May 24, 2024

The Honorable Gina M. Raimondo
Secretary
Department of Commerce
1401 Constitution Avenue, N.W.
Washington, D.C. 20230

RE: Follow-up Recommendations to the EXIM Bank Lending Terms for Climate Change Sector Understanding (CCSU)

ETTAC Recommendation 2024-8

Dear Secretary Raimondo:

The Environmental Technologies Trade Advisory Committee (ETTAC) is a federally established committee whose purpose is to advise on the policies and procedures of the U.S. government that affect exports of environmental technologies, goods and services in the air, water, waste and recycling sectors. This includes small to large businesses and trade associations. In this capacity the ETTAC appreciates the opportunity to provide recommendations to help support U.S. exports of environmental technologies for projects that might lack commercial financing viability.

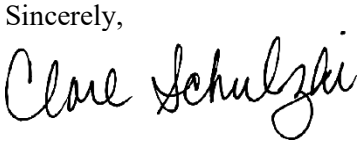
On May 20, 2022, ETTAC submitted a Recommendation Letter *(Recommended Changes to the Ex-Im Lending Terms for Climate Change Sector Understanding (CCSU) ETTAC Recommendation 2021-13)* to advise on the EXIM Bank Lending Criteria under the CCSU addendum to enhance the existing terms in order to increase export credit finance investment opportunities towards climate and environment related projects. ETTAC is pleased some of our recommendations were utilized in the eligibility criteria for climate change mitigation projects under the modernized OECD Arrangement on Officially Supported Export Credits. In response to a recent EXIM staff request, on behalf of the negotiating team from the U.S. Export-Import Bank and the U.S. Department of Treasury, ETTAC is providing additional recommendations to further expand upon the applicable environmental, climate mitigation and adaptation technologies list.

In order to better align applicable lending funds with current industry advancements and available technologies, ETTAC proposes updating the list of 'Project Classes' and corresponding technology 'Types' for consideration in the negotiations in the OECD Arrangement on Officially Supported Export Credits. Please see the attached addendum for ETTAC's recommendations to the CCSU APPENDIX I: ELIGIBILITY CRITERIA FOR CLIMATE CHANGE MITIGATION PROJECTS.

We believe these recommendations will expand the scope of EXIM Bank's financing to facilitate the competitive export of innovative U.S. environmental technologies for renewable energy and other climate change mitigation and adaptation projects and provide a platform for global adoption of emerging environmental technologies essential to global energy transition and decarbonization.

We appreciate the Administration's consideration of these comments and suggestions.

Sincerely,



Clare Schulzki
ETTAC Chair

CC: Department of the Treasury
Export-Import Bank of the United States

APPENDIX

RECOMMENDATIONS ON ELIGIBILITY CRITERIA FOR CLIMATE CHANGE MITIGATION PROJECTS

For Consideration to Include in the Approved List for CCSU Funding

PROJECT CLASS A: Environmentally Sustainable Energy Production

Type 1: Renewable Energy

Type 2: Electricity Production from Clean Hydrogen

Additional Types for Consideration

TYPE 3: Efficiency projects that reduce overall energy demand and or produce circular economies should be included. Establish how carbon intensity and footprint is measured to account for parasitic loads. There is a framework for this, but it is contingent upon the extent of supply chain inputs and outputs.

PROJECT CLASS B: Remediation Projects in Fossil Fuel Plants, Fossil Fuel Substitution

TYPE 1: Fossil Fuel Power Plants with Operational Carbon Capture and Storage (CCS)

- **Recommendation 1**: ETTAC suggests the EXIM Bank considers that any carbon capture that reduces the carbon footprint of a facility should qualify. The efficiency of the capture technology would determine the amount of financing available. For example, 20 percent carbon capture would qualify for 21 – 50 percent financing; 50 percent carbon capture would qualify for 50- 70 percent financing.
- **Recommendation 2**: Per Executive Order 14057, Section 603.d, the EPA should develop requirements for CCS. While such requirements have not yet been developed, the Department of Energy targets technologies that remove up to 90% CO2. That said, there are only a few CCS projects in the world at scale, and when one considers operational time, etc., these technologies capture approximately 50% of CO2 emissions.
- **Recommendation 3**: While Type 1 focuses on CCS or reuse, it does not address parasitic burn, i.e. extra fuel needed to generate energy to run a carbon capture system). The carbon intensity threshold refers to how many grams of CO2 are released to produce a kWh of electricity. However, 90% carbon capture may need to burn 25% more fuel. Subsequently, net reduction is only 67.5%. Carbon storage may require additional fuel, further reducing the carbon intensity. Point of Source carbon emission measurements (concentration reduction) is insufficient as it does not address parasitic burn. A Life Cycle Assessment (LCA) should be conducted to confirm the net carbon footprint (carbon capture, parasitic load, etc.) to determine financing eligibility.
- **Recommendation 4**: Establish how carbon intensity and footprint is measured to account for parasitic loads. This could be done following ISO LCA standards 14040/14044, which provides a broad framework for applying LCA to a wide range of applications to avoid inconsistencies in modeling choices and results interpretation.
-

TYPE 2: Waste to Energy

- **Recommendation 1**: Irrespective of emissions specific thresholds, although energy conversion efficiency thresholds are attainable, there are multiple ways to calculate the carbon intensity (CI) and carbon savings of a facility. To facilitate the assessment

of projects, emissions, irrespective of the source, should be reported in terms of Carbon Equivalency (CO2e). If one has a process whereby one reduces CO2, but releases more methane, then one may end up releasing more GHG than one is capturing. This is because the GHG warming potential for methane can be 25-85 times higher than CO2 depending on the time frame calculation. Therefore, calculations based on a comparable number basis (CO2e) allows a reviewer to compare apples to apples across various sources of emissions.

- Identifying a particular technology from which to measure a direct GHG concentration reduction is not sufficient to quantifying emissions reductions or efficiency. To fully assess a project's impact on emissions, an LCA i.e. cradle to grave assessment of all raw materials, including extraction, transportation, and disposal is critical. A "standard" LCA does not exist for the industry, nor is there a framework for conducting an industry wide LCA. LCAs are plant specific. It can identify baseline emissions and measure the total impact of emissions reductions. All LCAs should be reported in terms of (CO2e).
- **Recommendation 2**: There needs to be clear rules on how to calculate CI and reductions, and eligibility of those performing the calculations. Presently Q45 does not accept pilot data for an LCA. Consequently, there is no clear pathway for financing approval, which can increase associated lending risk. Pilot data is required to identify the range of emissions reductions and approve the project. Later, once the plant is built, the project can be revisited to finalize emissions savings.

TYPE 3: Hybrid Power Plants

- **Recommendation 1**: Renewables are always a favorable technology to offset carbon. Two component financing with different terms for each component may be the most appropriate approach. However, it would be difficult to enforce Model 1 without significant data capture resources built into the system to record how much time the plant is utilizing a particular input. Without a data recording system, the process can be manipulated, resulting in increased emissions.
- **Recommendation 2**: ETTAC cautions against putting minimum thresholds on carbon capture to qualify, as any carbon reduction should be welcomed as long as it meets the definition of a reduction from current carbon output or negative carbon intensity. Unless data collection is able to clearly define which energy is used to produce energy at that time of day, then it will be difficult. A significant amount of regulation and ISO standards around calculation and methodology would be needed to prevent abuse of the credit regulation and avoid potential loopholes. In the meantime, it is recommended to have a single standard for minimum usage thresholds for both operating models.
- **Additional Types for Consideration**

TYPE 4: Hydrogen Production
TYPE 5: Syngas
TYPE 6: Biogas
TYPE 7: Methane Mitigation

PROJECT CLASS C: Energy Efficiency

TYPE 1: Combined Heat & Power Projects

- **Recommendation 1**: Combined heat & power systems (CHP) can approach 90% efficiency but are typically in the 65-80% range. The existing 75% standard is an efficient system. It is recommended to not impose strict minimums on existing CHP

systems, if the project is providing significant improvement in net carbon footprint. If it is a new CHP system, recommended minimum threshold should exceed 80%

- **Recommendation 2**: Establish how carbon intensity and footprint is measured to account for parasitic loads. There is a framework for this, but it is contingent upon the extent of supply chain inputs and outputs. This could be done following ISO LCA standards 14040/14044, which provides a broad framework for applying LCA to a wide range of applications to avoid inconsistencies in modeling choices and results interpretation.
- TYPE 3: Smart Grids
- **Recommendation 2**: There is a real need for this type of technology and upgrading of systems of distribution where funding is difficult to tap. However, it is recommended to recategorize it under PROJECT CLASS E as a TYPE 3 in order to have all grid related items in one place. Although Smart Grid facilitates minimizing costs and environmental impacts while maximizing system reliability, resiliency, flexibility, and stability it should not be grouped as an Energy Efficiency project. We agree with aligning maximum payment term with PROJECT CLASS E and 22 years, not 15.

PROJECT CLASS D: Carbon Capture, Utilization and Storage (CCUS)

- **Recommendation 1**: Solely focusing on direct air carbon capture does not allow for the scoping of other potential carbon removal pathways and may limit alternative and new innovative technologies. There is ample room for consideration of other diverse carbon removal projects, be it direct air capture, marine carbon removal, enhanced weathering, and more.
- **Recommendation 2**: Geological and permanent sequestrations also ignore products generated by carbon capture that will not be emitted into the atmosphere. ETTAC suggests including a definition for circular economies where CO2 is recaptured and reused in a closed loop, i.e. “any form of CO2 capture and sequestration into a position whereby it may not be re-introduced into the environment for a period of 20 years or more or reused and recaptured to prevent it from leaving the process.”
- **Recommendation 3**: The rationale column is currently focused on point source carbon capture. ETTAC suggests adding in something language about carbon removal as well, i.e. "To significantly reduce carbon emissions from existing sources and remove carbon from the atmosphere to be aligned with the Intergovernmental Panel on Climate Change's reports."
- **Recommendation 4**: To help encompass a range of promising carbon removal pathways like enhanced rock weathering, marine carbon removal, biochar, and more, the standards should include language such as, "Additional standards will be considered that adhere to the best available science as additional carbon removal pathways scale".

Additional Types for Consideration

TYPE 4: CCS for Natural Gas Fired Stationary RICE and Turbines for Compression or EGU

TYPE 5: Transport of captured carbon from source to storage

TYPE 6: Functional utilization of carbon dioxide (not limited to storage)

TYPE 7: Utilization at chemical and other industrial (e.g. steel and concrete) non-power generation facilities

TYPE 8: Direct air capture

TYPE 9: Bioenergy + CCS (BECCS)

PROJECT CLASS F: Clean Hydrogen and Ammonia

Type 1: Clean Hydrogen Production

- **Recommendation 1**: The first eligibility standard can only apply to green hydrogen. It is reasonable to believe that this standard is achievable for eligibility. Blue hydrogen would not be expected to meet this standard. The second eligibility standard could apply to blue hydrogen, and this standard is achievable for eligibility.

Type 2: Clean Ammonia Production

Type 3: Transmission, Distribution, and Storage of Hydrogen

PROJECT CLASS G: Low Emissions Manufacturing

Recommendation 1: The use of a carbon capture product that creates a circular economy should be included within this class. Some products permanently sequester CO2, while other raw products produced from CO2 capture may re-emit CO2 from their use. However, if the product is re-used and the CO2 is re-captured, it deserves an additional class. For example, the glass industry uses soda ash and natural gas to make glass. CO2 released from these two raw ingredients are emitted but recaptured and re-used over and over again. Subsequently, it is permanently sequestered. Additionally, every batch of soda ash that is not purchased and used, is an additional CO2 savings to the atmosphere.

Additional Types for Consideration

TYPE 4: Efficiency projects that reduce overall energy demand and or produce circular economies should be included. Establish how carbon intensity and footprint is measured to account for parasitic loads. There is a framework for this, but it is contingent upon the extent of supply chain inputs and outputs.

PROJECT CLASS J: Production of Clean Liquid and Gaseous Fuels

- **Recommendation 1**: On the definition of clean/renewable fuel, it is recommended to review this information from Clean Fuels Alliance America, the U.S. industry association: https://cleanfuels.org/clean-fuels-101/. Each tab (scroll down, see "Biodiesel, Renewable Diesel, sustainable aviation fuel (SAF), Bioheat") cites the ASTM international standards used by the industry: D975, D6751, D7467. As noted earlier, U.S. IRS uses ASTM D7566 and D1655 (Annex1) to define SAF Project Class D: Decarbonizing Sectors

TYPE 1: High Temperature Industrial Processes (e.g. hydrogen production, cement production)

TYPE 2: Power Generation

TYPE 3: Transportation

TYPE 4: Marine and Ports

TYPE 5: Manufacturing (e.g. chemical, cement, steel, pulp & paper)

TYPE 6: Energy Storage (e.g. battery alternatives, pumped hydro storage)

Additional Classes or Types for Consideration

TYPE 9: Criteria Pollutants, HAPS and GHG (carbon dioxide, methane, NOx, fluorinated gases) Measurement and Control Technologies.