NSF EPSCoR: Building Research Capacity
Congressional Briefing
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Maine EPSCoR:
From EPSCoR to Market
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Fundamental Research → Technological Innovation

Specific challenges that directly impact societal needs
Maine EPSCoR has been building research capacity since it became an EPSCoR state in 1980.

Maine EPSCoR is located at the University of Maine, which is the state’s flagship research institution & only PhD-granting university.

Three recent NSF EPSCoR RII program examples demonstrate economic impact ability for the state.
UMaine Advanced Structures and Composites Center

NSF EPSCoR RII 1996-1999: $5M, three-year award for construction of a 30,000 sq. ft. facility for engineered wood research at UMaine.

- Global recognition as a one-stop shop for integrated composite materials development.

- Over $80M in grants and contracts
- 13 patents granted
- 68 faculty & 100+ students/year
UMaine Advanced Structures and Composites Center

- Public infrastructure/construction, consumer products, force protection, & homeland security.
- ISO 17025 accredited with 10 integrated labs
- Facility now 87,000 sq. ft.
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Advanced Structures and Composites Center

- Leading the way in deep offshore wind research.

- New 37,000 sq. ft. laboratory for design, manufacturing, & testing.
UMaine Forest Bioproducts Research Institute

NSF EPSCoR RII 2006-2009: $6.9M, three-year award to support research on separating wood components into chemicals and extracts for new uses.

- Seeking to create and commercialize new wood bioproducts for both existing and new industries
- Supported over 50 faculty and 100 students
- Acquired over $3.5M in major research equipment for the state
UMaine Forest Bioproducts Research Institute

- From UMaine laboratory to industry demonstration project with major private investment
- Added value to existing paper pulping processing stream
- Resulted in $30M DoE grant to industry partner to commercialize technology for jet fuel
UMaine Forest Bioproducts Research Institute

- Resulted in $4.8M state bond funding for new FBRI technology center located at industry partner
- Over 20 patents issued or in process
- Subsequent external funding from NSF, USDA, DoD DoE, DoT
Maine’s Sustainability Solutions Initiative

NSF EPSCoR RII 2009-2014: $20M, five-year award to examine publicly-defined ecological, social, & economic issues in order to develop solutions for sustainability for the state

Statewide engagement for maximum impact:
- 11 colleges & universities collaborating on research & education in sustainability science
- supporting over 110 faculty and 220 student research internships
Maine’s Sustainability Solutions Initiative

Different type of investment in statewide capacity:

- Public stakeholders help to drive the research questions
- Landscape change model: intersection of urbanization, forest ecosystem management, and climate and energy
- Sustainability science approach takes longer to mature to economic impact
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Maine’s Sustainability Solutions Initiative

Tidal Power Project:

- Public and private stakeholder engagement
- Significantly leveraging other federal and private funding
- NSF EPSCoR added new dimension to project
Maine’s Sustainability Solutions Initiative

Brown Ash Project:
- Economic development for Maine’s tribal communities

Extreme climate events:
- Rising sea levels & coastal concerns
- Storm water runoff
Maine EPSCoR: From EPSCoR to Market

- High return on investment
- EPSCoR projects align with state S&T action plan
- Maine Innovation Economy Advisory Board is State EPSCoR Committee