FY 2007
Cornell University
Energy Fast Facts[1]

PRIMARY ENERGY CONSUMPTION		
Primary Consumption (trillion Btu)	***1990*** [(2)]	***2007***
Electricity (Grid Purchased)	0.60	0.72
Coal	1.33	1.56
Hydro	0.02	0.02
Natural Gas	0.28	0.08
Oil	0.14	0.05
Total Primary Energy Consumption	**2.35**	**2.44**
Primary Consumption (MMBtu) per sq. ft.	**0.20**	**0.18**

ENERGY CONSUMPTION BY BUILDING		
Building Type: (trillion Btu)	***1990***	***2007***
Research/Teaching	NA	2.07
Campus Life	NA	0.29
Administration	NA	0.07

ELECTRICITY		
Cornell Utilities Generated (Mwh)	***1990***	***2007***
Cornell Utilities Hydro	5,200	5,100
Cornell Utilities Steam Turbine - Cogen	21,000	23,200
Cornell Utilities Gas Turbine - CCHPP[(3)]	0	0
Total Cornell Utilities Generated	**26,200**	**28,300**
Electricity (Grid Purchased) (Mwh)	174,500	217,300
Total Electricity (Mwh)	**200,700**	**245,600**

Electricity (Grid Purchased) Sources [4,5]	***1990***	***2007***
Biomass	0%	<1%
Coal	74%	16%
Natural Gas	5%	23%
Hydro	14%	19%
Nuclear	5%	30%
Oil	2%	11%
Solar	0%	<1%
Solid Waste	0%	1%
Wind	0%	<1%

ADDITIONAL STATISTICS		
	1990	***2007***
Total Enrollment	18,000	19,258
Campus Area (1000 sq. ft.)	11,800	13,633
Square Feet per Student	656	708
Heating Degree Days (7182 Normal)	6,919	6,976

ENERGY RELATED CARBON DIOXIDE (CO_2) EMISSIONS		
Energy Source	***1990***	***2007***
Electricity (Grid Purchased)	167.4	89.1
Cornell Utilities	165.2	172.9
Total CO_2 Emissions (thousand tons)	**332.6**	**262.0**

CO_2 Emissions By Primary Energy Type:	***1990***	***2007***
Coal	42%	62%
Electricity (Grid Purchased)	50%	34%
Hydro	0%	0%
Natural Gas	5%	2%
Oil	4%	2%

CO_2 Emissions By Utility Type:	***1990***	***2007***
Electricity to Campus (Grid Purchased)	44.2%	33.1%
Electricity (Cornell Generated)	2.6%	3.9%
Steam	47.1%	62.1%
Chilled Water	6.1%	0.9%

STEAM		
	1990	***2007***
Total Steam Export (trillion Btu)	1.31	1.26
Steam Fuel Sources (trillion Btu)		
Coal	1.33	1.56
Natural Gas	0.28	0.08
Oil	0.14	0.05
Total Energy Input (trillion Btu)	1.74	1.69
Thermal Efficiency	69%	67%

CHILLED WATER		
	1990	***2007***
Total Chilled Water Production (trillion Btu)	0.338	0.514
Total Energy Input[2] (trillion Btu)[(6)]	0.072	0.020
System Coefficient of Performance	4.7	25.7
Chilled Water Sources		
Mechanical Chillers	83%	1%
Lake/Free Cooling	17%	99%

GLOSSARY

Btu: British thermal unit
Primary: Central Plant Usage
MMBtu: Million Btu
Mwh: mega watt-hour

NOTES

1 Information provided is for Ithaca central utility campus only.

2 Kyoto Base Year is 1990

3 Cornell Combined Heat and Power Project (CCHPP) expected start-up FY 2010. Cornell Utilities Department will generate the majority of Ithaca Campus electrical demand utilizing natural gas turbines. Waste heat from the gas turbines will be used by a heat recovery steam generator to provide steam to Campus. Coal use will decline and natural gas usage will increase as a result of the CCHPP.

4 1990 grid purchased electric emission rate determined from New York State Electric & Gas (NYSEG) 1990 annual report.

5 Beginning FY 2006, grid purchased electric emission rate determined from State average rates provided by New York State Public Service Commission (NYSPSC). This rate better reflects electricity dispatch in the current deregulated environment.

6 Chilled water input Btu's are the energy input to the central plants for production and distribution of cooling water.