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Before the

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Hearing on "Opportunities in Industrial Decarbonization: Delivering Benefits for the Economy and the Climate"

CHFC Testimony:

The Role of Clean Hydrogen in Industrial Decarbonization

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Introduction and Background on the Clean Hydrogen Future Coalition

Thank you, Chairman Carper, Ranking Member Capito, and members of the committee for this opportunity to discuss opportunities for industrial decarbonization, and how it can deliver benefits for the economy and climate.

Modeling by the Intergovernmental Panel on Climate Change (IPCC) and others predicts that global climate change mitigation efforts will fall short of the 2°C target unless the world's energy system — from power generation to all end-use sectors — undertakes substantial technological changes. One of the most viable technology pathways that international climate modeling authorities have identified for meeting those climate targets is clean hydrogen.

Clean hydrogen is a game changer and has the ability to accelerate decarbonization across all sectors of the U.S. economy, as well as transition existing — and create new — skilled, high paying jobs needed to support the clean energy transition. Multiple domestic industries have identified clean hydrogen as a critical component of their strategy for achieving net-zero greenhouse gas (GHG) emission targets.

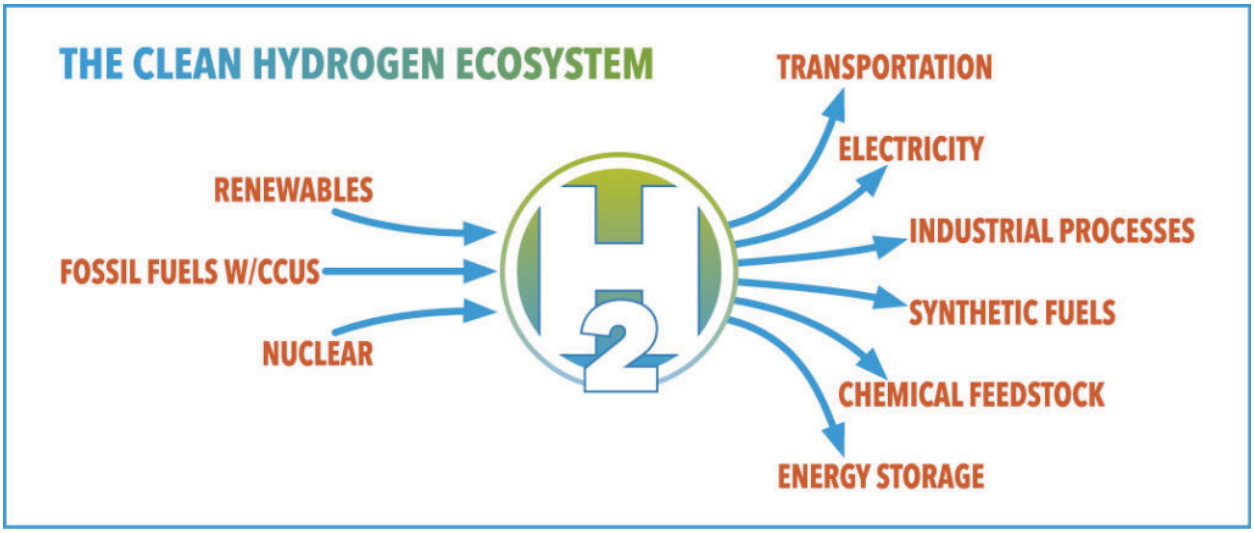

Figure 1: The Clean Hydrogen Ecosystem

The CHFC was founded to bring together a diverse set of stakeholders to promote clean hydrogen as a critical pathway to achieve global decarbonization objectives while also increasing U.S. global competitiveness. The coalition came together around the foundational principle to decarbonize the economy through the advancement of technology neutral and resource agnostic policy needed for clean hydrogen to be able to be widely used throughout our energy system.

The CHFC membership reflects the full clean hydrogen ecosystem, including energy companies, labor unions, utilities, NGOs, equipment suppliers and project developers who are committed to

the advancement of a net zero GHG economy that is supported by new and existing infrastructure across the supply chain to fully scale clean hydrogen production and use in the U.S. Success in reaching our decarbonization goals will require a robust and sustained set of policies to incentivize investments in clean hydrogen production, distribution, and use throughout the economy. Several of our members represent a variety of sectors that already use hydrogen, or that can use hydrogen as a replacement fuel or feedstock, and new users of hydrogen, including those industries that currently produce and use hydrogen in the U.S., and which will be the focus of this testimony.

Existing Industrial Markets for Hydrogen and its Potential to Decarbonize Industry

Clean – or low-carbon – hydrogen has significant potential to decarbonize the industrial sector in both existing market applications that typically use fossil-derived hydrogen as well as in new industrial applications that do not currently use hydrogen. In industrial processes where hydrogen is combusted, it does not emit carbon dioxide (CO_2). In processes where hydrogen is used as a feedstock, replacing it with clean hydrogen will lower the GHG emissions profile of those products.

Existing Industrial Hydrogen Uses

Today, the primary demand for fossil-derived hydrogen is as a chemical feedstock in petroleum refining to remove sulfur and upgrade heavy oil into more refined fuels (55% of total U.S. hydrogen use) and ammonia for fertilizer production (35%).[1] Other existing industrial applications use hydrogen in smaller quantities including combining hydrogen and CO_2 to produce methanol and which serves as a feedstock to produce other fuels and chemicals such as plastics.

Approximately 10 million metric tons (MMT) of hydrogen are domestically produced annually for these end uses, almost totally from natural gas.[2] The reason for this is because of the low-cost and abundant supplies of natural gas, which also reflects the existing infrastructure available to transport and distribute natural gas at low cost to industrial facilities.

The largest share of hydrogen produced and used domestically is in the refining and ammonia sectors. Clean hydrogen can serve as a replacement for the carbon-intensive hydrogen currently used in those sectors and result in lower CO_2 emissions. If the current hydrogen production, nearly all of which is produced with natural gas using steam methane reforming, utilized 90% CO_2 capture and storage, emissions would be reduced by more than 80 MMT per year, and that amount would increase if some of the clean hydrogen is produced by electrolysis using electricity from non-emitting sources. By comparison, current direct industrial sector emissions are 1490 MMT annually, which means current hydrogen production, if decarbonized, could reduce industrial emissions by 5.5% annually.[3] Replacing the fossil-derived hydrogen with clean hydrogen represents an immediate opportunity to decarbonize these industrial uses of hydrogen.

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[1] U.S. Department of Energy, "Pathways to Commercial Liftoff: Clean Hydrogen", March 2023
[2] U.S. Department of Energy, "Pathways to Commercial Liftoff: Clean Hydrogen", March 2023
[3] U.S. Environmental Protection Agency Greenhouse Gas Inventory, April 2023.

In addition, utilizing or repurposing existing infrastructure that already serves carbon-intensive industries that cannot be electrified will be a cost-effective way to immediately move toward industrial decarbonization. America's existing pipeline infrastructure serves many of the identified existing industrial sectors and can be used to transport blends of hydrogen and immediately begin reducing the GHG emissions of those industries.

Clean Hydrogen Production

There are two main pathways to produce clean hydrogen:

1. Electrolytic hydrogen, which uses zero-emissions energy such as nuclear or renewable energy, to power an electrolyzer that passes an electric current through water, splitting it into hydrogen and oxygen.
2. Reforming fossil fuels with carbon capture and storage (CCS), which uses fossil fuels to create hydrogen and then captures and stores the CO2 emissions produced in the process.

New Industrial Uses of Clean Hydrogen

There are other industrial processes that do not currently use hydrogen, but can, or even may need to, use clean hydrogen to reduce GHG emissions.

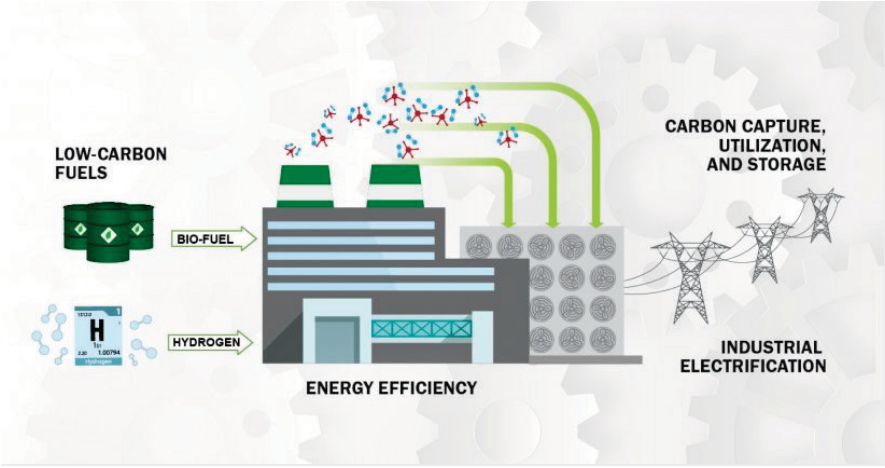

Figure 2: Role of Clean Hydrogen in Industrial Decarbonization[4]

The U.S. steel industry heavily relies on fossil fuels as a reducing agent with the iron ore to produce steel products. A blast furnace heats purified coal or coke, limestone, and iron ore, then injects it with oxygen to remove impurities. An alternative process for processing iron ore is the direct reduced iron (DRI) method, which removes oxygen from iron ore in the solid state, without melting it. The reducing agents are typically reformed natural gas or coal. Given domestic steelmaking represents approximately 8% of total domestic industrial GHG emissions,

[4] Source: U.S. Department of Energy

replacing the fossil fuels with clean hydrogen can significantly contribute to reduced industrial GHG emissions and the steelmaking process.[5]

Other industries that require high-heat intensity processes, such as cement, can use clean hydrogen to produce the high heat energies required. New uses of clean hydrogen that can substantially reduce emissions include the production of sustainable aviation fuel (SAF) which utilizes captured CO_2 emissions and clean hydrogen to make fuel.

Federal Policy Support for Industrial Decarbonization and Clean Hydrogen

Congress has embraced the role clean hydrogen can play in our country's industrial decarbonization goals through enactment of major federal programs, including providing funding for industrial decarbonization grants in both the Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA); the Clean Hydrogen Hub program created in BIL; and the Section 45V clean hydrogen production tax credit program established in the IRA.

Nearly $6 billion in funding appropriated by Congress in both the BIL and IRA recognized the contributions that clean hydrogen can make to decarbonize the U.S. industrial sector. Currently, the Department of Energy (DOE) is reviewing applications for which it solicited proposals for using clean hydrogen in some of the highest emitting, hardest-to-abate industries where rapidly deployed decarbonization technologies can have the greatest impact, including iron, steel production, and steel mill products. In this funding opportunity, hydrogen and carbon capture-specific projects should be transformative and specific to the Department's industrial decarbonization objectives. Hydrogen-based, direct reduced iron making facilities; hybrid glass furnace approaches such as hydrogen fueling with electrification; the development of new ironmaking or steelmaking technologies using hydrogen integration; or the conversion of existing iron and steelmaking thermal processes using hydrogen integration are just some examples of how hydrogen will be used in this program and others to help decarbonize the U.S. industrial sector.

The Regional Clean Hydrogen Hub program administered by DOE seeks to create interconnected networks of clean hydrogen infrastructure, producers, and consumers, promoting clean hydrogen as an energy carrier and energy storage solution while facilitating the commercial-scale adoption of clean hydrogen. Congress appropriated $8 billion for this program to establish a minimum of four regional clean hydrogen hubs with at least two regional clean hydrogen hubs to be located in the regions of the United States with the greatest natural gas resources. The other two can be located in any region of the United States as long as they meet the criteria of feedstock diversity, end-use diversity and employment opportunities. DOE has allocated up to $7 billion in funding to establish the regional hubs, and in October announced the selection of seven hub awardees that will enter negotiations as part of this program. DOE is proposing to use the remaining $1 billion in funding to create a program to address the challenge of building demand for clean hydrogen by designing support mechanisms for end uses. DOE is exploring

[5] Oak Ridge National Laboratory (US DOE), "Potential Decarbonization Strategies and Challenges for the U.S. Iron & Steel Industry", Sachin Nimbalkar, PhD.

options such as pay-for difference contracts and reverse auctions to assist buyers in securing financing. The program will aim to overcome financing hurdles for potential hydrogen buyers, provide transparency market prices and contract terms to accelerate the adoption of clean hydrogen.

The 45V clean hydrogen production tax credit was enacted in the IRA with the goal of promoting clean hydrogen production within the U.S. This incentive offers a tax credit for each kilogram of clean hydrogen produced to projects that commence construction prior to 2033 and provides that tax credit for a period of ten years. The credit amount is determined based on the lifecycle GHG emissions intensity of the hydrogen. Congress designed the credit to provide a higher tax credit value for producing low to zero GHG emissions intensity clean hydrogen production, with a maximum credit of $3 per kilogram of clean hydrogen.

In addition to BIL and IRA, federal legislation has been introduced in the House and Senate that recognizes the need for stimulating industrial demand of clean hydrogen and designed to help reduce the costs of adopting clean hydrogen:

- The **Hydrogen for Industry Act,** introduced by Senator Coons and Senator Cornyn, directs the Secretary of Energy to establish a "Hydrogen Technologies for Heavy Industry Demonstration Program." Under this program, the Secretary will provide grants for commercial-scale demonstration projects for end-use applications of hydrogen; construction of new commercial-scale facilities that will use hydrogen as a fuel or feedstock; or retrofits or expansion of an existing facility determined to be qualified to enable use of hydrogen as a fuel in the industrial application of hydrogen. The bill also directs the Department of Transportation (DOT), DOE, and Department of Commerce (DOC) to jointly conduct a study to examine the potential for emissions reductions at industrial facilities through hydrogen applications.

- The **Clean Hydrogen Deployment Act of 2021,** introduced by Congressman Paul Tonko and Congressman David McKinley in the 117th Congress, establishes a pilot program at the DOE to enter into contracts on a competitive basis with entities for payment of increased costs associated with the production or purchase of eligible hydrogen for use in projects. The goal is to support clean hydrogen users by offsetting increased costs associated with using hydrogen. When selecting entities, the Secretary shall pick projects that use eligible hydrogen as a feedstock in an industrial application such as ammonia; use hydrogen as a fuel in an industrial application; use hydrogen as a fuel in a transportation application; use hydrogen in a power application; and use hydrogen produced using electricity generated from zero-emission energy sources.

Recognizing the need for domestic market stimulation, the coalition is recommending that Congress consider a new program and amendments to existing programs in the Farm bill. CHFC is recommending Congress include incentives for the production and use of ammonia produced with clean hydrogen for the production and use of domestic fertilizer. This would lower GHG emissions in the agricultural sector and reduce dependence on imports of fertilizer from foreign adversaries. CHFC's proposal would authorize the U.S. Department of Agriculture (USDA) to

provide grants for producing and using ammonia made with decarbonized hydrogen by expanding the USDA's mission under last year's Fertilizer Production Expansion Program. Some of the selected hydrogen hubs are already targeting decarbonized fertilizer as one of their major end-uses in their hubs to expand the production and use of clean hydrogen in those regions.

The CHFC is also recommending that Congress embrace the use of decarbonized hydrogen in other programs authorized in the Farm bill including: (1) modifying the definition of "renewable energy systems" under the Rural Energy for America Program to include decarbonized hydrogen; (2) amending the definition of eligible technologies" under USDA's Section 9003 loan program to include decarbonized hydrogen produced from biogas or agricultural waste; and (3) embracing the energy storage benefits of decarbonized hydrogen in the implementation of the Rural Energy Savings Program.

Challenges and Drivers for Scaling Commercial Clean Hydrogen Investment in Industrial Decarbonization

While groundbreaking and necessary investments made by Congress in the BIL and IRA will serve as a significant downpayment to expand the clean hydrogen economy and decarbonize the U.S. industrial sector, it is important to recognize additional federal policies will be needed to achieve economies of scale, lower the cost of hydrogen production and stimulate the use of clean hydrogen within the industrial sector. Particularly in industries where hydrogen is not an incumbent fuel or feedstock, such as steel, chemicals or those in which it is a replacement for heat-intensive uses, additional policy will be critical to reducing costs and stimulating market adoption.

45V will be a key driver to catalyzing a domestic clean hydrogen market. The policy is designed to significantly reduce the cost of clean hydrogen production so it can compete with traditionally produced hydrogen. About $1/kg is the estimated average cost for current hydrogen production using natural gas without CO_2 capture. This equates to roughly $7.50 per mmBtu of natural gas on a heat content basis. However, the $1 per kg cost does not include any additional costs to compress, transport and store clean hydrogen, which means the $1 per kg cost will be higher for industrial users. Those industrial users will be facing the equivalent of more than $7.50 per mmBtu in replacement fuel or feedstock prices. However, today's price of natural gas is roughly $3 per mmBtu. The delivered cost of the clean hydrogen – not including the need for the industrial user to potentially modify or add new infrastructure at the industrial site and the potential added investment costs of the delivery infrastructure – is too expensive to adopt in these industries as a replacement fuel or feedstock.

In a recent International Energy Agency (IEA) report, the IEA indicates that "*efforts to stimulate (clean) hydrogen demand are lagging behind what is needed to meet climate ambitions*."[6] In the U.S., DOE's "Commercial Liftoff Report: Clean Hydrogen" identifies one of the near-term challenges to "clean hydrogen liftoff" is securing long-term offtake for clean hydrogen, which is due to the significant cost gap between the cost of clean hydrogen and the incumbent fuel or feedstock. DOE also recognized this challenge for the Regional Clean Hydrogen Hub program by

[6] International Energy Agency, "Global Hydrogen Review 2023".

reserving $1 billion in hub funding to create a program to address the challenge of building demand for clean hydrogen. Lack of demand is a critical gap as viewed by CHFC members and filling it is key to the success of scaling a domestic – and global – clean hydrogen industry.

Long-term demand for clean hydrogen is needed to catalyze capital investment in the domestic supply chain necessary to lower costs and allow the market to mature. The IEA states that "*without robust demand, producers of low-emission hydrogen will not secure sufficient off-takers to underpin large-scale investments, jeopardising the viability of the entire (clean) hydrogen industry*."[7] This includes investments in equipment manufacturing such as electrolyzers to produce clean hydrogen, additional infrastructure such as new pipelines or modifications to existing pipelines needed to distribute clean hydrogen, or modifications at existing industrial facilities in order to use clean hydrogen. Corporations will not make investments in any aspect of the supply chain until there are demonstrated market end-uses through long-term offtake agreements that will drive the return on the full supply chain of investments. Policies designed to close this gap would help to secure long-term offtake agreements and accelerate the ability of clean hydrogen to decarbonize the industrial sector.

DOE recognizes that "*to scale the clean hydrogen market from less than 1 million tons per year today to DOE's target of 50 million tons per year by 2050, **the entire clean hydrogen supply chain must scale rapidly***…"[8] The IEA indicates that globally, clean hydrogen is being "*taken up very slowly in existing applications, accounting for just 0.7% of total hydrogen demand. The report suggests that hydrogen production and use in 2022 was linked to more than 900 Mt of CO_2 emissions.*"[9] Rapid scaling of the clean hydrogen supply chain will only occur if there is new policy that incentivizes the investments needed.

Policy Needs for Accelerated Adoption of Clean Hydrogen in the Industrial Sector

The IEA has called for global government action by stating "*governments need stronger policy action on multiple fronts to tap into the opportunity that low-emission hydrogen offers*", and to "*take bolder action to stimulate demand creation for (clean) hydrogen, particularly in existing hydrogen uses.*"[10] CHFC members are evaluating a suite of policy tools that could be considered by Congress to incentivize the use of clean hydrogen in industrial applications, including those proposed for the Farm bill as well as legislation that has already been introduced in Congress to address this need.

There is precedent for Congressional support for the creation of new markets where it deems policy is necessary to do so – such as the renewable energy and carbon capture and storage industries – by enacting policies in the form of tax credits, research and development funding to reduce costs, streamlined infrastructure permitting through the FAST21 Act, and loan guarantees. The existing domestic clean hydrogen market will need similar policy treatment.

[7] International Energy Agency, "Global Hydrogen Review 2023".
[8] U.S. Department of Energy, "Pathways to Commercial Liftoff: Clean Hydrogen", March 2023
[9] International Energy Agency, "Global Hydrogen Review 2023".
[10] International Energy Agency, "Global Hydrogen Review 2023".

CHFC urges Congress to develop new demand-use policies that will enable capital creation for clean hydrogen investment.

As Congress and the Administration continue to work to implement policies to promote the production and use of clean hydrogen, care must be taken not impose policies that will restrict or preclude innovation and the ability of a clean hydrogen industry to scale. CHFC supports policy designs that stimulate the production and use of low-cost, clean hydrogen with a fully transparent lifecycle GHG accounting system applied consistently across the value chain. To that end, CHFC has been very engaged on the implementation of the 45V clean hydrogen production tax credit and DOE's proposed clean hydrogen production standard (CHPS) to ensure that this policy delivers on the intent of stimulating the clean hydrogen economy in the U.S.

As stated by DOE in its *Liftoff* report, clean hydrogen will only be a climate change mitigation solution if policies are adopted to accelerate its ability to be used by industry. The coalition wishes to reinforce the colloquy on 45V between Chairmen Wyden and Carper on the Senate floor during consideration of the IRA, in which they agreed that the use of indirect book and claim accounting should be used to determine the carbon intensity of the clean hydrogen production methods:

> "*It is also my understanding of the intent of section 13204, is that in determining 'lifecycle greenhouse gas emissions' for this section, the Secretary shall recognize and incorporate indirect book accounting factors, also known as a book and claim system, that reduce effective greenhouse gas emissions, which includes, but is not limited to, renewable energy credits, renewable thermal credits, renewable identification numbers, or biogas credits*.
>
> *Is that the chairman's understanding as well?*
>
> *Mr. WYDEN. Yes.*"

Indirect book and claim accounting will be critically important to accelerate the ability of clean hydrogen to be adopted and enable it to decarbonize industry. Treasury should adopt the use of such indirect book and claim accounting. As Treasury considers how to implement an indirect book and claim accounting system, policies such as additionality, prescriptive time matching, or limiting the use of book and claim accounting will significantly delay investments in clean hydrogen production, make the use of clean hydrogen in the industrial sector unnecessarily costly, and delay the intended impact of decarbonizing hard to abate industrial sectors, and should be avoided.

- *Additionality*: The CHFC does not recommend strict additionality requirements, including requiring clean hydrogen producers to utilize only newly built clean resources, be included in the 45V guidance. The CHFC values the importance of decarbonizing the grid and ensuring that clean energy resources are available for that purpose. Nationwide, there are many renewable energy projects in interconnection queues. In many cases these projects have waited 5+ years to break ground. Guidance on the 45V tax credit

should recognize that these resources and associated transmission interconnections will take time to construct. As renewables are added to the grid and transmission capacity increases, time-matching and regional requirements should become more restrictive, but additionality should not be a requirement.

- *Time-matching*: Currently, there is both a lack of sufficient zero-emitting resources and a nationwide administrative system for accounting for renewable energy certificates (REC) and energy attribute certificates (EAC) on hourly time scales. As new renewable sources of power are developed, driven by other IRA incentives, and accounting systems improve, more restrictive time matching can be implemented. The CHFC recommends annual matching until 2030 before adopting more frequent time matching.
- *Regional Matching*: There are only certain regions of the country that have sufficient zero-emissions resources that enable co-locating electrolyzers with those resources. Restrictive regional matching will limit the investment in clean hydrogen produced from zero-emissions resources. As additional zero-emitting resources are added over time, so too should regional restrictions evolve in parallel.

The CHFC is pleased that Chairman Carper, along with Senator Cantwell and 10 of her Senate Democratic colleagues, submitted letters to the U.S. Treasury Department, the DOE and the White House on this issue, urging caution that the Administration not adopt overly prescriptive implementing regulations that would make use of the tax credit inaccessible and have the devastating consequence of little private sector investment in the clean hydrogen industry – which will only delay the ability of clean hydrogen to be an industrial decarbonization tool. Importantly, as the Chairman well knows, as the lead Senate sponsor of the 45V tax credit bill, Senator Carper's colloquy's message on the book and claim accounting factors for the 45V program reflects the Congressional intent of how the 45V tax credit program should be implemented by the Administration. In addition, a half dozen labor unions submitted similar letters with similar precautionary messages, urging the Administration to consider the job impact potential of the tax credit program in addition to balancing the important, expected environmental benefits of the program. All of those letters, as well as the CHFC letters, are attached as appendices to my testimony.

Benefits of Clean Hydrogen in Industrial Decarbonization

Growth of a clean hydrogen industry presents an opportunity to provide benefits to communities across the country, including transitioning and creating jobs, climate benefits, and decreased air pollution. It also presents opportunities to expand economic growth and provide domestic energy security benefits.

Community, Health, Environmental and Climate Benefits

As stated throughout this testimony, using clean hydrogen in the industrial sector will enable the U.S. to accelerate its decarbonization goals and reduce other emissions associated with the use of fossil fuels across the industrial sector that have significant local and regional beneficial impacts. Using clean hydrogen in the industrial sector will improve air quality in many areas of the country, which will have direct benefits for local communities. In addition, environmental

and health benefits are also seen at the source of clean hydrogen production if derived from low- or zero-emission sources.

Domestic Job Transition and Creation

Companies that have existing expertise in hydrogen production and operations, such as industrial gas, chemicals, oil and natural gas, as well as labor unions with the skilled workforce, will support the transition and help to expand the workforce needed for the clean hydrogen economy to grow.

In 2030, DOE reports that the hydrogen economy could create approximately 100,000 net new direct and indirect jobs related to the build-out of new capital projects and new clean hydrogen infrastructure, which represents roughly 450,000 cumulative job-years through 2030. Direct jobs include employment in fields such as engineering and construction. Indirect jobs include roles in industrial-scale manufacturing and the raw materials supply chain. In addition, new job skills such as electrolyzer and electrolyzer component manufacturing, expanding fuel cell expertise, and electrolysis facility engineering, procurement, and construction (EPC) expertise will be created.[11]

Analysis conducted by Rhodium identifies job creation at an individual facility level, which suggests that jobs at clean hydrogen production facilities will range from 330 to 520 jobs during construction, and ongoing maintenance and operations jobs at the facility will range from 45 to 65 jobs. The construction jobs include construction trades, metal workers and assemblers, legal workers, engineers,) executive and business operations, production occupations, and machinery installers, maintenance, and repairers. The operations jobs include installers, maintenance, and repairers, production occupations, executive and business operations, engineers, and plant system operators.[12]

Economic and Energy Security Benefits

The economic benefits of a domestic clean hydrogen industry extend beyond the economic impact of the jobs it will create. Creating a new clean hydrogen commodity market carries significant economic value and positions the U.S. to be a global leader in the production, use and export of clean hydrogen. Doing so will increase U.S. balance of trade and enable the U.S. to maintain energy security by being a domestic producer and user.

Conclusion

Industrial decarbonization represents the most immediate and clear opportunity to achieve our decarbonization goals, and clean hydrogen has a significant role to play in decarbonizing hard to abate industrial sectors. An-all-of-the-above approach to clean hydrogen production will accelerate the ability to scale and leverage investments in both new and existing infrastructure needed for clean hydrogen to be adopted by the industrial sector. The CHFC applauds Congress

[11] U.S. Department of Energy, "Pathways to Commercial Liftoff: Clean Hydrogen", March 2023
[12] Rhodium Group, "Clean Hydrogen Workforce Development: Opportunities by Occupation", Galen Hiltbrand, Whitney Jones, Ben King, and Nathan Pastorek, September 27, 2023

for recognizing the value of this approach and looks forward to working with members of this Committee and in the Senate to design and adopt policies that will aid in the expansion of the clean hydrogen industry and its ability to rapidly decarbonize our industrial base.

Appendix A – 45V Letters to Treasury

1. Letter to Administration from Chairman Carper
2. Senate Letter to Administration on 45V Hydrogen Production Tax Credit
3. Trade Union letters
    - United Association
    - NABTU
    - LiUNA
    - United Brotherhood of Carpenters and Joiners of America
    - International Brotherhood of Electrical Workers
    - ARCH2 Hub
4. CHFC Comments on Credits for Clean Hydrogen and Clean Fuel Production (Notice 2022-58)
5. CHFC Supplemental Comments on the Credit for Clean Hydrogen Production (Notice 2022-58)