



Next Generation  
Network

# NGN Report

## CIGRE Australia AGM (Oct 2022)



**cigre**

For power system expertise

Adrian Lloyd  
Maddy Binet  
Phil Coughlan

## Co-Chairs



Phil Coughlan -  
Outgoing



Maddy Binet -  
Continuing



Adrian Lloyd -  
Incoming

## Incoming Co-Chair Adrian Lloyd

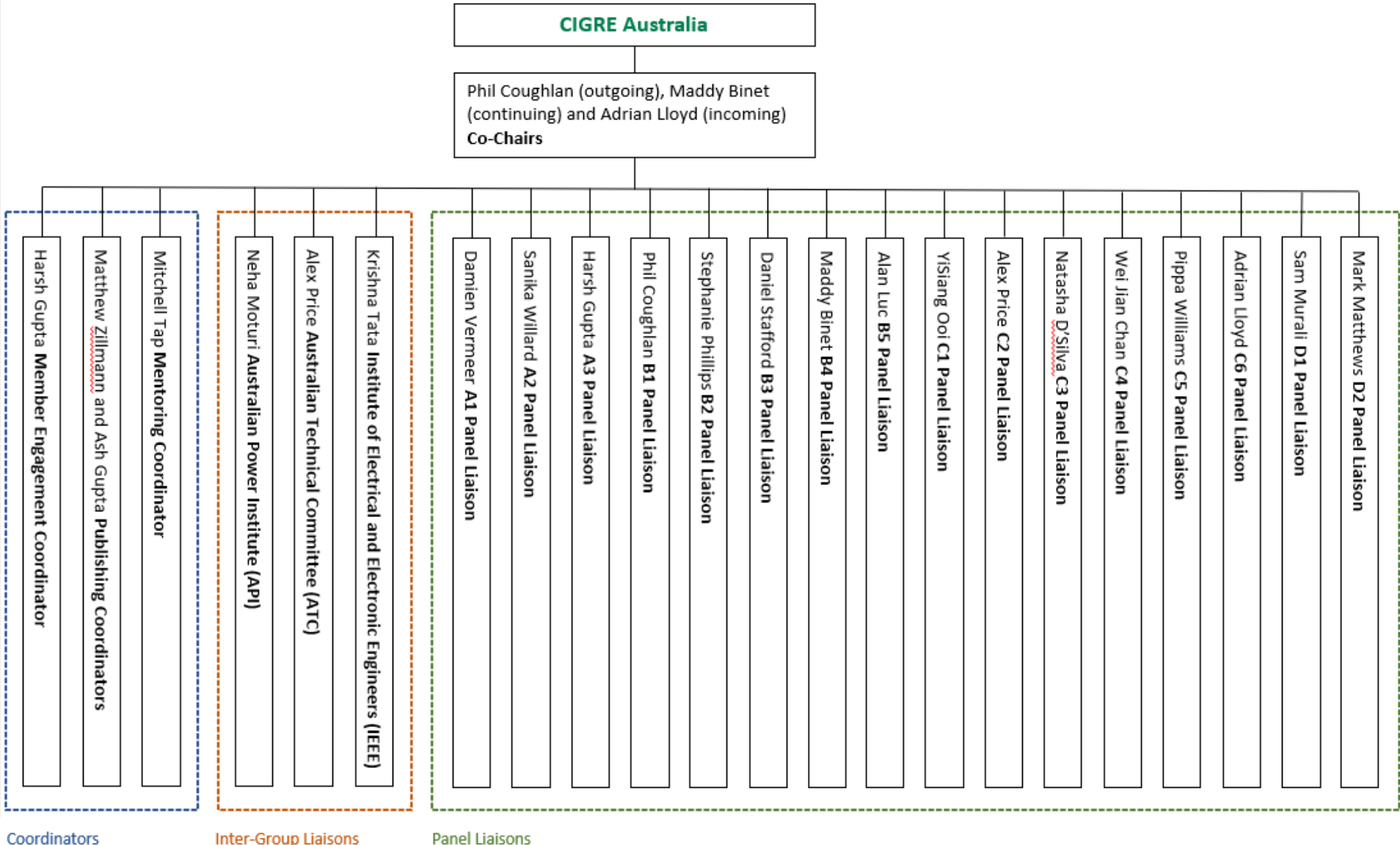
- Involved in the NGN in various roles since 2016
- Established and facilitated the initial API bursary program
- Formed and led the NGN organising committee for CIDER 2022
- Current NGN AU C6 Panel Liaison since 2020
- Technical Program Lead at Yurika, based in Queensland



## General NGN Australia Update

- 232 NGN members
  - 25 members on NGN committee
  - 4 online meetings per year as a group
  - Co-Chairs attend board meetings
- Corona Times Newsletter contributions
- Attendance and contribution to the CIGRE 2022 Paris Session
- Webinars, including two collaborative webinars between AU and UK
- Mentoring program is ongoing
- Ambassador program is ongoing

# NGN Australia Committee - 2022



## NGN IEC

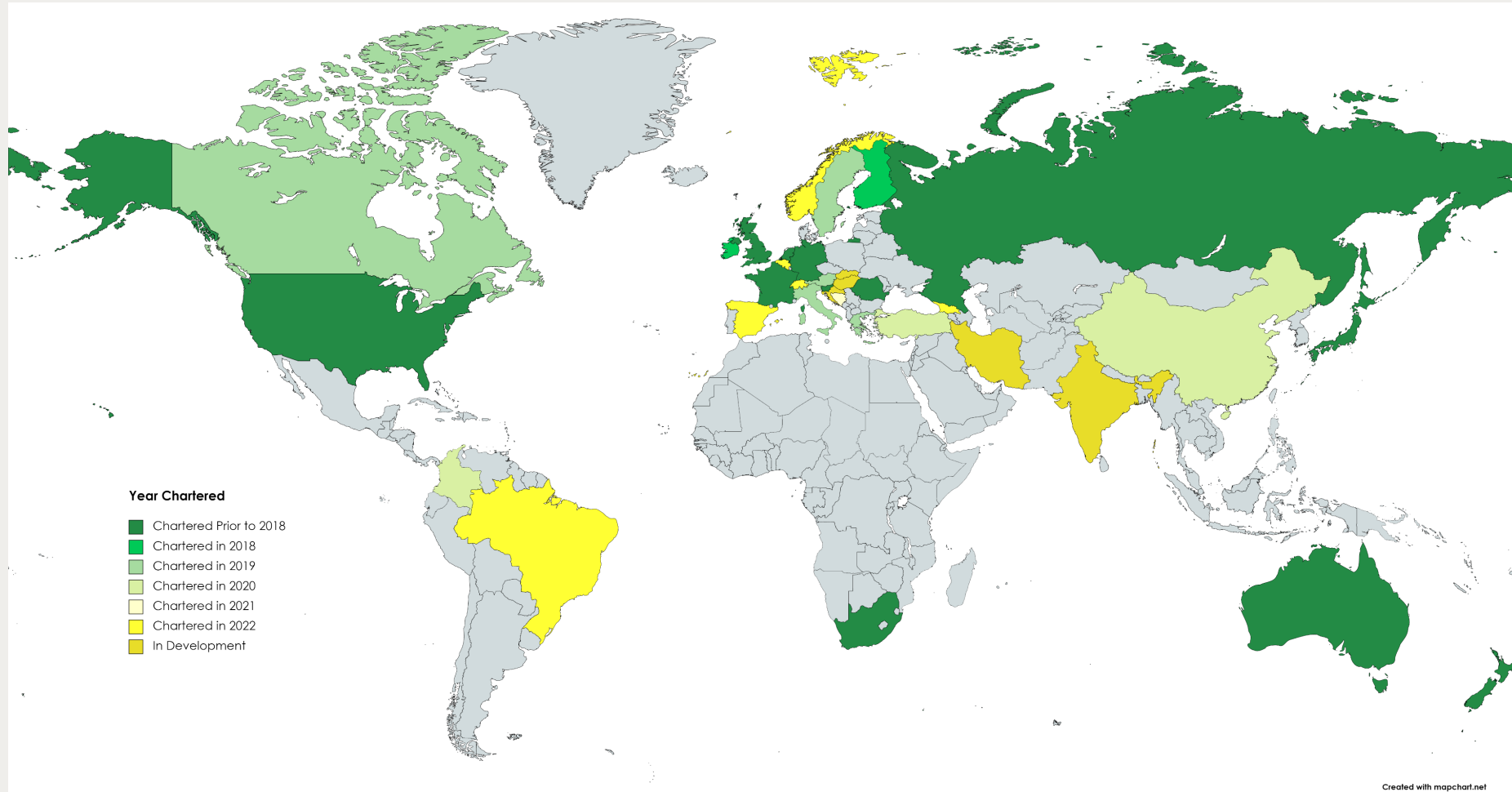
- The NGN International Executive Committee (IEC) comprises NGN country representatives from 35 countries.
- The role of NGN IEC Chair, Vice Chair and Secretary changed at this years Paris session.

	Chair	Vice Chair	Secretary
<b>2020-2022</b>	Stefie Cray (DE)	Stanislav Eroshenko (RU)	Anthony Giacomoni (US)
<b>2022-2024</b>	Phil Coughlan (AU)	Anthony Giacomoni (US)	Conor Mulholland (IE)

- Ongoing involvement in SteerCo meetings and participant in the CIGRE Strategic Plan Taskforce.
- Bi-monthly NGN IEC meetings, next one is planned for 19/10/2022.

# Current NGN Groups in the IEC

1. Australia
2. Austria
3. Belgium
4. Bosnia & Herzegovina
5. Brazil
6. Canada
7. China
8. Colombia
9. Croatia\*
10. Denmark
11. Finland
12. France
13. Georgia
14. Germany
15. Greece
16. Hungary\*
17. India\*
18. Iran\*
19. Ireland
20. Italy
21. Japan
22. Netherlands
23. New Zealand
24. Norway
25. Romania
26. Russia
27. Slovakia\*
28. Slovenia
29. South Africa
30. Spain
31. Sweden
32. Switzerland
33. Turkey
34. United Kingdom
35. United States



# NGN Australia Webinars

- Webinars undertaken during 2022:
  - Cutting edge technologies towards a net-zero world - Joint UK & AU NGN Event (27 Jan 2022)
    - Presented by Roisin Hickey (Cenex) and James Guest (AEMO)
  - Hydrogen Technologies (24 Jun 2022)
    - Presented by Lana van Wyk from Hatch
  - The Changing Electricity Market: UK and AU Perspectives (21 Jul 2022)
    - Presented by Brian Joseph (EY) and Hannah Loebel (EDF)

Event	Cutting edge technologies towards a net-zero world	Hydrogen Technologies	The Changing Electricity Market
<b>Registrations</b>	90	116	67
<b>Attendees</b>	35	60	32
<b>Attendance rate</b>	39%	52%	48%



## NGN Australia Webinars Upcoming

- Webinars upcoming:
  - Grid Forming Inverters (TBC)
    - To be presented by Georgios Konstantinou of UNSW, an AU B4 Panel member
  - Cyber Security in a Power System Setting (TBC)
  - Synchronous Condensers (TBC)

## 2022 Paris session

- The AU NGN team were well represented in Paris this year:
  - Neha Moturi (Energy Queensland)
  - YiSiang Ooi (AEMO)
  - Nathan Crooks (Aurecon)
  - Mitchell Tap (Energy Queensland)
  - Alan Luc (Ausgrid)
  - Alice Fleetwood (Energy Queensland)
  - Sam Murali (Transgrid)
  - Matthew Zillmann (Energy Queensland)



# 2022 Paris session



**Paris Session 2022**

Investigating the performance of inverter control modes in high PV penetration scenarios

SC C6  
31 August 2022

Presented by  
Neha Moturi  
AUSTRALIA

CIGRE Paris Session 2022 © CIGRE 2022 1

A woman is standing at a podium on the left side of the stage, presenting the slide.



**Paris Session 2022**

Virtual Synchronous Machine Battery System Ancillary Service Support

SC C4  
31<sup>st</sup> August 2022

Nathan Crooks  
Australia

  
aurecon

CIGRE Paris Session 2022 © CIGRE 2022 1

A man wearing a hat is standing at a podium on the left side of the stage, presenting the slide.



**Paris Session 2022**

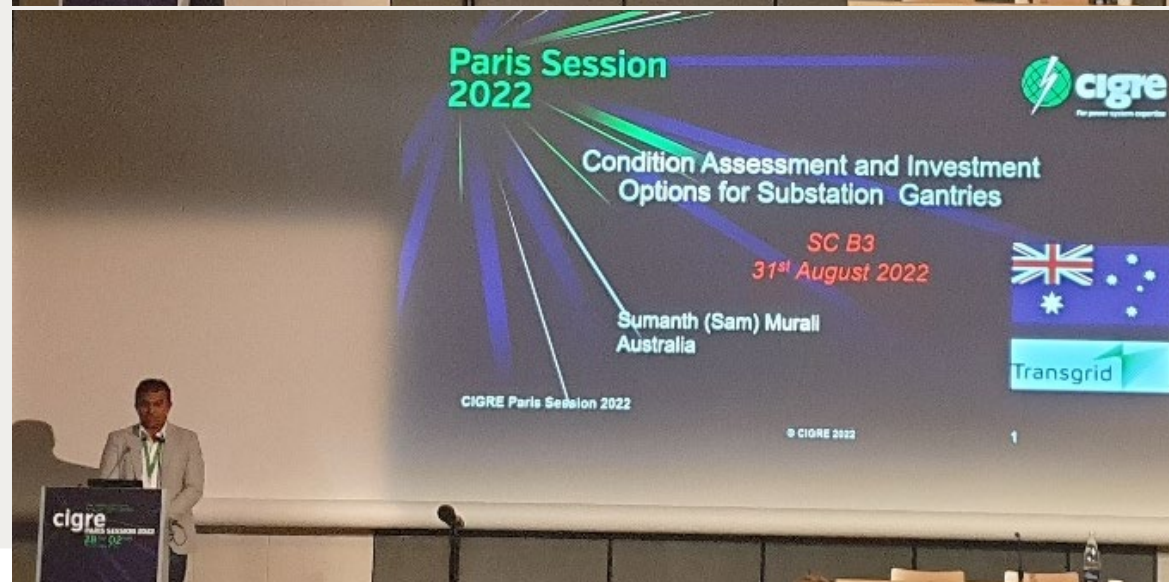
System Strength – planning approach

SC C1  
31 August 2022

Yi Siang Ooi  
Australia

CIGRE Paris Session 2022 © CIGRE 2022 1

A man is standing at a podium on the left side of the stage, presenting the slide.




**Paris Session 2022**

Condition Assessment and Investment Options for Substation Gantries

SC B3  
31<sup>st</sup> August 2022

Sumanth (Sam) Murali  
Australia

  
Transgrid

CIGRE Paris Session 2022 © CIGRE 2022 1

A man is standing at a podium on the left side of the stage, presenting the slide.

## Mentoring Program and Ambassador Program

- Mentoring program has been running for ~1 year. Feedback has been positive and ideas being collected to improve future programs – aim to run another intake early next year if we have NGN interest and can find suitable mentors.
- Ambassador Program, aimed at developing alumni NGN into CIGRE Australia ambassadors by offering training and development opportunities. A work in progress, as it has been impacted by COVID lockdowns, border restrictions, etc.
  - Inaugural CIGRE Australia Ambassadors:
    - Robert Li (TransGrid)
    - Matthew Zillmann (Energy Queensland)
    - Bing Lin (Jacobs)
    - Stephanie Phillips (AusNet Services)

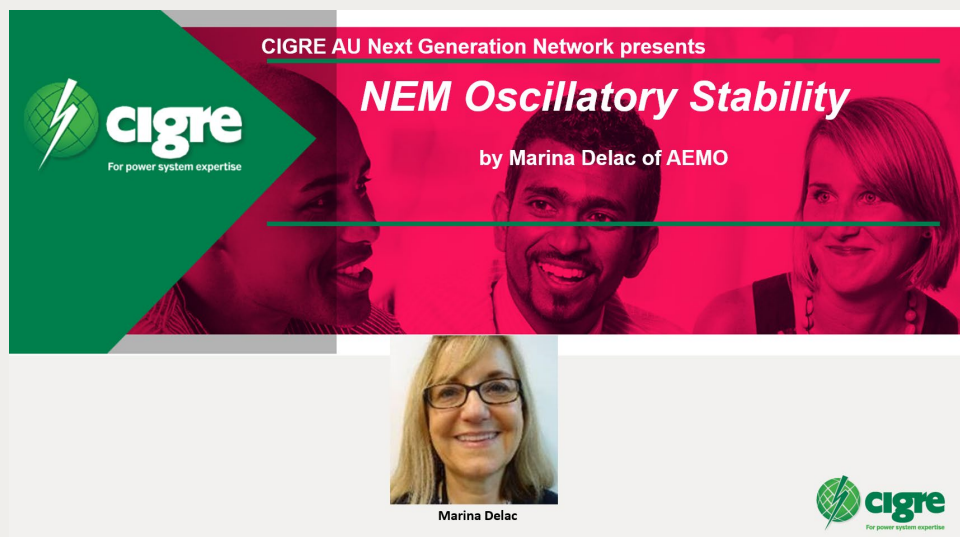
# 2023 Cairns Symposium



Activity	Duration	Comment
NGN Forum	1.5 hours	Guest speaker TBA
A poster display	-	
NGN presentations	3 hours	Similar session to Paris. Seeking volunteer judges
NGN networking evening	2 hours	Informal session. No guest speakers
NGN Booth	-	Information and meeting place for NGN delegates

# Australia Women in Energy Group

- CIGRE Australia and the NGN created a WiE group last year (2021)
- Director Tara-lee MacArthur is the current WiE Australia chair
- This mirrors groups established by other CIGRE national committees
- Had a webinar in November 2021 on NEM oscillatory stability presented by Marina Delac
- WiE forum and networking breakfast being planned for the Cairns Symposium 2023
- Director Jennifer Crisp and Maddy Binet are participating in the newly launched international WiE Net Zero Initiative, which was announced at the 2022 Paris Session



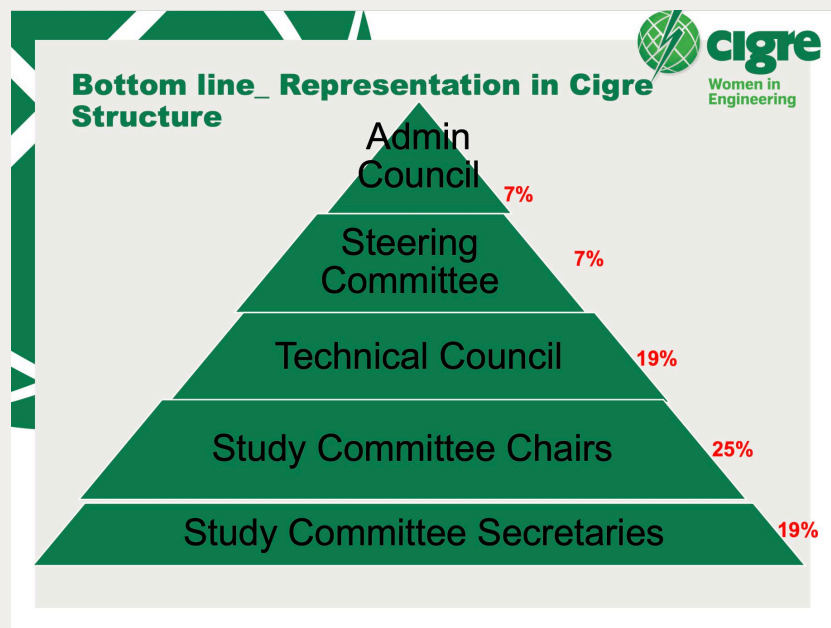
# CIGRE Australia Diversity Stats



Representation in CIGRE	# F/M	%
Executive Board	4/6	40%
AU National Committee Conveners	2/14	12.5%
NGN Members	58/195	22.9%
Individual 1 & 2 Members	15/231	6.1%

# Global CIGRE Statistics

- Global CIGRE female participation is at 8%



National Committee	Name of WiE chair
Australia	Tara-lee MacARTHUR
Brazil	Carla DAMASCENO PEIXOTO
Bosnia and Herzegovina	Maja MUFTIC DEDOVIC
Canada	Robyn KOROPATNICK
China	Bi TIANSHU
Croatia	Minea SKOK
France	Claire LAJOIE-MAZENC
GCC	Alaa ALKIYUMI
India	Seema GUPTA
Iran	Nasim NEMATOLLAHI
Israel	Tal KATZ
Kosovo	Pranvera DOBRUNA KRYEZIU
Netherlands	Luis HURTADO
New Zealand	Rebecca MARX
Romania	Mihai MARCOLT
Russia	Frolova OLGA
Slovenia	Ana LOVRENCIC
South Africa	Khayakazi DIOKA
Sweden	Susanne OLAUSSON
Turkey	Hayriye GÜRBÜZ / Dilek KOCA
United Kingdom	Biljana STOJKOVSKA
United States of America	Elizabeth LaROSE

List of National Committees with a Women in Energy network:

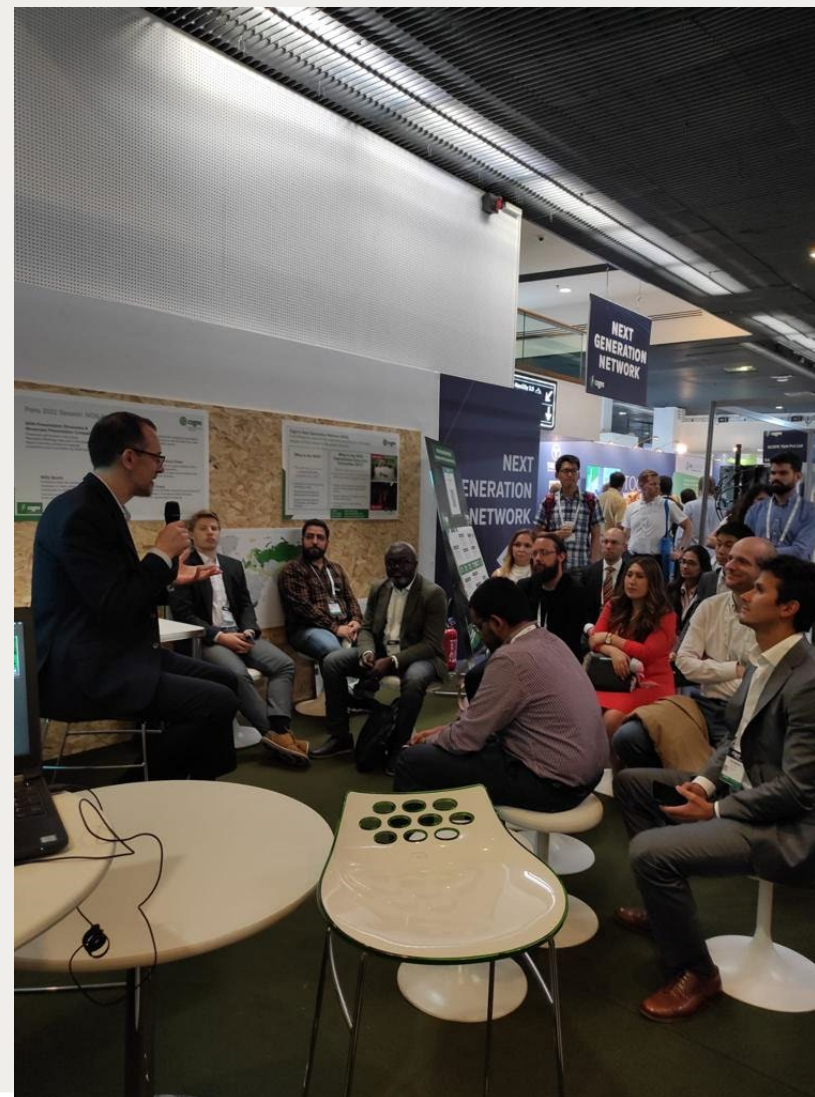


## NGN Australia Website

- Developed website for NGN Australia last year (2021)
- Have been successfully using the new website to drive memberships, streamline sign-up process and information sharing
- Host range of new WiE content and initiatives
  - Joining page
  - WiE pages
  - Links to events

## NGN Awards and Special Thanks

- 2022 NGN Significant Contribution Award
  - Matthew Zillmann (Australia)
  - Madeline Binet (Australia)
- Special Thanks:
  - Director Tara-lee MacArthur for participating in the panel discussion during the NGN Forum at the Kyoto Symposium
  - Director Dr. Stewart Bell for volunteering his time to speak about his career at the NGN Booth during the Paris session
  - Neha Moturi for working on the International Taskforce for Paris Coordination



# NGN Awards and Special Thanks

- Special thanks to outgoing NGN Committee members for their commitment and contribution:

Role	NGN Representative
Co-Chair	Phil Coughlan
ATC Secretary	Alexandra Price
Member Engagement Coordinator	Harsh Gupta
A2: Transformer Panel Liaison	Sanika Willard
B1: Insulated Cables Panel Liaison	Phil Coughlan
B3: Substations Panel Liaison	Daniel Stafford
B4: HVDC and Power Electronics Panel Liaison	Maddy Binet
C1: System Development and Economics Panel Liaison	YiSiang Ooi
C3: System Environmental Performance Panel Liaison	Natasha D'Silva
C6: Active Distribution Systems and Distributed Energy Resources Panel Liaison	Adrian Lloyd
D1: Materials and Emerging Test Techniques Panel Liaison	Sam Murali

# Welcome: Incoming Committee Members

Role	NGN Representative
Co-Chair	Adrian Lloyd
ATC Secretary	Natasha D'Silva
Member Engagement Coordinator	TBC
(NEW) Study Committee Liaison	Nathan Crooks
A2: Transformer Panel Liaison	Caolan Griffin
B1: Insulated Cables Panel Liaison	Pallavi Singh
B3: Substations Panel Liaison	Brody Ward
B4: HVDC and Power Electronics Panel Liaison	Ash Gupta
C1: System Development and Economics Panel Liaison	Jony Kaushik
C3: System Environmental Performance Panel Liaison	Steve Oag
C6: Active Distribution Systems and Distributed Energy Resources Panel Liaison	Pat Graham
D1: Materials and Emerging Test Techniques Panel Liaison	TBC

## Future Goals

- Continual, steady membership growth
- Pursue ways to better engage and involve our broader NGN membership
- Prepare for the Cairns Symposium
- Looking to continue facilitating webinars
- Facilitate more face-to-face catchup, where possible
- Increase NGN awareness at university level
- Leverage the size of the NGN cohort in Australia to unlock this resource to grow the value of the NGN for our members and CIGRE Australia more broadly

Thank you



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For power system expertise