

# APEX 2023 Conference

## Panel #4

### Price Formation and Market Design

#### Panelists

**Keith Collins**, VP Market Monitoring Unit, Southwest Power Pool

**Kenan Ogelman**, VP Commercial Operations, ERCOT

**Lina Masiuliene**, Director Services, Nord Pool

**Mark Herring**, Markets & Business Manager, Transpower System Operator

#### Moderator

**Lanny Nickell**, EVP & COO, SPP

# Keith Collins

## Vice President

### Market Monitoring Unit

### Southwest Power Pool

Keith Collins is the Vice President of the independent Market Monitoring Unit at the Southwest Power Pool. His role is to direct the department in addressing market power, reviewing market performance, identifying and referring behavioral issues, and assisting in the improvement of market design.

Prior to joining the Southwest Power Pool in 2017, Mr. Collins was the Manager of the Monitoring and Reporting group within California ISO's Department of Market Monitoring, worked for the Office of Enforcement at the Federal Energy Regulatory Commission, and began his career consulting for the New York Power Pool during its transition to the New York ISO. Mr. Collins has a Bachelor's degree in Economics and Government from Bowdoin College and a Master of Public Policy degree from George Mason University. He also has an Advanced Management Program certificate from MIT's Sloan School of Management.



# WHO IS SPP?

Operates day-ahead, real-time, ancillary service, and congestion hedging markets

Does not operate a capacity market, but does have a capacity construct

Employs a limited form of scarcity pricing

Load peak at 56.2 GW

Wind capacity 33% of total (over 32 GW)

All time wind peak percentage: 88.5%

Wind average generation (2022): 37.5%

Solar capacity only 0.2%

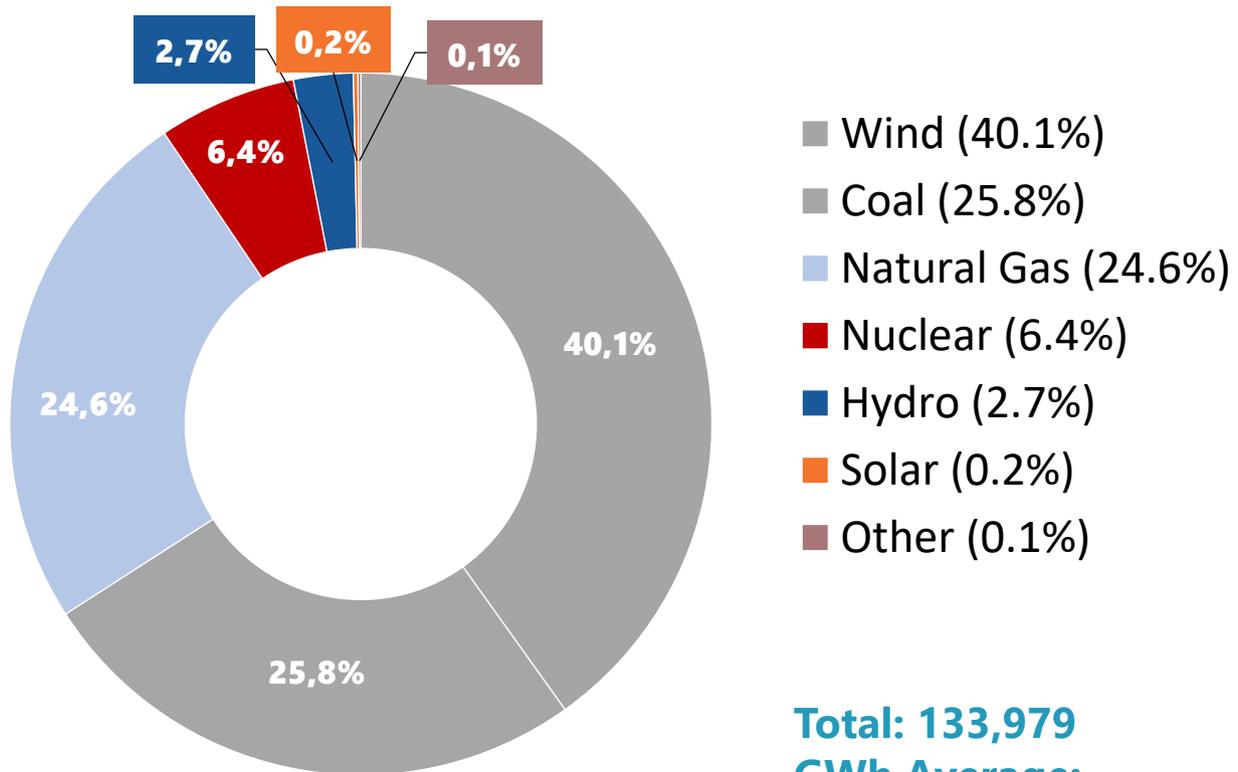
Solar in queue 43% (45 GW)

Frequency of negative prices in 2022:

7% day-ahead, 15% real-time



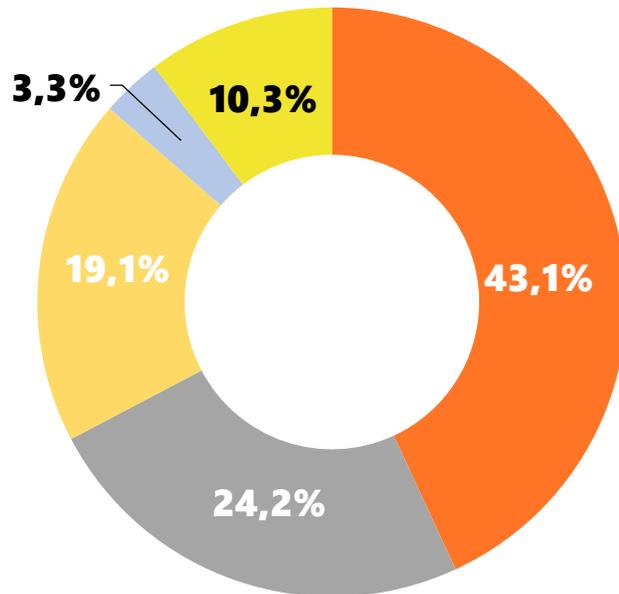
# SPP Generation Energy Mix January through June (2023)



**Total: 133,979  
GWh Average:  
30.8 GWh**

# SPP Generator Interconnection Requests under Study (July 2023)

- Solar (44,798 MW)
- Wind (25,216 MW)
- Storage (19,852 MW)
- Gas/Thermal (3,461 MW)



**Total: 104 GW**

# Kenan Ögelman

Vice President, Commercial Operations  
ERCOT

Kenan Ögelman oversees Market Operations, Settlement and Retail Operations, and Market Design and Development.

Prior to joining ERCOT in October 2015, Mr. Ögelman served as the Director of Energy Market Policy for CPS Energy. In that role, he was responsible for managing CPS Energy's activities at ERCOT and the Public Utility Commission of Texas (PUC) and developing strategic policy. Previously, Mr. Ögelman worked as a Senior Economist for the Texas Office of Public Utility Counsel, which represents residential electric consumers in Texas, from 1997 to 2007.

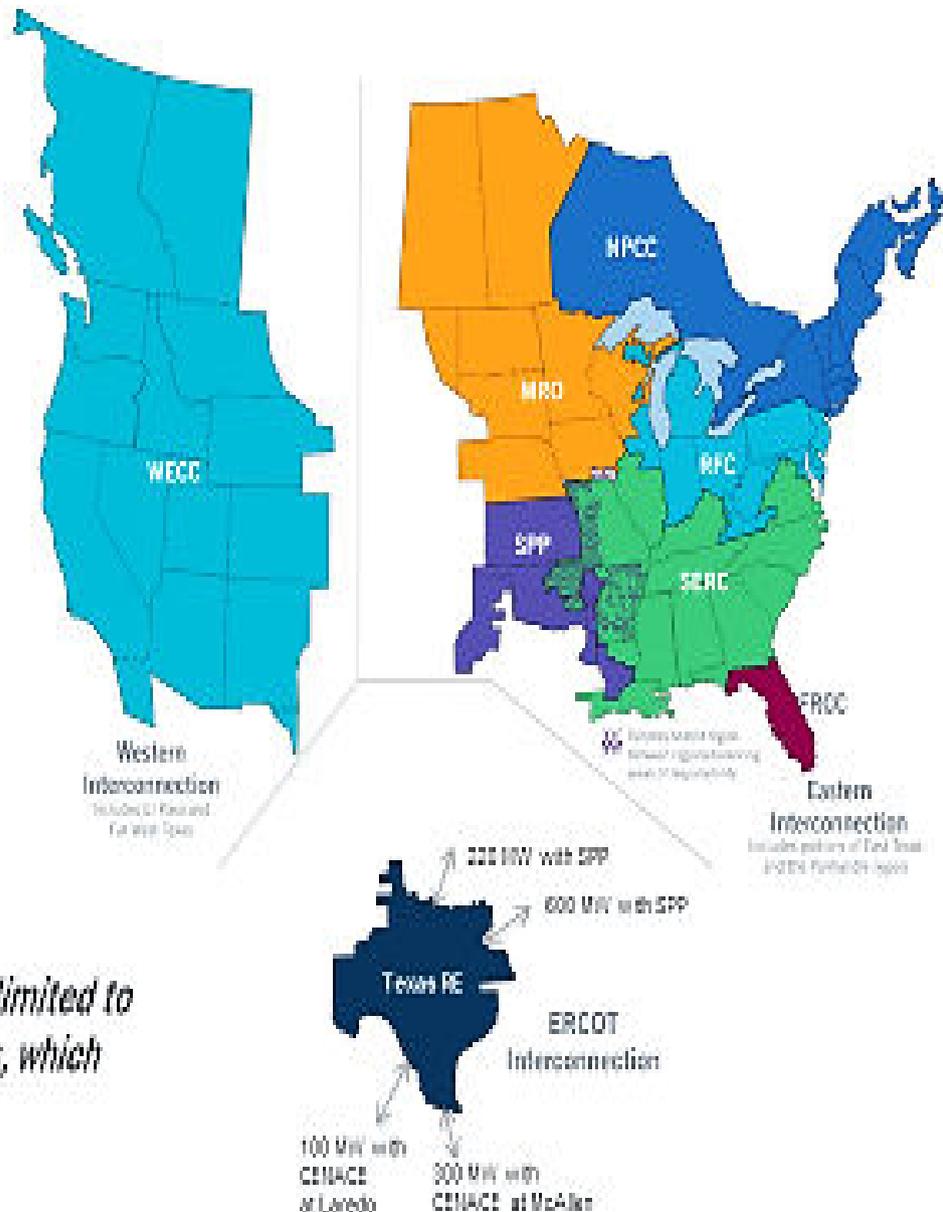
He graduated from Boston University in 1987 with a BA in international relations. Subsequently, he received an MA in economics from the University of Texas at Arlington in 1991 and an MA in Middle Eastern studies from the University of Texas at Austin in 1995.



# The ERCOT Region

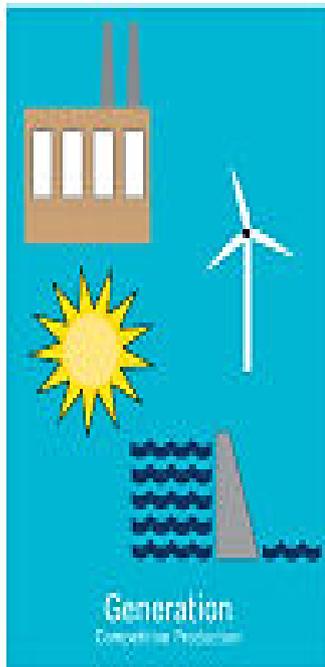
The interconnected electrical system serving most of Texas, with limited external connections

- 90% of Texas electric load; 75% of Texas land
- 85,464 MW peak, August 10, 2023
- More than 52,700 miles of transmission lines
- 1,100+ generation units

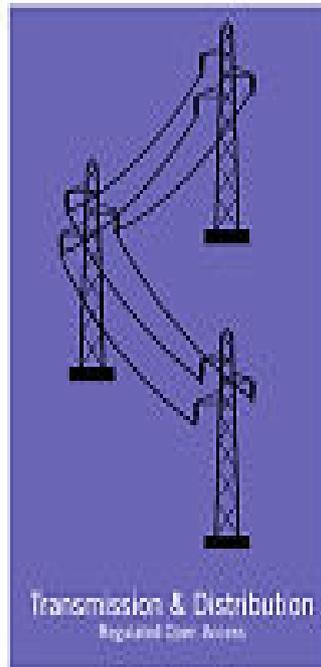


*ERCOT connections to other grids are limited to ~1,250 MW of direct current (DC) ties, which allow control overflow of electricity*

# Texas Competitive Model



- Fully unbundled Wholesale market
- ERCOT operates a single Balancing Area
- 5-Minute Security-Constrained Economic Dispatch (through Locational Marginal Prices (LMPs)) with Day-Ahead and Ancillary Services markets
- Generators are paid 15-minute average LMPs or Settlement Point Prices (SPPs) at a node
- Load-serving entities pay averaged load-zone prices
- Energy only market
- Voluntary Day-Ahead Market



- Transmission and distribution lines and related facilities are owned and operated by regulated utilities
  - Utilities are regulated by PUC
- All transmission costs are rolled into a single postage stamp rate paid by load
- No transmission service market



- Full Retail competition for all customer types
  - Except in municipal and cooperative utility areas
- Customers choose retail provider and terms of contract
- Smart meters (which measure time of consumption) installed on all customer types - about 7 million meters

# Lina Masiuliene

Director, Services  
Nord Pool

Lina Masiuliene is a senior business leader with 15 years' experience in the energy sector, former CEO and Board member of the Lithuanian Power Exchange. Ms. Masiulienė was elected to the APEx Board of Directors in December 2011. She was also elected to Supervisory board of JSC "Market Operator" in Ukraine in year 2022.

Lina has 11 years' experience at Nord Pool, Europe's leading power exchange. She currently holds responsibility for delivering IT and related services to several national power markets, transmission system operators as well as heading-up the company's dedicated consultancy arm, Nord Pool Consulting.

Ms. Masiuliene has a Master's degree in Finance and Banking from Vilnius University. In addition, she studied business management and administration at Concordia University in Canada.

She completed the Baltic Institute of Corporate Governance's education for professional Board members and holds a second Master's degree in High Performance Leadership from BCS International, UK.



# 30

**Years  
Powering  
the Market**

2023 marks 30 years since Nord Pool was founded. 30 years of powering the market.

We started solely Norway-based and called Statnett Marked.

In 1996 we pioneered cross-border power trading with a Norwegian-Swedish power exchange, establishing the Nord Pool name.

Since that world first, we have continued to shape Europe's coupled power market, providing a trusted and transparent marketplace.

We are grateful to all customers, partners and other stakeholders for their support for Nord Pool's work over the past 30 years.

**NORD  
POOL**

# At a glance

- Nord Pool offers day-ahead and intraday trading, clearing and settlement services
- More than 350 customers from 20 countries trade on Nord Pool's markets
- Operates in 16 European countries
- 4 Serviced<sup>1</sup> markets
- ~150 employees, 35 nationalities, offices in Oslo, Stockholm, Helsinki, Tallinn, and London



1039 TWh  
day-ahead

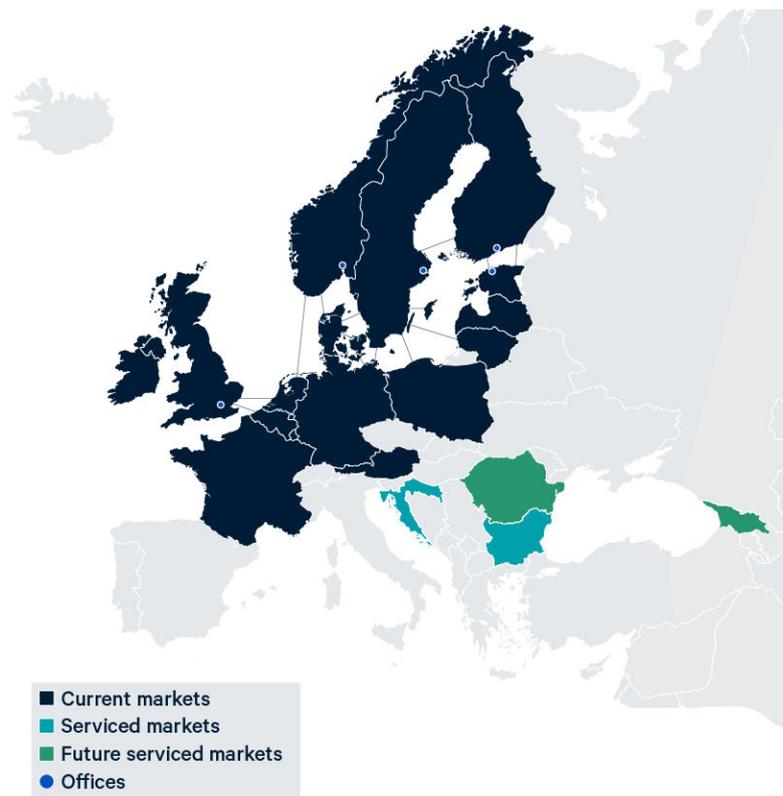


38 TWh  
intraday



350  
customers

**NORD  
POOL**



# Mark Herring

Group Manager, Market and Business  
Transpower System Operator

Mark Herring is the Group Manager for Market & Business at Transpower system operator in New Zealand. Transpower is the transmission system owner and operator in New Zealand, and operates the wholesale electricity market. His work encompasses future electricity market design, market operations, and all regulatory aspects of the system operator role.

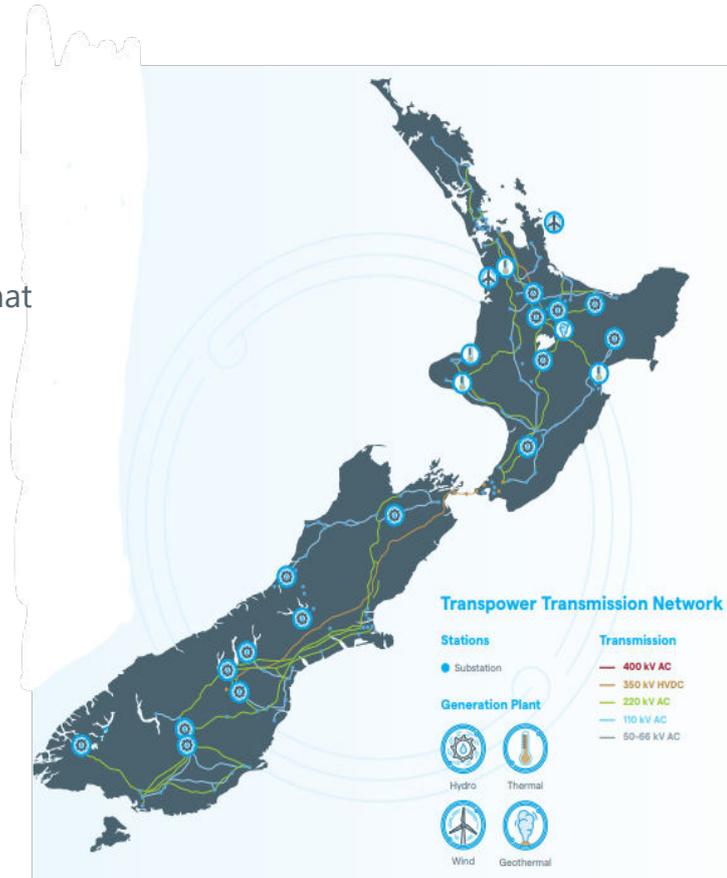
Prior to joining Transpower in 2021, Mark held a number of roles at National Grid Electricity System Operator in the United Kingdom, including Head of Strategy, Head of Code Change, and acting Head of Innovation. He sits on the steering committee of FlexForum, an industry initiative aiming to accelerate the implementation of flexibility services in New Zealand's electricity market, and served as a work stream lead on the Open Networks project for two years in the United Kingdom.

Mark holds degrees in Commerce and Science from the University of Auckland, and an MBA from Saïd Business school at the University of Oxford.



## Who we are

- Owner and operator of New Zealand's national electricity transmission system
- We provide the infrastructure and market system that connects electricity generators to major electricity users and the distribution network
- Over \$5 billion in assets positioned across some 30,000 properties
- 170 substations, 25,000 transmission towers and more than 11,000 kilometres of lines
- Operate the electricity market system in real time
- Offices in Wellington, Auckland, Hamilton and Christchurch
- Around 900 staff



# New Zealand Power System

- No interconnections to neighbouring countries
  - Manage energy and reserves
- Energy-constrained power system
  - Monitor security of supply
- HVDC link connecting the islands
  - Energy and reserves can be shared
- Long, skinny network
  - Transmission constraints and losses
- Tight coupling between the market and the physical system
  - Energy-only market across 285 market nodes
  - Derivatives for futures and locational hedging
- Peak demand ~7.2GW

