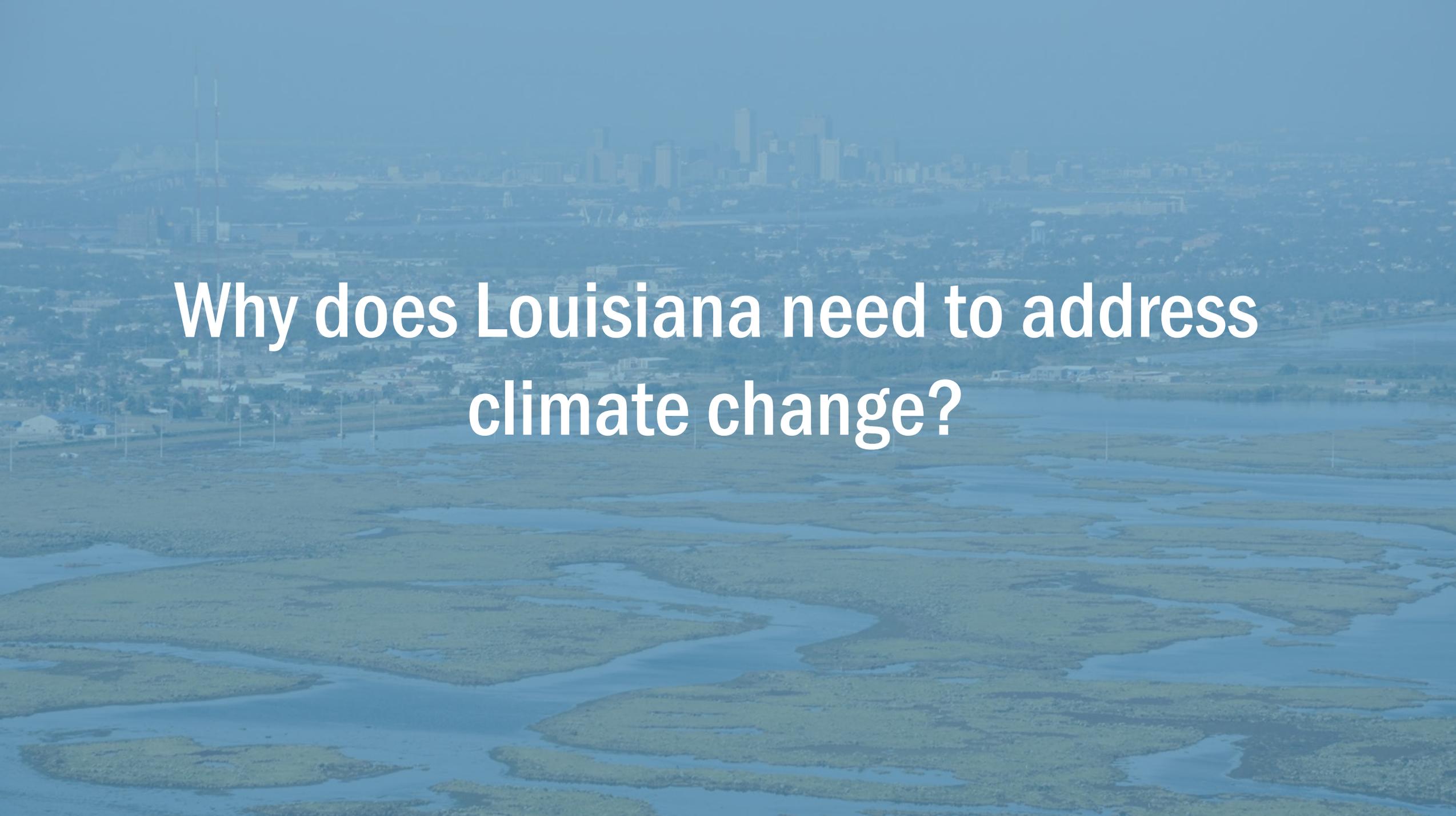


Louisiana Climate Action Plan

OVERVIEW AND IMPLEMENTATION UPDATE

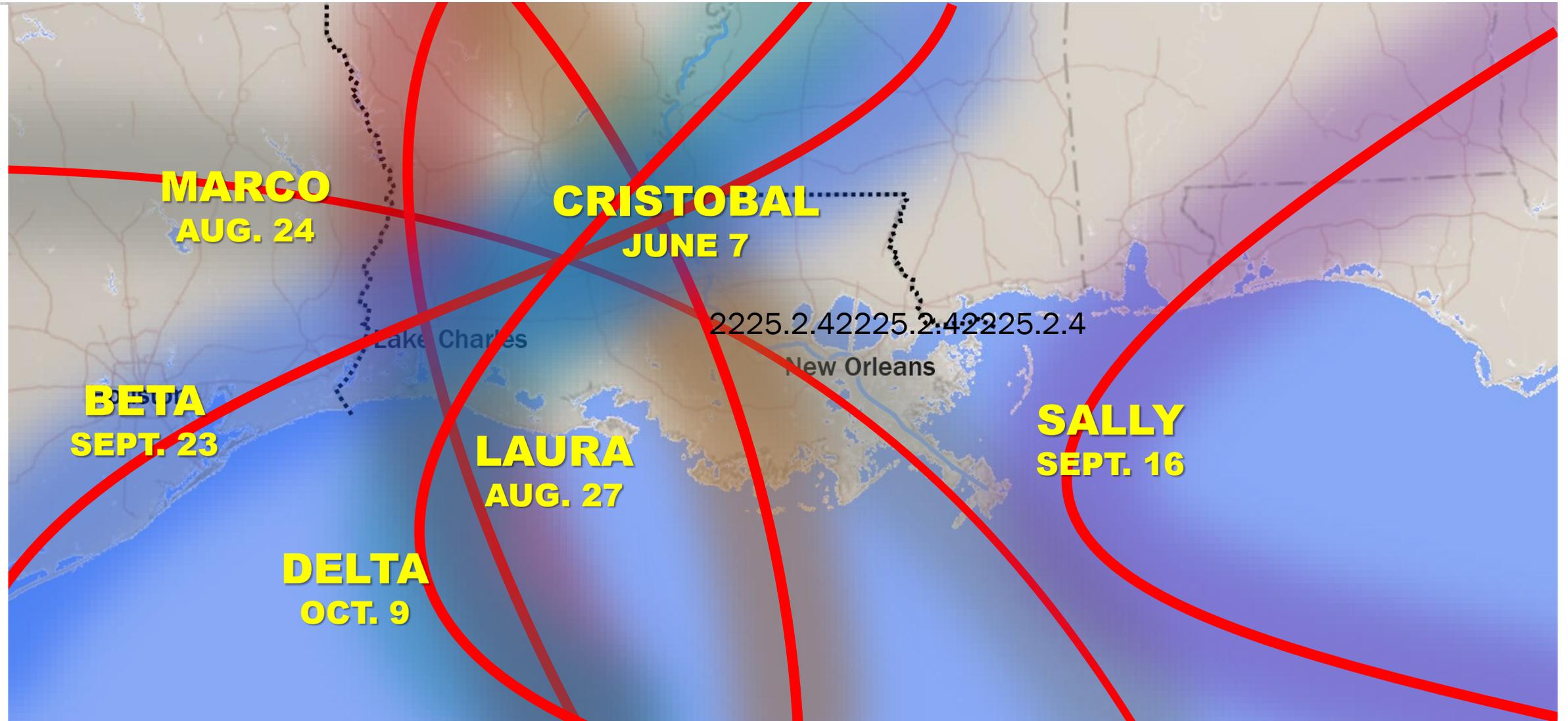


GOVERNOR'S
OFFICE OF
COASTAL
ACTIVITIES

An aerial photograph of a city skyline, likely New Orleans, Louisiana, viewed from a high angle. The foreground is dominated by a large, winding body of water, possibly a bayou or marsh system, with green vegetation interspersed among the water channels. The city skyline is visible in the background, featuring several tall buildings and a dense urban area. The entire image has a blue tint, and the text is overlaid in white.

**Why does Louisiana need to address
climate change?**

2020 Hurricane Season: A Louisiana Record



Hurricane Ida

Tied Laura for 5th Strongest
Hurricane to Hit Continental U.S.

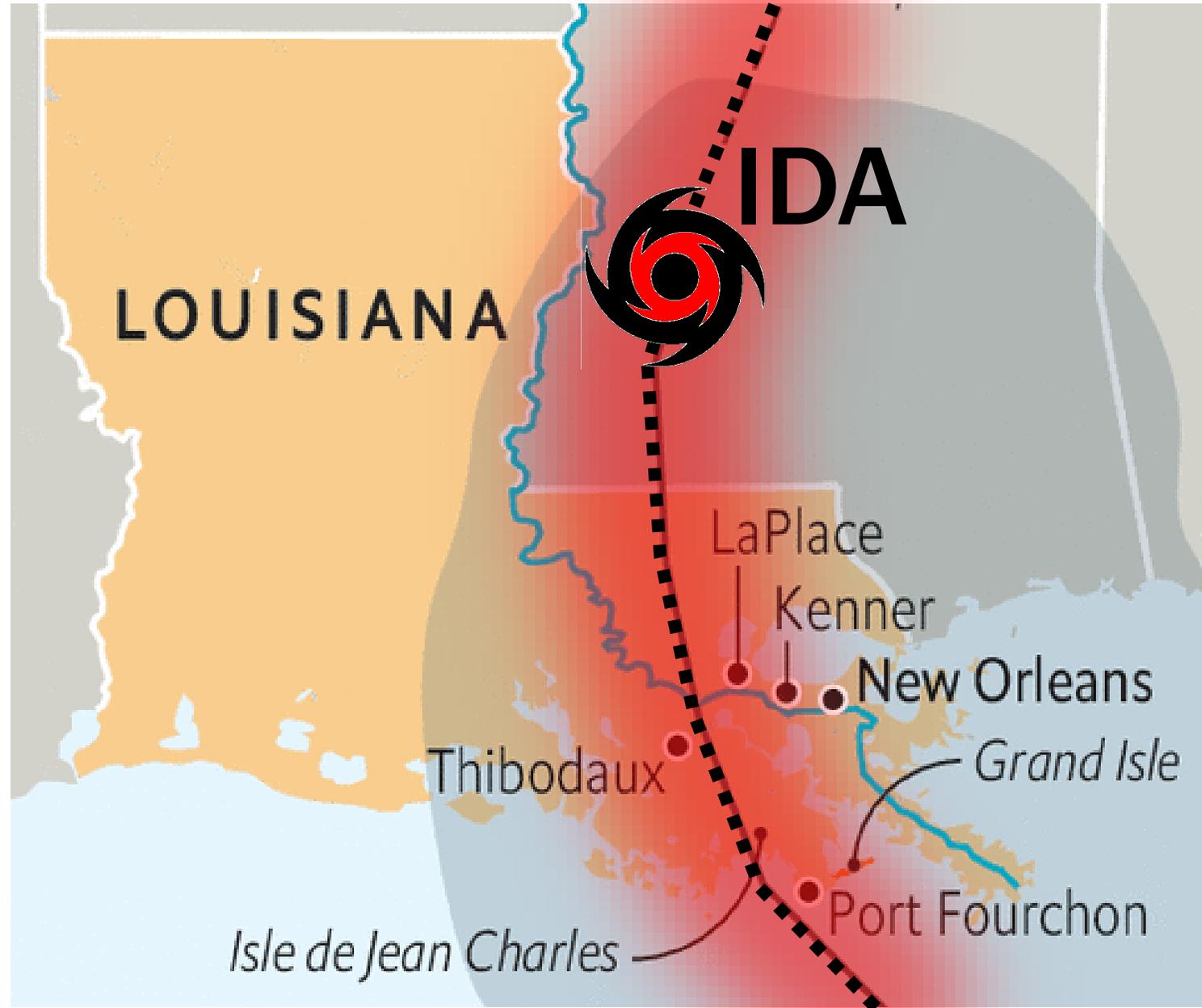
Landfall: Port Fourchon,
Noon, Sunday, Aug. 29

Category 4

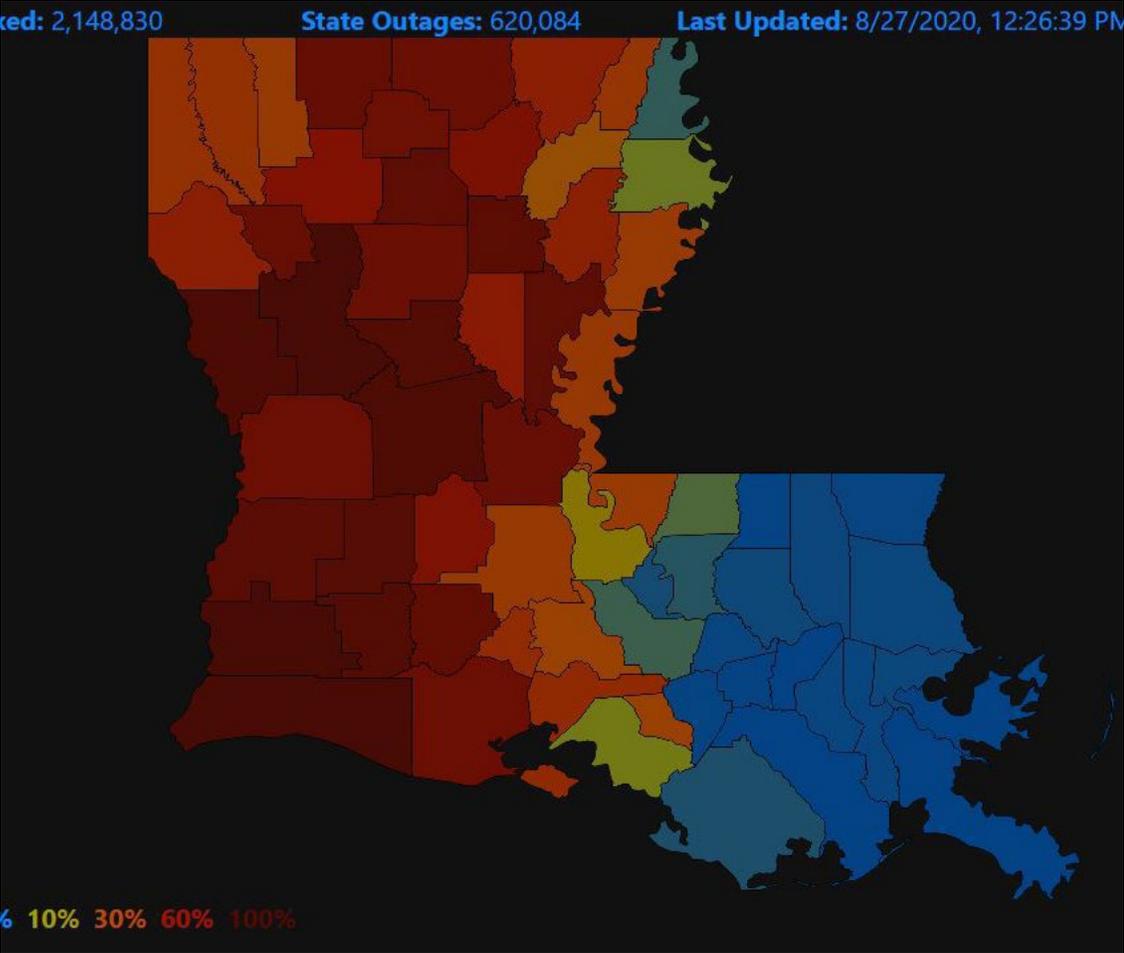
- Winds: 150 mph
- Gusts: 172 mph

Storm Surge: 8 to 13 feet

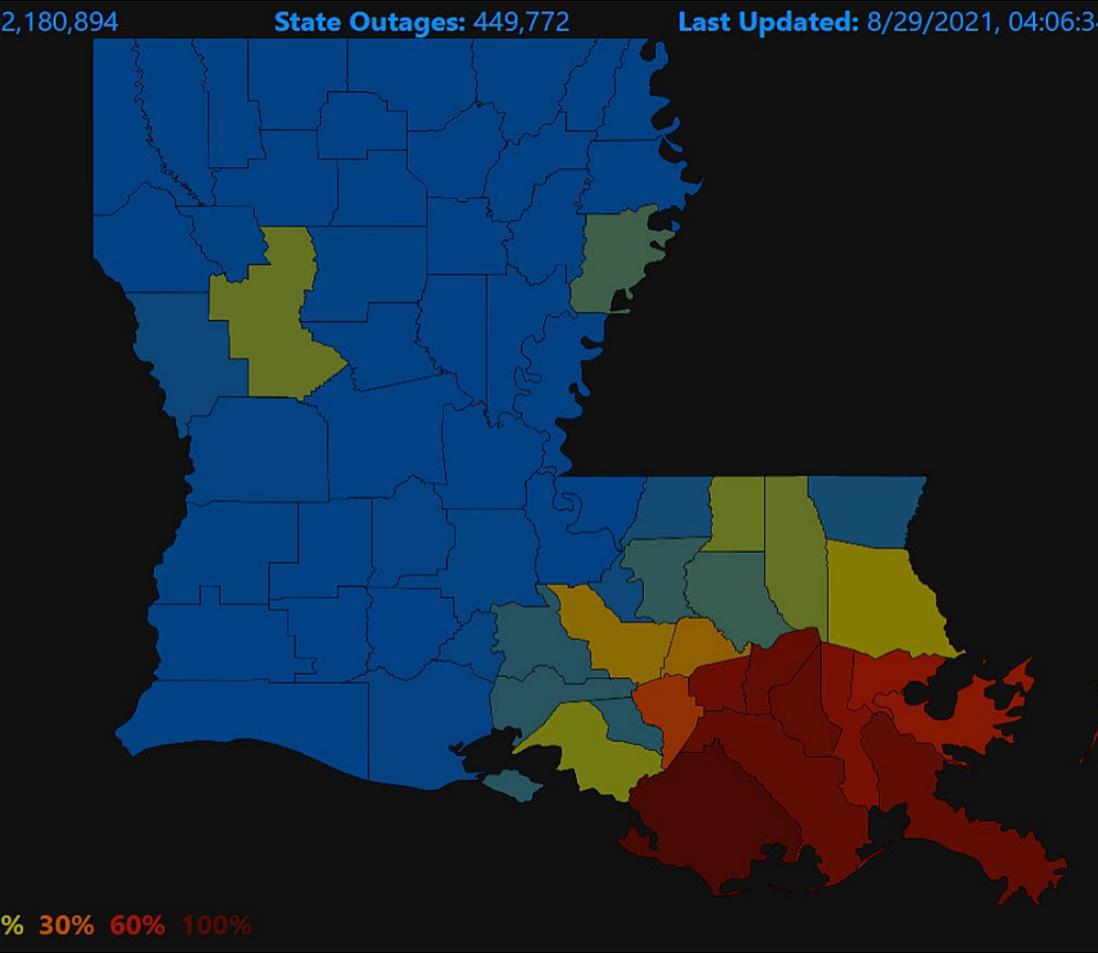
More than 1 million homes
without power



Grid Resilience and Reliability



HURRICANE LAURA | 2020



HURRICANE IDA | 2021

First Solar Manufacturing Facility in Iberia Parish

- \$1.1 billion facility at the Acadiana Regional Airport
- Will produce high-performance photovoltaic (PV) solar modules
- Estimated completion in early 2026
- 700 new direct jobs with annual payroll of \$40 million
- First Solar is unique among the world's 10 largest solar panel manufacturers as the only company with a U.S. headquarters and without a base of operations in China.

Offshore Wind

- First federal offshore wind lease sale in the Gulf of Mexico on August 29, 2023
- Multiple developers negotiating with State Mineral and Energy Board for wind energy operating agreements in state waters.
- A 600MW offshore wind project could support approximately 4,470 jobs with \$445 million in gross domestic product (GDP) during construction and an additional 150 jobs with \$14 million GDP annually from operation and maintenance labor, materials, and services. (National Renewable Energy Laboratory)

Direct Air Capture Regional Hub in Calcasieu Parish

- \$603M Dept. of Energy grant for Project Cypress
- Goal of pulling 1 million tons of CO₂ out of the air annually, 250 times more carbon dioxide than the largest DAC facility currently operating
- Battelle, Climeworks Corp., and Heirloom Carbon Technologies Inc. to develop the capture technology
- Gulf Coast Sequestration will transport and sequester the CO₂ on land owned by Stream Companies
- Could create up to 2,300 jobs
- Expressed interest in procuring clean energy to power project

Climate Executive Order JBE 2020-18



“Whereas,

To improve our resilience, sustain our coast, and help avoid the worst impacts of climate change, Louisiana must proactively work to reduce the greenhouse gas emissions that are driving up global temperatures, raising sea levels, and increasing risks that threaten our health and safety, quality of life, economic growth, and vital habitats and ecosystems;”

Climate Executive Order



By 2025

26 -

28%

Of 2005
levels

By 2030

40 -

50%

Of 2005
levels

By 2050

Net

Zero

Alignment on Climate Pledges

- Entergy Louisiana
 - 50% reduction goal by 2030 (from 2000 emissions); net zero by 2050 commitment
- CLECO
 - 60% reduction target by 2030; net zero by 2050 aspiration
- SWEPCO/AEP
 - 80% reduction target by 2030 (from 2005 emissions); net zero by 2045 goal

Climate Executive Order JBE 2020-18



CLIMATE INITIATIVES TASK FORCE

Duties:

1. *Review GHG inventory update efforts*
2. *Develop policies, strategies, and incentives designed to achieve the net emissions reduction targets established in this Order, while improving the health and welfare of the people of Louisiana and advancing Louisiana's economic and energy profile*

Deadline: *February 1, 2022*

Climate Initiatives Task Force Representation

State Agencies and Government

- GOCA
- DOA
- CPRA
- LED
- DNR
- DEQ
- DOTD
- LDAF
- PSC
- House
- Senate

Industry

LMOGA
LCA
Entergy

Science

Federal Science Agency
Louisiana Academia

Community

Environment
Local Government
Indigenous Peoples
Environmental Justice
Community Development
At-Large

Stakeholder Engagement

CLIMATE INITIATIVES TASK FORCE



SECTOR COMMITTEES

AGRICULTURE,
FORESTRY,
CONSERVATION,
& WASTE



LAND USE,
BUILDINGS,
& HOUSING



POWER
PRODUCTION,
DISTRIBUTION,
AND USE



MINING AND
OIL & GAS



TRANSPORTATION



MANUFACTURING
& INDUSTRY



ADVISORY GROUPS

EQUITY



SCIENCE



FINANCE



LEGAL



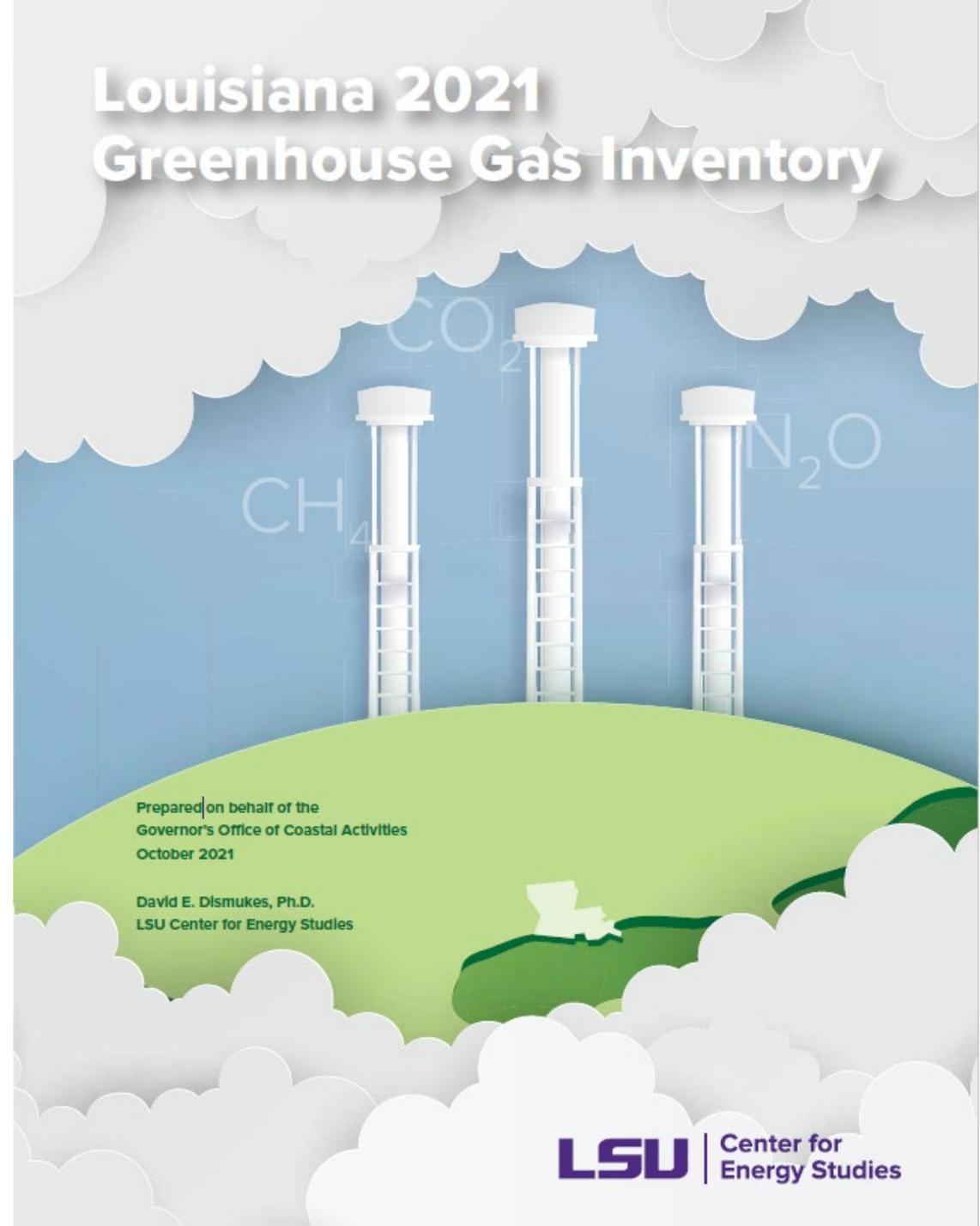
15-month collaborative process that included **49 public meetings** of the Task Force, sector committees, and advisory groups as well as opportunities for the public to share their ideas for climate actions and provide feedback on the draft plan components.

Power Production, Distribution, and Use Committee

- **Jonathan Bourg**, Entergy (co-chair)
- **Bill Robertson**, Public Service Commission (co-chair)
- **Jeff Arnold**, Association of Louisiana Electric Cooperatives
- **Logan Atkinson-Burke**, Alliance for Affordable Energy
- **Brian Bond**, SWEPCO
- **Ethan Case**, Heelstone Energy
- **Dr. Terrence Chambers**, University of Louisiana Lafayette
- **David Guerry**, Long Law Firm LLP
- **Robbie Laborde**, CLECO
- **Katherine King**, Kean Miller
- **Simon Mahan**, Southern Renewable Energy Association
- **Kim Talus**, Tulane Energy Law
- **Rob Verchick**, Loyola University
- **Matt White**, Drax

Data-Informed Decision-Making

- 2021 GHG Inventory conducted by LSU Center for Energy Studies
- Last conducted in 2010
- Utilizes EPA's State Implementation Tool
- Finalized in October 2021

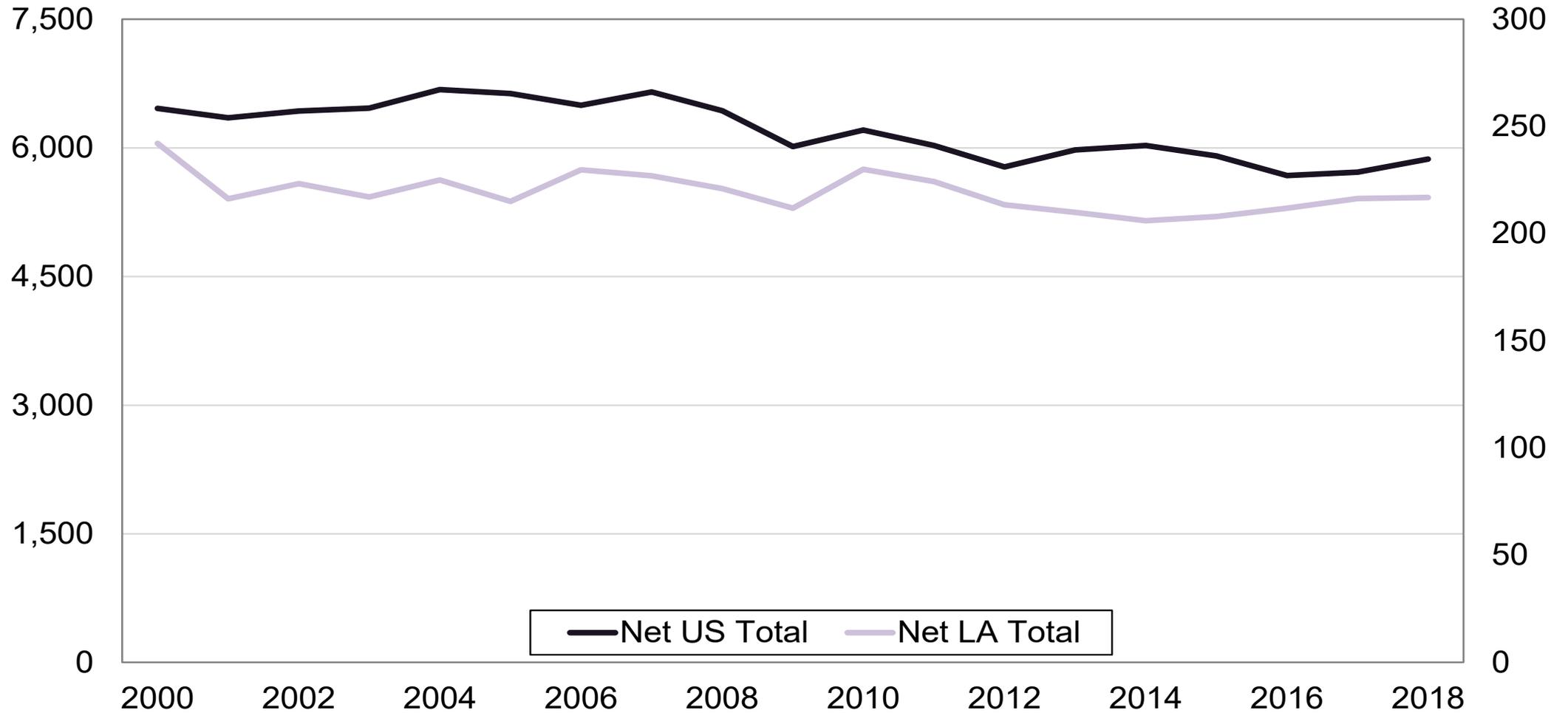


Louisiana 2021 Greenhouse Gas Inventory

Prepared on behalf of the
Governor's Office of Coastal Activities
October 2021

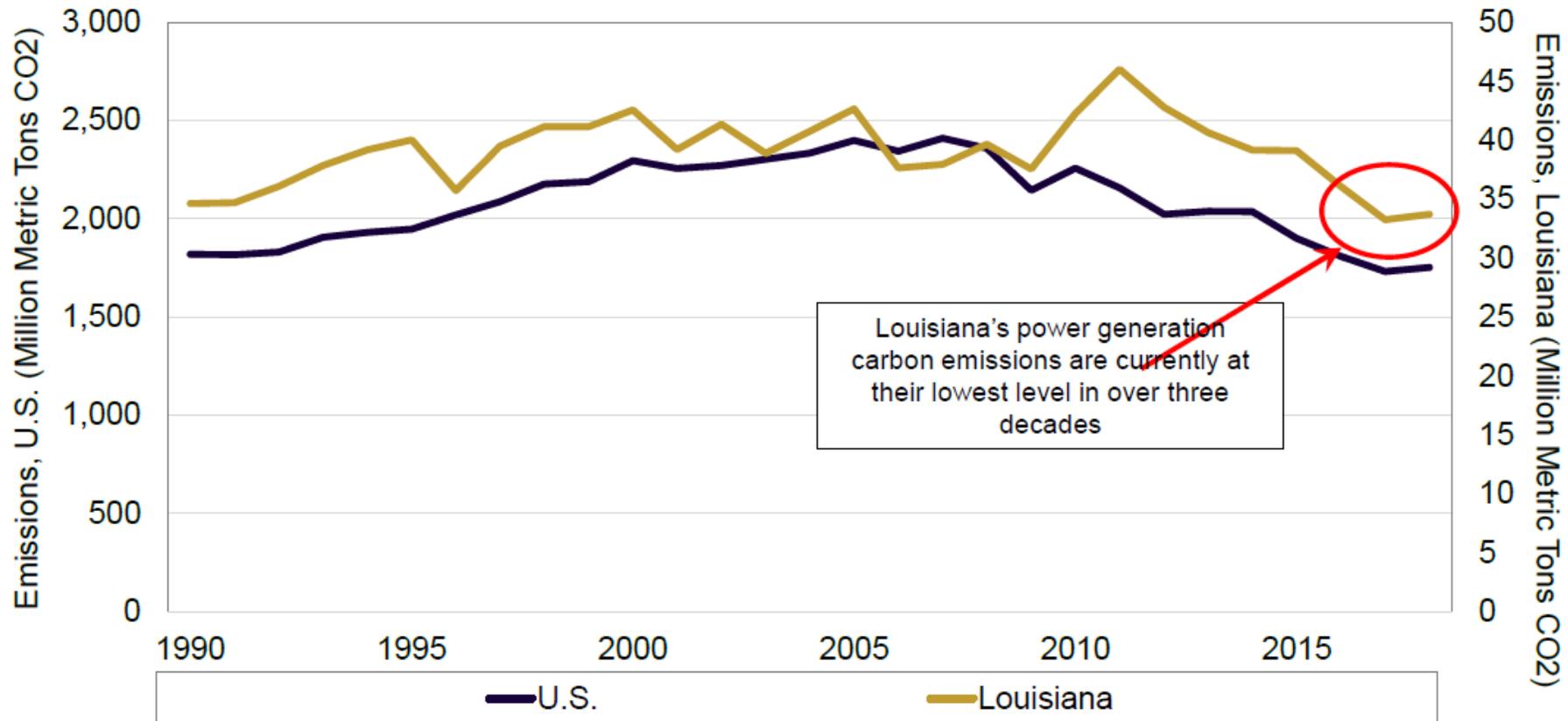
David E. Dismukes, Ph.D.
LSU Center for Energy Studies

Net GHG Emission: U.S. versus Louisiana



Historic power generation emissions (U.S., LA)

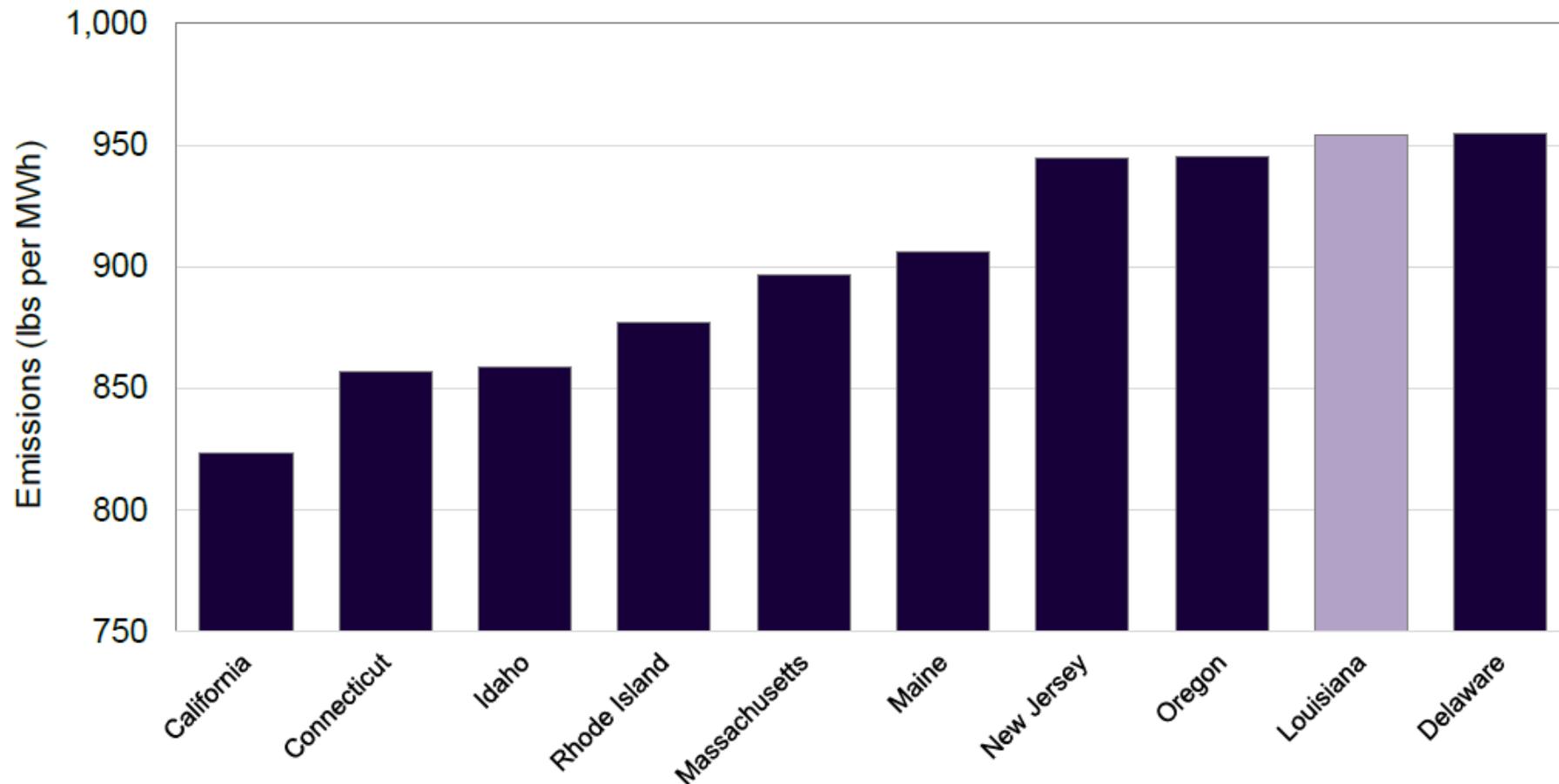
Louisiana power generation emissions have followed trends comparable to the U.S., rising throughout the past decade, and falling rapidly since around 2010. **Louisiana's power generation carbon emissions peaked in 2011 at 46 million tons** and has **fallen by 27 percent** since that time.



Source: U.S. Environmental Protection Agency, State CO2 Emissions from Fossil Fuel Combustion. Available at: <https://www.epa.gov/statelocalenergy/state-co2-emissions-fossil-fuel-combustion>

Historic power generation emissions per output (rank order)

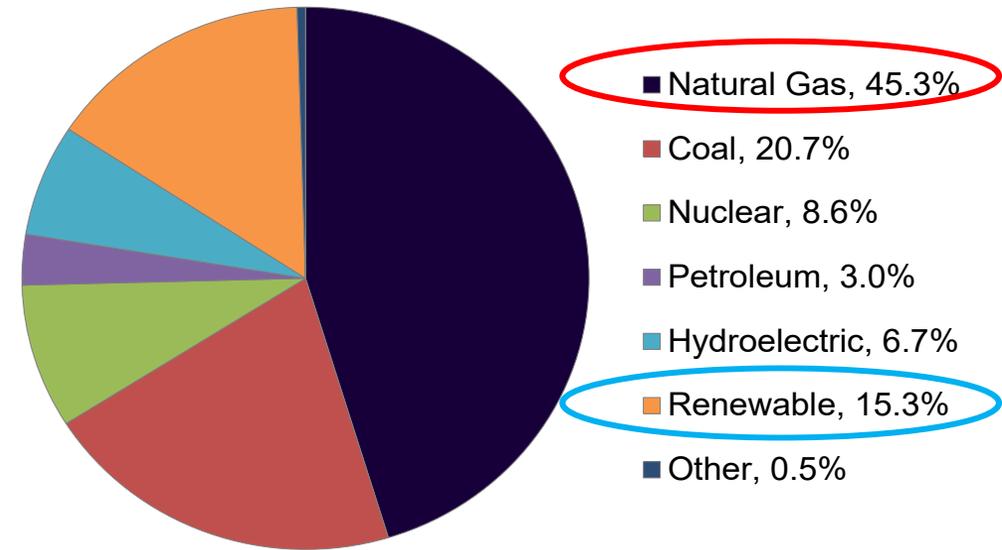
Louisiana also ranks in the top ten in terms of power generation emissions per unit of output (MWh).



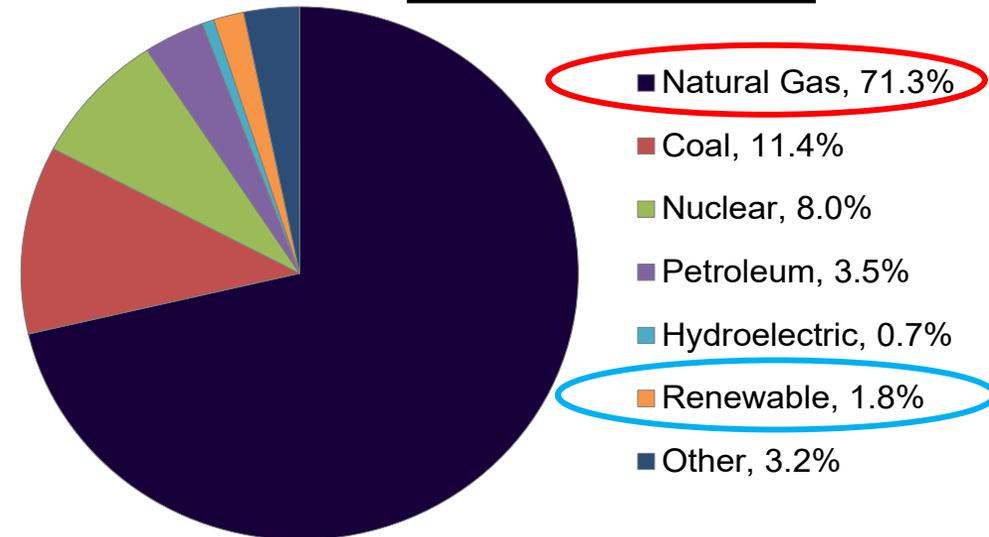
Power generation fuel mix: La. compared to U.S.

- La. relies less on coal than national average, and much of coal-fired generation in La. will be retired by 2030
- La. lags significantly behind the nation in renewable generation
- La. leads the nation in combined heat and power

U.S., 2019



Louisiana, 2019



Percentage of CO₂ Emissions per Sector, 2018

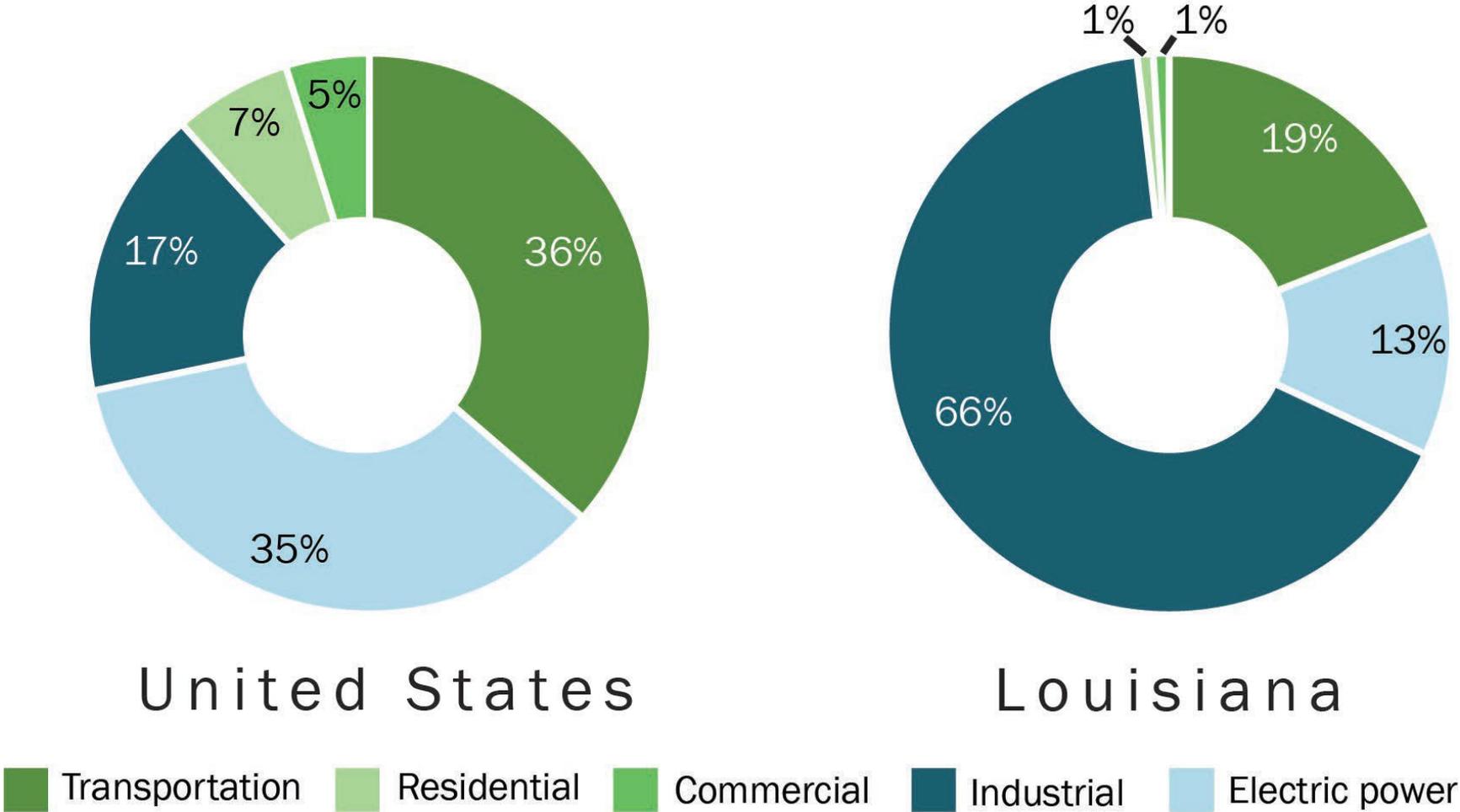
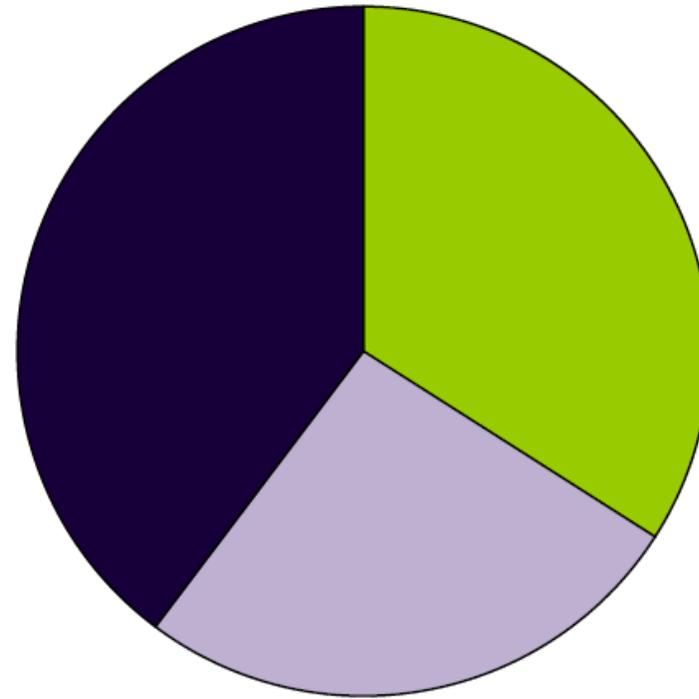


Figure 4. Summary of United States and Louisiana emissions per sector, 2018. (Source: Louisiana Climate Action Plan, 2022)

2018 electricity consumption emission shares



■ Residential, 34% ■ Commercial, 26% ■ Industrial, 40%

Transportation not included due to negligible data



STATE OF LOUISIANA
GOVERNOR JOHN BEL EDWARDS

LOUISIANA CLIMATE ACTION PLAN

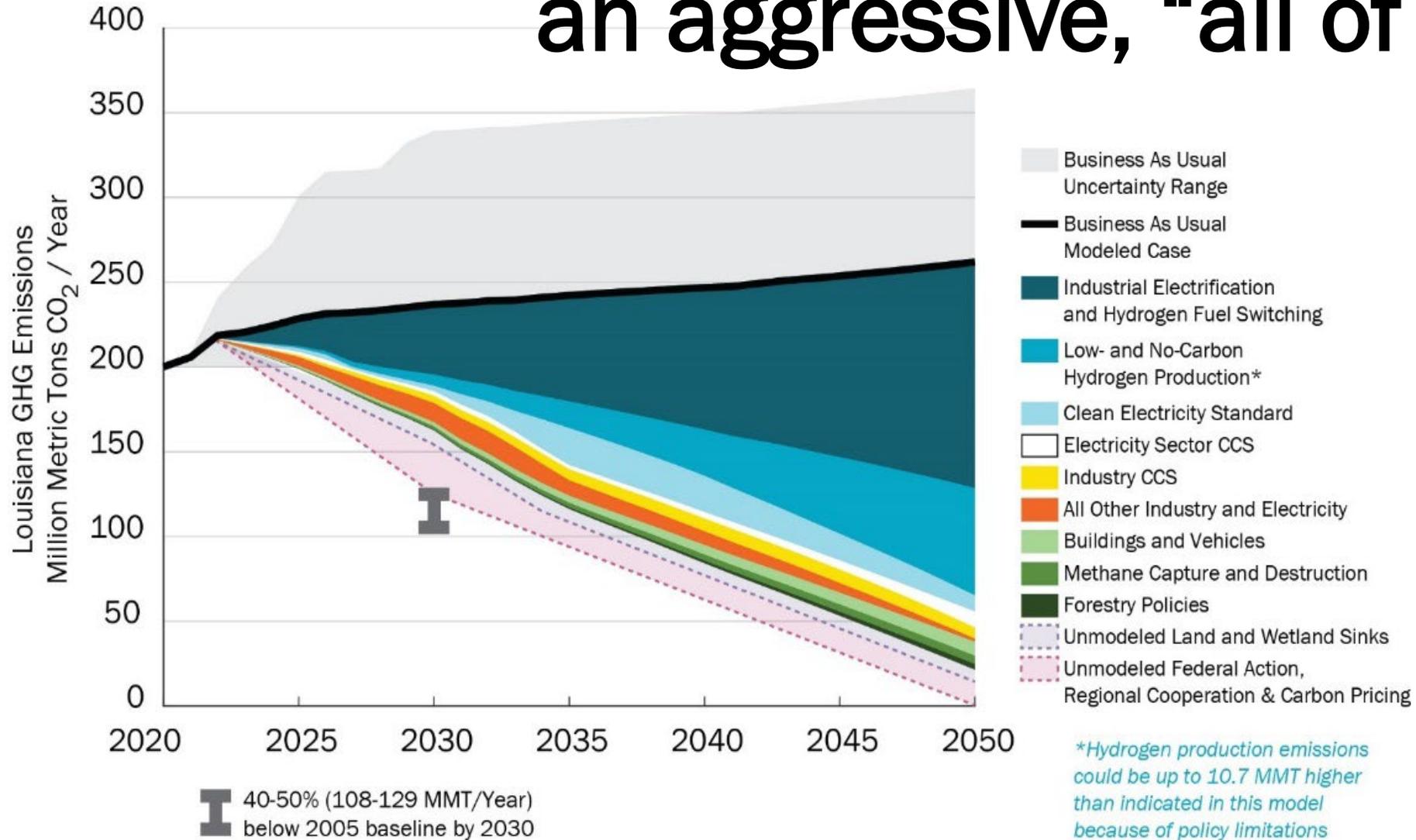


CLIMATE INITIATIVES TASK FORCE
RECOMMENDATIONS TO THE GOVERNOR
February 2022

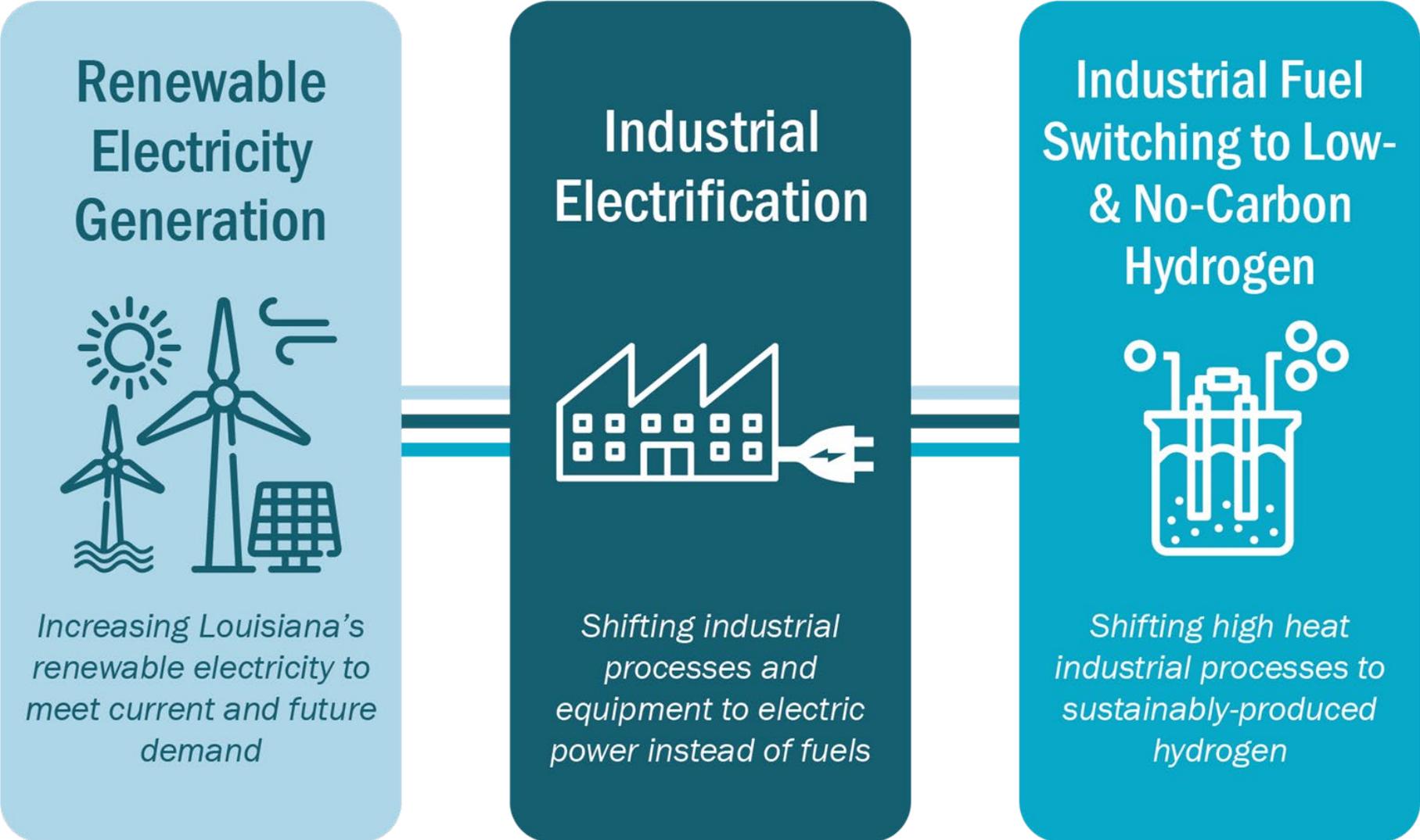


2022 Climate Action Plan

Net zero is attainable by 2050 through an aggressive, “all of the above” approach



Climate Action Plan Policy Pillars



Clean Energy Transition



STRATEGY 1: Shift towards a clean, renewable, and resilient power grid

STRATEGY 2: Increase access to and deployment of distributed energy resources

Clean Energy Transition



ACTION 1.1 Adopt a Renewable and Clean Portfolio Standard and create a statewide market for Renewable Energy Certificates

ACTION 1.4 Establish utility green tariffs

ACTION 1.3 Strategically plan for the development of offshore wind power

Clean Energy Transition



ACTION 1.2 Improve electric generation resource planning and procurement to streamline the retirement and replacement of energy resources

ACTION 1.6 Develop a regional long-range transmission infrastructure plan to meet Louisiana's transmission goal

Clean Energy Transition



ACTION 2.2 Review net metering and crediting policies for on-site and community solar energy system owners and participants

ACTION 2.3 Strategically foster the development of resilient microgrids and dispatchable batteries

Industrial Decarbonization



STRATEGY 3: Monitor, inventory, certify, and support industrial decarbonization

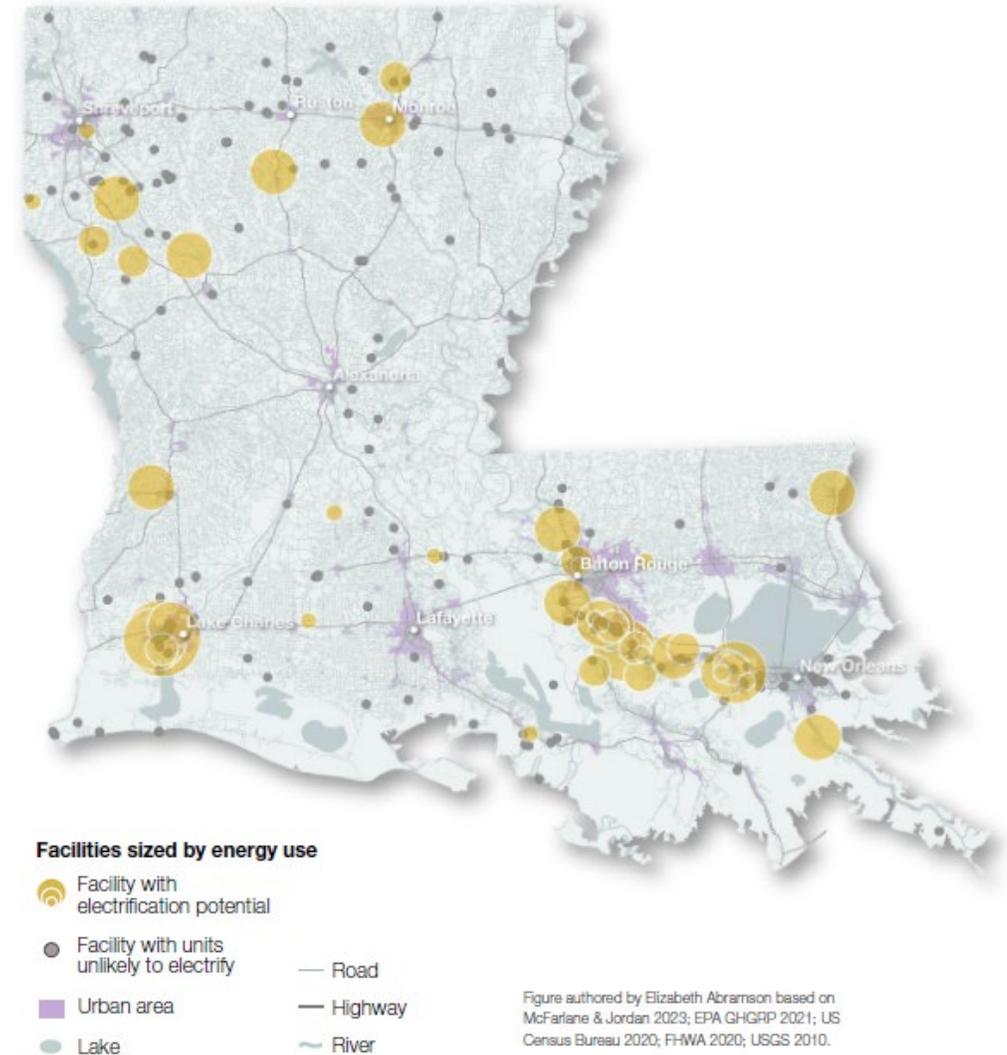
STRATEGY 4: Improve efficiencies in and modernization of industrial processes and facilities

STRATEGY 5: Accelerate industrial electrification, switching to low- or no-carbon fuels and low- or no-carbon feedstocks

STRATEGY 6: Promote reduced-carbon materials

Industrial Electrification

- Carbon Solutions, LLC studied emissions originating from industry by sector, facility size, and emitting equipment
- 14 MtCO₂e potentially electrified
 - Approx 49 million MWh
- 16 MtCO₂e unlikely to be electrified
- 40 MtCO₂e needs further analysis



An aerial photograph of a coastal city, likely Miami, Florida. The foreground is dominated by a vast, intricate wetland system with numerous small, interconnected water channels and green marshy islands. In the middle ground, there is a dense residential and commercial area with various buildings and structures. The background shows a prominent city skyline with several tall skyscrapers under a clear sky. The entire image has a light blue overlay.

Implementation

Bipartisan Infrastructure Law

- \$28B Clean Energy Transition
- \$68B for Industrial Decarbonization
- \$5B for Actively Managed Methane Emissions
- \$569B for Transportation, Development, and the Built Environment
- \$22B for Natural and Working Lands and Wetlands
- \$422M for An Inclusive, Low-Carbon Economy
- \$4B for Tribal Resilience

- Grid Hardening Grants
- Grid Innovation Program
- Smart Grid Grants
- Transmission Facilitation Program
- Energy Improvements in Rural Areas
- Solar and Wind Grid Services Demos
- Battery Manufacturing
- Energy Storage Demos and Pilots

Inflation Reduction Act

CLEAN MANUFACTURING = OVER \$65B

- Manufacturing solar panels, wind turbines, etc.
- Decarbonization of industrial processes

CLEAN ENERGY GENERATION = OVER \$125B

- Wide-scale renewables deployment

CONSUMER ENERGY COSTS REDUCTION = \$30B

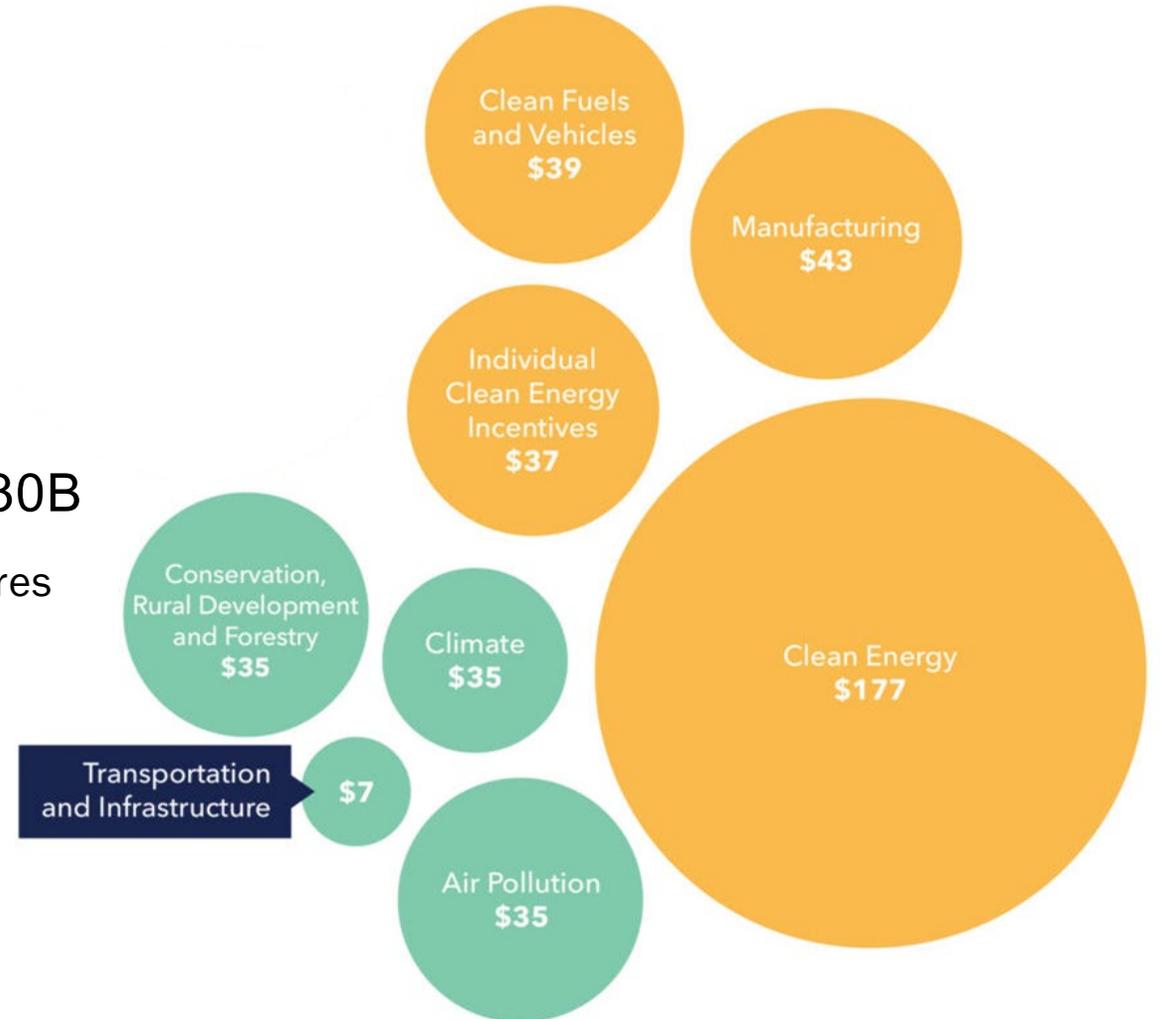
- Home rebates to electrify appliances and weatherize structures

COMMUNITY = \$60B

- Environmental and climate justice block grants
- Neighborhood access and equity

FARMERS / RURAL COMMUNITIES = OVER \$30.6B

- Climate smart agriculture and community forestry



IRA: Clean Energy Deployment Investments

CLEAN ENERGY GENERATION = **OVER \$125B**

- **\$27B:** Greenhouse Gas Reduction Fund
- **\$51B:** renewable energy production tax credit from solar, energy storage, batteries, and interconnection on properties
**Bonus credit for domestic content and in energy community*
- **\$13B / \$30B:** Clean hydrogen / nuclear credits
- **\$11.7B:** Renewable energy for rural communities
- **\$550M:** Energy storage pilot and demonstrations
- **\$13.9B:** Tax credits to build clean technology manufacturing facilities (EVs, wind turbines, and solar panels)

CONSUMER ENERGY COSTS REDUCTION = **\$30B**

- **\$9B:** consumer home energy rebate programs to electrify appliances
- **\$1B:** grants for affordable housing energy efficiency
- **10 Years:** consumer tax credits to implement efficiency and clean energy
- **\$4000/\$7500:** consumer tax credit for used/new clean vehicles purchase

State-Level Approach

Interagency Grid Work Group

- Share best practices across different lenses of energy
- Build a unified vision for modernization and security of power grid infrastructure
- Align on near-term needs and long-term goals to invest in grid improvements that enhance resilience and prepare for increased demand from electrification
- Interagency MOU through 2024



Key Efforts In Progress and On The Horizon

- 40101d Formula Grant Program – Louisiana to receive \$40M over 5 years for grid resilience and modernization
- Grid Resilience and Innovation Partnerships (GRIP) Program – application submitted for \$500M Louisiana Hubs for Energy Resilient Operations (HERO) project
- Home Energy Rebates - \$8.5 billion for states and territories
- GHG Reduction Fund Solar for All (Green Bank) – \$7B for states to expand access to affordable, resilient, and clean solar energy
- Climate Pollution Reduction Grant - \$4.6B in competitive grants to reduce GHG emissions and co-pollutants in overburdened communities

Summary



OFFICE of the GOVERNOR
JOHN BEL EDWARDS

Big opportunity for Louisiana to reduce its emissions, reduce cost, and increase energy reliability while also stimulating private investment

- Louisiana can remain an energy state through the 21st century
- Louisiana can become a leader in industrial decarbonization and export that knowledge and those products worldwide
- Generational opportunity to pursue billions of dollars in federal funding

What it will take:

- Intentional policies that facilitate investment and deployment of renewable and clean electricity.
- Continued coordination and alignment across state, local, and federal government, utilities, community organizations, universities, and industry

Questions?

HARRY.VORHOFF@LA.GOV



GOVERNOR'S
OFFICE OF
COASTAL
ACTIVITIES