United States House of Representatives
Select Committee on the Climate Crisis

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"Solving the Climate Crisis:
Manufacturing Jobs for America's Workers"

Questions for the Record

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The Honorable Kathy Castor

1. **What types of Federal policies should Congress enact to facilitate greater manufacturing of clean vehicle and clean energy technologies in the United States?**

An effective advanced and electric vehicle manufacturing agenda would couple strong globally leading standards and targets—most notably globally leading, strong, long-term fuel economy and vehicle greenhouse gas (GHG) standards—which give companies the certainty they need to invest in America, together with an aggressive push to manufacture vehicles and strategic components here in the United States.

The key elements of that agenda include:

- A robust investment to spur advanced and electric vehicle (EV) and technology manufacturing and supply chain. This could include:
    - New programs to support establishing, upgrading or converting domestic clean vehicle and technology manufacturing—such as an industrial bank, new bonds, grants, or revolving loan programs.
- Expansion of the loan, grant, and tax programs we have today to help companies build, retool, or convert manufacturing plants in America. These include, for example, the Advanced Technology Vehicles Manufacturing (ATVM) loan program, 48C manufacturing tax credit, the Section 132 manufacturing conversion grant program, and others. Across these programs, to enhance the benefits for the economy, communities, and working people, we should:
    - Incentivize responsible labor, community, and supply chain practices and prioritize reinvestment in existing or idle facilities and in deindustrialized, impacted, underinvested communities;
    - Prioritize economically strategic and emerging technology and materials; and
    - Encourage consortia of assemblers and suppliers—and small- and medium-sized manufacturers—and aid states and municipalities in investing in local priorities and clusters.

- Act to responsibly produce critical minerals and materials and to launch new domestic recycling and reclamation projects—.as discussed further below;
- Boost public investment in EV fleets and infrastructure and ensure that all public spending supports efforts to build critical components here and to secure and build good family-supporting jobs. This means:
    - Improving, enhancing, and extending the applicability of long-standing procurement standards and tools such as Buy America/n and Davis Bacon prevailing wage—as well as newer procurement approaches that enhance labor standards, workers' rights, career pathways, equity and community benefits—to ensure the use of domestically manufactured, clean, and safe vehicles and infrastructure and to raise labor standards throughout the supply chain; and
    - Ensuring <u>all</u> public spending—such as tax incentives, loan, grants, and bonds—also support—and do not undermine—the manufacturing of domestic clean vehicle technology in America, and promoting high labor standards, and safe and healthy manufacturing throughout the supply chain.
- Make globally competitive levels of investment in research and development and ensure innovation is translated into domestic manufacturing and growth of supplier networks. This could include, for example:
    - Establishing and implementing a national clean energy and technology manufacturing strategy;
    - At least doubling funding for research, development, and deployment (RD&D) to levels commensurate with competitor nations, and enhancing and emphasizing initiatives focused on translating tax-payer funded R&D into full-scale deployment and manufacturing;
    - Establishing coordinated RD&D and manufacturing initiatives aimed at capturing the full supply chains for critical clean technologies—such as EV cells, batteries, and related electronics—in the United States; and
    - A focus on developing and deploying innovative recycling and reclamation initiatives for key materials in the advanced automotive supply chain.
- Enact fairer trade, labor, and corporate tax policies that can stem advanced tech offshoring and exploitative labor practices while driving a new generation of investment in domestic plants, workers, and training.

2. How could Federal policies encourage greater reclamation and recycling of lithium-ion batteries from electric vehicles? Are there any promising state policy models that could be an example?

Federal policy makers should make it a priority to explore ways to jump-start domestic efforts to responsibly reclaim and recycle key economically strategic materials—such as lithium—and to spur deployment of innovative circular economy processes and products.

Past experience with conventional lead acid automotive batteries has shown that very high recycling rates are possible, but that moving the recycling processes to other countries both costs jobs in the United States, and can result in serious lead pollution and exposure problems in the host country if there are less stringent environmental standards and oversight.[i]

With the new generation of lithium ion automotive batteries (and any subsequent battery chemistries), developing economically, socially and environmentally responsible recycling processes domestically will be critical and can also help ensure a more secure domestic supply of lithium. The same is true of many other comparatively rare minerals and materials that are part of advanced vehicles.

There may also be important second life use of electric vehicle batteries, and any recycling processes likely should be coordinated with increasing use of similar batteries for residential, commercial, and utility energy storage.

Federal policies that could spur the development of effective advanced battery recycling include, for example:

- Develop a national strategy to ensure we are creating the materials necessary for a clean and secure energy future here in the United States;
- Include investment to spur domestic projects to responsibly reclaim and recycle strategic minerals and materials—or to deploy circular economy technologies—as one of several key priorities for an industrial bank, or revolving loan fund, as discussed above; and
- Enhance funding to develop and deploy new recycling and reclamation approaches through existing grant, loan, tax, and other clean energy investment incentives.

BlueGreen Alliance is just now beginning a review of state level policies that may be relevant—so we are unable to answer this portion of the question comprehensively—but initial assessment suggests that, a) encouraging states to address recycling proactively as the industry matures will be extremely valuable, and b) across materials recycling and reclamation, some federal role to sustain effective recycling programs across the inevitable wide swings in global commodity prices will be essential.

3. **In your testimony, you mentioned the potential for offshore wind development in the United States. What policies should Congress adopt to ensure that American workers benefit from deployment of this vast, clean resource?**

The potential for responsible offshore wind development in the United States is indeed substantial. According to the U.S. Department of Energy, if we utilized even one percent of the nation's technical potential offshore wind capacity, we could power nearly 6.5 million homes. We have the technology to harness wind power off the coasts of at least half of our states, and the industry is rapidly expanding both domestically and internationally.[ii]

With this industry expansion comes tremendous potential to create and sustain quality, union jobs. Jobs in the offshore wind industry include designing the wind farm; constructing the onshore substations; laying cable interconnections; erecting the turbines; permitting; manufacturing rotor and nacelle controls, gearboxes, drive trains, generator and power electronics, steel towers, electrical wiring, advanced polymers, and coatings; construction; and operations and maintenance. Trades included in these various stages include operating engineers, pile drivers, millwrights, welders, electrical workers, utility workers, ironworkers, steelworkers, and machinists.

Estimates put job creation potential off the Atlantic Coast alone at somewhere between 133,000 and 212,000 jobs per year in the United States.[iii] Additionally, the National Renewable Energy Laboratory (NREL) cites that the Atlantic coast states could create $200 billion in new economic opportunity, as well as over 43,000 high-paying, permanent jobs, simply by developing 54 GW of their 1,283 GW offshore wind energy potential.[iv]

In order to truly capture the full benefits and potential of these projects, it is critical that they are built by skilled workers who are paid family-sustaining wages, with project labor agreements in place, and with materials manufactured here in the United States.

Offshore wind projects rely heavily on skilled labor and advanced manufacturing for construction, installation, maintenance, and operations. For example, the Block Island project—a comparatively small, demonstration project—created more than 300 jobs in the state alone[v] for local unionized craftsmen in ten different building trades locals, working for 30 unionized contractors and subcontractors.[vi] This was thanks—in large part—to the project labor agreement (PLA) in place for Block Island.

PLAs are particularly critical in these projects because they bring coordinated, proactive planning to complex projects; provide crucial benefits to local communities in terms of skills training, employment opportunities, and future workforce development; and ensure that the most productive and skilled craft labor is available to work on a project. In addition, as wind farms and their components age, skilled workers in operations and maintenance will continue to prove necessary to the operation of the farms, so it is important to ensure that jobs throughout the life cycle of a wind farm are quality, family-sustaining jobs

In addition to the construction phase of these projects, a critical component of the job creation potential for the offshore wind sector is the vast manufacturing supply chain that offers major opportunities for growth in a variety of sectors.

As the industry grows, sourcing components domestically represents a significant opportunity to help revitalize American manufacturing. The Special Initiative for Offshore Wind's recent white paper predicts an almost $70 billion buildout of U.S. offshore wind supply chain by calculating growth in a number of sectors, which include wind turbines and towers; turbine and substation foundations; upland, export, and array cables; onshore and offshore substations; and marine support, insurance, and project management.[vii]

Finally, the development of wind energy off our coasts can also provide important and much needed support to local communities in our coastal states. Community benefit agreements, designed in coordination with organized labor and local community organizations, help maximize a project's contribution to local communities, and ensure that local communities support the project in question.

If we do this right, the American people can feel confident that emerging industries—such as offshore wind—will secure employment today and support the creation a new generation of family-supporting jobs across the nation.

By supporting a wide variety of workforce development strategies targeted at this burgeoning sector, including union training and apprenticeship programs, legislation like the H.R. 3068 the Offshore Wind Jobs and Opportunity Act can also help ensure that workers have access to the skills training they need to take advantage of this important and emerging industry.

4. **What are other countries doing to secure their piece of the market in the global clean energy economy? What can we learn from them?**

Worldwide, countries are rushing to capture the economic benefits of the rapidly growing clean energy economy—and they are using the full range of policy tools to do so. If it is to compete, the United States needs a much more aggressive and coordinated strategy to capture the innovation, investment, jobs, and manufacturing gains from the clean economy.

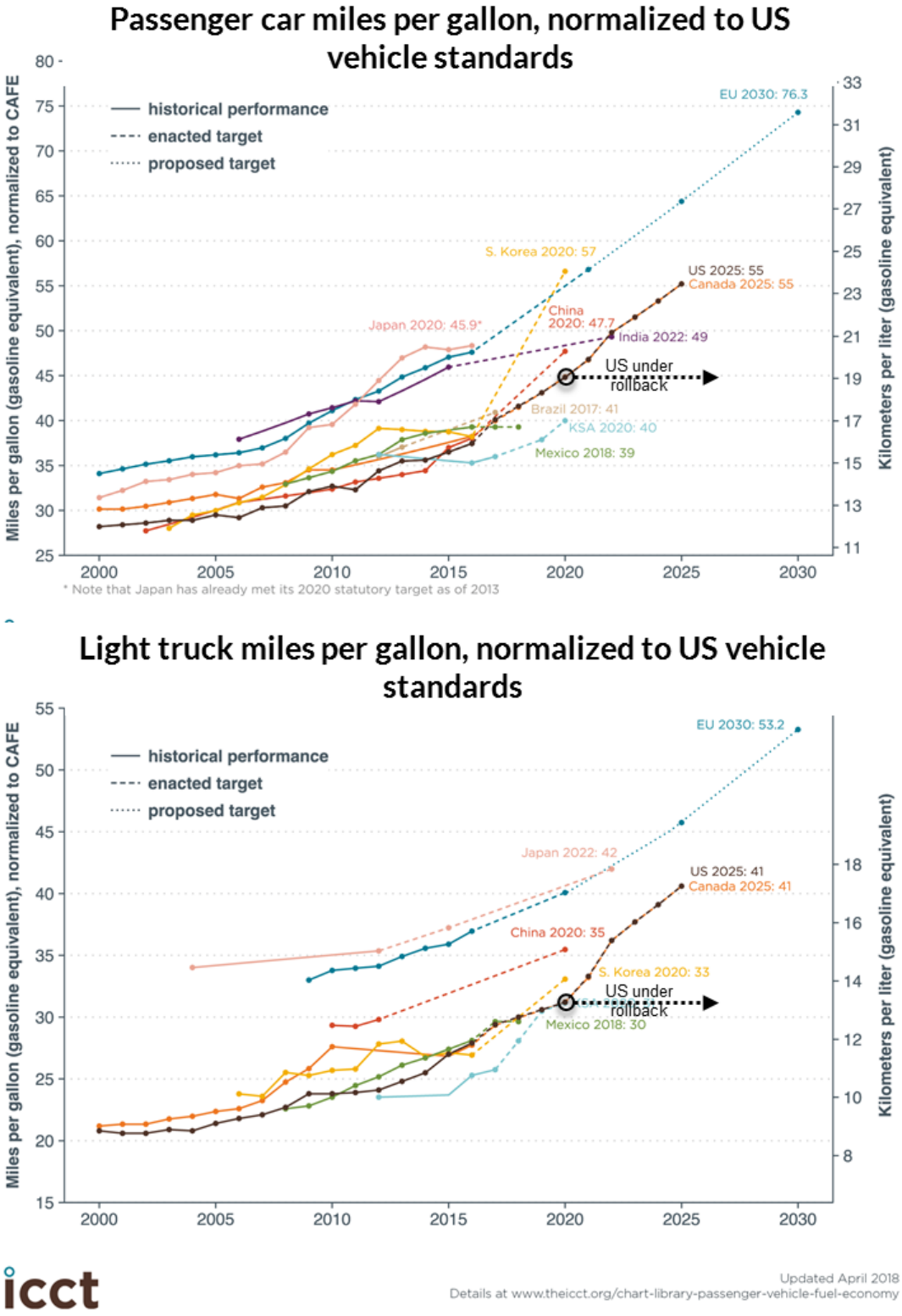
BlueGreen Alliance has not itself carried out any recent detailed research on global policy shifts, but a number of our partners and allies have focused on this question, and we would urge the committee to engage them further on this topic. Drawing on their expertise, however, and looking at the EV industry as an example, we make a few high-level comments about what is needed:

- Coordinated strategy and industrial policy: Both in China and the European Union, as well as elsewhere, countries are developing comprehensive long term strategies to deploy and produce EVs and the key technologies that go into them. These strategies often include energy and emissions targets and regulations, consumer and industry incentives, and economic development and manufacturing strategies working together. The United Auto Workers 's recent report *Taking the High Road: Strategies for a Fair EV Future* provides a brief summary of EV policy, incentives, and approaches globally.[viii]

- Long-term policy leadership: Strong, certain, long-term emissions standards and targets are critical to giving manufacturers the certainty about future markets necessary to make large long-term investments in advanced technology manufacturing. Where countries' markets lead, investment follows. Over the past decade U.S. vehicle emissions standards have moved to equal or exceed those worldwide. As shown in Figure 1 below, however, a rollback of current fuel economy standards would put other nations back in the driving seat. The Motor Equipment Manufacturers Association—the largest automotive supplier association—has testified to the impact that this change in direction and continued uncertainty could mean to decisions multinational corporations make with respect to where they located their advanced technology manufacturing.[ix]

- Turning innovation into manufacturing and jobs: A number of countries, but particularly Germany and the EU, have more comprehensive programs for coupling R&D, commercialization, manufacturing, and workforce development and a focus on developing expertise and manufacturing across the full electric propulsion supply chain.[x] Many opportunities exist to better coordinate and fund U.S. RD&D and manufacturing programs, and to better ensure that taxpayer funded innovation, patents, and intellectual property are turned into to domestic manufacturing and jobs gains.

Figure 1: Comparison of vehicle emissions standards worldwide. Underlying diagrams come from the International Council on Clean Transportation (ICCT)[xi] with titles and bars showing rollback added by BlueGreen Alliance.



5. **In your testimony, you described the Solidarity for Climate Action principles labor unions and environmental groups developed jointly. The principles include a call for a commitment to high-quality job creation across all sectors of the economy, but especially related to clean energy, adaptation, and resilience. There are existing domestic manufacturing plants that could be retooled or converted to focus on manufacturing advanced and electric vehicles and other new technologies. What kind of Federal policy could incentivize companies to invest in upgrading these plants?**

There is a lot more federal policymakers could do to help ensure we manufacture advanced and electric vehicles and technology—and other clean energy, technology and materials—in existing manufacturing plants, and that America's manufacturing workers and communities see the benefits of technological innovation and change.

As discussed above, an effective clean technology manufacturing agenda would couple globally leading energy and vehicle standards and targets—which give companies the certainty they need to invest in America—with an aggressive push to manufacture vehicles and strategic components here in the United States.

As part of a robust and coordinated manufacturing agenda, any new industrial bank or revolving loan program should prioritize investment in existing or idle facilities and in deindustrialized, impacted, underinvested communities. There is also room to better utilize existing programs. The ATVM Loan Program, for example, expressly funds manufacturing retooling and plant conversion and could be improved and expanded to be applicable to a wider range of facilities. Similarly, Section 132 of the Energy Independence and Security Act of 2007 created a program to provide grants specifically to convert existing or recently closed facilities to build clean vehicle technology—but was never funded by congress.

In addition, policymakers need to stop and reverse actions and policies that encourage plant closures and offshoring and drive the jobs of the future overseas. This includes:

- Realigning corporate tax and finance rules and incentives to encourage investment in domestic plants and workers and to discourage outsourcing and offshoring—particularly in critical energy and technology sectors; and
- Ensuring that any NAFTA replacement includes strong, fair, and enforceable labor and environmental standards and that existing trade rules and remedies are improved and enforced.

Finally our energy and climate policy choices matter. For example, since 2007 smartly structured fuel economy and vehicle GHG standards have driven tens of billions of dollars in reinvestment in American manufacturing across the automotive supply chain.[xii] As we discuss in detail in our recent report *Tech@Risk,* the proposed rollback or radical weakening of these standards not only puts jobs in todays factories at risk, it discourages future investment to locate, upgrade, retool, or convert American factories to build the clean vehicle technologies of the future at the potential cost of nearly 90,000 future manufacturing jobs.[xiii]

6. **Congress has provided incentives to wind and solar companies to expedite deployment of this zero-carbon source of electricity. When crafting these incentives, how can Congress ensure workers benefit from this expanding sector?**

As discussed above, all our major incentives and public investments—not just those in infrastructure—can and should be structured to ensure they create good jobs and build strong clean energy manufacturing industries in America.

Congress should consider requiring strong procurement policies that ensure the use of domestic, clean, and safe materials and technology made by law-abiding corporations throughout the supply chain for all purchases made with public funds provided by tax incentives. In addition, Congress should consider requiring mandatory labor standards for employers accepting clean energy tax incentives—including prevailing wages, safety and health protections, project labor agreements, community benefit agreements, local hire, and other provisions and practices that prioritize improving training, working conditions, and project benefits.

The *Good Jobs for 21st Century Energy Act* recently introduced by Senator Merkley and 10 co-sponsors provides an initial example of some such policy provisions with respect to energy tax credits.[xiv]

The Honorable Mike Levin

1. **Ms. Lipman, what are your views on a Federal "Buy Clean" policy?**

The manufacture of raw building materials like steel and cement produces 11% of total global greenhouse gas emissions and is on the rise. But because these commodities are exported around the world, the countries that consume them rarely account for the carbon it took to produce them, and manufacturers are not rewarded for making low-carbon products.

Buy Clean policies help close this "carbon loophole" by helping ensure taxpayer dollars are spent on climate-friendly materials for infrastructure and building projects. Wide-scale adoption of Buy Clean state and federal purchasing programs would reward companies that are cleaner and more efficient. It would give American manufacturers and workers a tremendous opportunity to take the lead in growing markets for low-carbon products, and help prevent the offshoring of pollution and jobs overseas.

2. **If Congress were to adopt a Federal "Buy Clean" policy, what essential elements would need to be part of the policy?**

In crafting a policy of this kind, it is essential to work together with agencies, business, labor, and other key stakeholders to develop a strong solution and policy framework.

A key design consideration should be the impact of this policy on the U.S. industrial sector and the competitiveness of our manufacturers. The policy must result in a strengthening of U.S. manufacturing and ensure quality manufacturing jobs here in the United States. Without careful attention to the trade exposed nature of these industries, unintended consequences could occur. This consideration should inform policy design, including structure and application of the standard.

At a federal level it would be helpful to identify what products the federal government procures by agency above a certain de minimus threshold, in order to craft a policy that is most efficient and impactful. In general, however, the policy could be structured in the following ways:

- Apply to procurement of all construction materials for public building and infrastructure projects;
- Apply to procurement of products within a material type, rather than between material types; and
- Create a selected list of "eligible materials" determined by domestic manufacturing, current emissions levels, and potentially considering trade exposed products.

Congress could also consider incorporating high labor standards and land, air, and water pollution into procurement determinations. We believe this could work in tandem with Buy Clean, where the federal government would set emissions, pollution and labor standards for an "eligible entity" to be able to be considered for federal public projects.

Finally, any Buy Clean policy must go hand in hand with complementary policies that invest in U.S. manufacturing. Ultimately, Buy Clean policy should make U.S. industry stronger and more competitive. These investments should include funding and financing for investments to reduce emissions in the industrial sector, technical assistance, and increased funding for research, development, demonstration, and deployment of the transformative technologies that will be required to decarbonize the industrial sector.

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