State Energy Security Validation Workshop

New Mexico Energy, Minerals, and Natural Resources Department (EMNRD)
Energy Conservation and Management Division (ECMD)

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February 2023

Introduction: Energy, Minerals, and Natural Resources Department Energy Conservation and Management Division

Jacqueline Waite

Bureau Chief, Energy Conservation and Management Division

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Role of ECMD/New Mexico State Energy Office

- Responsibilities as condition of State Energy Program funding through the U.S. Department of Energy:
  - Monitor energy sectors across the state
  - Promote and implement energy security measures
  - **Maintain** and continually **update** the New Mexico **State Energy Security Plan**
  - Serve as the primary agency for coordinating communications during an energy emergency per ESF #12 (Energy Annex of the New Mexico All-Hazards Emergency Operations Plan)
- Efforts of ECMD to-date:
  - Completed current iteration of State Energy Security Plan in September 2022
  - Contracted with Hagerty Consulting, Inc. for 2023 Plan update
  - Worked with partners to develop two energy security table-top exercises to inform the SESP update:
    - November 2022: Cascading Energy Disruption Tabletop Exercise
    - May 2023: Regional Energy Security Tabletop Exercise
  - Applied for funding under IIJA section 40101(d) to support implementation of electric grid resilience measures targeting areas with chronic outages and vulnerabilities

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Regional Energy Security Tabletop Exercise in May 2023

To bolster energy preparedness, EMNRD ECMD will host an in-person **Regional Energy Security Tabletop Exercise** at the La Fonda Hotel in **Santa Fe on May 1-2, 2023**.

There are a limited number of spaces, and if you are interested in participating, please contact Jacqueline Waite as soon as possible.

Jacqueline.Waite@emnrd.nm.gov

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New Mexico's Renewable Energy Transition

- Governor Lujan Grisham signed the **Energy Transition Act** (ETA) into law in March 2019.
- The ETA sets a **statewide renewable energy standard** of 50 percent by 2030 for New Mexico investor-owned utilities and rural electric cooperatives and a goal of 80 percent by 2040, in addition to setting **zero-carbon resources standards** for investor-owned utilities by 2045 and rural electric cooperatives by 2050.
- The law transitions New Mexico away from coal and toward clean energy and provides tens of millions of dollars of economic and workforce support for communities impacted by coal plant closures, as well as the development of renewable replacement power in San Juan County.
- **An objective of the SESP update, as well as the facilitation of this State Energy Security Validation Workshop, is to evaluate energy security needs as the state undertakes a renewable energy transition.**

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Introduction: Hagerty Consulting, Inc.

Katie Toskey

Project Manager

Anthony Hurley

Subject Matter Expert

Hagerty Consulting, Inc.

Emergency management and homeland security consulting firm with nearly 20 years experience supporting all levels of government and the private sector. Assists clients, like the State of New Mexico, prepare for, respond to, and recover from disasters and other emergencies.

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Introduction and Background

Energy Security Assessment Themes and Prompts

Next Steps

State Energy Security

- The energy sector is uniquely critical as **all other critical infrastructure sectors depend on power or fuel to operate**. An impact on critical energy infrastructure can directly affect the security and resilience within and across other critical infrastructure sectors, threatening public safety, the economy, and national security.
- Energy Security Planning ensures a **reliable and resilient** supply of energy through efforts to **identify, assess, and mitigate risks** to energy infrastructure and **plan for, respond to, and recover from events that disrupt energy supply**.
- Our nation's energy infrastructure and delivery systems are vulnerable to a variety of threats and hazards, including severe weather (exacerbated by climate change), cyberattacks, system failures, pandemics, and deliberate physical attacks.
- **Most of the nation's critical infrastructure is owned and operated by private companies**. Both the government and private sector have a **mutual incentive** to reduce the risk of disruptions to critical infrastructure.
- It is the **responsibility of state and local officials to work with energy providers, across government agencies and with relevant stakeholders** to reduce the risk, vulnerabilities, and consequences of an energy disruption or emergency and provide for rapid recovery.

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State Energy Security Plans

- State Energy Security Plans (SESPs) are an **essential part of energy security planning**.
- An SESP describes the state's energy landscape, people, processes, as well as the state's strategy to build energy resilience.
- Critical details included describe how a state, working with energy partners, can:
  - Secure energy infrastructure against all physical and cybersecurity threats;
  - Mitigate the risk of energy supply disruptions to the state;
  - Enhance the response to, and recovery from, energy disruptions; and
  - Ensure that the state has secure, reliable, and resilient energy infrastructure.
- The purpose of this initiative is to **update New Mexico's SESP** to reflect **new criteria outlined Section 40108 of the Infrastructure Investment and Jobs Act (IIJA)**.

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New Criteria for State Energy Security Plans

- The updated SESP will **fulfill all requirements identified in Section 40108 of the IIJA**, including:
  - Addressment of all energy sources and regulated and unregulated energy providers;
  - Provision of a state energy profile, including an assessment of energy production, transmission, distribution, and end-use;
  - Addressment of potential hazards to each energy sector or system, including physical threats and vulnerabilities and cybersecurity threats and vulnerabilities;
  - Provision of a risk assessment of energy infrastructure and cross-sector independencies;
  - A risk mitigation approach to enhance reliability and end-use resilience; and
  - Addressment of multi-state and regional coordination, planning, and response and coordination with Tribal governments with respect to planning and response.

Stakeholder Engagement

- Stakeholder engagement and collaboration is a **priority of the project**.
- Successful execution and completion of this undertaking requires partnership with a range of stakeholders across New Mexico and the southwest region.
- EMNRD ECMD understands the sensitive nature of information that may be shared by stakeholders throughout this initiative and remains committed to serving as the utmost trusted and reliable partner.
- Public-private collaboration is valued and EMNRD ECMD will work thoughtfully and meaningfully to streamline communications throughout the entirety of this initiative to prioritize necessary participation, particularly for stakeholders who are involved in multiple state projects concurrently.

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Completed Project Activities

- **Email outreach to stakeholder groups** including energy sector industry representatives, critical infrastructure, government, and associations was delivered on November 9 to introduce the project.
- A virtual **Stakeholder Kickoff Meeting** was hosted on November 16.
- Over the past three months, the project team has developed the following deliverables which will be incorporated into the updated SESP:
  - State Energy Profile
  - Threats and Vulnerabilities Inventory
  - Energy Critical Infrastructure and Cross-Sector Interdependencies Risk Assessment
- Deliverables have been written in accordance **with guidance for SESPs issued by the U.S. Department of Energy's (DOE) Office of Cybersecurity, Energy Security, and Emergency Response (CESER)** in collaboration with associations such as the National Association of State Energy Offices.

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State Energy Profile

- The State Energy Profile provides **baseline data, maps, and other information on state markets and infrastructure for all energy sources** (electricity, liquid fuels, and natural gas) including:
  - Production: in-state energy production, including electricity generation by fuel and oil and gas upstream production and refining and processing
  - Transmission: interstate energy transfers and imports, including information on major pipelines, transmission lines, and rail infrastructure
  - Distribution: overview of energy providers in the state, including electric utilities, natural gas local distribution companies, and liquid fuels terminal operators and fuel distributors
  - End-Use: energy demands, including information on seasonal and intraday variability, demands by sector, and state-specific fuel specifications

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Threats and Vulnerabilities Inventory

- The Threats and Vulnerabilities Inventory **plots threats and vulnerabilities in each energy sector against their impact and likelihood in the state and region**.
- **Threat** information includes anything that can expose a vulnerability and damage, destroy, or disrupt energy systems, including natural, technological, manmade, physical, and cybersecurity hazards.
- **Vulnerabilities** are weaknesses within infrastructure, processes, and systems, or the degree of susceptibility to various threats. Vulnerabilities may be specific to the threat, energy type, and infrastructure component.

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Energy Infrastructure and Cross-Sector Interdependencies Risk Assessment

- The Energy Infrastructure and Cross-Sector Interdependencies Risk Assessment:
  - Addresses the risk of potential for loss, damage, or destruction of key resources or energy system assets resulting from exposure to a threat.
  - Considers the consequence of an asset's loss, the vulnerability of an asset to specific threats, and the likelihood that an asset will be exposed to a specific threat.
  - Describes interdependencies between the energy sector and other sectors and between different energy sub-sectors (electricity, liquid fuels, and natural gas) to understand the interconnected nature of energy infrastructure and the possible cascading impacts of a disruption.
- Knowing how susceptible an energy asset is to a disruption (natural or manmade) allows EMNRD ECMD to **focus mitigation resources and strategies on better protecting the most vulnerable assets**.

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State Energy Security Validation Workshop

- The **purpose** of today's workshop is to **review key themes** identified within the New Mexico electricity sector profile, in addition to critical infrastructure, threats and vulnerabilities, and cross-sector interdependencies, and **obtain stakeholder guidance and perspectives** that will enhance the updated SESP with information that most accurately portrays the state's energy landscape.

- Majority of the state's critical energy infrastructure is owned and operated by the **private sector** and the State Energy Office truly values perspectives that will enhance its ability **to accurately prepare for, and mitigate against, future energy disruptions**, particularly as the state undertakes a renewable energy transition.

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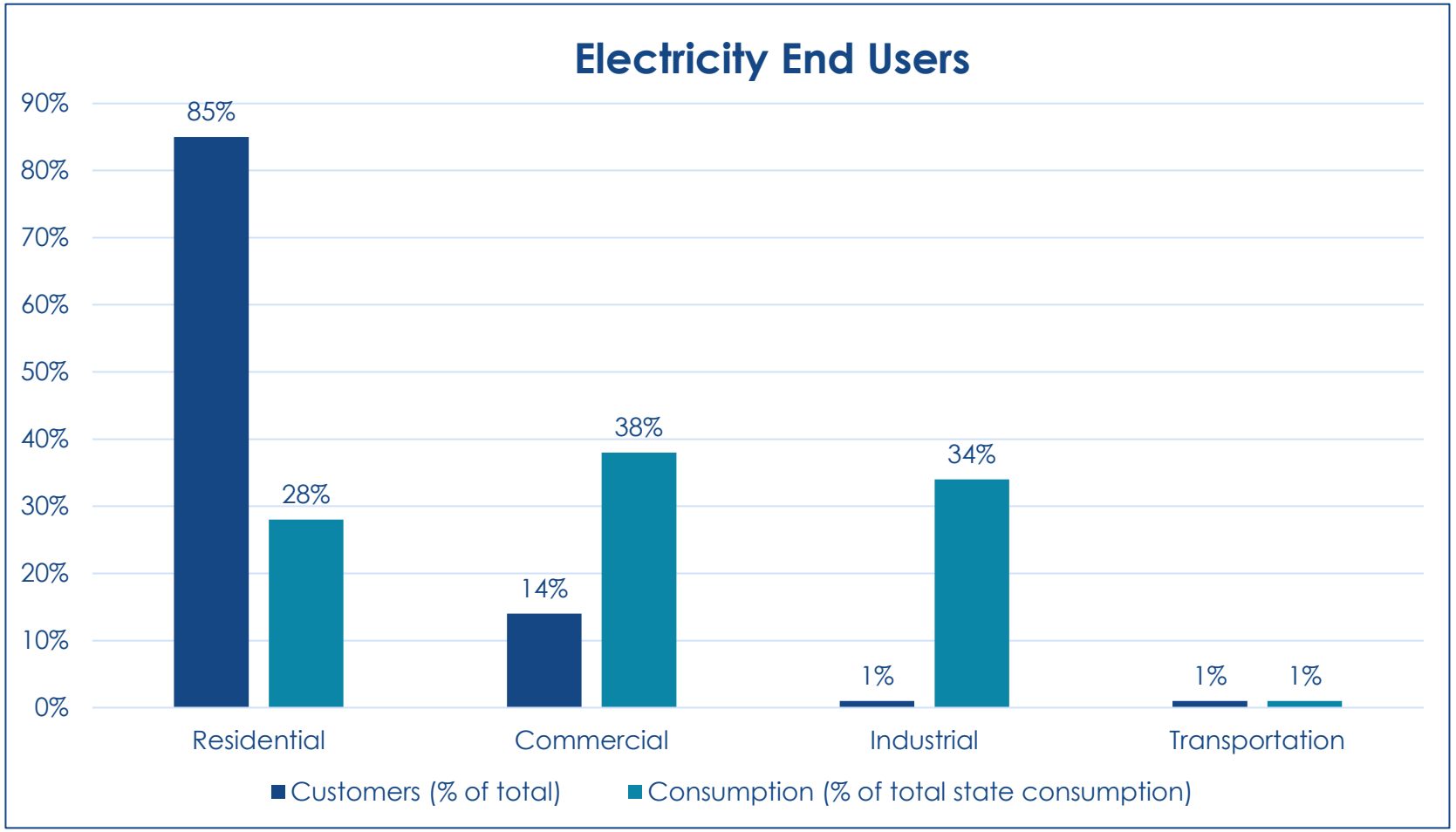
Introduction and Background

Energy Security Assessment Themes and Prompts

Next Steps

Electricity Sector Profile

Electricity Customers



Data source: U.S. Energy Information Administration

New Mexico's electricity sector customers:

- Residential (85%)
- Commercial (15%)
- Industrial (>1%)
- Transportation (>1%)

Customer consumption:

- Commercial (38%)
- Industrial (34%)
- Residential (28%)
- Transportation (>1%)

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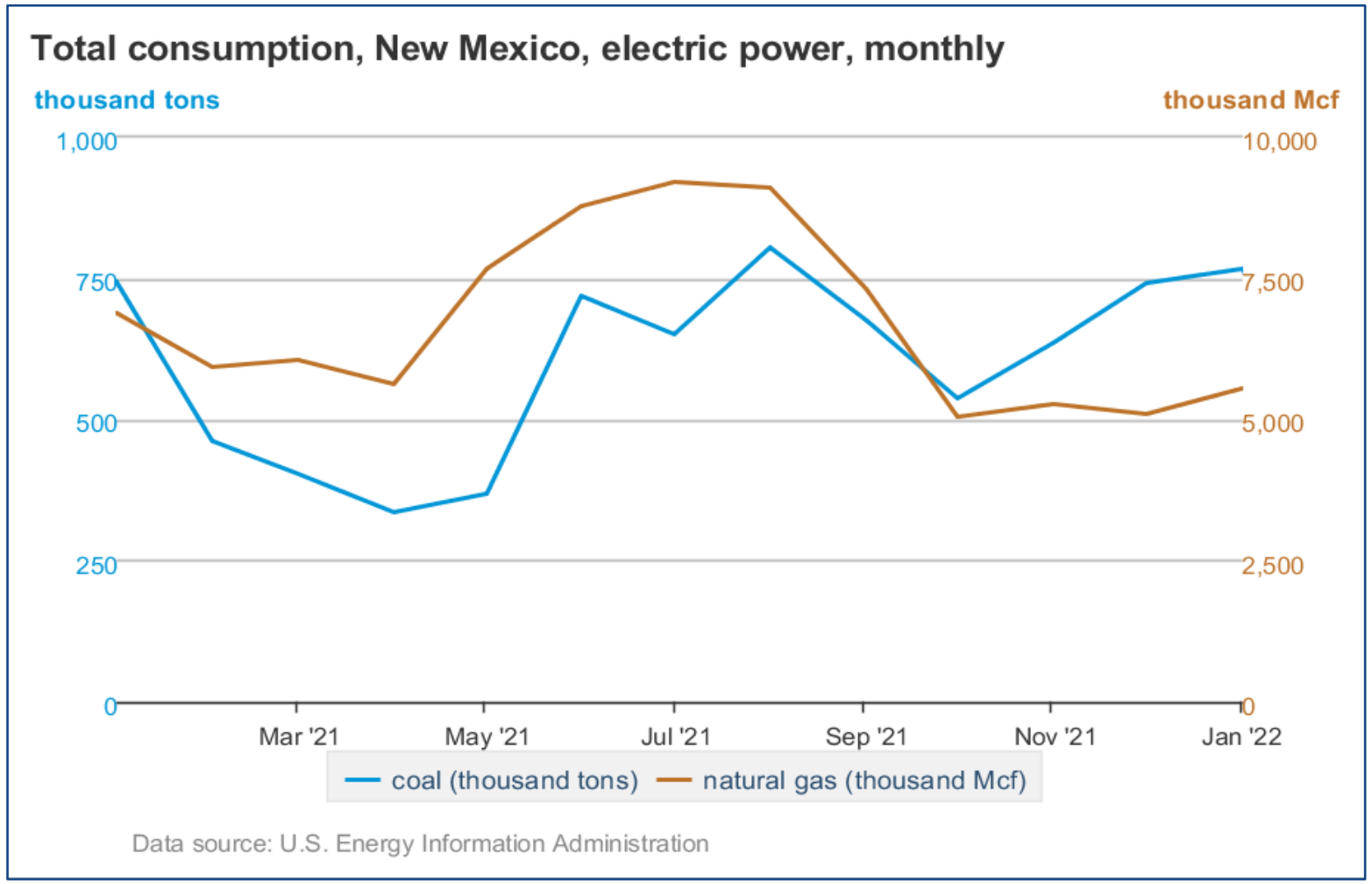
Electricity Demand



Consumption Trends:

- Customers in New Mexico consume more electricity in **the winter and summer** compared to the spring and autumn.
- Peak electricity usage occurs in June, July, and August, and there is a spike in usage in December and January.
- Retail sales of electricity reflect this trend.

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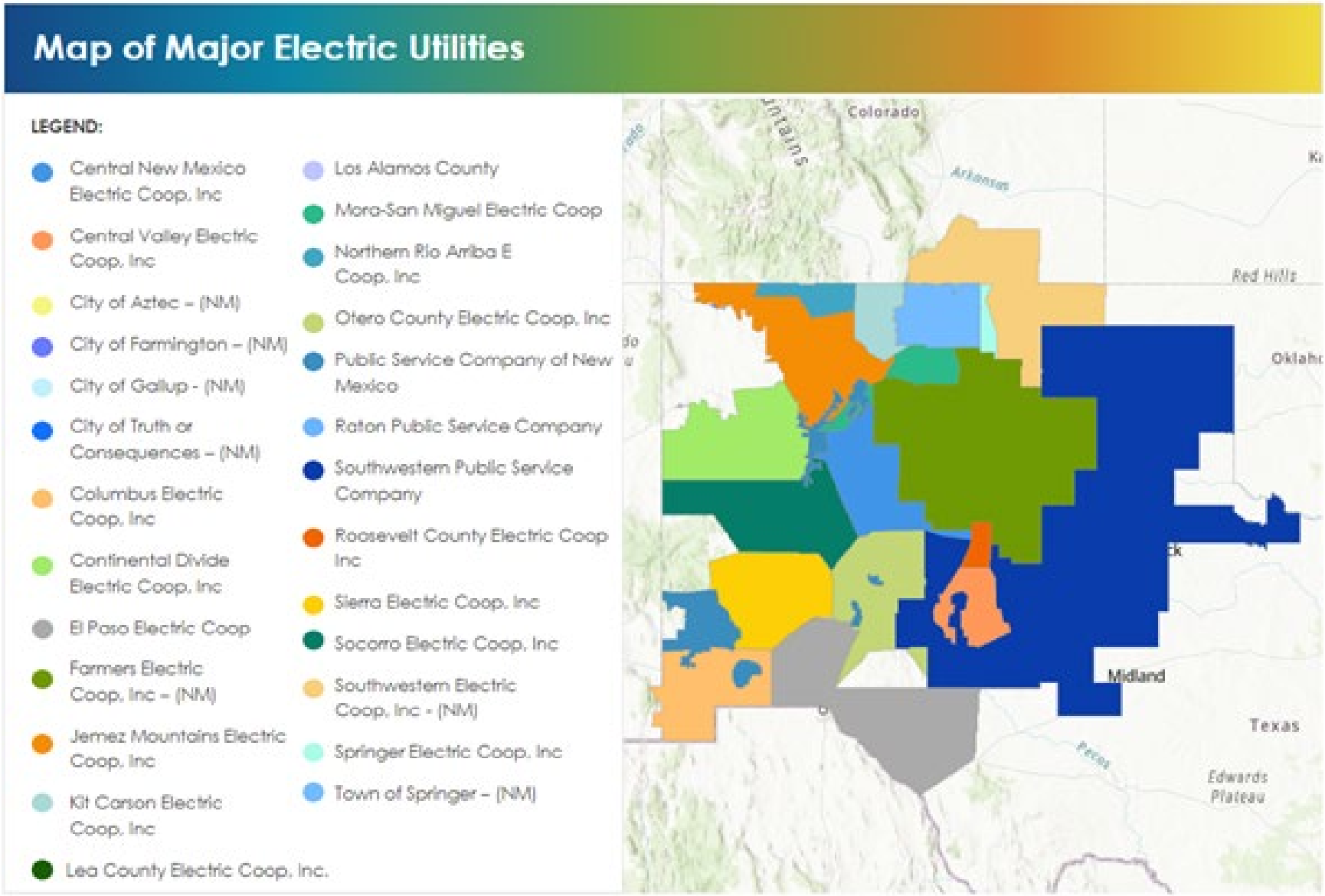
Major Utilities

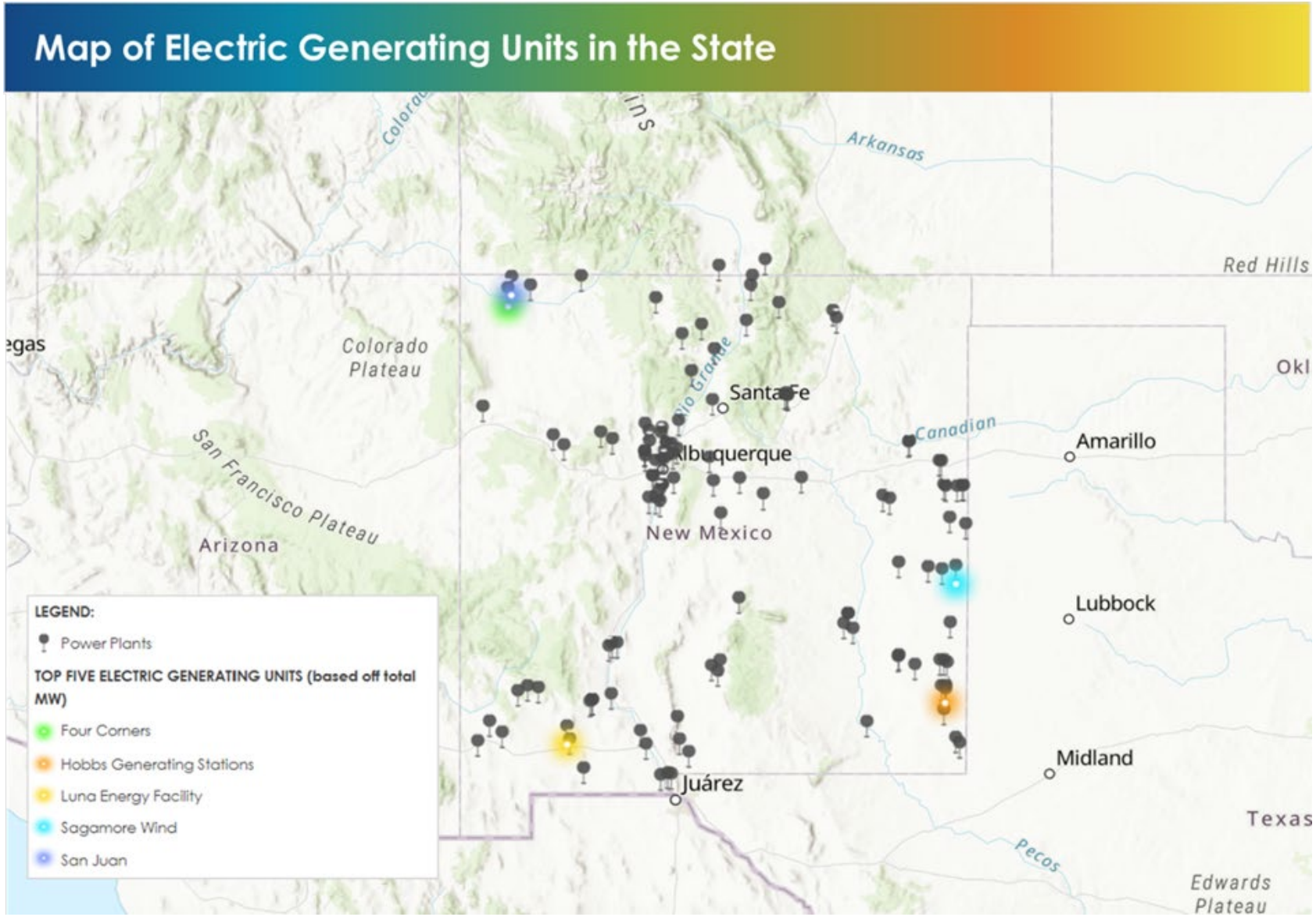


Data Source: U.S. Energy Information Administration

10 major utilities by customer base:

- Public Service Company of New Mexico (50.46%)
- Southwestern Public Service Company (11.69%)
- El Paso Electric Company (9.8%)
- City of Farmington (4.2%)
- Jemez Mountains Electric Cooperative (2.93%)
- Kit Carson Electric Cooperative (2.8%)
- Continental Divide Electric Cooperative, Inc (2.21%)
- Otero County Electric Cooperative, Inc (1.87%)
- Central New Mexico Electric Cooperative, Inc (1.73%)
- Central Valley Electric Cooperative, Inc (1.42%)

Electricity Supply



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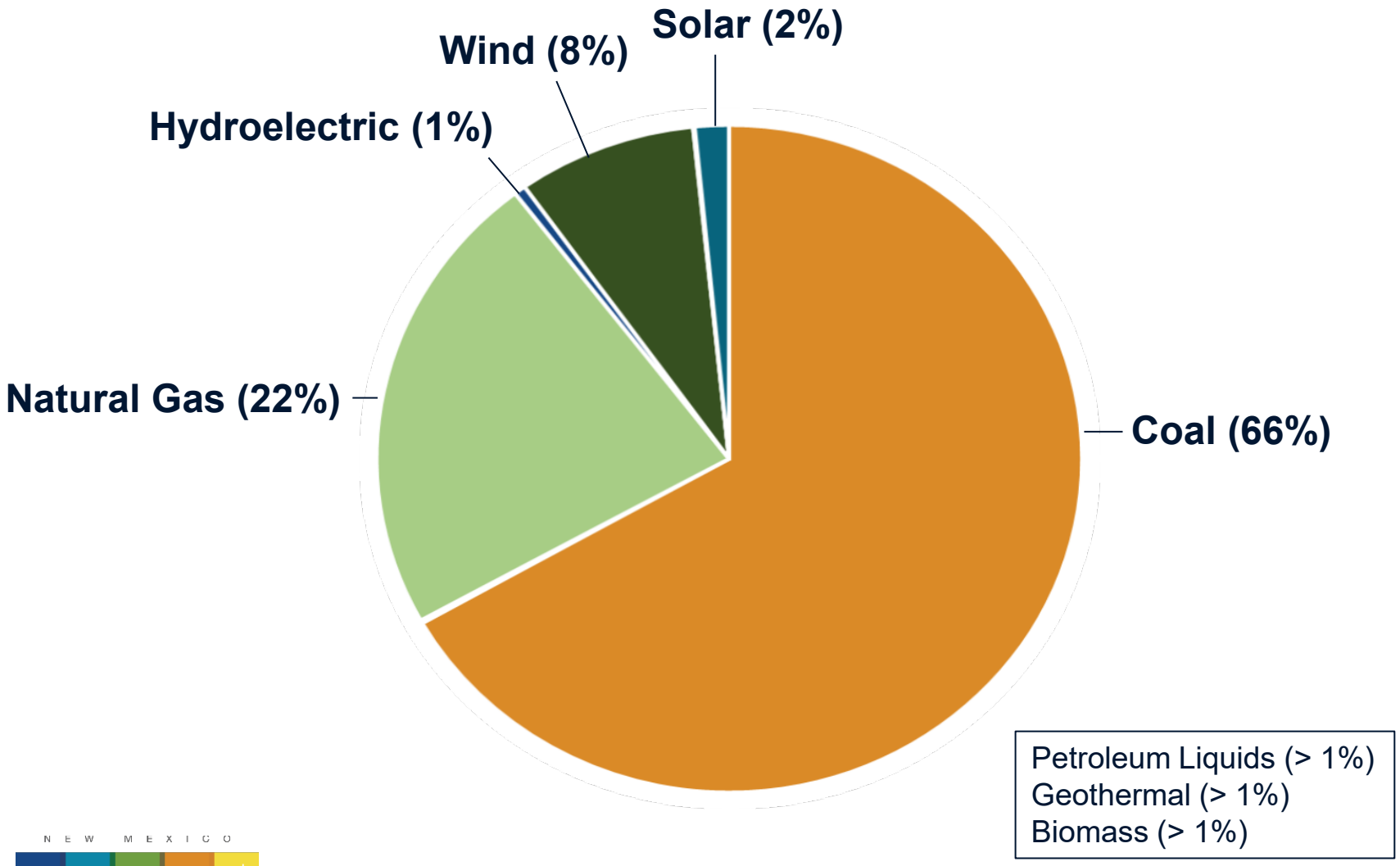
Electricity Generation by Fuel Type



Nationwide Perspective:

- New Mexico's net electricity generation in 2021 was 35,192,365 MWh.
- The 39th largest electricity producer in the country.
- New Mexico's electricity sales in 2021 totaled 25,393,743 MWh.
- The state generated 9,798,622 MWh of surplus electricity in the same year, indicating that New Mexico is a **net electricity exporter**.

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Electricity Sector Critical Infrastructure

Critical Infrastructure

- The US DHS Cybersecurity and Infrastructure Security Agency (CISA) outlines **16 critical infrastructure sectors** whose assets, systems, and networks, whether physical or virtual, are considered so vital to the United States that their incapacitation or destruction would have a debilitating effect on security, national economic security, national public health or safety, or any combination thereof.
- The same definition can be applied to state assets, systems and networks that are considered vital to New Mexico.
- **Critical energy infrastructure is defined as physical or virtual energy systems and assets so vital that the incapacity or destruction of such systems and assets would have a debilitating impact on national security, economic security, public health or safety, or any combination of those matters.**
- **Energy is the backbone of all other critical infrastructure systems**, meaning that an energy supply failure could have cascading effects on other sectors.

CISA Critical Infrastructure Sectors:

- Chemical
- Commercial Facilities
- Communications
- Critical Manufacturing
- Dams
- Defense Industrial Base
- Emergency Services
- Energy
- Financial Services
- Food and Agriculture
- Government Facilities
- Healthcare and Public Health
- Information Technology
- Nuclear Reactors, Materials, and Waste
- Transportation Systems
- Water and Wastewater Systems

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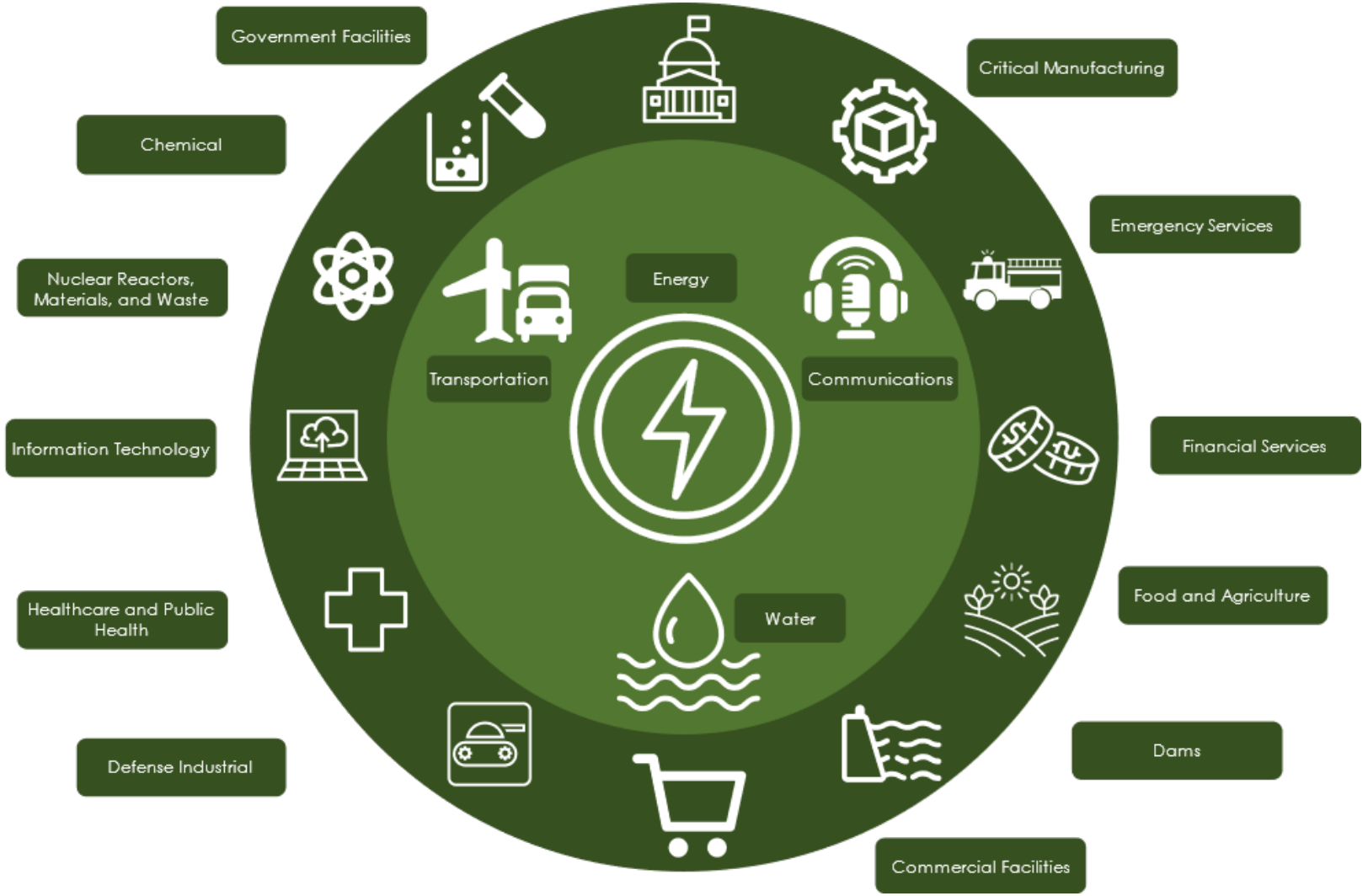
Critical Infrastructure



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Electricity Sector Critical Infrastructure

- The electricity sector is comprised of three segments: **generation facilities, transmission facilities, and distribution assets**.
- Each segment maintains a listing of **critical energy infrastructure** assets to ensure secure and reliable delivery of electricity, including:
  - The loss of any large **generation unit** could cause undervoltage or underfrequency conditions which negatively impact electric grid stability and cause cascading system failures.
  - **Operating systems** within generation facilities are considered critical systems if their failure causes the shutdown of a generation unit. Within critical systems, components that cause failure of a critical system are categorized as **critical components**.
  - **Transmission and distribution assets** (substations and transformers), which convert power from one voltage to another, are critical elements of the electrical system.
  - Technology-driven assets, such as **remote access control systems and switches.**
  - **Workforce** and personnel with specialized skills.

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Electricity Critical Infrastructure Themes in New Mexico

- New Mexico hosts 125 power plants, and the five largest generating units include: Four Corners, Hobbs Generating Stations, Luna Energy Facility, Sagamore Wind, and San Juan.
- Electricity providers include **three investor-owned electric utilities, seven municipal and tribal utilities, and sixteen electric cooperatives.**
- **A critical transmission path** includes **pairs of high voltage** transmission lines originating at the San Juan and Four Corners generating stations in the northwest corner of the state.
- **Investor-owned utilities** maintain responsibility for service territories which may include rural areas where electricity is transported long distances creating vulnerabilities in delivery to the communities served. Within rural communities, smaller populations equate to less resources to support the cost of modernizing and updating infrastructure.

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Stakeholder Feedback: Critical Infrastructure

1) Based upon your experience, do you agree with the electricity critical infrastructure components included? Are there any that should be added or removed to accurately reflect assets within the state?

2) Are there energy corridors, in addition to the San Juan and Four Corners generating stations in the northwest corner of the state, that the State Energy Office should identify as part of the SESP update?

3) Are there any additional considerations the State Energy Office should bear in mind for electricity critical infrastructure, particularly as it relates to the state's renewable energy transition?

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Electricity Sector Threats and Vulnerabilities

U.S. Department of Energy Definitions

Threats

Threats include anything that can expose a vulnerability and damage, destroy, or disrupt energy systems, including natural, technological, manmade, physical, and cybersecurity hazards.

Vulnerabilities

Vulnerabilities are weaknesses within infrastructure, processes, and systems, or the degree of susceptibility to various threats. Vulnerabilities may be specific to the threat, energy type, and infrastructure component.

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Electricity Sector Threats and Vulnerabilities

- Within New Mexico, the U.S. Department of Energy has identified the following threats to New Mexico's electricity sector:
  - **Natural Hazards (wildfires, winter storms and freezes, extreme heat, flash floods)**
  - **Physical Threats**
  - **Cybersecurity Threats**
- In 2018, the average New Mexico electric customer experienced **1.1 service interruptions that lasted an average of 2.3 hours**.
- Electric outages affected **91,741 customers** on average.
- The greatest number of outages occurred in **July** (leading month for outages nationwide)
- In January 2022, the WECC reported an **unexpected transmission loss** in Eastern New Mexico, and in May 2022, WECC reported an unexpected transmission loss in Roosevelt County, both reports occurring contrary to design, of three or more bulk electric system facilities caused by a common disturbance.

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Natural Hazards

- According to the U.S. Department of Energy, the natural hazards that caused the greatest overall property damage in New Mexico between 2009 – 2019 include:
    - **Winter Storms and Extreme Cold** (21 events costing $39 million)
    - **Wildfire** (five events costing $7 million)
    - **Flood** (33 events costing $6 million)
    - **Thunderstorm and Lightning** (113 events costing $6 million)
    - **Tornado** (9 events costing $1 million)

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Extreme Heat and Cold

- Extreme heat and cold events place **high strain on the state's energy grid**. Heat waves increase the demand for air conditioning, and cold weather increases the demand for heat.
- Winter storms pose major risks to electric infrastructure when lines become heavy with ice, trees fall, temporary closures of railroads and roadways occur, and physical accidents damage poles and facilities. This cascading impact slows the overall ability to move and provide energy resources and can force additional strain on greater energy infrastructure.
    - In February 2011, the **Groundhog Day Blizzard** created two feet of snow throughout the state and resulted in a State of Emergency due to the failure of the El Paso Electric Company's power grid.
- Climate change continues to drive temperatures higher for longer periods.
- **New Mexico is identified as a state at greatest risk of extreme heat**, particularly densely populated locations such as Albuquerque, Santa Fe, and Las Cruces.
    - In **summer 2022**, high temperatures pushed portions of New Mexico's grid close to requiring rolling blackouts.

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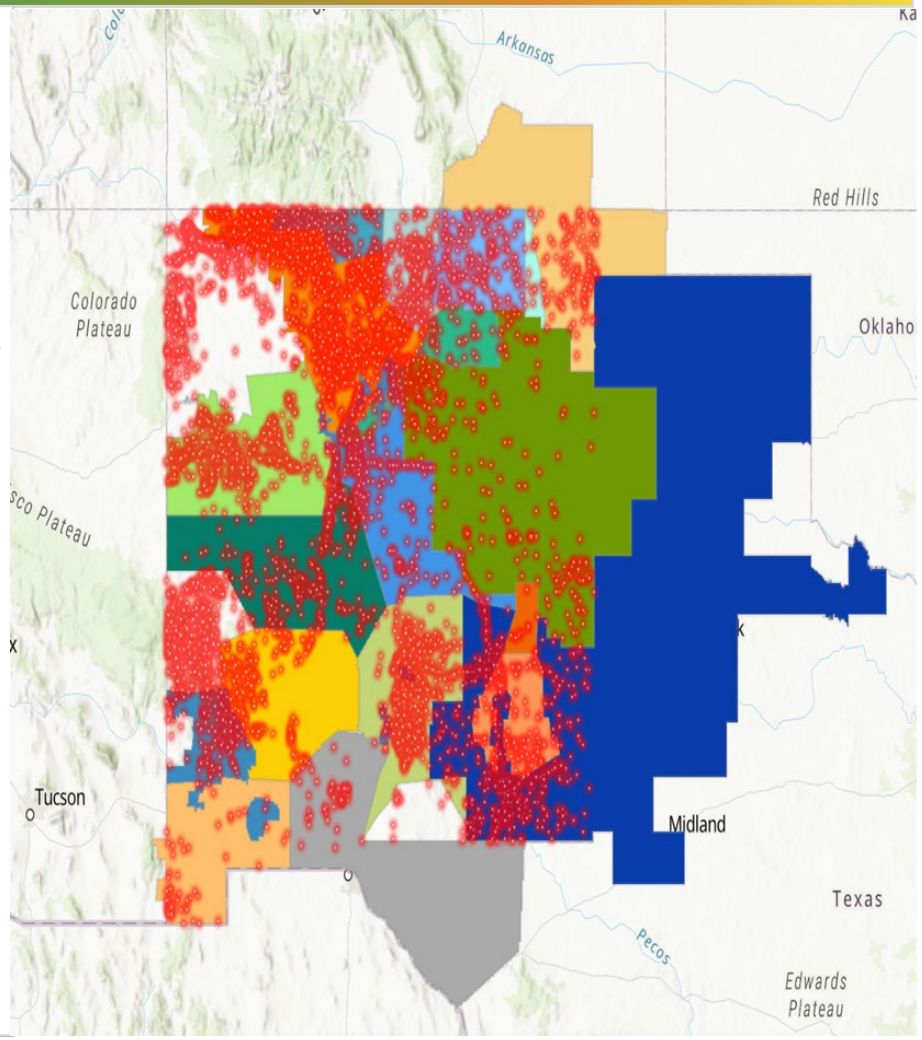
Historical Wildfires and Electricity Providers

Electric Utility Territories and Historical Wildfires

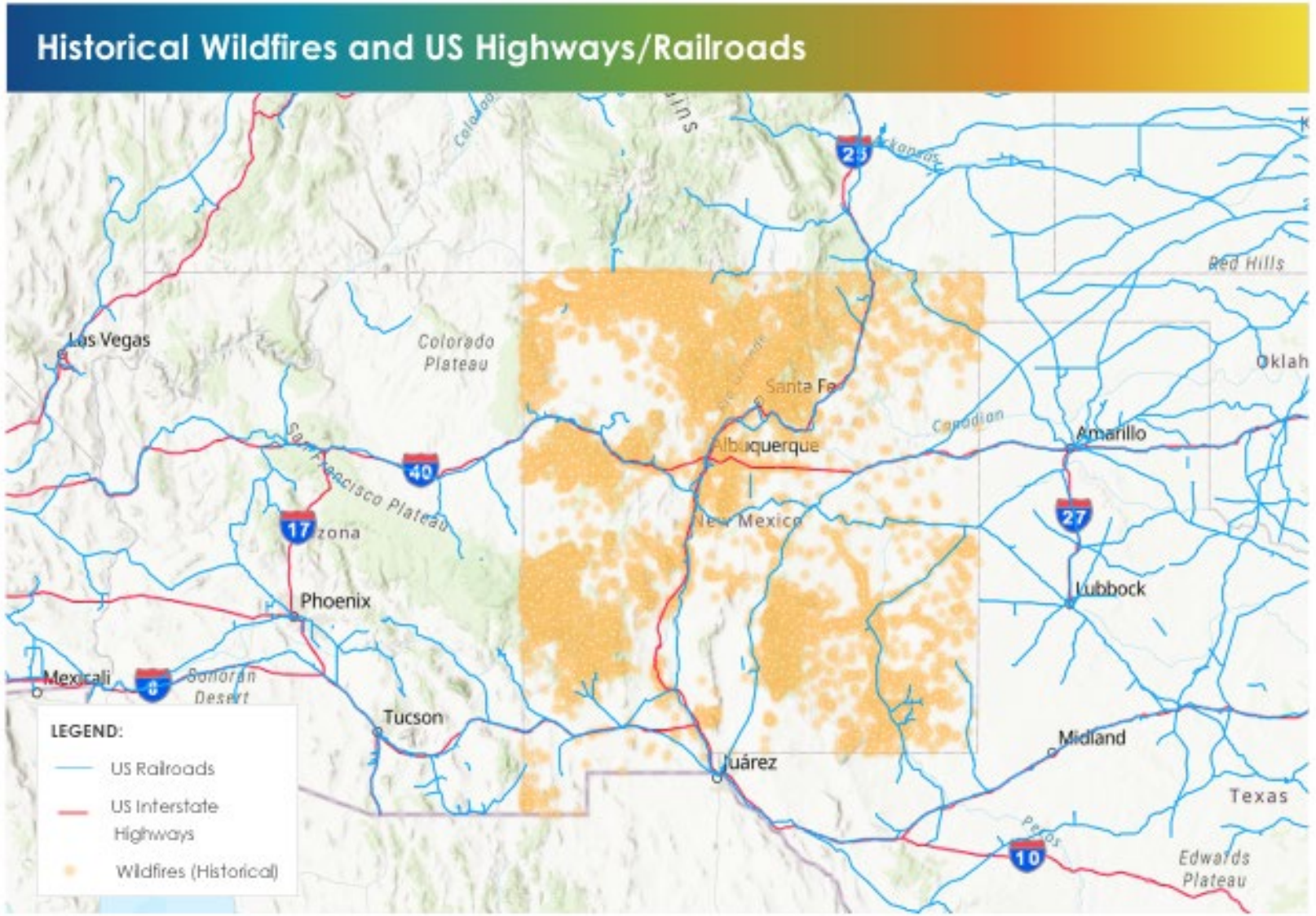
LEGEND:

- Central New Mexico Electric Coop, Inc
- Central Valley Electric Coop, Inc
- City of Aztec – (NM)
- City of Farmington – (NM)
- City of Gallup - (NM)
- City of Truth or Consequences – (NM)
- Columbus Electric Coop, Inc
- Continental Divide Electric Coop, Inc
- El Paso Electric Coop
- Farmers Electric Coop, Inc – (NM)
- Jemez Mountains Electric Coop, Inc
- Kit Carson Electric Coop, Inc
- Los Alamos County
- Mora-San Miguel Electric Coop
- Northern Rio Arriba E Coop, Inc
- Otero County Electric Coop, Inc
- Public Service Company of New Mexico
- Raton Public Service Company
- Southwestern Public Service Company
- Roosevelt County Electric Coop, Inc
- Sierra Electric Coop, Inc
- Socorro Electric Coop, Inc
- Southwestern Electric Coop, Inc - (NM)
- Springer Electric Coop, Inc
- Town of Springer – (NM)



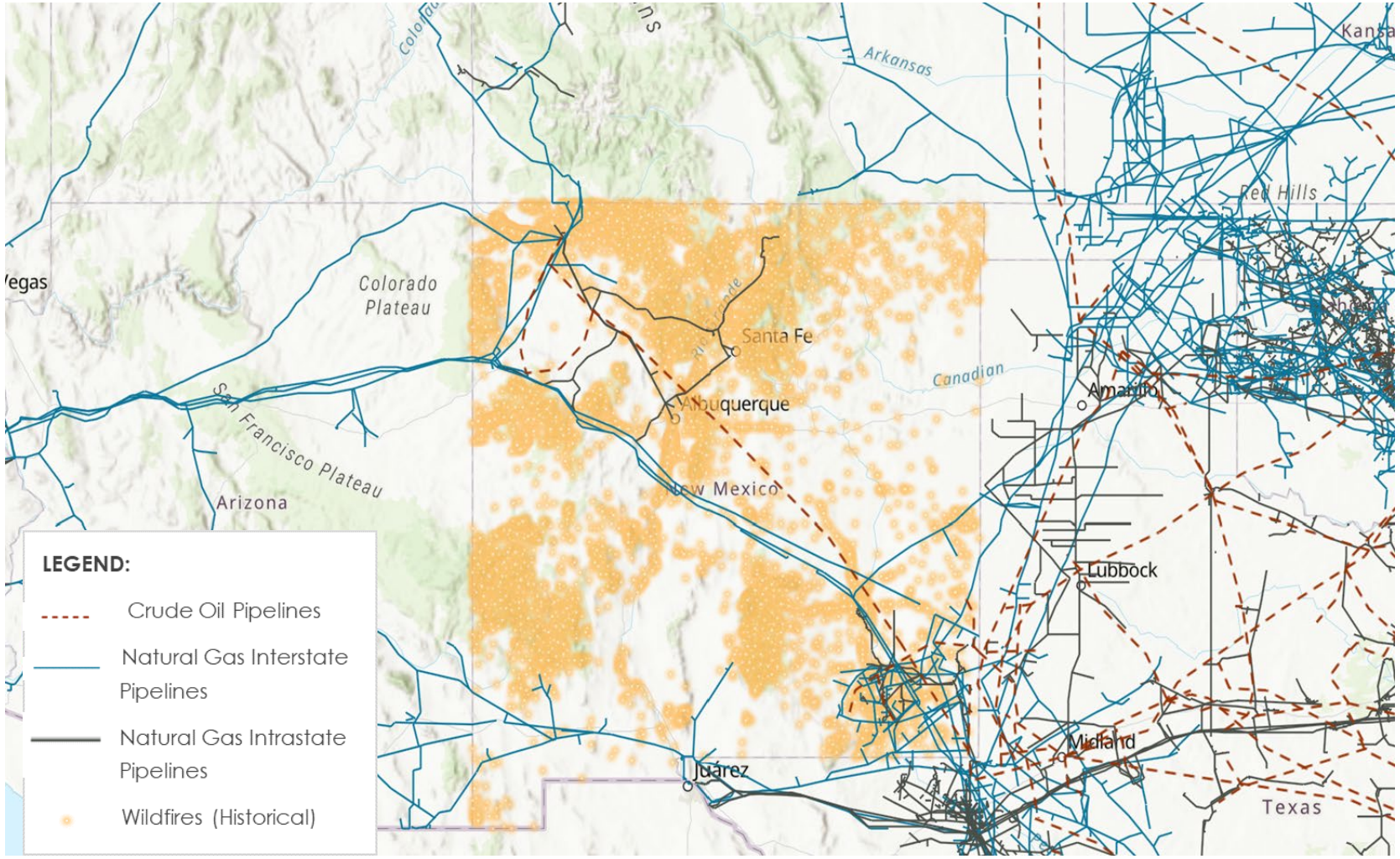
- The 2022 wildfire season in New Mexico was the **most expensive in recent history** costing $65 million dollars by May. It included 40 wildfires and burned a total of 904,000 acres. The fires were linked to lightning strikes, human-caused events, and downed power lines.
- Increased drought, stronger winds, and more frequent lightning associated with higher temperatures directly correlate to the increased potential of wildfires and **greater threat to energy infrastructure** through destabilization of transmission lines and roadways.

Historical Wildfires and Transportation



- Natural gas, petroleum, and coal play an essential role in electricity generation and currently fuel most of New Mexico's electricity generators.
- Wildfires threaten the transportation and delivery of fuels to power plants.

Historical Wildfires and Pipelines



- Wildfires pose a threat to natural gas and crude oil pipelines which could adversely impact the generation of electricity in New Mexico.

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Physical Security

- Attacks and suspicious activity at power stations reached a **decade-long high last year**, with more than 100 reported incidents in the first eight months of 2022 according to the U.S. Department of Energy's most recent data.
- Since then, there have been at least **18 more publicly reported attacks** or potential attacks on substations and power plants in Florida, North Carolina, Oregon, South Carolina, and Washington.
- **In April 2022, the Western Electricity Coordinating Council reported a threat of suspicious activity at a facility in San Juan County.**

Cybersecurity

- The energy sector is **technology driven**.
- Energy systems utilize computing technologies to **manage business systems and control and monitor the processes and transportation of energy** from production and generation to end use.
- The energy sector relies heavily on both **information technology (IT) systems and operational technology (OT) systems**.
    - **Impacts to IT systems**: loss of personally identifiable information, loss of business data, customer/supplier payment issues, and brand damage.
    - **Impact to OT systems**: supply shortfalls, disruption to power and access to fuel, health, safety, and economic impacts, forced switch to manual operations, and loss of visibility into operations.
- The cascading impacts of a cybersecurity attack on energy infrastructure critically threatens the economy and national security because all critical infrastructure sectors rely upon energy to operate.
- The **2022 Annual Threat Assessment** released by the Office of the Director of National Intelligence emphasizes, as it has in the past, **that cyber threats from nation states remain acute**.

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Cybersecurity Threat Actors

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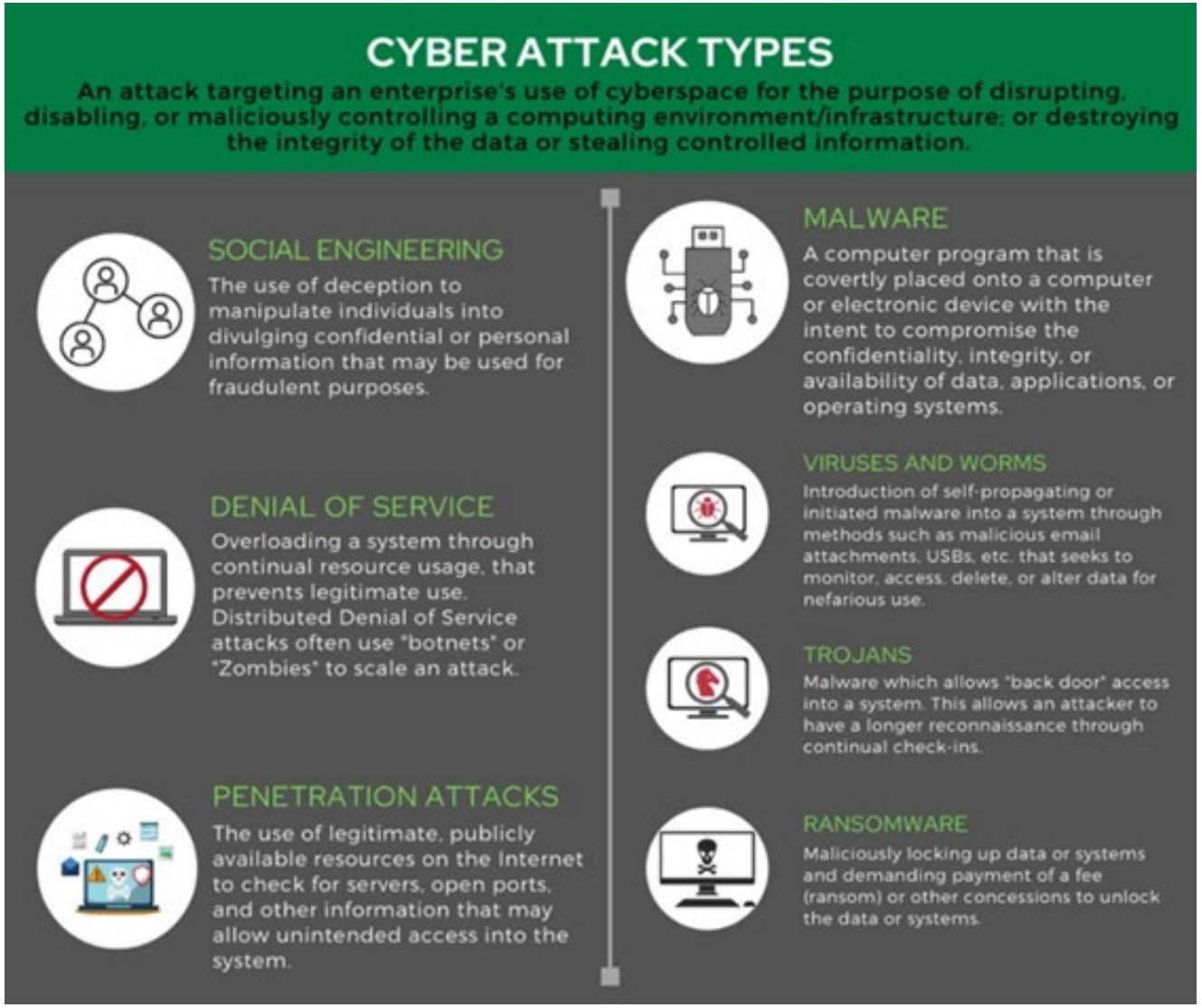
Cyber Attack Types



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Cybersecurity Resources for the Electricity Sector

- **U.S. Department of Energy's Cybersecurity Capability Maturity Model**: enables organizations to voluntarily measure the maturity of their cybersecurity capabilities in a consistent manner through a publicly available tool.
- **American Public Power Association's Public Power Cybersecurity Scorecard**: an online self-assessment tool for municipal utilities to evaluate their cybersecurity programs and overall posture.
- **National Rural Electric Cooperative Association's Rural Cooperative Cybersecurity Capabilities Program Cybersecurity Self-Assessment**: designed to assist cooperatives understand their cybersecurity posture and provides tools and resources focused on improving the cybersecurity capabilities of cooperatives. The program also provides opportunities for collaboration, education, and training.
- **National Association of Regulatory Utility Commissioners' Cybersecurity Manual**: a comprehensive suite of cybersecurity tools to help public utility commissions gather and evaluate information from utilities about their cybersecurity risk management and preparedness.
- **Edison Electric Institute's Electricity Subsector Coordinating Council**: a coordinating entity between federal agencies and investor-owned utilities to bolster defense against cyber and physical security threats.
- **Electricity Information Sharing and Analysis Center (E-ISAC)**: provides information and resources to help the North American electricity industry prepare for, and defend against, both cyber and physical security threats.

Electricity Sector Vulnerabilities

- The U.S. Department of Energy has identified **human-caused events and asset health** as the great vulnerabilities to New Mexico's energy sector.
- **Human Caused Events**:
  - Insufficient staff who are trained to complete jobs, disputes between staff and employers, impacts from extreme weather limiting the availability of personnel able to report to facilities.
  - Workplace accidents cause physical damage to infrastructure and injure personnel.
- **Asset Health**:
  - Accidents and damage to roadways and railways can slow or stop delivery of materials, resources, and personnel.
  - Transmission and distribution assets (substation and transformers) currently have long lead times for delivery due to supply chain issues and are expensive to keep as spares.
  - Not all transmission and distribution systems have the same design parameters so equipment may require customized manufacturing.
  - Downed power lines due to pole failure and physical accidents can interrupt telecommunications.

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Stakeholder Feedback: Threats and Vulnerabilities

1) Of the threats and vulnerabilities identified, is there one that concerns your organization most?
2) Are there any emerging threats that you are integrating onto your organization's emergency planning?
3) If a threat were to occur, would you activate your own Emergency Operations Center (EOC), or deploy to and support another organization's/agency's EOC? If the latter, who's EOC would you support?
4) Are there any private organizations (consider the sixteen critical infrastructure sectors) that you would like to develop a better relationship with to address any of the threats identified?
5) Do you have any concerns associated with threats that are associated with neighboring states (Arizona, Utah, Colorado, Oklahoma, and Texas), and Mexico?

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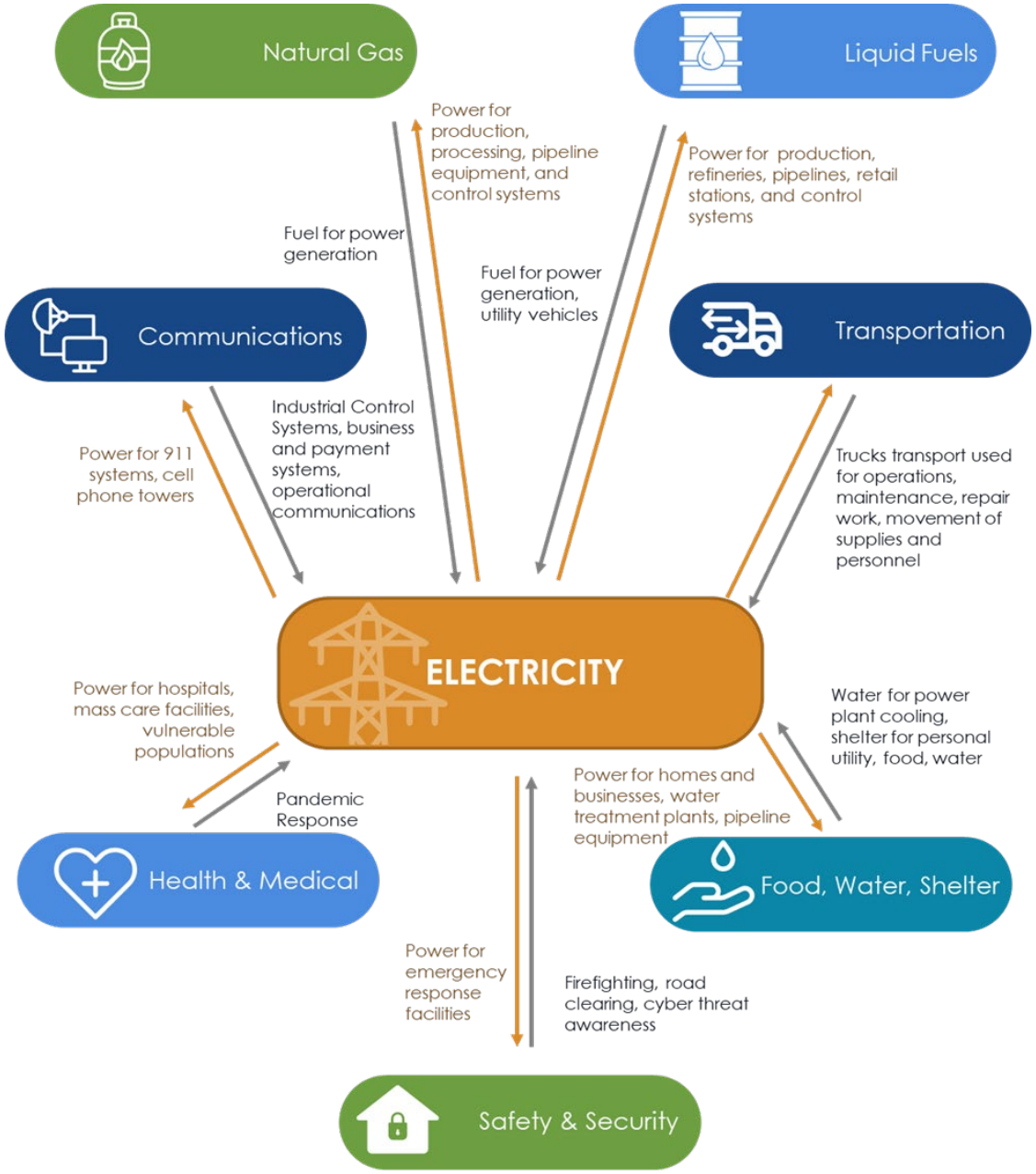
Cross-Sector Interdependencies



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Electricity – Fuel Interdependencies

- **Electrical generation is dependent upon fuel sources while the production and processing of fuel requires electricity**.
- **Examples include**:
  - Natural gas, propane, and petroleum processing and transportation systems may not have sufficient backup electrical power systems to maintain production during prolonged outages. Compressor stations, pumps, and safety monitoring equipment are examples of equipment that require electricity to operate.
  - Most backup electrical power systems require fuel (propane, gasoline, and natural gas).
  - Vehicles that run on gasoline and diesel fuel are essential to the transportation of material and personnel to operate the electric system.
  - Coal, though declining in use, provides a third of electricity currently, and is highly dependent on petroleum-based fuels for its extraction and transportation. Rail transport is particularly important.

Electricity – Fuel Interdependencies (Cont.)

- Wind and solar plants provide power when there is sufficient wind or insolation, yet require electrical power for system control, monitoring, and communications. Electricity is also needed for restart after shutdown.
- Control systems, critical to energy system production and operation, require a constant source of power to maintain operations along with internet or wireless communications.

Examples of cascading failures related to this interdependency are the winter freeze events of 2011 and 2021. Prolonged extreme cold weather caused the loss of natural gas supply which also resulted in the reduction in capacity or shut-down of some natural gas-fired electrical generation plants. The resulting instability of the electrical grid, due to excessive demand and insufficient supply, led to load shedding of sections of the grid. These electricity shortfalls further affected natural gas production thus creating a cascading failure of both energy sectors.

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Electricity – Physical Interdependencies

- **The delivery of electricity to end users is highly reliant on physical infrastructure.**
- **Examples include:**
  - Transmission and distribution lines are most often above ground and exposed to the elements and an infrastructure failure may disrupt or entirely stop the distribution of electricity.
  - Electric lines may run beneath bridges and overpasses and failures to these structures may result in a widespread disruption of service.
  - Physical infrastructure is dependent on electricity to maintain electric roadway signs, manage tolls, provide lighting to roadways, and maintain project lighting for new or updated infrastructure.

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Electricity – Water Interdependencies

- **The electricity – water interdependency is important to New Mexico's energy security given the scarcity of fresh water in the region**.
- **Examples include:**
  - Electrical generation facilities that use heat rely on water for steam and cooling.
  - Electricity is needed to treat wastewater so it can be safely returned to the environment.
  - In 2015, power generation constituted one of three major water withdrawals from surface water sources in New Mexico.
    - Power generation accounted for 50,419 acre-feet of state water withdrawals. Although the quantity of water used in the generation of electricity is small, it is an essential resource.
    - Water utilized for power generation has steadily decreased in recent years.

Stakeholder Feedback: Cross-Sector Interdependencies

1) Of the three cross-sector interdependencies included, is there one that is most prominent to your organization?

2) Are there any additional interdependencies that should be evaluated during the update to New Mexico's SESP?

3) How is your organization postured to address cross-sector interdependencies as the state undertakes a renewable energy transition?

4) Are there state resources that would be useful to assist your organization address cross-sector interdependencies during the renewable energy transition?

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Preparedness Activities

Preparedness Activities

- **Emergency operations plans**.
- **Training and exercises**.
- Participation in the electric utilities industry **mutual aid protocols** that foster the sharing of essential equipment between utilities, including personnel.
- Participation in U.S. Department of Energy, American Public Power Association, National Association or Rural Electric Cooperatives, National Association of Regulatory Utility Commissioners, and Edison Electric **cybersecurity resources**.
- Participation in the **Electricity Information Sharing and Analysis Center** (E-ISAC).
- Integration into **state and regional emergency disruption planning and response**.

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Stakeholder Feedback: Preparedness Activities

1) What energy emergency preparedness activities does your organization undertake?

2) Are there resources or activities that would be helpful for the State Energy Office to direct to integrate public-private partnership for energy emergency preparedness?

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Introduction and Background

Energy Security Assessment Themes and Prompts

Next Steps

SESP Development

- SESP development will include the following activities:
  - **Two 90-minute virtual sessions with an Emergency Response Working Group (ERWG) comprised of state, regional and tribal stakeholders**
  - **Two 90-minute virtual sessions with a Resilience and Mitigation Working Group (RMWG) comprised of energy infrastructure owners and operators**
  - Writing of the updated and final SESP

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Emergency Response Working Group

- Timeframe: April 4 and 18, 2023
- Comprised of **state, regional and tribal stakeholders**
- Address:
    - energy security priorities
    - mutual assistance in cyber and physical response plans
    - planning and response responsibilities
    - coordination between state, local, and tribal entities, and wider public-private coordination
- Yield: Integrated Preparedness Plan (IPP) reflecting energy priorities for ERWG stakeholders, existing processes and capabilities, identified next steps for continued capability growth. IPP will be included in the final updated SESP.

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Resilience and Mitigation Working Group

- Timeframe: April 6 and 20, 2023
- Comprised of **energy infrastructure owners and operators**
- Address:
  - Existing, anticipated, and required mitigation initiatives
  - Potential opportunities for additional or collaborative mitigation priorities
  - Public-private partnership to maintain energy reliability, secure infrastructure, and further invest in infrastructure
- The Energy Infrastructure and Cross-Sector Interdependencies Risk Assessment will be utilized to elicit conversation during these discussions
- Yield: Risk Mitigation Approach for inclusion into the updated and final SESP

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SESP Stakeholder Presentations

- Timeframe: June 26 and 27, 2023
- Deliver a two-hour SESP Stakeholder Presentation describing the updated and final SESP to two separate audiences:
  - **SESP Planning Team and government stakeholders**
  - **External stakeholders identified by EMNRD ECMD**
- The presentation will be interactive and may be delivered virtually or in-person
- The presentations will be divided into three portions:
  - State Energy Profile
  - Hazards, Risks, and Mitigation
  - Emergency Response

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Stakeholder Key Dates

April 4, 18, 2023:	**Emergency Response Working Group Meetings** (local, state, regional tribal stakeholders)
April 6, 20, 2023:	**Resilience and Mitigation Working Group Meetings** (energy infrastructure owners and operators)
May 1-2, 2023:	**Regional Energy Security Exercise** (please email Jacqueline Waite if interested)
June 26, 27, 2023:	**SESP Stakeholder Presentations** (government and other stakeholders identified by EMNRD ECMD)

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Questions

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