

# National Security Considerations in Distribution System Planning

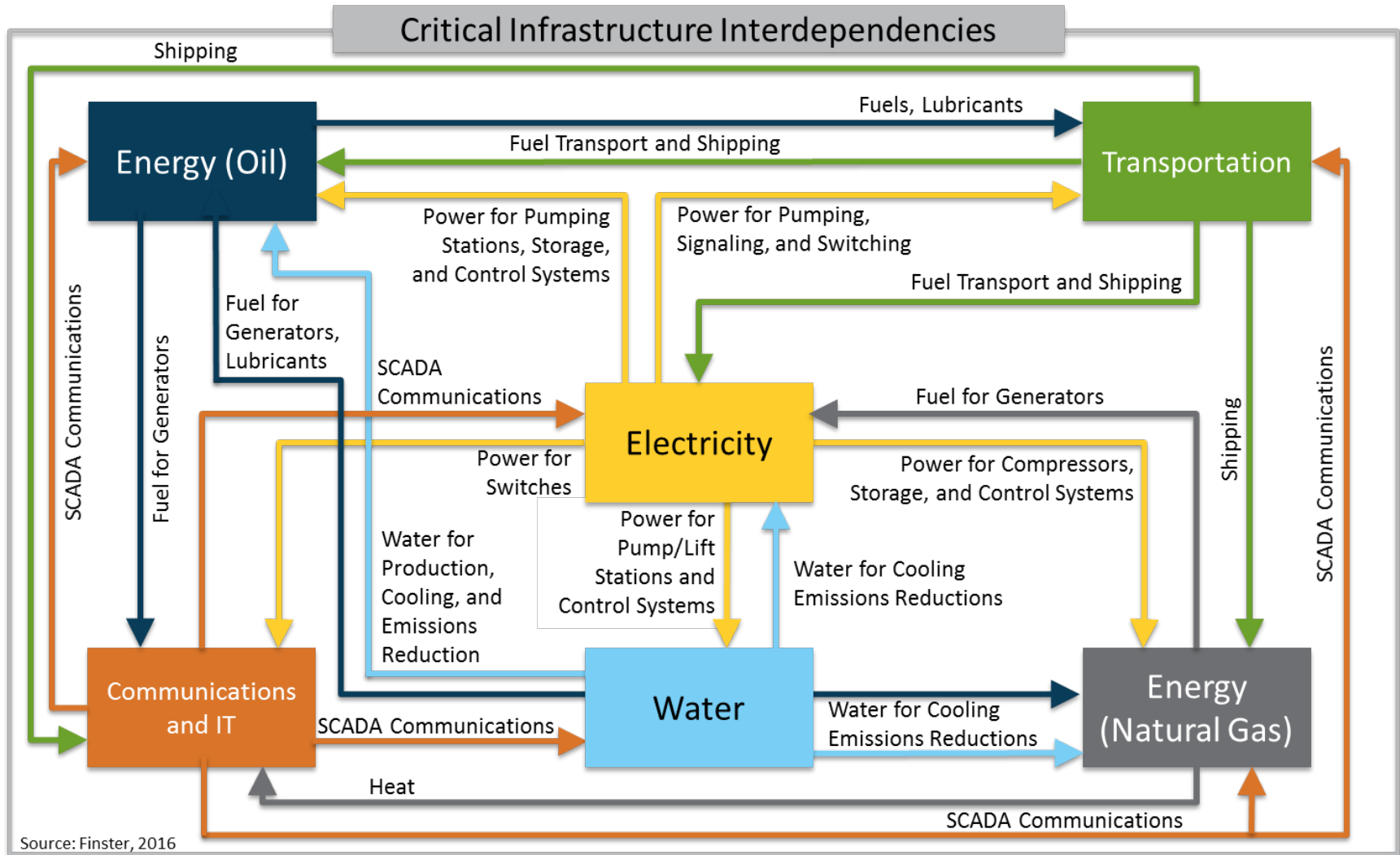
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# National Security Concerns

## Key concerns:

- **Critical infrastructure protection (both civilian and defense) from all hazards**
  - Pre- and post-disaster capabilities
  - Defense Critical Energy Infrastructure (DCEI)
- **Vulnerabilities associated with infrastructure interdependencies**
  - North American Energy Resilience Model (NAERM)
- **Cybersecurity**

# US Critical Infrastructure Depends on Electricity



# Defense Facility Considerations

**There is a dependence between the defense facility and surrounding community**



To ensure operation of mission-critical defense functions:

- Supporting critical infrastructure within the surrounding community should be adequately protected from all threats, and
- The civilian and military populations supporting defense-critical functions should operate effectively through emergencies

**Is some level of co-planning needed?**

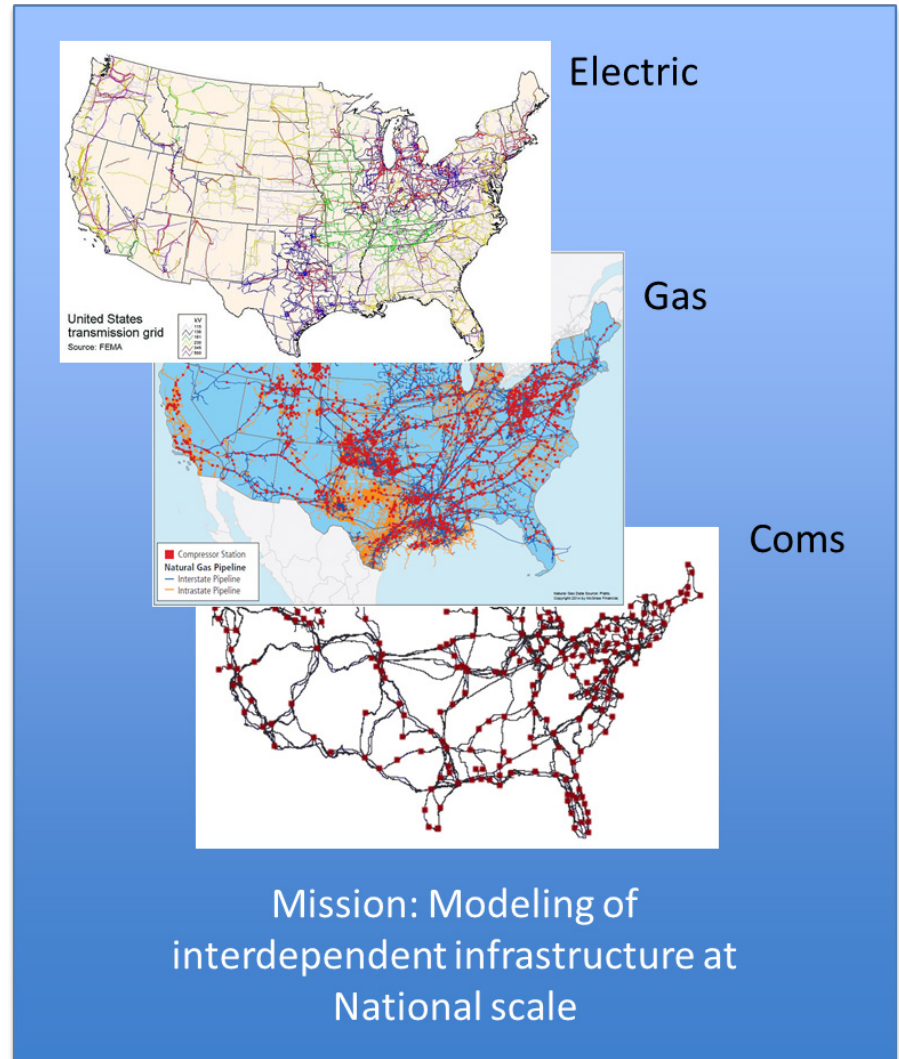
# Protecting US Infrastructure Through Modeling

## Vision

Rapidly predict consequences of known and emerging threats to national energy infrastructure.

Prioritize investments in resilience to include hardening, research development, and fuel supply.

Support accurate and holistic analyses for decision makers to prepare, respond, and mitigate threats.

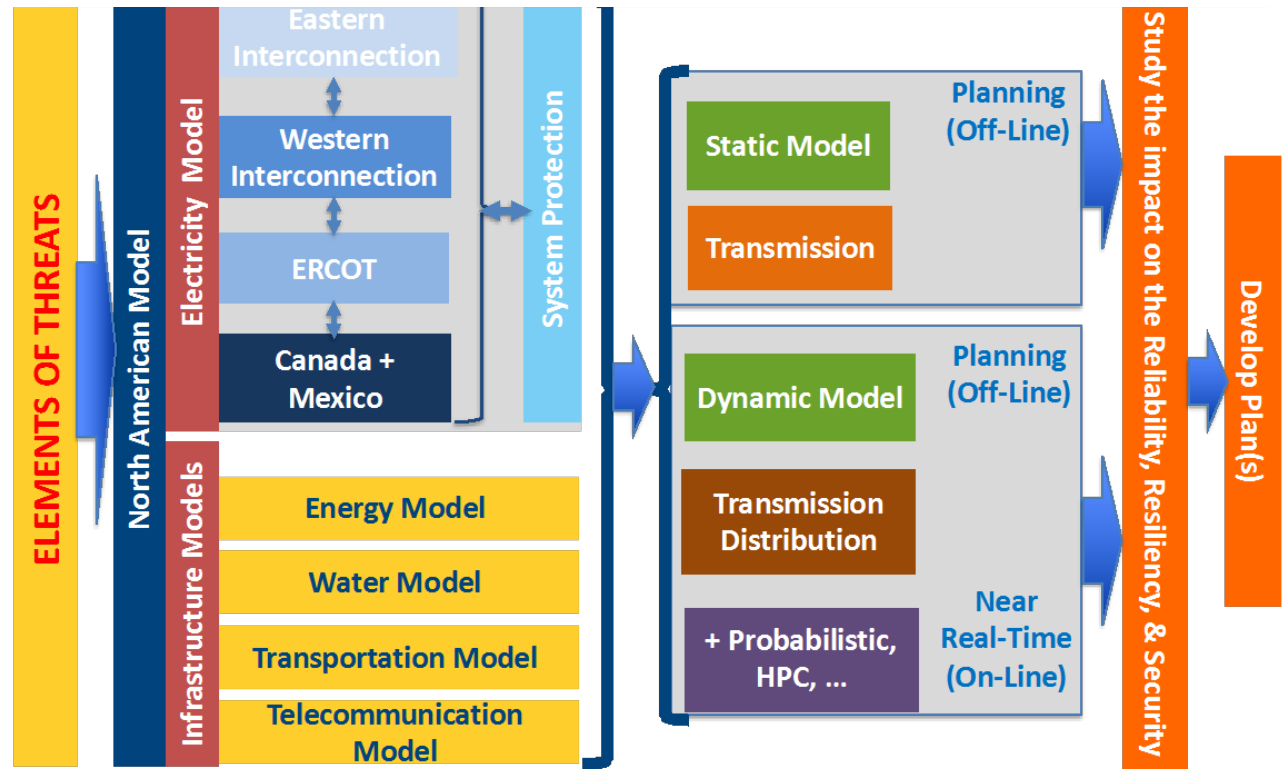


# North American Energy Resilience Model

## Conceptual NAERM Workflow Concept

### Components

- Modeling and simulation tools (elect, gas, coms, econ/metrics)
- Databases to store model inputs and data streams
- Secure computer and storage systems
- User environments to enable analyses
- Processes used to obtain & feed data and model inputs into system



# Resilience Decision Framework

Logical Consistency

## State Policy Makers

### Legislatures and Governors

- **Develop policy goals and objectives** (e.g., wildfire mitigation)
- **Require plans** (ex: CA utility wildfire mitigation plans)
- **Fund improvements** (ex: CA utility **cost recovery** standards & practices)
- **Require utility coordination and oversight** (ex: coordination & data-sharing among state agencies, eg, sharing cybersecurity information and practices, and conducting independent evaluations)
- **Facilitate specific risk mitigation strategies** (ex: microgrid development and application of **NAERM** findings)
- **Develop further recommendations** (ex: establishing commissions, boards and state offices with specific charges)

## State Policy Implementers

### Utility Commissions

- **Set substantive and procedural requirements for plans, including**
  - **Setting objectives**, based on state policy goals and customer expectations
  - Establishing **scope and timing requirements** based on priorities
  - Establishing **metrics** to measure performance
  - Determining **cost recovery** mechanisms
- **Approve or accept plans**
- **Fund improvements** (cost recovery approval through and/or outside General Rate Case)

## Distribution System Owners & Operators

### Utilities

- **Develop plans**
  - **Align objectives**
  - Develop **long-term strategy** and **short-term implementation plans** integrated with current planning processes
  - **Prioritize** short-term vs long-term needs through **risk assessments**
  - **Coordinate** planning and operations
  - Re-design **business practices**
  - Establish staged, **technology deployment plans and cost estimates**
- **Implement approved plans**

Stakeholder Input Processes

# Sources of Federal Funding for Mitigation

## FEMA:

1. **Hazard Mitigation Grant Program (HMGP)** – funding provided after a disaster to protect public and private property through hazard mitigation efforts, \$785M provided in FY2018, 75/25 fed/non-fed match. [www.fema.gov/hazard-mitigation-grant-program](http://www.fema.gov/hazard-mitigation-grant-program)
2. **Pre-Disaster Mitigation Grant Program (PDM)** – requires a community-adopted hazard mitigation plan and determination of efforts to mitigate the impact of identified, potential natural disasters, \$250M available in FY2019. [www.fema.gov/pre-disaster-mitigation-grant-program](http://www.fema.gov/pre-disaster-mitigation-grant-program)
3. **Flood Mitigation Assistance (FMA) Program** – funding for projects to reduce or eliminate risk of repetitive flood damage to buildings insured by the National Flood Insurance Program (NFIP), \$210M available in FY2029. [www.fema.gov/flood-mitigation-assistance-grant-program](http://www.fema.gov/flood-mitigation-assistance-grant-program)
4. **Building Resilience Infrastructure and Communities (BRIC) Program** – the Disaster Recovery Reform Act (DRRA) will reserve 6% of total funding obligated yearly to the Disaster Relief Fund to support new, innovative large infrastructure projects, \$300-500M annually, 75/25 fed/non-fed match. [www.fema.gov/drra-bric](http://www.fema.gov/drra-bric)

## HUD:

1. **Community Development Block Grant Program – Mitigation (CDBG-MIT)** – \$6.875B available to applicants recovering from disasters in 2015-2017 to carry-out strategic and high-impact activities to mitigate disaster risks and reduce future losses (while considering a wide range of community development efforts. [files.hudexchange.info/resources/documents/FR-6109-N-02-CDBG-Mitigation-Notice.pdf](http://files.hudexchange.info/resources/documents/FR-6109-N-02-CDBG-Mitigation-Notice.pdf)



# Questions for Consideration

## How should national security concerns be addressed in grid planning processes?

1. Are current mitigation\* processes sufficient?
  - a. For critical infrastructure protection?
  - b. Cybersecurity?
2. If not, what processes are needed?
  - a. Are they threat dependent?
  - b. What is the role of federal authorities and with whom should they interact?
  - c. What are the specific processes or approaches that are needed?
3. Is funding a consideration?
  - a. Who is responsible? (Depends...?)
  - b. Preferred mechanisms?

\* **Mitigation** is a type of long-term, pre-disaster planning which involves sustained expenditures on structural and non-structural efforts to reduce or eliminate future risks and is distinguished from **emergency preparedness, restoration, and recovery.**

# Thank You

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