

Chair's Report 2019 AGM



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For power system expertise

Trevor Armstrong
CIGRE Chair
November 2019

Outline

1. Evolving Industry – Marketing and Branding
2. Core Values - Purpose, Mission , Vision
3. Some Achievements
4. Top Focus Areas
5. What we would like to achieve/KPI's
6. Conclusion



Welcome to the world of CIGRE

The world's foremost source of power system expertise since 1921

CIGRE is a collaborative global community committed to the world's leading knowledge development programme for the creation and sharing of power system expertise. This short video introduces you to this unique, worldwide organisation.



Featured

CIGRE Symposium 2019

All you need to know about the upcoming Aalborg Symposium 2019. [more>](#)

Future connections

Wondering about the future of the power system? Sign up for our newsletter [more>](#)

CIGRE ELECTRA issue #300

October 2018 edition, available now, [view>](#)

CIGRE and the Industry continues to evolve

Purpose

To foster engagement and knowledge sharing among power system **participants** globally to enable the sustainable provision of electricity for all.

Mission

To contribute to the betterment of the power system by enhancing the expertise of the people within it.

Vision

To be universally recognised as the leading global community for expertise in all aspects of electric power systems.

Core Values

- Integrity
- Innovation
- Collaboration
- Inclusion
- Excellence

Strategic Themes

- Vibrant & Inclusive
- Support the Evolving Electricity Supply System of the Future
- Preferred Technical Reference Group
- Sustainable contribution
- Helping to develop people and skills of the future

Top Focus Issues

1. Assisting members to optimising Asset Performance
2. Impacts of the structural evolution of the industry
3. Informing stakeholders on best international practice
4. Supporting innovation and new ideas
5. Operational and system issues associated with new emerging technologies
6. Broadening CIGRE membership base
7. Ensuring CIGRE seen and remains a non – partisan source of global expert information

KPI's

- **Membership**

- Member Survey
- Growth in numbers
- Look to renewable and non traditional areas – E2E, distribution

- **Financial**

- Having backed up the surplus from last year, plan to maintain a surplus/small deficit for foreseeable future
- Maximise return on invested funds whilst minimising risk of loss of capital
 - Board has looked to some alternative sources of investment
- Successful Audit sign off each year with no material issues or discrepancies

KPI's - continued

– Technical

- Continue to maintain our representative on each Study Committee.
- Support at least 10 WG convenors/secretaries
- Continue to develop events and seminars
- Maintain membership of Global Steering Committee

– Collaboration

- Continue to foster and develop working relationships with relevant organisation/associations
 - Joint masterclass with API
 - Work to establish Philippine NC
 - ENA Asset management

KPI's - continued

– Young Engineers (NGN)

- Continue to promote and encourage young engineer membership and involvement.
 - Paris Scholarships
 - STELR support

Conclusion

1. Good Progress against where the board is aiming to take CIGRE over the next few years.
2. Industry & CIGRE global has continued to evolve
3. 2020 planning session will specifically look at how we attract new members in particular what CIGRE can offer to the renewable sector.
4. We also want to have some further discussion with our NZ colleagues as to how we can improve collaboration between us.

Finance Summary

CIGRE Australia financial position 2018/19

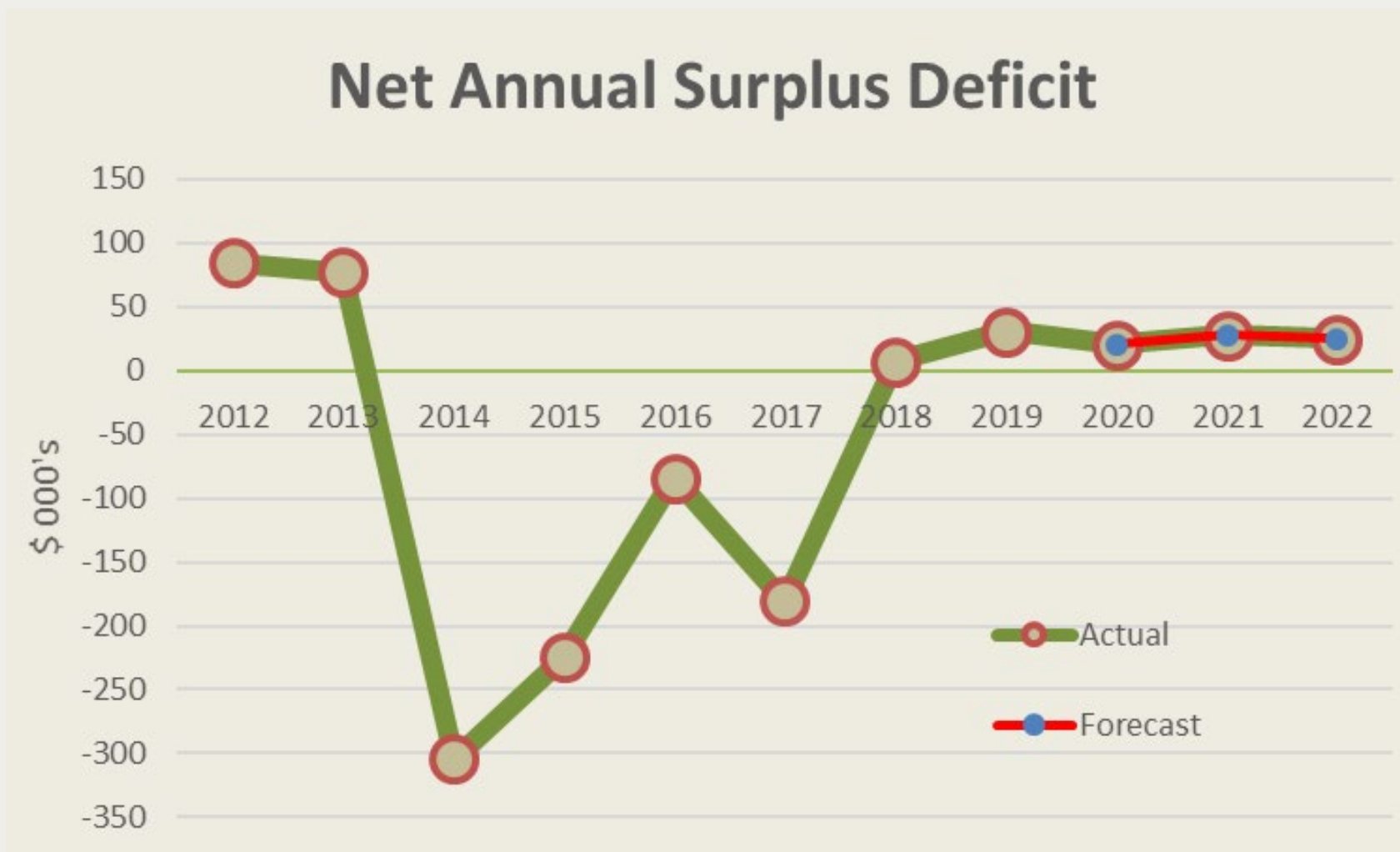


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Tony Armstrong Treasurer
Presented by Dr. Stephen Jay
(Member Finance Risk & Audit subcommittee)

ANC Financial History - Trend



Financial Report – Summary 2019



Year	2017(p0)	2018	2019(p)
Total Revenue	\$850,867	\$721,982	\$994 678
Total Expenses	\$1,032,350	\$684,048	\$963 884
Operating Surplus	(\$ 181,487)	\$37,394	\$30 794
Unearned Revenue Adj	-	(\$30,253)	-
Net Accounting Deficit/Surplus	(\$181,487)	\$7,141	\$30 794
Equity as at 30 June	\$1,739,065	\$1,746,206	\$1,777,300

FINANCIAL REPORT 2019

Income Sources



Incomes	2017(p)	2018	2019(p)
Fees	\$522,520	\$513,514	\$519, 020
Seminars, Workshops, Conferences, etc	\$274,151	\$139,450	\$427 815
Interest	\$53,641	\$49,158	\$40, 524
Other Income	\$555	\$19,859	\$7,319
Total Income	\$850,866	\$721,982	\$ 994 678

FINANCIAL REPORT 2019

Expenses



Expenses	2017(p)	2018	2019(p)
Admin/Office/Occupancy/ legal /insurance	\$ 291 389	\$ 294 803	\$ 248 125
Board/Mkting & Branding/Paris Spt	\$ 81 762	\$ 72 806	\$ 61 379
NGN/STELR/Scholarships	\$ 25,627	\$ 11,890	\$ 30 637
Seminars and Workshops	\$ 244 778	\$ 93 269	\$ 309 561
Finance and Regulatory/Paris Fees	\$ 154 528	\$ 113 628	\$ 122 923
WG/SC Panels / Accommodation etc.	\$ 234 269	\$ 98 192	\$ 191 260
TOTAL Expenses	\$ 1,032,353	\$684,588	\$ 963 885
<i>Net Operating Surplus/Deficit</i>	(\$ 181 487)	\$ 37 394	\$ 30 791
<i>Unearned Revenue</i>	-	(\$ 30 253)	-
Net Accounting Deficit/Surplus	(\$ 181,486)	\$ 7141	\$ 30 791

Budget and Forecast



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2020 BUDGET AND FORECAST 2021/22

Income Sources



Income	Actual 2019(p)	Budget 2020	Forecast 2021(p)	Forecast 2022
Member Fees	\$275,068	\$287,473	\$301,846	\$311,401
Panel Fees	\$243,952	\$274,023	\$287,724	\$302,110
Interest	\$40,524	\$45,700	\$36,700	\$36,700
Seminars and Workshops	\$427,815	\$266,417	\$364,771	\$144,000
Other Income	\$7319	\$6,300	\$7,000	\$7,500
Total Income	\$994,678	\$879,912	\$998,041	\$801,711

2019 BUDGET AND FORECAST 2020/21

Expenses



Expense	Actual 2019(p)	Budget 2020	Forecast 2021(p)	Forecast 2022
Admin / Office / Occupancy	\$248,125	\$293,552	\$302,669	\$311,786
Board / Marketing / Paris Support	\$ 61,379	\$66,700	\$65,834	\$68,990
NGN / STELR / Scholarships	\$30,637	\$19,690	\$37,884	\$22,081
Seminars and Workshops	\$309,561	\$214,500	\$241,311	\$97,150
Finance /Regulatory / Paris Memberships	\$122 923	\$130,323	\$136,500	\$138,007
WG/SC Panels / Travel & Accomodation	\$191,260	\$135,000	\$185,840	\$139,000
Total Expenses	\$963,885	\$859,766	\$970,039	\$777,016

2019 BUDGET AND FORECAST 2020/22



Year	Actual 2019(p)	Budget 2020	Forecast 2021(p)	Forecast 2022
Total Revenue	\$994,678	\$879,912	\$998,041	\$801,711
Total Expenses	\$963,885	\$859,766	\$970,039	\$777,016
Operating Surplus	\$30,791	\$20,147	\$28,002	\$24,696
Equity as at 30 June	\$1,776,998	\$1,796,245	\$1,824,247	\$1,848,943

Current Budget - Risks & concerns



- Financial Success of Conferences and Events (B3 Substation & Transformer workshop)
- Cost of subsidized convenor travel to the Paris Session and SC meetings
- General exchange/currency risk of \$AUD
- International air fare and accommodation costs
- Reduction in interest rates available on Term Deposits and the risk associated with seeking alternative investment options.
- Ability to attract new members, particularly from the Renewables Sector

Impact of Falling Interest Rates

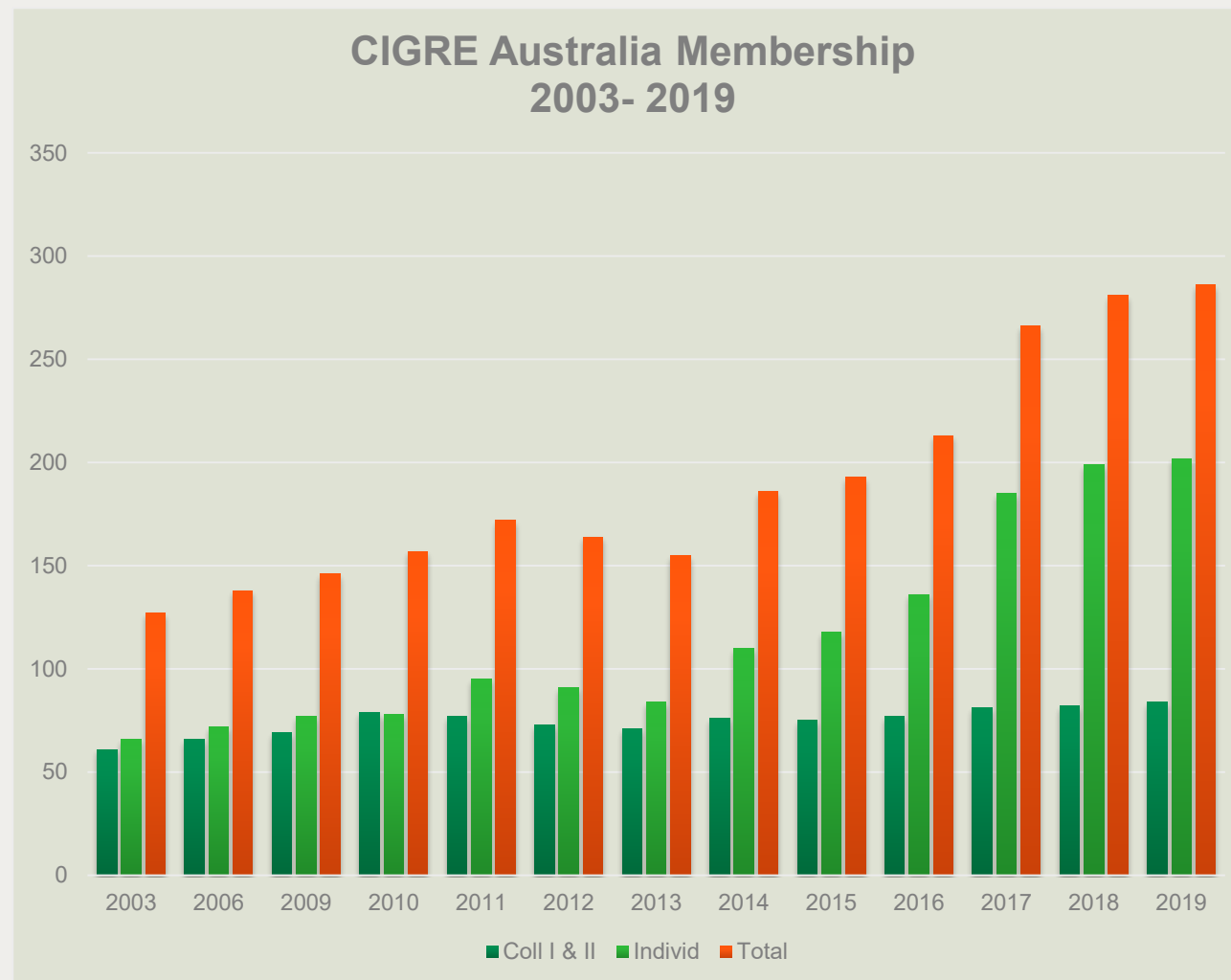
Average Interest Rate on Term Deposits



Year	Avg Int Rate	Avg Return on \$1 Mill
2012	6.49%	\$64,920
2013	3.88%	\$38,805
2014	4.91%	\$49,080
2015	4.24%	\$42,426
2016	2.82%	\$28,220
2017	3.41%	\$34,058
2018	2.81%	\$28,090
2019	3.38%	\$33,770

Membership Growth

- Membership continued to grow
- Ranked 8th Globally by member number (662 Equivalent membership)
- Focus on emerging markets



Members Fees 2019



Year	2019	2020	% Increase
Collective 1 T&D	\$7,525	\$7640	1.5%
Collective I	\$1,880	\$1910	1.6%
Collective II	\$940	\$955	1.6%
Individual I	\$330	\$335	1.5%
Individual II	\$165	\$168	1.8%
Panel	\$900	\$914	1.5%

Conclusion

- Board believe need to be financially responsible – we have achieved the surplus in 2019 better than targeted which now gives us surpluses across the last two years.
- We are now aiming to continue with at least small surpluses in future years
- Administrative Operational costs continue to be monitored and reduced where possible
- Board taken decision to invest some funds in a managed bond portfolio as interest rates have fallen. To date since August has returned 1.93 % on capital invested with a forecast of 2.7% over the coming year.
- Fees have been increased for 2020 by 1.6% CPI.
- Invoices for membership will aim to be issued by the end of November 2019, with payment for the 2020 member calendar year due by 31 Dec 2019.

CIGRE by Numbers

CIGRE Australia 2013 - 2019



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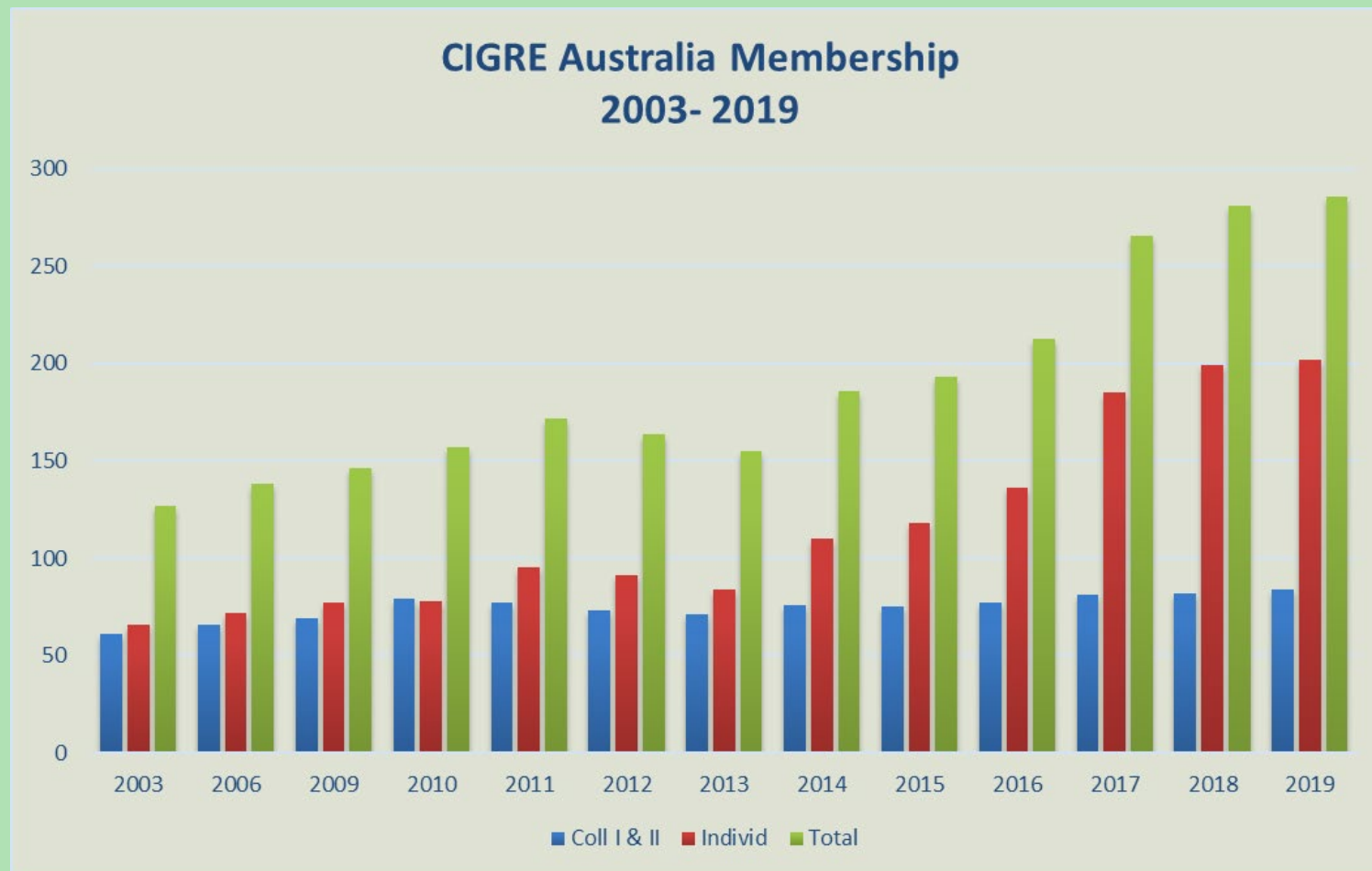
Terry Killen
Executive Manager
CIGRE Australia

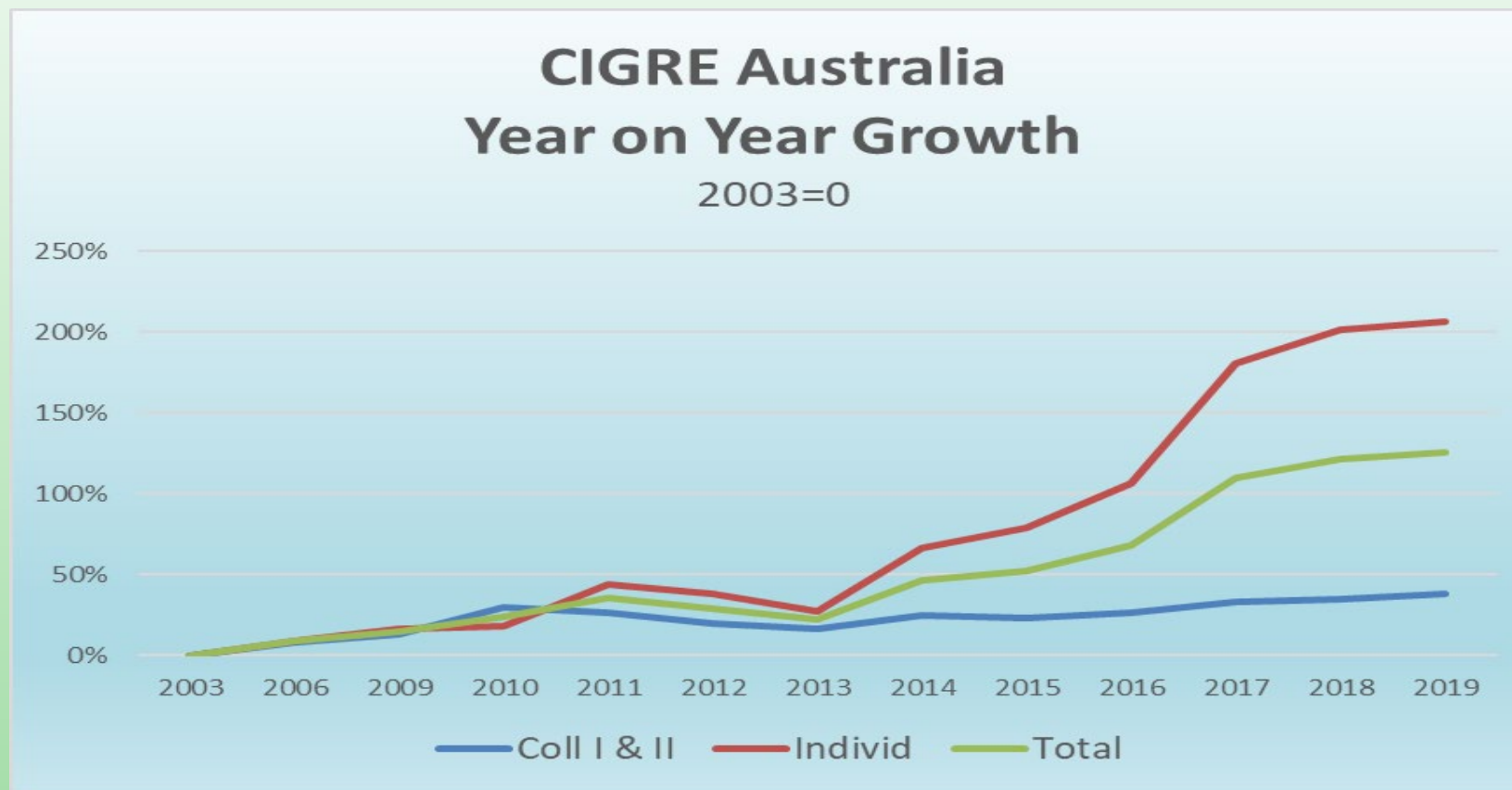
Membership Growth

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- Ranked 8th Globally by member number
- Focus on emerging markets

CIGRE members per 1 Mill population

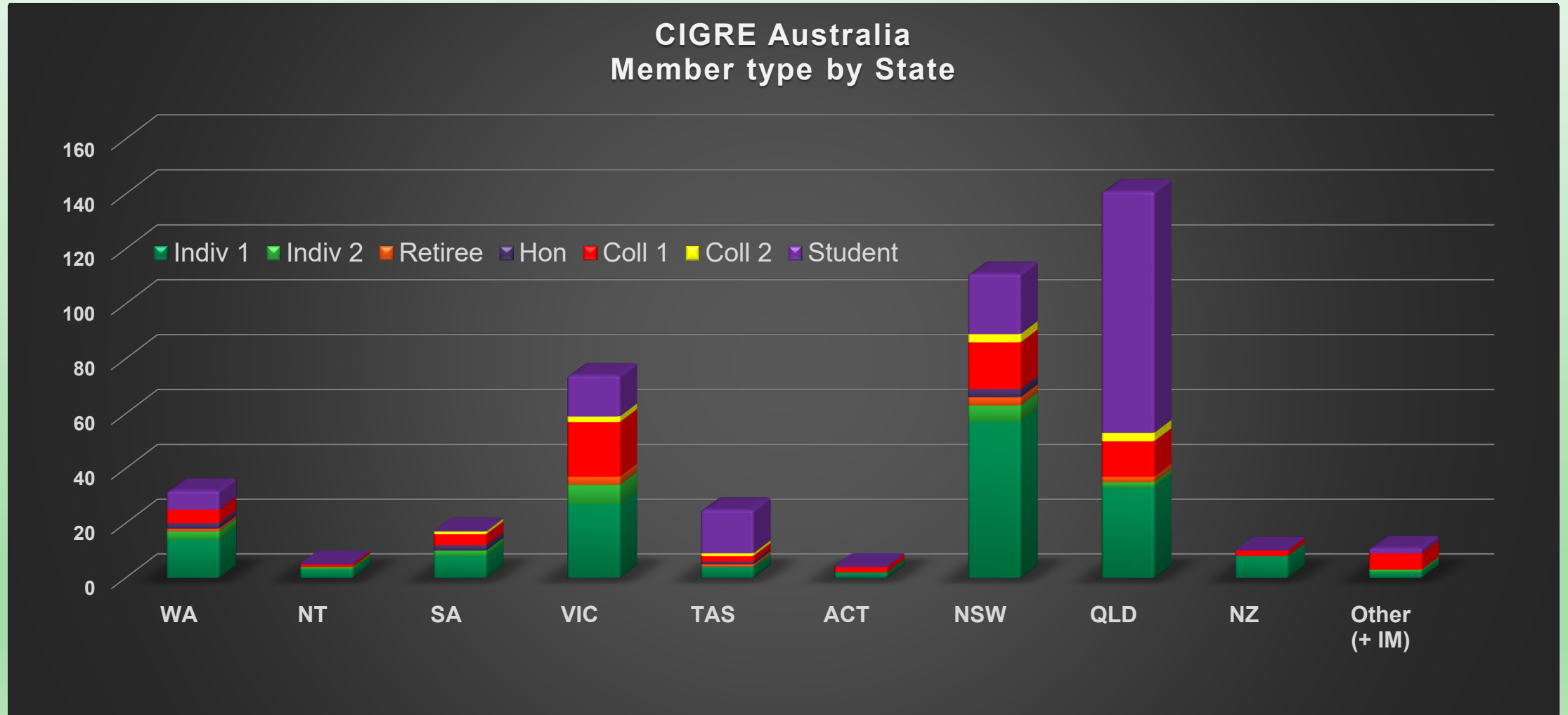
Australia	24.67
India	0.62
Japan	6.98
China	0.77
New Zealand	25.74
Canada	11.10





	2003	2006	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Coll I & II	61	66	69	79	77	73	71	76	75	77	81	82	84
Individ	66	72	77	78	95	91	84	110	118	136	185	199	202
Total	127	138	146	157	172	164	155	186	193	213	266	281	286

Members by state



International awards and Recognition

- **Fellow**
 - 2016 Phil Southwell
- **Honorary**
 - 1996 Dulhunty Philip. W
 - 2000 Vincent Graham F.
 - 2004 Croft David G.
 - 2008 Tyree Peter
 - 2014 Southwell Phil
 - 2016 Bevan Richard
 - 2018 Kreig Terry
- **Distinguished Member** - 11
- **Technical Council Award** - 19
- **CIGRE Global President**
 - 2000-2004 David Croft
- **CIGRE global Treasurer**
 - 2004 -2008 Peter Tyree
 - 2012- 2016 Richard Bevan
- **Steering Committee**
 - Representative
 - Richard Bevan
 - Doug Aberle
 - Trevor Armstrong
- Study Committee Convenors
 - Phil Southwell
 - Terry Krieg
 - Alex Cruikshank
- Study Committee Secretary
 - Peter Wiehe

	14%	4%
	Region	Global
Honorary & Fellow	58%	6%
CIGRE Fellow	100%	7%
CIGRE Presidents	100%	1 of 15
CIGRE Treasurers	100%	2 of 12

Total spent on directly supporting Technical Activities **\$ 1,381,811**
(2013 – 2019)

Events: 2013 - 2019

Event	Attendees	Speakers	International Speakers	Technical Papers presented
Transformer Workshop (6)	355	50	7	53
SEAPAC (3)	281	207	17	219
CIDER (3)	246	66	3	84
ATC Technical Seminar (3)	221	52	1	52
B2 Overhead Lines	40	12	2	14
B3 Substations	100	21	1	25
total	1243	408	31	447
Paris Session (3)	286			63
AGM	376	28		

Systems

- Marketing Platform – CIGRE Paris adopted/adapted
- Pragmatic conferencing and Webex systems
- Website – cigreaustralia.org.au
Feb 2014 to Nov 2019

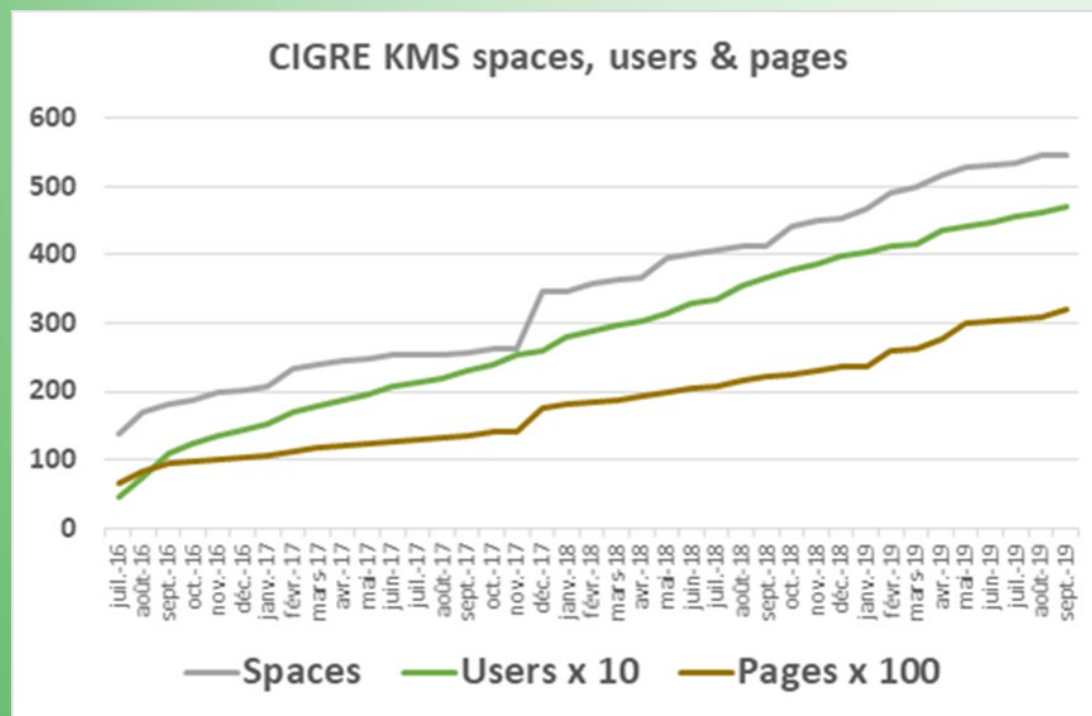
– Users	49,026
– Sessions	80,293
– Pageviews	187,984
– Countries Viewed in	176

LinkedIn – 1396 followers

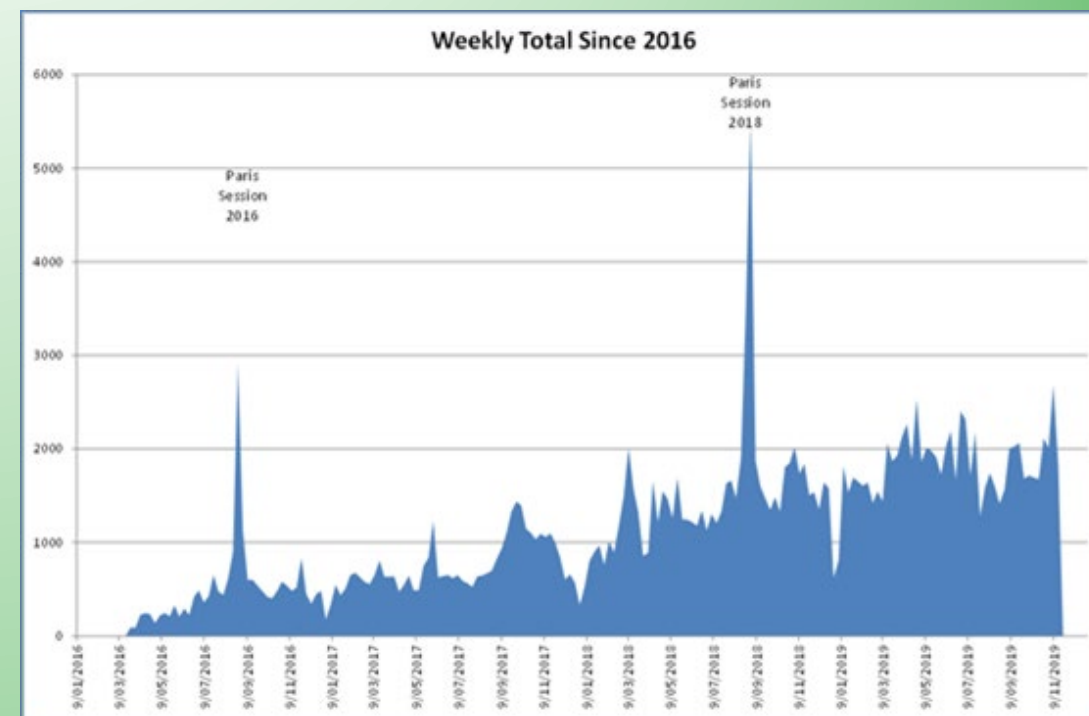
Twitter - 143 followers

In The Loop - 761 subscribers
(16 editions - 80 articles)

KMS (Knowledge Management System)



- 214 WG + 35 JWG Spaces (some already disbanded)
- 170 Mirror Panel / Interest Group Spaces
- 7 national Women In Engineering
- 9 national NGN



- 11 Central Office related Spaces
- 16 SCs + 15 SC Advisory Groups
- 20 NCs with at least 1 Space

Other

- NGN – 195
 - Paris Young Engineer/NGN Scholarships
- STELR - Science & Engineering program in Secondary Schools
 - Yarrabah State School in Qld. It is a P-10 school
- Transformer Innovation Centre
 - Participate and use our free place on courses to support some of our NGN members



What's on and coming up ?

- Member get member campaign (\$ 50 and \$100) vouchers available
- Melbourne WEC expo - David Strong is representing us at the Melb expo (over 2000 delegates)
- **Cairns 2023 – Early Sept - Symposium**
- 25th March 2020 Transformer workshop Melbourne
- AORC in April – Russell Wheatland/ NGN
- NGN/Young engineer Paris scholarships
- Paris session registrations
 - Accommodation options
- NGN sessions in some locations – to be decided
- Electra magazine for members is now fully online – you should receive a notification from paris when it is issued
- ITL and social media subscribe and follow to keep up with what is happening

2019 ATC Report

David Bones – ATC Chairman
Brisbane – 20/11/2019



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2019 – A successful year

From a Technical Perspective 2019 was a success

Key highlights included:

- ✓ Record number of Synopses accepted for Paris 2020
 - 32 – synopses spanning 14 SCs
- ✓ 16 Active Australian Panels
 - Continued involvement of NGN on Panels
- ✓ Local Seminars
 - SEAPAC
 - Transformer Seminar
 - CIDER
 - Substation Seminar
 - ATC Seminar



2019 – Contributing Internationally

Supporting SC meetings and associated seminars

Contributing to or leading approx. 50% of WGs

Cigre Australia supported

- ✓ 16 Active SC members
- ✓ 10 convenors/ WG members
- ✓ A→D covered
- ✓ SCC5 Chair
- ✓ SCA1 Secretary, AORC active participation
- ✓ SC roles include Secretary, Advisory Group members and convenors
- ✓ KMS leadership

KPI tracks health of Panels and technical contribution

Measure	Targets
Technical contribution	10 working groups pa, (projected outcome based on YTD committment)
	10 ITL WG articles pa, (projected outcome based on YTD committment)
	3 technical seminars pa, achieving positive feedback (preparation on track and positive feedback post event)
	Annual reports provided to members for each Panel and funded WG (templates in Aug, reports before AGM)
	55% WG have Australian member, 20 papers for paris session, 9 substantive roles during Paris session
Sustainable structure	All panels have active NGN liaison
	All panels have convenor and identified successor
	Panel membership reflects all industry sectors

	all measure achieved targets in the reporting period
	a minority of measures fail to meet targets in the reporting period
	a majority of measures fail to meet target in the reporting period

2019 – ATC Technical Seminar

Theme

- ✓ International collaboration driving value for Australia

Purpose

- ✓ Promote the work of CIGRE and inform members of technical highlights achieved across 2019
- ✓ Provide key insights from SC and Panel activities
- ✓ Presentation from each panel focussing on those activities with highest relevance to CIGRE Australia members
- ✓ Panel presentations will form part of the annual report provided to members

Over 60 registered attendees (venue at capacity)



2019 – Annual Reports

Circulated electronically following AGM

Will include:

- ✓ ATC report summarising key technical activities and achievements across 2019
- ✓ Slides presented at the 2019 ATC Technical Seminar
- ✓ Reports from all 16 Australian Panels
- ✓ Reports from each WG member/convenor who received financial support during 2019
- ✓ Australian Panels have adopted abbreviation AU to avoid any international confusion ie Australian Panel C1 is now AU C1



2019 - Changes

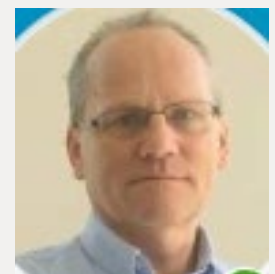
Continuing International Leadership

- ✓ Alex Cruickshank commenced as SC C5 chairman at the Paris Session in 2018
- ✓ Through Alex Australia is enjoying a continued period of influence and leadership over the technical direction of CIGRE



Retiring Convenors

- ✓ Three Convenors retire at the 2019 AGM
- ✓ Les Brand Convenor of AU C1 → John Wright-Smith
- ✓ Graeme Ancell Convenor of AU B4 → Christian Schaefer
- ✓ Joe Tusek Convenor of AU D1 → Yi Li
- ✓ Thank you to Les, Graeme and Joe and welcome to John, Christian and Yi



2020 Paris Session

Synopses & Papers

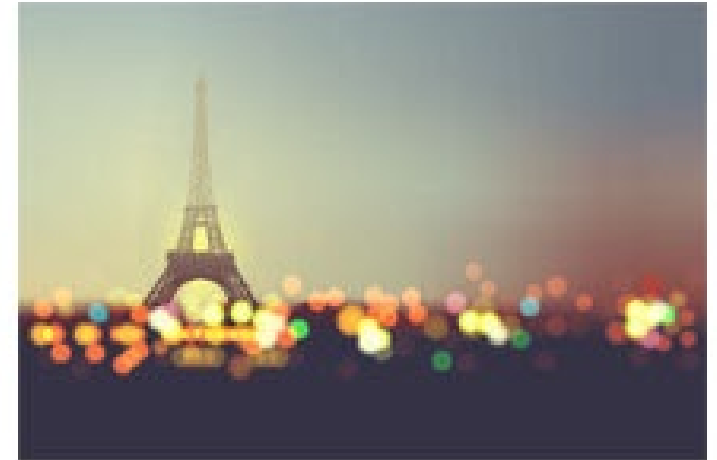
- ✓ Record number submitted and accepted
- ✓ Busy period leading to Paper finalisation and submission
- ✓ Due to Paris by 14 Feb 2020

Session roles - CIGRE Australia members

- ✓ Discussion Session Chair
- ✓ Special reporters
- ✓ Poster session chairs
- ✓ Paper authors – poster session presenters
- ✓ Active participation in discussion sessions
- ✓ Leading and contribution to working groups

CIGRE Session 2020

From 23 to 28 August 2020



Upcoming Activities

CIGRE Symposium - CIDER 2023 - Cairns



Thank you



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Academic Role at University of Wollongong and CIGRE Activities

22nd November 2019

Sarath Perera

School of Electrical, Computer and Telecommunications Engineering,



**AUSTRALIAN POWER QUALITY
AND RELIABILITY CENTRE**



**UNIVERSITY
OF WOLLONGONG
AUSTRALIA**

Self Introduction

- Born in Kandy, Sri Lanka
- Tertiary education at University of Moratuwa (UoM), Sri Lanka – offers a strong power engineering program



Self Introduction

- Postgraduate education at University of New South Wales (MEngSc, UNSW) and University of Wollongong (PhD, UoW)
- Academic role at UoW commenced in 1988
- Technical/Academic Director– Australian Power Quality and Reliability Centre (APQRC) (2004 – to date)



Self Introduction

- Teaching: electrical machines, power systems, power electronics
- Early research: power electronics followed by electrical machines
- Present research: power quality (PQ)



What I Believe In!

- Enjoy what you are doing (teaching, learning, research)
- Look forward for knowledge and not necessarily grades/papers
- Work towards making a real impact



Introduction to APQRC



- APQRC is a fully electricity industry funded Centre (21 year unbroken partnership)
- Agreement recently renewed for another 3 years
- Funding received is close to \$7 million



Introduction to APQRC

- Objectives of APQRC
 - Support undergraduate education
 - Postgraduate research and research support
 - Consulting
 - Continuing/professional education
 - Contributions to national and international bodies: Standards Australia, IEC and CIGRE



Introduction to APQRC

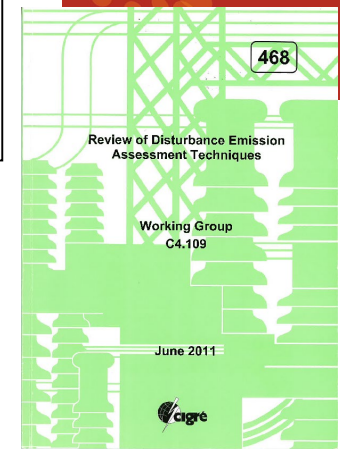
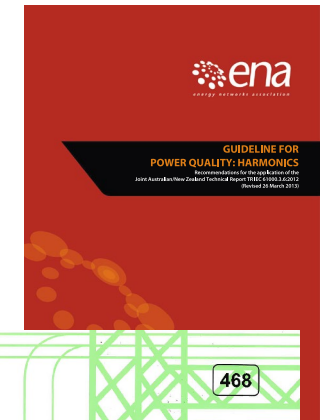
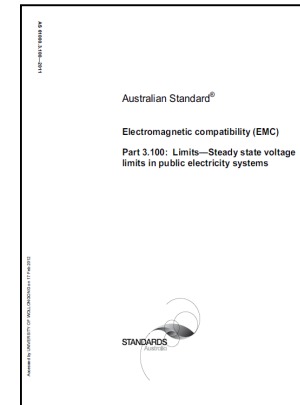
- **Composition**
 - 6 power engineering academics
 - 4 research and administrative staff members
 - 35+ higher degree research students
- **World class Power Quality and Renewable Energy research lab**
- **Broad research areas: Power Quality, Reliability, Renewable and Embedded Generation, Energy Storage**



Introduction to APQRC

APQRC takes a holistic view on power quality (PQ)

- Phenomena
- Equipment testing
- Regulatory frameworks
- Standards, codes and guidelines
- Emission allocation
- Emission assessment
- Monitoring, reporting and benchmarking
- Economics



Major CIGRE Activities Undertaken/Research Inspired through CIGRE Involvement

Working Group Member (2008) CIGRE/CIRED C4.108

- TB 449 - Flicker Objectives for LV, MV and HV Systems (2011)
- Flicker transfer, flicker transfer coefficients and attenuation of flicker and its dependency on load composition (three-phase induction motors)
- **PhD** – Flicker propagation in radial and interconnected power systems



Major CIGRE Activities Undertaken/Research Inspired through CIGRE Involvement

Working Group Member (2008) CIGRE/CIRED C4.109

- TB 468 – Review of Disturbance Emission Assessment Techniques (2011)
- Approach for voltage unbalance emission assessment in interconnected networks – influence of load and line asymmetry
- **PhD** – Contributions towards the development of the Technical Report IEC/TR 61000-3-13 on voltage unbalance emission allocation



Major CIGRE Activities Undertaken/Research Inspired through CIGRE Involvement

Working Group Member (2015- to date)
CIGRE/CIRED C4.40

Revisions to IEC Technical Reports **61000-3-6** (harmonics), **61000-3-7** (voltage fluctuations and flicker), **61000-3-13** (voltage unbalance), and **61000-3-14** (harmonics, voltage fluctuations and voltage unbalance - LV networks)

- UOW has responsibility on **3-13** and **3-14**



Major CIGRE Activities Undertaken/Research Inspired through CIGRE Involvement

Inspired by the first phase of the voltage unbalance work:

- **PhD** - Further contributions to the development of the technical report IEC/TR 61000-3-13:2008
- **PhD** - Network Wide Voltage Unbalance Management

Some of the above work have the potential to be embedded in future CIGRE/IEC documents



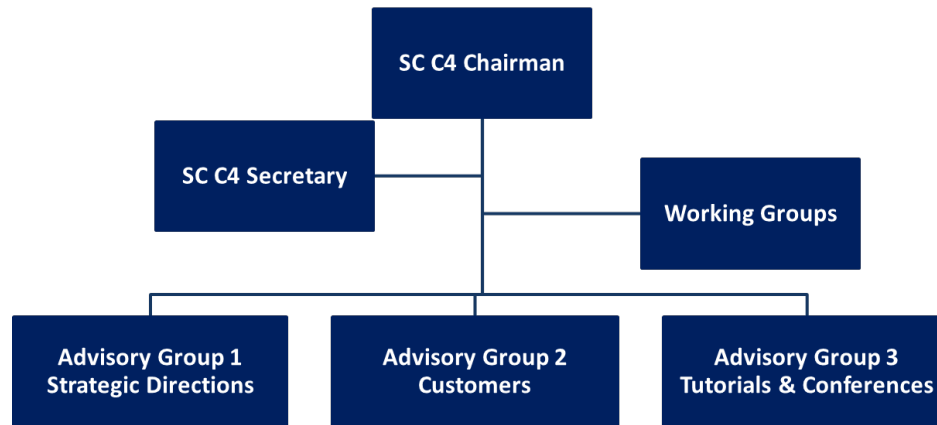
Other CIGRE Activities

- Member CIGRE AU C4 (Australian) System Technical Performance
- CIGRE AU C4 – Committee meeting and the seminar on "Power quality developments in Australasia" at UOW – 2005
- CIGRE AU C4 – Committee meeting and seminar on "Application of synchrophasor solutions for the monitoring and control of power systems" at UOW - 2018



Other CIGRE Activities

- Member CIGRE C4 AG 1



Ref: Study Committee C4, System Technical Performance, STRATEGIC PLAN FOR 2018 TO 2022 (Ver 1)

- CIGRE Green Book “Electricity Supply Systems of the Future” – Chapter on System Technical Performance: PQ (UoW), EMC/EMI, Insulation coordination, Lightning, System Dynamics
- Contribution to CIGRE C4 reference paper on PQ to develop general awareness outside the expert community



Other Inspiring Research Activities Completed or Underway

- Supraharmonics – modelling, analysis and experimental validation
- Three phase induction motor derating under voltage unbalance conditions – Analysis, calorimetric loss measurement and derating
- High fidelity harmonic models of large solar farms for power quality studies



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Sarath Perera,
Email: Sarath@uow.edu.au



**AUSTRALIAN POWER QUALITY
AND RELIABILITY CENTRE**



**UNIVERSITY
OF WOLLONGONG
AUSTRALIA**

CIGRE NZ Activity Report New Zealand National Committee

ANC 2019 AGM Session

Brisbane, 21-22 November 2019



Presented by Leonie Bule, PhD Scholar, University of Auckland

For Doug Ray, Chair, NZNC



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CIGRE NZ

- Established in 2006, the CIGRE New Zealand National Committee (NZNC) is now in its 14th year
- CIGRE NZ holds 142 membership points and is a recognised viable, and active contributor to the NZ electricity sector and CIGRE internationally
- Leveraging the accolades of attendees and speakers at CIGRE Auckland 2017, we have continued with an active programme of events promoting CIGRE, aided by:
 - ✓ NZ Electricity Engineer Association (EEA) strategic engagement
 - ✓ CIGRE Central Office and Rob Stephen, CIGRE President, Philippe Adam, Secretary General
 - ✓ Terry Killen, ANC, and Terry Krieg, past Chair CIGRE SC B3 Substations
- Annual Excellence Awards
 - ✓ EEA APEX Annual Power Engineering Exchange Summit
“Award of CIGRE annual membership for “Best Presentation”
 - ✓ Grant to University of Auckland and University of Canterbury, Engineering School
“Best Power Systems 4th Year Graduate Research Paper”



CIGRE NZ Technical Structure

16 International CIGRE Study Committees grouped into 6 Interest Groups with convenors for each

	TOPIC	Associated Study Committee
IG1	Transformers	A2: Transformers D1: Materials and Emerging Technologies
IG2	Cables	B1: Insulated Cables D1: Materials and Emerging Technologies
IG3	Overhead Lines	B2: Overhead Lines D1: Materials and Emerging Technologies
IG4	Substations	A3: High Voltage Equipment B3: Substations B5: Protection and Automation D1: Materials and Emerging Technologies D2: Information Systems and Telecommunication
IG5	System Performance	B4: HVDC and Power Electronics C2: System operation and Control C3: System Environmental Performance C4: System Technical Performance C5: Electricity Markets and Regulation
IG6	Generation and Distribution	A1: Rotating Electrical Machines C1: System Development and Economics C6: Distribution Systems and Dispersed Generation

CIGRE NZ annual activities

CIGRE NZ NGN (Next Generation Network)

Moonis Vegdani, Chair, Counties Power, Nasser Faarooqui, Secretary, AECOM

Established 2011

CIGRE NZ WIE (Women in Engineering)

Rebecca Shaw, Chair, AECOM

Established 2015 by Rebecca Marx after the Women in CIGRE Forum, China, and following the Woman in CIGRE launch at Paris 2014

WIE sessions attract strong interest from diverse genders

Facilitated, interactive NGN and WIE Panel Sessions

CIGRE NZ 2019

AUPEC 2018

CIGRE NZ 2018

IEEE PES ISGT 2017

CIGRE Auckland 2017 Conference

CIGRE NZ 2019 Technical Sessions

CIGRE 2020 Paris Session 48 Papers

C6 “Active Distribution Test System for Typical New Zealand MV/LV Networks”

S Shirzadi and N-K C Nair, University of Auckland

EEA19 Annual Conference – CIGRE keynote speaker Dr Roumei Li, CSSE, CIGRE China

“The Role of Human Nature in the Energy Revolution”

<https://www.eea.co.nz/Site/news-events/conferences/eea-conference-2019.aspx>



CIGRE NZ 2019 Panel Session for EEA19, Auckland

“CIGRE International Developments in Resilience”

CIGRE members presenting interactively with audience participation

B1 - Cable, Joints and Terminations - Andre Cuppen, Unison Networks

C1 - System Development and Economics - Graeme Ansell, Ansell Consulting

C6 - Emerging Technologies - Astad Kapadia, Vector

CIGRE NZ WEBINAR SERIES 2019 - 27 Nov, 11 Dec

“Remote indicating overhead line sensors for fault indication”

A recently implemented trial of new overhead line sensors on Vector’s network, the webinar covers technology requirements from an engineering and operational perspective, technology selection process, and learnings from implementation.

Kate Murphy MEng. (Hons)

Outage and Operational Planning Manager, Vector



“The Electricity Distribution Sector for tomorrow”

Presenting insights into challenges faced in distributing electricity today, from the perspectives of NZ and Australian customers. Show casing the roadmap taken, highlighting innovation projects, including transformer techniques.

Thahirah Jalal (MBA(Imperial College), PhD (UC), MEng (Oxford))

Business Development Manager, ETEL



The graphic features a green and black background with a stylized power line pattern. At the top left is the CIGRE New Zealand logo and the text 'National Committee of New Zealand'. The main title 'CIGRE NZNC WEBINAR SERIES 2019' is prominently displayed. Below this, two green boxes provide details for 'WEBINAR - 1' (27th Nov, 2019, 1200-1300hrs NZDT) and 'WEBINAR - 2' (11th Dec, 2019, 1200-1300hrs NZDT). Each box includes the title of the webinar, the speaker's name, and their role. At the bottom, there are links for registration and more details for each webinar, and contact information for queries.

WEBINAR - 1
27th Nov, 2019
1200-1300hrs NZDT

Remote Indicating Overhead Line Sensors for Fault Indication

Kate Murphy
Outage and Operational Planning Manager, Vector Limited

WEBINAR - 2
11th Dec, 2019
1200-1300hrs NZDT

The Electricity Distribution Sector for Tomorrow

Thahirah Jalal
Business Development Manager ETEL Limited

[Click here for registration and more details](#)

[Click here for registration and more details](#)

For queries contact : [Abhinav Chopra](#) or [Leonie Bule](#) at cigre.org.nz@gmail.com

www.cigre.org.nz

<https://www.eventbrite.com/e/webinar-1-2019-cigre-nznc-webinar-series-tickets-76844898159>

<https://www.eventbrite.com/e/webinar-2-2019-cigre-nznc-webinar-series-tickets-76845578193>

CIGRE 2019 Forum *Asset Resilience within Electricity Networks*

CIGRE 2019 FORUM PROGRAM

8.30 – 9:15	Registration plus Tea and Coffee on Arrival	
9:15 – 9:30	Opening: 'CIGRE NZ Activities' Doug Ray, Vector, CIGRE NZ Chair	
9:30 – 10:05	'Why Do We Need a Transmission Backbone if We Have Distributed and Mobile Generation' Kristian Jensen, WSP-OPUS	
10:05 – 10:40	'Asset Reliability and Resilience in Substations' Robert (Bob) Deller, Transpower	
10:40 – 10:50	Diametric Viewpoints? Q&A with Kristian Jensen and Robert Deller	
10:50 – 11:15	Mid-Morning Tea and Coffee	
11:15 – 11:45	Current Cable Practices in ANZ Utilities and International CIGRE, Andre Cuppen, Unison	
11:45 – 12:15	Women in Engineering	Kate Murphy, Vector Sheila Matthews, Transpower AECOM
12:15 – 12:45	Lunch	
12:45 – 13:45	Socialising Research Findings with Energy Stakeholders: University of Auckland	
	• Resilience of Underground Cable Systems in New Zealand, Ebad Rehman	
	• Protection Scheme Performance in an Islanded Distribution Grid, Safa Al-Sachit	
	• New Zealand Grid Black Start, Duncan Maina	
	• Islanded Grid Control at Distribution Level in New Zealand, Samad Shirzadi	
13:45-15:00	CIGRE Study Committee focus on Asset Reliability and Resilience	
	Nasser Faarooqui, AECOM, (B5 Protection and Automation)	
	Paul Julian, AECOM (B3 Substation)	
	Andre Cuppen, Unison (B1 Cables)	
	Supatra Bhumiwat, Kea Consultant (D1, Materials) Abhinav Rakesh, UoA (D2 Cyber security)	
15:00-15:20	Afternoon Tea and Coffee	
15:20 – 16:20	CIGRE Knowledge Management System and Technical Resource Workshop, Rodney Hughes, CIGRE Australia	Site Visit Vector Lights Harbour Bridge Solar/Battery/LED Installation
	CIGRE NZ and ANZ Future Events, CIGRE 2020, CIGRE Membership Doug Ray, CIGRE NZ Chair & Rebecca Marx, CIGRE Exec	
16:20 - 16:45		
16:45 – 17:00	Closing and CPD Certificates Issuance	

CIGRE
2019
FORUM

**ASSET RESILIENCE
WITHIN
ELECTRICITY NETWORKS**

24 June 2019
8:30 -17:00

- Challenging our transmission system with mobile and distributed energy
- Industry experience and research for asset fragility and risk in substations, cable networks, islanded systems, protection and communications
- CIGRE NZ Study Committee updates
- Women in Engineering role model expertise in industry
- CIGRE's KMS and Technical
- Information workshop

Epsom Room 1, Level 4, SkyCity Convention Centre, 88 Federal Street, Auckland



CIGRE ANZ 2018 *Transitioning NZ to a Low Carbon Energy Future*

7:30 – 08:30	Registration Desk Opens / Breakfast with CTO's and Executives
	<p>Opening Remarks</p> <p>Nirmal Nair, University of Auckland, AUPEC 2018 Chair Doug Ray, Vector, CIGRE NZNC Chair</p> <p>AUPEC/CIGRE ANZ 2018 Executive Plenary 'Risk, Resilience and Sustainability in a Low-Carbon future' Our role in transitioning NZ to the future</p> <p>Kate Beddoe, Vector Limited Martin McMullan, NZ Transport Agency Derek Caudwell, Horizon Networks Rod Sheridan, Auckland Council</p>
08:30 - 10:00	
10:00 – 10:45	Coffee Break
	<p>AUPEC/CIGRE ANZ 2018 Plenary Session with NZ Technology Leaders 'Future Low-Carbon Technologies and Workforce' How do we get ready for a Low-Carbon future?</p> <p>Shailesh Manga, Vector James Muir, Callaghan Innovation Roxanne Salton, Mercury David Jenkinson, Yoogo Thomas Kirk, OPAL – RT Technologies</p>
10:45 – 12:45	
12:45 – 14:00	Lunch
	<p>CIGRE ANZ Technical Presentations with NZ Industry CIGRE Practitioners</p> <p>'Contributing to Working Groups and Technical Brochures' Duncan Kaniaru, UoA 'Committee and Interest Groups' Nirmal Nair, UoA 'Biennial CIGRE 2018 Paris 'Session' Doug Ray, Vector 'Organizing CIGRE NZ Local Events' Samad Shirzadi, UoA 'Industry Experience and Engagement with CIGRE' Brent Rees, ABB NZ 'CIGRE NZ Membership' Waqar Qureshi, Horizon Networks & CIGRE NZNC Secretary</p>
14:00 – 15:30	
15:30 – 15:45	Coffee Break
	<p>CIGRE ANZ Industry Forum with Innovation Leaders of NZ</p> <p>Sam Vivian, PowerSmart Cameron Chapman, WEL Networks Kristian Jensen, WSP-OPUS Abhinav Rakesh Chopra, UoA</p>
15:45 – 17:15	
17:15	Closing and Continuing Professional Development (CPD) Awards
19:00 -	AUPEC 2018 Conference Dinner (requires separate Registration)

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New Zealand

Transitioning NZ to a Low Carbon Energy Future

CIGRE ANZ 2018

CIGRE Australia New Zealand (ANZ) 2018 Programme

- ❖ Executive Plenary on 'Risk, Resilience and Sustainability'
- ❖ Executive Plenary on 'Low-Carbon Technologies & Workforce'
- ❖ Technical Presentations from CIGRE Industry Practitioners
- ❖ CIGRE Industry Forum with Innovation Leaders of NZ
- ❖ How to join and engage with CIGRE activities

Science Centre (Building 302), City Campus
23 Symonds St, University of Auckland
Thursday 29 November 2018

Breakfast with Innovation Industry Executives

An informal stand-up breakfast will be served from 7:30 am providing an opportunity for Women in Engineering, Young Professionals, and students to network with industry executives leading innovation and change toward a low-carbon future

What new digital technologies are current and emerging?

How are new technologies contributing toward a low carbon future?

What low carbon technologies are looking relevant for our energy future?

What impact are you seeing with new technology implementation?



CIGRE NZ 2020

CIGRE NZ Webinar 2019, 2020 Series

NGN led, disseminating CIGRE expertise and industry development

CIGRE NZ 2020

Annual one-day CIGRE Technical Forum (EEA Conference, Wellington, precursor)

EEA 2020, Wellington

Securing international CIGRE keynote speakers
International focused CIGRE panel session

Paris 2020 Session 48

CIGRE ANZ Forum 2021 (proposed for alternate years to Paris Sessions)

Strength in diversity through **CIGRE WIE and NGN membership growth**

Continue provision of CIGRE experts and panel sessions at **AUPEC, IET, IEEE, PES** forums

Increased cross-Tasman participation in **ANC and NZNC Activities**



International update

ANC AGM

November 2019



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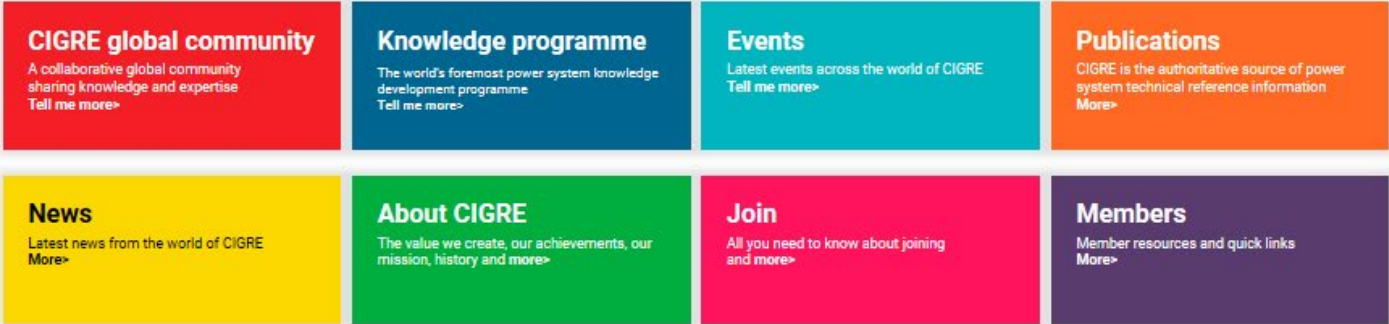
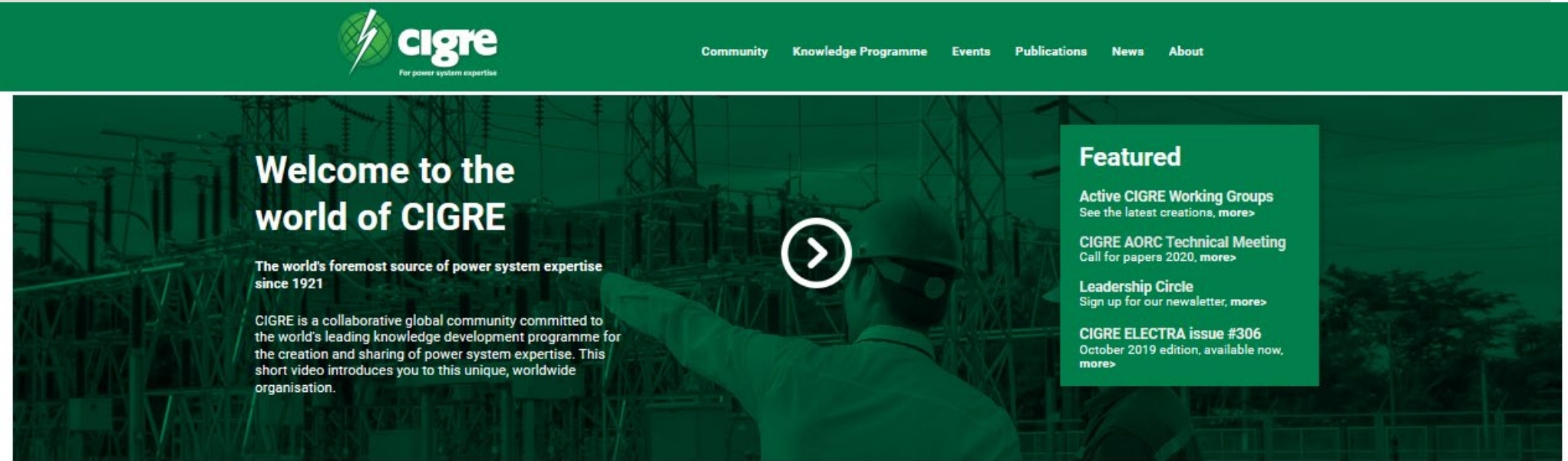
For power system expertise

CIGRE Information system

cigre.org	e-cigre.org	KMS	SC member renewal	NC data base
Paper management	Registration management	Marketing resources	cigre.sc.org	WG management
session.cigre.org	Digital Electra		Oct. 2019	Dec. 2019
Nov. 2019	April 2020			

available planned

CIGRE information



Website

- Public face
- Information on all activities
- Open to all (some limits)

CIGRE information, continued

KMS

- Workspace
- Members and invited experts
- TB and other materials can be drafted and exported
 - Final edit by CO
 - Propose a tutorial on editing and exporting

e-CIGRE

- Knowledge store
- All published material
- Tutorials and Webinars
- Proceedings
- Free to members



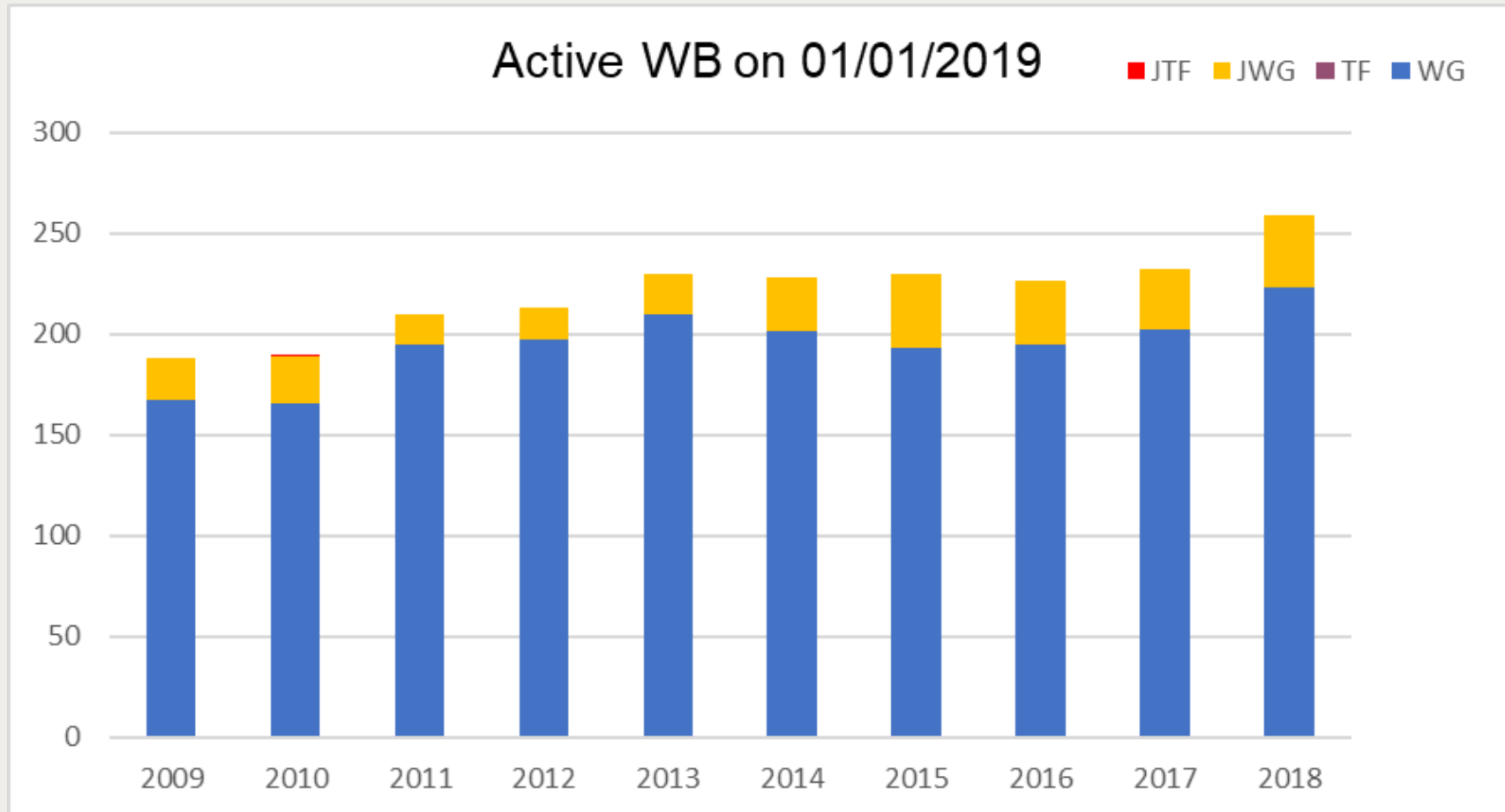
Health of the organisation



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Working Groups since 2009

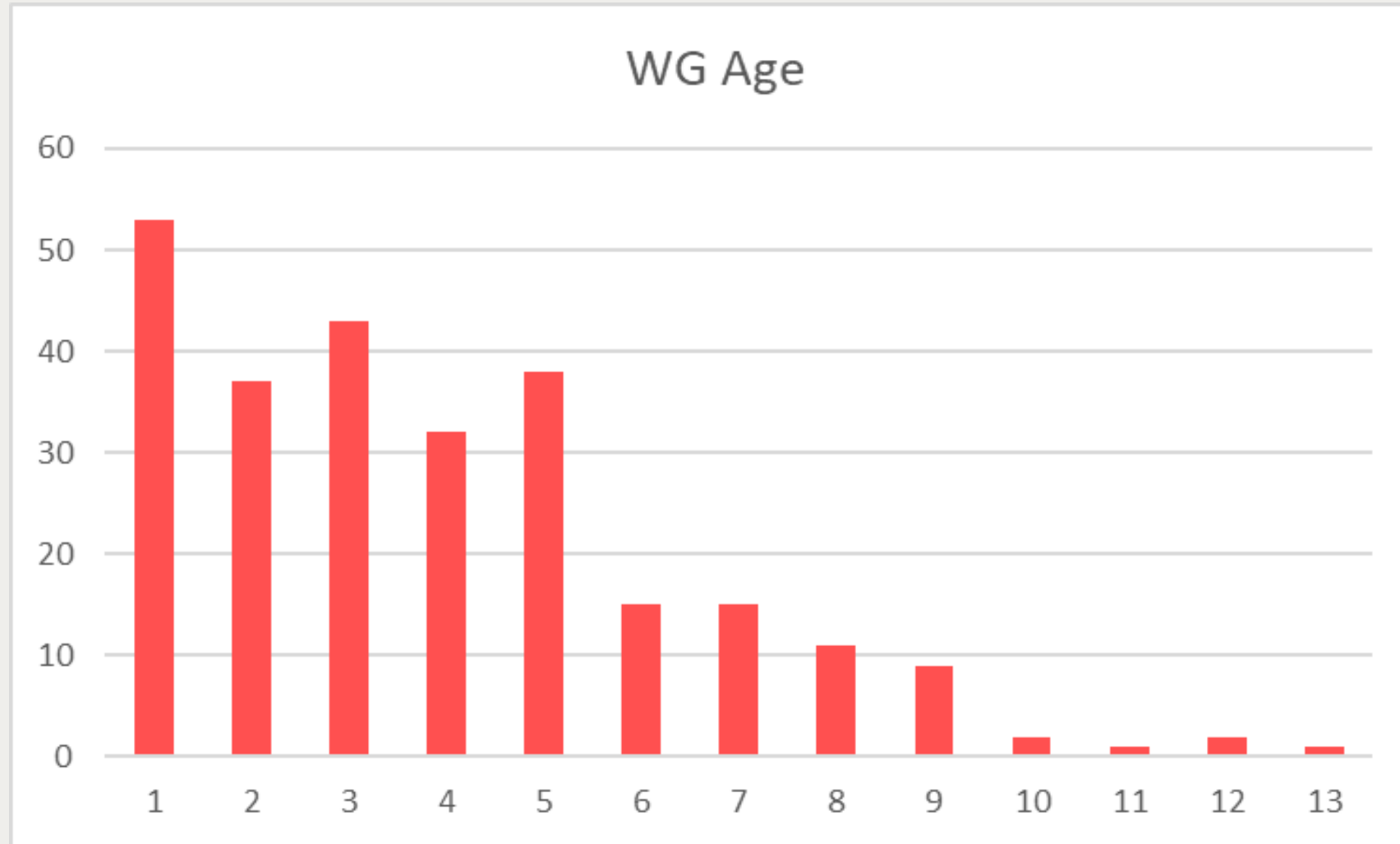


Working group membership



SC	Nb WG	Nb countries	Nb Positions	Nb Experts		Pos/expert	Ladies/ experts
				Nb experts	of which Nb Ladies		
A1	29	38	400	296	7	1.35	2%
A2	18	44	444	405	36	1.10	9%
A3	11	34	237	220	11	1.08	5%
B1	34	34	466	368	33	1.27	9%
B2	19	45	677	419	26	1.62	6%
B3	19	38	366	297	31	1.23	10%
B4	19	33	562	457	40	1.23	9%
B5	23	42	506	456	24	1.11	5%
C1	12	36	249	218	34	1.14	16%
C2	10	34	217	203	19	1.07	9%
C3	11	34	196	123	36	1.59	29%
C4	34	56	726	613	49	1.18	8%
C5	10	37	225	168	27	1.34	16%
C6	8	35	269	232	27	1.16	12%
D1	21	38	562	412	37	1.36	9%
D2	9	41	240	212	19	1.13	9%
All SC	256	69	5875	4276	373	1.37	9%
	+7%			+7%	+11%		+ 1%

Age of Working Groups



Green Books – to be published



- 2020: B1 - Accessories for HV and EHV Extruded Cables (MRW) vols 1 & 2
B4 – FACTS (MRW)
B3 - SF6 (CS)
C1 - Transmission System Assets (MRW)
B2 - Innovative Solutions for Overhead Line Supports (CS)
Electricity Supply of the future (MRW)
- 2021: C6 - DER in active distribution networks (CS)
A2 - Transformer and Reactor Procurement (CS)
- Plans 2021-2022:
B5: Practice of IEC 61850 (CS)
B1: Cable system design, Current rating calculations
B2: Vegetation fire characteristics and the potential impacts
on overhead line performance (CS)

Webinars



Date of broadcast	WG/TB	Number of registrants	Number of attendees	Attendance rate
5 Dec 2019	A1.39			
14 Nov 2019	D2/B2.39			
6 Nov 2019	C3.19			
24 Oct. 2019	B3.43			
19 Sept. 2019	B2.51	166	91	55%
5 Sept. 2019	C2/C4.37	31	15	48%
11 July 2019	D2/C2.41	64	31	48%
13 June 2019	C1.34	44	24	55%
9 May 2019	B2.45	42	15	36%
4 Apr. 2019	CIGRE/CIRE JWG C4-C6.35	263	112	43%
14 March 2019	C1.35	148	72	49%
6 Feb. 2019	D1.52	107	51	48%
16 Jan. 2019	C4.27	88	64	61%
15 Nov. 2018	B4/B5.59	275	168	61%

Place of Women in CIGRE



- 4 SC Chairs (25 %)
- 3 SC Secretaries: B4, C3, C4 (19 %)
- 19 WG Conveners (7 %) last year 23 (10 %)
- 373 Experts (9 %) last year 336 (8%)
- 512 Positions (9 %) last year 470

Marketing



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For power system expertise



Marketing and communications task force

- **Mike Heyeck** TF Convenor, CIGRE USA
- **Rob Stephen** CIGRE President
- **Philippe Adam** CIGRE Secretary General
- **Marcio Szechtman**, TC Chair, CIGRE Brazil
- **Chris Jones** CIGRE UK NC
- **Mandy Olson** NGN rep and USA NC
- **Hakima Abdellaoui** Digital communications and brand, Central Office
- **Colin Knox** Aspire

Brand support and integration

- Uptake across the NCs above 70% now
- We are continuing to encourage, integrate and support
- Recent major development; RIAC investigating full translation to Spanish
- New materials being added progressively to MR site
- E.g.; new SC long logos, WiE and NGN logos



SC C4: Power system technical performance

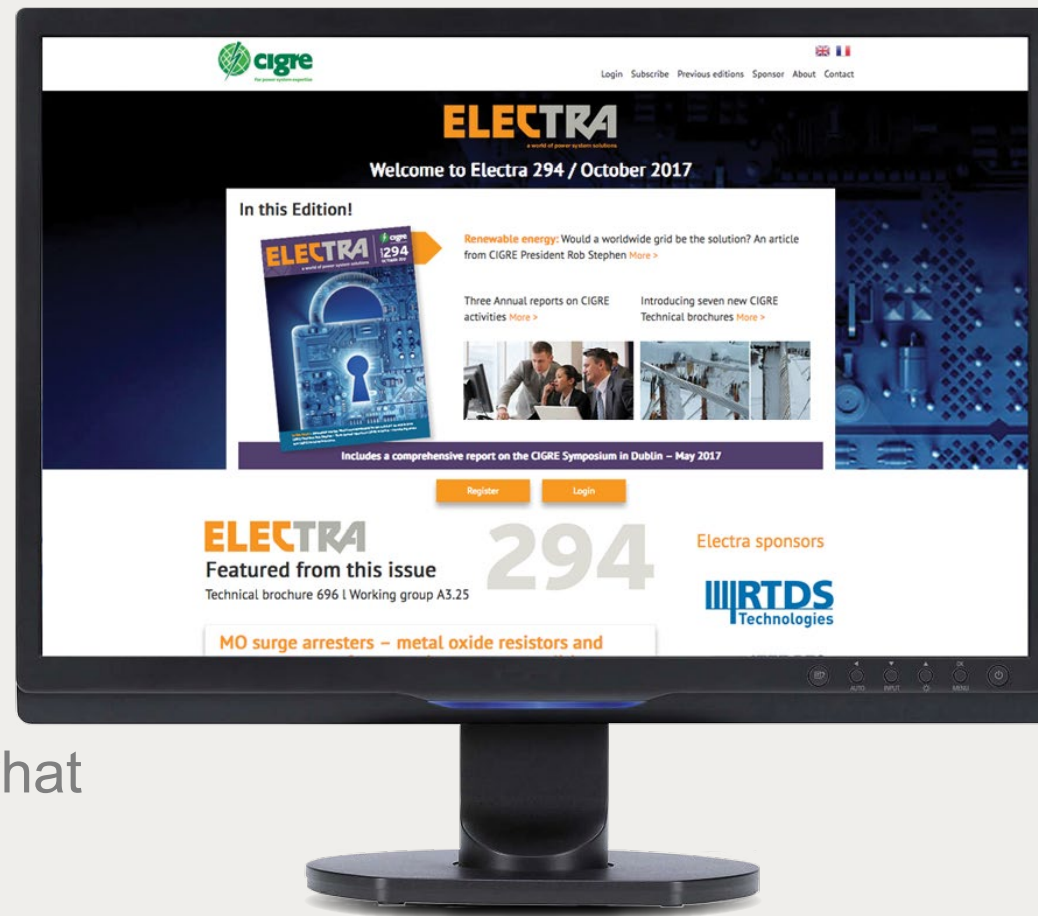


Promotions in 2020

- **NGN** – will run in 2020 with prep starting in 2019
- **WiE** – 2020 leading up to session
 - Tie in to International Women’s Day
 - Possible variations to tie and other merchandise at Session
- **Electra promotions** – 3 pushes in 2020
 - June (soft launch)
 - At Session (main launch)
 - Post Session

Learnings from E2E and all metrics are key

- Key is what do we learn on what works and what does not
- This will impact tactics and schedule



The Electra Editorial Board

- **Mike Heyeck** – Convenor, CIGRE USA
- **Adam Middleton** – CIGRE UK
- **Alex Cruickshank** – CIGRE Australia
- **Khayakazi Dioka** – CIGRE Southern Africa and WiE
- **Nikos Hatzargyriou** – CIGRE Greece
- **Rob Stephen** = dual roles – Brand Journalist and President
- **Marcio Szechtman** – TC Chair, CIGRE Brazil
- **Philippe Adam** - CIGRE Secretary General
- **Mandy Olson** – CIGRE USA and NGN
- **Matthias Zwicky** – CIGRE Switzerland
- **Tara-lee MacArthur** – CIGRE Australia
- **Marie Taillandier** - Editor (C.O.)
- Contract Editor (C.O.)

Email Newsletters

Electra board responsible for content of these

- **PowerTalk**, new name from Sept 2019
 - Database 20000 now
 - growth of 25% in last year
 - 10000 non members
 - Typically 35-37% openers
- **Leadership Circle**
 - Database now 321 up 50%
 - First edition 49% opened – very good!
 - Next edition November 2019



Dear fellow Cigreans,

By now you would have received the latest Electra via a link sent by email. This is the first Electra edition that will not be posted in paper form. It was found that the delays in posting as well as the cost did not warrant the benefit to members. It was decided to redirect the funds used in the printing and posting to the new digital Electra (not just .pdf) which will provide a gateway to a wide variety of articles and information. Of interest in the latest Electra is an informal working group in SC A2. This provides valuable technical information to members without wait for the full brochure to be published. It forms part of the drive by CIGRE to provide timely to members. In addition CIGRE is to publish to the "Leadership Circle" (CEO's and leaders) interesting 2 page articles that are relevant to the industry and important to their business. This will provide accurate, unbiased technical information critical to their business. CIGRE embarked on using webinars to share information on brochures. These are presented recognized experts in their field. The webinars are also recorded for download by members. LinkedIn account boasts over 8000 followers and shares valuable information to all engineers are not following, I would urge that you enlist to benefit from this valuable information source hoping for over 20 000 followers by year end.

It is hoped these innovations will provide members with more avenues to receive valuable information relevant to their business at their convenience.

I hope to see you at a CIGRE event in the near future.

Rob STEPHEN, CIGRE President



Welcome to Future Connections

The world's power system is changing, but all of the traditional challenges of interconnection still exist.

CIGRE Future Connections explores what's happening in the world of CIGRE in this emerging space: how digital tools can no longer be considered just a luxury but a necessity for the power system of the future. This newsletter provides a combination of our history, and to provide information on the Paris 2020 Session (August 23-26, 2019) and the Paris 2020 Session (August 23-26, 2019).

Our content attributes to our past and future together. It is a testament to our past and future together. It is a testament to our past and future together. It is a testament to our past and future together.



Welcome

It is a pleasure to welcome you to the first edition of the Leadership Circle newsletter. This first edition is provided to the attendees of the CEO Forum recently held at Paris Session 47. This newsletter shares the insights from the event as well as action that CIGRE is taking to address the issues and suggestions.

We would like to thank you all for participating in the event and spending time to provide valuable input.

For you? What can you do?

• Attend the event
• Attend the event
• Attend the event

Introduction

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QA with Nick Atkins, American Electric Power CEO

By Mike HEYDEN, Member, CIGRE Governance Council & Steering Committee

How is American Electric Power (AEP) working to better serve its customers and the electric utility industry?

American Electric Power (AEP) and its U.S. electric energy industry are in a unique position to make a significant contribution to the world's energy future.



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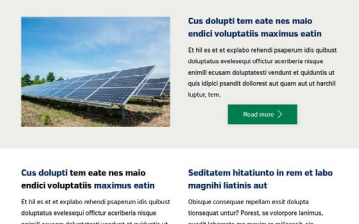
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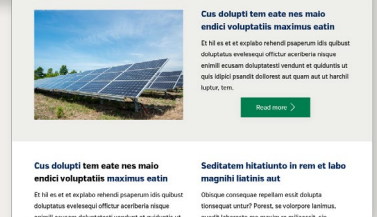
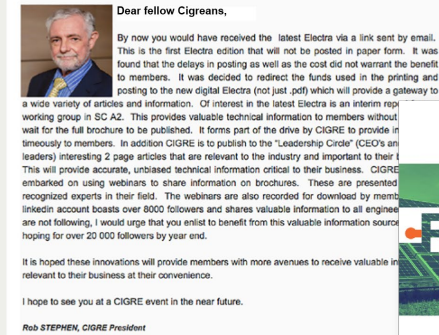
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Email Newsletters, continued

TC responsible for content of this

- **Future Connections**, 1st Edition in September
 - Sent to the 20000 database
 - 39% opened
 - 60% clicked articles
 - 74% read for more than 10sec
 - Very successful
 - Lot of interest in this new item
 - TC the owner
 - Next edition January 2020



E2E promotional update

- Early activities under way
 - Video and other promotions
 - Likes and links on LinkedIn and other social media
- So far traffic is to low but slowly improving
- 321 page views we need 4000+
- 373 views of articles
- Message is right, metrics indicate this
- We need to increase our reach & therefore traffic



The screenshot shows the CIGRE website homepage. At the top is a green navigation bar with the CIGRE logo and menu items: Community, Knowledge Programme, Events, Publications, News, About. The main content area features a large video player with the title "Power system engineering has entered a new age" and a play button. Below the video is a text block starting with "The preeminent global technical organisation – CIGRE" and a list of bullet points: "Perspectives and peers from every corner of the globe", "Real world practical expertise", and "Low cost of entry". A "FIND OUT MORE" button is located at the bottom right of the video section. To the right of the video is a sidebar titled "CIGRE E2E articles" containing five article thumbnails with titles like "Integration of Electric Vehicles in Electric Power Systems" and "New CIGRE membership mirrors the merging of the power system".

LinkedIn and Twitter

- Regular frequency posts
- CO and Brand Journo manage
- LinkedIn following is 10320 we aspire to 40000.
- Twitter early days, 778 followers
- Please visit the pages if you miss a post



CIGRE Session 2020



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For power system expertise

CIGRE Session 2020

Website - session.cigre.org

Going live in December 2019

New App

Session information

Location and guidance

Feedback

The session is getting more crowded ...



CIGRE Session 2020, continued

Papers for the Session

Some countries had excess synopses, so quotas were relaxed

- Change in the number of possible submitted synopses
Additional quota for 16 countries: + 280
Sent by these 16 countries: + 188
- **Total received: 915** (2018 Session: 703)
- **Total accepted: 795** (2018 Session: 605)

Future Sessions?

TC and SteerCo to decide → project team established

- What is the upper limit? Is a quota appropriate
- Quality is the key determinant
- Representation is also an issue

SC	Nb
A1	30
A2	54
A3	50
B1	56
B2	81
B3	49
B4	65
B5	58
C1	62
C2	63
C2/C6	33
C3	25
C4	72
C5	51
C6	48
D1	55
D2	63

Questions?

ANC AGM

November 2019



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For power system expertise