ADDENDUM A

A.1 ENERGY POLICY FOR THE UNIVERSITY OF PRETORIA

Mission Statement

Manage the energy resources of the University of Pretoria to ensure maximum benefit to the university community with the minimum energy consumption and cost.

Primary Objective

Manage the consumption of the energy resources available to the University of Pretoria so as to ensure that all the energy consumed at the university can be accounted for, the awareness of all users is increased, the energy efficiency strives towards set performance levels, the energy reticulation systems are strategically developed in accordance with policy and financial accountability of the university, as a result of energy consumption, is minimised.

Specific Objectives

- *Energy measurement and control*
- *Energy consumption benchmarking*
- *Energy Education*
- *Energy economics*
- *Product supply and maintenance contracts*
- *Energy marketing and awareness*

ENERGY POLICY STRATEGY

Long-Term Strategies

1. *Compile and implement an audit plan that highlights the regularity and detail with which the energy audits are conducted at the university.*
2. *Evaluate the effects of new technologies on the energy efficiency of the University in accordance with the recommendations in the audit plan.*
3. *Be able to measure the energy consumption of the various end-user groups of the entire University.*
4. *The implementation of "Smart" Lecture Halls whereby the halls are capable of automatically controlling the HVAC temperature and light levels dependant on whether a specific hall is in use or not.*
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Short-Term Strategies

1. Install measurement equipment to ensure data acquisition from the City Council of Pretoria (Lynnwood Sub-Station) of the following points:

- *The 3 feeders to the Main Campus.*
- *The 2 feeders to the Men's Hostels.*
- *The total consumption at the Lynnwood Sub-Station.*

2. Upgrade the existing measurement on Main Campus to include the following:

- *The measurement of the electricity of the newly built Post-Graduate School.*
- *Detailed measurements at the Woman's Hostels.*

3. ...

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A.2 ENERGY POLICY FOR AT&T

AT&T's Environmental, Health and Safety Vision

AT&T's vision is to be recognized by customers, employees, suppliers, shareowners, communities and other stakeholders worldwide as an environmentally responsible company which protects human health and the environment by fully integrating lifecycle environmental, health and safety considerations into our business decisions and activities.

AT&T's Environmental, Health and Safety Policy

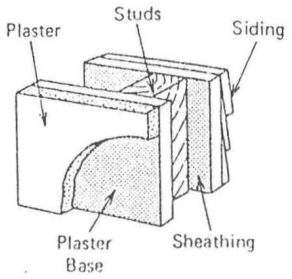
AT&T is committed to engaging its employees and leveraging its technology to protect human health and the environment in all operations, services and products, and to contribute to the achievement of a socially responsible environmentally efficient national and global economy. Implementation of this Policy is a primary management objective and the responsibility of every AT&T employee.

Goals and Guidelines

- *Comply with all applicable laws, regulations, and AT&T standards and practices governing environment, health and safety.*
- *Support the development of responsible, technically and scientifically valid, cost-effective environmental, health and safety laws, regulations and standards.*
- *Engage and educate employees to implement this Policy and encourage them to further contribute to the achievement of a socially responsible environmentally efficient national and global economy through volunteerism.*
- *Promote the conservation of raw materials and other natural resources, including energy, by eliminating or reducing waste and emissions, and by recycling and reusing materials, components, and products.*
- *Support environmental, health and safety efficiency by purchasing socially responsible environmentally preferable products and services.*

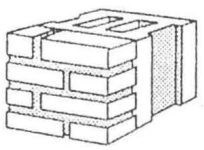
- *Continuously improve environmental and safety management systems to support the integration of applicable environmental, health and safety considerations into our business decisions and planning activities.*
- *Design new generations of processes, products and services to be environmentally preferable to the ones they replace, and enable our customers to increase their environmental and economic efficiency.*

ADDENDUM B



FRAME WALLS
Construction

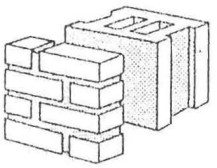
Exterior	Sheathing	Interior Finish (See Note 1) A	B	C	Any Type		
		Insulation Resistance None			R-4	R-7	R-11
wood siding or	25/32 in. wood	.22	.23	.24	.13	.09	.08
wood shingles	3/8 in. plywood	.26	.27	.27	.14	.10	.08
asbestos-cement	25/32 in. wood	.26	.27	.27	.13	.10	.08
or stucco	3/8 in. plywood	.31	.35	.32	.15	.11	.08
4 in. face brick	25/32 in. wood	.24	.26	.24	.13	.10	.08
veneer	3/8 in. plywood	.28	.31	.29	.14	.10	.08



MASONRY WALLS
Construction

	Interior finish (See Note 1) None	A	B	C	D	Any Type		
	Insulation Resistance None					R-4	R-7	R-11
8 in. common brick	.48	.29	.31	.30	.45	.13	.10	.07
8 in. stone or 8 in. conc. 140 lb/cu. ft	.67	.35	.39	.38	.63	.15	.11	.07
8 in. concrete 80 lb/cu. ft	.25	.18	.19	.19	.24	.11	.08	.06
8 in. concrete 30/lb cu. ft	.11	.10	.10	.10	.11	.07	.06	.05
8 in. cinder block or clay tile	.39	.25	.27	.26	.38	.13	.09	.07
12 in. cinder block or clay tile	.36	.24	.26	.25	.35	.13	.09	.07
4 in. face brick + 4 in. cinder block	.41	.26	.28	.27	.39	.13	.09	.07
4 in. face brick + 8 in. cinder block	.33	.22	.24	.23	.32	.13.	.09	.07

Table B.1 Overall heat transfer coefficient U [Btu/hr-ft^2-F]

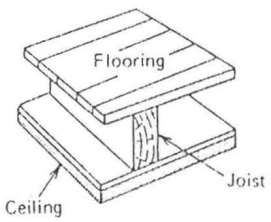


MASONRY CAVITY WALLS Construction		Interior Finish (See Note 1)						
		None	A	B	C	Any Type		
		Insulation Resistance						
Exterior	Inner Section	None				R-4	R-7	R-11
4 in. face brick or 4 in. stone	4 in. common brick	.33	.23	.25	.24	.13	.09	.07
	4 in. cinder block or clay tile	.41	.26	.28	.27	.13	.09	.07
4 in. common brick	4 in. common brick	.30	.21	.22	.21	.11	.08	.06
	4 in. cinder block or clay tile	.27	.20	.21	.20	.11	.08	.06
4 in. cinder block	4 in. conc. block (gravel agg.)	.27	.20	.21	.20	.11	.08	.06
	4 in. cinder block or clay tile	.25	.18	.19	.18	.11	.08	.06

FRAME PARTITIONS Construction	No. Sides Finished		
	One	Both	Both + R-4 Insul.
3/8 in. gypsum or wood lath and 1/2 in. plaster	.56	.32	.14
3/8 in. plywood	.55	.31	.14
metal lath and 3/4 in. plaster	.67	.39	.15
3/8 in. gypsum board	.60	.34	.14

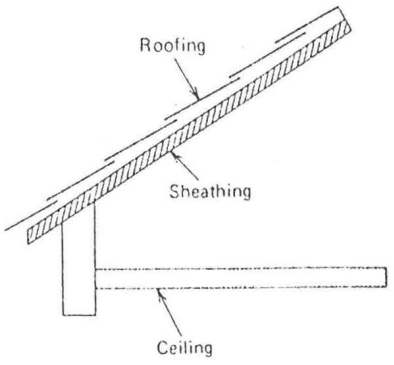
MASONRY PARTITIONS Construction	No. of Sides Finished								
	None	One				Both			
		Finish (See Note 1)							
		A	B	C	D	A	B	C	D
4 in. cinder block or clay tile	.40	.26	.28	.36	.39	.22	.24	.29	.31
8 in. same	.32	.19	.21	.32	.37	.17	.19	.27	.30

Table B.1 (continued)

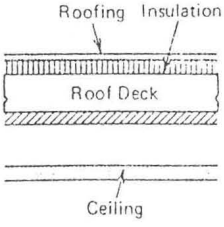
 FRAME FLOOR-CEILING (suspended ceiling) Floor	Direction of Heat Flow									
	Up					Down				
	Type of Ceiling (See Note 1)									
	None	A	B	C	E	None	A	B	C	E
none		.61	.74	.65	.41		.44	.51	.46	.33
25/32 in. wood subfloor	.45	.29	.31	.30	.24	.35	.24	.25	.24	.20
same + 3/4 in. hardwood floor	.34	.24	.26	.24	.20	.28	.20	.21	.21	.17

CONCRETE FLOOR-CEILING (Suspended Ceiling) Floor		Direction of Heat Flow							
		Up				Down			
		Type of Ceiling (See Note 1)							
Slab	Finish	A	B	C	E	A	B	C	E
4 or 6 in. concrete, sand agg.	none or tile	.35	.38	.36	.27	.27	.30	.28	.23
	13/16 in. wood block	.28	.30	.28	.23	.23	.24	.23	.19
	tile + 3/8 in. plywood + air space	.22	.23	.22	.19	.19	.20	.19	.16
	3/4 in. hardwood + 25/32 in. wood + air space	.18	.19	.19	.16	.16	.17	.16	.14

Table B.1 (continued)



PITCHED ROOF-CEILING (Attic with Natural Ventilation)		Heat Flow Up or Down Ceiling Type A, B, C, or E		
		Insul. Resist.		
Roof	Sheathing	R-8	R-12	R-19
shingle or slate or tile	wood or plywood	.09	.06	0.04



FLAT ROOF	Heat Flow Up or Down Ceiling Type A, B, C, or E		
	Insul. Resist.		
Slab	R-5	R-10	R-15
4 in. concrete (gravel agg.)	.13	.08	.06
8 in. same	.12	.08	.05
2 in. concrete (light agg.)	.10	.07	.05
4 in. same	.09	.06	.05
2 in. gypsum on ½ in. board	.11	.07	.05
4 in. same	.10	.07	.05
2 in. wood	.10	.07	.05
flat metal	.13	.08	.06

Table B.1 (continued)

WINDOWS & DOORS-glass (See Note 6)	Summer	Winter
single	1.04	1.10
single + storm	.50	.50
double, ¼ in. air space	.61	.58

DOORS-wood or metal	Summer	Winter
1½ in. wood	.47	.49
same + wood storm	-- --	.27
same + metal storm	-- --	.33
1¾ in. metal-urethane core	.18	.19

WALLS & FLOORS—below grade (See Note 2)	Wall	Floor
	.20	.10

CONCRETE FLOORS—at grade. Heat Loss Per Foot Edge (See Note 3)					
Outdoor design temperature, F	−20 to −30	−10 to −20	0 to −10	10 to 0	15 to 10
Heat loss, BTU/hr per ft edge	50	45	40	35	30

Notes for Table A.5.

1. Types of interior wall finish or ceilings are:
   A. ⅜ in. gypsum lath or wood lath and ½ in. plaster
   B. metal lath and ¾ in. plaster
   C. ⅜ in. gypsum board
   D. ½ in. plaster on wall
   E. ½ in. acoustic tile on furring strips
2. U values for below grade basements and walls are to be used with ground temperatures (range from 40 to 60 F in U.S.).
3. Heat losses for floors at grade are given per foot of exposed floor edge. These values apply when 2 in. of edge insulation is used, 24 in. wide.
4. All U values apply for winter or summer except as noted.
5. The U values for frame walls have been adjusted for effect of studs 16 in. on center.
6. For wood sash windows, multiply listed U value by 0.9.

Table B.1 (continued)

ADDENDUM C

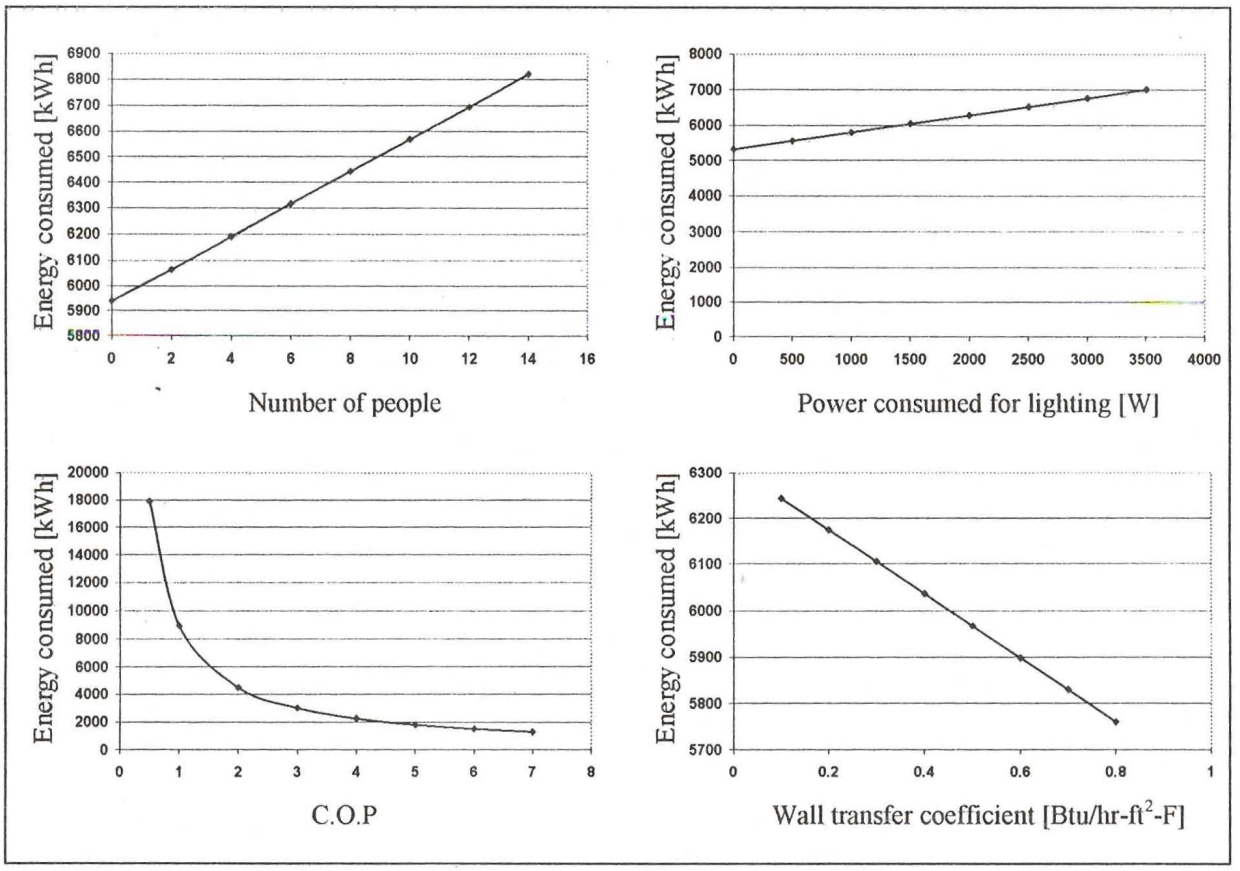


Figure C1. Energy consumptions versus input manipulations for Hillcrest exchange

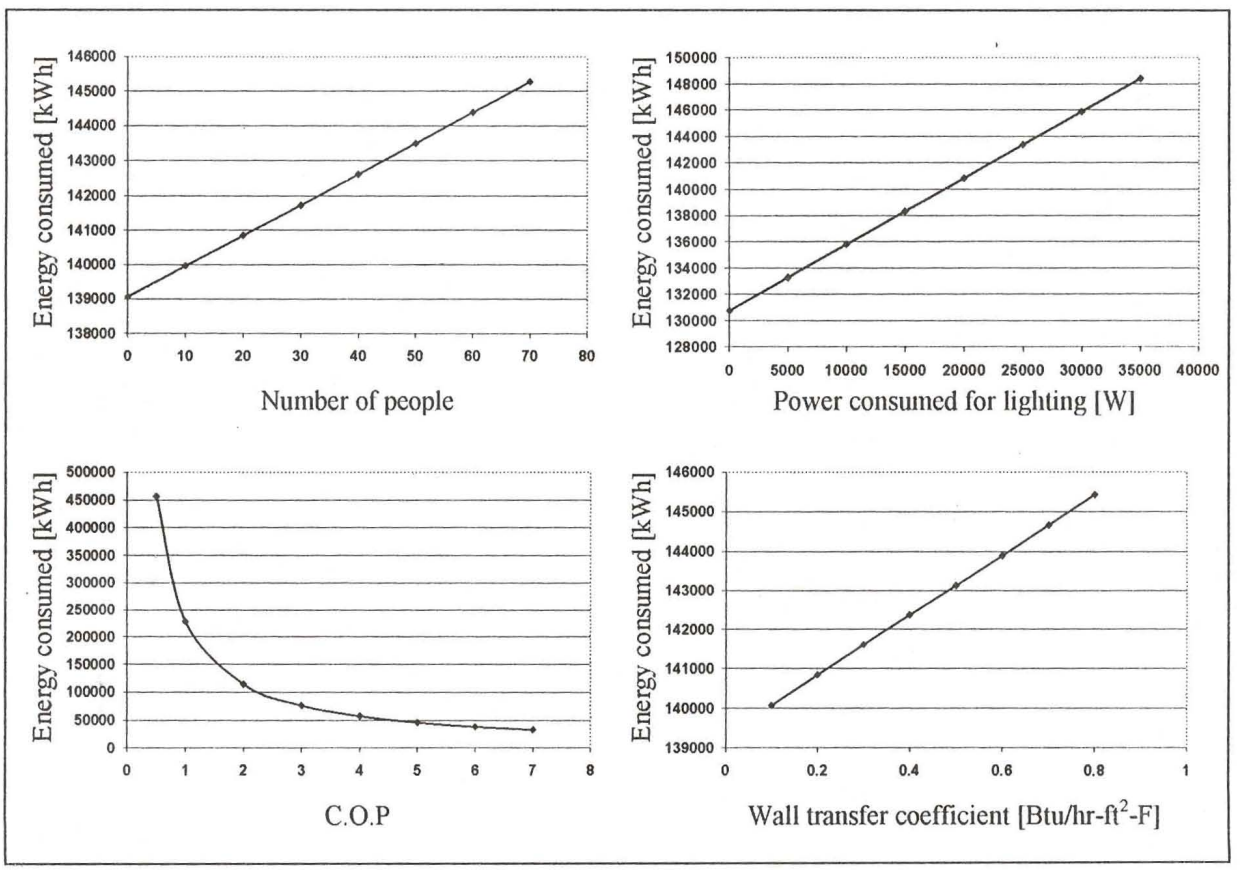


Figure C2. Energy consumptions versus input manipulations for Bronberg exchange