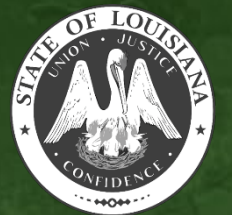


Louisiana 40101(d) Grid Resilience Application

DOE 40101(D) FORMULA PROGRAM
AND THE LOUISIANA STATE ENERGY SECURITY PLAN



Agenda

I. Call to Order / Introductions

II. Application for DOE's 40101(d) "Preventing Outages and Enhancing Resilience of the Electric Grid Grants" Overview

III. DRAFT State Energy Security Plan Overview

IV. Public Comments and Discussion

V. Next Steps

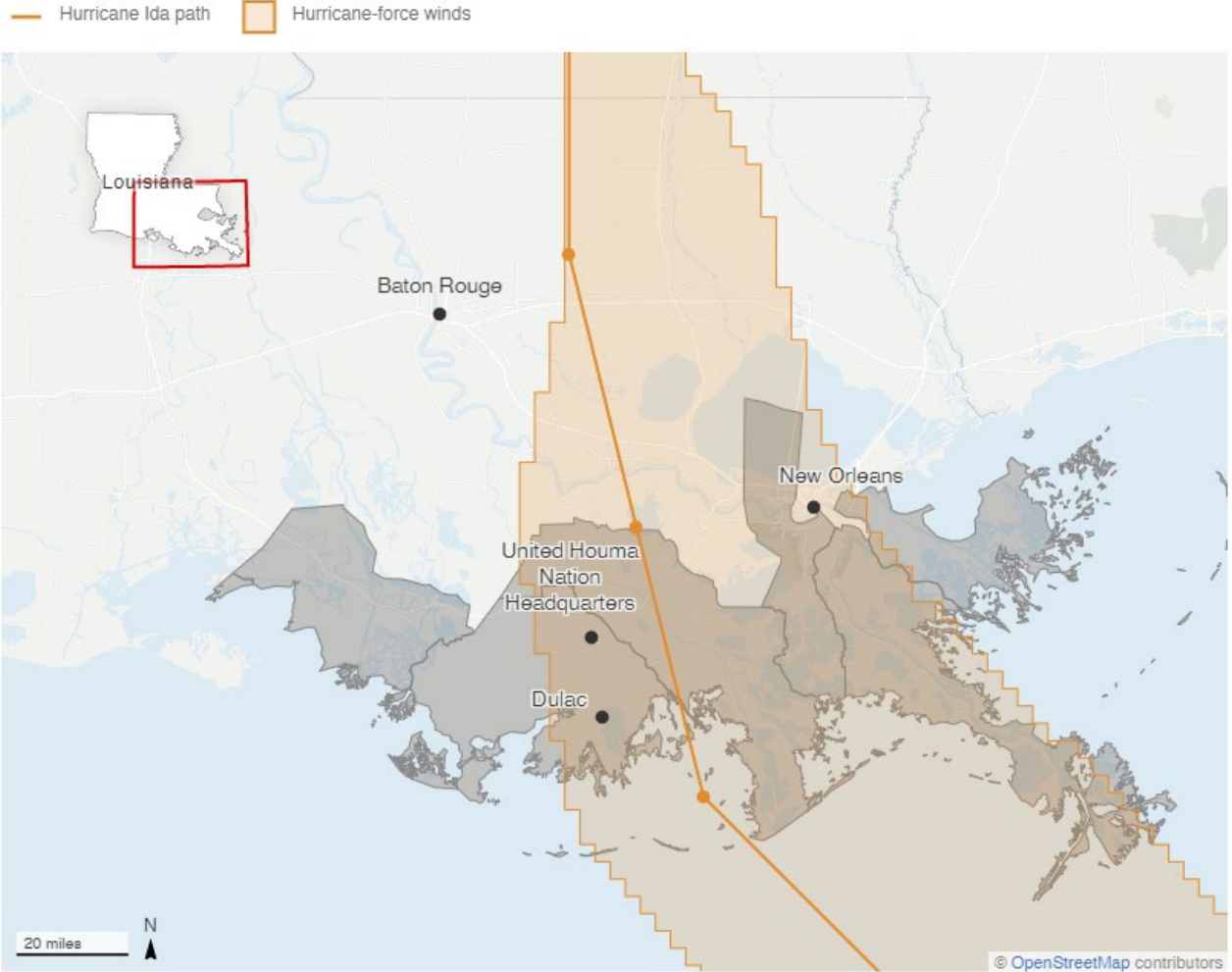
VI. Adjourn

Guidance for Zoom Participation

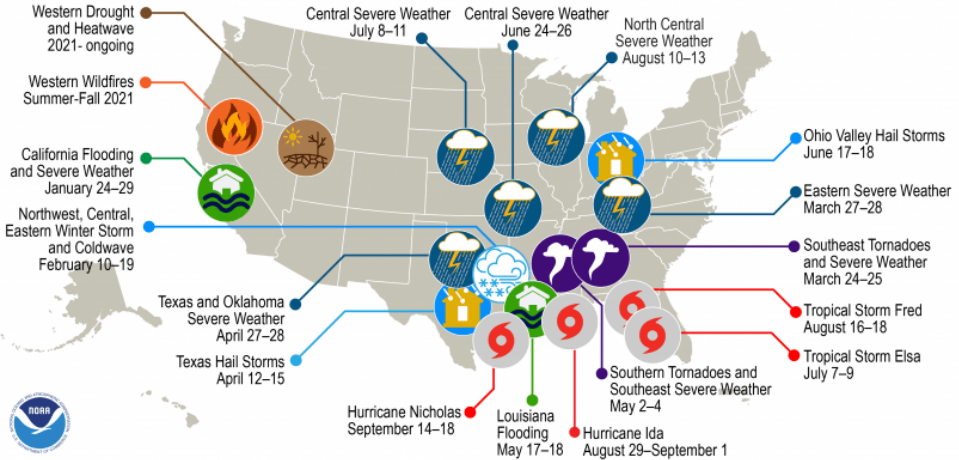
- Meeting and chat are recorded and will be shared publicly following this meeting
- Remain on mute when not speaking
- Please keep your video on if able to do so
- During presentations, primary participation via chat questions
- During facilitated Q&A and Public Comment, primary participation via raise hand function unmute and speak

Need for Energy Resilience

Hurricane Laura and Ida Impacts

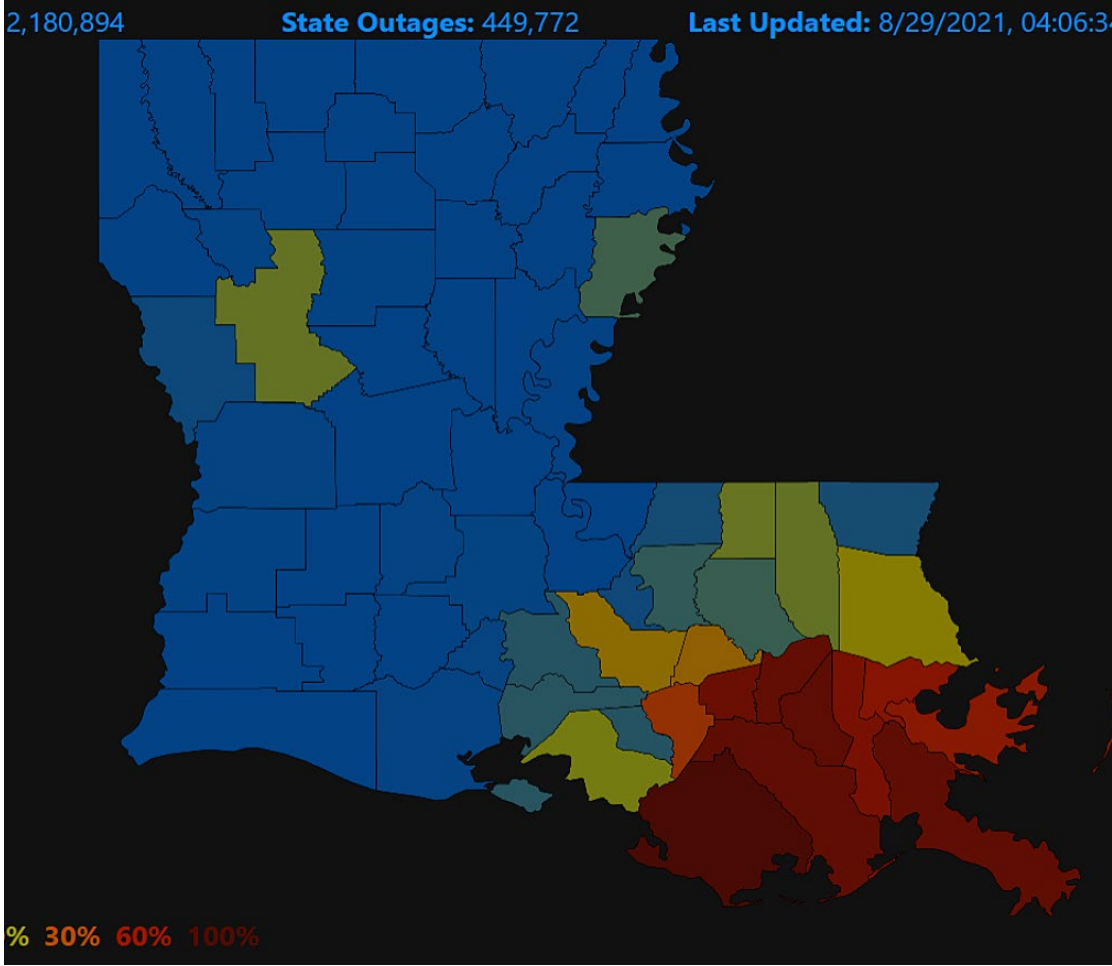
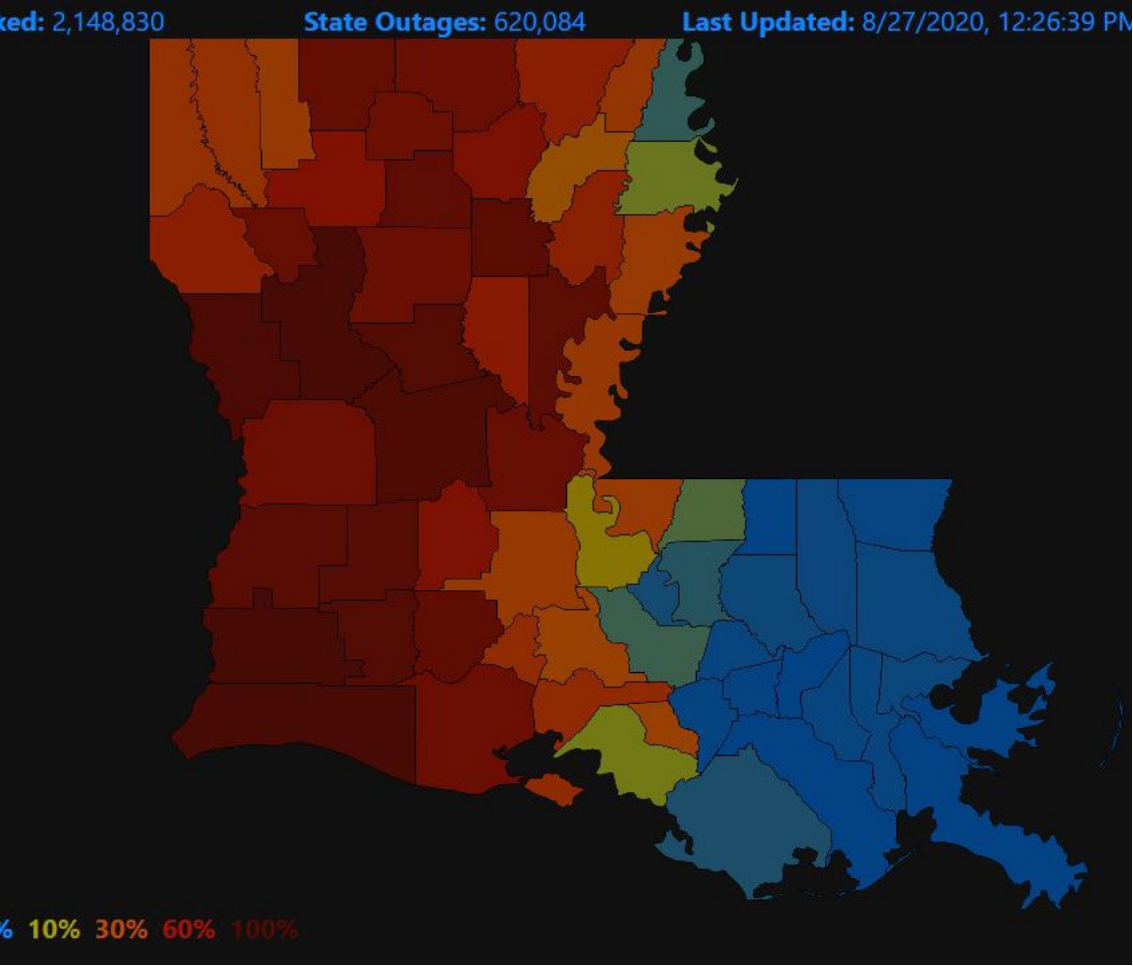


U.S. 2021 Billion-Dollar Weather and Climate Disasters



This map denotes the approximate location for each of the 18 separate billion-dollar weather and climate disasters that impacted the United States January–September 2021.

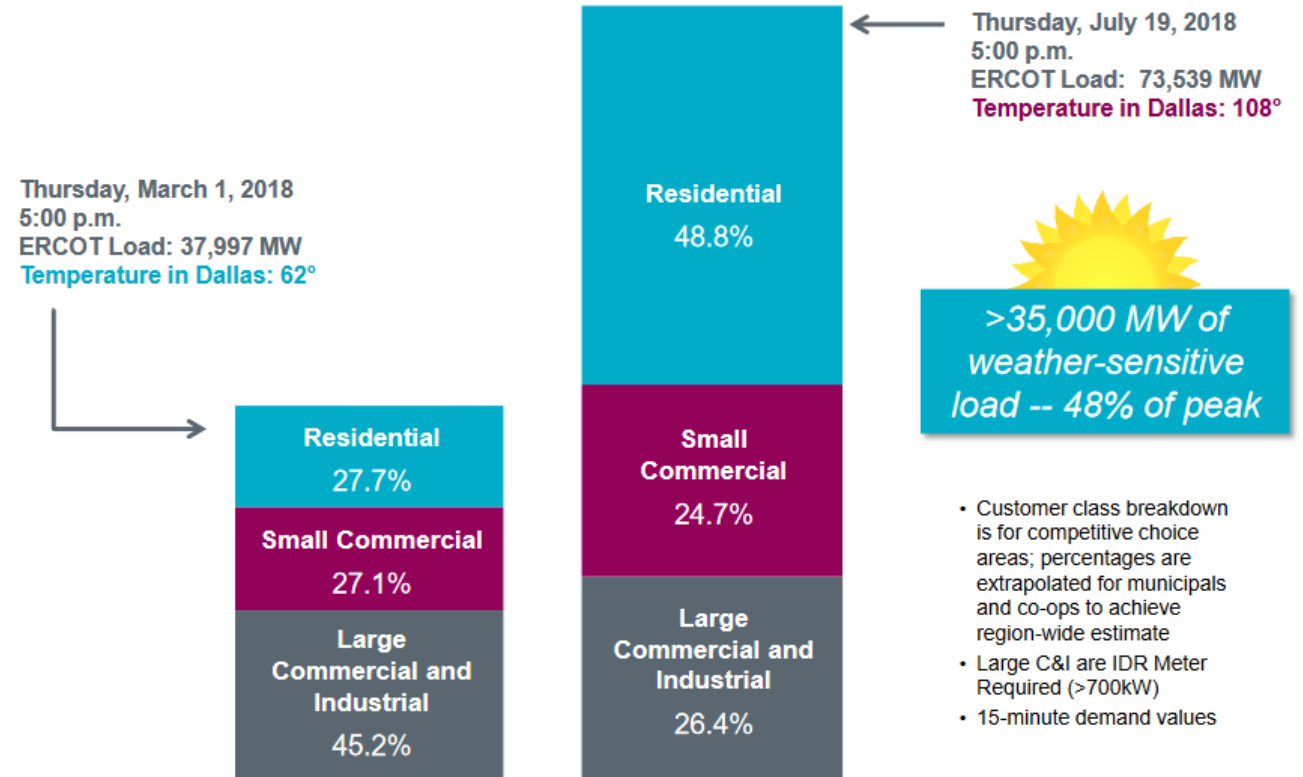
Hurricane Laura and Ida Power Outages



Extreme Weather Impacts

- Increased load on the energy grid from furnaces or HVACs running more frequently
- Extreme temperatures take more energy to warm up or cool down buildings
- Less effective conductors weighed down by heat or cold
- Higher costs for peak demand energy
- Potential for brown and blackouts

Summer Weather Impacts on Load by Customer Type



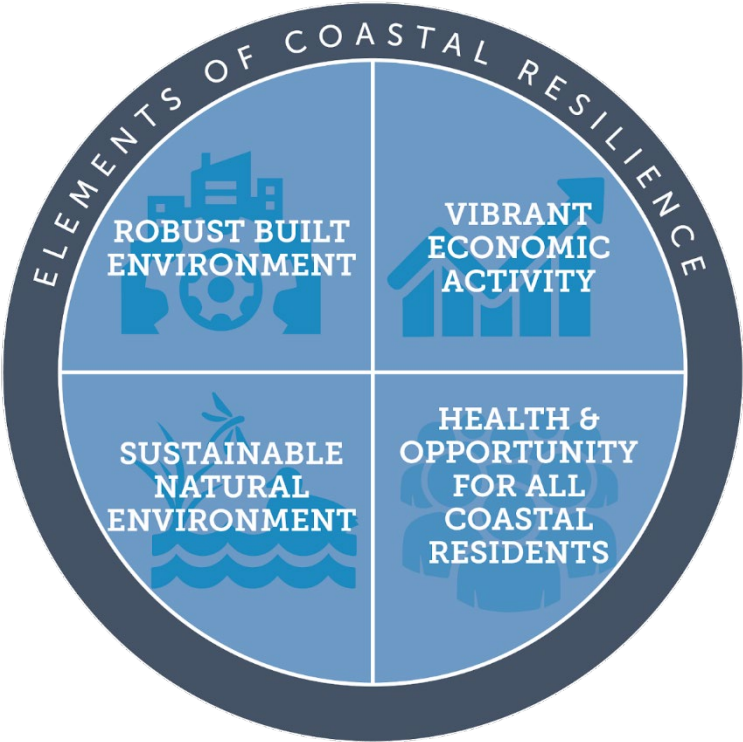
Energy Resilience

OBJECTIVE

Energy resilience seeks to modernize the power infrastructure system to withstand the stresses and shocks from extreme weather events and large-scale disruptions to move towards safe, efficient, and affordable grid.

OUTCOME

A reduction in the frequency, duration, and impact of outages for Louisiana residents, business, and critical services



Federal Opportunity

DOE Grid Initiative

Improve all hazards resilience of the electric grid and prevent outages.

GOALS OF IMPROVEMENTS

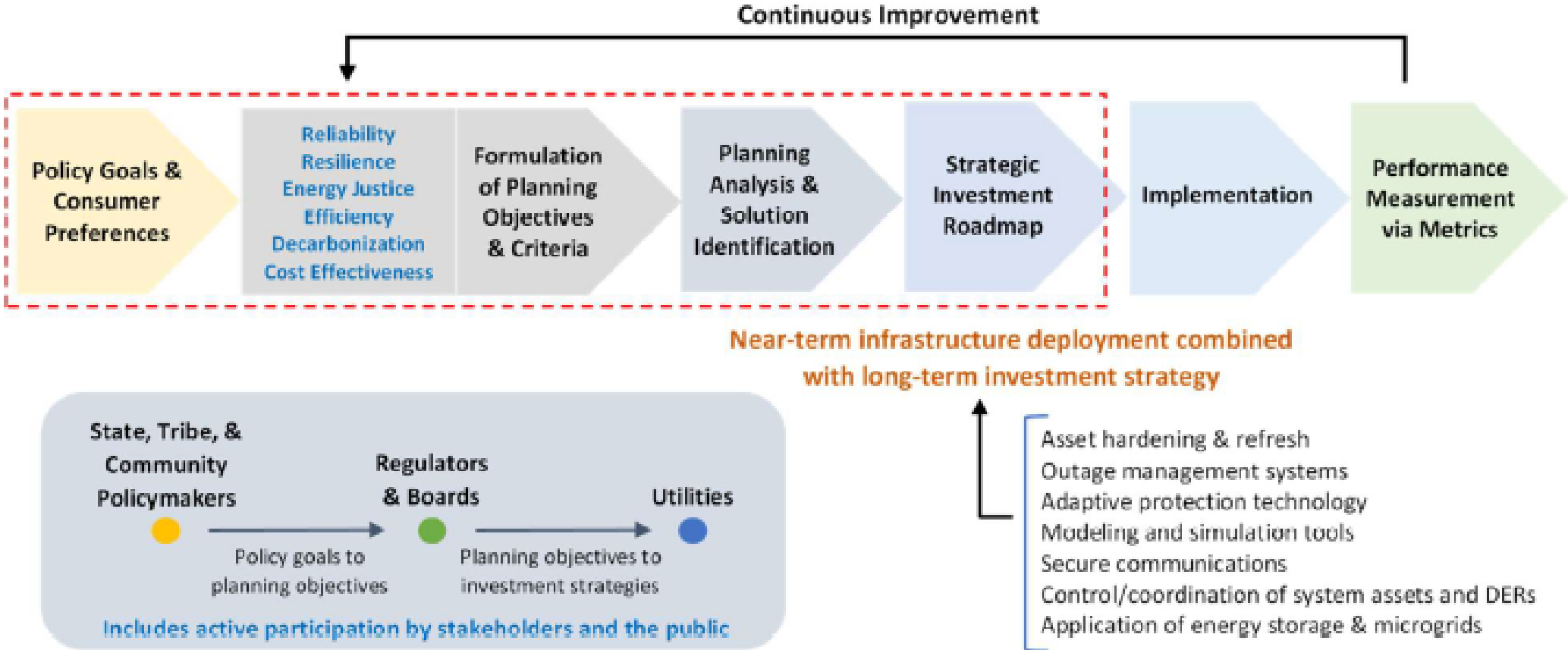
- 1) Improve energy resilience that mitigates climate risk
- 2) Invest in modernized grid infrastructure to lower energy costs
- 3) Accommodate increased electrification, renewables, and distributed systems
- 4) Create good paying jobs



\$62B in clean energy investments

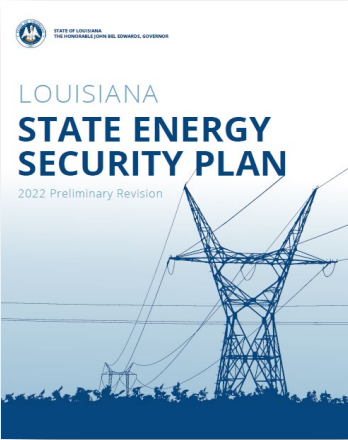
\$14B in financial assistance for providing products and services for enhanced reliability, resilience, and efficiency of the grid

Grid Resilience Investment Planning

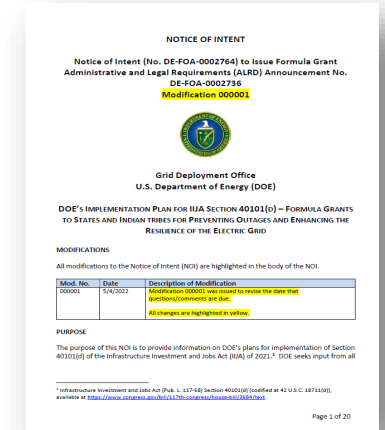


Grid Investment Opportunities

Grant	Funding	Purpose
Grid Hardening Grants	\$2.2B Competitive \$2.3B Formula	Hardening activities to reduce risk to the electric grid
Grid Resilience Demonstrations	\$5B	Innovative approaches to transmission and distribution that enhance resilience
Transmission Facilitation Program	\$2.5B	Revolving fund to support new high-capacity transmission lines
Smart Grid Grants	\$3B	Advanced transmission technologies to support demand flexibility
Energy Improvement in Rural Areas	\$1B	Upgrade transmission and distribution lines for rural areas
Long-Duration Energy Storage / Energy Storage Pilot Program	\$150M / \$355M	Improve reliability of transmission and distribution systems



DOE Grid Initiative Phase I



STATE ENERGY SECURITY PLAN

- Provide state energy profile from generation to end use
- Overlay energy infrastructure with an assessment of physical and cyber threats and vulnerabilities of the grid
- Outline emergency response protocols
- Develop a risk mitigation approach for reducing consequences of disruptions
- Link to resilience investments

GRID RESILIENCE INVESTMENTS (40101(d))

Improve resilience of the electric grid through investments in

- ✓ All-hazards resilience
- ✓ Energy justice
- ✓ Workforce development
- ✓ Quality job creation
- ✓ Grid modernization
- ✓ Utilization of renewables and DERs

Formula Foundation – BIL 40101(d)

FORMULA ALLOCATION

\$459M annually over five years to states and specified tribes;
\$8M annually for LA over the next 5 FYs (\$9.2M)

INTENT

Develop a foundational investment strategy as to how Louisiana will pursue formula and competitive funding for grid improvements related to

- ✓ All-hazards resilience
- ✓ Energy justice
- ✓ Workforce development
- ✓ Quality job creation
- ✓ Grid modernization
- ✓ Utilization of renewables and DERs

ADMINISTRATIVE AND LEGAL REQUIREMENTS DOCUMENT



Department of Energy (DOE)
Grid Deployment Office (GDO)
National Energy Technology Laboratory (NETL)

BIL – PREVENTING OUTAGES AND ENHANCING THE RESILIENCE OF THE
ELECTRIC GRID
FORMULA GRANTS TO STATES AND INDIAN TRIBES

Announcement Number: DE-FOA-0002736
Announcement Type: Initial
Assistance Listing Number: 81.122, Electricity, Research, Development and
Analysis

The purpose of this Administrative and Legal Requirements Document (ALRD) is to provide guidance to States¹ and Indian Tribes² for preparation of Formula Grant applications submitted in response to Section 40101(d) of the Infrastructure Investment and Jobs Act (IIJA),³ also known as the Bipartisan Infrastructure Law (BIL).

Issue Date:	July 6, 2022
Due Date for Applications:	September 30, 2022 / 11:59 PM ET

Registration Requirements

¹ The term "States" includes herein all 50 States, U.S. Territories, and the District of Columbia.

² The term "Indian Tribe" herein has the meaning given in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 5304; see also 42 U.S.C. 18701(2)).

³ Infrastructure Investment and Jobs Act (IIJA), Pub. L. No. 117-58 (Nov. 15, 2021), Sec. 40101(d) (codified at 42 U.S.C. 18711(d)), available at <https://www.congress.gov/bills/117th-congress/house-bill/3684/text>.

DUE SEPT 30

40101(d) Narrative Guidance

EXPECTATION

State applicants should undertake a strategic planning process to outline a framework that

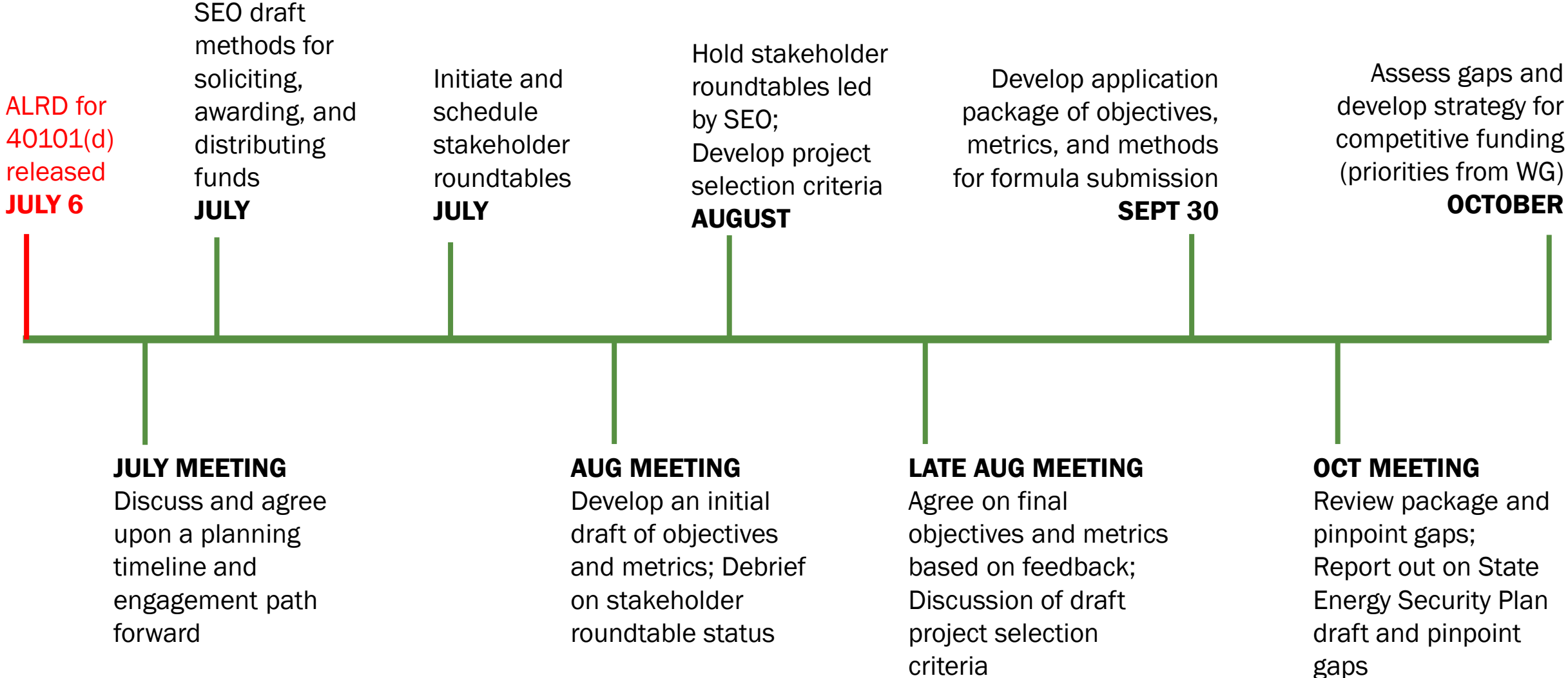
- 1) Identifies highest priorities opportunities for near-term resilience
- 2) Formulates objectives and strategies for long-term investments
- 3) Measures progress and performance of investments through metrics

APPLICATION

- Formulation of **objectives and metrics** for planning criteria and investment decisions
- Criteria and methods** for soliciting, awarding, distributing, and leveraging funds
- Intended **outcomes benefiting the public**
- Evidence of notice and **public hearing**

State Approach to 40101(d) Narrative

Louisiana's Grid Resilience Approach



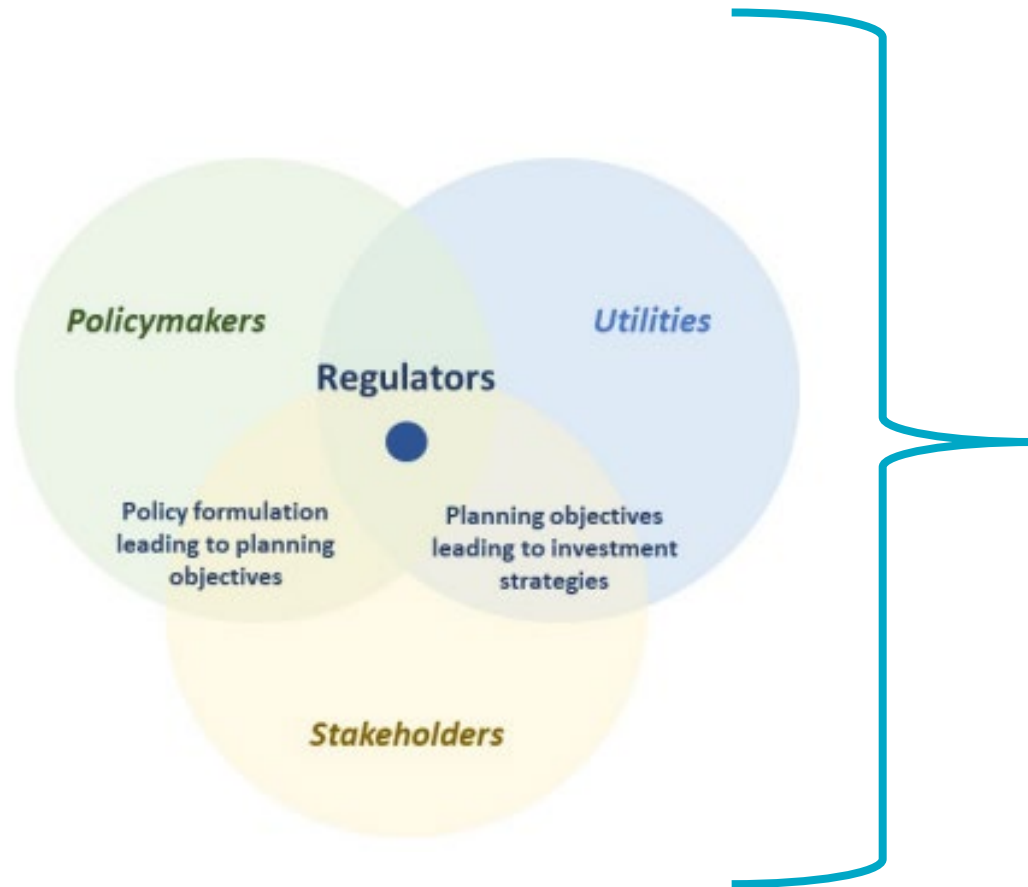
Interagency Work Group

ROLES & GOALS

- Share best practices across different lenses of resilience
- Engage with and receive feedback from key stakeholder groups
- Collaborate on objectives and performance metrics that inform development of project criteria
- Agree upon criteria for all-hazards resilience projects
- **Align on near-term needs and long-term strategy to invest in grid improvements that enhance all-hazards resilience and prepare for a modernized, sustainable grid**



Stakeholder Engagement



CSRS PSC Resilience Planning (8/2)

Louisiana Energy User Group (8/5)

Investor-Owned Utilities (8/8)

Consumer Advocates (8/12)

CNO Council and CNO (8/16, 8/18)

Native American Commission (8/22)

ALEC (Co-Ops) (8/23)

LEPA (Municipals) (8/31)

Public Hearing (9/7)

Stakeholder Summary

Key stakeholders provided critical feedback that will help develop objectives.

RESILIENCY

- Improve online readiness following extreme weather events.
- Minimize dependency on others to get back online.
- Encourage involvement/coordination of state/PSC.
- Diversify energy portfolio while leveraging existing assets.

ENVIRONMENTAL

- Explore value and resiliency of EV technologies.
- Support decarbonization while also recognizing value of baseload/peaking units.
- Expand microgrids in vulnerable communities.

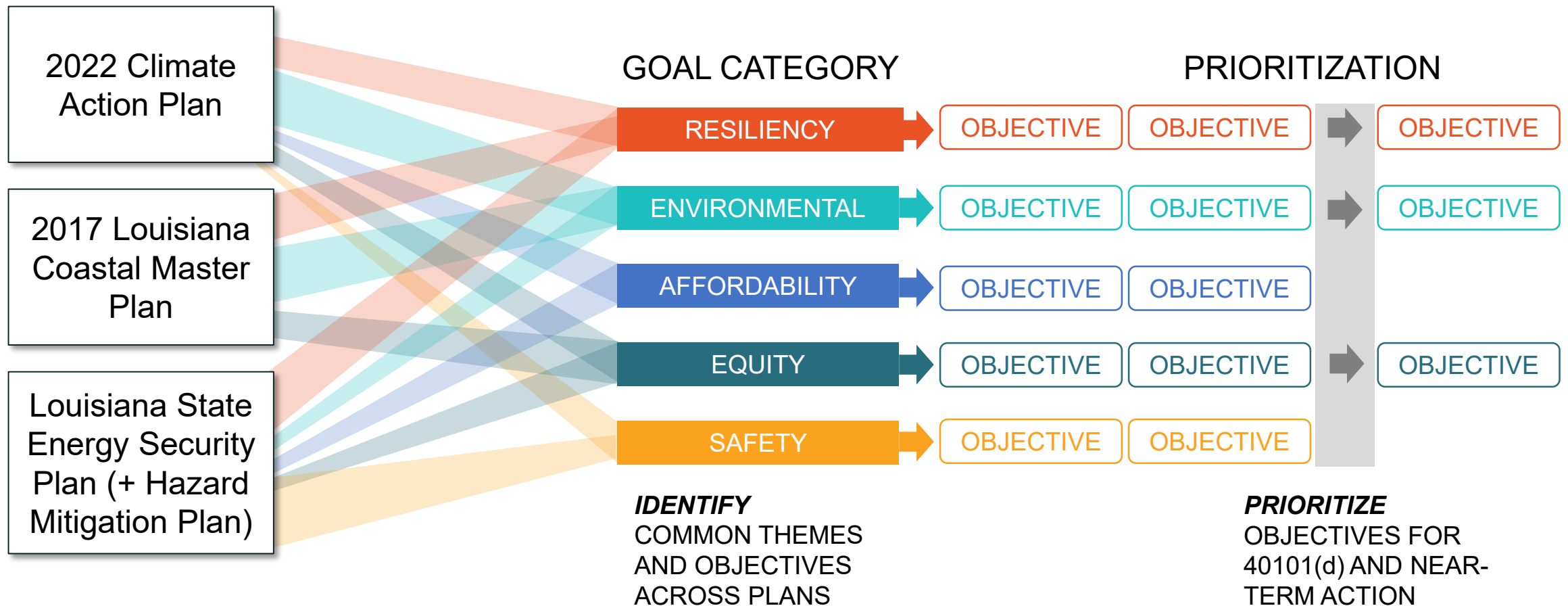
EQUITY

- Improve regulations/statutes/codes to better reflect existing conditions (e.g., building codes need to align with weatherization objectives).
- Expand household-level resilience.
- Improve engagement/track progress on outcomes for disadvantaged communities and Indigenous peoples.

AFFORDABILITY

- Consider relocation of generation assets (i.e., assets closest to the coast are most expensive).
- Explore how community microgrids can create affordable, local protection against outages.

Shared State Objectives



Grid Investment Objectives and Metrics

OBJECTIVE: RESILIENCY

Objective Statement

Modernize the power infrastructure system to withstand the stresses and shocks from extreme weather events and large-scale disruptions and move toward a safe, efficient, and affordable grid.

Core Strategies

1. Diversifying the existing energy resource mix and incorporating lower carbon-emitting resources.
2. Minimizing the vulnerability of existing infrastructure to natural hazards.
3. Expanding the use of distributed, decarbonized and emerging technologies.
4. Focusing on community resiliency through education and collaboration.

Outcomes

Reduce the frequency, duration, and impact of outages for Louisiana residents, businesses, and critical services.

DRAFT METRICS

Improvement in Outage Duration. Reduction in SAIDI (System Average Interruption Duration Index) for customers in targeted community area.

Improvement in Outage Frequency. Reduction in SAIFI (System Average Interruption Duration Index) for customers in targeted community area.

Reduction in Long-Duration Outages. Reduction in CELID (Customers Experiencing Long Interruption Duration) for customers in targeted community area.

Installed DER Critical Capacity. Power (MW) and Energy (MWh) capability of installed distributed energy resources as a percentage of business-as-usual and critical power capacity needs for targeted community area.

Grid Investment Objectives and Metrics

OBJECTIVE: ENVIRONMENTAL

Objective Statement

Build the next-generation sustainable, customer-centric, carbon-free grid.

Core Strategies

1. Reducing environmental pollution and subsequent impacts of power generation and power infrastructure.
2. Strengthen and smarten the grid to support the deployment and integration of more low- and zero-emission vehicles.
3. Incorporating climate mitigation and adaptation as part of urban, natural and working lands, and wetlands planning.
4. Providing a grid that supports increased and decarbonized electrification of the industrial sector processes and building components.

Outcomes:

Reduce greenhouse gas emissions, pollutants impacting public health, fuel costs, and energy burden in Louisiana (particularly in disadvantaged communities).

DRAFT METRICS

Reduction in Surface Level Pollutants. Reduction in NOx and PM in vulnerable communities as a result of low- and zero-emission vehicle deployments.

Reduction in Fuel Costs. Reduction in whole-wallet fuel costs due to electrification investments.

Reduction in Greenhouse-Gas emissions. Reduction in site and source GHG emissions from targeted investments.

Grid Investment Objectives and Metrics

OBJECTIVE: EQUITY

Objective Statement

Advance more equitable, economically-sustainable, and resilient communities throughout Louisiana.

Core Strategies

1. Improving community resilience through ease of access to weatherization, energy efficiency, and distributed resources.
2. Reducing disproportionate impacts of power outages and ensuring a just energy transition for low-income residents.
3. Activating a knowledge hub around the energy transition that is accessible for all.
4. Enabling a next-generation workforce that represents the population of Louisiana.
5. Creating opportunities for new careers, business creation and wealth-building.

Outcomes

Create new careers, training, and apprenticeship opportunities for residents in disadvantaged communities/businesses and enable residents to have safe and efficient homes,.

DRAFT METRICS

Residents in Weatherized Homes. Number of residents, including residents from vulnerable communities, in homes that have been weatherized to better withstand extreme heat and cold outage events, the peak reduction capacity (MW) of weatherized homes, and the hours of resiliency in those homes.

New careers. Number of FTEs from vulnerable communities on funded projects, out of the total number of FTEs on funded projects.

New trainees. Number of residents of vulnerable communities receiving training and participating in apprenticeship programs, as part of funded projects.

Disadvantaged Businesses. Total % of project funding spent with Disadvantaged Business Enterprises (DBEs), and the total number of new DBEs created.

Grid Investment Objectives and Metrics

OBJECTIVE: AFFORDABILITY

Objective Statement

Reduce overall energy burden, particularly for disadvantaged communities, and ensure energy costs remain competitive.

Core Strategies

1. Expanding energy efficiency access to reduce energy bills for homes and businesses.
2. Reducing the cost of outages, resilience investments, and the energy transition.
3. Leveraging state investments to attract new federal and private investments.
4. Reducing the burden of high-cost low-frequency grid events.

Outcomes

Reduce energy bills and energy burden for vulnerable communities, take advantage of new federal and private funding, and reduce the cost of long-duration outages for communities.

DRAFT METRICS

Bill Savings. Total energy cost savings (whole wallet) for customers in targeted communities, and average per customer energy cost savings for residents of vulnerable communities.

Reduction in Energy Burden. Reduction in energy costs, as a percentage of income, for residents of vulnerable communities.

Residents Served by Community Resilience Centers. Total person capacity of community resilience centers deployed to serve residents of vulnerable communities, and the total resilience capability (in hours) of resilience centers.

Grid Investment Objectives and Metrics

OBJECTIVE: SAFETY

Objective Statement

Ensure the continued, safe operation of the energy system by instituting standard safety practices and planning new investments through a safety lens.

Core Strategies

1. Improving power quality to reduce disruptive events for commercial and industrial customers.
2. Expanding training safety procedures for utility workers and DER installers.
3. Creating new situational awareness tools for the utility to understand where lines may be energized in outages.
4. Community education and outreach to improve safety during contingency events and for energy transition technology.

Outcomes

Reduce customer- and grid-side power quality and wires down instances while improving awareness of new safety considerations with distributed energy solutions.

DRAFT METRICS

Improvement in Power Quality. A reduction in the Momentary Average Interruption Frequency Index (MAIFI) for targeted customers.

Reduction in Wires Down Events. A reduction in Wires Down incidents involving Overhead electric primary distribution circuits.

Safety Training. Number of linemen, distributed energy installers, and community members trained on safety procedures during hazards and for distributed energy.

Program Year 1 and 2: Project Selection Criteria

Louisiana-Specific Criteria: PY1 and PY2

- **DOE set of minimum criteria:**
 - a) Generate greatest community benefit in reducing the likelihood and consequences of disruptive events;
 - b) Include a set-aside for eligible entities not selling more than 4M megawatt hours of electricity per year; and
 - c) Be restricted to projects located within the State of Louisiana.
- **Louisiana identifies four additional categories for project selection:**
 - 1) Grantees (WHO)
 - 2) Project Location (WHERE)
 - 3) Project Type (WHAT)
 - 4) Project Timing (WHEN/HOW)

PROPOSED Grant Criteria: PY1 and PY2

	WHO	WHERE	WHAT	WHEN	HOW
DOE Minimum Requirements	<ul style="list-style-type: none"> • Electric grid operator • Electricity storage operator • Electricity generator • Transmission owner or operator • Distribution provider • Fuel supplier • Other relevant entity • Small utility set-aside 	<ul style="list-style-type: none"> • State of Louisiana • Small utility set-aside 	<ul style="list-style-type: none"> • Weatherization • Fire-resistance/prev. • Monitoring/Control • Undergrounding • Utility pole manage. • Power lines • DERs & microgrids • Adaptive protection • Advanced modeling • Hardening 	<ul style="list-style-type: none"> • 5-year period of performance per each annual budget period 	<ul style="list-style-type: none"> • Workforce development • Diversity, Equity, Inclusion and Accessibility • Buy America • Davis-Bacon • Cost-match
Louisiana Prioritization Criteria	<ul style="list-style-type: none"> • Other eligible entities to include “units of local government, critical facilities, non-profit organizations, and co-ops whose organizational mission is to serve and benefit disadvantaged communities.” • Set aside of 24.72% 	<ul style="list-style-type: none"> • \$4.6M of funds benefitting disadvantaged communities even though investments may be made outside census tract • Demonstrate <i>how</i> investment will benefit disadvantaged communities 	<ul style="list-style-type: none"> • Critical Facility Microgrids • Community Microgrids • Community-Based “Relief Islands” • Vehicle-to-Building and Vehicle-to-Grid Integration • Enhanced Vegetation Management Programs 	<ul style="list-style-type: none"> • 50% of Year 1 and Year 2 for “shovel ready” projects to be deployed in <24 mo. • 20% MIN of Year 1 and Year 2 for preliminary planning, analysis, and design work to support early-stage community-based project partnerships 	<ul style="list-style-type: none"> • Request for Information • Competitive Requests for Proposals • Future Down-Select for Community-Based Project Partnerships • Report Card

WHO

Entity	State	Ownership	Customers (Count)	Sales (Megawatthours)
Sunnova	LA	Behind the Meter	28	167
Spruce Finance	LA	Behind the Meter	66	514
Panola-Harrison Elec Coop, Inc	LA	Cooperative	9,342	178,532
Concordia Electric Coop, Inc	LA	Cooperative	13,747	191,576
Pointe Coupee Elec Member Corp	LA	Cooperative	10,468	214,077
Jefferson Davis Elec Coop, Inc	LA	Cooperative	10,185	234,564
City of Ruston - (LA)	LA	Municipal	10,959	246,042
Northeast Louisiana Power Coop Inc.	LA	Cooperative	17,345	267,038
City of Natchitoches	LA	Municipal	8,600	271,848
Terrebonne Parish Consol Gov't	LA	Municipal	13,935	338,204
South Louisiana Elec Coop Assn	LA	Cooperative	21,727	511,072
Claiborne Electric Coop, Inc	LA	Cooperative	23,888	598,333
City of Alexandria - (LA)	LA	Municipal	23,931	645,218
Adjustment 2020	LA	Other	45,433	950,997
Washington-St Tammany E C, Inc	LA	Cooperative	53,392	980,282
Beauregard Electric Coop, Inc	LA	Cooperative	43,461	1,268,527
City of Lafayette - (LA)	LA	Municipal	69,366	1,917,039
Dixie Electric Membership Corp	LA	Cooperative	113,371	2,096,928
Vinton Public Power Authority	LA	Political Subdivision	3	2,189,098
Southwest Louisiana E M C	LA	Cooperative	111,131	2,346,754
Entergy New Orleans, LLC	LA	Investor Owned	206,965	5,449,556
Southwestern Electric Power Co	LA	Investor Owned	232,814	6,075,106
Cleco Power LLC	LA	Investor Owned	290,021	8,258,863
Entergy Louisiana LLC	LA	Investor Owned	1,098,249	53,896,350

Customers for entities <= 4,000,000 MWh	600,378
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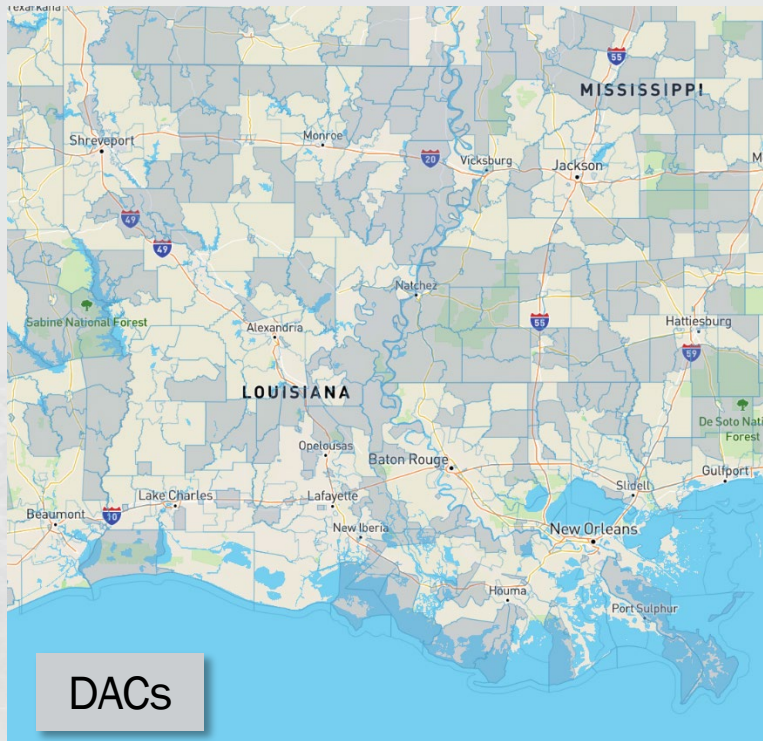
Total of all Customers	2,428,427
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% of customers in entities <= 4,000,000 MWh	24.72%
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Federal Justice40 Initiative: Will track by CEQ's CEJST Tool and DOE "Disadvantaged Community Reporter" map

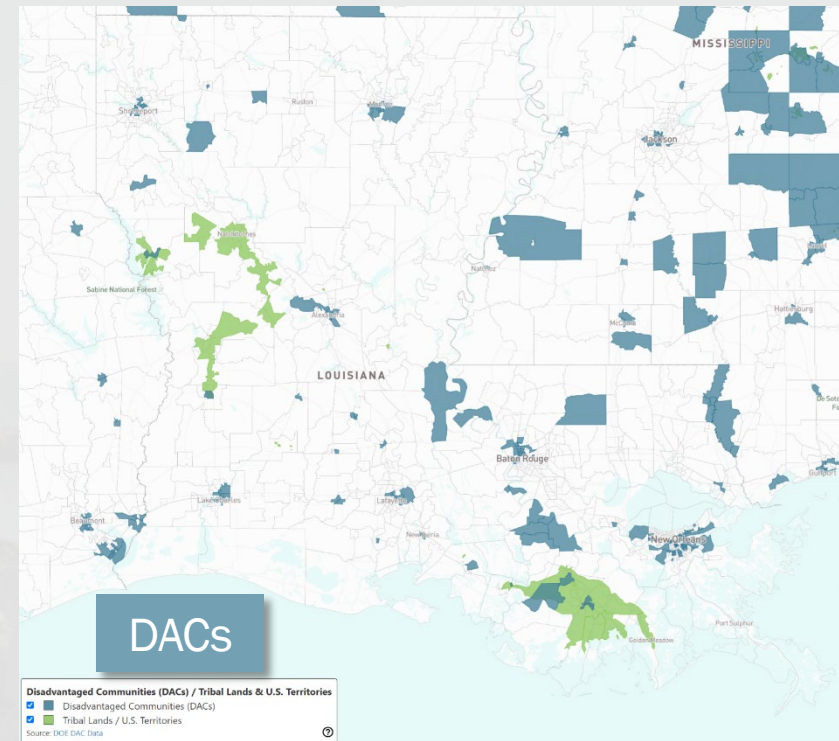
WHERE

CEQ's Climate and Economic Justice Screening Tool



The Climate and Economic Justice Screening Tool (CEJST) is a new tool by the White House (CEQ) to help Federal agencies identify Disadvantaged Communities (DACs) as part of the Justice40 Initiative.

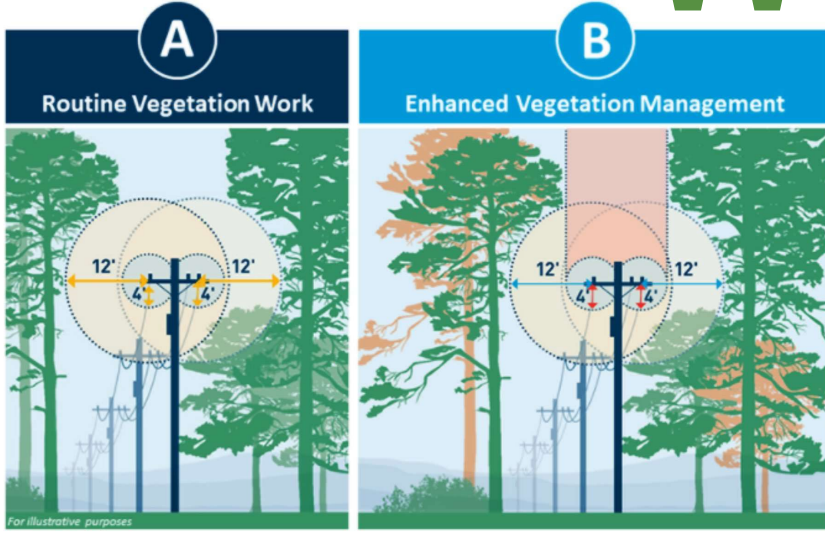
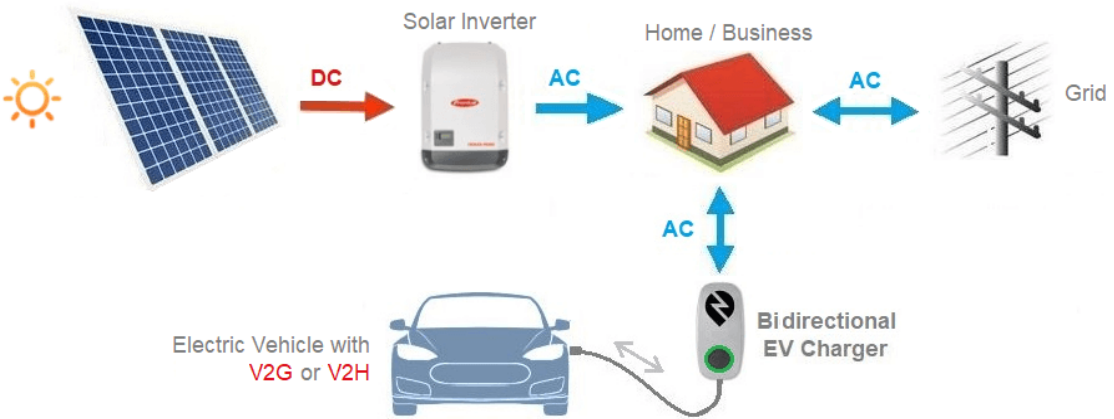
DOE's Disadvantaged Communities Reporter



DOE's working definition of "disadvantaged" is based on cumulative burden and includes data for thirty-six (36) burden indicators collected at the census tract level.



WHAT



Source: <https://www.pge.com/wildfires/>



Funding Distribution PY1 and PY2

Federal Funding	\$8,005,578
State Match	\$1,200,837
Total Project Budget	\$9,206,415

Project Timing	Project Location	Approximate Budget	Project Types	Grantees
Complete < 24 months (50%)	Benefitting Disadvantaged Community (50%)	\$2,301,603.75	<ul style="list-style-type: none"> Critical Facility Microgrids Community Microgrids Community-based “relief islands” V2H & V2G Enhanced Vegetation Management 	At least 24.72% of grant funds must go to eligible entities that do not have more than 4,000,000 MWh of electricity sales a year.
	Any Project Location	\$2,301,603.75		
Early-Stage Community-Based Project Partnerships (20%)	Benefitting Disadvantaged Community (100%)	\$1,841,283		
	Any Project Location	\$580,404.75		
All Other Timing (12.65%)	Benefitting Disadvantaged Community (50%)	\$580,404.75		
	Any Project Location	\$580,404.75		
State Match Support (13%) [<i>* 15% of federal funding</i>]		\$1,200,837		
Administration and Technical Assistance (4.35%) [<i>* 5% of federal funding</i>]		\$400,278	State Program administration and technical assistance	
Total		\$9,206,415		
<i>Total Benefitting Disadvantaged communities</i>		<i>\$4,603,207.50</i>		
<i>% Benefitting Disadvantaged communities</i>		<i>51.3%</i>		

PROPOSED Community-Based Project Partnerships

- Projects eligible for funding in the Community-Based Project Partnerships category include projects that:
 - **Are led by municipal or co-op utility, unit of local government, community-based non-profit, a company located in a disadvantaged community, or other entities approved by the state and eligible for DOE requirements and approvals;**
 - **Substantially and meaningfully provide benefits to disadvantaged communities;**
 - **Work with the local community through meaningful engagement; and**
 - **Include carbon-free energy sources.**
- The State will provide grant awards for project costs related to: feasibility, project design, technical analysis, siting, permitting, community engagement, and other pre-development costs.

HOW

Request for Information

- Generate awareness of upcoming funding
- Identify existing projects for a 24-mo. Timeline
- Identify possible early-stage community-based project partnerships

Competitive Requests for Proposals

- Projects that can be completed in <24 months
- Early-Stage Community Based Project Partnerships
- All other timing

Future Down-Select for Community-Based Project Partnerships

- Down-select 3 projects per year for larger, follow-on funding based on likelihood to be completed and identified community benefit
- Five years to complete project

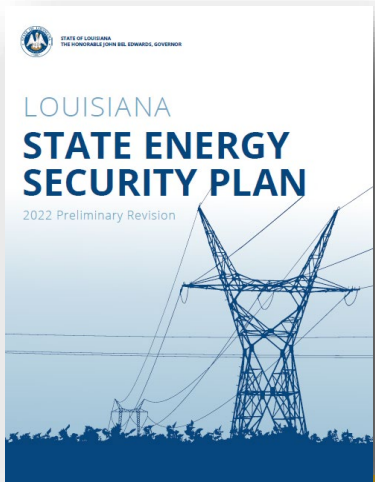
Report Card

- All funded projects must report on metrics identified on an annual basis
- SEO will compile into an annual report

Questions

State Energy Security Plan

DOE Grid Initiative Phase I



STATE ENERGY SECURITY PLAN

- Provide state energy profile from generation to end use
- Overlay energy infrastructure with an assessment of physical and cyber threats and vulnerabilities of the grid
- Outline emergency response protocols
- Develop a risk mitigation approach for reducing consequences of disruptions
- Link to resilience investments

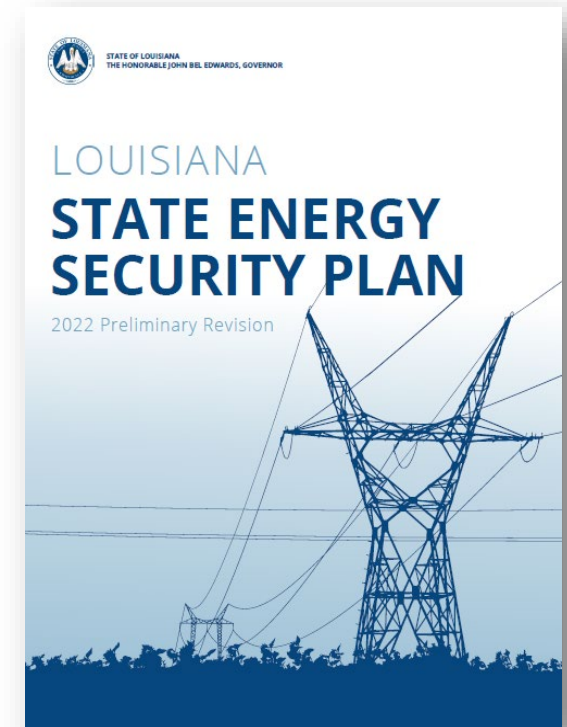
GRID RESILIENCE INVESTMENTS

Improve resilience of the electric grid through investments in

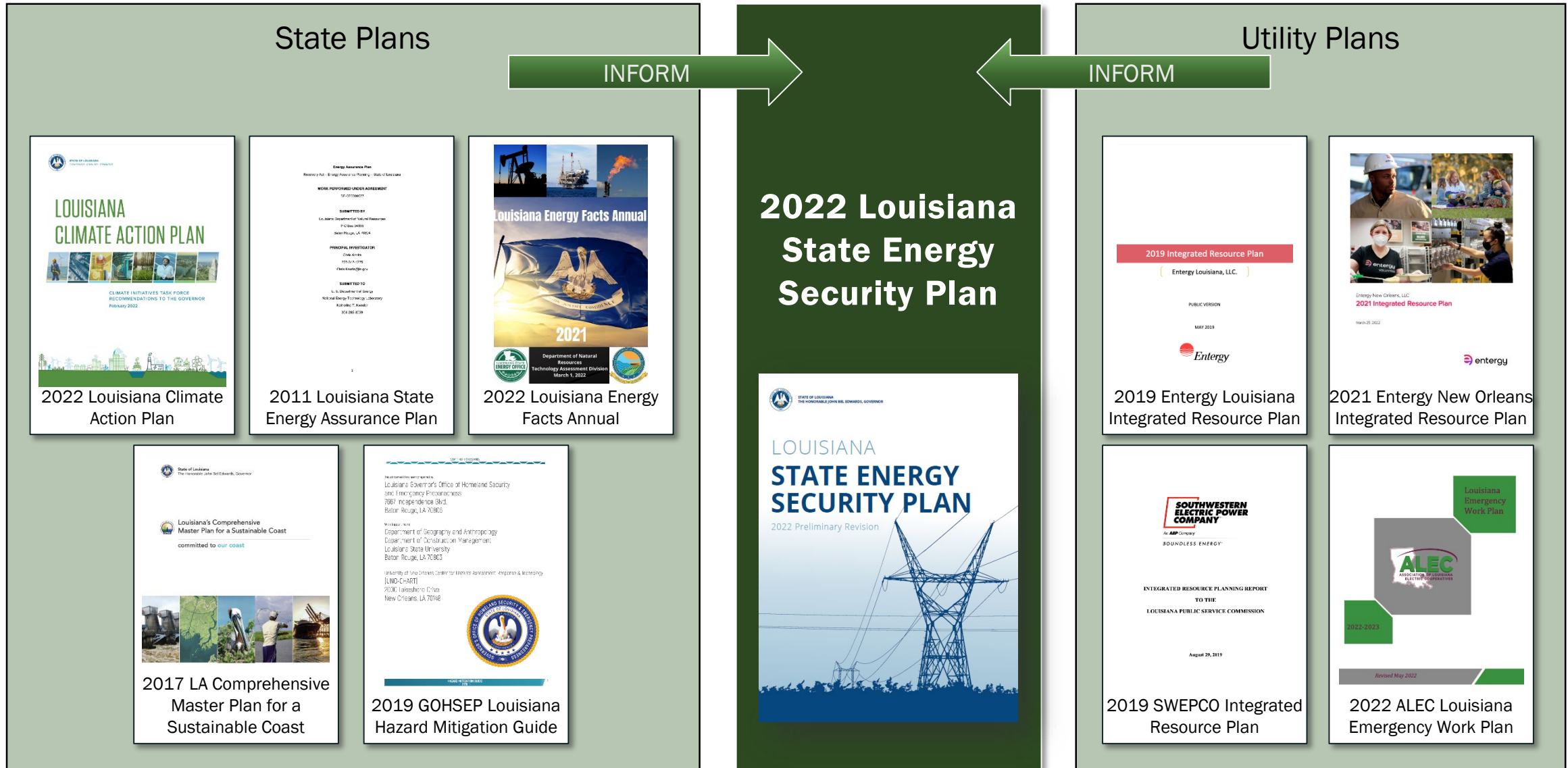
- ✓ All-hazards resilience
- ✓ Energy justice
- ✓ Workforce development
- ✓ Quality job creation
- ✓ Grid modernization
- ✓ Utilization of renewables and DERs

Draft Louisiana State Energy Security Plan (SESP)

Executive Summary	Key Takeaways
1. Introduction	Background Purpose
2. Energy and Risk Profile	State Energy Profile Threats and Vulnerabilities Risk Assessment
3. Energy Security and Emergency Response Authorities	Federal State Local and Tribal
4. Energy Security Planning and Preparedness	Roles Responsibilities Coordination
5. Energy Emergency Response	Response Cycle Info / Awareness Consequence Assess. Response Actions
6. Energy Resiliency and Hazard Mitigation	Louisiana Approach Link to 40101
Appendices	References Additional Resources and Data



Connection to other Relevant Louisiana Plans



Transparency and Feedback Process



Executive Summary

Key Takeaways

- Highlights the key takeaways from the report
- 1-2 pages, 1-2 charts/graphics

SECTION 1: Introduction

Background and Context

- Why Louisiana needs an energy security plan
- Connection with 40101(d) objectives

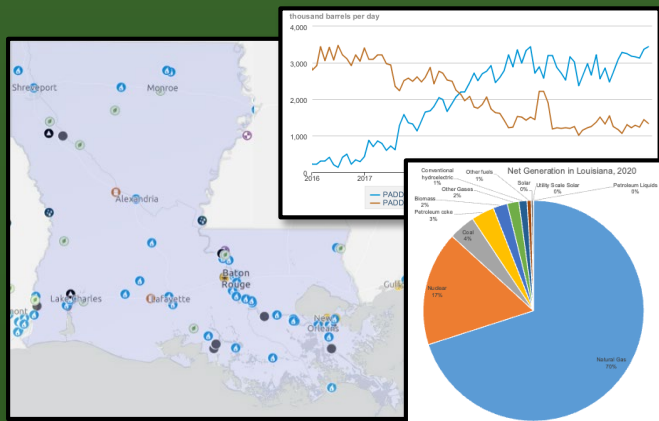
Report Organization and Purpose

- Description and purpose of report sections

SECTION 2: Energy and Risk Profiles

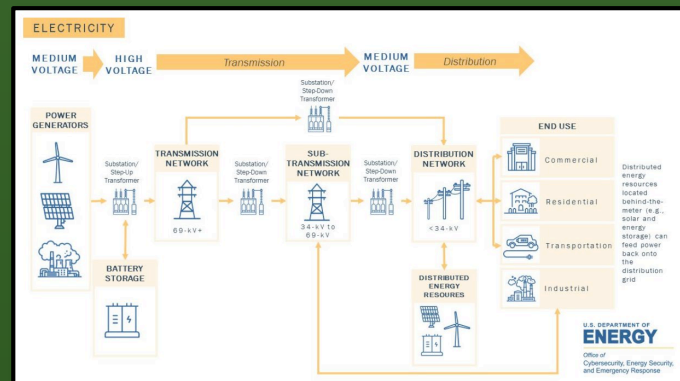
State Energy Profile

- Overview of energy supply, demand, import/export, and infrastructure
- Profile of Louisiana using EIA data, maps, and lists of key infrastructure and service providers



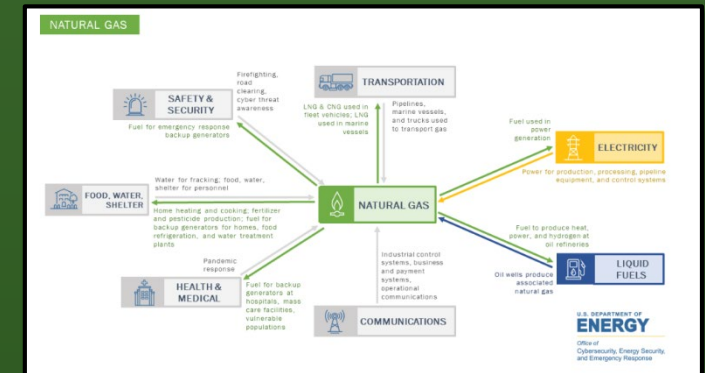
Threats and Vulnerabilities

- Information on historic climate and cybersecurity threats
- Description of vulnerabilities (supply chain, coastal economy, disadvantaged communities)



Risk Assessment

- Description of cross-sector interdependences
- Assessment of the risk to critical state infrastructure



SECTION 3: Energy Security and Emergency Response Authorities

Federal Authorities and Organization Structure

- Description of federal authorities' roles prior to and during emergency events

Relevant State Authorities

- Emergency response laws and authorities relevant to energy resources
- List of primary organization responsible for Emergency Support Functions (ESF) relevant to energy security

Relevant Local and Tribal Authorities

- Description of authorities within local parishes and tribal governments

SECTION 4: Energy Security Planning and Preparedness

State Energy Office Roles and Responsibilities

- Monitoring energy markets
- Assess mitigation, impact, and response actions
- Energy Emergency Assurance Coordinators (EEAC) program
- Stakeholder engagement
- Staff training and exercises
- After action reporting, evaluation, and continuous improvement
- State emergency response responsibilities

Roles of Other State Entities Relating to Energy Security

- Governor's Office roles
- Governor's Energy Advisor roles
- Public Service Commission (PSC) roles
- Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) roles

Tribal Coordination

- Coordination with Indian Tribes with respect to planning and response

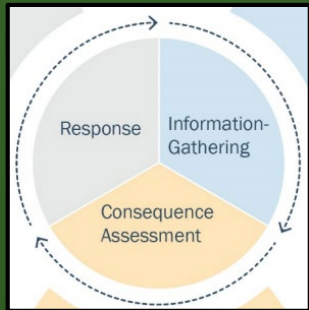
Regional Coordination

- Regional implementation plans and mutual assistance to cyber and physical responses

SECTION 5: Energy Emergency Response

Response Cycle Overview

- Description of the emergency management cycle: Info-Gathering → Consequence Assessment → Response



Info. Gathering and Situational Awareness

- Description of the data and tools used by the state (e.g., EAGLE-I, EIA tools, NOAA tools, etc.)



Consequence Assessment Guidelines

- Description of tiers of event consequences for power outages, liquid fuels shortages, and natural gas shortages

Tier	Consequence Indicators	Examples
Tier 3: Enhanced Watch	<ul style="list-style-type: none"> Major transmission pipeline issues Operational Flow Orders (OFOs) to avoid system strain. Usually driven by high-demand cold periods or infrastructure outages or constraints. High local or regional prices versus U.S. benchmarks may indicate issues. High prices in affected markets lead to voluntary fuel switching for power sector and industrial customers with the ability to switch. 	<ul style="list-style-type: none"> Periods of winter peak demand in pipeline-constrained New England
Tier 2: Significant Event	<ul style="list-style-type: none"> A major transmission pipeline has an extended unplanned outage during a peak demand period. Some gas is rerouted into the region on alternate pipelines, but due to capacity constraints, supply is interrupted to power plants and other customers with non-firm contracts. Local distribution companies (LDCs) urge customers to conserve gas use. Gas supply disruptions to power generators reduce available generation resources, forcing grid operators to issue emergency advisories or alerts. Sharp spikes in local or regional prices versus U.S. benchmarks may indicate significant regional issues. 	<ul style="list-style-type: none"> Bomb cyclone impacting New England (2018)
Tier 1: Major Event	<ul style="list-style-type: none"> Severe outage/damage or supply shortage forces transmission pipelines and LDCs to interrupt supply to firm customers. Loss of pressure in the gas distribution system causing gas to be shut off to firm customers (residential and commercial) Restoring service is time-consuming, as the LDC must right each customer's pilot light. Vulnerable groups that rely on gas heating moved to shelters. Loss of gas-fired generation leads to severe regional electricity shortages. Grid operators initiate rolling blackouts to preserve grid stability. 	<ul style="list-style-type: none"> Texas extreme cold weather event (2021)

Response Actions

- Response actions description by event actor and emergency (12 matrices of response actions)

SECTION 6: Energy Resiliency and Hazard Mitigation

Louisiana Approach

- Louisiana vision for resiliency and energy security
- Louisiana-specific mitigation measures
- General mitigation measures

LEGEND		
Electricity	Liquid Fuel	Natural Gas
ALL-HAZARDS RISK MITIGATION MEASURES		
Robustness		
Measure	Description	Sector
Demand response programs	Demand response programs relieve pressure on electric or natural gas delivery systems by reducing or time-shifting customer energy usage. Demand reduction during peak periods reduces the chance of system overload and service failure. In addition to enhancing reliability, demand response can also help reduce generator or supplier market power and lessen price volatility.	Electricity
System segmentation	Energy systems (power grids, gas pipeline networks, and liquid fuels pipeline networks) can be sub-divided to more efficiently isolate damaged areas, allowing undamaged segments to continue serving customers. By segmenting networks, service isolations can be more targeted and affect fewer customers.	Electricity, Liquid Fuel, Natural Gas
Undergrounding power lines	Placing transmission lines underground protects them against external threats, including high winds and falling branches, wildfires, extreme heat or cold, icing, dirt/dust/soil accumulation, and animals. Buried lines may be more vulnerable to flooding if located in low-lying areas and may be more difficult and expensive to maintain and repair.	Electricity, Natural Gas
Redundancy		
Measure	Description	Sector
Backup generators	Fixed or portable backup generators can provide backup power to critical facilities when grid-supplied power is interrupted. Backup generators may be designed to power emergency functions, such as emergency lighting, fire suppression, or stormwater removal, or may be designed to power some or all of a facility's operational functions. Mobile generators can power utility or emergency responder base camps (sites where response personnel and equipment are staged). Backup generators require adequate fuel supply to operate.	Electricity, Liquid Fuel, Natural Gas
Battery storage	Battery energy storage can be used to provide backup power during electric grid outages. Batteries can be deployed at utility-scale as front-of-the-meter systems, providing services like utility load peak shaving or behind-the-meter by customers. Batteries are often paired with solar photovoltaic systems and included in microgrid designs.	Electricity
Microgrids	A microgrid is a group of interconnected loads and distributed energy resources that acts as a single controllable entity with respect to the grid. It can connect and disconnect from the grid to operate in grid-connected or island mode. Microgrids can improve customer reliability and resilience to grid disturbances.	Electricity, Liquid Fuel, Natural Gas
Ties between gas pipelines	Natural gas system operators can add ties between gas distribution lines or "main" to diversify the transmission system and allow additional pathways to route natural gas in the event some sections of transmission mains are damaged.	Natural Gas

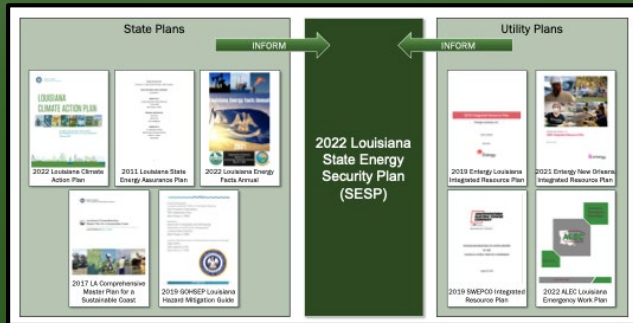
Link to 40101

- How objectives from 40101 are relevant to Louisiana energy security planning
- How 40101 investment criteria is informed by data gathered in the SESP



Appendices

SESP Connection to Relevant State Plans



Other Relevant Energy Sector Risk Assessments / Resources

- NIPP, THIRA – energy integration, cybersecurity risk assessments

Data / Situational Tools

Tool	Power	Liquid Fuels	Natural Gas
EIA Energy Atlas	Electricity infrastructure: power plants, substations, transmission lines, electric retail service territories	Liquid fuels infrastructure: oil wells, platforms, pipelines, biofuel plants, terminals, refineries (locations and capacities)	Natural gas infrastructure: gas wells and platforms, pipelines, natural gas processing plants, underground storage
EIA Hourly Grid Monitor	Hourly electricity generation by fuel type, interchange, and day-ahead demand forecasts	Hourly oil-fired generation	Hourly natural gas-fired generation
EIA Weekly Petroleum Status Report		Weekly supply, demand, inventory, and import data	
EIA Winter Heating Fuels	Electric generation and prices	Propane and heating oil inventories and prices	Natural gas inventories and gas prices
EIA SHOPP		State weekly residential heating oil and propane prices	

Additional State Energy Profile Charts and Figures



References / Bibliography

- List of citations (EIA, Louisiana Climate Action Plan, Louisiana's Comprehensive Master Plan for a Sustainable Coast, DOE, CESER, GOHSEP Hazard Mitigation Guide , etc.)

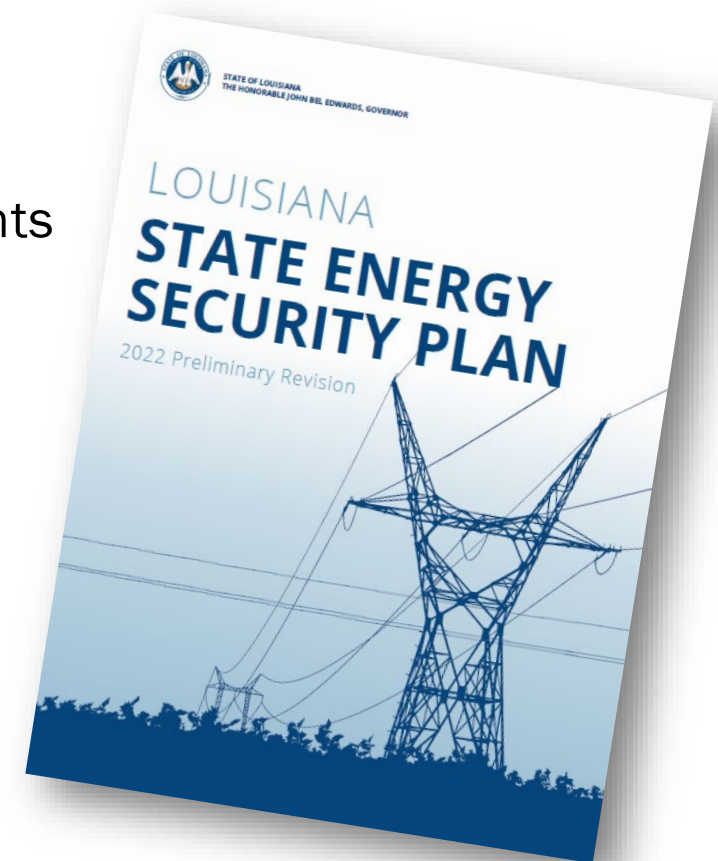
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Next Steps for the State Energy Security Plan (SESP)

- Build upon the SESP over the next year
- Identify opportunities for further analysis
 - Ex. Geographically targeting grid investments aligned with disadvantaged communities
 - Ex. Economic impact and benefit-cost analyses of grid investments
 - Ex. Bolster physical- and cyber- security analyses
- Update as new programs emerge/evolve



Questions

Discussion – 40101 Application

- **Discussion Category 1**

- Key discussion point a
- Key discussion point b
- Key discussion point c

- **Discussion Category 2**

- Key discussion point a
- Key discussion point b
- Key discussion point c

- **Discussion Category 3**

- Key discussion point a
- Key discussion point b
- Key discussion point c

- **Discussion Category 4**

- Key discussion point a
- Key discussion point b
- Key discussion point c

Discussion – State Energy Security Plan (SESP)

- **Discussion Category 1**

- Key discussion point a
- Key discussion point b
- Key discussion point c

- **Discussion Category 2**

- Key discussion point a
- Key discussion point b
- Key discussion point c

- **Discussion Category 3**

- Key discussion point a
- Key discussion point b
- Key discussion point c

- **Discussion Category 4**

- Key discussion point a
- Key discussion point b
- Key discussion point c

Next Steps

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