



ASSOCIATION OF POWER EXCHANGES

APEX Objective

To facilitate the development and communication of ideas and practices in the operation of global competitive electricity markets. One of its primary intentions is to provide a platform for the sharing of information between its members.

In the Spotlight

APEX Annual Conference 2024
Sep 24-26, 2024
Venue: Santiago, Chile



Details on Page 06

John Clarke

*Executive General
Manager*
TRANSPOWER NZ



I've appreciated the warm welcome back to the APEX Board. The expanded Board provides the diversity of thinking, regional insights, and knowledge to better serve you, our members. In different ways we are all grappling with the challenges of the energy transition around the world and how our markets and pools evolve. That was quite evident in reading the recent APEX Newsletters.

Here in New Zealand, a small separate power system and electricity market at the bottom of the South Pacific, we share many of the same challenges.

We are very lucky to have a highly renewable electricity system with over 85% renewable, we do have a big challenge to ensure our own electricity market will enable the addition of further renewables at scale, as we decarbonize our wider energy consumption which is only 30% renewable today.

Almost 30 years ago New Zealand was one of first in the world to adopt a locational marginal pricing energy only market. This was also the basis of the design for other markets in North America and Australia. It has served us well.

Many other similar energy only markets have had to evolve to include requirements for capacity adequacy, day ahead commitment and ahead markets, here in New Zealand we have not needed these added features – yet.

Recently an expert advisory group has provided advice to our market regulator on the measures needed to transition, to support a highly renewable power system with more intermittent generation. New Zealand's energy only market needs to continue to function effectively by producing accurate spot prices, providing sufficient risk management tools, promoting

Continued Director's column

competition, and maintaining public confidence. Some backstop measures are recommended, if required.

One emerging challenge is insufficient flexible back-up resources to cater for increasingly variable and uncertain supply. Today this is provided by slower-start thermal generators who are finding it challenging to commit generation ahead of need. More flexible resources such as grid scale batteries and demand side response are needed that can quickly fill the supply gap.

This issue is being addressed in a consultation by our regulator and APEx member, the NZ Electricity Authority. A range of options are being considered which include reducing the barriers and increasing the incentives for flexible resources, such as grid scale batteries and demand response. These options can help increase and bring forward investment in flexible resources to reduce supply risk.

As is the case elsewhere around the world, getting the market settings right in New Zealand, will enable the transition, getting them wrong will hinder it and the confidence in the electricity supply.

I'm very interested in how markets and pools will evolve to face these challenges across our APEx membership, to enable the transition of an energy system to more renewables. I look forward to the discussions and debate, to collectively inform us all at our conference in Chile later this year.

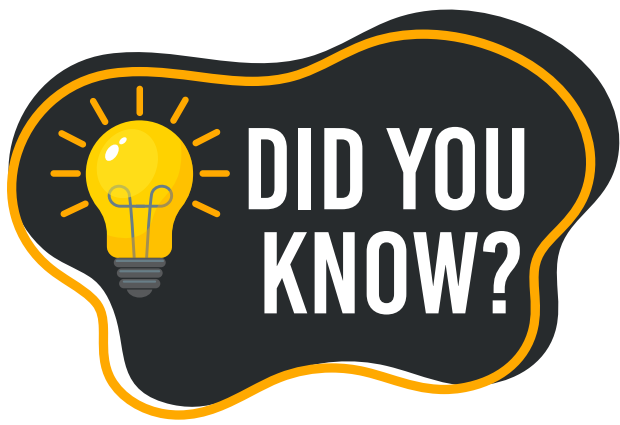


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Stu Bresler, APEx Chairman

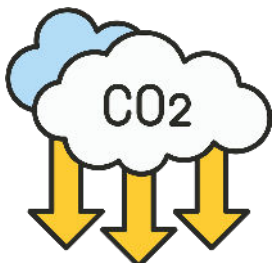
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Global Energy Transition

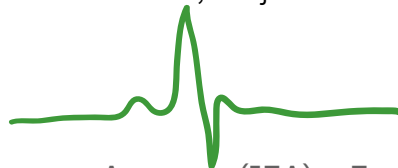


The U.S. Energy Information Administration (EIA) reported that in the United States 148 terawatt-hours of large scale solar energy was produced in 2023. This was 130% more than the United States produced five years ago and 16% more than in 2022. This is enough to power almost 14 million homes and represented 4% of all generation.



Global energy consumption is expected to grow by 50% by 2050. This will require about 80% of increased generation that renewable generation may not be able to accommodate. Flexible demand profiles will be critical for decarbonizing.

Source: The U.S. Energy Transition Explained in 8 Numbers, Benjamin Storrow & E&E News, <http://scientificamerican.com>



According to the International Energy Agency (IEA), Emissions increased by 410 million tons, or 1.1% in 2023 compared with an increase of 490 million tons the year before. The increase was mainly because of the shortfall of hydropower in China and the United States of over 40% because of extreme droughts. Absent the shortfalls, the global CO2 emissions from generation could have actually decreased from 2022 to 2023.

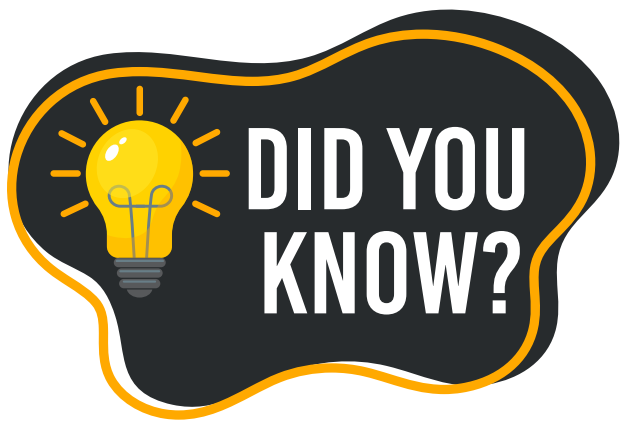


Source: Major growth of clean energy limited the rise in global emissions in 2023”, IEA, <https://iea.org>



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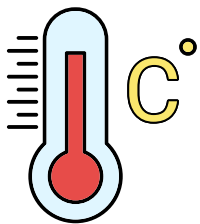
Global Energy Transition



The Paris Agreement is a legally binding international treaty on climate change that was adopted by 196 parties at the the United Nations Climate Change Conference on December 12, 2015. This agreement's overarching goal is to pursue efforts to limit the increase in the global average temperature to 1.5 degree Celsius above pre-industrial levels. The 1.5 degree Celsius threshold is used because it represents the risk level that unleashes severe climate change impacts, including more frequent and severe droughts, heatwaves and rainfall.



Source: The Paris Agreement, <https://unfccc.int>



In 2022, about 300 GW of renewables were added globally, accounting for 83% of new capacity compared to a 17% share combined for fossil fuel and nuclear additions. However, an annual share of about 1000 GW of renewable power is needed to stay on a 1.5 degree Celsius pathway.

Source: World Energy Transitions Outlook 2023 Volume 1, <https://irena.org>



Global energy transition investments amounted to more than 1.7 trillion U.S. dollars in 2023. In 2004, the global investments was only 33 billion U.S. dollars.



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EMTP SESSION 06 COMPLEX ELECTRICITY MARKETS

A TOTAL OF

180

**PARTICIPANTS ATTENDED THE
SIXTH SESSION FROM ALL
OVER THE WORLD.**



**THE AVERAGE SCORE OF THE
POST ASSESSMENT QUIZ.**

THE SPEAKER LINEUP



Omer H. Malik

Board Member - APEx
Head MOD - CPPA
(PAKISTAN)



Tim Horgner

Senior Director
PJM Interconnection
(USA)



Dhruv Dhiman

Vice President
Indian Energy
Exchange (IEX)
(INDIA)



Jorge Bircher

Partner
MRC Consultants
(SPAIN)

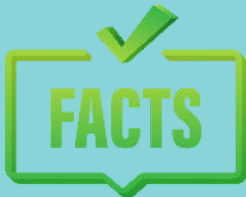


Ricardo C. Perez

Partner
PSR - Energy Consulting
and Analytics
(BRAZIL)

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6 SESSIONS COMPLETED



- **800+** PARTICIPANTS IN TOTAL
- **24 HOURS** OF TRAINING DELIVERED
- **150+ HOURS** OF WATCHTIME ON YOUTUBE
- **1500+** VIEWS ON YOUTUBE AND GROWING



17 NATIONS - ONE PROGRAM

EMTP is a unique online training program, bringing together electricity markets experts from 17 nations to share knowledge, foster collaboration, and elevate skills in our increasingly interconnected world. By uniting 17 nations in a shared learning experience, participants gain diverse insights and approaches, enhancing innovation and problem-solving skills. This synergy not only strengthens individual competencies but also builds a robust, international community equipped to tackle complex challenges in a rapidly evolving global landscape.



The EMTP session 6 provided invaluable insights into complex electricity markets, enriched by the diverse perspectives of international speakers. Request to continue calling international speakers in next sessions as well. ”

Participant Feedback



YOUR VOICE MATTERS!

We value your feedback and suggestions. If you have any ideas on how we can improve our training program, enhance participant experience, or create a better learning environment, please share your thoughts with us on the email below.

ohmalik@cpga.gov.pk
Program Director – EMTP



APEX 2024 COFERENCE

SEPTEMBER 24-26, 2024
SANTIAGO, CHILE



COORDINADOR ELÉCTRICO NACIONAL

is pleased to be hosting the 27th
APEX Conference in Chile

APEX (The Association of Power Exchanges) is a highly regarded membership organization for Power Exchanges, with over 50 member organizations worldwide. The APEX 2024 Conference will be a unique three-day opportunity for senior APEX member representatives to share information and ideas, and network and plan for the future of electricity markets with their industry peers from around the world.

In addition to insightful and informative presentations, the conference will be highlighted by special events in a one of the countries that are advancing in his transition energy.

The APEX 2024 conference is anticipated to attract approximately 100 delegates, creating a tremendous opportunity for our Sponsors and Partners to address - and to meet with senior APEX member representatives and decision-makers.

This event is open to APEX members, nonmembers and our conference partners.

Please take a moment to review the information in this sponsorship package and consider partnering with us to make APEX 2024 another great success.

To discuss any of the sponsorship opportunities, please contact:

Yours sincerely



STU BRESLER
CHAIRMAN OF APEX

Secure your spot at the forefront of innovation!
Don't miss out – register now for
APEX Annual Conference 2024



To have your member company featured “In the
Spotlight,” please send an email to:
Katrina.Zarczynski-Magee@pjm.com



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