

# Energy Hogs and Misers: Magnitude and Variability of Individuals' Household Electricity Consumption

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## Supplemental Materials

### SM-1. Basic Descriptive Statistics

**Table S1. Individual Bedroom and Days per Resident Data**

Year	N of individuals per fall semester after data cleaning	N of days per person after data cleaning
2019	44	89
2018	50	89
2017	47	90
2016	51	89
2015	53	87
2014	50	83
2013	53	77

**Table S2. Daily bedroom electricity use for each cluster**

Cluster	Residents	Residents %	Min electricity use (kWh/d)	Max electricity use (kWh/d)	Median electricity use (kWh/d)	Percent of Total Electricity
Misers	68	22	0.10	0.29	0.18	4.1
Moderate	98	31	0.31	0.72	0.52	16.8
Hog	89	29	0.74	1.55	1.00	31.2
Super hogs	57	18	1.61	6.03	2.17	48.0
Total	312					

## SM-2. PCA analysis

Correlation matrix: check values that are more than 0.3, correlation higher than 0.3 if correlation is not greater than 0.3 may consider removing the variables from the analysis

**Table S3. Correlation Matrix for variables included in PCA**

#	Measure	Correlation coefficient - with primary measure - log10 (median) daily (Wh/d)
Of Daily Totals for each resident (Wh/d)		
1	log10 (median) daily	1.000
2	log10(75th-25 <sup>th</sup> ) daily	0.661
3	log10(90th-10 <sup>th</sup> ) daily	0.708
4	log10(max) daily	0.833
5	log10(min) daily	0.591
Of Median Hourly Values for each resident (Wh/h)		
6	log10(90th-10 <sup>th</sup> ) hourly (Wh/h)	0.559
7	log10(75th-25 <sup>th</sup> ) hourly (Wh/h)	0.620
8	log10(max) hourly (Wh/h)	0.863
9	log10(min) hourly (Wh/h)	0.754

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy shows that our sample size is meritorious (>0.8). The Bartlett's test of Sphericity is statistically significant (p=0.0005) which shows that there are significant differences among variance in at least two variables included in our PCA.

**Table S4. KMO and Bartlett's test statistics**

<i>KMO and Bartlett's Test</i>		
<i>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</i>		0.816
<i>Bartlett's Test of Sphericity</i>	Approx. Chi-Square	3008
	df	36
	Sig.	0.000

**Table S5. PCA Communalities**

Represent the % of variance explain by each component. The communalities table in the PCA shows the percentage of variance that is explained by each factor in the PCA. If communality is low for an item it implies the variable is not correlated with all the other variables in the set. Communalities among our variables are higher than 0.5.

<i>Communalities</i>		
	Initial	Extraction
<i>log10(median) daily (Wh/d)</i>	1.000	0.909
<i>log10(75th-25<sup>th</sup>) daily (Wh/d)</i>	1.000	0.705
<i>log10(90th-10<sup>th</sup>) daily l(Wh/d)</i>	1.000	0.734
<i>log10(max) daily (Wh/d)</i>	1.000	0.798
<i>log10 (min) daily (Wh/d)</i>	1.000	0.709
<i>log10(90th-10<sup>th</sup>) hourly (Wh/h)</i>	1.000	0.735
<i>log10(75th-25<sup>th</sup>) hourly (Wh/h)</i>	1.000	0.707
<i>log10(max) hourly (Wh/h)</i>	1.000	0.807
<i>log10(min) hourly (Wh/h)</i>	1.000	0.844

Extraction method: Principal Component Analysis

**Table S6. PCA Total variance explained**

The total variance table shows, the total variances accounted by each component. Only first components explained for interpretation. Components 1 through 9 make reference to the number of variables in the used as input in the PCA analysis (Table SM 2.1).

<b>Total Variance Explained</b>									
<b>Component</b>	<b>Initial Eigenvalues</b>			<b>Extraction Sums of Squared Loadings</b>			<b>Rotation Sums of Squared Loadings</b>		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
<b>1</b>	<b>5.680</b>	<b>63.113</b>	<b>63.113</b>	<b>5.680</b>	<b>63.113</b>	<b>63.113</b>	<b>4.195</b>	<b>46.615</b>	<b>46.615</b>
2	1.269	14.095	77.208	1.269	14.095	77.208	2.753	30.593	77.208
3	0.988	10.976	88.184						
4	0.398	4.420	92.604						
5	0.222	2.468	95.072						
6	0.199	2.213	97.285						
7	0.121	1.346	98.631						
8	0.072	0.803	99.434						
9	0.051	0.566	100.000						

Extraction Method: Principal Component Analysis

### SM-3. SPSS Results Cluster analysis:

Results of k-means cluster analysis of 312 residents:  
primary clusters based on primary measure (log10 (median) daily)

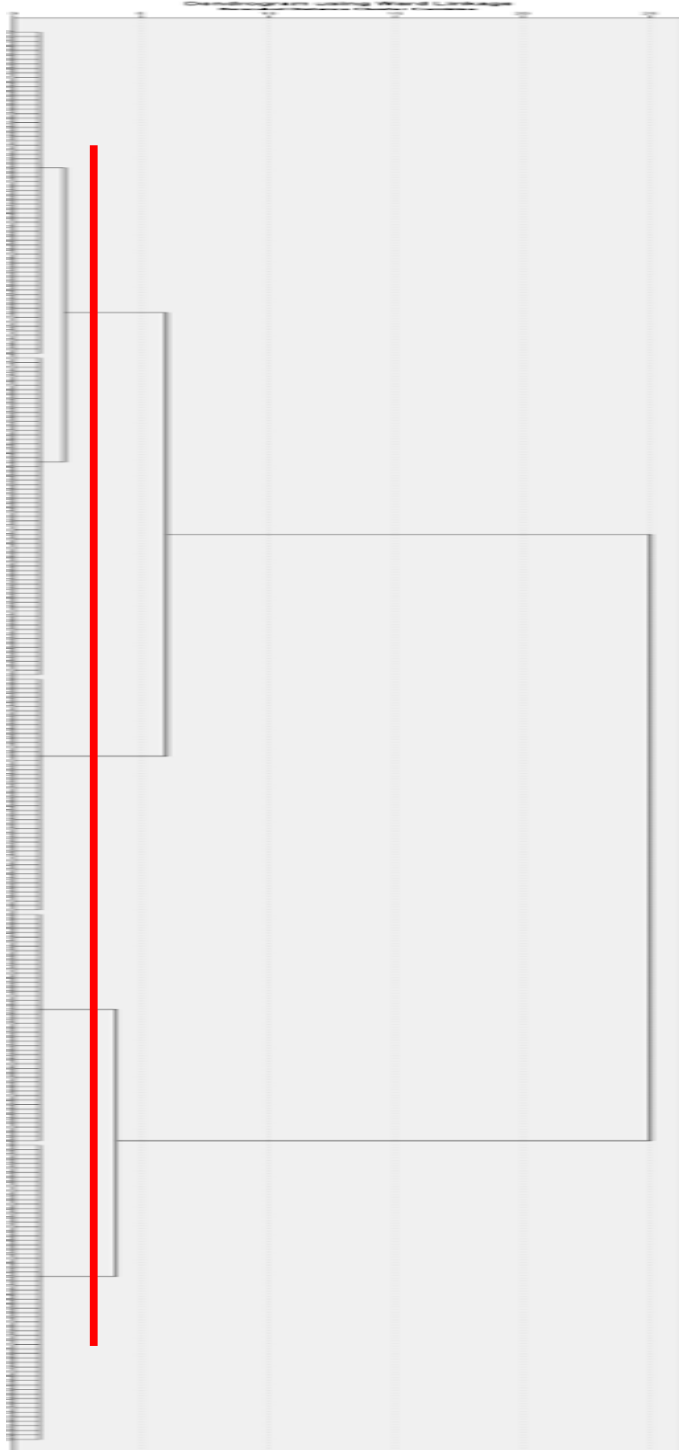
**Table S7. Clusters Defined**

Cluster number	Cluster Name	# residents	Cluster Centers
			Log <sub>10</sub> (median) daily (Wh/d)
1	Miser	68	2.238
2	Moderate	98	2.706
3	Hogs	89	3.017
4	Super Hogs	57	3.387

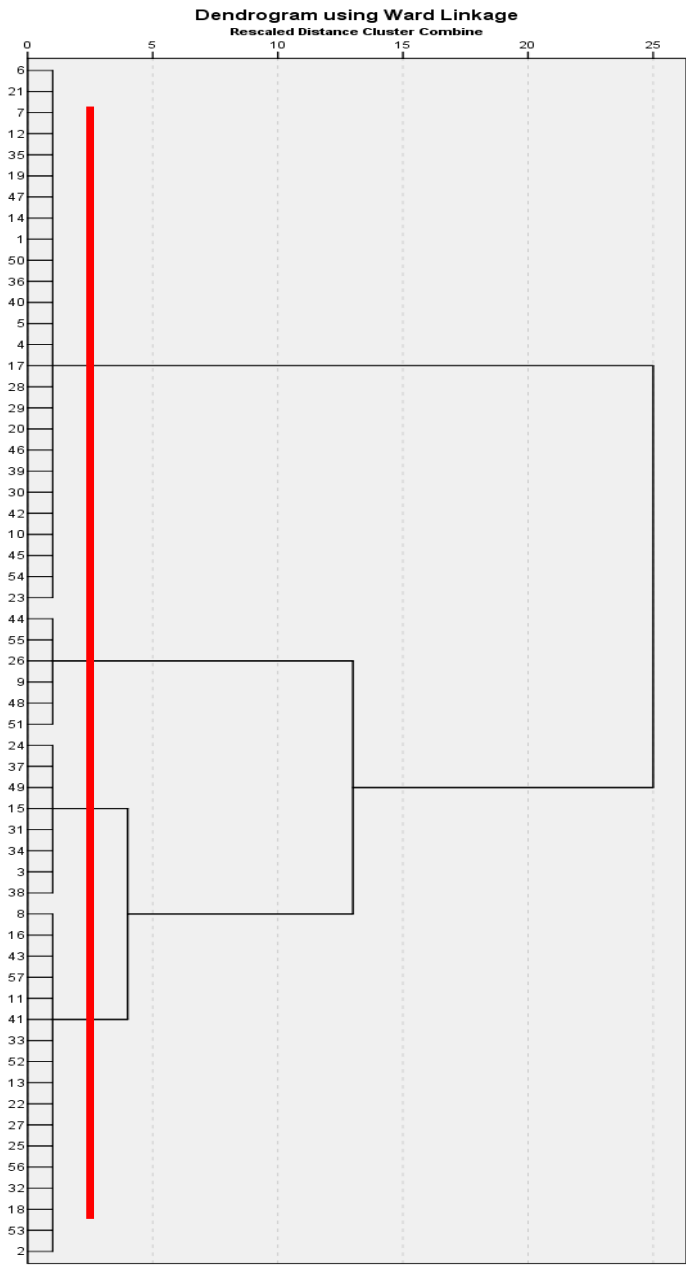
**Figure S1. Hierarchical clustering – validation of clusters**

Ranges from 2-5 clusters using Ward's method were considered to create evenly sized clusters. We used squared Euclidean distance to define four main clusters among the 312 residents; four sub clusters within the Super Hog group; and, three for the Hogs.

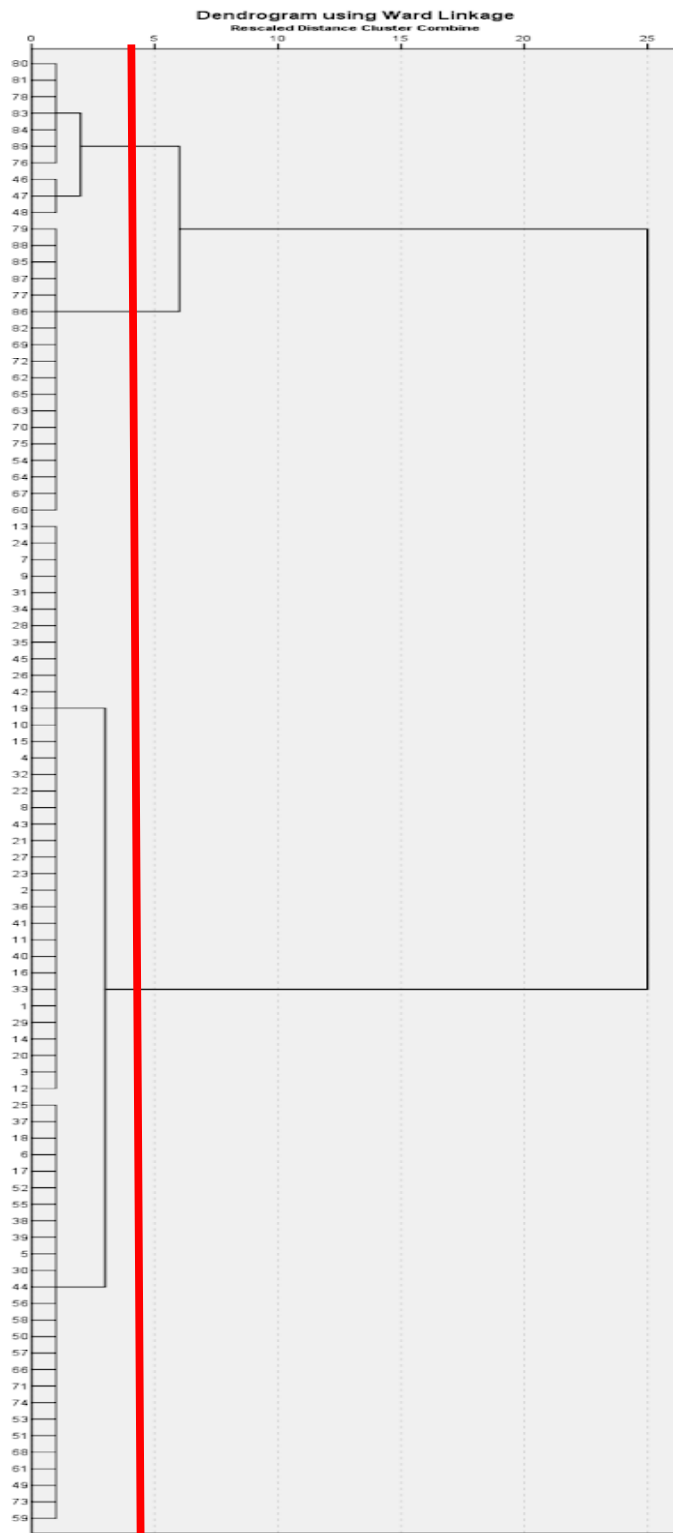
**Four Main clusters, 312 users:**



Four Sub-clusters for Super Hogs:



### Three Sub clusters for Hogs:



## SM-4. Details - analysis of annual savings if policy outcomes achieved

Table S8. Details - analysis of annual savings if policy outcomes achieved

### University Values - All Apartment Housing Units:

Average Apartment electricity use:	2.48	kWh/d/apartment (average as sum of elec over sum of apt-days)
Average Bedroom daily electricity use	0.21	kWh/d/person (over all days, all bedrooms, all years)
Bedrooms as a percent of total apartment electricity	36.6%	
University total electricity use (main campus)	24	million kWh/y
student days per year	200	days (days in session, subtracts holidays)
# students in apartments	689	
# apartments	150	

### Calculations:

apartment electricity use (academic year, all students)	74400	kWh
bedroom electricity use (calc from 36.6%)	27230	kWh
bedroom electricity use (from 0.21kWh/d/per)	28938	kWh

apartment elec as a % of total university electricity use 0.31%

### Policy Outcomes:

			kWh/y Saved
1. No mini-refrigerators (16% of bedroom electricity use)	16%	bedroom electricity	4493
2. Median daily bedroom electricity use for an individual (across the semester) does not exceed the 90 <sup>th</sup> percentile of use (2.09 kWh/d; )	33%	savings of bedroom electricity use	9268
3. Bedroom daily electricity does not exceed the 90 <sup>th</sup> percentile as determined for all days, all 312 bedroom (2.24 kWh/d maximum, )	35%	savings of bedroom electricity	9829
4. Apartment daily electricity use per capita use does not exceed the 90 <sup>th</sup> percentile as determined for all apartments, all days (3.71 kWh/d/person; )	20%	savings of apartment electricity use	14880

Note: An average of the two means of estimating the total apartment electricity use was used in the electricity savings calculations

28084 Avg. between two ways to extrapolate  
6.1% difference between the two means of estimating




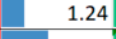
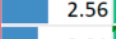

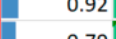


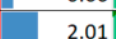
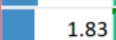




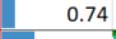
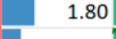
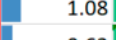
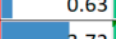
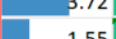
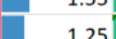

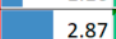




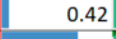

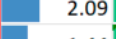
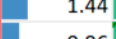


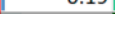

























































































































## SM-5. Analysis – Value of individual measures and bedrooms as proxy for individual use


































Median daily electricity use data for all 312 individual residents (rows) are organized within their apartment group (solid black lines separate apartments). Apartments are arranged from highest users to lowest users. Potential errors\* are identified for bedrooms that might measure a falsely low measure of actual individual electricity use (--) due to potential for those residents to use common areas more than bedrooms (26 individuals (8.3%) of the 312 total). Potential errors associated with using an apartment per capita average indicate both falsely low interpretations of individual electricity use (--) and falsely high values (++) . The comments identify potential reasons for those uncertainties.

Figure S2. Median electricity use of all residents organized by apartment































Cluster #	Apt. Quartile	Electricity Use (kWh/d/person)			Potential Errors*		Comments
		Bedroom	Common Outlets	Apartment Total	Bedroom as proxy	Use of Apt. total	
4	4	2.10	2.31	5.75			
2	4	0.56	2.31	5.75	--		common high
1	4	0.20	2.31	5.75	--		common high
3	4	1.50	1.04	5.34	--		common high
3	4	1.47	1.04	5.34	--		common high
3	4	1.12	1.04	5.34	--		common high
4	4	3.02	1.57	5.17			
4	4	1.67	1.57	5.17			
2	4	0.33	1.57	5.17	--	++	other bed & common high
3	4	1.04	1.32	4.25	--		common area high
3	4	0.81	1.32	4.25	--		common area high
4	4	6.03	0.09	3.72			
4	4	3.43	0.09	3.72			
4	4	2.05	0.09	3.72			
1	4	0.11	0.09	3.72			other bed high
4	4	3.66	0.37	3.67			
4	4	3.33	0.37	3.67			
4	4	3.13	0.37	3.67			
3	4	1.41	0.37	3.67			
2	4	0.64	0.37	3.67			other bed high
2	4	0.54	0.37	3.67			other bed high
4	4	4.10	0.30	3.67			
4	4	2.09	0.30	3.67			
4	4	1.97	0.30	3.67			
3	4	1.27	0.30	3.67			other beds high
4	4	4.61	0.29	3.61			
4	4	2.03	0.29	3.61			
3	4	1.25	0.29	3.61			
3	4	1.08	0.29	3.61			
3	4	0.98	0.29	3.61			
1	4	0.17	0.29	3.61			other beds high



































Cluster #	Apt. Quartile	Electricity Use (kWh/d/person)			Potential Errors*		Comments
		Bedroom	Common Outlets	Apartment Total	Bedroom as proxy	Use of Apt. total	
4	4		0.26	3.55			
4	4		0.26	3.55			
4	4		0.26	3.55			
3	4		0.26	3.55			
4	4		0.52	3.38			
4	4		0.52	3.38			
3	4		0.52	3.38			
3	4		0.52	3.38			
2	4		0.52	3.38	--	++	other bed high
2	4		0.52	3.38	--	++	other bed high
4	4		0.39	3.21			
4	4		0.39	3.21			
3	4		0.39	3.21		++	
3	4		0.39	3.21		++	
1	4		0.39	3.21	--	++	other beds high
4	4		0.01	3.18			
3	4		0.01	3.18			
4	4		0.34	3.11			
3	4		0.34	3.11			
2	4		0.34	3.11			other bed high
4	4		0.07	3.10			
3	4		0.07	3.10		++	
3	4		0.07	3.10		++	
3	4		0.07	3.10		++	
4	4		0.68	3.03			
3	4		0.68	3.03			other bed, common high
2	4		0.68	3.03	--		other bed, common high
2	4		0.68	3.03	--		other bed, common high
2	4		0.68	3.03	--		other bed, common high
2	4		0.68	3.03			other bed, common high
4	4		0.14	2.96			
4	4		0.14	2.96			
3	4		0.14	2.96			
3	4		0.14	2.96			
3	4		0.14	2.96			
1	4		0.14	2.96			other bed high

Cluster #	Apt. Quartile	Electricity Use (kWh/d/person)			Potential Errors*		Comments
		Bedroom	Common Outlets	Apartment Total	Bedroom as proxy	Use of Apt. total	
3	4	 1.12	 0.09	 2.95			
2	4	 0.40	 0.09	 2.95			other bed high
4	4	 3.13	 0.02	 2.93			
4	4	 2.25	 0.02	 2.93			
4	4	 2.09	 0.02	 2.93			
4	4	 2.79	 0.56	 2.80			
4	4	 2.08	 0.56	 2.80			
3	4	 0.77	 0.56	 2.80		++	
2	4	 0.36	 0.56	 2.80		++	other bed high
3	4	 1.06	 0.90	 2.78	--		common high
3	4	 0.95	 0.90	 2.78	--		common high
2	4	 0.50	 0.90	 2.78	--		common high
2	4	 0.32	 0.90	 2.78	--		common high
4	4	 4.56	 0.38	 2.77			
2	4	 0.58	 0.38	 2.77		++	other bed high
2	4	 0.58	 0.38	 2.77		++	other bed high
1	4	 0.27	 0.38	 2.77		++	other bed high
2	3	 0.48	 0.19	 2.69			kitchen high
2	3	 0.34	 0.19	 2.69			kitchen high
1	3	 0.13	 0.19	 2.69			kitchen high
3	3	 0.98	 0.65	 2.68			
3	3	 0.83	 0.65	 2.68			
2	3	 0.67	 0.65	 2.68	--		
2	3	 0.35	 0.65	 2.68	--		
2	3	 0.32	 0.65	 2.68	--		
4	3	 1.65	 0.53	 2.67			
3	3	 0.82	 0.53	 2.67			
4	3	 2.31	 0.50	 2.64		--	
3	3	 0.99	 0.50	 2.64			
3	3	 0.74	 0.50	 2.64			
2	3	 0.35	 0.50	 2.64		++	other bed high
1	3	 0.23	 0.50	 2.64	--	++	other bed high
1	3	 0.20	 0.50	 2.64	--	++	other bed high
4	3	 3.69	 0.16	 2.62			
3	3	 1.28	 0.16	 2.62			
3	3	 1.24	 0.16	 2.62			
3	3	 1.07	 0.16	 2.62			
2	3	 0.61	 0.16	 2.62			
2	3	 0.52	 0.16	 2.62			

Cluster #	Apt. Quartile	Electricity Use (kWh/d/person)			Potential Errors*		Comments
		Bedroom	Common Outlets	Apartment Total	Bedroom as proxy	Use of Apt. total	
3	3		1.39	0.01	2.59		
4	3		1.75	0.22	2.56		
4	3		1.61	0.22	2.56		
2	3		0.63	0.22	2.56		
1	3		0.11	0.22	2.56		++ other bed high
4	3		2.90	0.12	2.45		
3	3		1.14	0.12	2.45		
2	3		0.45	0.12	2.45		
1	3		0.15	0.12	2.45		
4	3		2.18	0.15	2.43		
3	3		1.42	0.15	2.43		
3	3		0.89	0.15	2.43		
1	3		0.11	0.15	2.43		++ other bed high
4	3		3.15	0.13	2.42		--
3	3		1.53	0.13	2.42		
3	3		0.96	0.13	2.42		
1	3		0.20	0.13	2.42		++ other bed high
1	3		0.18	0.13	2.42		++ other bed high
3	3		1.49	0.60	2.38		
3	3		0.83	0.60	2.38		
1	3		0.12	0.60	2.38	--	other bed high
4	3		2.11	0.09	2.37		
4	3		1.95	0.09	2.37		
4	3		1.66	0.09	2.37		
3	3		1.15	0.09	2.37		
2	3		0.62	0.09	2.37		
1	3		0.25	0.09	2.37		other bed high
4	3		2.56	0.15	2.36		--
3	3		0.93	0.15	2.36		
3	3		0.82	0.15	2.36		
2	3		0.49	0.15	2.36		++
2	3		0.43	0.15	2.36		++
2	3		0.42	0.15	2.36		++

		Electricity Use (kWh/d/person)				Potential Errors*		
Cluster #	Apt. Quartile	Bedroom	Common Outlets	Apartment Total	Bedroom as proxy	Use of Apt. total	Comments	
3	3		1.00		0.38		2.35	
3	3		0.97		0.38		2.35	
1	3		0.15		0.38		2.35	++ other beds, common higher
1	3		0.13		0.38		2.35	++ other beds, common higher
2	3		0.50		0.63		2.35	-- common high
1	3		0.19		0.63		2.35	-- common high
3	3		1.15		0.00		2.30	
3	3		1.12		0.00		2.30	
3	3		0.88		0.00		2.30	
4	3		3.22		0.21		2.29	
2	3		0.50		0.21		2.29	
2	3		0.39		0.21		2.29	
1	3		0.13		0.21		2.29	++ other bed high
3	3		0.97		0.15		2.29	
1	3		0.28		0.15		2.29	other bed high
4	3		2.65		0.05		2.26	
3	3		1.50		0.05		2.26	
2	3		0.63		0.05		2.26	
2	3		0.59		0.05		2.26	
2	3		0.55		0.05		2.26	
4	3		2.02		0.11		2.20	
3	3		0.91		0.11		2.20	
3	2		1.15		0.29		2.20	
3	2		1.00		0.29		2.20	
3	2		0.88		0.29		2.20	
2	2		0.64		0.29		2.20	
3	2		1.32		0.15		2.17	
3	2		0.78		0.15		2.17	
2	2		0.61		0.15		2.17	
2	2		0.38		0.15		2.17	
1	2		0.10		0.15		2.17	
1	2		0.10		0.15		2.17	
4	2		1.62		0.28		2.16	-- other beds low
3	2		0.95		0.28		2.16	--
3	2		0.80		0.28		2.16	--
3	2		0.77		0.28		2.16	--
2	2		0.62		0.28		2.16	
1	2		0.20		0.28		2.16	

			Electricity Use (kWh/d/person)			Potential Errors*		
Cluster #	Apt. Quartile		Bedroom	Common Outlets	Apartment Total	Bedroom as proxy	Use of Apt. total	Comments
2	2		0.66	0.46	2.08			
2	2		0.37	0.46	2.08			
1	2		0.27	0.46	2.08			
1	2		0.24	0.46	2.08			
1	2		0.22	0.46	2.08			
3	2		0.79	0.01	2.08			
2	2		0.72	0.01	2.08			
2	2		0.62	0.01	2.08			
4	2		2.51	0.05	2.08			other bed, common low
4	2		1.74	0.05	2.08			other bed, common low
3	2		1.34	0.05	2.08			
2	2		0.68	0.05	2.08			
1	2		0.22	0.05	2.08			
1	2		0.14	0.05	2.08			
3	2		1.51	0.18	2.05			
2	2		0.60	0.18	2.05			
2	2		0.59	0.18	2.05			
2	2		0.40	0.18	2.05			
4	2		1.88	0.23	2.02			other bed, common low
3	2		1.28	0.23	2.02			
3	2		1.02	0.23	2.02			
2	2		0.69	0.23	2.02			
2	2		0.51	0.23	2.02			
1	2		0.16	0.23	2.02			
3	2		0.81	0.42	2.00			
2	2		0.68	0.42	2.00			
2	2		0.45	0.42	2.00			
2	2		0.67	0.04	2.00			
2	2		0.41	0.04	2.00			
1	2		0.14	0.04	2.00			
2	2		0.51	0.23	1.98			
2	2		0.48	0.23	1.98			
2	2		0.34	0.23	1.98			
3	2		1.42	0.06	1.97		--	
3	2		1.18	0.06	1.97		--	
3	2		0.96	0.06	1.97		--	
3	2		0.77	0.06	1.97		--	
3	2		0.74	0.06	1.97		--	
2	2		0.69	0.06	1.97			

		Electricity Use (kWh/d/person)				Potential Errors*		
Cluster #	Apt. Quartile	Bedroom	Common Outlets	Apartment Total	Bedroom as proxy	Use of Apt. total	Comments	
4	2		2.76	0.00	1.97			other bed & common low
3	2		1.49	0.00	1.97			
1	2		0.12	0.00	1.97			
2	2		0.58	0.35	1.95			
2	2		0.56	0.35	1.95			
2	2		0.43	0.35	1.95			
1	2		0.25	0.35	1.95			
2	2		0.66	0.00	1.95			
2	2		0.65	0.00	1.95			
2	2		0.39	0.00	1.95			
3	2		0.96	0.04	1.91		--	
2	2		0.67	0.04	1.91			
2	2		0.44	0.04	1.91			
1	2		0.16	0.04	1.91		++	
3	2		0.83	0.07	1.89			
1	2		0.29	0.07	1.89			
1	2		0.27	0.07	1.89			
1	2		0.15	0.07	1.89			
2	2		0.47	0.10	1.89			
2	2		0.37	0.10	1.89			
4	2		2.17	0.00	1.88		--	other bed low
3	2		1.00	0.00	1.88			
1	2		0.15	0.00	1.88			
4	2		1.82	0.17	1.88			other bed low
2	2		0.70	0.17	1.88			
2	2		0.35	0.17	1.88			
3	2		1.05	0.35	1.87			
1	2		0.21	0.35	1.87			
3	1		0.77	0.53	1.82		--	other beds low
2	1		0.41	0.53	1.82			
2	1		0.32	0.53	1.82			
1	1		0.18	0.53	1.82			
3	1		0.88	0.27	1.81			other bed low
2	1		0.65	0.27	1.81			
1	1		0.15	0.27	1.81			
3	1		1.38	0.05	1.81		--	other bed low
3	1		0.91	0.05	1.81		--	other bed low
1	1		0.21	0.05	1.81			
1	1		0.17	0.05	1.81			
1	1		0.11	0.05	1.81			

Cluster #	Apt. Quartile	Electricity Use (kWh/d/person)			Potential Errors*		Comments
		Bedroom	Common Outlets	Apartment Total	Bedroom as proxy	Use of Apt. total	
3	1	1.38	0.16	1.79			other bed, common low
3	1	0.75	0.16	1.79			other bed, common low
1	1	0.28	0.16	1.79			
1	1	0.26	0.16	1.79			
2	1	0.70	0.60	1.79			
2	1	0.31	0.60	1.79			
3	1	0.89	0.20	1.79			common low
2	1	0.46	0.20	1.79			
3	1	0.75	0.00	1.78			other bed & common low
2	1	0.58	0.00	1.78			
1	1	0.20	0.00	1.78			
1	1	0.16	0.00	1.78			
1	1	0.10	0.00	1.78			
3	1	0.79	0.10	1.77			other bed, common low
2	1	0.71	0.10	1.77			
2	1	0.58	0.10	1.77			
1	1	0.26	0.10	1.77			
2	1	0.49	0.01	1.67			
1	1	0.21	0.01	1.67			
2	1	0.69	0.04	1.67			
2	1	0.55	0.04	1.67			
2	1	0.49	0.04	1.67			
2	1	0.47	0.04	1.67			
1	1	0.12	0.04	1.67			
1	1	0.11	0.04	1.67			
3	1	1.53	0.34	1.63			other bedroom low
1	1	0.20	0.34	1.63			
1	1	0.14	0.34	1.63			
1	1	0.10	0.34	1.63			
2	1	0.68	0.13	1.58			
2	1	0.61	0.13	1.58			
2	1	0.49	0.13	1.58			
2	1	0.35	0.13	1.58			
4	1	2.30	0.00	1.57			other bed, common low
2	1	0.40	0.00	1.57			
1	1	0.15	0.00	1.57			
1	1	0.11	0.00	1.57			



		Electricity Use (kWh/d/person)			Potential Errors*		
Cluster #	Apt. Quartile	Bedroom	Common Outlets	Apartment Total	Bedroom as proxy	Use of Apt. total	Comments
4	1	<div><div></div></div> 1.80	<div><div></div></div> 0.03	<div><div></div></div> 1.56		--	other bed & common low
2	1	<div><div></div></div> 0.72	<div><div></div></div> 0.03	<div><div></div></div> 1.56			
2	1	<div><div></div></div> 0.47	<div><div></div></div> 0.03	<div><div></div></div> 1.56			
1	1	<div><div></div></div> 0.23	<div><div></div></div> 0.03	<div><div></div></div> 1.56			
2	1	<div><div></div></div> 0.45	<div><div></div></div> 0.03	<div><div></div></div> 1.55			
1	1	<div><div></div></div> 0.17	<div><div></div></div> 0.03	<div><div></div></div> 1.55			
1	1	<div><div></div></div> 0.20	<div><div></div></div> 0.31	<div><div></div></div> 1.53			
1	1	<div><div></div></div> 0.18	<div><div></div></div> 0.31	<div><div></div></div> 1.53			
1	1	<div><div></div></div> 0.16	<div><div></div></div> 0.31	<div><div></div></div> 1.53			
2	1	<div><div></div></div> 0.69	<div><div></div></div> 0.24	<div><div></div></div> 1.42			
2	1	<div><div></div></div> 0.32	<div><div></div></div> 0.24	<div><div></div></div> 1.42			
1	1	<div><div></div></div> 0.29	<div><div></div></div> 0.24	<div><div></div></div> 1.42			
1	1	<div><div></div></div> 0.14	<div><div></div></div> 0.24	<div><div></div></div> 1.42			
2	1	<div><div></div></div> 0.47	<div><div></div></div> 0.12	<div><div></div></div> 1.42			
2	1	<div><div></div></div> 0.46	<div><div></div></div> 0.12	<div><div></div></div> 1.41			
2	1	<div><div></div></div> 0.31	<div><div></div></div> 0.12	<div><div></div></div> 1.41			
1	1	<div><div></div></div> 0.29	<div><div></div></div> 0.12	<div><div></div></div> 1.41			
1	1	<div><div></div></div> 0.26	<div><div></div></div> 0.12	<div><div></div></div> 1.41			
1	1	<div><div></div></div> 0.12	<div><div></div></div> 0.04	<div><div></div></div> 1.36			

## SM-6. Demographic characteristics dataset

**Table S9. Distribution of student majors in dataset**

Major	%
Engineering	66
Arts and sciences	13
Business	5
Interdisciplinary/Other	15

The university has over 8 major engineering degrees, evenly distributed. They include Chemical Engineering, Environmental Engineering, Civil Engineering, Aeronautical Engineering, Mechanical Engineering, Computer Engineering, Electrical Engineering, and Software Engineering.