ENHANCING LOUISIANA'S SHIPPING ARTERIES:

LOUISIANA PORT SYSTEM BENCHMARKING AND PRELIMINARY ENERGY & ECONOMIC ASSESSMENT PLANNING PROJECT

A COLLECTIVE PLANNING INITIATIVE TO ASSIST LOUISIANA PORTS

PROJECT KEY LEADS

LOUISIANA TRANSPORTATION RESEARCH CENTER (LTRC) LEAD:
V.J. Gopu, PhD, PE
Civil Engineer
Associate Director of the LTRC
Louisiana Department of Transportation and Development (LDOTD)

PROJECT PRINCIPAL INVESTIGATOR/PROJECT LEAD:
Mary "Molly" Bourgoyne, PE, MPE
Civil Engineer
Director of Ports
Multimodal Commerce Division
Louisiana Department of Transportation and Development (LDOTD)

UNIVERSITY OF LOUISIANA AT LAFAYETTE (UL) LEAD:
Mark E. Zappi, PhD, PE
Civil and Chemical Engineer
Executive Director of the Energy Institute of Louisiana (EIL)
Director of the Louisiana Energy Extension Service (LEES)
Chaired Professor of Chemical Engineering

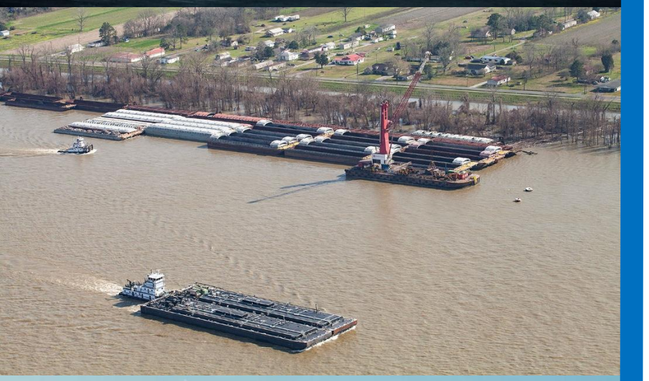
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

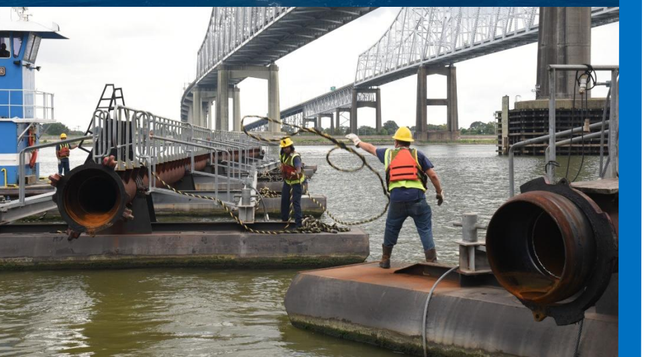
The EPA Clean Ports Program is part of EPA's Ports Initiative that helps our nation's ports address public health and environmental impacts.

The Clean Ports Program was funded via the 2022 IRA to both reduce the ecological footprints of our nation's ports while also improving community/regional benefits (*we will emphasize ED)*.

In 2024, a competition was initiated and awards made in two areas: (1) Planning Grants & (2) Implementation Grants.

DOTD working with UL won a $2.9M/3-year planning grant to develop plans to meet EPA's program goals.





PROJECT OBJECTIVES

FOR EACH PORT, FACILITATE PLANNING STRATEGIES TO:

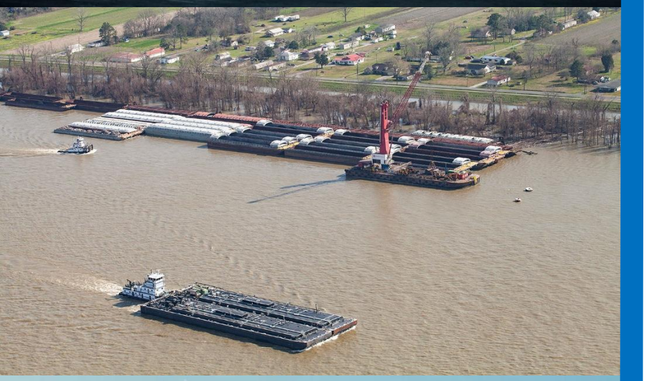
1 - REDUCE THE OVERALL ECOLOGICAL FOOTPRINTS OF THE PORTS.

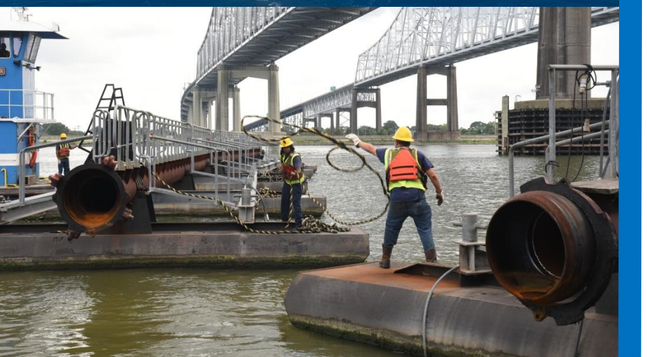
2 - GROW ECONOMIC DEVELOPMENT ACTIVITIES AT EACH PORT.

3 - ENHANCE THE QUALITY OF LIFE AROUND EACH PORT THROUGH INCREASED JOBS AND NEW LOCALIZED EDUCATIONAL OPPORTUNITIES.

4 – INCREASE THE RESILIENCY OF KEY UTILITIES THAT SUPPORT EACH PORT.

5 – BUILD LONG-TERM TEAMS THAT GROW THE POSITIVE IMPACT OF OUR PORTS ON LOUISIANA.





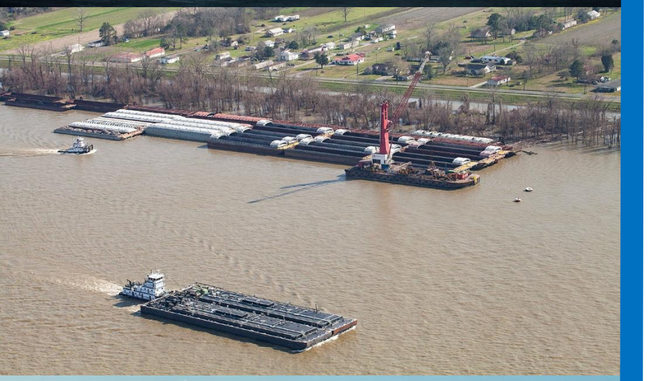
ENVISIONED VALUE OF THE PLANS AND RELATED DATA

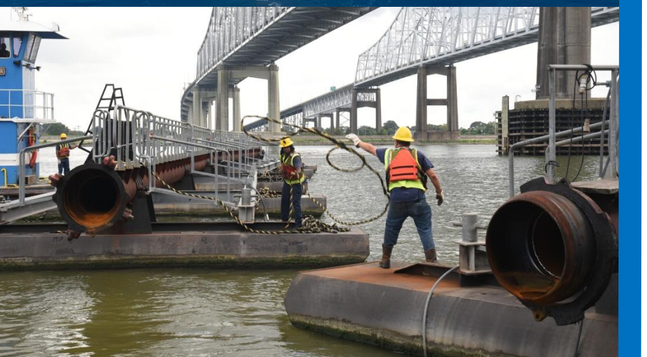
THE PLANS/INFORMATION TO BE GENERATED:

- ***USED BY THE PORTS TO DEVELOP MORE COMPETITIVE PROPOSALS TO THE USEPA AND OTHER FUNDING AGENCIES.***
- ***RESULT IN IMPROVED PORT OPERATIONS.***
- ***ENHANCE THE ALREADY TREMENDOUS IMPACT OF OUR PORTS ON THE STATE'S ECONOMY.***

EXAMPLE KEY INFORMATION TO BE GENERATED:

1. **ESTIMATED CARBON FOOTPRINT OF THE PORT (DIRECT & INDIRECT [TENANTS]) AND POTENTIAL REDUCTION OPTIONS**
2. **POWER USAGE OF THE PORT AND POTENTIAL OPTIMIZATION**
3. **UTILITIES RELIABILITY SITUATION AT THE PORT (POWER, WATER, & WASTEWATER – IN SOME CASES, ICE PRODUCTION)**
4. **EQUIPMENT CHANGE-OUT POTENTIALS (ELECTRIFICATION)**
5. **IDENTIFY JOBS CREATION OPPORTUNITIES (ED)**





ADDITIONAL BENEFITS

- **REDUCE PORT OPERATIONS COSTS.**
- **INCREASE PORT RESILIENCY TO STORMS AND OTHER DISASTER EVENTS.**
- **EVALUATE POTENTIAL PORT FACILITY/EQUIPMENT ADDITIONS TO INCREASE PORT EFFICIENCY.**
- **MORE INFORMATIONAL RESOURCES FOR THE PORTS AND PORT ADVOCATES.**
- **FURTHER DEVELOP LOUISIANA AS A GLOBAL PORTS TECHNOLOGY LEADER**

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LOUISIANA ENERGY EXTENSION SERVICE
University of Louisiana at Lafayette

KEY PARTNERING STAKEHOLDERS

Louisiana Ports and Waterways Investment Commission

ENERGY INSTITUTE OF LOUISIANA
UNIVERSITY OF LOUISIANA AT LAFAYETTE

And of course – each of the 32 Louisiana Ports!

Louisiana Port System Benchmarking and Preliminary Energy Assessment Planning Project

Project Org Chart

EPA

LDOTD PROJECT PI
Ms. Molly Bourgoyne, PE
LDOTD Director of Ports

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LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

LDOTD Louisiana Transportation Research Center (LTRC)
LTRC POC: Dr. V.J. Gopu, PE

LOUISIANA TRANSPORTATION RESEARCH CENTER

UL Project PI & Technical Director
Dr. Mark E. Zappi, PE
Executive Director of the Energy Institute of Louisiana &
Louisiana Energy Extension Service

UNIVERSITY OF LOUISIANA SYSTEM
FORTITER FELICITER FIDELITER
LAFAYETTE

Project Implementation Oversight Team
Dr. Chelsea Zeringue - LEES

Sustainability Enhancement Team
Mr. Wayne Sharp - EIL

Power Assessment Team
Dr. Solomon Yin - EIL

Emissions Assessment Team
Dr. Emanuel Revellame - EIL

Power Resiliency Team
Dr. Farshad Ferdowsi - EIL

Best Practices Assessment Team
Dr. Chelsea Zeringue - LEES

Economic Development Team
Dr. Geof Stewart - LEED

Community Benefits Development Team
Dr. Stephen Barnes - KBPC

LOUISIANA PORT SYSTEM BENCHMARKING AND PRELIMINARY ENERGY & ECONOMIC ASSESSMENT PLANNING PROJECT

ENERGY & POLLUTION REDUCTION COMPONENT

Facilitate the development of plans that could be implemented to reduce power usage and the ecological footprints of all operating ports while enhancing utility resiliency.

TECHNOLOGY TEAM

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LOUISIANA TRANSPORTATION RESEARCH CENTER

UNIVERSITY of LOUISIANA LAFAYETTE

ECONOMIC DEVELOPMENT & COMMMUNITY BENEFITS COMPONENT

Economic development enhancement is targeted resulting in the enhanced standard of living within the regions surrounding the ports through increasing good jobs and career educational opportunities.

INDUSTRIAL DEVELOPMENT AND COMMUNITY BENEFITS TEAM

KEY UL RESOURCES SUPPORTING THIS EFFORT

Louisiana Energy Extension Service – Lead UL Unit

Provide energy informational flow on energy systems to energy industry stakeholders within Louisiana.

Energy Institute of Louisiana

Maintain Louisiana's leading role as a global energy technology leader while changing energy systems across the globe.

Kathleen Blanco Public Policy Center

Provide policymakers and the public with the information necessary to improve lives and communities across Louisiana through improved policy, economic growth strategies, and workforce development.

Louisiana Entrepreneurship and Economic Development Center

Provide market assistance and support to businesses, economic development agencies, investors, and entrepreneurs to enhance Louisiana's regional commercialization efforts.

PROJECT IMPLEMENTATION ADVISORY COMMITTEE

Ms. Molly Bourgoyne, PE (Chair) – LDOTD
Dr. Mark E. Zappi, PE (Team Rep) – UL LEES
Dr. V.J. Gopu, PE - LTRC
Mr. Ben Russo – Central Louisiana Regional Port
Mr. Chet Chaisson – Port of Fourchon
Ms. Kim Montie – Cameron Parish Port
Mr. Travis Tyler – Port of Natchitoches
Mr. Bryant Killen – Ports of Lake Providence, Tensas, and Vidalia

HOPE TO HOLD FIRST MEETING VIA ZOOM IN MARCH

PLANNED PROJECT IMPLEMENTATION

Each port will be visited by the two teams over the 3-year project life (at least once will each team visit each port – likely more)

Preliminary pre-visit and follow-up meetings will be performed with each port and UL team (LDOTD will also participate as their schedule allows) – likely start with smaller ports initially

Draft data and assessment reports generated by UL (based on collected data and simulations) will be reviewed and approved by each port/LDOTD to ensure agreement/accuracy

Website will be set up to share information on ports advancement and public release port information and assist with facilitating ports growth – planning as a significant data resource for ports

WHAT THE PROJECT WON'T DO...

- Tell port leadership how to run their operations (here to help)
- Report raw data to regulatory bodies (not a regulatory effort)
- Generate an overall priorities plan for the Louisiana port system
- Provide a comprehensive solution for all port issues

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University of Louisiana at Lafayette

Louisiana USEPA Clean Ports Project

Technology and Social Development Teams

POWER AND POLLUTION REDUCTION TECHNICAL TEAM

POWER RESILIENCE

ENERGY & POWER

AIR QUALITY & EMISSIONS

WATER, WASTEWATER, & SOLID WASTE

INDUSTRIAL DEVELOPMENT AND COMMUNITY BENEFITS TEAM

ECONOMIC DEVELOPMENT

COMMUNITY DEVELOPMENT

WORKFORCE TRAINING OPPORTUNITIES/NEEDS

TEAM INFORMATION GATHERING: WHERE IS THE DATA LOCATED?

DIGITAL ACQUISITION

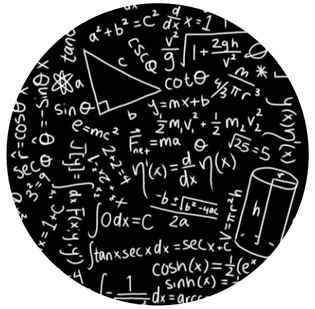
Information from databases (if available) are requested and queried. Additionally, various national-level databases will also be reviewed and utilizes as appropriate.

PORT MANAGEMENT OFFICE DATA & NEEDS PRIORITIZATION

Information to be gathered from the port authority includes information regarding port's specific equipment inclusive of operational information (if available), such as drive system type, fuel purchasing, and consumption histories & Determine your prioritized needs/wants

SITE VISIT DATA COLLECTION

Some information may be ideally found from on-site visits, such as observed specific equipment model numbers or usage/shift durations



CALCULATED/CORRELATED FROM EXISTING DATA

Simulation methods will be used from the field ports data to estimate numbers and when data are unavailable or prohibitive for access, some data may be estimated by correlating existing equipment performance data via EPA and other data-bases

TARGETED PRE-VISIT INFORMATION

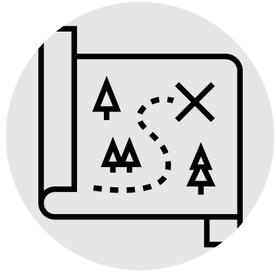
HEAR FROM YOU

GAIN BRIEF IDEA OF THE HOST PORT'S EXPECTATIONS FROM THIS EPA PLANNING EFFORT

What do you expect to get from this planning project?

Are there any areas you think may be of particular interest?

What are key areas of assistance that the team may provide you?



LEARN FROM YOU

KEY PORT DOCUMENTS/INFO

As much information as the ports are comfortable sharing:

- Port growth
- Environmental permitting
- Power/Utility costs/bills
- Carbon reduction plans in place (if any).
- Hopeful new equipment needs

PORT ASSETS & LAYOUTS

General idea of port layout and tenants (please do list your tenants and their primary activities)

Ideally, location of any on-site utilities

Available lands

Transportation conduits

Equipment listings

TASK-SPECIFIC QUESTIONNAIRES TO BE SENT TO THE PORTS BY THE PROJECT TEAM

- An initial questionnaire will be sent to each port to gain general information to maximize visit impact and start assessment process.
- Follow-up questionnaire will then be sent to close information gaps prior to the port visit and to uniquely optimize Project Team benefits to each port (we want to make sure we are addressing your needs).
- Discussion of question responses will be completed during/after the port visit and via potential additional visits.
- No direct measurements are planned during visits which are oriented toward observations and situational assessments.

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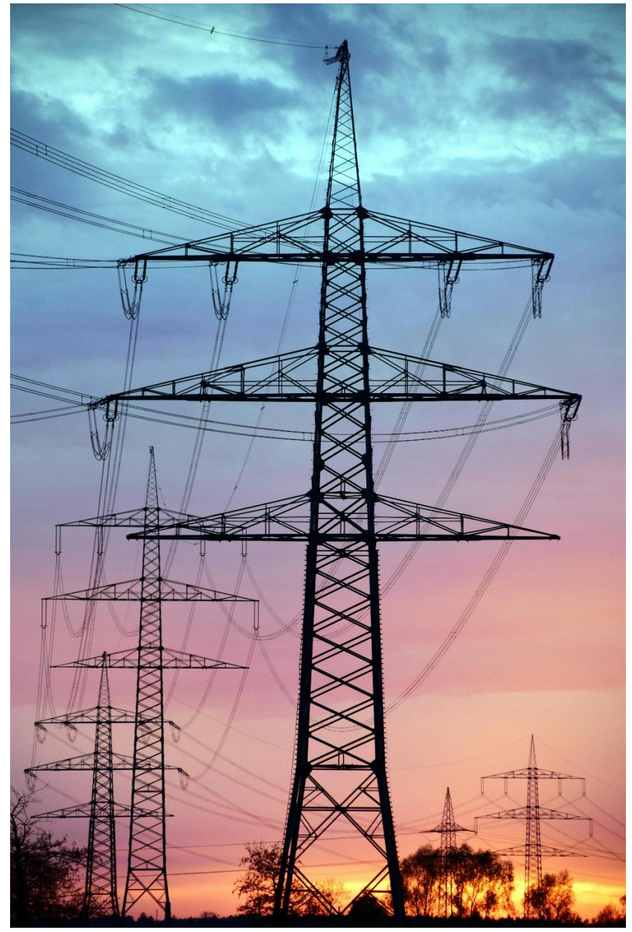
ENERGY & POWER ASSESSMENT TEAM

OVERVIEW OF POWER ASSESSMENT TEAM ACTIVITIES

OBJECTIVE: ASSESS POWER SAVING OPTIONS ALONG RESULTING CARBON FOOTPRINT REDUCTIONS

1. Collect power source, distribution, and use data prior to and further defined during field visit
2. Brainstorm options to reduce port load and/or carbon emissions
3. Perform simulations and evaluate potential options inclusive of distributed, on-site power generation
4. Exit Interview and suggested draft final planning document for the port
5. Work closely with port power provider



Why This Matters: Potentially reduce power costs for the port and tenants along modernizing port power systems funded by future federal/state grants using these data

PORT POWER RESILIENCE ASSESSMENT TEAM
ELECTRICAL & INFRASTRUCTURE REVIEW

1. System & Connection Data

- Identify the port's electric utility provider/personnel and review any available feeder, reliability, or service data
- Existing on-site generation and storage (generators, solar, batteries, and shore power capacity).

2. Load & Operations

- Annual electricity use (kWh) and peak demand (kW).
- List of critical loads with approximate kW and maximum allowable downtime.
- How loads vary by time of day and season (ship calls, harvest/export peaks, etc.).

3. Reliability & Impacts

- Outage frequency and duration, power-quality issues.
- Estimated costs of outages (labor disruption, cargo spoilage, penalties, equipment damage).

A short questionnaire will be sent in advance so you can gather this information before our visit

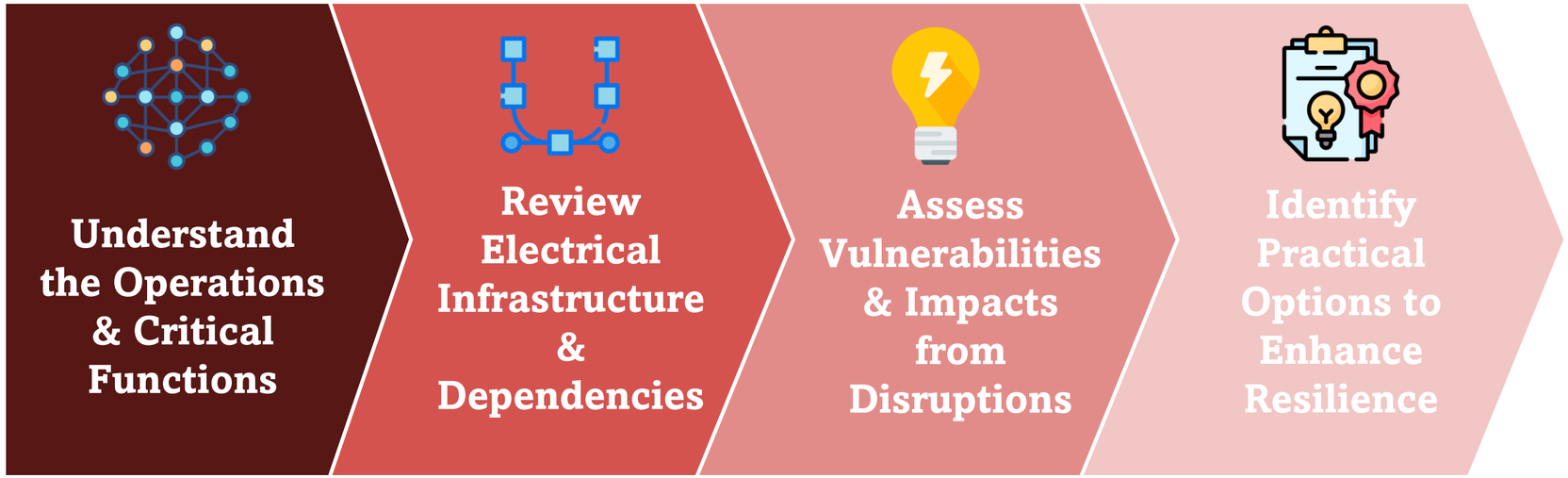
PORT POWER RESILIENCE ASSESSMENT TEAM

ASSESSMENT & ENHANCEMENT PLANNING

Goal: Evaluate and strengthen port's ability to maintain critical operations during power disruptions along with potential grid-rigoring up options - working in unison with the port's power provider.

Note this team will work with the water/wastewater team to also enhance resiliency of water-based utility assets at the port.

Key Steps for Port Resilience Assessment:



Why This Matters: **To help the port maintain safe, reliable operations during storms, outages, and emergencies (aka. power and utilities resiliency).**

PORT POWER RESILIENCE ASSESSMENT TEAM

UNDERSTANDING PORT OPERATIONS

Initial Discussion

Walkthrough of port layout, operations, and priorities.

Electrical & Infrastructure Review

Utility feeders, substations, main distribution, backup generators, shore power, and batteries.

Critical Operations and Load Mapping

Identify critical and less critical (important but deferrable) loads.

Outage and Incident Review

Past storms, grid events, equipment failures, and how they impacted operations.

Preliminary options discussion

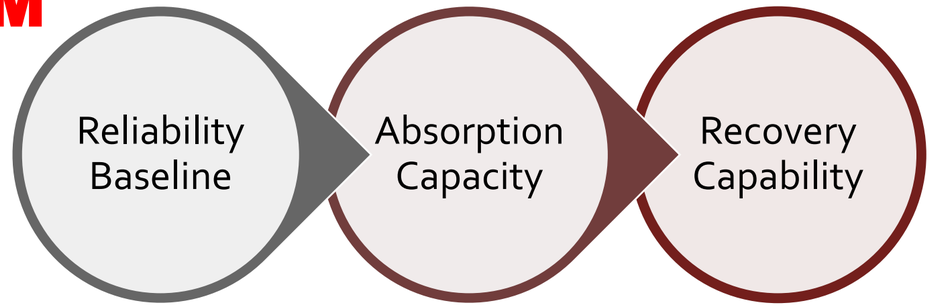
Initial thoughts on gaps and potential resilience strategies

Applies to both the Resiliency Team and the Energy & Power Assessment Team

Unique to the Resiliency Team

PORT POWER RESILIENCE ASSESSMENT TEAM

INITIAL RESILIENCE BASELINE ASSESSMENT



- **This assessment framework helps us document the port's baseline resilience by evaluating reliability, backup capability, and recovery processes.**
- **The scorecard below captures this information in a concise and consistent way to support future planning and improvement.**

EXAMPLE PORT RESILIENCE CAPACITY SCORECARD

Section	Category	Score (0-5)	Notes
Reliability Baseline How reliable is the port during normal grid conditions?	How often does the port experience power outages (planned + unplanned)?		
	How long do outages typically last?		
	Does the port experience power quality issue?		
	How severe have past electrical failures been, and how significantly did they impact operations?		
		0	
Absorption Capacity How well can the port withstand a disruption?	What percentage of critical operations have backup (genset/UPS)?		
	Does the port have redundant power paths or N+1 generator capability?		
	Are must-run loads (reefers, gates, fuel pumps, security) protected?		
		0	
Recovery Capability How well the port can restore power and operations after something goes wrong.	How clear, documented, and tested are the port's electrical and operational restoration procedures after an outage?		
	How quickly and consistently can the port detect, respond to, and start restoring service after an electrical incident and do they actually track those response times?		
	Does the port have a clear plan for continuing or gradually resuming operations (even partially) while full power is being restored?		
		0	
Total Score		**0**	

PORT EMISSIONS INVENTORY ASSESSMENT TEAM

TARGETED EQUIPMENT AND OPERATIONS

Goal: Estimate carbon releases from port-related activities while also proposing potential reduction methods

EXPECTED MAJOR EQUIPMENT

- In-Port Ocean Going Vessels Operations (Shore Power)
- Harbor Craft (Tugs, etc)
- Cargo Handling Equipment
- Drayage Trucking
- In-Port Rail Locomotives
- Port Maintenance Equipment
- Stationary Equipment (Refrigeration)

ARE WE MISSING ANY EQUIPMENT (OTHER THAN POWER) FOR YOUR PORT?

PORT EMISSIONS INVENTORY ASSESSMENT TEAM
SCOPE DEFINITION FOR AIR QUALITY TEAM

STATIONARY COMBUSTION

- Any combustion source that does not move (has a square footage rating)
- Any source that has an emissions profile
- Electricity production emissions will be closely related with energy and power team to prevent ‘double-dipping’
- Requires close communication regarding ‘geographical or boundary scope’

MOBILE COMBUSTION

- Combustion sources that move, via wheels, tracks, or rails - or travel over the water within the targeted area of interest
- Some large-scale equipment is also counted as ‘mobile’ (per EPA), such as larger, conventionally stationary cranes
- This is the largest emissions category during port activity operations

PORT EMISSIONS INVENTORY ASSESSMENT TEAM:
DETERMINATION OF GEOGRAPHICAL SCOPE (I.E. BOUNDARY OF PORT ASSESSMENT)

LAND-SIDE BOUNDARY

- All ground port-related activities occur here
  - Cargo terminal loading/unloading
  - Travel on port roads
  - Common drayage route travel
  - Rail lines cargo movement
- Note that 'port-related activities' is broad, and requires communication regarding the assessment purpose

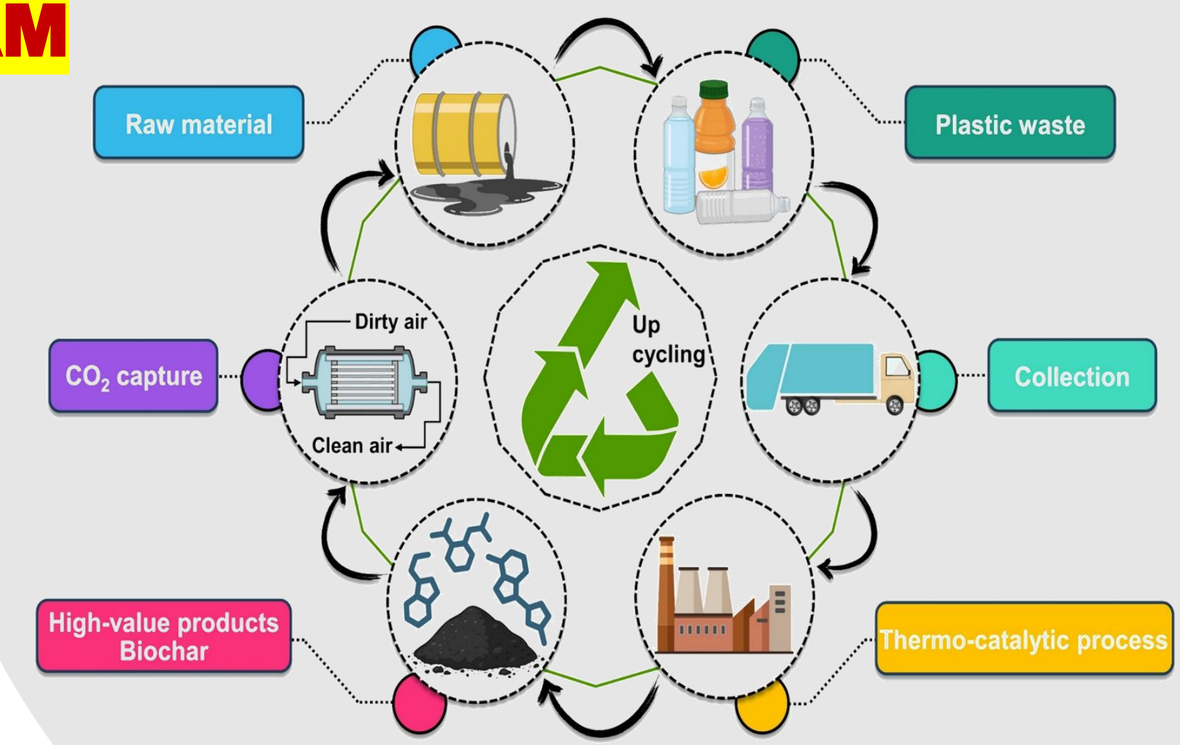
MARINE BOUNDARY

- Zone-based according to vehicle (or boat) activity
  - Maneuvering areas
  - Hotelling areas
  - Anchorage zones
  - Speed-limited zones
- Each individual port will require careful determination of the size and inclusion of these zones based on assessment goals (want to ensure that appropriate emissions/power usage are tied to actual port activities and not transport into the port areas

WATER, WASTEWATER, AND SOLID WASTES ASSESSMENT TEAM

PORT/TENANT WASTE UP-VALUING

- **Evaluate non-power utility resources inclusive of tagging a carbon footprint to these resources**
- **Evaluate modification/change options as requested**
- **Assess if co-products could be produced from port waste streams**
- **Interested port tenants can reach out to us, through their home port, about opportunities that may be available for their wastes**



Example of Plastic Waste Upcycling

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WATER, WASTEWATER, & SOLID WASTE ASSESSMENT TEAM

OVERVIEW OF TEAM ACTIVITIES/GOALS

Goals of this Task:

- Identify opportunities to:
  - Reduce non-energy resource use
  - Reduce operating costs
  - Utilize federal funding opportunities
- Provide:
  - Information needed to compete for federal and state funding opportunities
  - Recommendations for improvements to the port's management practices

How will we accomplish this?

Water

- Evaluate current water use at the port
- Evaluate water management practices within the port with the goal of reducing water use and ecological footprint
- Identify opportunities to reduce water use and operating costs related to water usage

Wastewater

- Evaluate current wastewater requirements and management practices
- Identify opportunities to reduce associated operating costs
- Identify opportunities to improve wastewater treatment capabilities at the plant

Solid Waste

- Evaluate current solid waste management practices and requirements
- Identify opportunities to convert wastes into energy or value-added products
- Evaluate the merits of including a waste reduction program at the port

H2O Resiliency

- Evaluate the port's ability to maintain access to safe drinking water and wastewater treatment during and after disasters
- Identify opportunities to improve the port's water and wastewater resiliency

ECONOMIC DEVELOPMENT & COMMUNITY BENEFITS ASSESSMENT TEAM

ASSESSMENT & ENHANCEMENT PLANNING PROCESS

Specific Goal of the Team: Assess port economic development plans and activities, community impacts, and potential job training needs.

Key Objectives for Port Resilience Assessment

Why This Matters: To support growth and development of the port and its surrounding community.

ECONOMIC DEVELOPMENT & COMMUNITY BENEFITS ASSESSMENT TEAM

WORKFORCE: DATA COLLECTION AND INPUTS

Workforce Development:

- Regional economic and demographic data
- Direct employment numbers and wage & benefits data by job category/position type – particularly tied to the port area
- Union agreements and prevailing wage information
- Existing workforce development plans, strategies, or activities; or relevant info from port master plans, annual reports, etc.
- Existing job training programs from port, its tenants, or through partner organizations (e.g. college/university partners, apprentice programs, safety and certification programs, etc.)
- Regional educational assets/resources
- Skills gap assessments or workforce needs analyses
- Community goals and vision

ECONOMIC DEVELOPMENT & COMMUNITY BENEFITS ASSESSMENT TEAM

COMMUNITY BENEFITS: DATA COLLECTION AND INPUTS

Community Benefits:

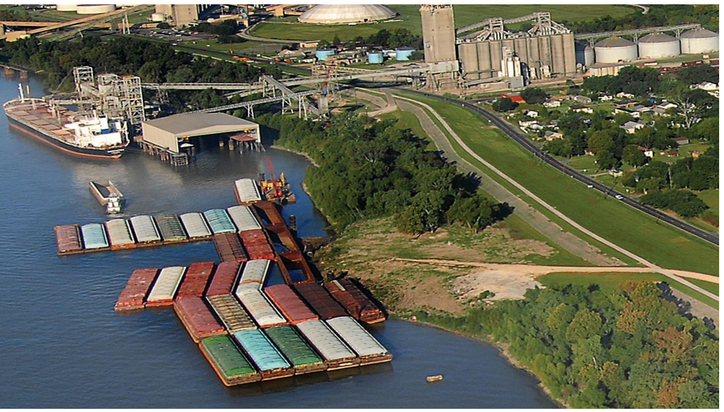
- Regional economic and demographic data
- Existing community benefits plans, strategies, or activities; or relevant info in port master plans, annual reports, etc.
- Relevant community stakeholder partners and entities; existing relationships, interactions, or activities.
- Processes for community input
- Property tax, lease, and public revenue data
- Partnership agreements (CEAs) with local government
- Emergency response plans
- Sustainability or environmental impact reports

ECONOMIC DEVELOPMENT & COMMUNITY BENEFITS ASSESSMENT TEAM

NEXT STEPS: INITIAL OUTREACH AND DATA COLLECTION

1. Initial outreach from Blanco Center team to establish communication channels with ports
2. Organize calls/meetings with port officials to collect data and inputs
3. Plan and schedule port visits, stakeholder/community meetings, and other input gathering activities
4. Review and compile data and inputs, gather data from public sources
5. Gather follow-up input and data as needed
6. Draft first-cut port-specific plans
7. Integrate data-gathering and data management tools with other project teams and LDOTD

Some activities to date…



- **Working with the EPA on project initiation, contracting, and program/project reviews (3X DOGE)**

- **Assisting numerous north Louisiana ports with economic development initiatives/assessments**
- **Potential siting of:**
  - **Two green ammonia plants at two ports**
  - **Digester company at a central LA port**
  - **Carbon black plant in South LA**
  - **National LNG center at Lake Charles**
  - **National LNG R&D center in LA**
  - **Biomass conversion technologies for central and northern LA ports**
  - **Solar panel units at Northern LA port**
- **Outreach of technology information to port personnel**
- **Evaluating issues relating to proposal development and grant implementation**
- **Building website and library (website in construction phase)**
- **Hiring/Training our staff and refining data collection strategies**

SPECIAL THANKS AND DEEP APPRECIATION BY THE UL TEAM TO:

- **All of the Louisiana ports for the assistance and insights**
- **Molly Bourgoyne, LDOTD**
- **Julia Fisher-Cormier, now at the Port of South Louisiana**
- **VJ Gopu, LTRC**
- **Ben Russo (Central La Port)**
- **Greg Richardson (Columbia Port)**
- **Andrew Kilshaw, LDOTD**

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

LOUISIANA ENERGY EXTENSION SERVICE
University of Louisiana at Lafayette

WE HOPE THAT OUR EPA PORT PROJECT TEAM AND YOUR TEAM CAN WORK TOGETHER TO BETTER POSITION YOUR PORT FOR SUCCESSFULLY COMPETING FOR FUTURE FUNDING THROUGH PROVISION OF KEY ADDITIONAL INFORMATION ALONG WITH POTENTIALLY OFFERING GRANT PREP AND IMPLEMENTATION ASSISTANCE.

NOTES:

1. **This planning grant funded by the USEPA will provide foundational information to assist with future grants**

2. **The EPA Ports Project Team will provide insights into potentially obtaining future grants**

3. **The Project Team will also assess methods to improve port grant obtainment such as potential grants writing, grants implementation, and identification of new grants opportunities**

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A COLLECTIVE PLANNING INITIATIVE TO ASSIST WITH BETTER ENERGIZING LOUISIANA PORTS

PROJECT PRINCIPAL INVESTIGATOR/PROJECT LEAD:
Ms. Mary "Molly" Bourgoyne, PE, MPE, (Civil Engineer) Director of Ports, LDOTD Multimodal Commerce Division

LOUISIANA TRANSPORTATION RESEARCH CENTER (LTRC) LEAD:
Dr. V.J. Gopu, PE, (Civil Engineer) Associate Director of the LTRC

UNIVERSITY OF LOUISIANA AT LAFAYETTE (UL) LEAD:
Dr. Mark E. Zappi, PE, (Civil and Chemical Engineer) Executive Director of the Energy Institute of Louisiana, Director of the Louisiana Energy Extension Service (LEES), and Chaired Professor of Chemical Engineering

Any Questions? Connect with us!

Refer Project Implementation Questions to:

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Project CO-PI and Project Facilitator

QUESTIONS? COMMENTS?

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

EPA CLEAN PORTS PROGRAM

ENERGY INSTITUTE OF LOUISIANA
UNIVERSITY OF LOUISIANA AT LAFAYETTE

THE PROJECT TEAM LOOKS FORWARD TO WORKING WITH EACH OF YOU!

We are seeking your honest inputs to maximize this project's positive impacts to valuable our ports.