



THE UNIVERSITY OF
MELBOURNE

Power and Energy
Systems Group

Melbourne Energy
Institute

Short Course on

Operating Envelopes and their Implementation

Course Information

13 - 14 March 2024



About the short course

The short course on Operating Envelopes and their Implementation covers fundamental, advanced, and practical aspects related to the use of operating envelopes by distribution companies.

Australia is the first country in the world where residential customers are being offered flexible export limits in which export limits (for solar PV) are not fixed but vary throughout the day according to what the poles and wires can withstand. Such flexible export limits are also known as Operating Envelopes (OEs).

The short course on Operating Envelopes and their Implementation is a 2-day course delivered by the Power and Energy Systems Group and the Melbourne Energy Institute at The University of Melbourne. It covers fundamental, advanced, and practical aspects related to the use of operating envelopes OEs by distribution companies.

Topics that will be discussed include the concept of OEs, practical challenges of implementing OEs, calculation of OEs with limited observability, the bigger picture of OEs, case studies from Australian distribution companies, OEs as business as usual, and hands-on OE calculations using different algorithms.

Dates and Instructors	
Wednesday 13th March	Prof. Nando Ochoa Dr. Arthur Givisiez Prof. Pierluigi Mancarella
Thursday 14th March	Prof. Nando Ochoa Alex Guinman (Energy Queensland) Liam Mallamo (SA Power Networks)

Course delivery

This course is provided free of charge and will be delivered fully online from Wednesday 13th to Thursday 14th of March 2024.

Live lectures will also be recorded so that they can be accessed by individuals in different time zones.

All live and recorded lectures and the corresponding material will be accessible via the Learning Management System "Canvas".

Expressions of interest

To register your interest, click **APPLY NOW** and complete the form by 5pm on 7 March 2024. Successful applicants will be notified via email thereafter.

[Apply now](#)

Contact

For further information, please contact the Melbourne Energy Institute: mei-info@unimelb.edu.au

Times (Melbourne time, AEDT)	
3 lecture blocks (approximately 55 min of lecture time including Q&A followed by a 5 min break)	
Block 1:	9:00am-10:00am
Block 2:	10:00am-11:00am
Block 3:	11:00am-12:00pm

Programme

Wednesday 13th March

Prof Nando Ochoa, Dr Arthur Givisiez, Prof Pierluigi Mancarella

Block 1. Basics of Operating Envelopes (OEs)

Context, Concept, Benefits and Challenges

Ideal calculation of OEs

Case Study: [Project EDGE](#)

Block 2. Different OE Implementations

Practical challenges of implementing OEs

Calculation of OEs with limited observability

Case Study: Project [“Assessing the Benefits of Using OEs to Orchestrate DERs Across Australia”](#)

Block 3. The Bigger Picture

Development of local network services

Fairness of network capacity allocation

Operating envelopes, distributed energy markets and tariffs



Professor Nando Ochoa
Professor of Smart Grids and Power Systems,
The University of Melbourne



Professor Pierluigi Mancarella
Professor of Smart Grids and Power Systems,
The University of Melbourne



Dr Arthur Givisiez
Research Fellow in Smart Grids
The University of Melbourne



Alex Guinman
Senior Operational Systems Engineer,
Intelligent Grid Enablement Team,
Energy Queensland



Liam Mallamo
Future Networks Engineer
SA Power Networks

Thursday 14th March

Alex Guinman, Liam Mallamo, Prof Nando Ochoa

Block 1. Actual Implementation of OEs in Australia

Case Study: Energy Queensland (Energex and Ergon Energy)

Case Study: SA Power Networks

Block 2. OEs as Business as Usual

Justifying investments on OEs ([CECV](#))

The need for more accurate approaches (multiple neighbourhoods, data-driven approaches, forecasts)

The need for network augmentation

Block 3. Hands-On OE Calculations

Demonstration of different OE algorithms using interactive code via Jupyter Notebook and Python

Public repositories available [here](#)



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Contact Us

Melbourne Energy Institute

The University of Melbourne
Level 1, Melbourne Connect
700 Swanston Street, Carlton, VIC 3053
mei-info@unimelb.edu.au

Connect with us

X @MEIunimelb

in Melbourne Energy Institute

www.energy.unimelb.edu.au

<https://electrical.eng.unimelb.edu.au/power-energy>

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