



Advisory Group Meeting

Framework Development + Workshop Updates



12 September 2024



CONVERGE
STRATEGIES

Agenda

01

Timeline

03

Share Screen

02

Workshop Draft Agenda

04

Next Steps + Action Items

Timeline

Effort Milestones | Past, Present, + Future



Draft Objectives + Agenda

Workshop Objectives



REVIEW DRAFT

Participate in interactive activities to provide feedback on existing drafts (Energy Risk + Criticality and Restoration Priorities).



DEVELOP USE CASES

Identify case studies that are relevant to your organization. Test the draft frameworks against those scenarios at the workshop.



SKETCH OUT REMAINING CONCEPTS

Continue drafting structure and suggesting content for the remaining frameworks (Interdependency Planning, Resource Adequacy, and Design + Integration).

Tentative Workshop Agenda

Day 1 Thursday	
Time	Description
1:00 – 1:15 PM	Welcome/ Introductions
1:15 – 2:15 PM	Introduction Section
2:15 – 2:30 PM	Break
2:30 – 3:30 PM	Energy Risk + Criticality
3:30 – 3:45 PM	Break
3:45 – 4:45 PM	Restoration Priorities
4:45 – 5:30 PM	Closing Discussion
5:30 PM	Evening Reception

Day 2 Friday	
Time	Description
8:00 AM	Continental Breakfast Available
8:30 – 8:45 AM	Welcome/ Day 1 Recap
8:45 – 9:30 AM	Interdependency Planning
9:30 – 10:15 AM	Resource Adequacy
10:15 – 10:30 AM	Break
10:30 AM – 11:15 PM	Design + Integration
11:15 – 12:00 PM	Closing Discussion

Next Steps + Action Items

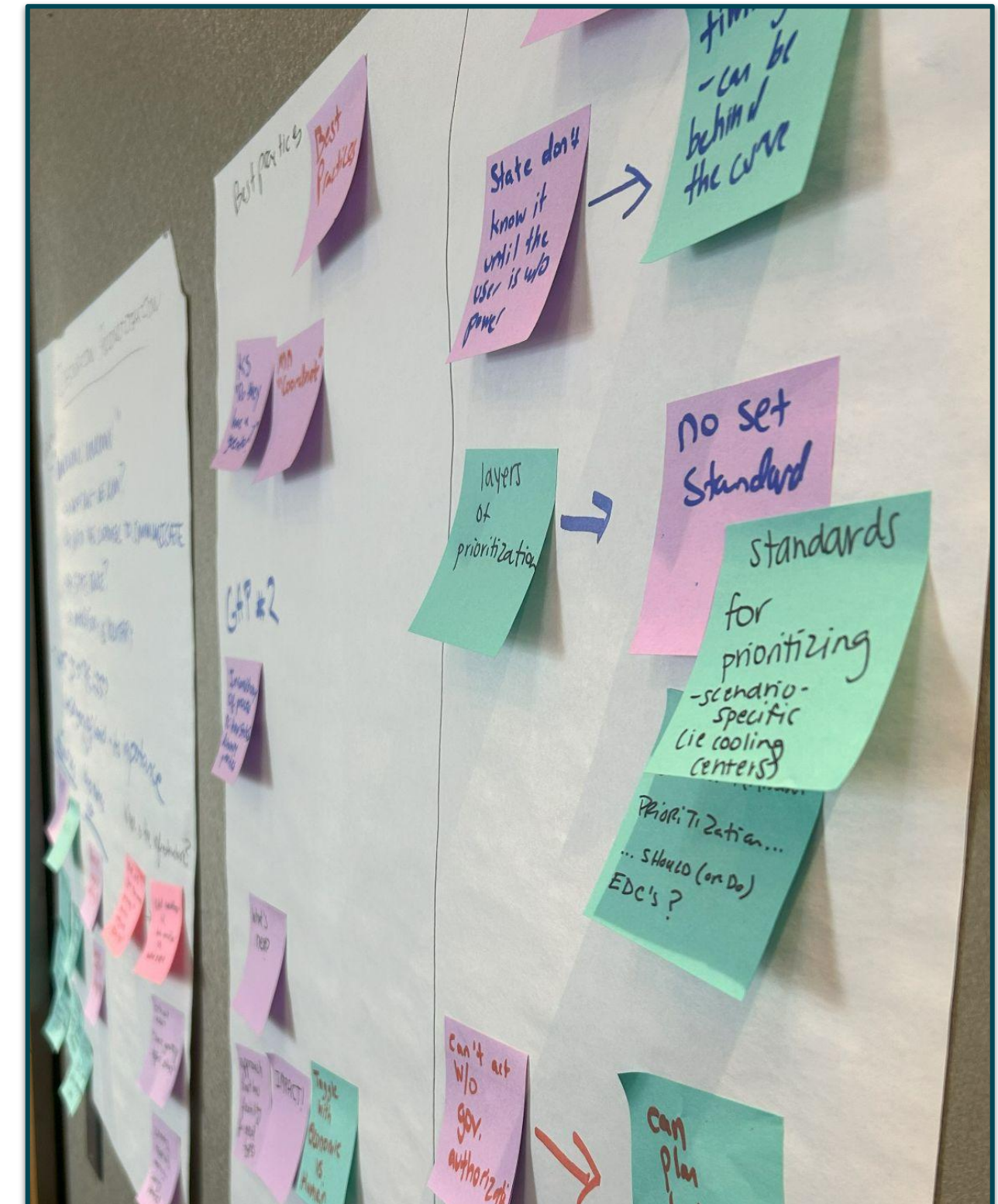
Next Steps

Events + Tasks

1. 10 October – Monthly Advisory Group Meeting to review drafts for selected frameworks.
2. Framework Implementation Workshop
 - a. Date: 31 October – 1 November 2024
 - b. Location: Illinois Commerce Commission Bldg, Chicago, IL

Requests for You

1. Who from your organization should be included in future meetings?
2. Please read the draft prior to the Workshop.



Contact Information

Contact Us



MGA

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Backup Slides

Framework Development Plan



Restoration Priorities

Summer 2024



Energy Risk and Criticality

Summer 2024



Interdependency Planning

Fall 2024



Resource Adequacy

Winter 2025



Design & Integration

Winter 2025

*Note: The MGA project will include frameworks for all five topics. At the workshop, participants voted to build out the frameworks for three blue topics first. Full definitions for all five framework concept can be found in **Appendix A**. Summaries from the workshop can be found in Appendix B.*

Framework Outline

Introduction Section – What is this Material and Why was it Created?



Admin Section. This will include information about the effort and MGA. It will also include sections for acknowledgement, table of contents, and acronyms. Any DOE required language will be included in here, as well.



Purpose. Reliability issues, changing weather conditions, and increasing demand challenge states across the Midwest. This material can help states map out their energy strategy priorities.



Framework Section Overview. Summarizes the five topics and what to expect from this document.

User Guide – How To Use This Material



Who can use it and when they can use it. This section will identify different organizations who can engage with the document. It will also share relevant plans, policies, and guidance that authorizes people to do this type of work.



Framework Format and Contents . Each section will be structured similarly and will include information about a) resources and stakeholders b) whether centered around the economy, state resilience, or energy diversification.

Energy Risk + Criticality

Energy Risk & Criticality | Review



Summary

Energy risk is the potential for energy infrastructure to be impacted by natural and man-made hazards. Its criticality is determined by its susceptibility to hazards, impacts of its disruption on connected systems, presence or lack of redundancy, and the asset's historical performance. The framework will suggest how organizations can develop a shared, standardized risk assessment methods to address system-level risk.

Gap 1

No Single Method for Assessing Risk

Different organizations calculate risk differently. The framework will:

1. Recommend ways organizations can work together to create a standardized risk assessment process.
2. Explain how organizations can define risk for their own critical infrastructure.
3. Share ideas on what organizations can do after assessing critical infrastructure risk.

Gap 2

Uncertainty of Service for Critical Functions

This gap leaves many questions to be answered. The framework will share steps for how organizations can:

1. Understand the differences between system-level vs individual risks.
2. Navigate various risk tolerances across multiple entities & assets.
3. Improve outdated methods of identifying and mitigating risk, esp. regarding interregional connections.

Best Practices/ Resources

1. National Institute of Standards and Technology (NIST) Cybersecurity Framework
2. Organizational frameworks: NERC CIP, FEMA THIRA

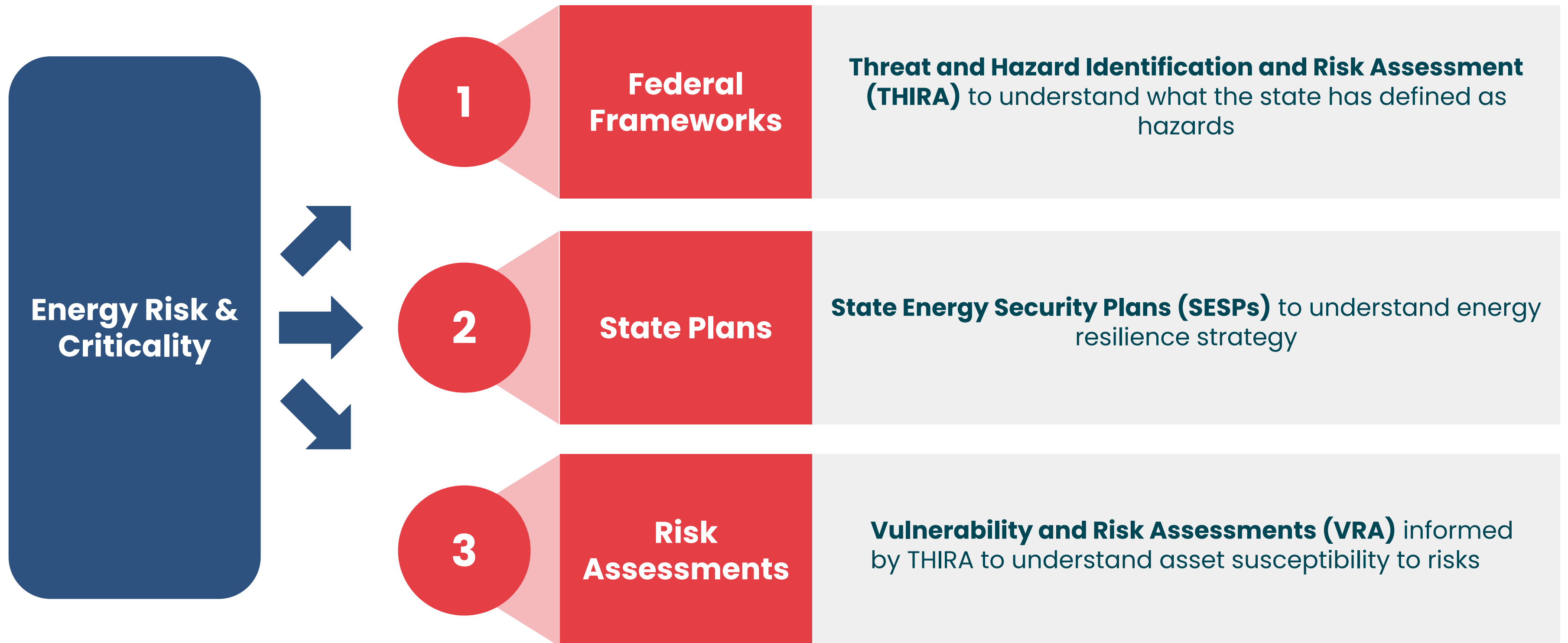
Path Forward

1. Review existing risk resources such as VRAs, THIRAs, and utility processes to create a consolidated risk "spectrum" that captures ranges of risk based on asset types and critical functions.
2. Develop impact "tiers" to better quantify and understand the impacts of events relative to the number of critical assets impacted.

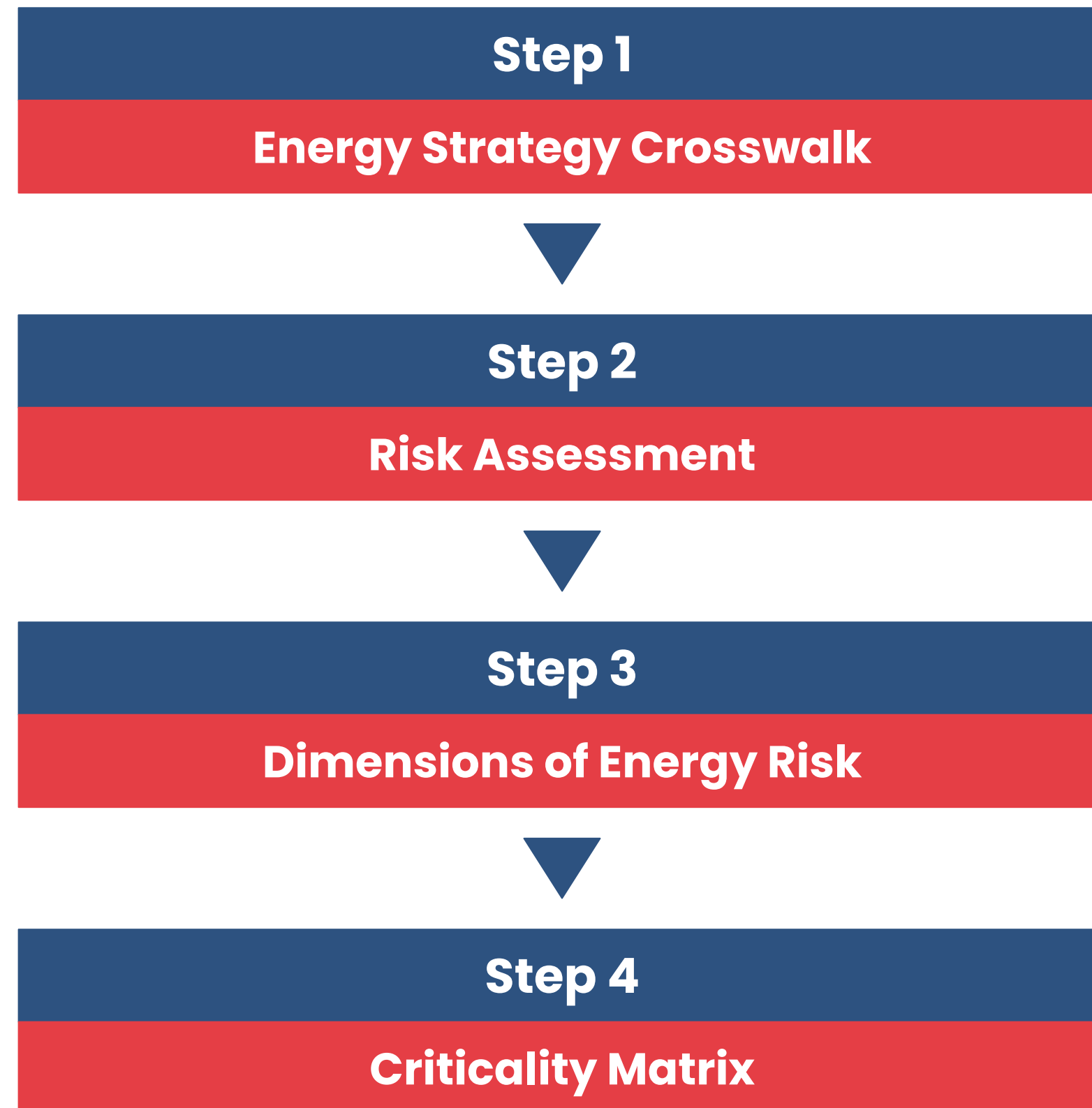
Energy Risk & Criticality Outline

1. Problem Statement
 - a. There is no uniform method for determining risk and service criticality levels
2. Resources & Stakeholders
 - a. Features examples of existing risk assessments that can inform new processes
3. Flowchart: Consolidated Risk Spectrum
 - a. Energy Strategy Crosswalk
 - b. Risk Assessment
 - c. Dimensions of Energy Risk
 - d. Criticality Matrix

Resources and Stakeholders | Energy Risk & Criticality



Flowchart | Consolidated Risk Spectrum



The chosen driver of your Energy Strategy Crosswalk can either guide your decision-making throughout the Consolidated Risk Spectrum or be understood as an outcome of Steps 2-4

Consolidated Risk Spectrum | Step 1 And 2

Step 1

Energy Strategy Crosswalk

Determine primary driver of your energy security strategy to guide risk assessment perspective

Diversification: The availability or use of multiple energy source types

Economic: Using energy to drive economic growth or stability (i.e. providing funding for solar PV programs with goal of providing jobs like electricians, construction, etc.)

Resilience: The desire for the grid to withstand and recover from outages and disruptions



Step 2

Risk Assessment

Consider multiple aspects of risk

Probability vs Impact Matrix: Consider the probability of a risk occurring against its perceived level of impact

Risk Tolerance Level: Determine the level of risk you can and will accept

VRA Outputs: Understand how susceptible your asset is to predefined risks

Consolidated Risk Spectrum | Step 3 And 4

Step 3

Dimensions of Energy Risk

Analyze the effects this risk will have on the system

Geographic Scale: Is the distribution, transmission, or interregional system affected?

Duration: How long will the impact last: 6–8 hours, multi-day, or multi-week?

Affected Populations: What group is affected: vulnerable people, public health, or mass migration?

Cross Sector Impact: How have other sectors been affected: degraded, disrupted, or destroyed?



Step 4

Criticality Matrix

Determine how critical an asset is

Redundancy: Are there multiples of this asset or backups available?

Risk Assessment Output: What was the outcome of your risk assessment?

Dimension of Energy Risk: What is this asset affecting?

Rate of Failure: What is this asset's historical performance? What stage of lifecycle is this asset in?

Restoration Priorities

Restoration Priorities | Review



Summary

Restoration priorities determine how, when, and to whom energy will be restored, considering available emergency response resources and risk analysis tools. States, RTOs, and utilities have different prioritization and response plans, some of which are dependent on one another. This framework will share insights for building a common prioritization method, incorporating both successful resource planning and emergency response.

Gap 1

Unknown Unknowns

Organizations may not be aware of how other restoration priorities and plans affect them. The framework will:

1. Recommend what to incorporate into asset/load criticality categories (e.g., public safety, medical)
2. Discuss how criticality affects load shedding and restoration.
3. Give considerations on what impact types (economic, human, etc.) may affect load prioritization category.

Gap 2

No Standard for Determining Restoration Priorities

Even within the same organization, priority levels change depending on circumstances. The framework will:

1. Suggest processes for identifying available options, equipment, and gaps.
2. Map out steps for responding to different types of outages (e.g., range of severity and causes).

Best Practices/ Resources

1. Utility and ISO/RTO processes for forced load shedding and identification of critical distribution feeders and transmission corridors.
2. Emergency Operations Plans and FEMA Community Lifeline models for identifying critical infrastructure and assets.
3. State Energy Security Plans that identify priority loads and assets.

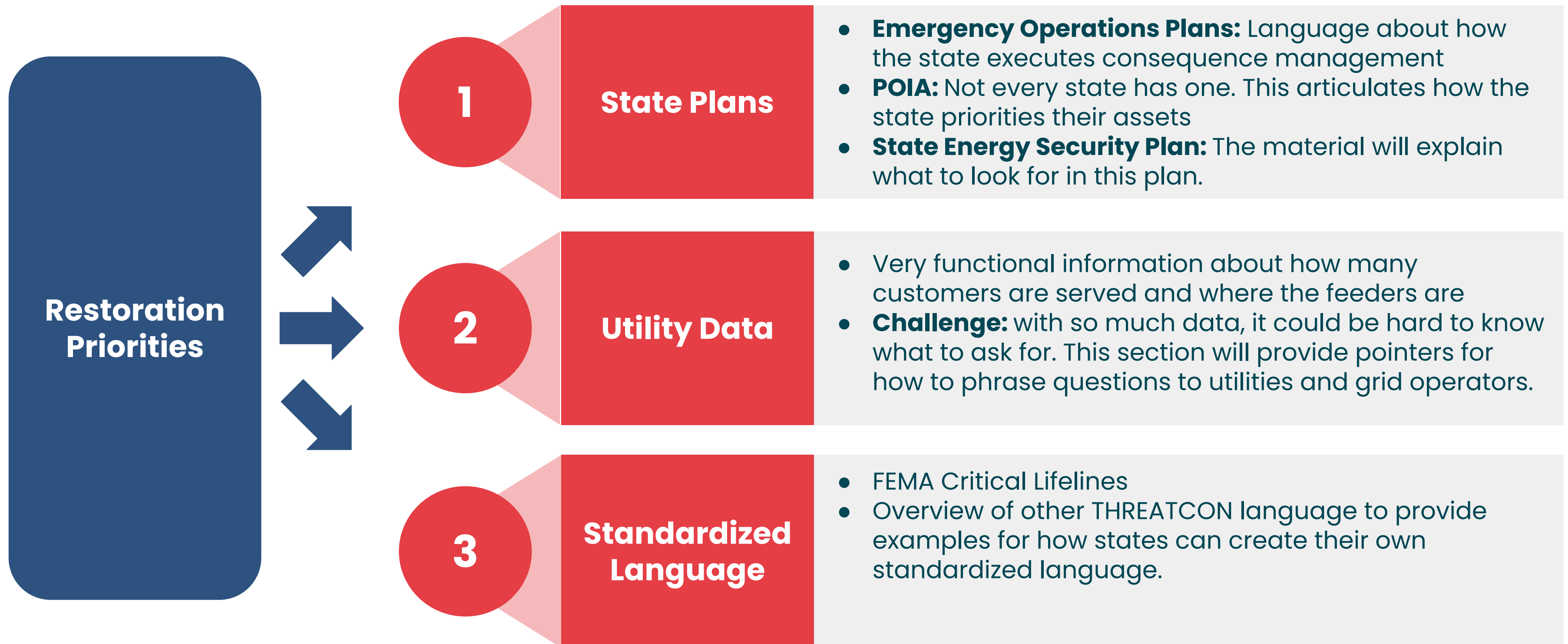
Path Forward

1. Analyze existing methods to identify/develop a common set of variables. This analysis will help users determine priorities prior before an event takes place.
2. Leverage industry and government processes and establish energy emergency “phases” or “THREATCON” levels. These may aid in rapid decision-making around prioritization.

Restoration Priorities | Outline

1. Problem Statement
 - a. Lacking aligned processes: if aligned ahead of time, users can be more clear-headed, prepared, effective, and efficient during disaster events.
2. Resources and Stakeholders
3. “Choose Your Own Adventure” Section

Resources and Stakeholders | Restoration Priorities



Choose Your Own Adventure Flowchart | Stage 1

Standardized Language

Purpose

This Section will provide pointers on how classify an impact using standardized language.

1. It will reference best practices from already-existing standards (e.g., utility/ grid operator/ state threat levels)
2. Using those best practices, it will provide recommendations for how states can convene stakeholders and co-create a standardized language.

Caveats that will be considered in these recommendations

- Real-time priorities should be driven by the types of event occurring.
- Goal is to help the state to understand the utility model

Choose Your Own Adventure Flowchart | Stage 2

Standardized Language

Risk-Informed Priorities

Dimensions of Risk

Community Lifelines

States and other orgs have existing processes for dealing with real time priorities. This section will:

- Summarize some of these existing processes
- Suggest how states can integrate stakeholders into their processes
- Add key questions that can be used for talking with utilities, grid operators, etc.

States can't solve everything at one time. The goal is to understand - what disruption are you trying to mitigate it first. States can use a combination of these risks below to inform their priorities.

- Scale: local feeders
- Affected population: Who is affected and how many? E.g., healthcare and public safety?
- Duration: BES Assets
- Cross sector: Will the electric disruption cause communications or water disruptions?

What lifelines are affected?

Event-driven

Choose Your Own Adventure Flowchart | Stage 3

