Denton Renewable Resource Plan - 2025

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Work Session

ID 24-1910

Agenda

- Part 1 – Denton Renewable Resource Plan (DRRP)
  - Current Plan & Goal
  - Goal Timeline
  - Challenges & Internal Audit Findings
  - Staff Recommendations – Part 1
- Part 2 – Integrated Resource Plan (IRP)
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  - Regulatory & Market Environment
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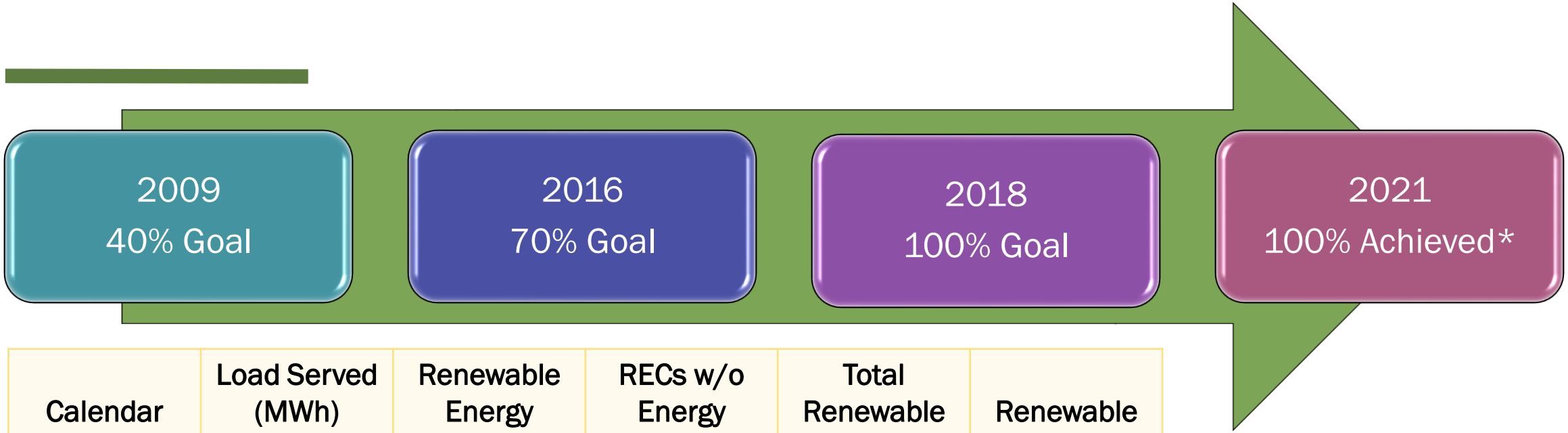
Part 1 - DRRP

Denton Renewable Resource Plan

- Adopted in 2018 (Resolution No. 18-085)
  - Goal was to achieve 100% renewable energy as early as either 2020 or 2024.
  - Through acquisition of diversified set of power purchase agreements for renewable energy resources.
  - Five objectives: Pricing factors including least-cost supplies; uncertainty (risk) reduction; sustainability; competitiveness; and the efficient management of a renewable resource power supply portfolio.
  - Recognized the Denton Energy Center as a cost hedge during certain super high-priced hours.
  - Acknowledged the greatest challenge is balancing the supply portfolio around intermittent renewables.
  - Identified the need to create a portfolio hedging plan and strategies.

Contracted Resources (Capacity)				
Name	**Type**	**MWs**	**Term**	**Expires**
Santa Rita	Wind	150	20 yrs.	Apr. 2038
Bluebell 1	Solar	30	20 yrs.	Nov. 2038
Bluebell 2	Solar	100	15 yrs.	Jun. 2035
Longdraw	Solar	75	15 yrs.	Jun. 2035
Yellow Viking	Solar	100	15 yrs.	Dec. 2041
Total - All		**455**		

Renewable Goal Timeline



Calendar Year	Load Served (MWh)	Renewable Energy (MWh)	RECs w/o Energy (MWh)	Total Renewable (MWh)	Renewable %
2021	1,593,440	1,343,789	262,800	1,606,589	101%
2022	1,750,135	1,396,335	353,800	1,750,135	100%
2023	1,749,737	1,480,144	269,593	1,749,737	100%
2024	1,776,322	1,375,792	400,530	1,776,322	100%

*Resolution No. 20-249 approved on 1/28/20, authorized the recognition of 30 MWs (equals 262,800 MWh) of renewable energy credits (RECs) procured as part of a 60 MW power purchase agreement (Whitetail Wind Resource). The PPA expired on 12/31/23.

Challenges & Internal Audit Findings

- Texas Renewable Portfolio Standard (RPS) – Established in 1999 to incentivize construction of renewable energy in the State and created the Renewable Energy Credit (REC) Program.
  - Resources – Solar, wind, geothermal, hydroelectric, wave/tidal, and biomass.
  - Goals – 5,000 MW by 2015 and 10,000 MW by 2025.
  - Today, Wind is at 39,450 MW of installed capacity, and Texas leads the nation.
  - Today, Solar is at 25,333 MW of installed capacity, and while Texas is behind California, it has led in actual generation.
  - Retail Electric Providers (REPs) and Investor-Owned Utilities required to purchase and retire RECs based on a percentage of retail sales as established by ERCOT. **DME is exempt from this requirement, along with other MOUs that have not opted into customer choice. The DRRP is a locally decisioned plan and goal.**
- What is a REC?
  - A tradeable, market-based instrument that represents the legal property rights to the environmental attributes of a renewable resource. It is the evidentiary proof to claim these attributes whether you own the energy or not. Under RPS, energy without a REC is not recognized. A REC has a 3-year life. **1 REC = 1 MWh of Energy.**
  - Every eligible renewable resource is awarded RECs and they are the basis by which DME calculates progress toward its 100% goal. In addition, eligible solar resources also receive Compliance Premiums (CPs).
  - EPA Green Power Partnership provides best practice guidance for explaining and characterizing RECs.

Challenges & Internal Audit Findings

- Internal Audit Findings (2021) –
  - Goal calculation not defined.
  - No formal reporting of goal progression. (**DME began sending an annual ISR in 2022**)
  - Update for load increases and regulatory changes.
  - Evaluate costs & benefits of REC and CP retirements.

- Large Loads > 5 MWs – These loads pose a rate risk to ratepayers if coupled with long-term renewable energy contracts. A reasonable and prudent strategy is needed that addresses these loads while still meeting DME's renewable energy goal.

Staff Recommendations – Part 1

- Creation of a City Renewable Energy Policy
  - Policy Statement – This policy would only address the environmental ("offset") goal of matching the annual load served with renewable energy, and not the resource mix needed to manage DME's power portfolio and reliability needs.
  - Allowable Resources – Only those identified in the Texas Renewable Portfolio Standard (RPS).
  - Treatment of Renewable Energy Credits (RECs) & Compliance Premiums (CPs) **(addresses Internal Audit finding)**
    - Retire RECs and CPs counted toward the 100% goal.
    - DME to sell any excess RECs and CPs, when available, since they are not "rolled over" to the following year.
    - When needed to meet the 100% goal, DME to purchase RECs and CPs but only those generated in the same year they are counted.
  - Treatment of Large Loads > 5 MWs
    - DME will evaluate each load to determine if long or short-term energy contracts are viable or if only purchasing RECs and CPs is more appropriate. For new and emerging loads, the strategy could be split until such time as the specific load develops and proves to be more certain.
  - Goal Calculation **(addresses Internal Audit finding)**
  - Annual Goal Progression Reporting **(addresses Internal Audit finding)**
  - Glossary

Part 2 - IRP

What is an IRP?

- A plan created by an electric utility that outlines its strategy for meeting future electricity demand by considering both supply-side options (like building new generation resources) and demand-side options (like energy efficiency programs), aiming to achieve a cost-effective and reliable electricity supply while taking environmental factors into account; essentially, it's a roadmap for how a utility plans to generate electricity over a long period, typically 15-20 years, by balancing different resource options to best serve its customers.
- Key Points:
  - Comprehensive approach.
  - Future-oriented.
  - Cost-effectiveness.
  - Regulatory compliance.
  - Stakeholder involvement.

Regulatory & Market Environment

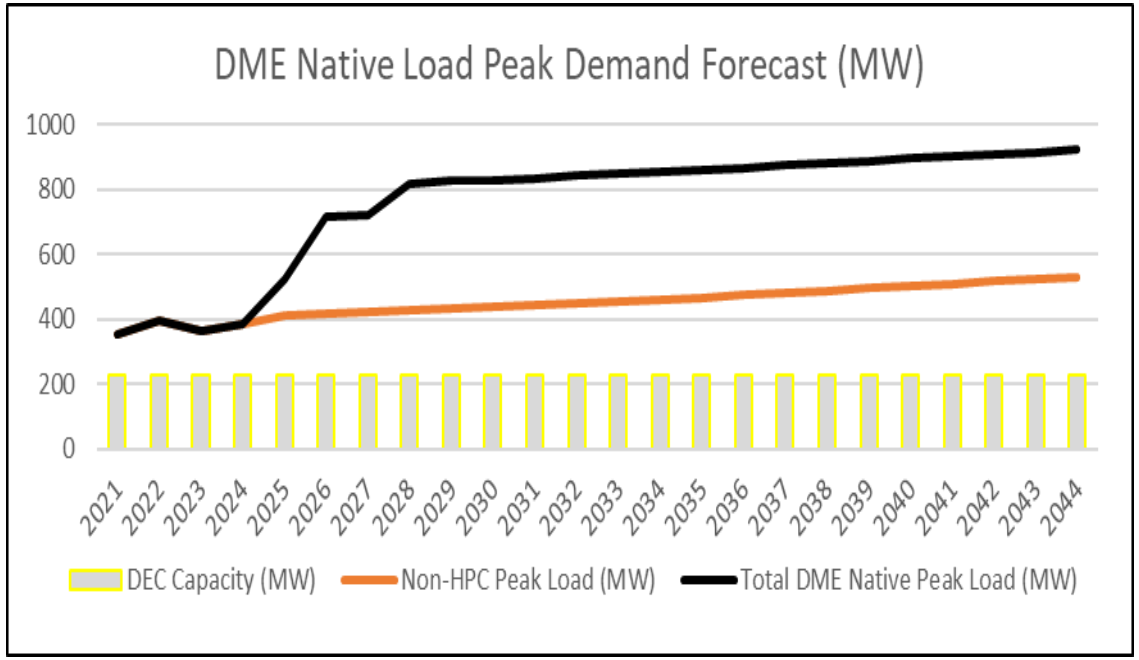
- Good news is *no forced outages since 2021!* but best characterized as **UNCERTAIN**.
- After Winter Storm Uri, the **scarcity cap** was lowered from $9,000 to $5,000 per MWh.
- **ECRS** (ERCOT Contingency Reserve Service) – Generators that can respond within 10 minutes. Independent Market Monitor projected this service added $8-10 billion of cost to ratepayers. Reports that is has sidelined newer, more efficient generators. **DEC is eligible.**
- **FFSS** (Firm Fuel Supply Service) – Natural gas generators with on-site fuel or off-site storage. For the period 11/15/24 - 3/15/25, ERCOT procured $51 million. **DEC not eligible.**
- Voter approval (Nov. 2023) of **Texas Energy Fund**:
  - $7.2 billion – In-ERCOT loans and completion bonus grants to build 10,000 MWs of new dispatchable generation (100 MW minimum per project).
    - PUCT currently reviewing applications submitted in June 2024 totaling approximately 9,700 MWs. **DME did not submit an application.**
    - Next application period anticipated in July 2025, but projects must be shovel ready. **DME has no such project available to submit.**
  - $1.0 billion – Outside-of-ERCOT resiliency grants.
  - $1.8 billion – Backup power package still in development. Standalone, behind the meter, multiday backup power for facilities necessary to support community health, safety and well-being.

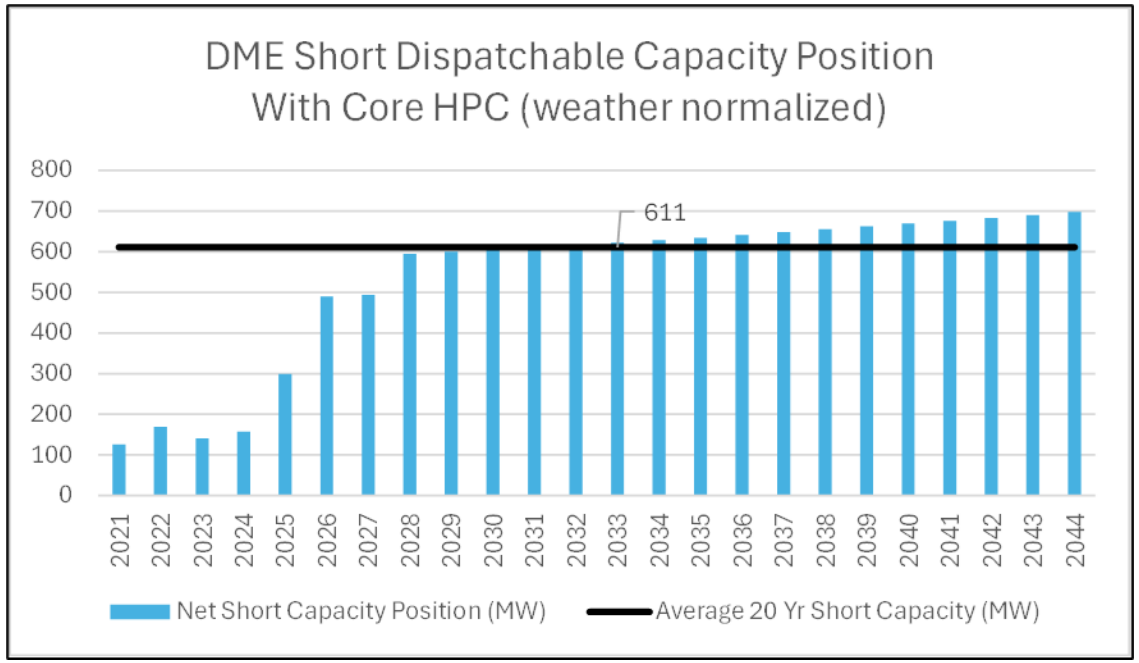
Regulatory & Market Environment

- **Proliferation of Renewables** – Scarcity periods (Summer - evening hours, & Winter – morning and evening hours). Prices during these hours have hit the scarcity cap on many occasions.
- On the horizon:
  - **DRRS** (Dispatchable Reliability Reserve Service) – 6th ancillary service for offline generators only that can be online within 2 hours and run for at least 4 hours. **DEC would be eligible.**
  - **Real-Time Co-optimization** – Would redesign how ERCOT procures ancillary services from the day-ahead market to the real-time market and allow it to select the most efficient and economical method to serve load.
  - **Firming of Renewables** – Would require renewable resources to have backup battery storage or on-site gas generation. May only impact those interconnected after 1/1/27 but if earlier, could trigger "change in law" provisions in DME's existing PPAs. (SB 715 / HB 3356)
  - **Dispatchable Generation Credits** – Would require Load Serving Entities (LSEs), like DME, to have 50% of load backed by dispatchable natural gas resources, limit new renewable resources, and require the purchase of credits. SB 388.
  - **Performance Credit Mechanism** – PUCT "shelved" this project pending new legislation. Would have mandated LSEs to backup the load it serves with owned or contracted dispatchable generation or purchase credits
  - **Other Proposals** – DME is closely monitoring legislative and executive activity at both the State and Federal level which could pose additional challenges.

DME Load Forecast

- Today, DME has a dispatchable power deficit of 183 MWs (DEC @ 225 MW less 408 MW Peak Load).
- By 2033, DME forecasts the deficit will grow to 386 MWs. (DEC @ 225 MW less 611 MW Peak Load).
- By 2044, DME forecasts the deficit will grow to 675 MWs. (DEC @ 225 MW less 900 MW Peak Load).
- DME's current forecast does not include any other large load developments although there continues to be interest. Main barrier for at least 2-3 years is infrastructure improvements.





Staff Recommendations – Part 2

- Creation of a long-term Integrated Resource Plan, preferably 20 years:
  - Evaluate and integrate various types of resources while maintaining City's renewable energy goal.
  - Prioritize renewable resources such as nuclear, hydrogen, geothermal and battery storage as DME's load justifies these types of resources and where possible, leveraging federal and state funding opportunities.
  - Consider short-term needs to reduce rate risk while seeking opportunities that may reduce environmental impacts through innovative technologies or business opportunities to replace older, less efficient resources.
  - Incorporate and develop local demand-side management programs, and community solar installations greater than 1 MW to effectuate reductions in load.
  - Developed in concert with City's Climate Action Plan goals.
  - Utilize an external firm specialized in the development of IRPs with a focus on community engagement.
  - Staff would anticipate this would take 18-24 months to create.

Recap – PUB & Staff Recommendations

- On May 19, 2025, the PUB gave unanimous direction to recommend that the City Council approve staff's recommendations with consideration to give the public an opportunity to provide input on the City Renewable Energy Policy.

- Staff Recommendations –

  ❑ Creation of a City Renewable Energy Policy.
    - Staff anticipates this would take 6 – 9 months.

  ❑ Creation of a long-term Integrated Resource Plan.
    - Staff anticipates this would take 18 – 24 months.

Questions