Michael Regan, Administrator US Environmental Protection Agency Office of the Administrator, Mail Code 1101A 1200 Pennsylvania Avenue, NW Washington, DC 20460

January 18, 2023

Docket ID No. EPA-HQ-OAR-2022-0874

Dear Administrator Regan and EPA Staff,

The undersigned individuals and entities are members and representatives of the U.S. commercial fishing industry, a category that includes vessel owners, captains, crewmembers, port associations, and seafood businesses. Although we hail from diverse ports and participate in many different fisheries, we are united by our shared support of fishery friendly climate action that *simultaneously* reduces, sequesters, or avoids GHG emissions at scales sufficient to hold warming well below 2°C (while pursuing efforts to limit warming to 1.5°C), while *also*:

- Avoiding collateral impacts on ocean, coastal, estuarine, and watershed environments;
- Avoiding interference with the harvest and provision of wild seafood for the public;
- Contributing conservation co-benefits that enhance the resilience of these ecosystems to climate change and other stressors; and/or
- Facilitating the voluntary adoption of cost-effective, locally appropriate technologies and practices to reduce fuel use and greenhouse gas emissions by fishing vessels and shoreside businesses.

We are submitting this letter to advise the Environmental Production Agency (EPA) on supporting emissions reductions activities within the nation's commercial fishing ports. The Inflation Reduction Act makes \$3 billion available to EPA to spend by September 30, 2027 for the purposes of (a) purchasing or installing zero-emission port equipment or technology; (b) conducting any relevant planning or permitting in connection with the purpose or installation of such zero-emission equipment or technology; and (c) developing qualified climate action plans.

We request that of the funds made available to EPA for these purposes, that \$300 million be allocated to investments in US fishing and seafood facilities, vessels, and related working waterfront infrastructure in ports across the nation.

Commercial fishing is more than simply another maritime user group, and EPA must treat it as such in its deployment of funding for the laudable purpose of energy efficiency and decarbonization. Commercial fishing is a way of life for its practitioners, representing a diverse set of cultural frameworks, including Indigenous and tribal governments participating as owners/operators, each with unique characteristics and attributes. US commercial fisheries are primarily small-scale family businesses grossing \$500,000 or less per year, employing crew who

generally seek to remain in the industry. Fishing businesses are responsible for core revenue in many smaller US ports, and while goods and energy logistics, defense, and transit may be the primary economic drivers (and pollution contributors) of large US ports today, without exception each of these is home to fishing communities that should be part of the energy revolution.

We urge you to ensure that US commercial fishing is <u>always</u> given an opportunity to participate in all US port energy efficiency and emissions reductions initiatives through goals including creative approaches to financing, bottom-up incentives, and robust engagement based on common understanding and objective sharing. Approaches to achieving these goals are detailed below.

The signers of this letter include notable leaders in the decarbonization of fishing vessels and fishing ports. Decarbonization of US commercial fishing vessels is currently at a very early but highly promising phase. Decarbonization at the port level is some years away.

The fishing industry is already amassing technical expertise, coast-to-coast connections, and pilot funding to take the lead in the decarbonization of our own industry. For example:

In Alaska, the Alaska Longline Fishermen's Association's (ALFA) "Fisheries Conservation Network" has been working to find ways that boats can operate while using less fuel. ALFA has helped local fishermen to install fuel flow meters and data loggers and has used the data collected to make recommendations for improving fuel efficiency. ALFA developed a self-guided energy audit tool for use by a broad spectrum of small to mid-sized commercial Alaska fishing vessel operators, allowing operators to assess the efficiency of their vessel on a yearly basis and inform cost-effective energy conservation methods to reduce their fuel use and costs. Now, ALFA's "Boat Energy Transition Accelerator" is working to convert two fishing boats to hybrid propulsion as the next step in lowering the fleet's carbon footprint. More information can be found at <u>https://www.alfafish.org/fuel-efficiency</u>.

In Maine, retired lobsterman Richard Nelson and ecologist John Hagan published a 2022 report called "EV on H_2O : The Feasibility of Electrifying Maine's Lobster Fleet," in which they evaluated a suite of alternative propulsion methods for the fleet's inshore and offshore vessels: biofuels, all-electric propulsion, hybrid electric propulsion, and hydrogen fuel cells. The report concluded that while all of these technologies have potential, the ideal choice will depend on the energy use patterns of each vessel, and testing out these innovations through pilot projects is a necessary first step. Their findings can be scaled across geographies and segments of the fishing industry. More information can be found at

https://ourclimatecommon.org/project-ev-on-h2o-lobster-boats/.

In Massachusetts, the "Energy Efficient Fisheries" initiative is charting a course towards lower fuel costs, reduced emissions, and higher efficiency for the good of all Massachusetts fishing and seafood businesses. Under the leadership of the Gloucester Fishermen's Wives Development Program (GFWDP), which received a \$2 million Congressional grant for this

purpose, the first-of-its kind statewide program will include a fishing and seafood industry baseline and energy needs assessment, fishing vessel energy audits, professional development for advanced technology installation and service, and consultancy services for business owners seeking to access low-cost capital and grant funding for fuel efficiency investments. More information can be found at <u>https://energyefficient.fish</u>.

Building on these pioneering experiences, we outline below six ways that the EPA can design the Inflation Reduction Act ports program to optimally support decarbonization in fishing ports over the next five years.

1. How can EPA structure this program to reduce air pollution in port communities and accelerate long-term trends to decarbonize the nation's ports?

The EPA should structure the new ports program in a way that includes commercial fishing businesses, port associations, and facilities owners as eligible recipients for planning and investment. However, the program should also recognize key ways in which fishing ports differ from shipping and other types of ports that may be included in this program, and make space for fishing ports to participate alongside these other ports in ways that are sensitive to these differences. EPA should structure its programs such that each eligible state and local government entity that applies for funding under EPA programs should be encouraged to include partnerships with its fishing and seafood representatives and businesses. EPA should treat proposals and applications reflecting such partnerships favorably in any competitive process for the award of funds to state and local governments.

The nation's commercial fishing ports number in the hundreds, and each one is unique. Fishing ports vary greatly in size, from those that accommodate only a few vessels to those hosting hundreds of vessels. Fishing ports may be owned and managed by states, municipalities, or private businesses. Some are urban while others are rural. Ports may have slips/berths, mooring fields, or both. Despite these differences, all fishing ports are appropriate settings to plan, pilot, and eventually deploy zero-emissions technology with the support of the Inflation Reduction Act's ports program.

Fishing ports are not only places where fishing boats rest while not in use. They are a space for refueling vessels; loading and unloading fish, gear, ice, and crew; manufacturing fishing gear; installing and repairing engines and other equipment; processing, storing, and distributing seafood; and more. Many have an active tourism and recreational economy existing side by side with, and benefiting from, a commercial fishing economy. Sources of greenhouse gas emissions in and connected with fishing ports include direct combustion of petroleum-based fuels by vessels and trucks, as well as indirect emissions resulting from electrical use by refrigeration, lighting, and mechanical equipment by shoreside activities and businesses. **Decarbonization efforts supported by the Inflation Reduction Act ports program should encompass all of these emissions sources. Some fishing ports may also offer opportunities for small-scale renewable electricity generation and production of biogas and biofuels; these opportunities should also be recognized in program design.**

Due to the diverse characteristics of fishing ports, the best mix of zero-emissions technologies will not be universal. Instead, planning and investment must be locally led and tailored to the unique uses, challenges, and opportunities found in each port. At the same time, regional coordination is needed to ensure that transiting vessels are able to fulfill their recharging or refueling needs away from their homeport. Collaborative climate action planning will be a lynchpin of success, and must include significant participation of vessel owners, shoreside building owners/lessees, and port managers in order to produce outcomes that work for all.

A primary focus of the Inflation Reduction Act's ports program in fishing ports should be to support planning, infrastructure, and distribution systems that will unlock adoption of zero-emissions propulsion on fishing vessels. The EPA categorizes fishing vessels as harbor craft. Zero-emissions technologies that are potentially applicable to satisfy fishing vessel propulsion needs include: use of battery-powered electric motors recharged by shore-power; use of biofuels and renewable drop-in fuels; and potentially the use of ammonia, liquified natural gas, or other liquid or gaseous fuels with specialized purpose-built engines. Application of some of these technologies will require new engines, while others will require new coastal infrastructure or fuel supply and distribution systems; some may require both. In some cases, replacement of whole vessels may be more practical and effective than swapping out engines or fuels.

As with terrestrial vehicles, the transition of fishing fleets to zero-emission technologies will require coupling between private investment on board vessels with public and/or private investment on land (i.e., in charging and refueling infrastructure and/or distribution networks for liquid or gaseous fuels). The Inflation Reduction Act ports program should facilitate collaborative planning that engages vessel owners, port managers, energy technical advisors, and engine/equipment suppliers, to chart risk-resilient pathways through which decarbonization investments on the waterfront can best support decarbonization investments on the water and vice-versa.

2. How do you see the Inflation Reduction Act ports program complementing other programs (e.g., at EPA and the Department of Transportation) that can support efforts to reduce emissions at ports? What funding gaps can this program fill (e.g., specific zero emissions technologies or related planning support)?

Public programs to support decarbonization at commercial fishing ports are limited in scope, and this new program can fill an important gap. Application of zero-emissions technologies on fishing vessels in the U.S. is currently at the pilot stage, and technologies are prohibitively expensive. Wraparound support is needed to launch more pilot programs, develop fisherman-led educational exchanges to vet and build confidence in new technologies, work with port managers and energy systems experts to design linked vessel-port decarbonization plans, and then ultimately, to bring the costs of zero-emissions technologies down to a level that is competitive with diesel engines via grants, tax incentives, and/or other financial mechanisms.

Below, we review two EPA programs that could potentially be coupled with the Inflation Reduction Act ports program to provide this kind of wraparound support.

(a) Diesel Emissions Reduction Act (DERA)

Congress enacted the DERA program in the Energy Policy Act of 2005. Through the DERA program, EPA has provided loans, grants, and rebates to projects that use certified engine configurations and verified technologies, or that develop and commercialize emerging technologies, in order to replace legacy diesel engines. DERA is implemented in three ways: by a national program, by Tribes, and by states. DERA programs are designed to reduce emissions not of greenhouse gases, such as carbon dioxide, but of particulate matter, nitrogen oxides, sulfur oxides, and air toxics.

Since the compounds included in EPA diesel exhaust standards are not greenhouse gases, engines meeting EPA standards do not necessarily emit fewer greenhouse gas emissions than engines that do not meet EPA standards. As a result, the financial incentives available through DERA are likely inadequate to channel investment towards the adoption of zero-emission technologies by fishing vessels. In some instances, DERA incentives may actually subvert the goal of promoting zero-emissions vessels, because some fishermen report that biodiesel does not work well in engines that have been designed to meet higher (Tier 3 and 4) EPA exhaust standards. The incentive structures created by DERA programs should be aligned with the goal of decarbonization, not just improving local air quality. Moreover, these programs should enable flexibility with regard to technology, and should avoid promoting technological lock-in. We urge the EPA to work with the fishing industry to identify barriers to adoption of zero-emissions technology and to consider how DERA might be leveraged to help overcome those barriers.

(b) EPA Greenhouse Gas Reduction Fund (GHGRF). In the 2022 Inflation Reduction Act, Congress authorized the new Greenhouse Gas Reduction Fund program to be administered by the EPA, and allocated \$27 million for its implementation. In a response to a November 2022 EPA public comment solicitation, members of the commercial fishing industry wrote:

The inclusion within the projects funded by the Greenhouse Gas Reduction Fund of regenerative capital program(s) with specialized market expertise for the fishing and seafood industries could be a critical component of a long-term approach to supporting the energy transition in coastal communities, ensuring that coastal fishing communities are not left out as the U.S. economy shifts towards electrification and other non-fossil-based clean and renewable fuels. At a time when small fishing businesses are already struggling under the cumulative challenges of climate change, offshore renewable energy development, rising fuel prices, and multiple other uncertainties, it is imperative to ensure that the energy transition has the effect of boosting, rather than further eroding, the resilience of coastal fishing communities. The Greenhouse Gas Reduction Fund represents a pivotal opportunity to accomplish this goal.

Because of variations in fishing activity patterns, vessel size and configuration, and local cultural, economic and regulatory conditions, there is no "one size fits all" emissions reduction solution that will work for the entire U.S. fishing fleet. Some technologies may require infrastructure investments on the waterfront (e.g., electric charging stations) or development of new supply chains and distribution networks (e.g., inventory and delivery of biofuels, ammonia, or hydrogen) in order to be feasible. In some cases, energy efficiency may be more effective and affordable than upgrading engines or switching to alternative fuels. Harbor design and electrification challenges in remote communities may enable or constrain certain approaches. Solutions must be designed and led by those who best understand the unique needs of this sector: fishing vessel owners and operators themselves. The Greenhouse Gas Reduction Fund must support leadership by fishing communities in developing programs and funding steams that fill gaps and support local innovation.

We reiterate those points here, and would welcome a thoughtful discussion with EPA staff about how implementation of DERA, the EPA GHGRF, and the Inflation Reduction Act ports program can provide complementary coverage to support the decarbonization of fishing vessels and fishing ports.

In addition, EPA should look to creative approaches to developing capital access programs, including regenerative capital facilities (e.g. "green banks") necessary to invest in upgrades, retrofits, and new technologies, which is currently a challenge for commercial fishing businesses. EPA should explore partnerships with the US Treasury's Community Development Financial Institutions (CDFI) Program to jump-start capital access for the small fishing businesses that need it most. CDFIs are poised to deliver tens of billions of dollars of IRA funds, some of which may become available to US fishing and seafood businesses for emissions reduction projects.

3. The Inflation Reduction Act ports program can fund the development of climate action plans as well as zero emissions port technology, equipment and related planning and permitting. How would you like to see the action plans and infrastructure funding work together? Should they be sequenced or combined?

Locally led port-level planning and a robust slate of pilot projects are both prerequisites to the scale-up of zero-emissions infrastructure investments in fishing ports. Planning and pilots should be undertaken concurrently, prior to scale-up; it is also important that EPA work with stakeholder associations, state and local government, and nongovernmental partners to ensure that energy efficiency and emissions reduction programs are well-known among potential recipients. This will ensure thorough vetting of new technologies in real-life applications, will help build confidence among the fleet, and will ensure that the ultimate selection of major investments is undertaken with local circumstances in mind. Vessel owners willing to undertake pilot projects should receive financial support both to underwrite the purchase and installation of zero-emissions equipment *and* to compensate them for a role as ambassadors to the fleet, so

that they can actively participate in learning exchanges with other vessel owners in their port and other ports in order to generate fleetwide learning from these pilots.

Planning efforts must recognize that there is no "one size fits all" approach to decarbonizing fishing vessels and ports. It is imperative to support bottom-up innovation and experimentation rather than impose top-down approaches that can lead to technological lock-in. Collaborative port-level planning should bring together diverse port users with port managers and energy experts to consider each port's unique mix of uses, decarbonization challenges, and onsite opportunities for renewable energy generation. By extension, it is critical that approaches to decarbonization in the US commercial fishing industry, particularly smaller-scale operations with significant barriers to capital access, be bottom-up and participatory rather than top-down and regulatory. If federal mandates for the adoption of low- and zero-emissions technologies are contemplated or if state and local governments pursue them, they should be based on a thorough understanding of feasibility and be developed in partnership with stakeholders; EPA should prioritize access to capital and port programs for voluntary and fishing industry-lead initiatives.

The Massachusetts fishing fleet's new "Energy Efficient Fisheries" program will work with specific Massachusetts ports to develop climate action plans that can guide current and future work and help leverage public dollars. Some of the signers of this letter are involved in that initiative, and we humbly request a discussion with EPA staff regarding how this state-level pilot effort can lay the groundwork for a larger national effort to support climate action planning in commercial fishing ports.

4. What types of zero-emission port technologies or related planning support do you see as most critical for delivering emissions reductions?

Fishing ports present several opportunity areas that should be focal points for decarbonization initiatives and investments:

- Zero-emissions fishing vessels. Fishing vessels represent a hard-to-decarbonize sector. Targeted investments, incentives, and educational initiatives are needed to support greater application of engine efficiency practices and technologies and to spur adoption of alternative power sources, such as electric and hybrid engines and zero-emissions fuels.
- Provision of zero-emissions shore power. Shore power is currently utilized by vessels at the dock to run electronics, charge 12-volt batteries, and power engine block heaters. In the future, shore power may be used more commonly to charge lithium-ion batteries for vessel propulsion. Not all fishing ports presently have shore power (e.g., those that rely on moorings), and even in those that do, upgraded electrical transmission infrastructure (e.g., 240-volt electrical lines at slips) may be required in ports where there is interest in adoption of battery-powered vessels.
- Utilization of port infrastructure for electricity generation. Fishing ports contain infrastructure assets that could double as spaces for the generation of clean and renewable electricity. For example, solar panels and small-scale wind turbines can be

installed atop seafood processing plants and warehouses. Some fishermen are interested in innovative niche opportunities such as installing small-scale tidal generators on dock pilings. These small-scale electricity generation opportunities have low environmental impact and broad support among the fleet because they take place on the already-developed footprint. Bidirectional charging from vessels equipped with battery banks and development of port-level microgrids also represent interesting opportunities.

• Utilization of seafood processing byproducts as liquid or gaseous fuel. Seafood processing plants generate organic wastes that can be environmentally detrimental and costly to dispose of. Secondary utilization of these waste streams for production of biogas or biofuels represents a value-generating activity that not only eliminates the environmental impacts of this waste, but creates new opportunities for zero-emissions fuels and electricity to be used within the fishing industry and beyond.

5. What do you see as the biggest hurdles to transitioning to zero-emission port equipment?

As stated in the previous answer, there are many opportunities for zero-emissions technologies in the context of fishing ports. The set of opportunities facing the biggest hurdles is in the hard-to-abate context of fishing vessel propulsion. Converting vessels to run on zero-emissions technology or fuels faces the following hurdles:

- Financial barriers. Zero-emissions vessel propulsion technology, such as battery electric, hybrid electric, and hydrogen fuel cell powered engines, are many times more expensive than conventional diesel engines. At a time when many vessels are already experiencing reduced profit margins due to high fuel prices, inflation, limited catches, and depressed market conditions, private investment in zero-emissions vessel propulsion technologies is all but impossible for most vessel owners. Grants, loans, tax credits, and other forms of financial assistance and incentives are vital to unlocking the uptake of these technologies.
- Lack of knowledge and track record. Technologies for zero-emissions propulsion are new, and prospective adopters lack information on reliability, break-even point, safety, costs, and many other aspects of these technologies. Well publicized pilot programs are needed in order to allow early adopters to experiment risk-free and share what they learn with others.
- The need to align vessel-side and shoreside investments. As stated elsewhere in this letter, adoption of zero-emissions technology on vessels will need to be tightly coupled with investment in shoreside charging infrastructure or refueling opportunities. Port-level and regional planning and integrated funding for vessels and shoreside infrastructure can ensure that shoreside investments and vessel-level investments move in lockstep, rather than moving towards adoption of incompatible technologies or one moving too fast ahead of the other.
- Investment risk. Even with robust planning, piloting, and alignment between vessel and shoreside investments, there is a chance that a new technology that initially appears promising may ultimately become unviable or unsupported, for instance due to a change in the availability of zero-emissions fuels or a change in the business status of a startup

company producing a product. Methods to ensure confidence, such as government-backed warranties and the possibility of buybacks in situations meeting a specific set of criteria, may be needed to overcome hesitation.

8. What metrics should this program use for measuring success and ensuring accountability?

Metrics used to evaluate success and ensure accountability for fishing ports or fishing businesses should be distinct from metrics used to evaluate success and ensure accountability in shipping ports and other kinds of ports that may be included in the program. Because virtually all US commercial fishing vessels travel far outside of inshore waters and away from population centers, impacts from particulate emissions must be assessed differently than those from other harbor craft. In addition, because of the relatively small scale of the majority of US commercial fishing businesses and the existing regulatory burdens they face, EPA should not rely on costly and time consuming reporting requirements for any generally applied accountability measures for emissions reduction programs and instead rely on specialized information and knowledge about the operational characteristics of fishing fleets in each port or region. The undersigned represent organizations are able and willing to assist in this regard.

Conclusion

Thank you for the opportunity to provide comment on the EPA's implementation of the Inflation Reduction Act's ports program. Establishing relationships and partnerships with organizations including the undersigned will ensure that our highly specialized, unique, and culturally and economically vibrant industry is part of the energy revolution. We are standing by to be of assistance in implementing any of the above or to answer any questions you may have, and would request that the appropriate representative of EPA contact us to establish a working relationship. Responses to this letter may be sent on our behalf to Sarah Schumann at <u>shiningseaconsulting@gmail.com</u>.

Sincerely,

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