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Securing Benefits from Transportation Electrification

New Mexico PRC Transportation Electrification Summit

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Themes

1. It' 2021, What's Your Vision for the Power Sector?
2. Electrification = Flexibility = Value
3. Identify Data You Can Use
4. Does all this come with instructions – Advisory Services


1 Your Vision for the Power Sector



“Public utilities... are affected with
the public interest....”

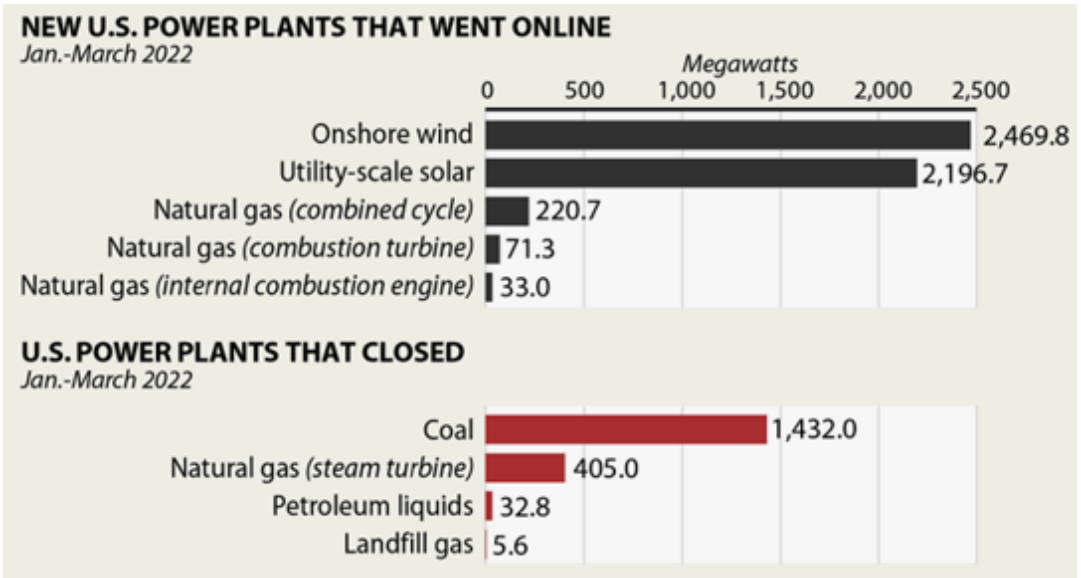
2006 New Mexico Statutes - Section 62-3-1 — Declaration of policy.

What should our utility sector look like
over the next 6-8 years?



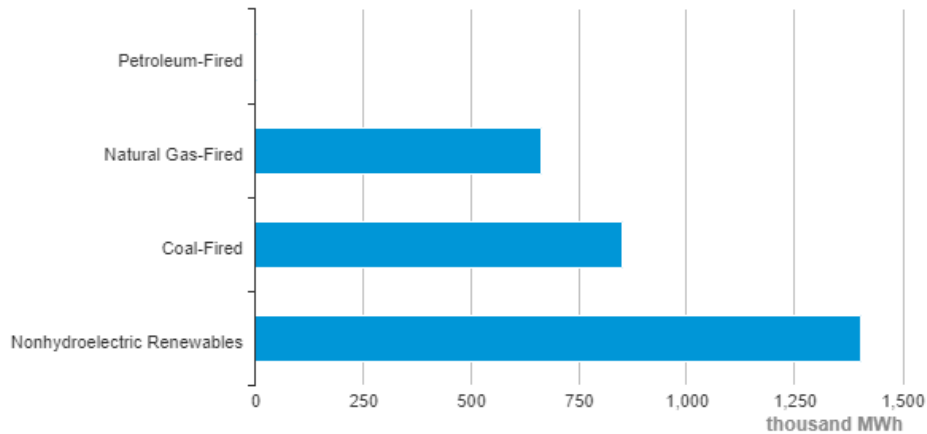
What decisions that I make today
will help ensure this?

Power Plants Opening and Closing



Source: [Inside Climate News](#), based on EIA data.

New Mexico Electricity Generation by Source



EIA Electric Power Monthly Feb. 2022

25% of NM's GHG Emissions

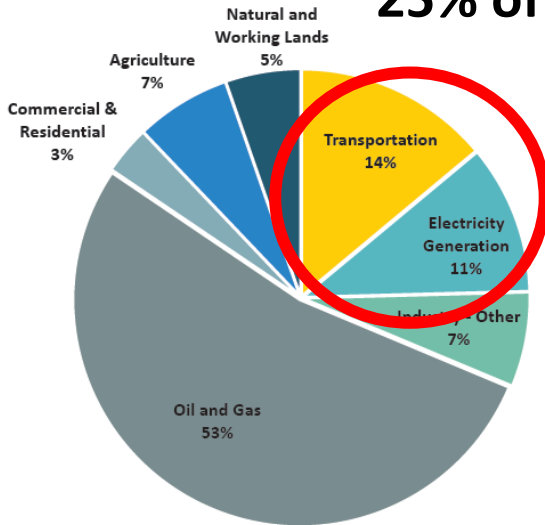


Figure 1. Total New Mexico Greenhouse Gas Emissions by Economic Sector in 2018

Q: What is significant about the relationship between these sectors?

Source 2020 Progress and Recommendations, New Mexico Interagency Climate Change Task Force

Statutory & Executive Guidance -- Opportunities

- **NMSA 1978, § 62-18-1 et seq.**
 - NM's utilities – 50% renewable energy by 2030
- **NMSA §62-8-12**
 - Applications to expand transportation electrification.
 - Improve the public utility's electrical system efficiency,
 - Integration of variable resources,
 - Operational flexibility and
 - System utilization during off-peak hours

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Electrification, Flexibility, Value



The Challenge

“Having a more modern electric grid means incorporating new technology to handle more variable renewable resources and improve the reliability, efficiency, and security of the power system.”

Source 2020 Progress and Recommendations,

New Mexico Interagency Climate Change Task Force

Is it that renewable energy is variable?

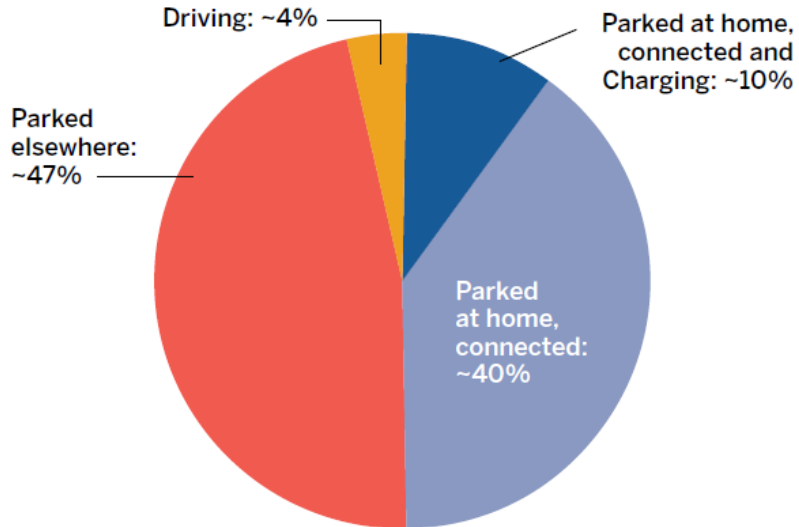


Or is it that the grid is inflexible?



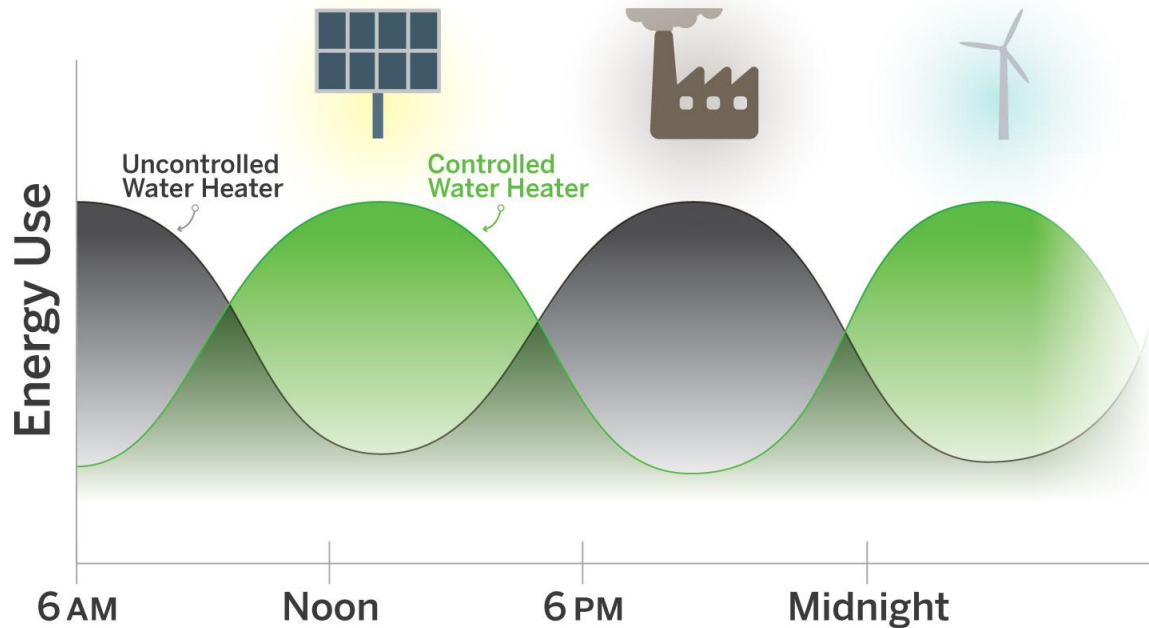
Two Sides of the Same Coin

Electric vehicles' low-capacity utilization makes them potential grid resource



Source: Langton, A., and Crisostomo, N. (2013, October). *Vehicle-Grid Integration: A Vision for Zero-Emission Transportation Interconnected Throughout California's Electricity System.*

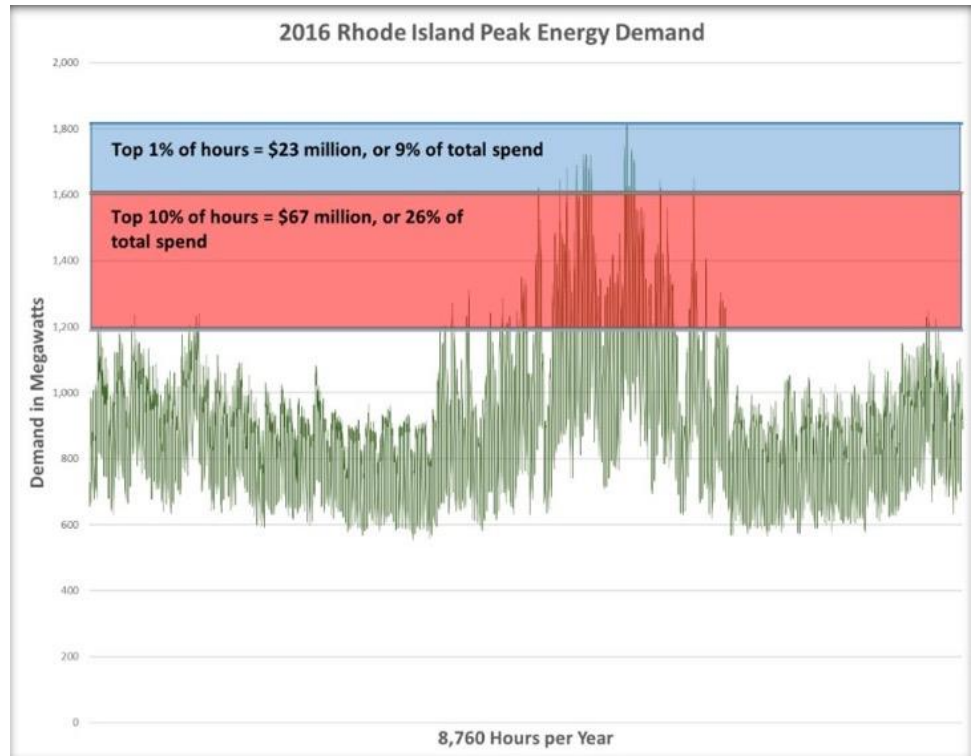
Recognize the Value of Flexible Load: Grid Operations



Avoid High-Cost Hours

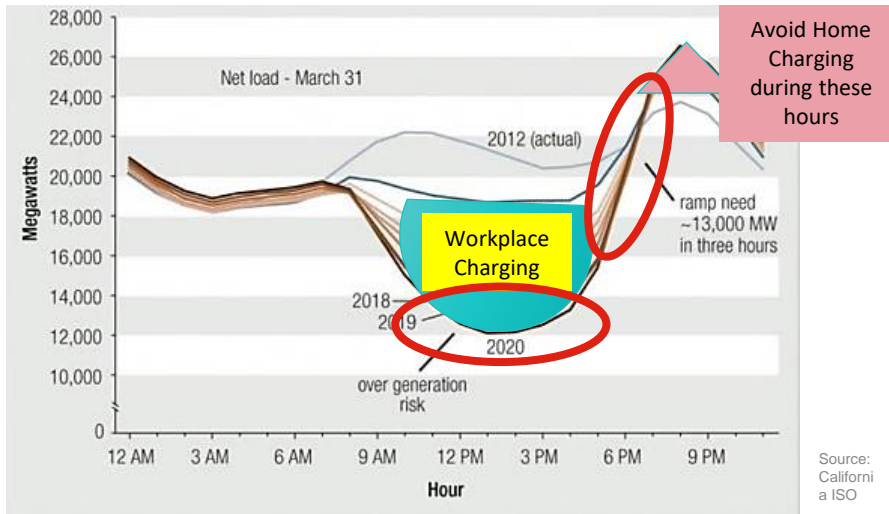
1% of hours
= 9% of total
spending

10% of hours
= 26% of total
spending



Source: Rhode Island Power Sector Transformation, Phase One Report to Governor Gina M. Raimondo (November 2017)

Flexibility = Value



Source:
California
a ISO

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3 Identify data that you can use



“Data collection efforts will continue to be central to our understanding of our work and how to measure its success.”

*Source 2020 Progress and Recommendations,
New Mexico Interagency Climate Change Task Force*

Why Data?

Low use of EV smart charging alarms Minn. regulator

By Jeffrey Tomich | 04/04/2022 07:26 AM EDT

Minnesota's largest utility, which is trying to accelerate electric vehicle adoption, has struggled to enroll EV owners in programs that ensure charging happens during overnight hours when electricity is cheapest.

Data

- This goes back to articulating your vision for your power sector
- Collect relevant and timely data to:
 - Demonstrate progress toward your goals and
 - Improve early program delivery of service
- Ask your utilities and stakeholders what data they recommend collecting.
- Examples:
 - Incremental load serving EVs
 - Percentage of this load that is off-peak
 - Number/percentage of ratepayers offered managed charging
 - Number/percentage participating
 - Number/percentage of LMI ratepayers participating

4 Does all this come with instructions – Advisory Services

Advisory Services Purpose

To educate and enable the public (fleet managers and others) to fill the **gap between what they already know** about transportation and **what they need to know** about electric transportation.

Advisory Services

Various categories of EV users, e.g.,

- Residential;
 - Multi-Unit Dwellings;
 - Workplace and Commercial;
 - Public; and
 - Transit.
-
- Each category has its own characteristics:
 - Charging power levels,
 - Optimal charging times, and
 - Degree of commercial charging market penetration and associated need for utility involvement.

Advisory Services – Demand Creation

- Utility is creating new load.
- Regulator's role: determine whether the utility proposal is creating the kind of load that is appropriate?
- Is the load being managed effectively from a system benefit perspective?

21st Century Load Forecasting

- Letting utilities build load through advisory services – ushers in a new aspect of load forecasting.
- Regulator-utility relationship will need to further evolve.

Back to Your Vision for the Power Sector

- The utility must justify these proposals
- Regulator must ensure that the utility is clear in what it aspires to become.
- Raising even more questions:
 - How does this service fit in the utility's portfolio?
 - What is the utility's longer-term sense of itself as a commodity and service provider?
 - Does the regulator assist them and nudge them on their way?
 - How am I going to manage the commission's relationship with that utility into the future?

5 Final Thoughts



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- Ask yourself what the power sector should look like.
 - Promote decisions that secure all available electrification related flexibility.
 - Use data to keep track of progress.
 - Be sure advisory services are promoting the education needed.

Beneficial Electrification Resources

- [Ensuring Electrification in the Public Interest.](#)
- [Beneficial Electrification of Space Heating.](#)
- [Beneficial Electrification of Water Heating.](#)
- [Beneficial Electrification of Transportation.](#)
- [Taking First Steps: Insights for States Preparing for Electric Transportation.](#)
- [Getting From Here to There: Regulatory Considerations for Transportation Electrification.](#)
- [Utilities Can Get a “LEG” Up with Beneficial Electrification.](#)
- [Environmentally Beneficial Electrification: The Dawn of Emissions Efficiency.](#)
- [Environmentally Beneficial Electrification: Electricity as the End-Use Option.](#)

About RAP

The Regulatory Assistance Project (RAP)[®] is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

Learn more about our work at raponline.org



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Bipartisan Infrastructure Law

- Thanks to the Bipartisan Infrastructure Law, this year the Federal Transit Administration's Low or No Emission Vehicle Program \$1.5 billion. Over the next five years that program is set to distribute \$5.5 billion to assist local transit agencies in purchasing low-or-no emission vehicles, equipment and facilities.
- “Prioritizing and investing in electric buses will not only reduce greenhouse gas emissions but will also significantly lower long-term fuel and maintenance costs for localities, saving taxpayer dollars that can be invested back into public infrastructure projects,”

Host an IIJA Workshop

- The *Infrastructure Investment and Jobs Act of 2021* (IIJA) makes available billions of dollars for investment in utility infrastructure, including:
 - electric vehicle charging,
 - smart distribution grid improvements, and
 - energy storage.
- Don't wait to learn about it until you are constrained by limitations associated with being in a contested case?
- Have a workshop; stakeholders can “educate” you on opportunities

EPA webinar: How to Apply for EPA Clean School Bus Funding

- Learn about EPA's \$500 million rebate program and how to apply.
- June 21, 2022. 02:00 PM in ET

https://us02web.zoom.us/webinar/register/WN_6HnZtL6hRfyMDk3cnnH74w