



REPORT TO: CITY MANAGER

TO BE REFERRED BY THE OFFICIAL TO MAYCO VIA THE RELEVANT [ENERGY]
SECTION 79 COMMITTEE [AFTER CONSIDERATION BY CITY MANAGER]

[OFFICIALS TRAVELLING OVERSEAS FOR COUNCIL RELATED ACTIVITIES]

1. ITEM NUMBER

2. SUBJECT

FEEDBACK ON THE INTERNATIONAL/OUTSIDE THE BORDERS OF THE
RSA TRIP UNDERTAKEN FROM 19 MAY 2024 TO 25 MAY 2024 TO
ATTEND THE XCELERATE 2024 ENERGY MODELLING AND
SIMULATION SUMMIT IN GREECE

ONDERWERP

TERUGVOERING OOR DIE REIS NA DIE BUITELAND/BUITE DIE GRENSE
VAN DIE RSA ONDERNEEM VAN 19 MEI 2024 TOT 25 MEI 2024 OM DIE
"XCELERATE 2024 ENERGY MODELLING AND SIMULATION"-BERAAD
IN GRIEKELAND BY TE WOON

ISIHLOKO

INGXELO ENGOHAMBO OLUYA PHESHEYA/NGAPHANDLE
KWEEBHODA ZOMZANTSI AFRIKA OLUTHATYATHWE UKUSUSELA
NGOWE19 KUCANZIBE UKUYA KOWAMA25 KUCANZIBE LOKUZIMASA
INKOMFA YE"XCELERATE 2024 ENERGY MODELLING AND
SIMULATION" EGREECE

LSU: Q4085

3. EVENT SUMMARY

EVENT DETAILS	
CONFERENCE/SEMINAR	XCELERATE 2024 ENERGY MODELLING AND SIMULATION SUMMIT
OTHER	NA
DATE	21 May 2024 – 24 May 2024
VENUE	InterContinental Athenaeum
TOTAL COST TO THE CITY	R 19 798.89
CITY	ATHENS
COUNTRY	GREECE

ATTENDEE DETAILS	
NAME AND SURNAME	DESIGNATION
ROBIN NAIDOO	PRINCIPAL PROFESSIONAL OFFICER

PROVIDE SUMMARY OF HOST ORGANISATION / CITY
The Xcelerate Energy Modelling and Simulation summit is a four day event hosted by Energy Exemplar. Energy Exemplar are the developers of PLEXOS, a market leading integrated energy simulation software package used for power system expansion and operational planning. The Sustainable Energy Markets Department within the City currently uses PLEXOS to support investment decisions in Electricity Generation and for the exploration of optimal Net Zero Carbon Pathways in the Electricity sector.

4. OBJECTIVE

PLEXOS is currently used by the Sustainable Energy Markets department as the modelling tool to provide the required evidence to support long term investment planning and well as short term operational planning in the electricity sector within the City.

The summit covered 3 days of PLEXOS labs involving hands-on training in modelling practices related to energy security and decarbonisation in the electricity sector. The training component showcased more advanced applications of the software in relation to 'uncertainty' modelling. This has now become a crucial aspect on energy modelling given the inherent uncertainty in energy production from renewable energy resources like solar and wind. Other key topics presented and showcased included ancillary services modelling as well as outage modelling.

Attendance to the summit provided the opportunity for in-person interaction with peers and experts in the sector. Participation in the training labs has provided the opportunity for guided experimentation with the software package and exposure to the different use cases of PLEXOS. The training has thus contributed to building capacity within the Sustainable Energy Markets

department that will enable the development of robust energy models to provide the evidence base for investments in the City's generation development programme.

5. OUTCOMES

The training acquired at this Summit has capacitated the Sustainable Energy Markets department to leverage optimal value from the PLEXOS software. A more in-depth understanding of the different use cases of the software has been acquired. Furthermore, the theoretical aspects of optimization underpinning the engine behind the software were discussed. The software is no longer viewed as a 'blackbox' and can thus easily be customizable for different user requirements. This is of great benefit for Energy Modelling within the City given the rapid change in policy and dynamics within the electricity sector in South Africa.

The training has capacitated the Sustainable Energy Markets department to undertake robust scenario based energy modelling exercises in PLEXOS. Practical aspects of electricity markets can also now be modelled and this is of great benefit to the City given the shift in policy at a National level to more competitive markets. The theoretical aspects of modelling and simulation discussed at the Summit also provides the capacity for more robust analysis and discussions of modelling results and evidence for decision making.

6. ACTIONS REQUIRED

Ongoing support will be required to increase proficiency levels in the use of PLEXOS energy modelling software. The Xcelerate Summit is an annual event with days set aside for training and capacity building. The training tracks comprise Plexos Fundamentals as well as Plexos Intermediate/Advanced training. To become fully proficient in Plexos, it would be ideal for the Fundamentals Training to be complemented with the Intermediate/Advanced training sometimes in the future.

7. IMPLICATIONS

- | | | |
|---|--|------------------------------|
| 7.1 Constitutional and Policy Implications | No <input checked="" type="checkbox"/> | Yes <input type="checkbox"/> |
| 7.2 Environmental implications | No <input checked="" type="checkbox"/> | Yes <input type="checkbox"/> |
| 7.3 Financial Implications | No <input checked="" type="checkbox"/> | Yes <input type="checkbox"/> |
| 7.4 Legal Implications | No <input checked="" type="checkbox"/> | Yes <input type="checkbox"/> |
| 7.5 Staff Implications | No <input checked="" type="checkbox"/> | Yes <input type="checkbox"/> |

7.6 Risk Implications

No ☒

Yes ☐

7.7 POPIA Compliance

- ☒ It is confirmed that this report has been checked and considered for POPIA Compliance.

NOTE: POPIA Section MUST be completed otherwise the report will be returned to the author for revision.

Contact your Directorate POPIA Stewards should you require assistance.

The City has a contract in place with XL Embassy Travel for the safe-keeping of Traveller's personal information as required by the POPI Act.

8. RECOMMENDATIONS

It is recommended that the feedback report on the trip XCELERATE 2024 ENERGY MODELLING AND SIMULATION SUMMIT undertaken by ROBIN NAIDOO on 19 May 2024 to 25 May 2024 **be considered and noted.**

AANBEVELINGS

Daar word aanbeveel dat die terugvoeringsverslag oor die reis onderneem deur Robin Naidoo van 19 Mei 2024 tot 25 Mei 2024 na die "XCELERATE 2024 ENERGY MODELLING AND SIMULATION"-beraad **oorweeg en daarvan kennis geneem word.**

IZINDULULO

Kundulululwe ukuba **makuthathelwe ingqalelo kwaye kuqwalaselwe** ingxelo engohambo oluya kwiNkomfa yeXCELERATE 2024 ENERGY MODELLING AND SIMULATION oluthatyathwe nguROBIN NAIDOO ngowe19 kuCanzibe ukuya kowama25 kuCanzibe 2024.

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9. GENERAL DISCUSSION

PLEXOS is becoming the energy modelling tool of choice globally and is currently utilized by over 500 organisations in 79 countries. PLEXOS supports the growth of renewables, battery storage, and transmission grid investments required for the energy transition to cleaner sources. Due to its extensive use cases and demand in the energy modelling sector, PLEXOS is quite an expensive tool. As such, it is imperative for users of PLEXOS to leverage the full value of the package to justify the cost. This requires capacity building and mastery of the tool which can only be achieved through on-going training and attendance to summits such as Xcelerate 2024.

10. ANNEXURES
None

FOR FURTHER DETAILS, CONTACT:

DATE	14 June 2024	CONTACT NUMBER	021 400 6596
NAME	Robin Naidoo	FILE REF No	NA
E-MAIL ADDRESS	Robin.Naidoo@capetown.gov.za		
DIRECTORATE	Energy		
SIGNATURE :			

EXECUTIVE DIRECTOR: ENERGY

[KADRI NASSIEP]


COMMENT:

The ED's signature represents support for report content and confirms POPIA compliance.

SIGNATURE:

NAME

DATE


KADRI NASSIEP.

18 JUN 2024

MANAGER: INTERNATIONAL RELATIONS

COMMENT:

DR. DENVER VAN SCHALKWYK

SIGNATURE:

DATE

Dr Denver
van
Schalkwyk

Digitally signed by Dr
Denver van Schalkwyk
Date: 2024.06.18
16:42:16 +02'00'

☐ REPORT COMPLIANT WITH THE PROVISIONS OF COUNCIL'S DELEGATIONS, POLICIES, BY-LAWS AND ALL LEGISLATION RELATING TO THE MATTER UNDER CONSIDERATION.

LEGAL COMPLIANCE

☐ NON-COMPLIANT

COMMENT:

NAME

Certified as legally compliant based on the contents of the report.

TEL

DATE

CITY MANAGER

☒ NOTED

☒ REFER TO THE MAYORAL COMMITTEE VIA THE RELEVANT SECTION 79 COMMITTEE

DATE

COMMENT: