

# South Africa Test

## Results of Blind Measurements

# Test Procedure

- Three offices were instrumented
  - LJ Grobler (Blinds fitted)
  - Ilze Combrinck (Hanging Blinds)
  - Johan Markgraaf (Normal Office)
- Measurements (10 minutes)
  - Room temperatures
  - Outdoor temperatures
  - Power consumption of Ac units

# Test Procedure

- AC units were set on 24°C
- AC units were set to operate 24 hours of the day
- Measurements were taken every 10 minutes and integrated to an hour
- Measurements used for this analysis were for the periods 27-28 June and 1-3 July 2008

# Blinds

Prof. LJ Grobler's office with new blinds



Ilze office with new blinds



# Blinds

Prof. Markgraaff office without new blinds



# Installation Of Meters



# Downloading of Meters



# Meters Used

Micro data logger



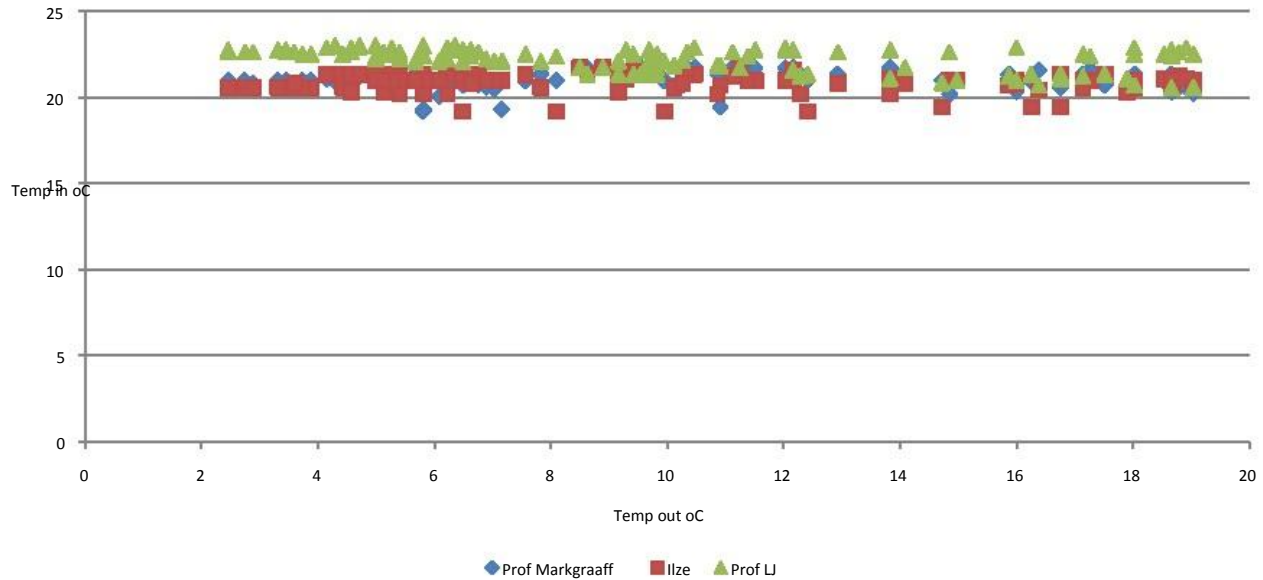
Hobo RH Temp





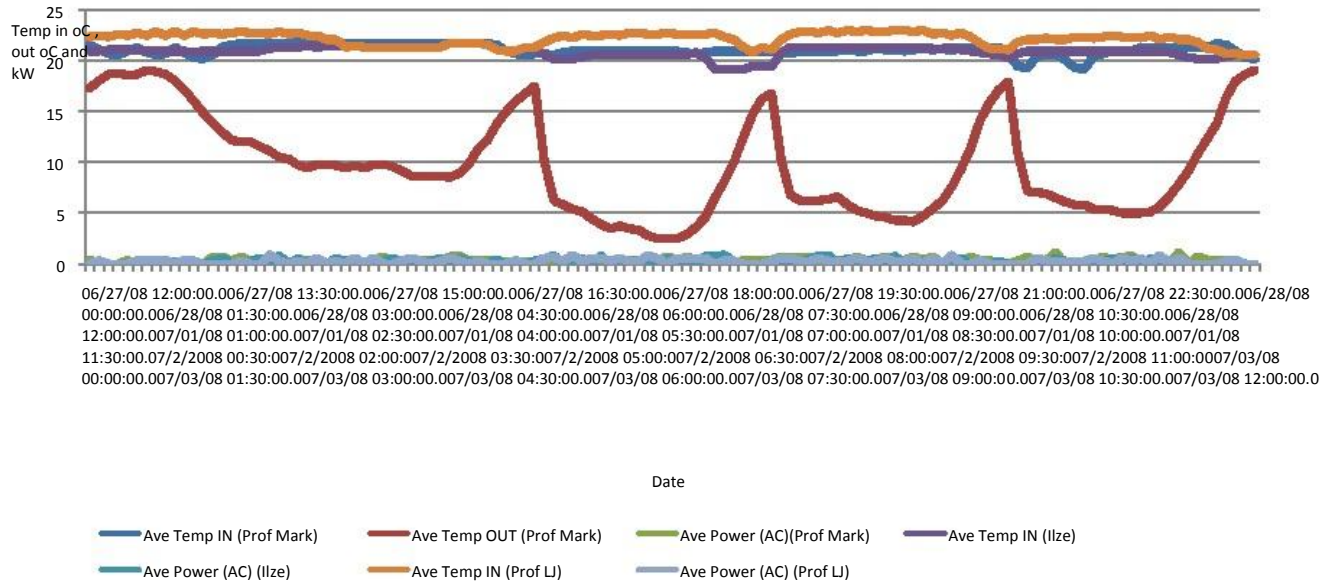
# Room Temperatures

3 offices Temperature in vs Temperature out 27-28 Jun 08 Fri, Sat  
and 1-3 July 08 Mon, Tue, Wen (Data in 30 min Interval)



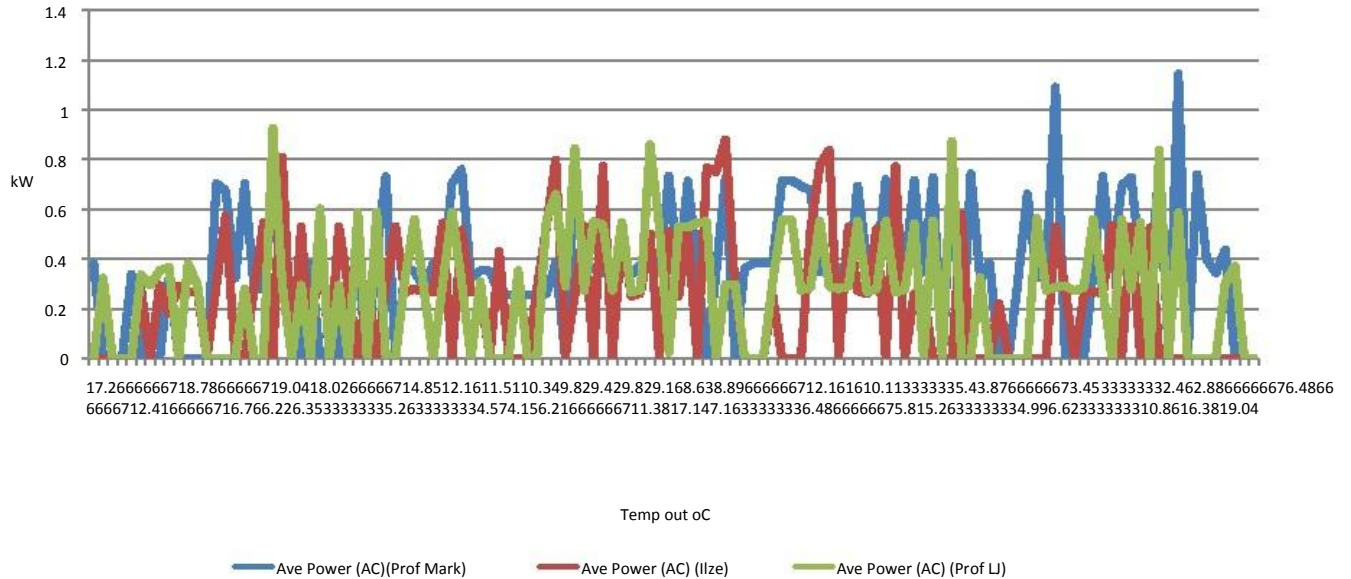
# Room Temperatures

3 offices Temperature in, kW and Temperature out 27-28 Jun 08  
 Fri, Sat and 1-3 July 08 Mon, Tue, Wen ( Data in 30 minutes interval)



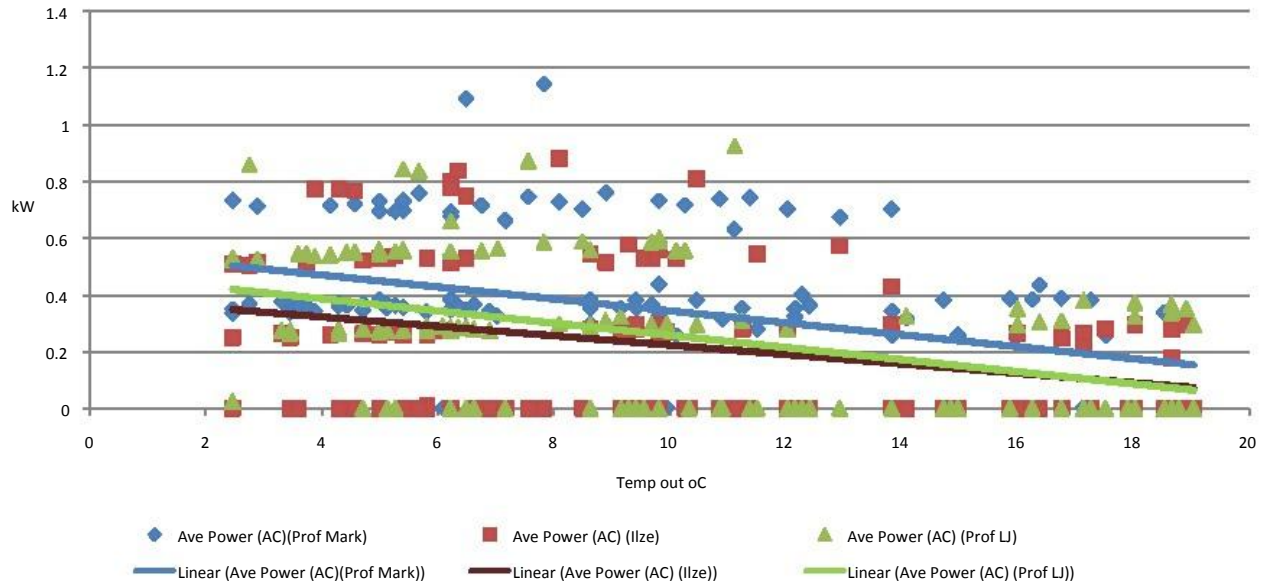
# Power Graphs

3 offices kW vs Temperature out 27-28 Jun 08 Fri, Sat and 1-3 July 08  
Mon, Tue, Wen (Data in 30 minutes interval)



# Power vs Temperature

3 offices kW vs Temperature out 27-28 Jun 08 Fri, Sat and 1-3 July 08  
Mon, Tue, Wen (Data in 30 minutes interval)



# Summary of Results

Description	Prof Markgraaf	Ilze Combrick	LJ Grobler	Units
Average	0.35	0.23	0.26	kW
Average/day	8.39	5.46	6.33	kWh
Rate	40	40	40	c/kWh
Cost/day	3.36 R	2.19	2.53	
Saving/day	R	R	1.17 R	0.82
% Saving			35% R	25%
COP			3.00	3.00
Electric Heating Cost/day	3.00	6.56	7.60	
Electric Heating Saving/day	R	10.07 R	3.52 R	2.47
		R	R	

# Discussion of results

- The office of LJ Grobler used 25% less energy than the standard office of Prof Markgraaf
- The office of Ilze Combinck used 35% less energy than the standard office of Prof Markgraaf
- Both Ilze and LJ Grobler's offices were fitted with the blinds
- Ilze Combrinck's 35% savings compared to LJ Grobler's 25% cannot be explained. It is expected that external factors influenced this. The office is also slightly smaller.