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## The Opportunity

Maine's forest products industry is critical to the state's economy, with an estimated \$8.5 Billion in economic impact, equal to \$1 out of every \$20 of the state's GDP. Maine is 89 percent covered by one of the most advanced, productive and sustainable resources imaginable—the forest. Maine's forests have been the longstanding anchors for the state's overall economy, and for generations Maine families and communities have thrived because of them. Maine forest communities can once again be thriving with high-quality jobs for Maine people.

FOR/Maine's vision is that Maine will be a global leader in the forest products economy with a thriving, innovative and diverse industry that provides good jobs in vibrant Maine communities. Maine has the forest resources and the economic assets, including a skilled workforce, industry infrastructure and the University of Maine's renowned research and development facilities, to be a global forest products leader.

Through a collaborative effort with industry, government, academia and community leaders, FOR/ Maine has developed a bold strategic plan based on sound data. Phase One of the Forest Opportunity Roadmap established an important baseline for Maine's forest economy, and Phase Two work has already begun.

**This document seeks to benchmark the accomplishments of Phase One of the FOR/Maine Project and build on the success going into Phase II implementation with an updated action list crafted by the Executive Committee of FOR/Maine. The format outlining Goals, Strategies, and Action Items is designed to communicate to all stakeholders their opportunity to contribute to the strategic plan. Responsibilities are indicated for:**




- Industry Partnership
- University of Maine
- Maine Policymakers
- State of Maine Executive Branch
- Federal Policymakers
- Municipalities

**Phase II of the project is organized into the broad categories of:**


- **Goal:** Sustain and grow Maine's existing and emerging forest products economy, reaching \$12 Billion in economic impact by 2025.
- **Goal:** Manage the wood resource using sustainable and responsible forest management practices.
- **Goal:** Prepare workforce for the future of the forest products economy.
- **Goal:** Increase prosperity in Maine forest economy communities, especially those in rural Maine, including those affected by mill closures.

**Goal: Sustain and grow Maine's existing and emerging forest products economy, reaching \$12 Billion in economic impact by 2025.**

**Strategy: Maine must have a clear and coordinated economic development approach to attract capital investment for the forest products sector.**

   **Action:** Establish a forest products capital attraction team to target business attraction and expansion:

- **Report On Action:** A pilot MOU among DECD, Maine & CO, University of Maine and MFPC to establish the business lead triage/concierge team is underway, and lead generation with Indufor underway.
- **Next Steps:** Support successes from MOU pilot phase in a long term forest products capital attraction effort. An option to consider includes co-funding a marketing position with DECD, Maine and Co, and the University of Maine.

 **Action:** All State of Maine agencies should provide a high level of customer service to help new and expanding businesses navigate regulatory and financial incentives, including industry specific areas of expertise:

- **Report On Action:** A coordinated effort was made to ensure inclusion in the language of the Economic Recovery Committee (ERC) Report.

### KEY:



Executive Branch



Maine Policymakers



Federal Policymakers



State of Maine



University of Maine




Industry Partnership



Municipalities


- **Next Steps:** Continue to foster coordination of business development services for natural resource industries.

**Strategy: Attract capital investment in new and innovative forest products.**

 **Action:** Establish tax rebates or favorable depreciation rates to encourage greater capital investment in Maine forest products industry:


- **Report On Action:** With the establishment of Opportunity Zones, education on the program was provided to FOR/Maine communities.

- **Next Steps:** Support an Investment Tax Credit for Commercial Wood Energy.

 **Action:** Re-invest in Maine's New Markets Tax Credit program, which has been demonstrated to create positive returns to Maine taxpayers. Support the extension of the federal New Markets Tax Credit program. Increase the cap on Seed Investment Tax Credit for Maine businesses:


- **Report On Action:** A coordinated effort was made to ensure inclusion in ERC Report. The federal program was recently extended for 5yrs at 5 billion dollars a year and strong support at the federal level allows the state program to be more effective over the long term.

- **Next Steps:** Continue support of programs like New Markets Tax Credit and the Pine Tree Development Zone Program that have been vetted through the legislature and OPEGA and continue to show positive net benefit to the economy.

 **Action:** Reinstate the biofuels production tax credit already in statute and create renewable chemicals production tax credit similar to competing states:

- **Report On Action:** Renewable Chemicals Production Tax Credit was successfully passed, and the biofuels production tax credit was reinstated.

- **Next Steps:** Encourage companies to take advantage of available programs by providing a resource guide to those programs.


 **Action:** Make financing through the Finance Authority of Maine more accessible:


- **Report On Action:** FAME recommendations were included in the ERC Report.

• **Next Steps:**

- Expand the capital base of FAME and re-establish a Natural Resource Lending Group.
- Increase available capital base for direct lending and insured loans, which will allow FAME to take more risk in terms of investments in pushing forward new tech.

- Increase SEED Capital Tax Credit Cap.

 **Action:** Increase funding for Maine Venture Fund focused on commercializing innovation in the Forest Products Industry (EG Chamberlain fund as described in ERC).

 **Action:** The State of Maine should take a leadership position to stimulate demand for forest products. Procure products that use wood whenever possible: adopt a building code that promotes the use of Cross-laminated Timber (CLT) and other mass timber building materials, require consideration of mass timber for new building construction, promote modern wood heat systems for schools, office buildings, and institutions, and adopt purchasing preferences for wood based plastics:


- **Report On Action:** Lead by Example was included in the 10-Year Economic plan with direct ties to forest products, this language was mirrored in the ERC Report. The Governor signed an Executive Order during the fall of 2019 that mandates the state consider use of indigenous resources, including wood, for state facilities. The Governor signed LD 375/Chapter 53 in 2019 which mandates a review of wood energy systems in new school construction/renovation.

Building Codes adopted and include the use of mass timber.

• **Next Steps:**


- Take action on LD375 Chapter 53.
- Support the development of mass timber, including Cross Laminated Timber (CLT) through innovation support, incentives, marketing programs and building codes.

- Support application innovation. Demonstrate and validate technology and species selection for mass timber, and advise small mills on how to produce necessary grades. Support the provision of proof testing/loading for mass timber companies in the state.
- Develop a model to demonstrate the carbon benefit of building with mass timber.
- Incentivize a manufacturer to attract mass timber production, with the goal of breaking ground in next 18 months.
- Promote manufacture through increasing demand for mass timber in the state through exploration of purchasing agreements, lining up future projects, considering applications to affordable housing, etc.
  - Provide Technical Assistance for existing sawmills, engineers, architects and contractors on the manufacture, use and benefits of CLT.
  - Support continuation of the Maine Mass Timber Commercialization Group.

 **Action:** Coordinate state, non-profit and University of Maine business development efforts:


- Continue development of a state database for business attraction and ensure inclusion of opportunities for forest products site development.

**Strategy: Accelerate innovation in new forest products and applications to strengthen Maine's leadership position.**


 **Action:** Authorize a \$10 Million forest products innovation fund requiring 1:1 private match:

- **Report On Action:** MTAF with MTI for forest product innovation was established, resulting in the award for \$750,000 each to BioFine and GoLab. The recommendation for further support was included in ERC and the Climate Plan.
- **Next Steps:**
  - Continue funding to MTAF, with funds to support climate action, and economic recovery that can be taken advantage of by the forest economy (higher end capital to support expansion and accelerate new markets, design challenges, and accelerated commercialization).


- Develop a mechanism similar to the Maine Economic Improvement Fund that is focused on forest products innovation tied to commercialization and acceleration.

 **Action:** Increase funding for forest products Research & Development at the University of Maine:


- **Report On Action:** Extensively included in the ERC report and Climate Plan.
- **Next Steps:**
  - Increase funding to support the translation of emerging technologies into commercial ready applications.
  - Support technology challenges for known technologies that utilize available raw material.
  - Incentivize R&D that demonstrates commitment to a circular bioeconomy.
  - Support UMaine to provide technical assistance/analysis support for applications of forest products technologies.

 **Action:** Wrap in R&D to Green Recovery Stimulus plan at federal level:

- Identify ways to leverage federal recovery programs to accelerate R&D commercialization, demonstration and deployment.


 **Action:** Accelerate the development of nanocellulose research and applications by incentivizing production and use, promoting paper and packaging related applications and increasing innovation support:

- Identify and promote biomaterials tax credit applications for nanocellulose.
- Incentivize replacement of PFAS/binders/barrier materials and other advanced materials.
- Increase R&D funds for the development of uniform CNF from residuals/multiple feedstocks, and support technology challenges and trade visits.



 **Action:** Continue to support applied research development and demonstration of forest-based materials for replacement of petroleum-based plastic:

- Support the development of wood-sugar extraction for production of polylactic acid (PLA) bioplastics for packaging and 3-d printing.

- Continue to fund R&D into nanocellulose/Macrocellulose for 3-D printing larger structures such as boats and building components.



 **Action:** Leverage state procurement to develop demand for forest products:

- Lead by example to leverage the purchasing power of the state to support forest products innovations including mass timber and CHP/biomass.
- Incentivize local purchases of forest product materials and leverage off-take & purchasing agreements to build demand.

  **Strategy. Make Maine's policy environment more stable and predictable for investors and employers by not taking actions where none are necessary.**

- **Report On Action:** Maintained stability and predictability.
- **Next Steps:**
  - Improve ease of doing business in Maine by increasing TA/concierge services available to companies navigating permitting.
  - Continue recommendations in climate action/ERC on streamlining permitting activities.
  - Align with business and industry for continuous improvements and consistency in the state business climate.
  - Ensure regulatory stability.
    - Ensure stability in land and business taxation.


**Strategy. Encourage markets for sawmill residuals and in-woods biomass**

  **Action:** Provide grants and loans to incentivize the installation of modern wood heat systems in commercial buildings, schools, hospitals and other institutions:



- **Report On Action:**
  - Passage of LD375 Public Law Chapter 53: An Act to Promote Forest Products Industry in School Construction and Renovation Involving Heating Systems.
  - Renewal of the USDA REAP Grants Program.
  - Inclusion of Federal Community Wood Energy.

- Program in the Interior Appropriations Bill funded at \$10 Million.




- **Next Steps** Support state legislation: Community CHP Program & Wood Energy Investment Program. Provide grants and low interest loans for new thermal projects

 **Action:** The Maine Forest Service (MFS) should continue efforts such as the Maine Statewide Wood Energy Assistance Team (SWEAT) to promote and market modern wood heat systems:



- **Report On Action:** Program ended and MFS has not taken further action to continue.
- **Next Steps:** Renew the SWEAT Program.

  **Action:** Revise the state's Renewable Portfolio Standard (RPS):

- **Report On Action:** Complete, RPF reform bill passed and signed in 2019, includes a new thermal renewable energy credit.
- **Next Steps:** Support Bill on Wood Energy Investment Program to provide grants and low interest loans for new thermal projects.




   **Action:** Ensure that Maine forests qualify as feedstock under the federal Renewable Fuel Standard:

- **Report On Action:** An ongoing effort with US EPA and USFS including support from the congressional delegation and State of Maine Executive Branch.
- **Next Steps:** Continue to educate new administration/ EPA and walk them through justification and need, increase engagement with the congressional delegation.

  **Action:** Increase production and use of biofuels and renewable chemicals:




- Incentivize the conversion of state and public University of Maine buildings.
- Support R&D bonds that can help incentivize biofuel production and use.
- Identify communities that are interested in hosting off-take agreements.
- Support innovation challenges for early adopters.
- Ensure DEP permitting readiness & improvements.

- Support increased applications of biofuels in heavy duty on and off road vehicles, and maritime applications.
- Support the use of drop-in/blended fuel replacement for diesel.
- Use state vehicles, MDOT, MFS, Ferry Service for viability tests & demonstration projects.




   **Action:** Support the efficient use of mill residuals and in-woods biomass as a renewable energy source and recognize forest based bioenergy's role in climate change mitigation:

- **Report On Action:** Inclusion in ERC and Climate Plan, progress with administration, inclusion in federal appropriations bills in direction to federal agencies to have biomass treated as carbon neutral
- **Next Steps:** Support Climate Action Plan, recognize importance of biomass to forest industry viability as a silvicultural tool and fuel source.
- Support state legislation that will further recommendations in the Climate Action Plan regarding the efficient use of wood for energy, including, but not limited to LD1202 An Act to Establish a Wood-Fired Combined Heat and Power Program and LD 597, An Act to Establish the Wood Energy Investment Program in the 130th Legislature.



#### **Strategy: Invest in Maine's transportation infrastructure**

   **Action:** The Maine Department of Transportation (DOT) should prioritize critical forest economy infrastructure capital investments, to ensure that federal transportation dollars are targeted to the forest economy:



- **Report On Action:** Continue Partnership with DOT to elevate priorities.
- **Next Steps:** Dedicate consistent focus to industry identified priorities and increase the level of investment in DOT.

   **Action:** Establish a long-term sustainable funding mechanism for infrastructure:

- **Report On Action:** A Blue Ribbon Commission was created in 2019 to review structural gaps and make recommendations.
- **Next Steps:** Carry forward this recommendation.





  **Action:** Expand the Industrial Rail Access Program (IRAP) to include other freight equipment and infrastructure:

- **Report On Action:** Significant IRAP funding awarded to the state (1.25 million available beginning March 2021), expansion into other equipment has not occurred.
- **Next Steps:** Carry forward this recommendation, leverage BUILD grants via Maine DOT.


  **Action:** Invest in port and rail-related capital investments that provide increased market access for forest products through general fund bonds and direct appropriations from Maine DOT's MultiModal Fund:

- **Report On Action:** Major rail-line sales create new opportunities that should be pursued.
- **Next Steps:**
  - Carry forward this recommendation.
  - Include the forest industry in the development of a multi-modal plan.
  - Involve the forest industry in DOT recommendations based on deferral infrastructure grants.
  - Support the continued collaboration between industry and DOT to get consensus on priority projects supporting the forest sector.

#### **Goal: Manage the wood resource using sustainable and responsible forest management practices.**



    **Action:** The Maine Forest Service, together with the US Forest Service and the University of Maine, should maintain and communicate current data about the wood resource, update forest modeling every ten years, and work with industry to use the data to ensure that the forest is sustainably managed to maintain Maine's forest stewardship legacy. (Exec Branch, University, Federal Policymakers, Industry partnership):

- **Report On Action:** Increased coordination with MFS & industry, updated wood supply analyses through FOR/Maine collaboration, Maine Economic Growth Council continues to measure sustainability.
- **Next Steps:** Continue to emphasize the importance of maintaining sustainable management, carry this recommendation forward. Maintain support for the State and Federal Forest Inventory Analysis program (FIA) that regularly evaluates sustainability measures and informs policy.



 **Action:** Improve technical service provision to small private landowners:

- Support recommendation of FOR/Maine's Small Woodland Owner Outreach & engagement strategy, which likely will require cooperation by MFS. Seek input from manufacturers to determine how much certified content they need and whether a smallholder certification model could be beneficial to all in the supply chain.



**Goal: Prepare workforce for the future of the forest products economy.**

  **Action:** Develop and implement a workforce strategy to grow Maine's forest products sector:

- **Report On Action:** Workforce strategy developed by committee in partnership with USM, which is indicated in the following Actions.
- **Next Steps:** Focus on opportunities to implement FOR/Maine strategy through partnership with the State of Maine, academia and industry.

  **Action:** Design, prepare, and execute a coordinated marketing and branding campaign that showcases the career opportunities in forest products in Maine:



- Leverage FOR/ME's branding effort to market career opportunities in the sector.
- Connect and align with other related statewide initiatives aimed at targeting and attracting workforce to the state.
- Focus on consistent engagement, advocacy, and leadership across broader efforts to address workforce and economic challenges in the state.
- Raise the awareness of the forest products industry careers to align with emerging career trends and job opportunities involving new technologies. Support a coordinated branding campaign to showcase the opportunities and shift perceptions of the forest industry in Maine

  **Action:** Foster greater education, outreach, and awareness of opportunities in the forest products sector to Maine secondary school students and advisors. Support teachers and career advisors to promote forestry and wood processing careers, prerequisites, and pathways:




- Provide resources, information, and materials to be sure that the sector is represented.

- Bolster teacher and student engagement through site visits and industry experts.



- Improve access to career pathway information for students.
- Expand flexible internships modeled on the MELOC internship program with community college.
- Appeal to the environmental stewardship aspects of the industry that align with youth curriculum.

  **Action:** Cultivate out of state workforce pipelines and integrate with statewide attraction and recruitment efforts:




- Engage in marketing and recruitment activities to CTE, vocational, and post-secondary institutions schools in other NE states.
- Partner with other Maine heritage industries, such as marine and agriculture, to market and recruit out-of-state youth and displaced workers.
- Explore and test recruitment efforts in targeted locations in comparable geographic locations and industry clusters.
- Target racial and ethnic minority groups, women, and nontraditional workers in the industry.
- Develop partnerships with initiatives designed to place veterans and service members, including Boots 2 Roots and Workshops for Warriors ([www.wfw.org](http://www.wfw.org)).
- Explore and consider adoption of military recruitment models.
- Explore and develop opportunities to source non-domestic labor (int'l).

   **Action:** Leverage existing workforce infrastructure to increase coordination and engagement and expand existing internship, apprenticeship, and training programs:

- Build network connectivity across partners and with firms through a dedicated industry point person.
- Increase access to programs and provide opportunities for time intensive training and education opportunities (e.g., training boot camps).
- Explore opportunities to integrate internship training with industry mentors to help facilitate knowledge transfer and relieve job training burden for incumbent workers.
- Bolster and promote apprenticeship models where feasible.


  **Action:** Maintain an information system that enables continuous monitoring and evaluation of workforce conditions and requirements across the industry to develop and adapt workforce development initiatives:

- Monitor workforce requirements, trends and initiatives.
- Revisit workforce demands and forecast annually or biennially.



   **Action:** Consider the importance of placemaking in workforce attraction and retention:

- Advocate for community resources and actions that empower and enable communities and regions to build quality of place, access to core amenities, workforce housing, health care, and cultural attractions.
- Increase engagement with local and regional community and economic development initiatives.



**Goal: Increase prosperity in Maine forest economy communities, especially those in rural Maine, including those affected by mill closures.**

 **Action:** Increase funding to the Maine Rural Development Authority (MRDA) mill site redevelopment program:




- **Report On Action:** Legislative change made to all MRDA to make grants combined with match NBRC funds.
- **Next Steps:** Seek to replicate these efforts to the benefit of communities.

  **Action:** Establish a location tax credit to attract investment for mill site redevelopment and co-location with existing businesses:




- **Report On Action:** N/A
- **Next Steps:** Carry forward this recommendation.

  **Action:** Encourage communities to understand and utilize all available economic development tools:




- **Report On Action:** Community education through forums and webinars, committee has met with all ten communities ID'd through FOR/Maine effort, ongoing information and communications piece, interaction with Indufor and Emerging Tech.
- **Next Steps:** Carry forward this recommendation.

   **Action:** Secure federal funding to support local and regional economic and community development efforts:

- **Report On Action:** Additional EDA funding received for community work.
- **Next Steps:** Carry this forward and identify opportunities with new administration for emergent programs and projects. The may include development of workforce housing, leadership development in rural communities, efforts to reverse demographic trends.

   **Action:** Support Broadband improvement and expansion in rural areas:

- Enhance existing broadband.
- Expand delivery to underserved and unserved areas.
- Utilize all available state and federal funding sources for improvement and expansion.
- Replicate successful examples: Baileyville & Calais & Islesboro.

   **Action:** Support the development of housing suitable for workforce:

- Define housing needs and position them as lead by example projects: highlight the "missing middle." Consider senior downsizing, affordable, environmentally sustainable housing.
- Determine affordable and replicable housing packages that can be achieved using Maine forest products.
- Collect appropriate baseline data across communities to determine specific housing needs.
- Leverage MSHA to Incentivize forest product innovation in housing development (insulation, CLT, mass timber, 3-D printed components, etc) to achieve a triple bottom line of economic, environmental and social benefit.

