0.70 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel MA1</td>
<td>0.89 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel P21</td>
<td>1.21 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel Inverto</td>
<td>0.42 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel LB1</td>
<td>0.34 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel Elevator</td>
<td>0.15 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel P12 Cafe</td>
<td>0.71 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel U1</td>
<td>0.63 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel LB1</td>
<td>0.80 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel Solar (PV)</td>
<td>29.50 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel MB1</td>
<td>4.63 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel P61</td>
<td>1.00 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel L23</td>
<td>0.64 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel P11</td>
<td>0.17 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel MB1 CIR 1-23, Outside HPs</td>
<td>3.77 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel MB1 CIR 2, 4, 6 WH 7-7 Cafe</td>
<td>0.00 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel MB1 CIR 8, 10, 12 WH 7-3 Admissions</td>
<td>0.00 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel MB1 CIR 14-36 &amp; BC 1 &amp; 2</td>
<td>0.03 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel MB1 CIR 10-22-27-31-30 Campus_Grey</td>
<td>0.03 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel MB1 CIR 10-25-35-32-41 UV Grey</td>
<td>0.04 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel ERV 2,7,8 EACC, HPs</td>
<td>0.07 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel ERV 3,4,5, HP</td>
<td>0.04 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel ERV 6, HP</td>
<td>0.18 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel WH 7-2, ADMIN 2nd FLR</td>
<td>0.00 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel BC-3</td>
<td>0.05 kW</td>
<td>0 kWh</td>
</tr>
<tr>
<td>Panel ERV 1-9 Flats 1-2, HP Jockey</td>
<td>0.04 kW</td>
<td>0 kWh</td>
</tr>
</tbody>
</table>
KERN CENTER METERING
Modeled Use for February
KERN CENTER METERING
Actual Use for February

![Bar chart showing daily kWh usage, PV generation, modeled usage, and net usage from February 1st to 28th. The chart illustrates the energy usage patterns and their relationship with solar generation over the month.]
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Model vs Actual

- Energy Usage
- PV Generation
- Net Usage

Daily kWh

Feb. Model

Feb. Actual
KERN CENTER METERING
Electricity use vs Temperature
KERN CENTER METERING
Electricity + Mechanical vs Temperature

Daily kWh

- Use
- Mech
- OAT

2/10 to 2/25
KERN CENTER METERING

Electricity use vs Solar Gain
KERN CENTER METERING

Energy use by Type of Use

- **February model**
  - Lighting: 60
  - Mech: 250
  - Plug: 90

- **February actual**
  - Lighting: 40
  - Mech: 250
  - Plug: 70
KERN CENTER METERING
Actual Use for February
KERN CENTER METERING
February use by Type of Use
POST OCCUPANCY

How’d we do?
POST OCCUPANCY

How’d we do?

Q4 The Kern Center is thermally comfortable (not too cold, not too hot).

Answered: 127  Skipped: 9

<table>
<thead>
<tr>
<th>Answer Choices</th>
<th>Average Number</th>
<th>Total Number</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>76</td>
<td>9,627</td>
<td>127</td>
</tr>
</tbody>
</table>
POST OCCUPANCY

How’d we do?

More seating
If it were not closed, this is not casual. I am anxious.

More comfy chairs
More comfortable seating

More, comfortable chairs in the lobby + gallery area - may be impossible, but it seems crowded often

A few smaller nooks for quieter, secluded working space. Although it is spacious, when it’s busy it’s hard to find a quiet space to do work.

Better lighting
More variety of seating, more power outlets

Music!

More relaxing furniture

More temperature control
More plugs!!!

more study spaces, couches, leave classrooms open

Heat those dying plants around the windows! Vases.

Less glare from the sun.

Accessibly it could be more draperies, more socket for plugging in

More hours for the cafe? You didn’t have using the cafe as a café, but I often come just to get coffee or pastries

More spaces out of the open

More private spaces or ways that open public spaces do not seem so large/echo-y-like opposite of private.

Sonic qualities need to be adjusted, no sense of privacy

It’s pretty comfortable, sometimes there is a lack of seating

more seating music

Maybe more comfy chairs.

An upstairs sitting/common area

more outlets

I am usually comfortable! The Info Session room gets drafty sometimes.

No idea!

More seating, it can be hard to find a place to sit at lunch.

Art pieces of it

more days-to-day activities of the type I usually attend. Maybe a fuller food menu at the cafe.

Be not building it in the first place and instead using that money to support students instead of building something flashy for prospective students to see and come to the college

A more closed off area for the kids to increase comfort/warmth level.

I think it’s great as is.

more seating - people love it but seating is often taken

Finally getting rid of that dairy-induced smell in the lobby!

More tables in the cafe.

More seating that is spacious/more open.

I don’t know really - it’s pretty great

More lounge areas, with sofa etc.

Better ramp, regulation and more comfy furniture

A few large tables in student area

couches

Background music

Add a few more tables and/or chairs to increase seating capacity.

Things added to make it more of a student space.

Sometimes it smells bad! And it’s often too cold!

HVAC needs to be fixed. Lighting in office and common areas needs to be improved at night (ie option to keep lights on even when not moving)

Better chairs, cushions, couches.

More furniture and maybe tables in the upstairs area.

More comfortable chairs

Less smell, more open hours

If it feels less formal

More seating on the main floor.

Water the plants

Coaster chairs

n/a

More comfortable chairs in the meeting rooms

More soft seating

More seating

more control over our heat

More lounge-like spaces

Regulate the temperature better. Somewhat soundproof the walls.

On cloudy days, there is a raw feeling in the building.

Having the Kern café open more

Not as sterile looking

Not as sterile looking

More flexible seating

It is a bit cold sometimes (especially when the doors open all the time). More comfortable couches / armchairs

It always is empty at night, and that can be a little spooky

More comfy chairs + tables instead of tables and metal chairs.

being-less of a fishbowl

Lounge type space

lower food & drink prices

Maybe slightly warmer

Second-floor classrooms sometimes cold.

I wish the Kern Center had an area that was cozier. Maybe some rugs and some comfy furniture. Like a lot of social spaces at Hampshire, it feels austere and minimalistic. Cozy would attract more people. Of course the upkeep and maintenance would be increased because with cozy comes the necessity of more cleaning. But to attract more people, particularly students, to Kern, I think it needs to be more inviting as a hang out spot.

The downside is the toilet smell that is pervasive, at times, throughout the second floor

more plants

Spaces like the APL

Perhaps a few more tables - feel more full and welcoming

More-comfy seating

Not sure

Better heat on cloudy days. Outside furniture some spring.

More seating options

couches

Maybe it’s just the times I go, but more seating would be great.

No

Warmer! My office is very cold. And also better functioning motion detecting lights for when I’m at the office alone at night.

Enhance the quality of air

coaster chairs, longer cafe hours

regulation of the temperature and something to help with sound working in the building it tends to be difficult in our own space, but even the space outside our office suite (lack of sound proofing in office-even with the doors closed) where sound carries and makes it difficult to have private conversations or avoid distractions.

Warmth, having the motion sensors recognize short people (it’s really hard to get lights to come on if you are under 5’5”, lights near the restroom halfway.

More comfy chairs

More soft seating in open areas

Music and piano
POST OCCUPANCY

How’s we do?

Q9 What could make the Kern Center feel more comfortable?

Answered: 96  Skipped: 40

- More seating
- Better acoustics. Very challenging for hearing-impaired. More cozy furniture. The space is pretty and bright, but has a cold feeling. Please, more light!
- If it were not cursed. This is not comical I am serious.
- More comfy chairs
- More comfortable seating
- More, comfortable chairs in the lobby + gallery area - may be impossible, but it seems crowded often
- A few smaller nooks for quieter, sedated working space. Although it is spacious, when it’s busy it’s hard to find a quiet table space to do work.
- Better lighting
- More variety of seating, more power outlets
- More relaxing furniture
- More temperature control
- more plug!!!
- more study spaces, couches, leave classrooms open
- Heal those dying plants around the windows! Yikes.
- Less glare from the sun
- Acoustically it could be more damped, more sockets for plugging in
- More hours for the cafe! You didn’t have me using the cafe as a choice, but I often come just to get coffee or pastries
- More spaces out of the open
- More private spaces or ways that open public spaces do not seem so large/echo-y/the opaque of private.
- Sonic qualities need to be adjusted, no sense of privacy
- It’s pretty comfortable, sometimes there is a lack of seating
- more seating
- music
- Maybe more comfy chairs.
- An upstairs sitting/common area
- more outlets
- I am usually comfortable! The Info Session room gets drafty sometimes.
- No ideal!
- More seating, it can be hard to find a place to sit at lunch.
- Art pieces of it
- more day-to-day activities of the type I usually attend. Maybe a fuller food menu at the cafe.
- Be not building it in the first place and instead using that money to support students instead of building something flashy for prospective students to see and come to the college.