ADVANCING LOCAL GOVERNMENT GOALS THROUGH WHOLESALE MARKET ENGAGEMENT

A Series of Case Studies

American Cities Climate Challenge

RENEWABLES ACCELERATOR

CONTENTS

AUTHOR AND ACKNOWLEDGEMENTS

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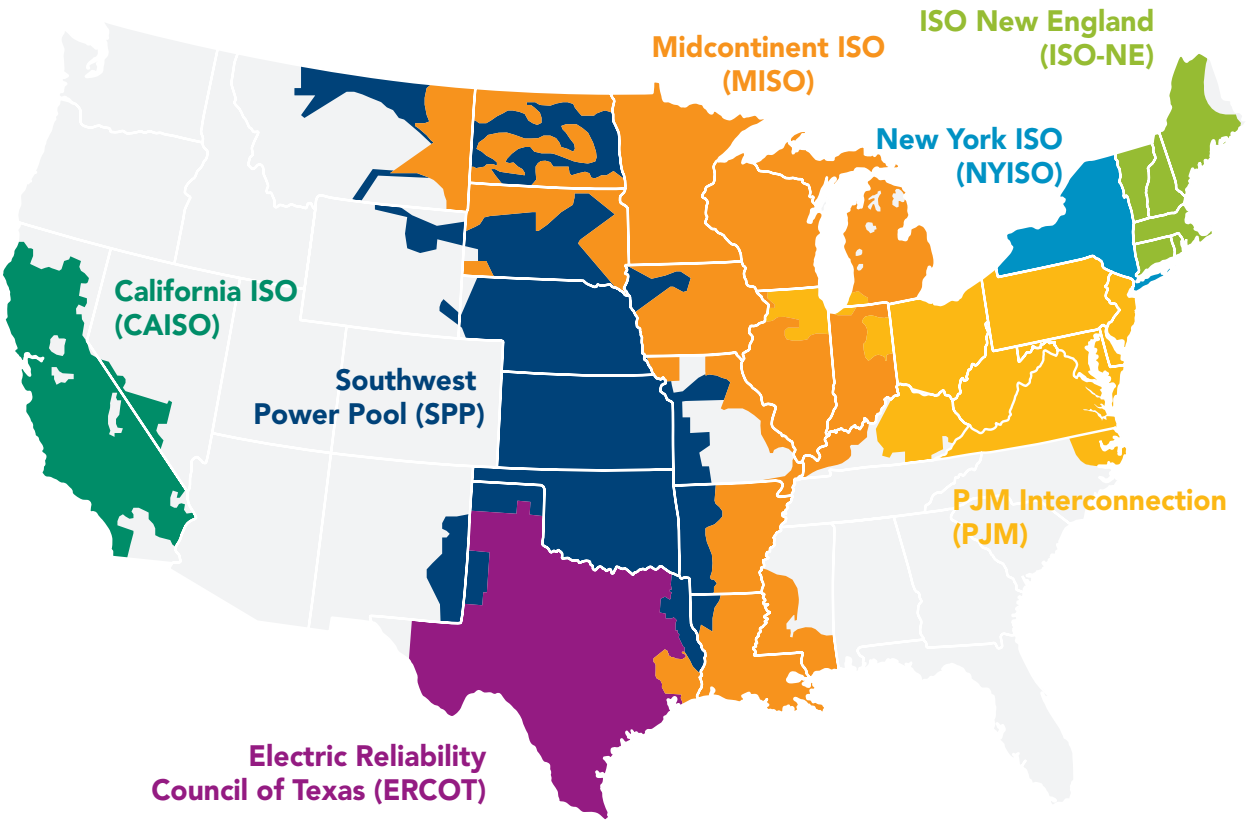
INTRODUCTION

Local governments are becoming increasingly aware of the important role of regional transmission organizations (RTOs) and independent system operators (ISOs) in decarbonization, the deployment of clean energy, and grid reliability (Exhibit 1).[1] These complicated entities have immense influence over the regional resource mix but are often poorly understood. They operate wholesale electricity markets to both facilitate the sale of energy across a region to meet electricity demand and maintain grid reliability. They also provide access to the transmission system and oversee the planning processes for its buildout. All of these RTO roles impact local governments' ability to meet goals related to clean energy, reliability, and more.

Due to the technical and time-intensive nature of stakeholder processes within RTOs, it is difficult and at times impossible for local governments to engage with their RTOs in the same capacity as other stakeholders, such as large industrial users, generation owners, advocacy groups, and utilities.[2] Many of these stakeholders have greater financial resources, time, and knowledge to support their engagement, and they also have priorities that often diverge from those of local governments. Nevertheless, some local governments have persisted and found ways to creatively engage.

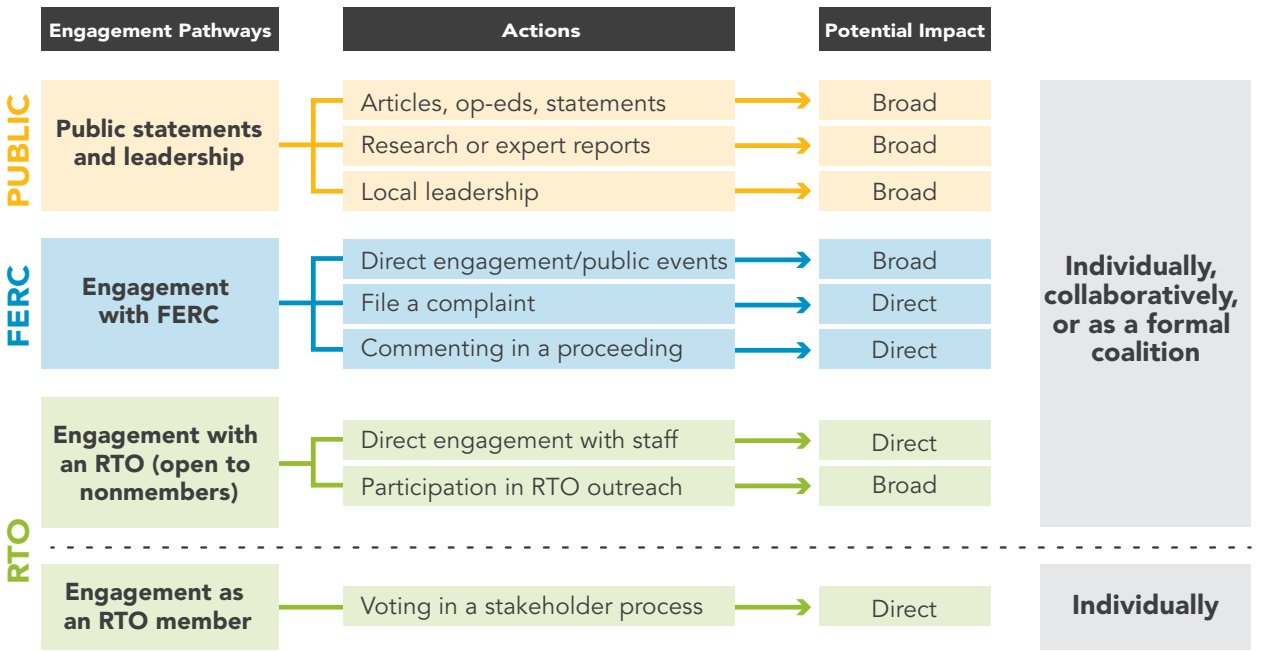
In this paper, we profile two municipalities and one coalition of local governments that have engaged with their wholesale electricity market operator: the town of Hanover, New Hampshire; the PJM Cities and Communities Coalition; and the city of Castle Hills, Texas. Each of these case studies represents unique perspective. These local governments have engaged with their RTO for various reasons and in various ways:

Exhibit 1: ISO/RTO Territories



Source: Sustainable FERC, redesigned by WRI

Exhibit 2: Engagement Pathways for Local Governments



Source: World Resources Institute, doi.org/10.46830/wriwp.19.00052

- The Town of Hanover, New Hampshire, purchases power directly from their RTO[3] to save money on their municipal electricity bills and has on occasion used a proxy to engage in stakeholder processes.[4]
- A handful of local governments in PJM Interconnection formed the PJM Cities and Communities Coalition (PJMCCC) to advance initiatives and rulemakings at PJM and the Federal Energy Regulatory Commission (FERC) that help decarbonize the electricity grid and advance local goals.
- The mayor of the city of Castle Hills, Texas, spurred the development of a Municipal Officers' Advisory Board to engage with the Electric Reliability Council of Texas (ERCOT) — the RTO serving most of Texas — based on a letter sent in the wake of Winter Storm Uri.[5]

This series of case studies is intended to show several examples of ways local governments can engage with their RTO. These examples are by no means exhaustive; depending on the RTO, regulatory environment, and local government capacity, other engagement opportunities likely exist. This document is intended to spur local governments to consider new ways to engage at the RTO level to advance their clean energy and related goals.

For additional information on relevant wholesale electricity market issues affecting local government goals and potential engagement pathways to address them, see World Resources Institute's previous working papers:

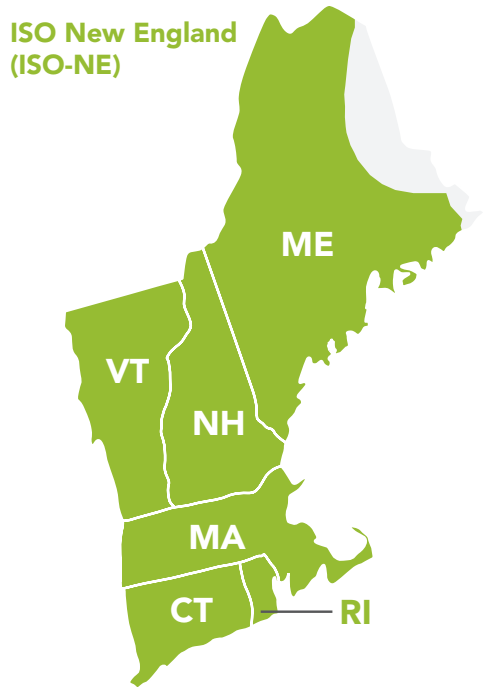
- *The Impacts of Wholesale Market Rules and Policies on Clean Energy Goals: A Primer for Local Governments*,[6] which focuses on the various barriers to and opportunities for clean energy deployment within RTOs. This paper also includes three appendices which focus on Independent System Operator New England (ISO-NE), the Midcontinent Independent System Operator (MISO), and ERCOT.
- *Local Government Voices in Wholesale Market Issues: Engagement Approaches for Decarbonization*,[7] which details the various engagement pathways local governments can pursue to advance their goals at the RTO level, at the FERC level, and in the public sphere.

HANOVER, NEW HAMPSHIRE: PURCHASING POWER THROUGH ISO-NE TO SAVE MONEY AND FUND CLIMATE ACTION

The town of Hanover has set an ambitious goal to transition to 100% renewable energy by 2030.[8] In 2014, Hanover became an EPA Green Power Partner Community, purchasing 10% of the community's consumption in renewable energy certificates (RECs). Shortly after, the town installed two ground-mounted, large-scale solar arrays and rooftop solar on several town buildings — which successfully provide about 97% of municipal electricity needs. The town is also advancing communitywide efforts through a solarize campaign and the weatherization of homes and continues to have ambitious plans to advance its clean energy portfolio, such as through the installation of heat pumps in municipal buildings.[9]

But to successfully transition the entire Hanover community to clean energy, more action was needed. That's when the town considered a new pathway for procuring energy: purchasing it directly through its wholesale electricity market, ISO-NE.

Exhibit 3: ISO-NE Territory



Source: Sustainable FERC, redesigned by WRI

BOX 1: INDEPENDENT SYSTEM OPERATOR NEW ENGLAND (ISO-NE)

Hanover is within the ISO-NE — the wholesale electricity market that covers Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, and Maine. More than 7 million retail electricity customers live within the boundaries of ISO-NE. In 2021, gas provided 53% of ISO-NE's generation, while nuclear provided 27% and non-hydro renewables provided 12%. ISO-NE states that its mission is to ensure "the constant availability of competitively-priced wholesale electricity." It aims to achieve this mission by operating an energy market, an ancillary services market, and a forward capacity market. While ISO-NE's mission statement is silent on climate change and clean energy, the town of Hanover and other local and state governments in the region have been explicit about their ambitious goals.[10]

A local energy advisory organization, which serves as a broker for other entities in the wholesale market, approached Hanover in 2014 to ask if the town had considered buying wholesale power and joining the New England Power Pool (NEPOOL) — the independent stakeholder advisory group for ISO-NE.[11] Subsequent to further discussion and research into the opportunity, Hanover made the decision to both procure wholesale power and join NEPOOL — a decision that has paid itself off many times over.

At the outset of the transition to procuring electricity from the wholesale market, Hanover spent around $15,000 on initial costs, including navigating legal processes, setting up a clearing account, and acquiring necessary data. Yet, in just the first year of purchasing power from the wholesale market, Hanover saved enough money to offset the initial costs. Hanover continues to save between $75,000 and $100,000 annually in energy costs through its wholesale procurement, cutting its electricity costs in half.[12] In turn, Hanover has invested these savings in clean energy to meet its ambitious goals.

While Hanover does participate in the wholesale market to procure electricity, it has not regularly engaged in stakeholder processes at NEPOOL. The town cites the extensive time commitment and knowledge required as the key factors to limiting its engagement — clear barriers to more robust local government engagement in ISO-NE governance. NEPOOL decision-making is the least transparent of all the RTOs.[13] In addition, industrial and commercial interests and other groups engaging at NEPOOL may have staff time and financial resources they can dedicate to this engagement. On the other hand, Hanover has one staff member who manages the town's efforts within the wholesale markets on top of various other responsibilities.[14]

However, Hanover has occasionally empowered others to act as a "proxy" for the town, essentially delegating another party to advocate for its interests in stakeholder processes. But Hanover is only one participant in NEPOOL in one of six sectors. To effectively advance clean energy and other local priorities at the wholesale market level, it will be necessary for wholesale market stakeholder processes to evolve and for many other local governments and large energy buyers to engage.

Hanover's experience presents several lessons for other local governments. Purchasing power through the wholesale market can be a tremendous cost-saving opportunity. In turn, these savings can create a world of opportunity for local governments to fund other priorities — from supporting additional clean energy programs to meeting a budget shortfall. While purchasing power does require some technical expertise and involve risk, it can typically be done without consuming significant staff capacity, and local governments can partner with an energy broker to ease burdens on staff and add supplemental expertise. Finally, in terms of stakeholder engagement, local governments that are voting members of their RTO's governance processes may wish to empower other parties to act as a proxy for their priorities to reduce engagement time commitments while still making their voices heard.

PJM CITIES AND COMMUNITIES COALITION: COLLECTIVELY ADVOCATING AT PJM AND FERC TO ADVANCE LOCAL CLEAN ENERGY GOALS

The PJM Cities and Communities Coalition (PJMCCC) is a coalition of local governments with clean energy and energy efficiency goals in the PJM Interconnection (PJM) region. PJMCCC is the first formal coalition of local governments seeking to advocate for local governments' clean energy goals at the regional transmission organization level. As of July 2022, the coalition's members represented over 9 million people within the PJM region and included Alexandria, VA; Arlington County, VA; Charlottesville, VA; Chicago, IL; Cincinnati, OH; Columbus, OH; Dayton, OH; Delaware County, PA; Montgomery County, MD; Newark, NJ; Philadelphia, PA; Pittsburgh, PA; Richmond, VA; and Washington, D.C.[15]

Exhibit 4: PJM Territory and Members of PJM Cities and Communities Coalition (PJMCCC)

Source: PJM and Authors

BOX 2: PJM INTERCONNECTION

The PJM Interconnection is the largest wholesale electricity market in terms of peak demand, covering all or part of thirteen states in the Mid-Atlantic, including Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and Washington, D.C. PJM serves approximately 65 million retail electricity customers. As of 2019, coal, natural gas, and nuclear resources comprised nearly 93% of generation within PJM. PJM operates day-ahead and real-time energy markets, a capacity market, and an ancillary services market. The combined value of these markets in 2019 was almost $40 billion.[16]

The origins of the coalition date back to 2018. When the City of Philadelphia was evaluating its options for meeting its carbon reduction goal, it realized that it could not meet the goal without a greater share of renewable energy in the grid mix it receives from PJM. In consultation with market experts, NGOs, and other local governments, a handful of local governments decided to form PJMCCC to help advance the local governments' collective goals at the PJM level.

While these local governments were already working through various channels to advance their clean energy goals, the installation of on-site solar and the contracting of power purchase agreements are extremely time-intensive and would only get them part of the way to their goals. The local governments determined that their collective voice would have a greater impact on decisions at PJM, FERC, and in other venues, and that collective action would simultaneously reduce the time and resource burdens that accompany individual engagement. Wholesale electricity markets are extremely complicated and are constantly evolving, but working together as a cohort to advance their goals would reduce strains on bandwidth, increase peer-to-peer learning opportunities on topics related to PJM, and allow these local governments to pursue sustainable, ongoing engagement.

To date, PJMCCC has advanced its mission through several engagement pathways:

- **Public statements and leadership:** PJMCCC authored an op-ed advocating for the dissolution of the Minimum Offer Price Rule and released a policy statement on the value of energy storage to meeting its clean energy goals.
- **Engagement with PJM:** PJMCCC held multiple calls with PJM senior staff to discuss both local government goals and energy procurement processes, presented to the PJM board, and filed a letter advocating for "right-sizing" the capacity market.
- **Engagement with the FERC:** PJMCCC filed written comment and presented at a listening session on the nascent Office of Public Participation.

The coalition is also considering various other ways to engage at PJM, including becoming voting members, which would further empower their voices. No members of PJMCCC are currently voting members in PJM. The primary barriers to this formal engagement pathway are insufficient bandwidth and financial resources, as well as general uncertainty about the value of becoming a voting member.

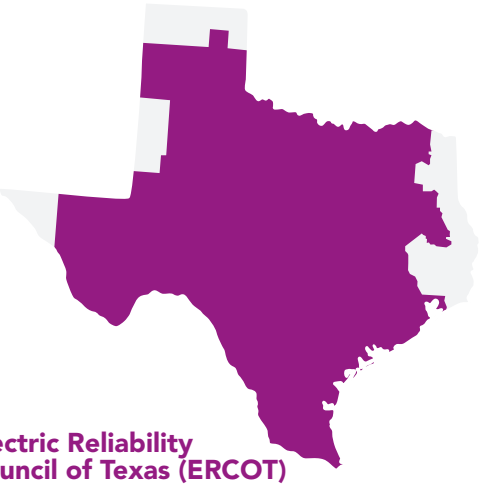
Local governments in other RTOs, prior to pursuing individual engagement opportunities, may wish to communicate with other peers in their region to determine if alignment exists with respect to policy priorities and goals. If it exists, they may wish to pursue engagement as an informal group or as a formal coalition. Through collective engagement, local governments can potentially have a greater impact on outcomes while lessening individual time commitments and knowledge needs. This model also provides local governments with an easy forum to ask questions, learn more about wholesale market issues and have discussions with peers on this and other relevant topics.

CASTLE HILLS, TEXAS: DEVELOPING A COMMUNICATIONS CHANNEL BETWEEN LOCAL GOVERNMENTS AND ERCOT

In February 2021, much of the Midwest and South was covered in a deep freeze brought on by Winter Storm Uri — a historic cold weather event. This extreme weather event resulted in the loss of power for more than 4.5 million customers, which in turn resulted in at least 57 deaths and over $195 billion in property damage within the state of Texas.[17]

Despite the finger pointing that occurred following the storm, there was no single cause for the failure. Consensus did arise, however, around the need for reform and greater communication. While typical ERCOT stakeholders congregated to discuss these potential reforms, a new stakeholder also emerged and expressed a need for more involvement and direct communication. Mayor JR Treviño of Castle Hills, Texas — a suburb north of San Antonio with just over 4,000 residents — penned a letter to ERCOT in the aftermath of Winter Storm Uri.[18]

Exhibit 5: ERCOT Territory



Source: Sustainable FERC Project, redesigned by WRI

BOX 3: ELECTRIC RELIABILITY COUNCIL OF TEXAS

The Electric Reliability Council of Texas (ERCOT) manages about 90% of Texas's electricity load for more than 26 million customers. Unlike ISO-NE, PJM, NYISO, and MISO, ERCOT does not operate a capacity market. In addition, ERCOT only operates within the state of Texas and, unlike all the other RTOs and ISOs, can only draw a very limited amount of power from out-of-state sources, functionally meaning it is not regulated by the Federal Energy Regulatory Commission (FERC). Thus far in 2022, gas and coal combined have made up 52% of ERCOT's electricity generation, while wind and solar have comprised 37%. This substantially exceeds other RTOs, partially thanks to significant availability of wind and solar resources.[19]

In his letter, Mayor Treviño avoided venting and placing blame for the event, instead expressing a strong desire to work in partnership with ERCOT. The mayor, along with six other mayors who signed on to the letter, proposed a "conduit" for municipalities to coordinate crisis communication planning with the grid operator while also facilitating engagement on questions of reliability and local priorities. As a jumping off point, Mayor Treviño proposed that this "conduit" for engagement could be modeled after the 15 regions of the Texas Municipal League (TML) — removing some initial barriers to the formation of the municipal group.[20] The 15 existing TML regions host regular meetings, meaning that information communicated from ERCOT to the board can be easily passed down to elected officials and constituents across the state.[21]

Just under two months after sending the letter, Mayor Treviño received a call from the Interim CEO of ERCOT, who expressed support for the idea and asked the mayor to take on the formation of the municipal group. In partnership with the TML, other local governments, and ERCOT, Mayor Treviño stood up the Texas Municipal Officers ERCOT Advisory Board.[22] The idea behind the board was primarily to have an open line of communication between Texas municipalities and ERCOT, allowing end users to receive information from and share information with ERCOT, rather than being reactive to issues or addressing them in one-off engagements.

The board has held three meetings, including an in-person gathering at ERCOT's headquarters in April 2022, which allowed the board to better understand the various components involved with successful operation of the grid. Going forward, the board hopes to meet at least twice a year — particularly leading up to periods of consistent peak demand (i.e., winter and summer).[23]

This group of municipalities is still finding its footing, and the role of the board may change over time. But just by creating an open channel of communication between municipalities across the state and ERCOT, these municipalities have established an environment where they can easily engage with their grid operator to highlight their concerns and advance their goals.

In the aftermath of Winter Storm Uri, ERCOT and the Public Utility Commission of Texas (PUCT) underwent a series of shakeups. The PUCT has already implemented some market reforms and is looking at other potential reforms to improve the reliability of the electricity system.[24] As these conversations evolve and market reforms are finalized, the board has an opening to play a critical role advocating for their communities.

A small act of informal engagement with a regional grid operator — such as Mayor Treviño's letter — can have a substantial impact. Assuming local engagement continues to be a priority for ERCOT, local governments that are part of the board will be able to share their concerns directly through a clear communications channel. In addition, this example shows the importance of engaging in a constructive manner with RTOs and providing solutions, instead of just airing grievances.

CONCLUSION

Across the country, local governments located within RTO territories are starting to understand that the actions of grid operators have local consequences. There are many ways local governments currently engage at the RTO-level and there are distinct reasons for their engagement, as these three case studies show. Whether focused on goals related to energy procurement, reliability, or decarbonization, local governments need to understand how issues addressed and decisions made at RTOs affect local progress.

One common thread across the three case studies is that each leveraged partnerships — either with peer local governments or others — to advance their efforts. Given the complexity and time-consuming nature of RTO processes, the ability to work collaboratively is crucial to successfully achieve local goals.

These case studies also demonstrate that a line of communication between local governments and the RTO is generally beneficial to ensure local government priorities are considered. RTOs typically move slowly, but windows for engagement can be narrow. By opening lines of communication, local governments can be prepared for opportunities that arise and be more confident in the RTO raising key issues or concerns through the appropriate channels.

As direct representatives of their residents, local governments have a unique voice that can be leveraged to advance their priorities. RTOs do not hear from these voices often. **Engagement at the RTO level, particularly when done in collaboration with other voices, can be a valuable pathway for local governments to advance their clean energy, resilience, equity, and economic development goals, as well as to support other local priorities and essential services.**

ENDNOTES

1. Unless referring to a specific ISO, we use the term "RTO" to refer to RTOs and ISOs throughout these case studies.

2. Caplan, E., Z. Greene, J. Womble, K. McLaughlin, and L. Bird, "The Impacts of Wholesale Market Rules and Policies on Clean Energy Goals: A Primer for Local Governments." Working Paper, World Resources Institute, 2022, https://doi.org/10.46830/wriwp.21.00097.

3. The ISO portion of ISO-NE is a legacy acronym as the organization is technically a regional transmission organization.

4. J. Griffin and P. Kulbacki, personal communication, February 15, 2022.

5. Treviño, JR., "Texas municipal leaders formed a group to communicate directly with ERCOT," Dallas Morning News, 2021, https://www.dallasnews.com/opinion/commentary/2021/07/21/texas-municipal-leaders-formed-an-group-to-communicate-directly-with-ercot/.

6. Caplan, et al., *The Impacts of Wholesale Market Rules and Policies on Clean Energy Goals,* World Resources Institute, 2022, https://doi.org/10.46830/wriwp.21.00097.

7. Ratz, H.B., P. Roche, and N. Hutchinson, "Local Government Voices in Wholesale Market Issues: Engagement Approaches for Decarbonization." Working Paper, World Resources Institute, 2021, doi.org/10.46830/wriwp.19.00052.

8. Allee, D., "Most of Hanover's municipal energy now comes through renewable sources," New Hampshire Public Radio, 2021, https://www.nhpr.org/nh-news/2021-10-15/most-of-hanovers-municipal-energy-now-comes-through-renewable-sources.

9. Julia Griffin and Peter Kulbacki, Town of Hanover, personal communication, February 15, 2022.

10. "New England's Electricity Use," ISO New England, https://www.iso-ne.com/about/key-stats/electricity-use; and "Resource Mix," ISO New England.

11. J. Griffin and P. Kulbacki, personal communication, February 15, 2022.

12. Ibid.

13. Caplan, et al., *The Impacts of Wholesale Market Rules and Policies on Clean Energy Goals,* World Resources Institute, 2022, https://doi.org/10.46830/wriwp.21.00097.

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15. "PJM Cities and Communities Coalition," WRI, https://www.wri.org/initiatives/pjm-cities-and-communities-coalition

16. Sustainable FERC Project, https://sustainableferc.org/rto-backgrounders-2/; Territory Served, PJM, https://www.pjm.com/about-pjm/who-we-are/territory-served.aspx.

17. King, C., J. Rhodes, J. Zarnikau, N. Lin., E. Kutanoglu, B. Leibowicz, D. Niyogi, et al., The Timeline and Events of the February 2021 Texas Electric Grid Blackouts., 2021, University of Texas at Austin Energy Institute, https://energy.utexas.edu/sites/default/files/UTAustin%20%282021%29%20EventsFebruary2021TexasBlackout%2020210714.pdf

18. Treviño, JR. "Texas municipal leaders formed a group to communicate directly with ERCOT," *Dallas Morning News*, 2021, https://www.dallasnews.com/opinion/commentary/2021/07/21/texas-municipal-leaders-formed-an-group-to-communicate-directly-with-ercot/.

19. About ERCOT, ERCOT, https://www.ercot.com/about; Fuel Mix, ERCOT, https://www.iso-ne.com/about/key-stats/markets; and Oxner, R., "Texas could connect to national power grids without losing autonomy, former grid regulator says," *The Texas Tribune*, 2022, https://www.texastribune.org/2022/02/14/texas-national-power-grids/.

20. Ibid.

21. JR Treviño, personal communication, February 18, 2022.

22. Treviño, JR. "Texas municipal leaders formed a group to communicate directly with ERCOT," *Dallas Morning News*, 2021, https://www.dallasnews.com/opinion/commentary/2021/07/21/texas-municipal-leaders-formed-an-group-to-communicate-directly-with-ercot/,

23. JR Treviño, personal communication, February 18, 2022.

24. House, H., L. Stone, and J. Ge., "Are We Ready for Another Uri?" RMI, 2022, https://rmi.org/are-we-ready-for-another-uri/.

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