



HEALTHTRUST<sup>®</sup>  
UNIVERSITY CONFERENCE

---

*July 26, 2022*

# A Comprehensive Guide to Managing, Procuring & Monitoring Energy

*Bill Miller, Kyle Tafuri, Zoë Beck*

## | Disclosures

- The presenters have no real or perceived conflicts of interest related to this presentation

Note: This program may contain the mention of suppliers, brands, products, services or drugs presented in a case study or comparative format using evidence-based research. Such examples are intended for educational and informational purposes and should not be perceived as an endorsement of any particular supplier, brand, product, service or drug.

## Learning Objectives

*At the end of this session, participants should be able to:*

1. Describe the current and future energy regulatory space
2. Recognize possible solutions for energy management/procurement
3. Identify key energy decision-makers within a health system

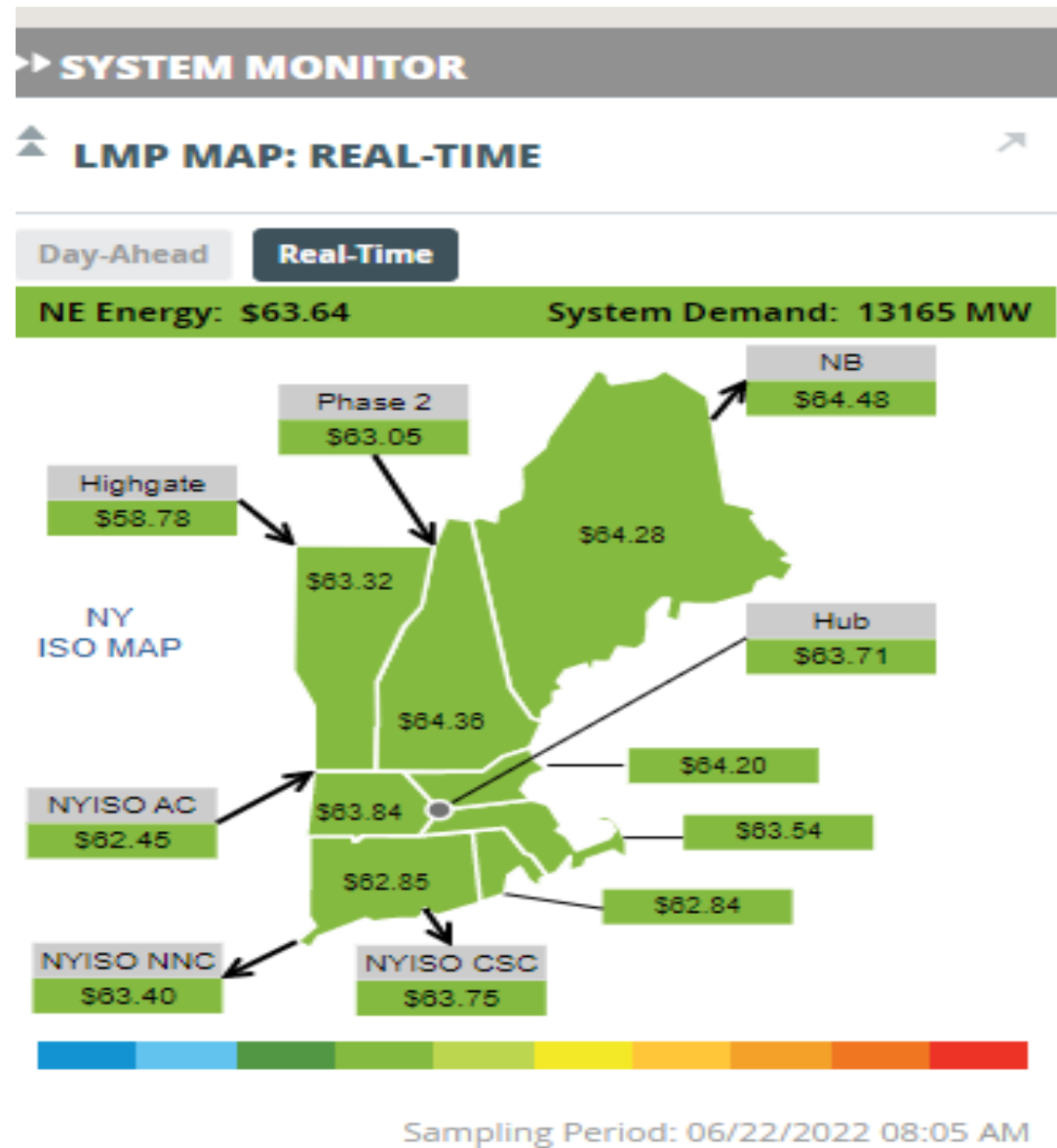


## HealthTrust Energy Overview

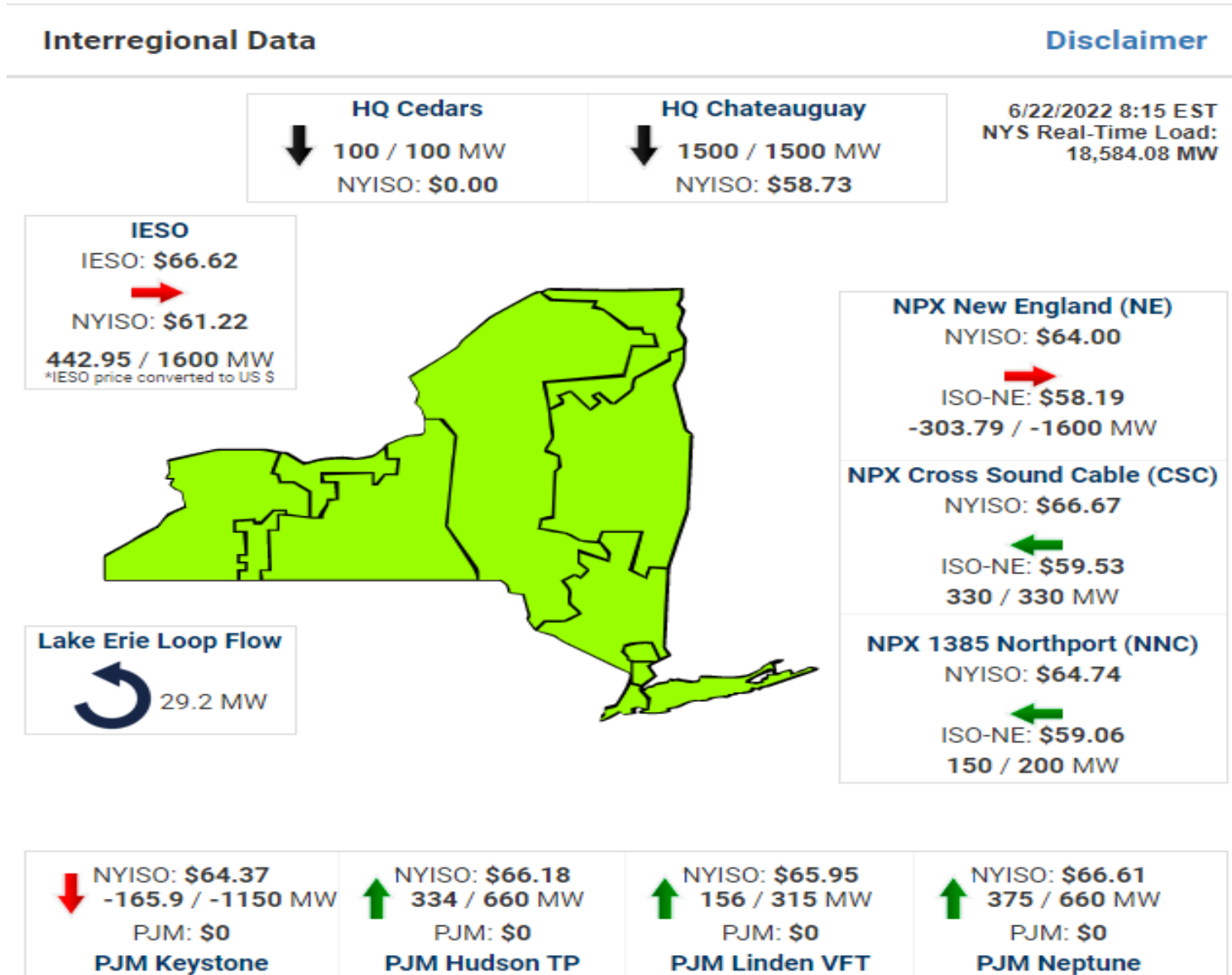
*Bill Miller, Director*

*Strategic Account Integration*

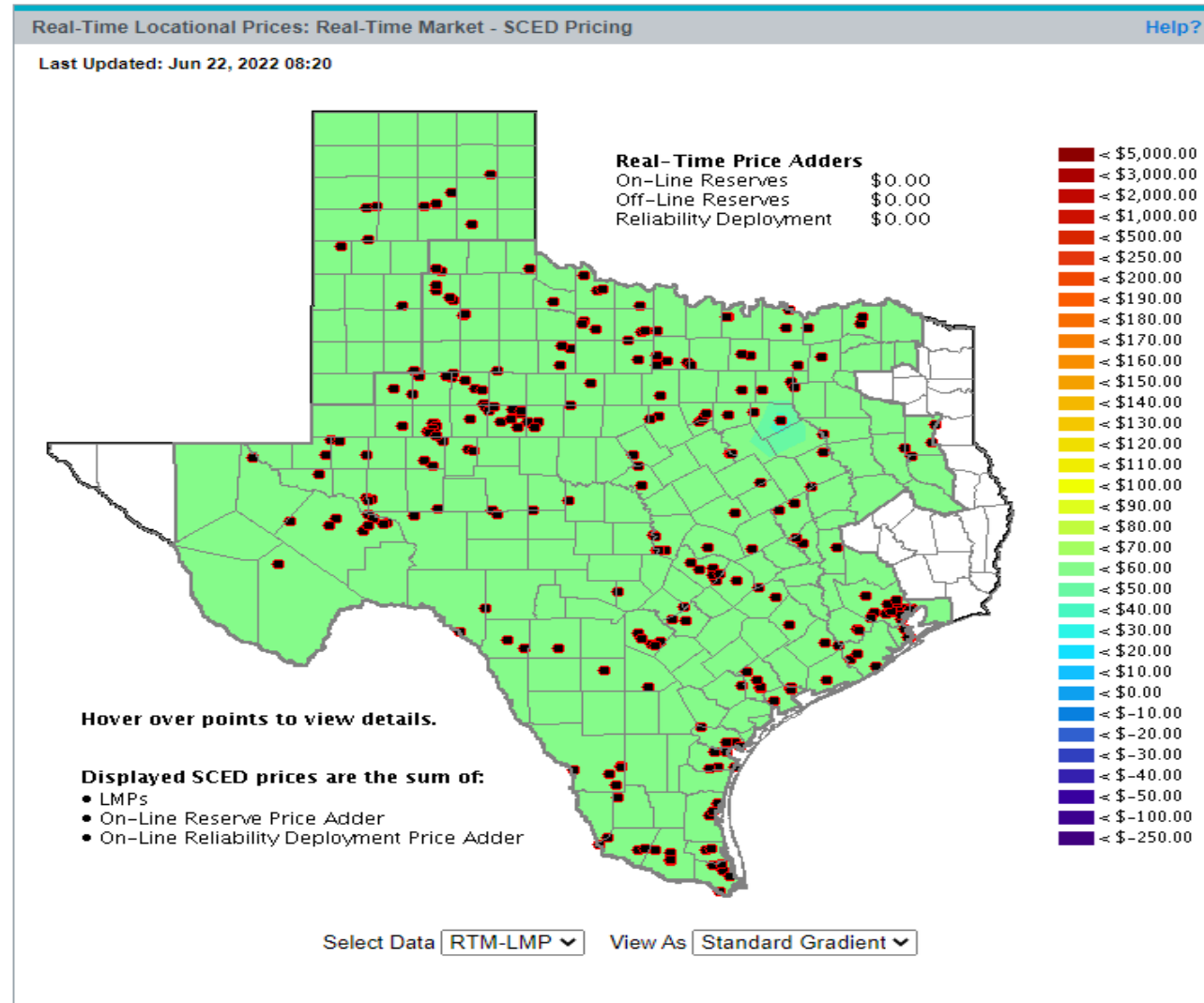
# New England ISO (NEISO) Real-Time Pricing



# New York ISO (NYISO) Real Time Pricing

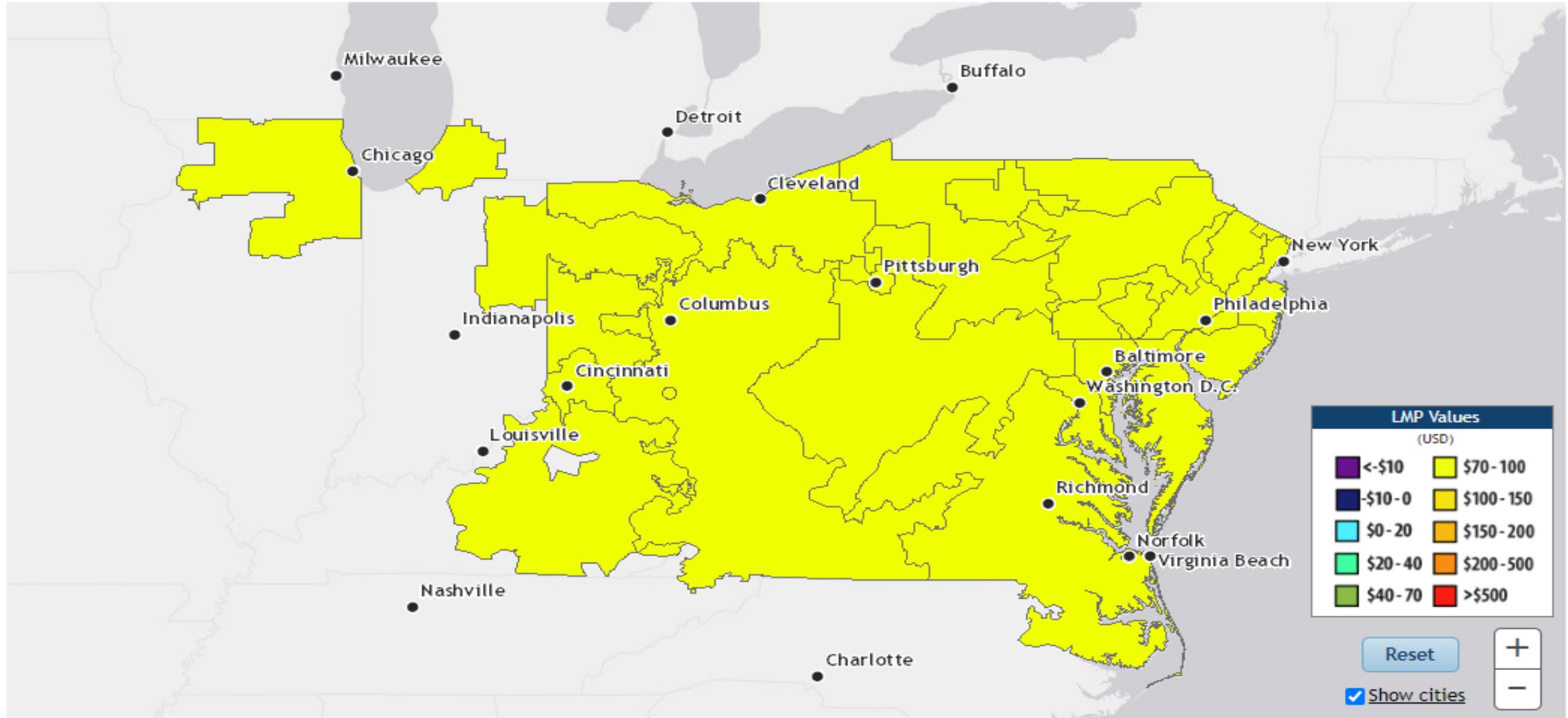


# Electric Reliability Council of Texas (ERCOT)



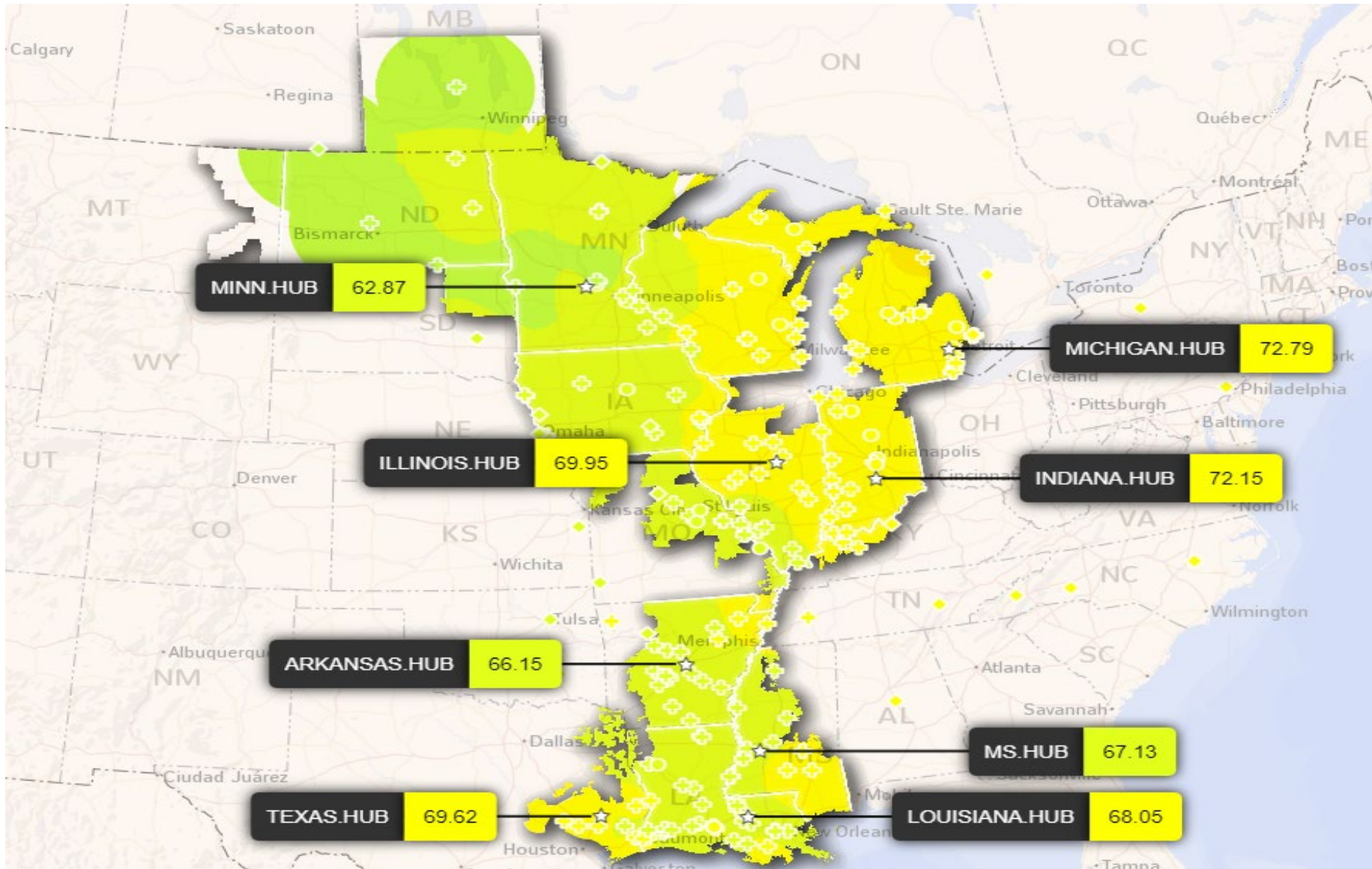
# Pennsylvania Jersey Maryland ISO(PJM)

## Locational Marginal Pricing Map





# Midcontinent Independent System Operator (MISO)

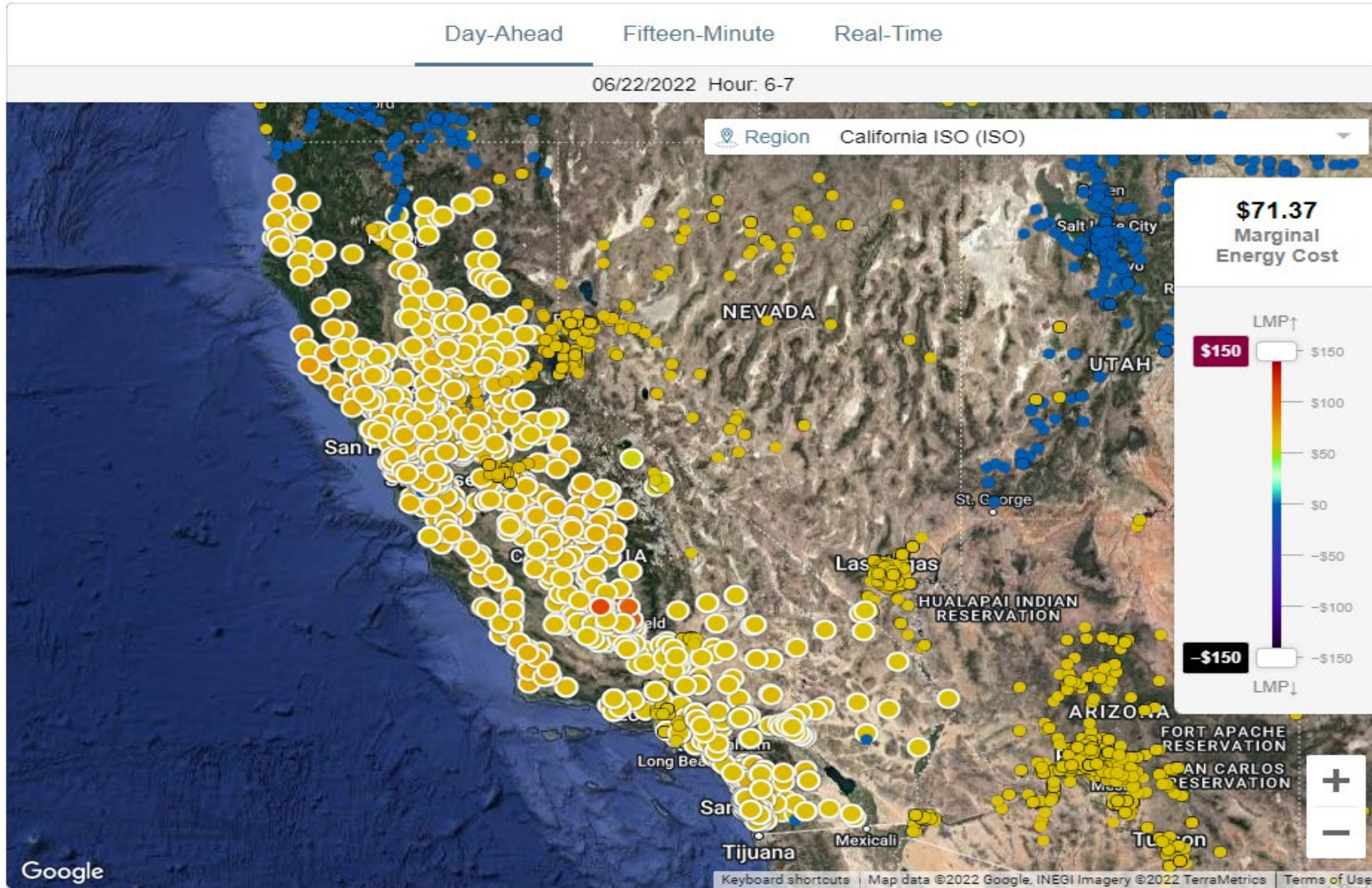


Source: [www.miso.com](http://www.miso.com)

# California Independent System Operator(CAISO)

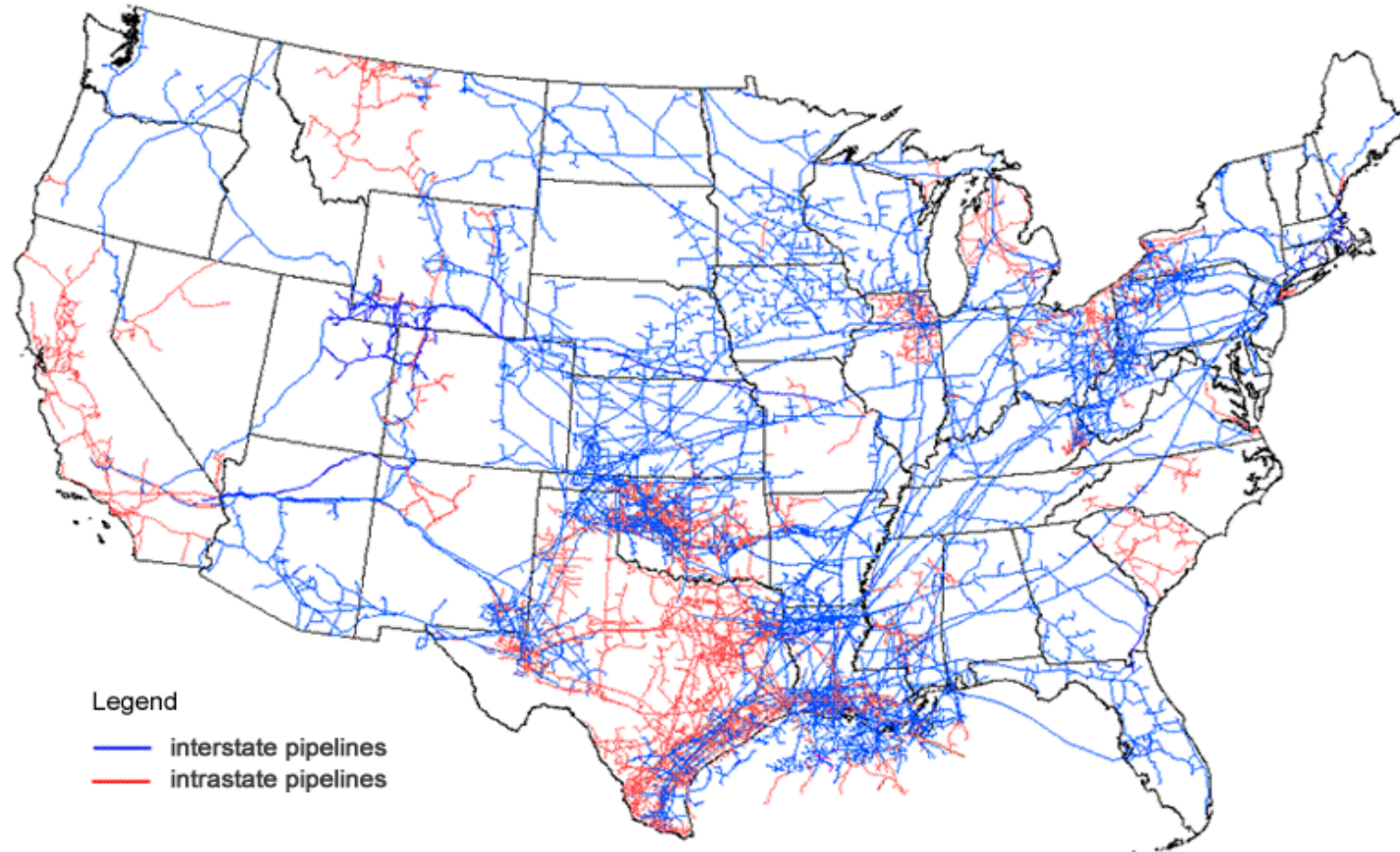
Price map AS OF 06:25

About price map



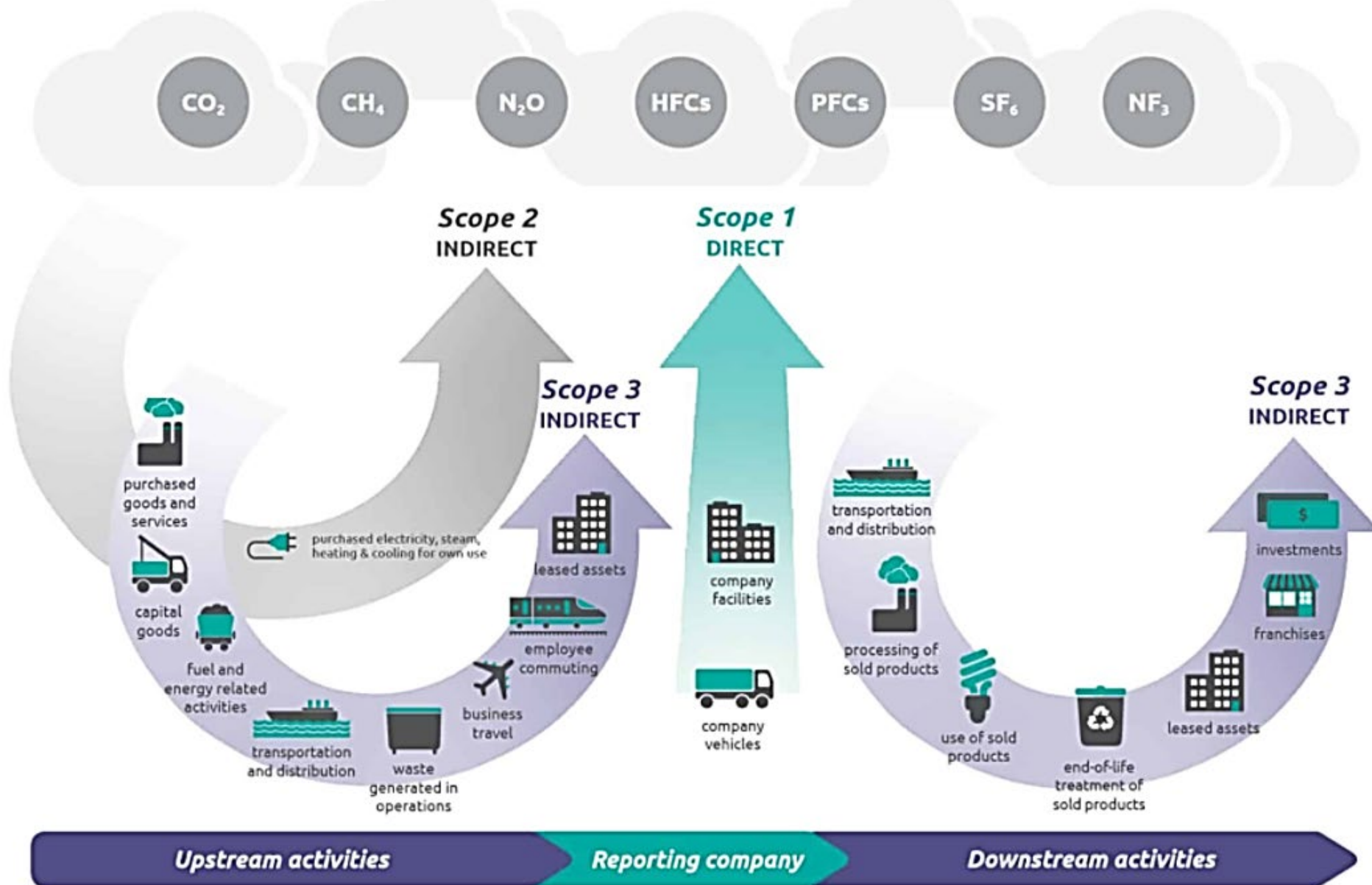
# Natural Gas Pipelines

Map of U.S. interstate and intrastate natural gas pipelines



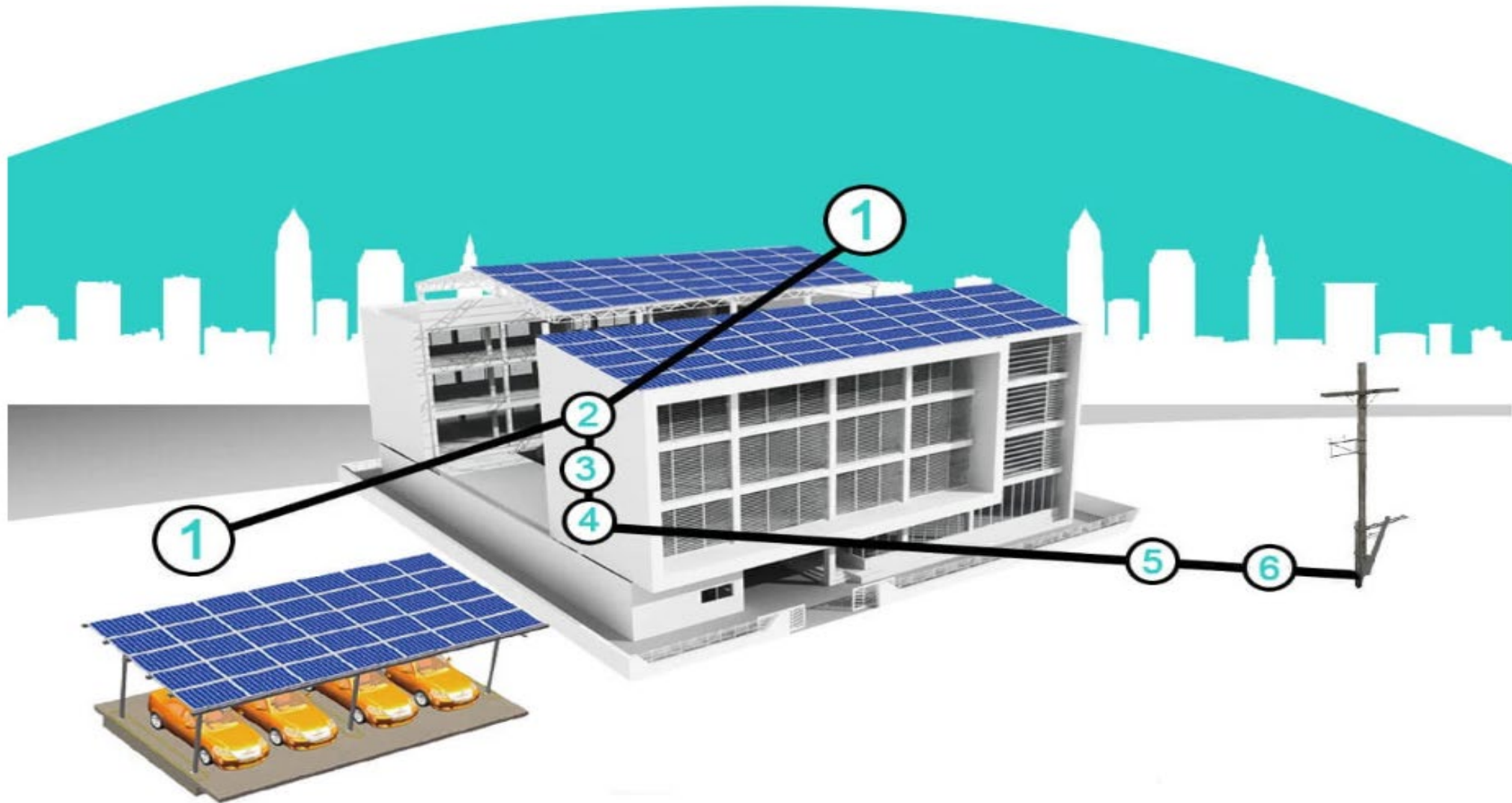
Source: U.S. Energy Information Administration, *About U.S. Natural Gas Pipelines*

# Scope 1, 2 & 3 – Greenhouse Gas (GHG) Emissions



Source: U.S. Environmental Protection Agency

# On-Site Solar/Community Solar

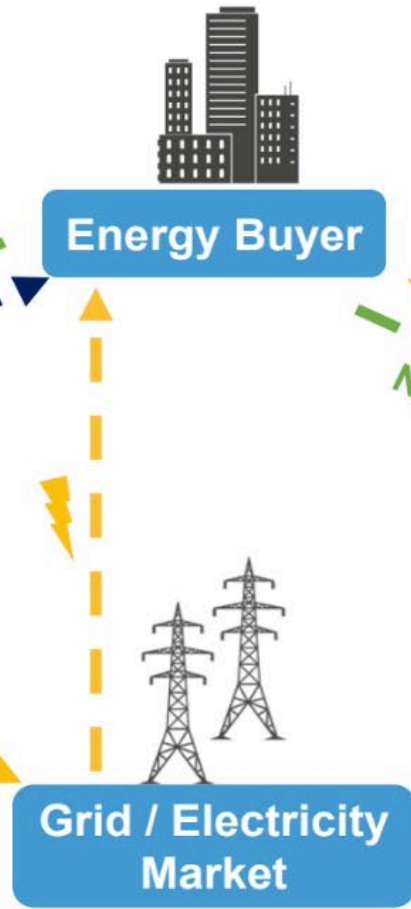


# Purchased Power Agreement

1. The energy buyer signs a PPA with a project developer for a fixed price per MWh. This allows the project to be financed and built.



2. The developer delivers the electricity from the generator to a “delivery point” close to the buyer’s operations. The buyer takes physical delivery of the energy and the RECs.

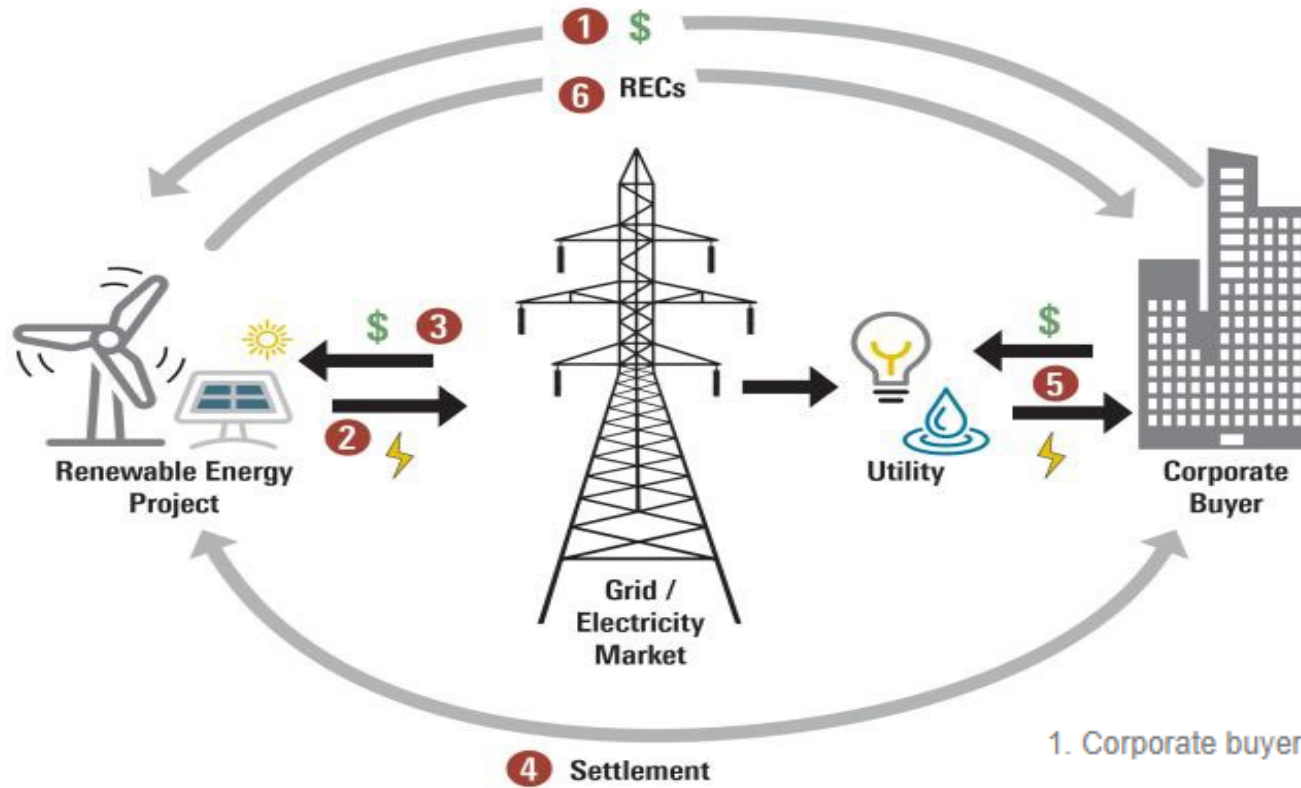


3. The buyer purchases a lower volume of electricity from their utility in the usual manner.



4. The utility provides grid mix electricity without RECs.

# Virtual Purchased Power Agreement



1. Corporate buyer and project company enter into vPPA for a fixed price.
2. Electricity produced by project delivered into grid.
3. Project company receives wholesale market price.
4. Corporate buyer and project company settle the difference between fixed price and wholesale market price.
5. Corporate buyer maintains its regular relationship with utility or other retail provider.
6. Corporate buyer receives RECs and either sells or retires them.

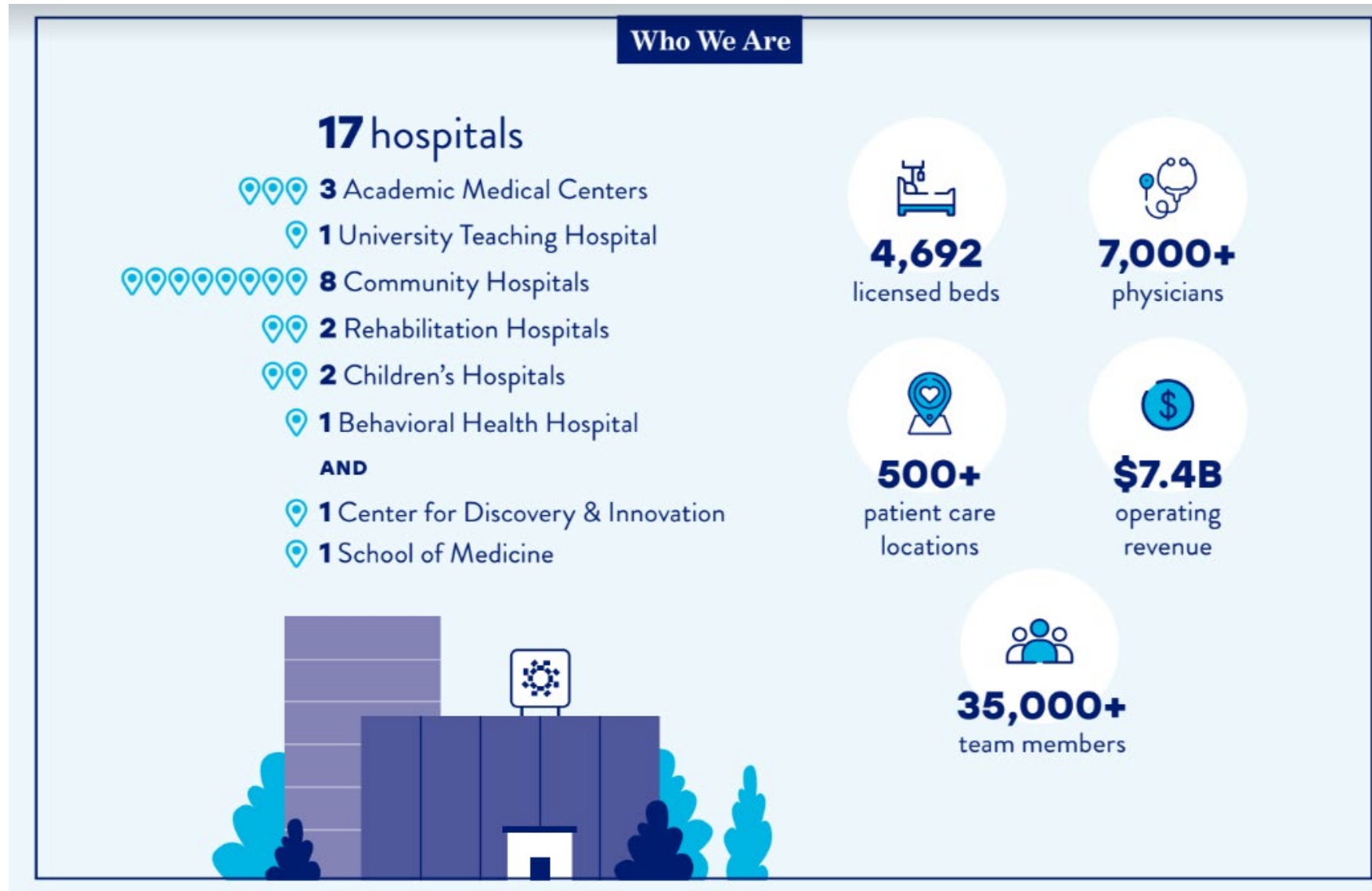


## Hackensack Meridian Health Energy Overview

*Kyle Tafuri, Director of Sustainability*

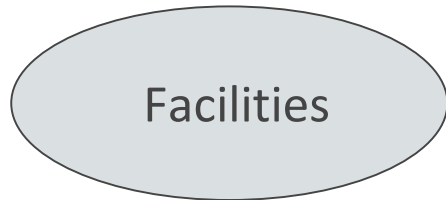


# Hackensack Meridian Health (HMH)



# HMH Energy Overview

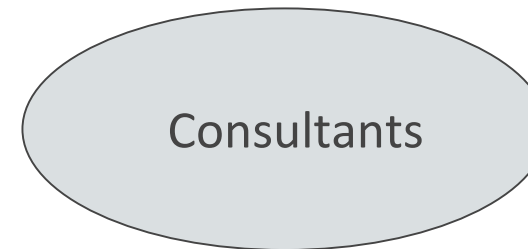
- Accounts: 731
- Energy Spend: \$35 Million
- Energy Efficiency Investment Totals: \$105 Million
- Our Structure:



- Senior VP Network Facilities
- VP Southern Region Facilities
- Energy Manager



- Chief of Staff
- Director of Sustainability



- HealthTrust
  - Bill Miller
- Consultants
  - Gabel Associates
  - Gotham360

# Factors Driving HMH Commitment

- RFI Ways and Means Committee
- American Hospital Association
- CMS: Annual Inpatient
- The Joint Commission
- Competitors' Commitments
- Utility Programs
- In line with our mission!

RICHARD E. NEAL  
MASSACHUSETTS,  
CHAIR

LLOYD DOGGETT, TEXAS  
MIKE THOMPSON, CALIFORNIA  
JOHN B. LARSON, CONNECTICUT  
EARL BLUMENAUER, OREGON  
RON KIND, WISCONSIN  
BILL PASCRELL JR., NEW JERSEY  
DANNY K. DAVIS, ILLINOIS  
LINDA T. SANCHEZ, CALIFORNIA  
BRIAN HIGGINS, NEW YORK  
TERRI A. SEWELL, ALABAMA  
SUZAN DELBENE, WASHINGTON  
JUDY CHU, CALIFORNIA  
GWEN MOORE, WISCONSIN  
DAN KILDEE, MICHIGAN  
BRENDAN BOYLE, PENNSYLVANIA  
DON BEYER, VIRGINIA  
DWIGHT EVANS, PENNSYLVANIA  
BRAD SCHNEIDER, ILLINOIS  
THOMAS R. SUOZZI, NEW YORK  
JIMMY PANETTA, CALIFORNIA  
STEPHANIE MURPHY, FLORIDA  
JIMMY GOMEZ, CALIFORNIA  
STEVEN HORSFORD, NEVADA  
STACEY PLASKETT, VIRGIN ISLANDS

BRANDON CASEY,  
MAJORITY STAFF DIRECTOR

## Congress of the United States U.S. House of Representatives

COMMITTEE ON WAYS AND MEANS  
1102 LONGWORTH HOUSE OFFICE BUILDING  
(202) 225-3625

Washington, D.C 20515-0348  
<http://waysandmeans.house.gov>

KEVIN BRADY  
TEXAS,  
RANKING MEMBER

VERN BUCHANAN, FLORIDA  
ADRIAN SMITH, NEBRASKA  
TOM REED, NEW YORK  
MIKE KELLY, PENNSYLVANIA  
JASON SMITH, MISSOURI  
TOM RICE, SOUTH CAROLINA  
DAVID SCHWEIKERT, ARIZONA  
JACKIE WALORSKI, INDIANA  
DARIN LAHOOD, ILLINOIS  
BRAD R. WENSTRUP, OHIO  
JODEY ARRINGTON, TEXAS  
DREW FERGUSON, GEORGIA  
RON ESTES, KANSAS  
LLOYD SMUCKER, PENNSYLVANIA  
KEVIN HERN, OKLAHOMA  
CAROL MILLER, WEST VIRGINIA  
GREG MURPHY, NORTH CAROLINA

GARY ANDRES,  
MINORITY STAFF DIRECTOR

March 24, 2022

Robert C. Garrett, FACHE  
CEO  
Hackensack Meridian Health  
343 Thornall Street  
Edison, NJ 08837

Re: Request for Information Related to the Climate Crisis and Health Industry

# HMH Energy Investments 2021 – How did we get it done?



## Engineered Solutions

Ocean Medical Center (OMC)

Date: 10/13/2021

Item	Measure Description	Measure Cost (\$)	Estimated 1st Year Savings (\$)
1	ECM-1,2,3 Lighting & Controls	2,220,200.00	307,756
2	ECM-4 Chiller Upgrade	3,759,000.00	167,178
3	ECM-5 Heating Plant Upgrade	226,000.00	23,313
4	ECM-6 AHU Upgrade	2,130,547.00	109,368
5	ECM-8 BMS Upgrade	1,098,000.00	61,381
6	ECM-9 Cogen 600 kW w/- Heat	4,778,345.00	366,145
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
<b>Total Measure Cost</b>		<b>14,212,092.00</b>	<b>1,035,141</b>

Project Summary	
Customer Payback from Savings (yrs)	5.8
Total Project Cost	\$15,081,998.38
NJNG Share of Project Cost	\$9,049,199.03
Customer Share of Project Cost	\$6,032,799.35
Annual Loan Repayment	\$1,206,559.87
Estimated First Year Energy Savings	\$1,035,141.37
First Year Net Cash Flow	<b>\$171,418.50</b>
Monthly Payment	\$100,546.66
Stage 1 - Initial Payment	\$4,263,627.60

# Ribbon Cutting Ceremony – Ocean University Medical Center



# Biggest Lesson Learned: Solar

Estimated Array Size:

Area Canopy – ● – 575 kW DC

Canopy – ● – 250 kW DC

Ground – No Opportunity

Roof – ● – 60 kW DC

Possible Tree Removal  
and Trimming\* – ●

\*Plus tree removal in the  
Canopy and Area Canopy  
locations

PVWatts – 1,048,684 kWh



## | Challenges

- Lack of Understanding of Clean Energy/Energy Markets
  - Solar/Innovative Technologies
  - Capacity/Transmission Fees
- Too much going on...
- Too beat down...
- Finding people wanting to work in hospital facilities
- Constantly evolving real estate/facility
- Internal processes

## Advocacy

- BPU – Solar Successor Program
  - Moved from \$225 SREC to \$152 TREC and now \$100.
- BPU – Energy Efficiency
  - Moving from State to Utilities\*\*\*\*
- CERES
  - Business Coalition
  - Transportation
  - Clean Energy
  - Climate Smart Policies





## What's Next?

- Finding and Understanding Incentives
- Electrifying Vehicle Fleet
- Advocacy – Renewable and Energy Efficiency
- Better Data
  - Submetering
  - Better use of Capturis
  - Scope 1, 2, 3 emissions

## Learning Objectives

*At the end of this session, participants should be able to:*

1. Describe the current and future energy regulatory space
2. Recognize possible solutions for energy management/procurement
3. Identify key energy decision-makers within a health system

## References

1. New England Independent System Operator (ISO-NE). Real-time maps and charts. <https://www.iso-ne.com/isoexpress/>. Accessed July 17, 2022.
2. New York Independent System Operator (NYISO). Real-time dashboard. <https://www.nyiso.com/real-time-dashboard>. Accessed July 17, 2022.
3. Electric Reliability Council of Texas (ERCOT). Real-time locational prices. <https://www.ercot.com/content/cdr/contours/rtmLmp.html>. Accessed July 17, 2022.
4. Midcontinent Independent System Operator (MISO). Markets displays. <https://www.misoenergy.org/markets-and-operations/real-time--market-data/markets-displays/>. Accessed July 17, 2022.
5. California Independent System Operator (CAISO). Price map. <http://www.caiso.com/TodaysOutlook/Pages/prices.html>. Accessed July 17, 2022.
6. U.S. Energy Information Administration. Natural gas explained: Natural gas pipelines. <https://www.eia.gov/energyexplained/natural-gas/natural-gas-pipelines.php>. Accessed July 17, 2022.
7. United States Environmental Protection Agency. Sources of greenhouse gas emissions. <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>. Accessed July 17, 2022.
8. Mitsui & Co. Business innovation – At the forefront of the energy transition: Bringing solar to the local level. <https://www.mitsui.com/jp/en/innovation/business/forefront/index.html>. Accessed July 17, 2022.
9. American Cities Climate Challenge. Procurement guidance: Virtual Purchased Power Agreement (PPA). <https://cityrenewables.org/vppa/>. Accessed July 17, 2022.
10. Indiana Distributed Energy Alliance (IndianaDG). Virtual contracts drive a boom in corporate renewables procurement. <http://www.indianadg.net/virtual-ppas-drive-a-boom-in-corporate-renewables-procurement-including-indiana/>. Accessed July 17, 2022.

---

# Thank you...

Bill Miller – [bill.miller@healthtrustpg.com](mailto:bill.miller@healthtrustpg.com)

Kyle Tafuri – [kyle.tafuri@hmhn.org](mailto:kyle.tafuri@hmhn.org)

Zoë Beck – [zoe.beck@hcahealthcare.com](mailto:zoe.beck@hcahealthcare.com)