



Danish Management Group

The Energy Efficiency and Energy Management Project in the CITY OF EKURHULENI's Edenvale Customer Care Centre

Supported by Danida's Urban Environmental Development Programme

Conducted by Danish Energy Management A/S

Phase 1 – Evaluation of Energy Savings Potential in 3 public buildings.

Phase 2 – Energy Efficiency and Energy Management Feasibility Study

Phase 3 – Energy Efficiency and Energy Management Project in Edenvale Customer Care Centre.



Edenvale Customer Care Centre



Office building

Built ca. 1965

Floor area 6100 m²

3½ storeys

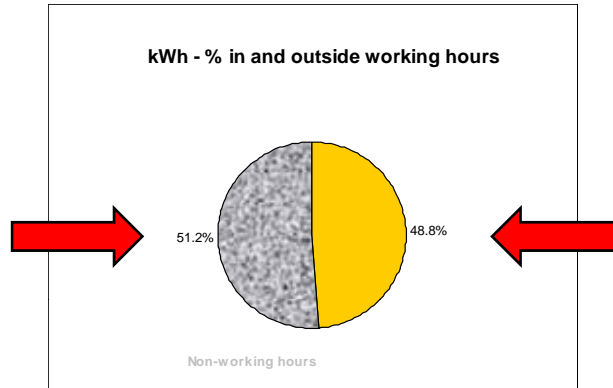
205 kWh/m²/year





Energy Indicators

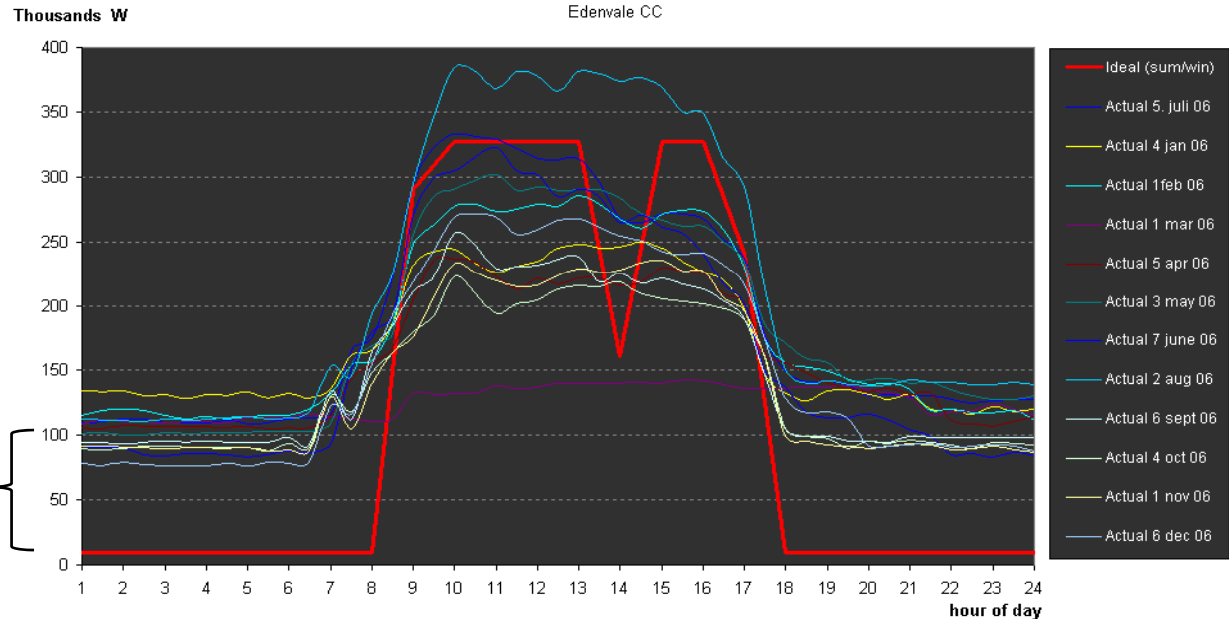
51.2 % Night time consumption



48.8 % Day time consumption

Estimated ideal day profile (typical summer/winter day) compared to actual profiles

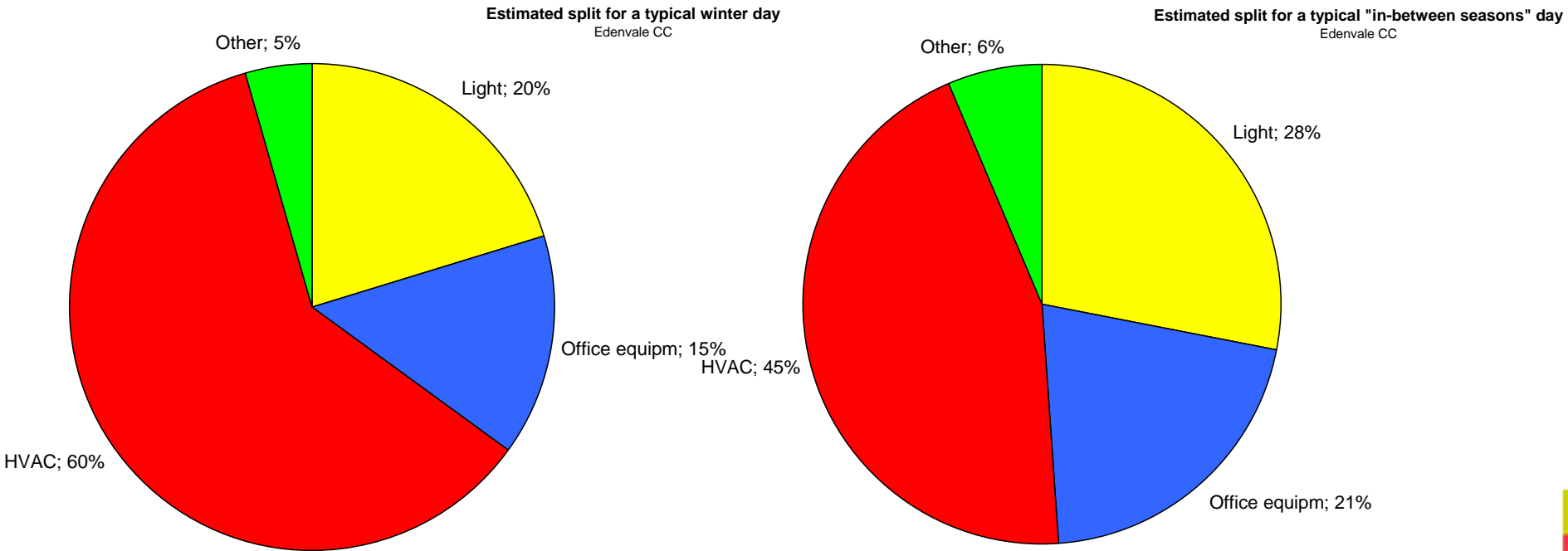
Edenvale CC



Night time savings potential
85% of the existing Night time consumption



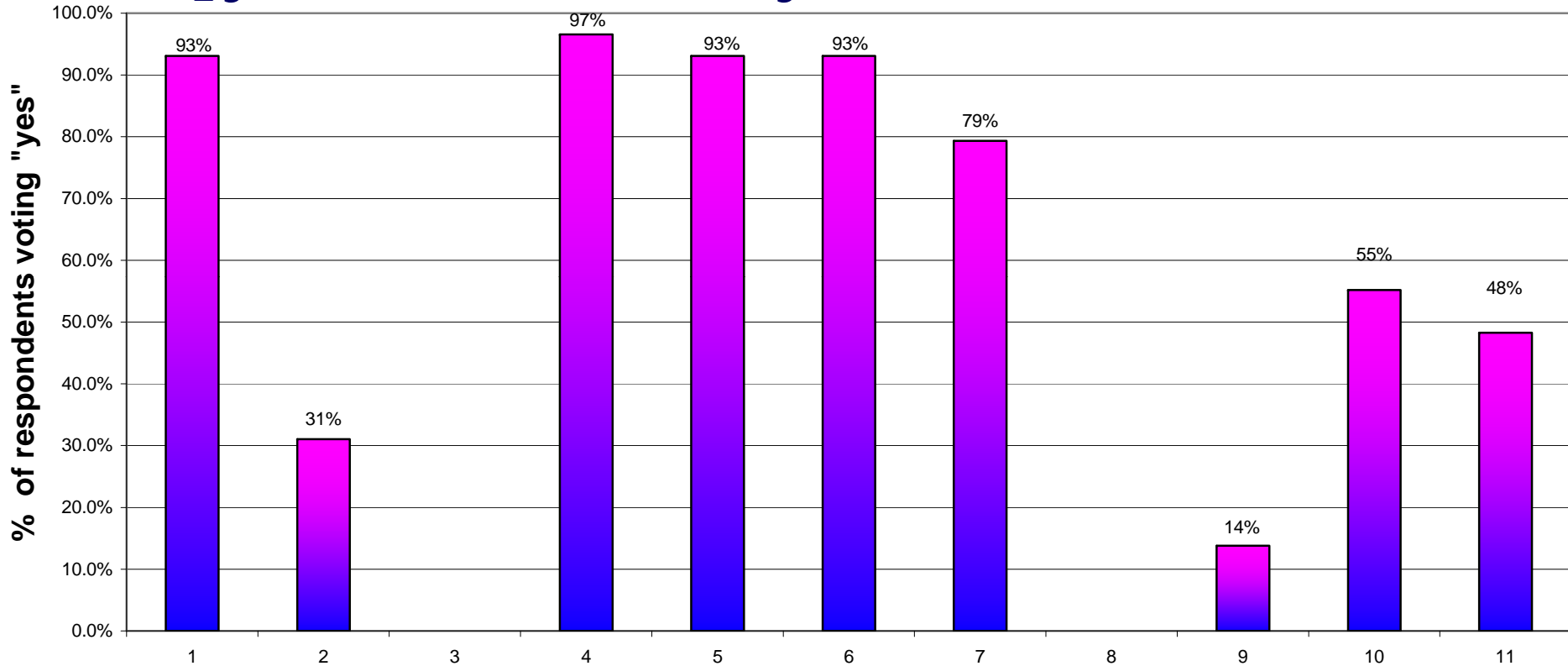
Energy Consuming Equipment Distribution



Relative consumption on equipment categories on a cold winter day (left) and a mild day with low space conditioning requirements (right).



Energy Awareness survey



- 1 Are you interested in knowing more about Energy Efficiency?
- 2 Did your organisation make you aware about Energy Efficiency?
- When you go home, do you remember to turn of:
- 4 Lights
- 5 Computer and other equipment
- 6 Airconditioning
- 7 Do you take responsibility of switching other lights off other than in your office
- 9 Are you aware of any energy-saving projects that have been completed or are ongoing at your work place?
- 10 Do you feel that individual employees affect energy usage at your workplace?
- 11 Are you interested in participating in a more detailed Questionnaire?



The Building Energy Efficiency and Energy Management program

On the basis of the Feasibility study the following main issues will be approached in the implementation phase:

- Upgrading of the existing electrical system
- Assist in establishing an Energy Management Organization
- Establish an Energy Management and Control system
- Technical installations and building EE efficiency

The whole project to be underlined by Information, Training and Awareness activities.



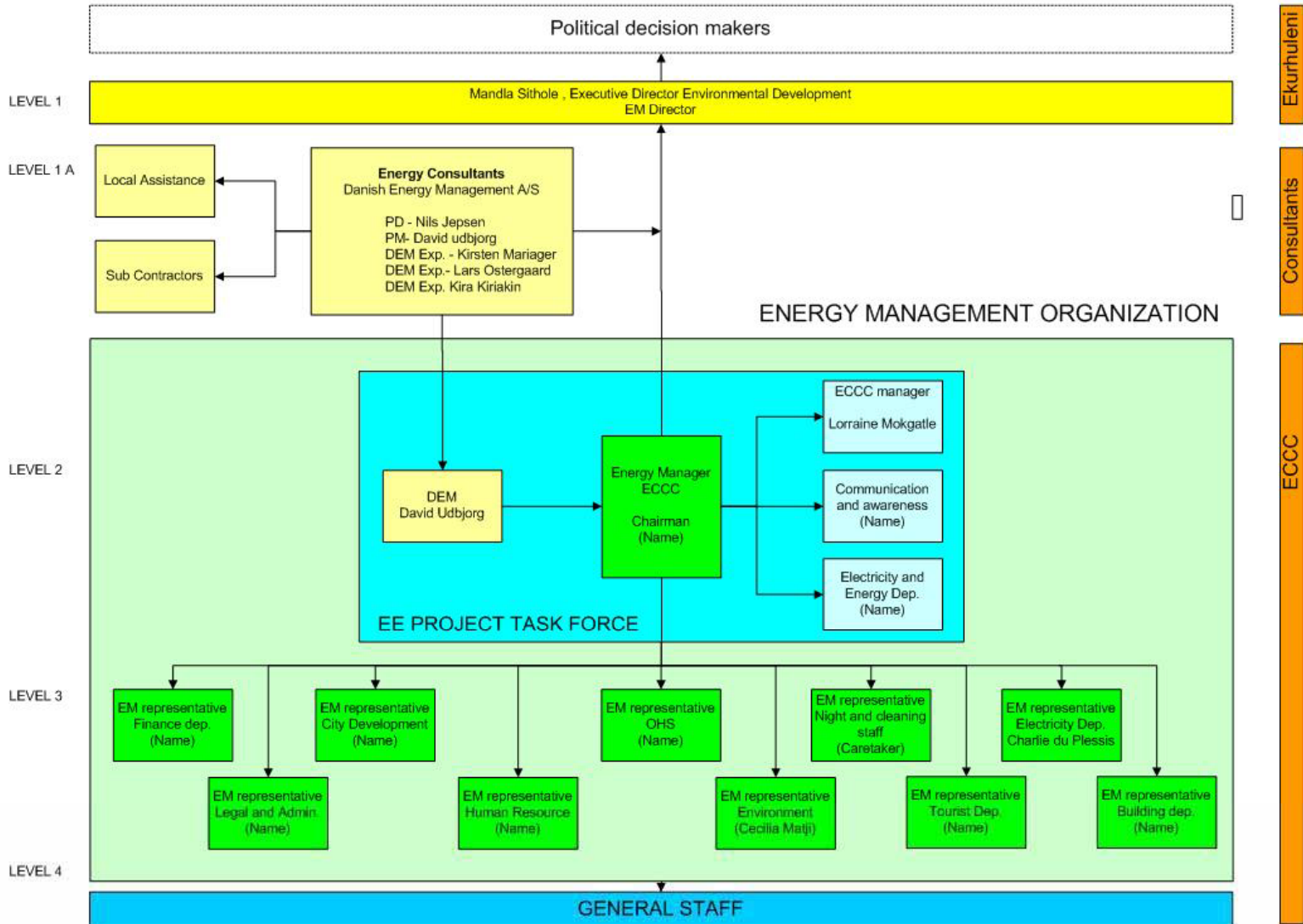


Upgrading of the Electrical system



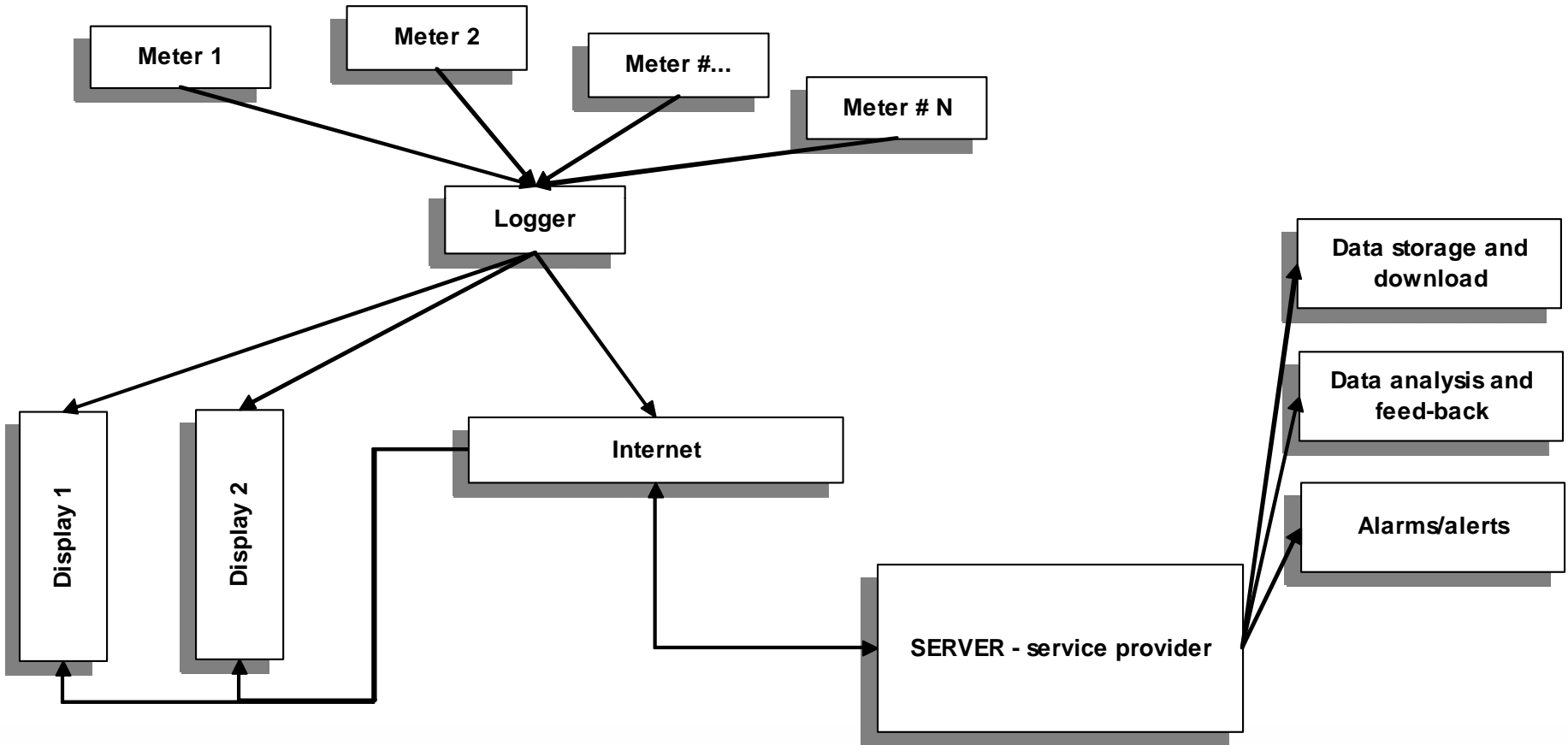


Proposed EE Project Management organization at ECCC





E Monitoring and Control system





Technical installations and building EE efficiency

Some of the additional technical and building related elements to be implemented in ECCC*:

1. Installation of High End Solar Water Heaters
2. Reflective Surfacing on the roof of the building
3. Ensuring Energy Efficient lighting in the building
4. Sealing of Windows and Doors if possible
5. Installation of Fixtures with electronic control gear
6. Upgrading to energy efficient Air-conditioning units
7. Night time solar based lighting
8. Automatic shading
9. Motion sensors/ detectors in common areas

*ECCC = Edenvale Customer Care Centre



Thank You!

Fred Fryer,
For Mandla Sithole (City of Ekurhuleni)

