Draft Policy Recommendations
For Consideration by the Clean Hydrogen Task Force (CHTF)

I. Leadership

<u>Recommendation 1</u>: The CHTF endorses the creation of a Hydrogen Coordinating Committee within state government to continue the development of a clean hydrogen economy in Louisiana.

To achieve the recommendations included in this report, the CHTF endorses the formation of a Hydrogen Coordinating Committee in state government to work closely with industry partners, trade associations, research institutions, environmental organizations, and other government agencies and decision-making bodies on important policy and planning matters. Such a dedicated body is a natural evolution of the CHTF and will allow for the careful management and coordination of a wide variety of needs across the state's public/private landscape, ensuring environmental protection and regulatory streamlining while also leveraging state and Federal dollars along with private investment into workforce training, R&D, transportation and storage infrastructure, etc. This request should be directed to the recently created Natural Resources Commission (NRC) for consideration. Based on limitations in state fiscal and human resources, the NRC is in a unique position to assess and determine how best to implement this recommendation with input from across State government.

<u>Recommendation 2</u>: The CHTF endorses the appointment of a director and staff for the above recommended coordinating committee.

The CHTF imagines that the coordinating committee noted above would have a clear "lead" able to work across state, local, and Federal government lines and within the discrete spaces of the clean hydrogen economy on a variety of issues (fiscal, transportation, R&D, workforce training, regulatory, environmental, etc.) is of paramount importance. This request should also be directed to the NRC for its consideration and implementation.

<u>Recommendation 3</u>: The CHTF endorses continued engagement with the Federal government (and Louisiana's Congressional delegation) on hydrogen-related issues, especially to protect current incentives and credits to minimize the need for such at the state level.

Initial public support, such as incentives and tax credits, can help Louisiana capitalize on its inherent advantages and establish a robust, long-lasting clean hydrogen economy. The clean hydrogen future in Louisiana is largely dependent upon a conducive Federal fiscal and regulatory environment, including incentives and tax credits. As part of a national "all of the above" energy policy, clean hydrogen makes sense, and Louisiana is

already very strongly positioned in this sector. Therefore, the CHTF endorses a deep engagement on these issues at the Federal level as well as coordination with similarly-situated states (like Texas, especially) to provide long-term clarity. In particular, the 45V production tax credit has helped reduce production costs and invigorate early investment. Likewise, the 45Q tax credit has been utilized for development of "blue hydrogen" projects in the state. In this regard, a coordinating committee and director/staff would be expected to take the lead in education and discussion with Federal leaders of issues important to Louisiana, its people, and the companies investing in the state's hydrogen future.

II. Economic Development

<u>Recommendation 4</u>: The CHTF endorses the creation of a strategic economic development master plan, developed by the Hydrogen Coordinating Committee, for hydrogen to maximize benefits to investment and returns to the state.

There is a considerable amount of existing data and research on the current and projected economic impact of clean hydrogen in Louisiana. Much of this will be detailed in the following report. Nonetheless, there is work to be done in turning this information into a comprehensive vision that prioritizes continued investment, alignment of production with demand, and concentrated development of the hydrogen economy along a phased approach. Specific areas contemplated as part of a strategic master plan include:

A. **Prioritization of a Phased Approach:** Louisiana already has a clearly established hydrogen economy and future planning should prioritize actions that benefit these end uses for immediate economic returns, namely ammonia production, refining, and methanol production, while providing a road map for future development of hydrogen for maritime and port terminal needs, metallurgy, aviation, automotive, etc. In particular, planning should evaluate hydrogen fuel cells, refueling stations, permitting and siting requirements for infrastructure, and any economic packages that would facilitate the use of such new technologies in Louisiana (e.g., sales tax and registration fee waivers for purchase of fleet or personal vehicles and other non-automotive equipment like forklifts, trams, barges and other vessels, etc.).

B. **Designation of Hydrogen Development Zones, Clusters, or Hubs:** Louisiana already has a natural "clustering" of hydrogen producers and off-takers but solidifying these through the creation of special zones could "reduce costs, minimize redundant infrastructure, and enhance operational efficiencies" (Hyundai). Such zones might also offer "bundled tax incentives, expedited permitting, infrastructure cost-sharing and workforce development programs

to attract and retain investments" (Clean Air Task Force). In particular, the Site Infrastructure and Investment Fund might be utilized to "target site-readiness for companies building hydrogen-related manufacturing (e.g., electrolyzers, turbines, fuel cells)" (GNO, Inc.). The development of these zones ought to be informed by input from local communities and should address specific returns to the state, particularly in the form of "high-paying, permanent jobs for local residents" (NWF). Criteria for siting generally "should incorporate alternatives analysis, the protection of important ecosystems, the preservation of outdoor recreational access, and public health and safety" (NWF) as part of the overall framework and process for permitting.

C. **Enhancement of Regional Hydrogen Transport and Storage Infrastructure:** In association with above, evaluate continued planning and investment needs for a Gulf Coast regional approach to hydrogen infrastructure development from Texas to Alabama, including mapping of transportation, storage, production centers, and end-use facilities; appraise opportunities for a multi-state compact or specific agreements on various aspects of hydrogen production, transportation, marketing, and regulation.

D. **Strengthening of Hydrogen Pipeline Network:** While Louisiana can boast of one of the largest pipeline networks in the nation, anchored by the Gulf Coast's dominant hydrogen ecosystem, continued investment in an expanded network is crucial to smoothing delivery to off-takers, reducing overall costs, and encouraging overall market activation. Support of such can be made through effective mapping of routes, investigation of common-carrier status for existing pipeline networks, and incentives for expansion and build-out to further reach current and/or prospective users. Blending, the physical mixing of hydrogen into natural gas pipelines to create a single fuel stream, and more broadly co-mingling, transporting hydrogen through shared infrastructure, may both warrant additional standards or guidance, as part of evaluating the use of existing non-hydrogen pipelines for hydrogen transport since risks like metal fatigue and embrittlement remain (EDF). Additional research in this field is crucial.

E. **Evaluation of Demand-Side Incentives:** Whether the State of Louisiana wishes to focus more on maintaining Federal incentives and credits for a clean hydrogen economy or decides rather to embark on the creation of its own economic incentives package is a matter best evaluated as part of a strategic plan completed in alignment with state-level policymakers. Certainly it is true that "targeted demand-side incentives can help Louisiana distinguish itself as a premier production and export hub, giving it comparative advantage in attracting private investment and long-term offtake contracts both domestically and for exports" (Clean Air Task Force).

Incentives might include tax credits for prioritized end uses, access to grants, or low-interest loans for site and infrastructure development, inducements for technology refitting and conversion, etc., but such economic supports would need additional analysis of the return-on-investment. Likewise, as part of this same inquiry, any state planning effort should assess closely how "Louisiana hydrogen and hydrogen-derived products (e.g. ammonia, methanol) can meet projected demand in Europe, Asia, and South America" (GNO, Inc.) as part of a hydrogen export readiness plan, while also monitoring annual demand for renewable energy in domestic ventures.

Recommendation 5: The CHTF endorses the continued development of safe, effective, and thoroughly-regulated CCUS projects as part of the hydrogen economy.

A large part of the hydrogen industry in Louisiana is dependent at present, and in the foreseeable future, on hydrogen produced from natural gas, so-called "blue hydrogen," with the off-gas CO2 then relegated to carbon capture/underground storage ("CCUS," also "CCS"). Louisiana's geology is ideal for subsurface storage via Class VI wells, with large impermeable layers between deep injection and USDW zones. Protecting policies in Louisiana that are supportive of CCS will be crucial for clean hydrogen deployment.

Recommendation 6: The CHTF endorses the creation at the state level of a Hydrogen Innovation Fund that will support research, pilot projects, and demonstrations as part of a larger emphasis on R&D.

While likely unable to fund a full R&D program in its own right, the State of Louisiana nonetheless can encourage such work by seeding a Hydrogen Innovation Fund that will supply some start-up dollars for R&D projects while helping to match these with other sources of revenue such as Federal grants and private investment.

Recommendation 7: The CHTF endorses additional state-level investment in workforce training for the hydrogen economy.

Though some of this work is already underway through coordination of university- and LCTCS-level initiatives, a strategic planning effort (Rec. 4) can further establish specific pathways, incentives, tools, and funding necessary to the development of a comprehensive curriculum of instruction both within specific institutions and across multiple colleges and universities. This effort could consider the following approaches:

- Labor analysis: Conduct a labor supply/gap analysis in partnership with technical colleges, other higher education institutions, and training providers on occupations and skill sets needed, midcareer transition strategies, and supply of occupations adjacent to a hydrogen economy

• High-Impact Job Compliance: Monitor and encourage high-wage job creation in line with the High-Impact Jobs Program, established during the 2025 Legislative Session

• Cross-Industry Skill Mapping Across Industries: collaborate with LWC and industry associations to identify overlapping skill sets across hydrogen and other energy subsectors, enabling more efficient training pipelines

• Collaborative Workforce: Support LWC-facilitated employer partnership aimed at growing the talent pool collaboratively – reducing reliance on lateral talent competition and emphasizing training and upskilling – aligned with a skilled trades marketing and awareness campaign

• Barrier Reduction for Hiring: Identify and address barriers to hiring and promote broader access to high wage jobs across energy and infrastructure sectors, leveraging One Door to do so

• Work-Based Learning: Leverage the Work-Based Learning Tax Credit to expand internships and apprenticeships related to hydrogen and associated industries – encouraging employers to utilize available funding to grow their future workforce.

III. Regulatory Alignment

Recommendation 8: The CHTF endorses the adoption of standard, commonly-accepted definitions, protocols, and measurements in all of Louisiana's regulatory language related to clean hydrogen.

A. **"Clean Hydrogen":** As part of an overhaul of the regulatory framework for hydrogen, the CHTF recommends that the State of Louisiana adopt the Federal "clean hydrogen" standard definition which specifically sets a limit on the amount of CO2 emitted per kilogram of hydrogen produced (4 kg CO2e/kg H2), considering all stages of the process, from production to delivery (well-to-gate). Setting a basic standard that meets not only a national but global definition will encourage industry to use carbon intensity as the benchmark, rather than endorsing a specific technology or production pathway. The market sets the demand (and subsequent choices of tech and production) rather than government shaping outcomes. Careful attention ought to be paid to changes in international definitions, standards, protocols, etc., as well, to ensure the marketability of Louisiana hydrogen and hydrogen products.

B. **Standardized Lifecycle Analysis:** The CHTF recommends that the State of Louisiana adopt a standardized lifecycle analysis ("LCA") that uses consistent system boundaries, such as "well-to-gate" or "well-to-end use" terminology, to ensure

comparability across projects. In their public comments to the CHTF, the Clean Air Task Force notes that the Federal GREET (Greenhouse gases, Regulated Emission and Energy use in Technologies) LCA model is "transparent, regularly and publicly updated, and capable of accounting for key emissions drivers"; "GREET is currently the most robust and widely accepted LCA tool for calculating the carbon intensity of hydrogen at the federal level, used by the federal government for determining eligibility under the 45V tax credit and for implementing DOE's clean hydrogen production standard through federal grant programs."

<u>Recommendation 9</u>: The CHTF endorses the strengthening of regulatory capacity at the state level to ensure timely review and permitting of hydrogen projects while also addressing compliance with safety standards and environmental law.

The CHTF recommends a structure for management. A Hydrogen Coordinating Committee – as successor to the CHTF – would be best positioned to work with state policymakers to secure targeted funding to support the work of permitting offices and infrastructure agencies that are central to hydrogen project review, standards setting, and enforcement (Clean Air Task Force). Such a dedicated team can be expected to address the creation of a new regulatory framework, including safety standards, permitting needs, and environmental review (emissions, air quality, hydrogen leakage, verification of volumes, etc.). In the midst of such regulatory tracking, reporting, and verification, staff also should look to the creation of a voluntary certification program for low carbon intensity hydrogen and hydrogen products that will correspond with overseas market requirements. This added capacity and regulatory structure will not only ensure safe and transparent project development but also accelerate clean hydrogen deployment and attract new investment.