AMERICA'S CENTRAL PORT
Resilient Infrastructure Strategy

AMERICA'S CENTRAL PORT

About the Resilient Infrastructure Strategy

America's Central Port is committed to enhancing facilities and stimulating private investment, while addressing environmental sustainability and infrastructure resilience against extreme weather events. To advance these goals, ACP is developing a Resilient Infrastructure Strategy ("the Strategy") to improving infrastructure resilience based on technical analyses and stakeholder input.

For more information on the Strategy's overall goals and expected outcomes, please click here.

We want to hear from you!

A selection of potential projects addressing energy, natural hazard resilience and GHG emissions reductions have been identified. We want to hear your input and ideas. Please see those on the next page!

Please email Christie Voelker, Director of Planning, with your feedback on the preliminary projects or with any questions: **cvoelker@americascentralport.com**

Practical Applications of the Strategy

Strategic Planning
Prioritize capital investments to improve competitiveness for grants.

Operational Risk Mitigation
Insulate the Port and local economy from negative weather impacts.

Regulatory Readiness
Prepare for evolving market trends and regulatory requirements for GHG and climate risk disclosures.

Business Competitiveness
Set emission reduction targets and attract customers prioritizing environmental practices.

Financial Responsibility
Invest in projects that offer cost savings and environmental returns.

ACP's Infrastructure Risk & Resilience Assessment

Several technical studies have been completed in support of the Resilient Infrastructure Strategy. One of the studies set out to evaluate ACP's Infrastructure Risk and Resilience to understand how natural hazards may impact ACP's assets and systems. The study was based on industry-standard practices of integrating historical climate data, current infrastructure conditions, and future climate projections to identify opportunities for improved resilience. The assets that were evaluated as part of that assessment are shown below along with a selection of priority hazards that were assessed.

Evaluated Assets Categories

Priority Hazards

Heat Stress
Strain on the built environment and human health resulting from high temperatures

Cold Stress
Strain on the built environment and human health resulting from low temperatures

Inland Flooding
Inundation of normally dry land due to fluvial (riverine), pluvial (percipitation), or groundwater flooding

Severe Storms
Weather events capable of producing dangerous conditions such as tornadoes, straight-line winds, lightening, and hail

Low River Levels
Water stress occuring when there is not enough water to meet operational needs

Supported by: RAMBØLL

AMERICA'S CENTRAL PORT
Resilient Infrastructure Strategy

AMERICA'S CENTRAL PORT

Supported by: RAMBOLL

Preliminary Projects - Your Input is Valuable!

Co-benefits that were considered include: Proactive Emission Reduction, Improved Local Air/Health, Improved worker health & safety, Partnership Opportunities, Operational Cost Savings, Improved Resilience, Increased vegetation, Heat island reduction, & Added amenity

No.	Applicability	Proposed Resilience Projects	Return-On-Effort
1	Future Master Plan Projects	**Develop Sustainable Construction Guidelines and Pre-Build GHG Assessments:** Integrate environmental criteria such as pollution minimization, energy-efficient design, waste reduction and resource conservation into construction contracts. Additionally, conduct greenhouse gas (GHG) assessments prior to construction to evaluate the project's environmental impact and assess opportunities for improved long-term environmental health and energy efficiency.	✶✶✶
2		**Shore Power Readiness for Future Cruise Terminal:** Add to project feature setting up shorepower infrastructure for idling reduction of cruise vessels. Shore power supplies vessels with electric power form a land-based electrical grid while the vessel is docked, which has a lower cost for smaller inland river vessels than ocean-going vessels where it is more commonly implemented.	✶✶
3		**Prioritize Hybrid Equipment in Future Railyard Projects:** Prioritize procurement of hybrid cranes, railcar movers, or other cargo handling equipment for the upcoming Master Plan railyard projects, to improve fuel efficiency and reduce direct emissions.	✶✶✶
4		**Install Visit Tracking System at Truck Access Gate:** Establish an automated truck trips counting system to enable more accurate estimation of drayage traffic at the Port, which can be used for more accurate emissions quantification in the future.	✶✶
5		**Install Solar Canopy for Parking in New Commercial Developments:** Install solar photovoltaic (PV) canopies in parking areas for new commercial developments to generate renewable energy and reduce overall energy costs. These canopies also provide shaded parking, which contributes to cooler temperatures in surrounding areas.	✶
6	Goods Movement Operations (voluntary measures)	**Use of Renewable Diesel in Freight Operations (Trucks, Towboats, CHE):** Replace traditional diesel with renewable diesel as a drop-in fuel alternative that reduces GHG emissions. While the switch is operationally simple, incremental cost and supply remain important factors to consider given the market is not yet fully mature in Illinois. However, availability and affordability are expected to increase over time, positioning renewable diesel as a practical long-term option.	✶✶✶
7		**Upgrade to Hybrid Towboats:** Consider hybrid-electric options/retrofits that improve fuel efficiency and associated emissions for towboats that are suitable for replacement or retrofit. Sources of funding are available through various federal and state programs (such as the U.S. Department of Transportation Maritime Administration's Port Infrastructure Development Program [PIDP] and the U.S. EPA Clean Ports Program), with an opportunity to partner with ACP to pursue these funding sources in the future.	✶✶
8		**Upgrade to Hybrid Cargo Handling Equipment (CHEs):** Upgrade cranes or other CHEs with hybrid options during end-of-life replacement to improve fuel efficiency and reduce direct emissions. Sources of funding are available through various federal and state programs, with an opportunity to partner with ACP to pursue these funding sources in the future.	✶✶✶
9		**Upgrade to Electric Cargo Handling Equipment (CHEs):** Upgrade cranes or other CHEs with electric options during end-of-life replacement to improve fuel efficiency and reduce direct emissions. Sources of funding are available through various federal and state programs, with an opportunity to partner with ACP to pursue these funding sources in the future.	✶
10	Docks & Berths, Terminal Areas	**Enhance Structural Integrity of Docks/ Terminals:** Enhance structural integrity of docks and terminal areas to meet loads of future forecasted severe convective storms and riverine flooding.	✶✶
11	Commercial Buildings, Electrical Supply Infrastructure	**Elevate, Wet-, or Dry-proof Critical Systems and Equipment:** Relocation of critical and sensitive equipment out of depressed or low-lying areas. For new developments or installations, refer to floodplain and precipitation mapping to aid in site selection.	✶✶✶
12		**Acquire Back Up Generators for Critical Systems:** Install redundant power supply to ensure continuous operation of essential systems during power outages caused by natural hazard events or other disruptions, safeguarding vital infrastructure and services.	✶✶✶
13	Buildings and other ACP Assets	**Ensure Adequate Supply of Deployable Storm Defenses:** Plan and store a robust supply of deployable storm/flood defenses such as sandbags, pallets, bricks, pumps, ramps, pontoons, fenders, and birthing facilities.	✶✶
14		**Develop an Emergency Response Plan:** Develop an Emergency Response Plan for all port operations and regularly review climate event response operational protocols (e.g. preparation, response training, evacuation, disaster plans).	✶✶✶
15	Stormwater & Sewer Infrastructure	**Install Nature-Based Stormwater Management Systems:** Install sustainable drainage systems (SuDS), such as shallow landscape depressions, gullies, flood conveyance, reed-beds, rain gardens, bioswales, and other nature-based stormwater management systems.	✶✶✶
16		**Implement Redundant Dispatch of Pumps & Gates During Flood Events:** Implement redundant dispatch of the pumps/gates at the waste water treatment plant on campus during flood events (potentially as part of the Emergency Response Plan)	✶✶

Return-On-Effort is a assessment of the positive impacts (risk mitigation, energy savings, GHGs reductions) versus the costs and effort of implementation of the projects.

✶✶✶ Low-cost, easy-to-implement projects with strong gains relative to the level of effort
✶✶ Moderate-cost and/or moderate effort to implement with reasonable gains relative to investment
✶ Higher-cost projects and/or more complex than other measures in this group with reasonable gains

Please email Christie Voelker, Director of Planning, with your feedback on the preliminary projects or with any questions about the Strategy: cvoelker@americascentralport.com