



MARAD

Climate Change Adaptation Considerations

DOT CCCEF - Climate Adaptation and Mitigation Workshop



Maritime Sector Vulnerabilities



- Port infrastructure
 - owned and operated by public agencies or private firms
 - built to many different standards
 - environmental risk is varied
- Ship construction and repair facilities
 - similar variance in infrastructure as ports
 - inland vs. coastal
 - specific to level of repair/expertise
- MARAD fleet facilities and out-port docks
 - lease facilities from other entities
 - similar concerns



Relevant MARAD Programs/Projects



- Ports and Inland Waterways
- Port and Terminal Expansion Infrastructure projects
- Port Conveyance projects
- Title XI Financing and Small Shipyard Grant projects
- Ship Operations
- Office of Environment - NEPA
- Office of Acquisitions
- Office of Chief Counsel



Recommendations



- **Port and Terminal Infrastructure Projects**
 - led by Office of Port Infrastructure Development and Congestion Mitigation
 - provide federal oversight and coordination of projects
 - act as a central procurement organization, leveraging federal and non-federal resources
 - streamlining the environmental review and permitting process

- **Recommendation**
 - ensure that an analysis of vulnerabilities be considered
 - consider climate change adaptation during project planning and during the NEPA evaluation



Recommendations



- Port Conveyance Projects
 - property being conveyed must be used and maintained as a port facility
- Recommendation
 - inform applicants of climate change implications
 - acknowledge and consider adaptation/mitigation as part of the application



Recommendations



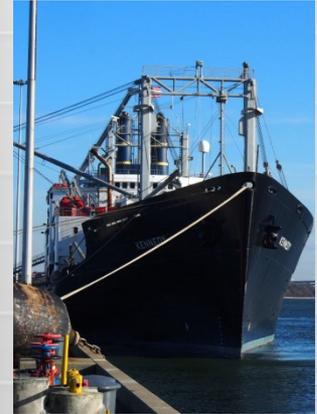
- Title XI Financing and Small Shipyard Grants
 - financial incentives for various projects that may include ship building, purchasing of equipment, facility improvements, etc...
- Recommendation
 - ensure that an analysis of vulnerabilities related to climate change be considered as part of the application process



Recommendations



- Ship Operations
 - although primarily vessel oriented, there are associated landside facilities and mooring berths
 - NDRF
- Recommendation
 - solicitations for berthing facilities should require that offerors conduct an assessment of vulnerabilities and make provisions
 - similar requirements should be considered for contracts with shipyards and ship repair facilities



Recommendations

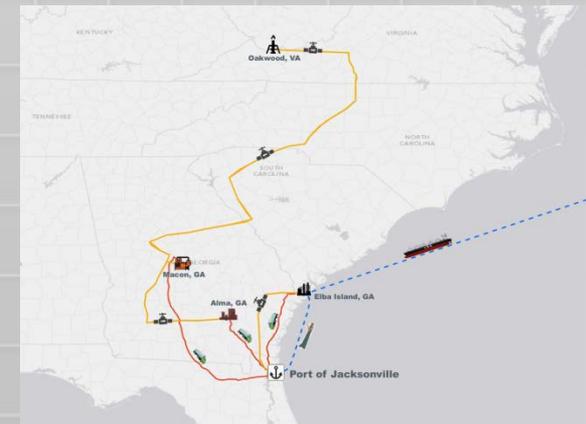
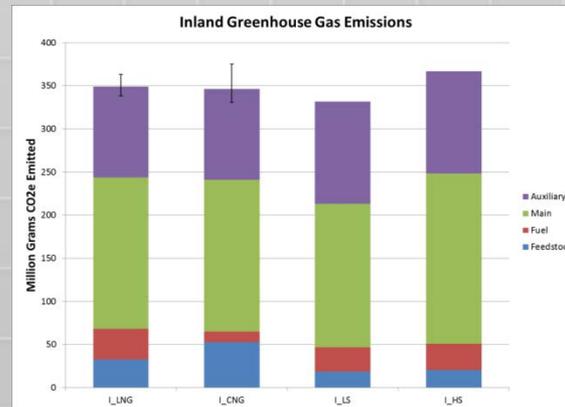
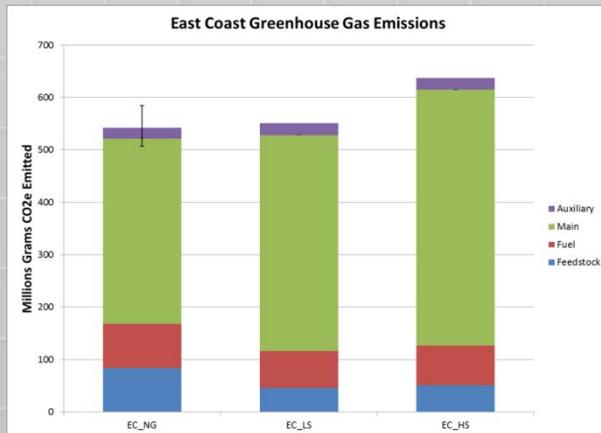
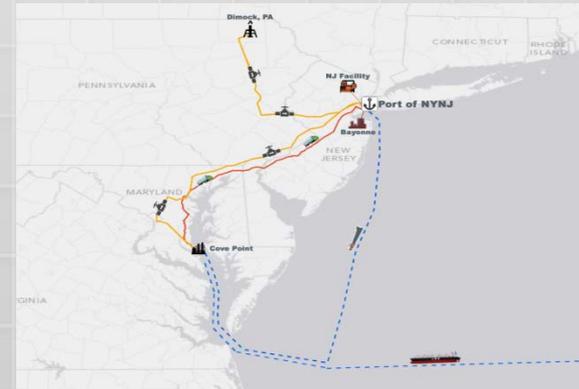


- **Office of Environment**
 - encourage climate change adaptation has been addressed when conducting reviews of NEPA documents.
- **Office of Acquisitions**
 - incorporate adaptation policies into procurement actions
- **Office of the Chief Counsel**
 - ensure adaptation policies are within the Agency's authority

Other



- **Maritime Environment and Technical Assistance (META) Program**
 - Alt fuel and natural gas research
 - feasibility studies, GHG total fuel cycle, etc...
 - Multimodal emissions and energy consumption modeling tools
 - TEAMS, WebGIFT
 - Alt technology research
 - fuel cells



POCs

- **Adaptation -**

Carolyn Junemann

carolyn.junemann@dot.gov

202-366-1920

- **Mitigation -**

Daniel Yuska

daniel.yuska@dot.gov

202-366-0714