



Case Study – 1 Thibault Square, CT



1 Thibault Square Cape Town

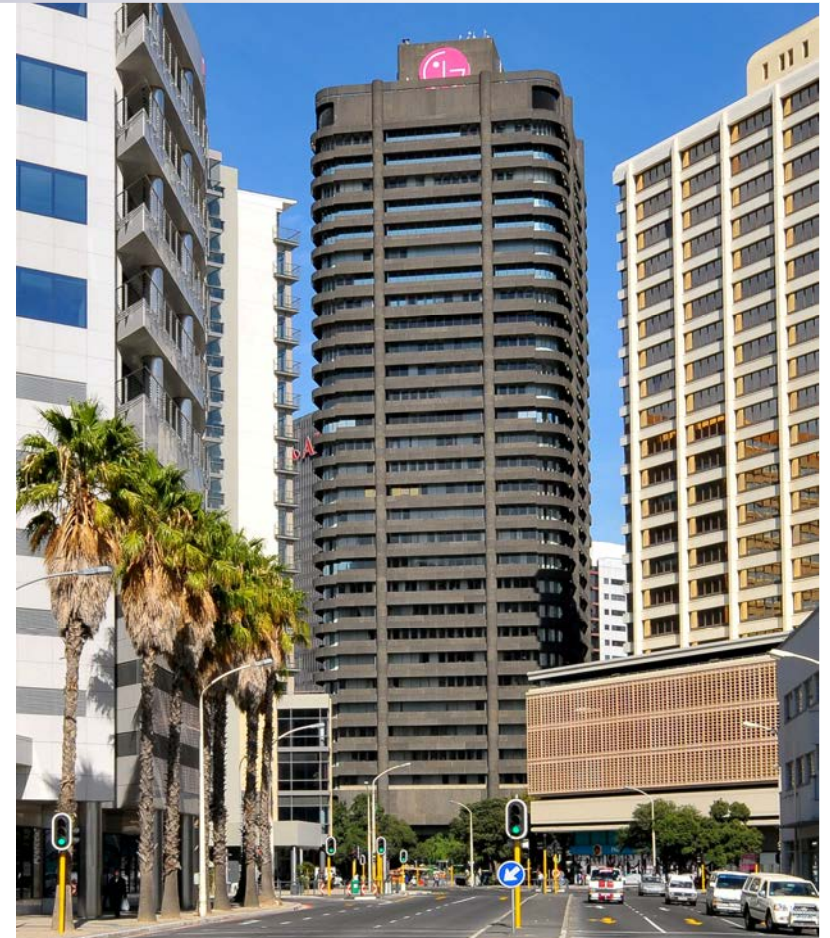
- History and Facts
- Intervention Philosophy
- Implementation
 - HVAC
 - Lighting
 - Lifts
- Savings
- Lessons learned and last thoughts.
- Questions



Agenda

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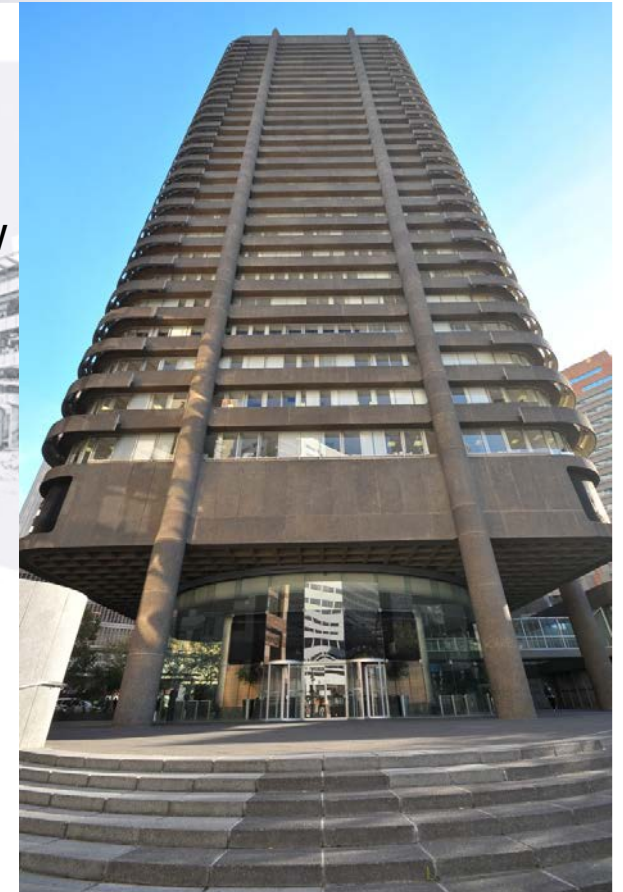
- More than forty years old
- Revel Fox-designed office block
- Turned 45 deg to normal city grid
- 35-storeys with 65 Tenants
- Originally known as the BP Centre
- Total lettable area of 36 000 square metres
- Vacancy rate is running at a low 3%



History and Facts

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- When Zenprop bought the building in 2006, we knew (given its age) refurbishment and repairs will be forthcoming.
- In 2009 a five year plan was drawn up re asset replacement and upgrades.
- Philosophy of energy saving through:-
 - Holistic vs repairs and/or replacement.
 - Technology available
 - Using experts to analyze and do proposals.
- Future Proofing the building
 - Reduce Ops Cost
 - Retaining tenants



Intervention Philosophy

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- Cooling tower modification.
 - Remove heat exchangers.
 - Raise to improve air flow.
 - Pipe work changes.
 - Install VSD's



HVAC

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- Before
 - 4 Ft Double 36 watt - 652 off
 - 8 Ft Double - 12 off
 - Energy savers(stairs) - 24 off
 - 25% not working
 - 65 Lux Level
- After.
 - Single 58 watt ECG's - 324 off
 - Single 36 watt ESG's - 27 off
 - Double 9 watt ECG's - 12 off
 - PLG Downlighters - 10 off
 - 140 Lux Level



Basements Lighting

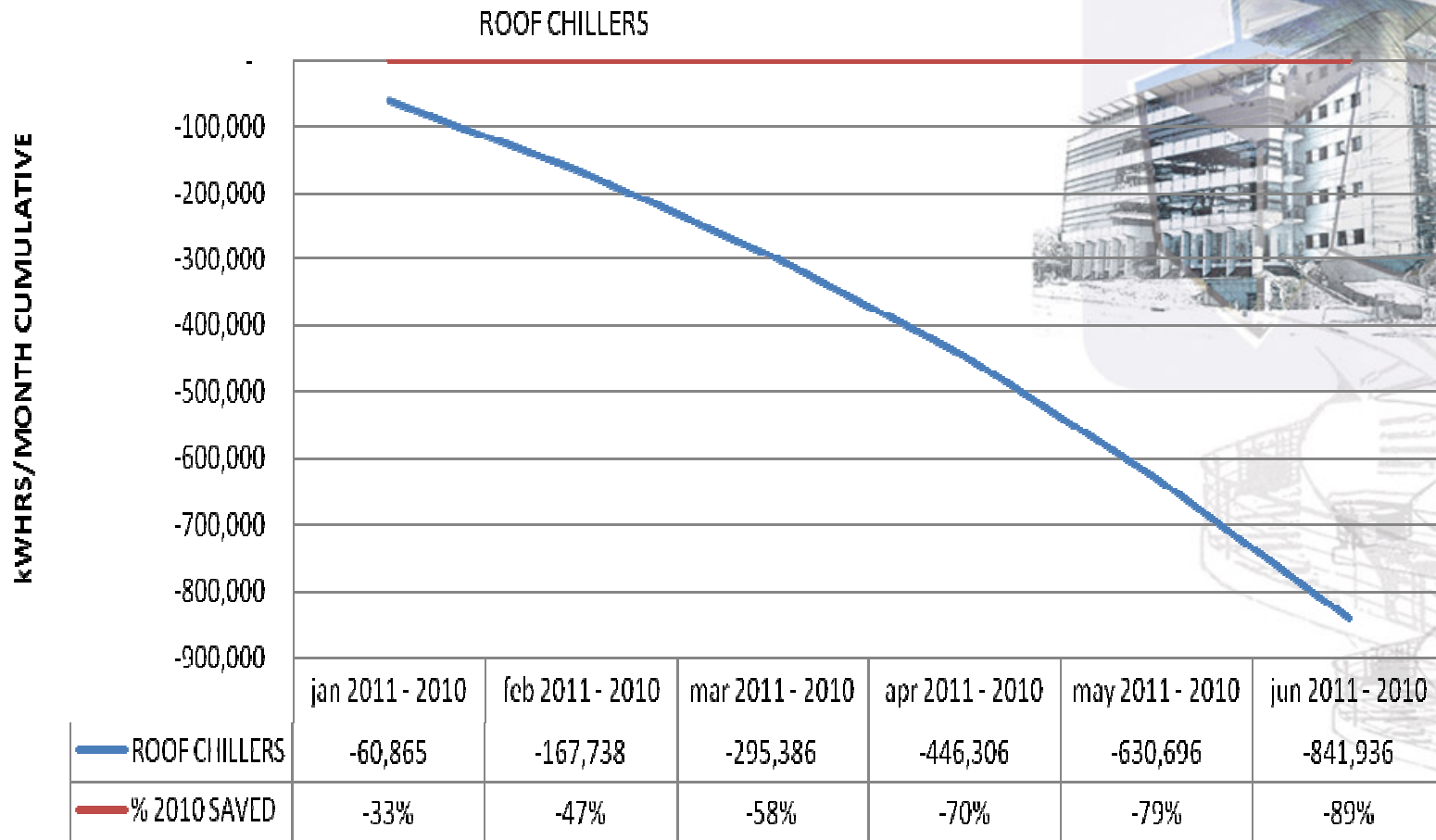
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- Six new high-rise lifts
- Miconic 10/Schindler lifts with destination-control
- Schindler AC gearless machines
- Substantial power saving technology



Lifts

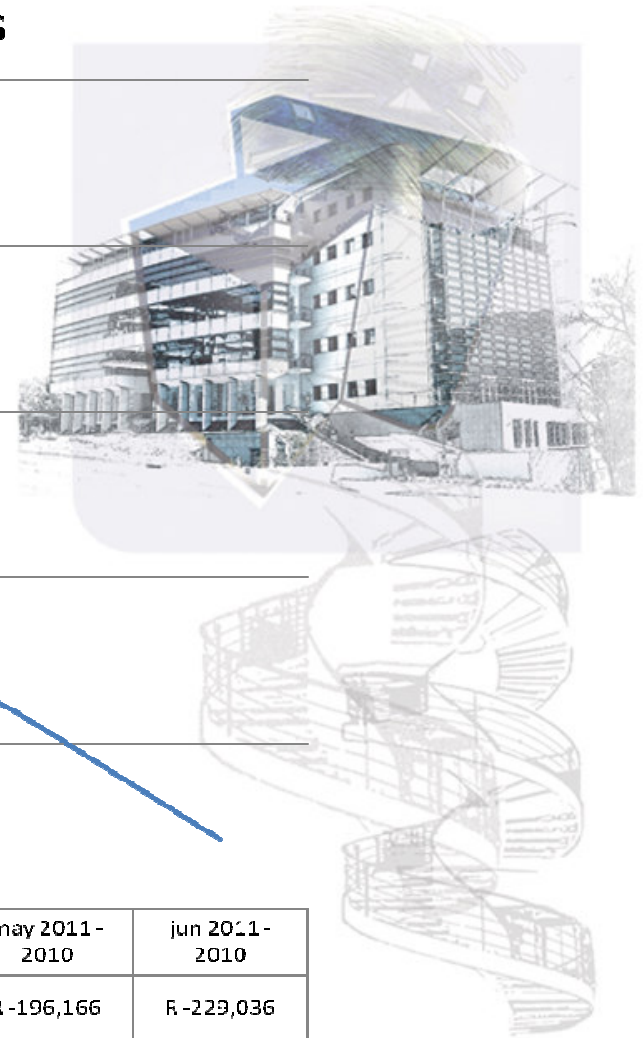
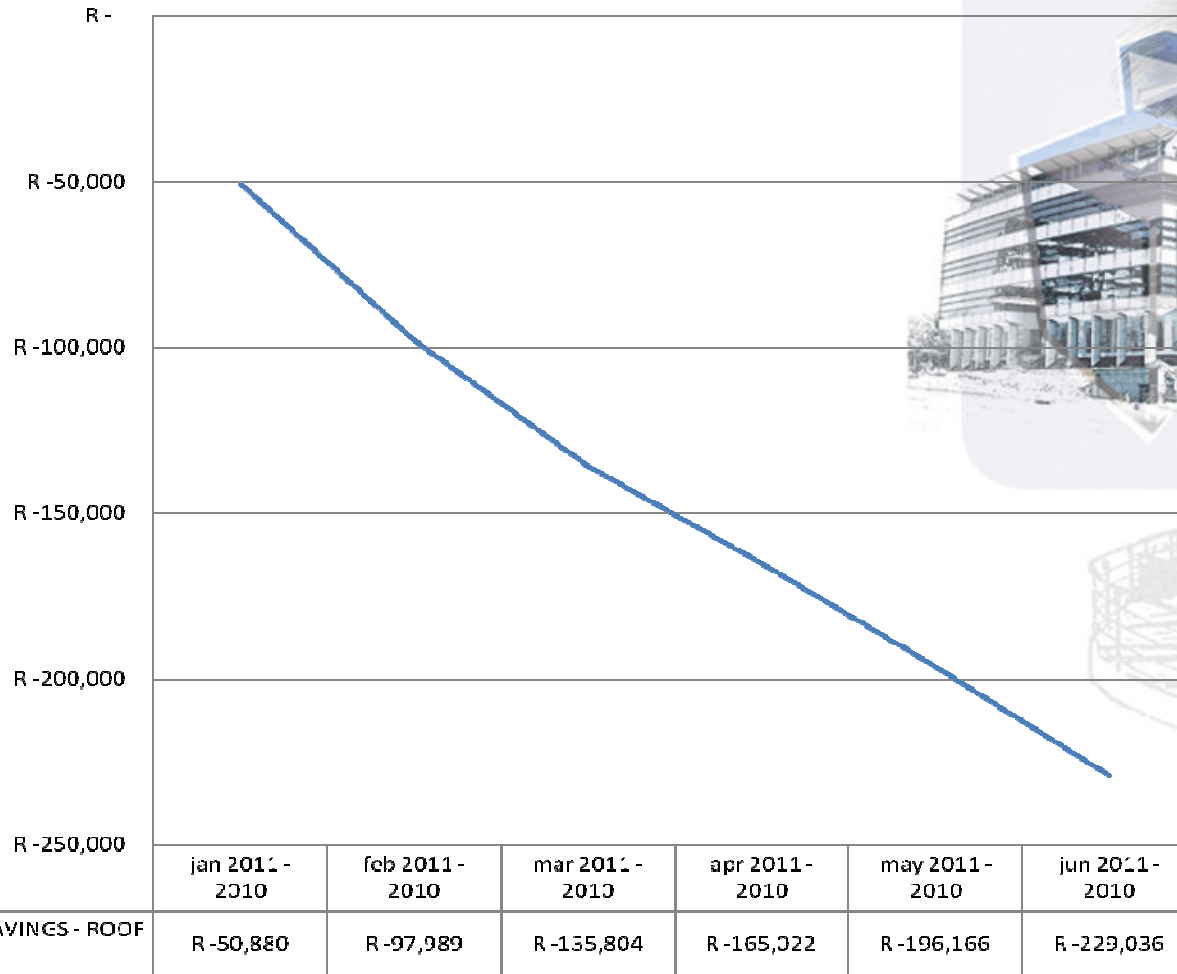
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Savings - HVAC

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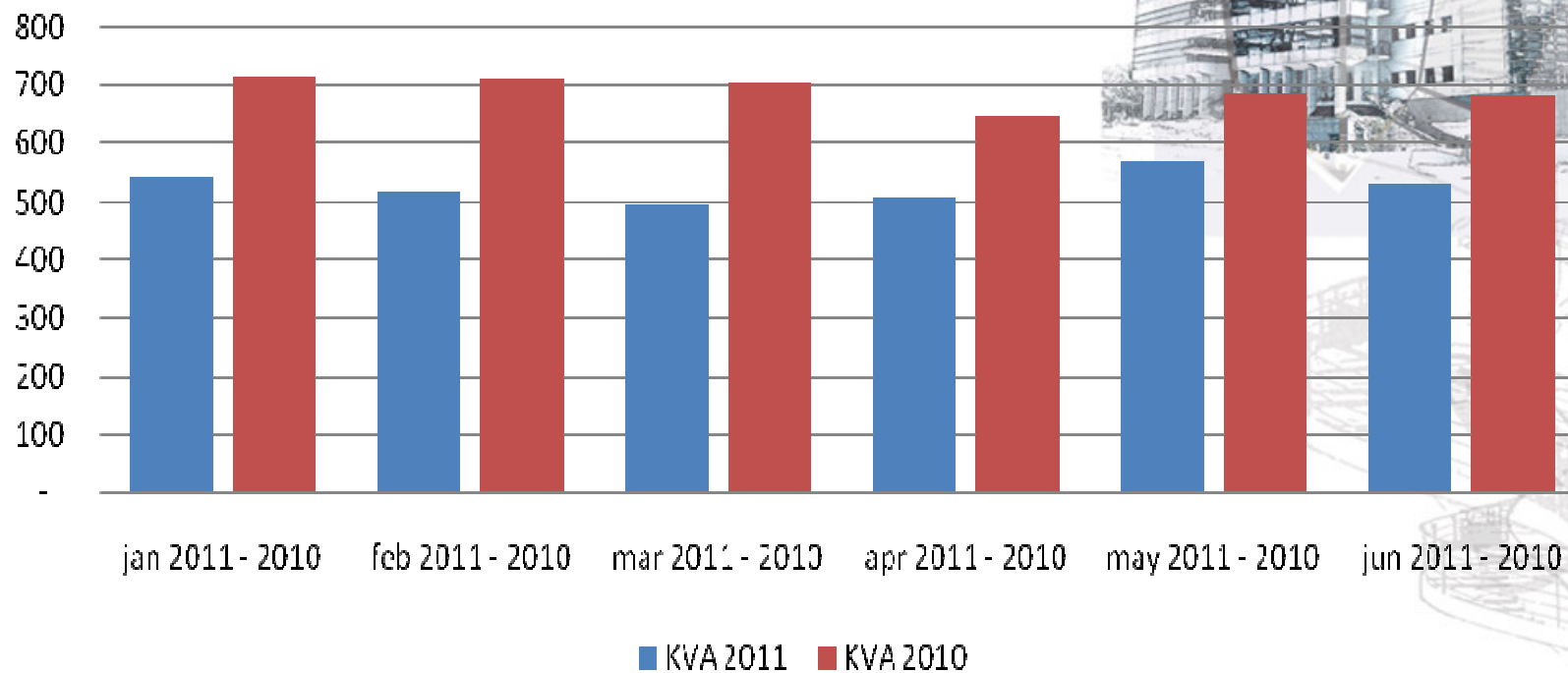
CUMULATIVE 6 MONTH SAVINGS - ROOF CHILLERS



HVAC - Savings

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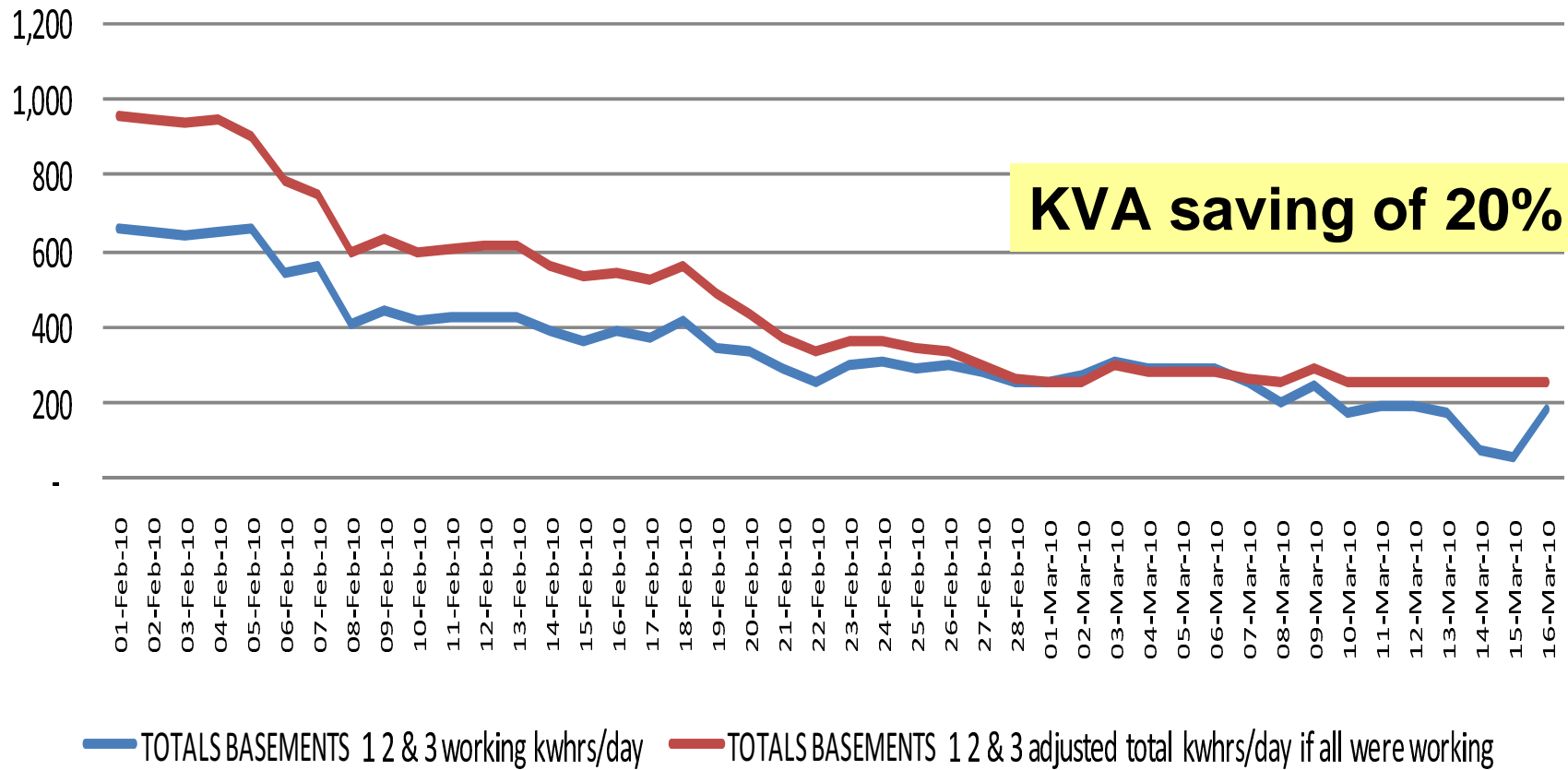
DEMAND SAVING ROOF CHILLERS



HVAC - Demand

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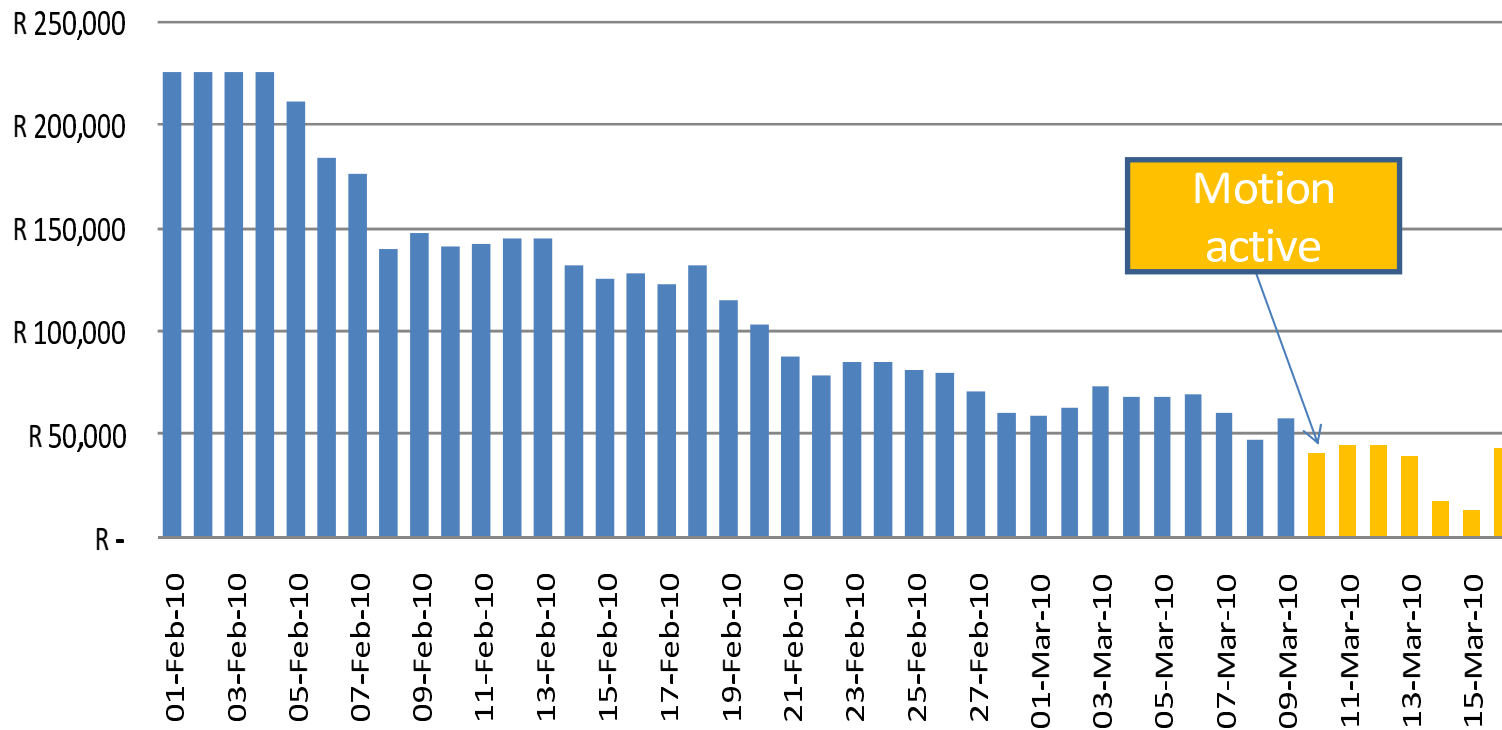
KWHRS/DAY TOTAL 3 BASEMENTS



Savings – Basement Lighting

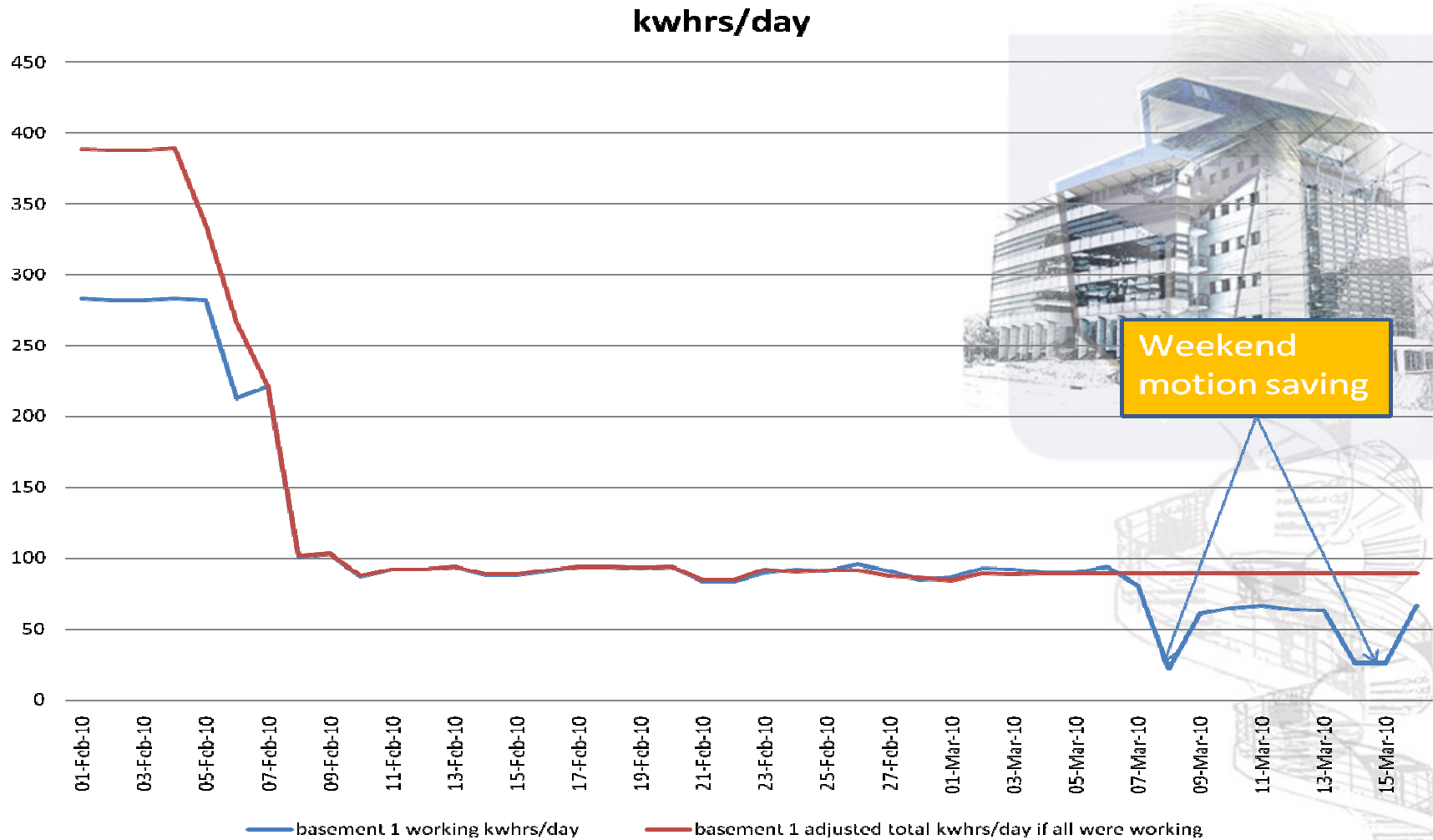
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3 basements running cost in rands/annum 85% saving after motion detection



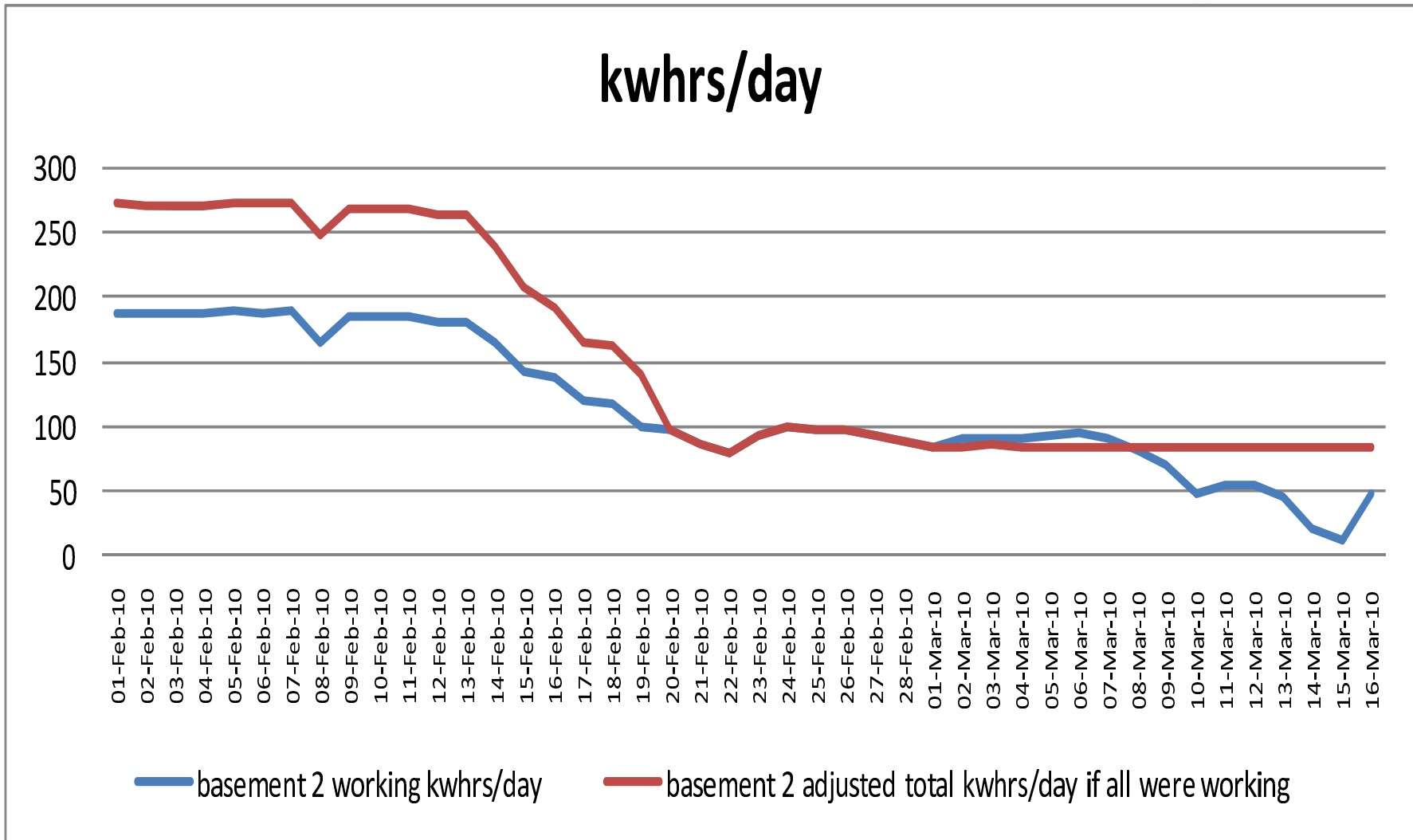
Running Cost

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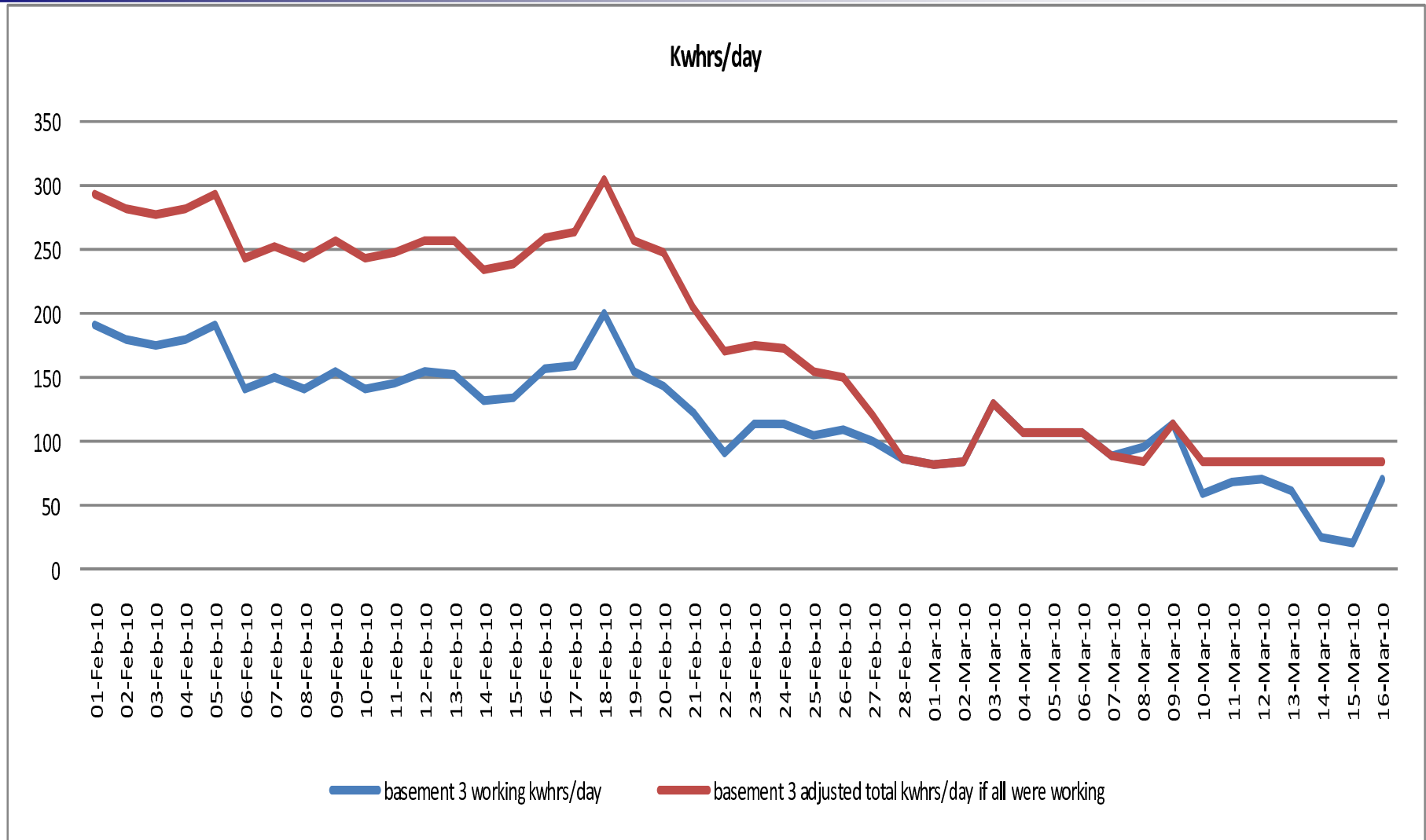
Basement 1 - Energy Usage

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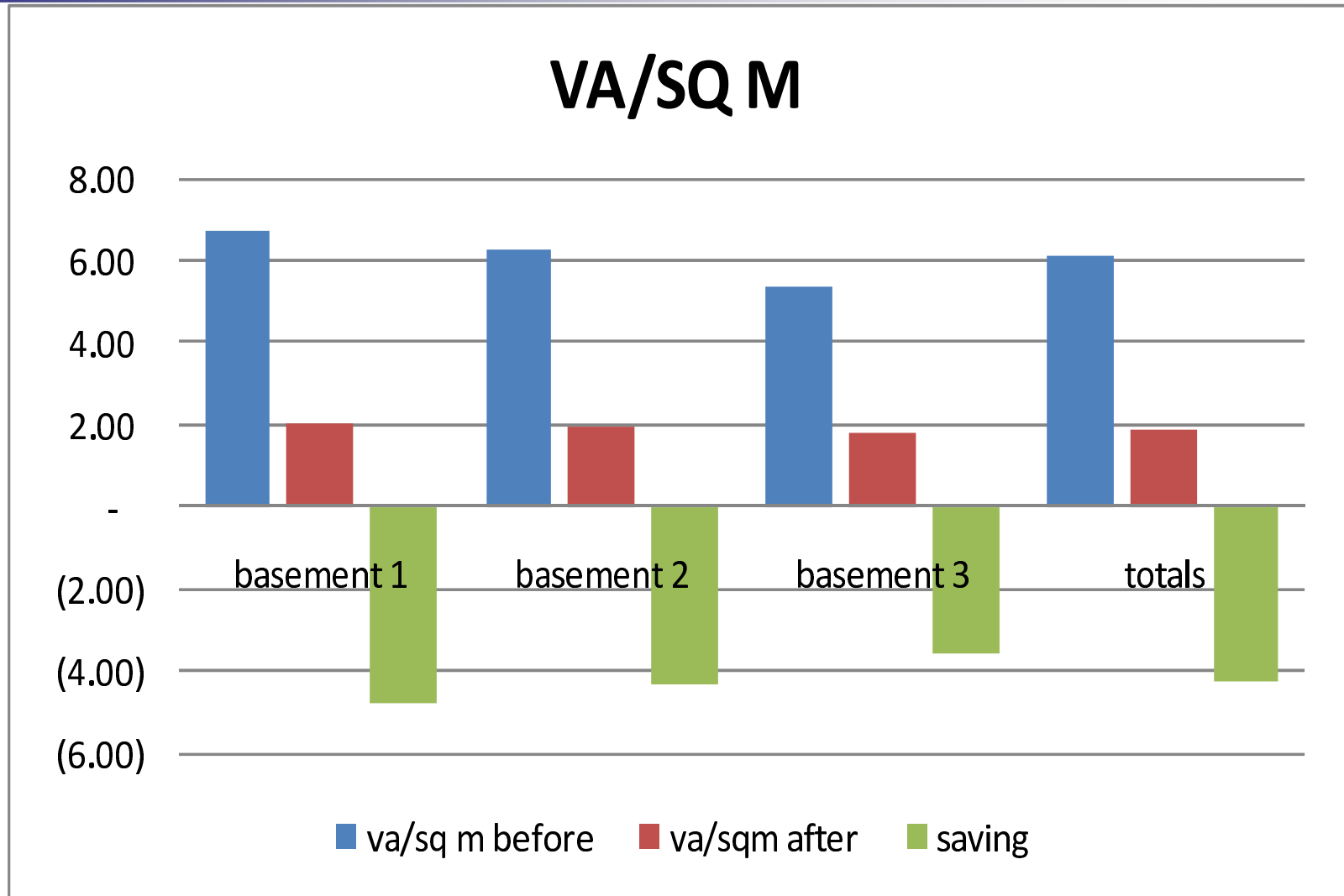
Basement 2 – Energy Usage

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Basement 3 – Energy Usage

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Basements - Power Demand

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CO2 EMISSIONS

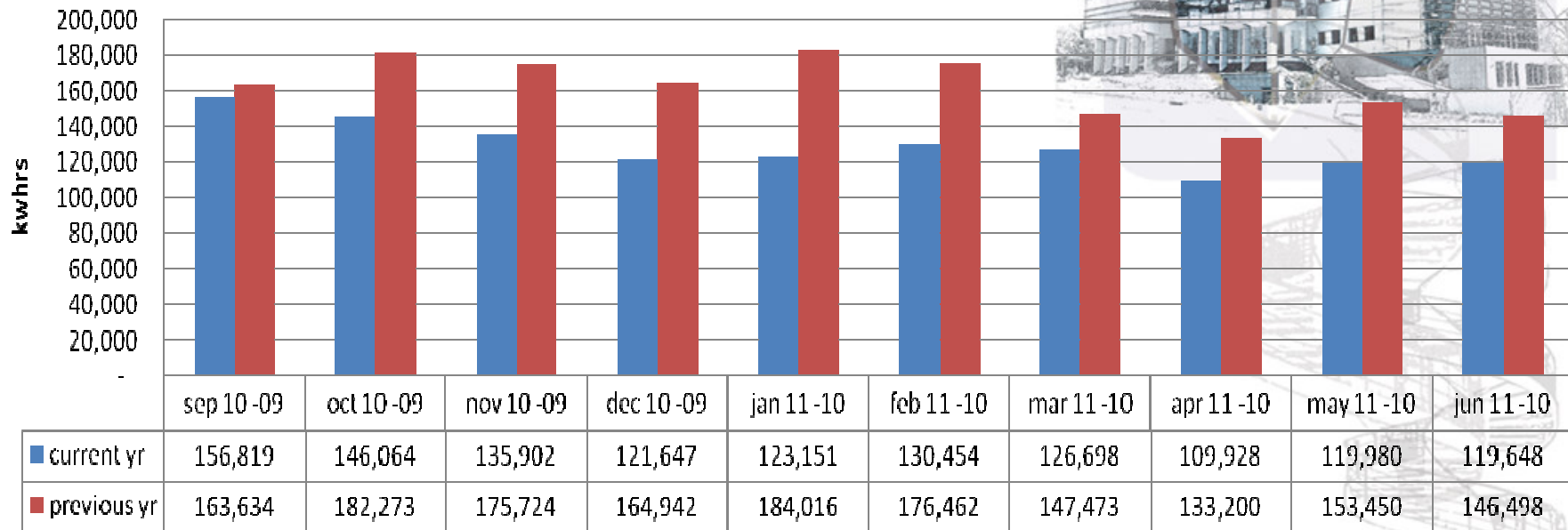


	basement 1	basement 2	basement 3	totals
■ carbon emissions in tons/annum before	133.5	100.4	100.4	334.3
■ carbon emissions in tons/annum after	30.5	29.2	29.2	88.9
■ saving	-102.9	-71.2	-71.2	-245.4

Basements - Emissions

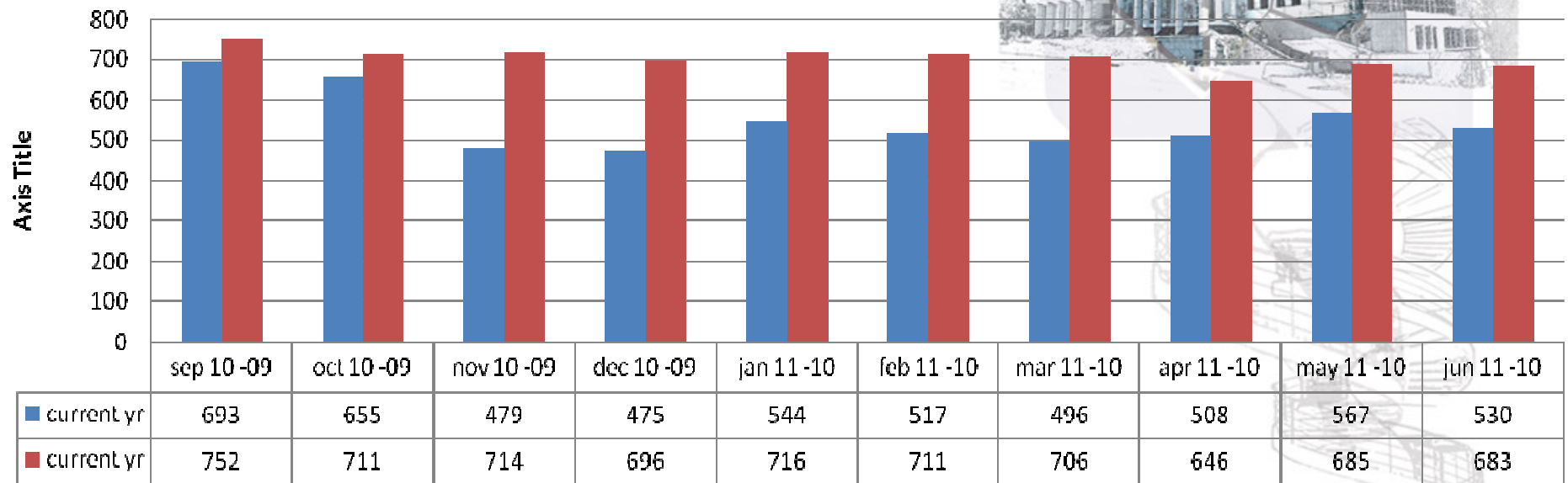
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15th - 31st busbar & new destination lifts



Lifts - Kwhrs

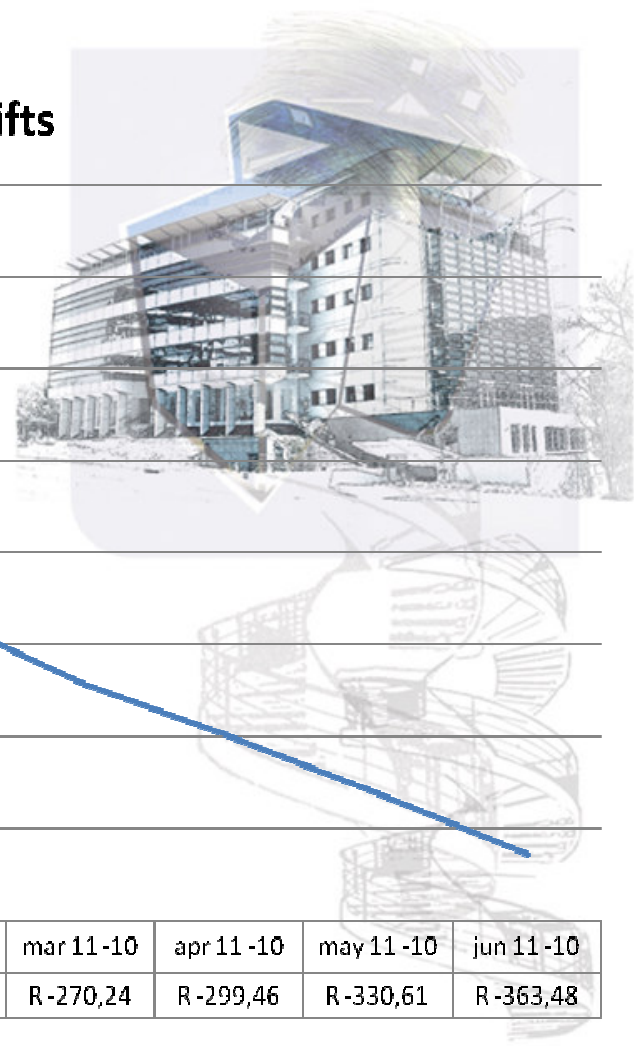
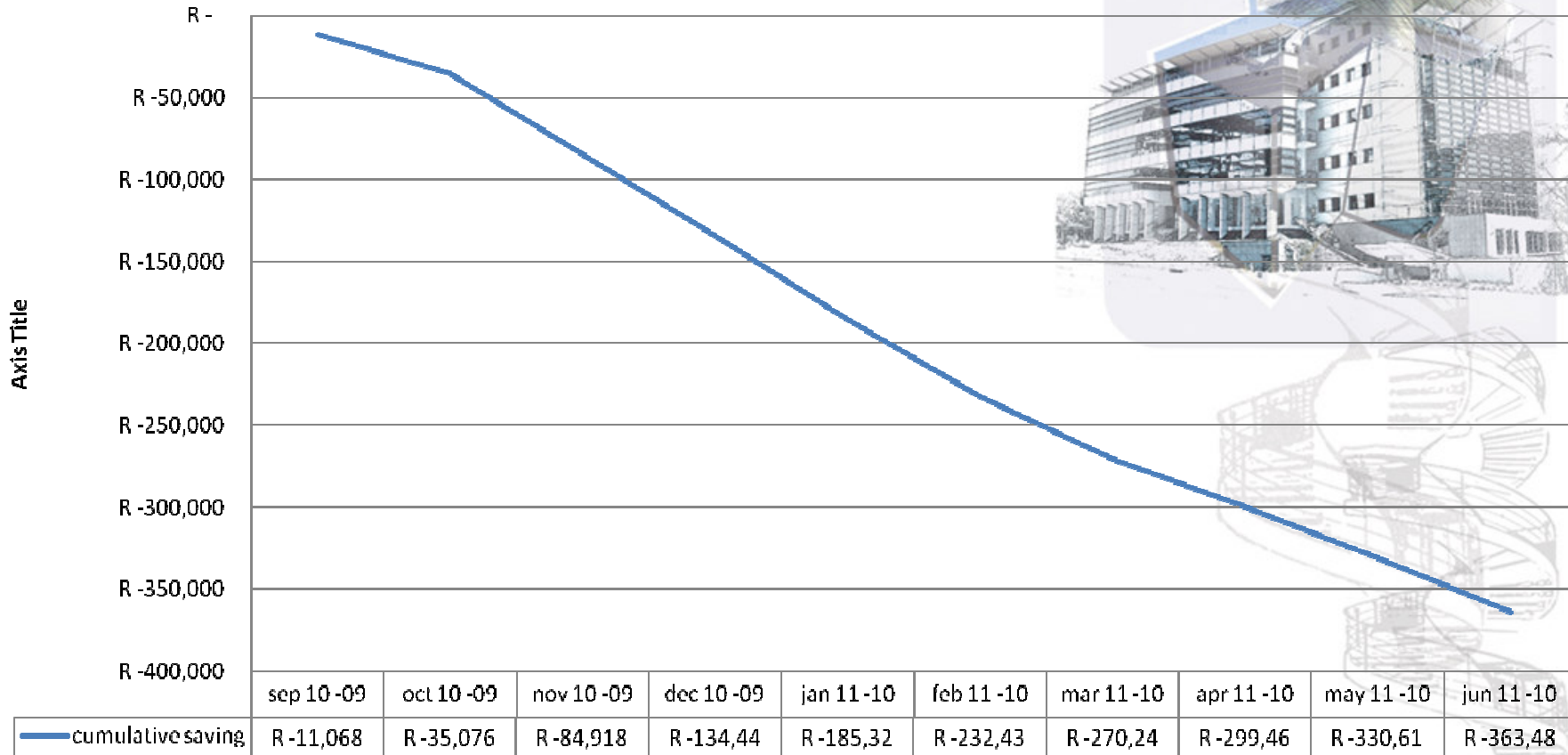
kva saving



Lifts - KVA

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cumulative saving destination lifts



Savings - Lifts

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- Use of passionate experts essential
- Beware of inferior product & services

- Because of our “Holistic Approach” and to “Future Proof” the building we have to date invested about R13Mio and are currently engaging with Escom re phase 2.



Lessons Learnt and last thoughts

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Thank You

Lieb Liebenberg
lieb@zenprop.co.za

&

Gary Abrahamson
garya@stanlec.co.za



Questions