# THE CLEAN FUTURE ACT: INDUSTRIAL CLIMATE POLICIES TO CREATE JOBS AND SUPPORT WORKING COMMUNITIES

# VIRTUAL HEARING

BEFORE THE

SUBCOMMITTEE ON ENVIRONMENT AND CLIMATE CHANGE

OF THE

# COMMITTEE ON ENERGY AND COMMERCE HOUSE OF REPRESENTATIVES

ONE HUNDRED SEVENTEENTH CONGRESS

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# THE CLEAN FUTURE ACT: INDUSTRIAL CLI-MATE POLICIES TO CREATE JOBS AND SUP-PORT WORKING COMMUNITIES

# THURSDAY, MARCH 18, 2021

House of Representatives, SUBCOMMITTEE ON ENVIRONMENT AND CLIMATE CHANGE, COMMITTEE ON ENERGY AND COMMERCE, Washington, DC.

The subcommittee met, pursuant to call, at 11:01 a.m., via Cisco Webex online video conferencing, Hon. Paul Tonko (chairman of the

subcommittee) presiding.

Members present: Representatives Tonko, DeGette, Schakowsky, Sarbanes, Clarke, Ruiz, Peters, Dingell, Barragán, McEachin, Blunt Rochester, Soto, Pallone (ex officio), McKinley (subcommittee ranking member), Johnson, Mullin, Hudson, Carter, Duncan, Palmer, Curtis, Crenshaw, and Rodgers (ex officio).

Also present: Representatives Trahan and Griffith.

Staff present: Jeffrey C. Carroll, Staff Director; Jacqueline Cohen, Chief Environment Counsel; Adam Fischer, Professional Staff Member; Waverly Gordon, General Counsel; Tiffany Guarascio, Deputy Staff Director; Caitlin Haberman, Professional Staff Member; Perry Hamilton, Clerk; Zach Kahan, Deputy Director, Outreach and Member Service; Rick Kessler, Senior Advisor and Staff Director, Engrey and Environment: Mackangia Kuhl, Director, Control of Con and Staff Director, Energy and Environment; Mackenzie Kuhl, Digital Assistant; Brendan Larkin, Policy Coordinator; Dustin J. Maghamfar, Air and Climate Counsel; Elysa Montfort, Press Secretary; Kaitlyn Peel, Digital Director; Tim Robinson, Chief Counsel; Chloe Rodriguez, Clerk; Nikki Roy, Policy Coordinator; Andrew Souvall, Director of Communications, Outreach, and Member Services; Rebecca Tomilchik, Policy Analyst; Sarah Burke, Minority Deputy Staff Director; Michael Cameron, Minority Policy Analyst, Consumer Protection and Commerce, Energy, Environment; Jerry Couri, Minority Deputy Chief Counsel for Environment; Nate Hodson, Minority Staff Director; Peter Kielty, Minority General Counsel; Mary Martin, Minority Chief Counsel, Energy and Environment; Deputy Martin, Minority Chief Counsel, Energy and Environment; Deputy Martin, Minority Chief Counsel, Energy and Environment. ronment; Brandon Mooney, Minority Deputy Chief Counsel for Energy; Peter Spencer, Minority Senior Professional Staff Member, Energy; and Michael Taggart, Minority Policy Director.

Mr. Tonko. Well, good morning, everyone. The Subcommittee on

Environment and Climate Change will now come to order.

Today's hearing is entitled "The CLEAN Future Act: Industrial Climate Policies to Create Jobs and Support Working Communities," and we will examine several provisions of the recently introduced H.R. 1512

Due to the COVID-19 public health emergency, today's hearing is being held remotely. All Members and witnesses will be participating via video conferencing.

As part of our hearing, microphones will be set on mute for purposes of eliminating inadvertent background noise. Members and witnesses, you will need to unmute your microphone each time you choose to speak.

Documents for the record can be sent to Rebecca Tomilchik at the email address we have provided to staff. All documents will be entered into the record at the conclusion of the hearing.

I now recognize myself for 5 minutes for an opening statement.

## OPENING STATEMENT OF HON. PAUL TONKO, A REPRESENTA-TIVE IN CONGRESS FROM THE STATE OF NEW YORK

I grew up and continue to live in a mill town, Amsterdam, New York, formerly one of the largest carpet-producing cities in the world. And when I was young, the mills closed. My grandparents were among those workers who, through no fault of their own, lost their jobs. Those mills went to the southern States, and then eventually offshore. And the people and community left behind had little to no support for many, many years.

I have spent my life, along with other community leaders, working to revitalize our city, to rebuild by building new infrastructure, redevelop waterfront industrial properties, and attract new and innovative businesses. It has taken 60 years, and there is still more work to be done.

These types of economic disruptions have happened before. They are happening right now, and they will continue happening, whether or not we pass the CLEAN Future Act. There is always some risk when a community relies on one employer or one industry. We can pretend this is not the case, or we can work together and do better for the people and communities facing this challenge today than was done for my grandparents and my hometown.

With a national commitment, as is proposed in the CLEAN Future Act, we can treat energy workers with respect. We can provide the resources to accelerate local economic redevelopment and diversification, and we can provide fairness for the workers and communities that have powered our country for decades.

The bill proposes a framework for a national energy transition strategy. This has been done for other issues of national importance that cut across several Federal agencies—for example, the Office of National Drug Control Policy, the Office of Science and Technology Policy, and the Council on Environmental Quality.

And importantly, this approach recognizes that it is not for me or anyone else in Washington to try to dictate these transitions. It must be a community-driven process, since every affected community will have different needs, different wants, and different assets. The CLEAN Future Act provides Federal resources and technical assistance to empower local community leaders to manage their own economic transitions.

This hearing will also examine some of the bill's provisions regarding the industrial sector. We know the industrial sector is di-

verse and does account for a large amount of emissions. Some subsectors are energy-intensive, trade-exposed, and difficult to decarbonize. Decarbonizing the United States industry requires investing in the United States industry. And investing in our manufacturers is the key to America's long-term global competitiveness.

The CLEAN Future Act includes several provisions to make those investments. This includes the Clean Energy and Sustainability Accelerator, which provides access to financing to make investments across numerous sectors in support of our Nation's clean

energy transition.

The CLEAN Future Act also includes an innovative Buy Clean proposal that leverages public procurement to support low-emissions industrial products. Well over 22 percent of the U.S. climate emissions are from the industrial sector. A small number of facili-

ties make up a very large share of that total.

Many of these products, including cement and steel, are purchased in large quantities by the public sector. In the United States, nearly one half of all cement and a fifth of steel is purchased with tax dollars. These products are critical to our goals of rebuilding America's infrastructure, and we have the opportunity to support building with cleaner, more innovative materials than ever before.

Buy Clean brings transparency to the market. It standardizes how to calculate embodied emissions of products so that the private sector and State and local governments can indeed make informed decisions about what they purchase.

It also supports Federal leadership by requiring Federal use of products with a proposed Climate Star label, a voluntary label similar to the popular Energy Star and Water Sense programs.

Buy Clean leverages things that are already occurring in the private sector, through environmental product declarations, while seeking to improve data quality, guard against unfair foreign com-

petition, and reward investments in U.S. manufacturing.

The CLEAN Future Act's industrial sections are critical to the growth and the retention of U.S. manufacturing jobs, and the promotion of markets for new and innovative products. And the worker and community title is critical to fulfilling our commitment that no one is left behind during this energy transition.

I believe these are areas where we should be able to find bipartisan support. I am looking forward to today's testimony and hope we can work together to improve these sections of the committee's

[The prepared statement of Mr. Tonko follows:]

# PREPARED STATEMENT OF HON. PAUL TONKO

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And when I was young, the mills closed. My grandparents were among the workers who, through no fault of their own, lost their jobs. Those mills went down south and then eventually offshore. And the people and community left behind had little to no support for many, many years.

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more work to be done.

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We can pretend this is not the case, or we can work together and do better for the people and communities facing this challenge today than was done for my

grandparents and my hometown.

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The bill proposes a framework for a national energy transition strategy. This has been done for other issues of national importance that cut across several Federal agencies—for example, the Office of National Drug Control Policy, the Office of Science and Technology Policy, and the Council on Environmental Quality.

And importantly, this approach recognizes that it is not for me, or anyone else in Washington, to try to dictate these transitions. It must be a community-driven process since each affected community will have different needs, wants, and assets. The CLEAN Future Act provides Federal resources and technical assistance to

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And the worker and community title is critical to fulfilling our commitment that no one is left behind during the energy transition.

I believe these are areas where we should be able to find bipartisan support. I am looking forward to today's testimony and hope we can work together to improve these sections of the committee's proposal.

Mr. Tonko. With that, I now yield to the chair—excuse me, the ranking member-of the Subcommittee on Environmental and Climate Change, our ranking member, Mr. McKinley, for 5 minutes for his opening statement.

Representative McKinley?

# OPENING STATEMENT OF HON. DAVID B. McKINLEY, A REP-RESENTATIVE IN CONGRESS FROM THE STATE OF WEST **VIRGINIA**

Mr. McKinley. Thank you, Mr. Chairman. We are here to examine the CLEAN Future Act, but it reminds me, during the Vietnam War an American general was paraphrased as saying, "We had to destroy the town to save it. We had to destroy the town to save it.

It reminds me of the motivation behind this proposal.

The goal of the Act is to decarbonize the U.S. economy by 2050, have net-zero emissions from power plants by 2035, 80 percent by 2030. In so doing, we are going to destroy livelihoods, disrupt families, decimate communities, increase utility bills, threaten the stability of our grid, and we will still experience negative effects of climate change, since the rest of the world isn't following suit.

Look, Chairman, we agree we need to work to reduce carbon emissions. But we also need to understand the consequences before

we rush into such a punitive action.

Let's keep in mind, last year 60 percent of our power came from fossil fuels: coal, gas, and oil. It is reasonable to understand that this total transformation, it may be—is it reasonable to undertake this total transformation of our electric grid in less than 14 years,

or even 9?

Look at solar energy. They are predicting—in their publication this week, they are predicting they are going to quadruple their capacity in solar in the next 10 years. Now, make sure we understand, that means they are going from 2.3 percent of the mix to 9 percent. But remember, coal and gas are still 60 percent. According to the utilities we have consulted, decarbonizing our power sector by 2035 and 80 percent by 2030 will take a miracle.

So, Paul, at what cost, if we increase costs for families with higher utility bills? According to the Institute for Energy Research,

\$2,000 per household annually.

It will destroy jobs, not just coal miners and pipeliners, but all the secondary jobs that rely on them: the railroad workers, the barge operators, and machinists, the fabricators. I could go on and on. Where will these workers go? Many of them are making 70, 80, \$100,000.

We get—yes, we get these vague promises about making solar panels or windmills. About these promises, Terry Sullivan, the president of the Labor International Labor Union, said"it is pie-inthe-sky BS"—and he didn't say BS—"about these green jobs being

good, middle-class jobs," he said, "because they are not."

As a result, single-industry towns like Welch, West Virginia; Gillette, Wyoming; Hazard, Kentucky; Cadiz, Ohio, they are going to be crushed. Not to mention we will be left with a grid that is far less reliable and resilient, with more frequent blackouts. Haven't we learned anything from California and Texas about how fragile our grid is?

And for what gain? Even if America totally decarbonizes, the rest of the world is still increasing its consumption of fossil fuels. We still have wildfires on the West Coast, droughts and flooding in the

Midwest, and hurricanes on the East.

Mr. Chairman, we want to work in a bipartisan fashion to address climate change and utilize all-of-the-above energy resources. This committee has demonstrated a history of bipartisanship. And if you will let us, we can do it again.

Let's not destroy the village in order to save it.

So we have—on our panel we have Kevin Sunday from the Pennsylvania Chamber of Commerce who is going to be testifying today. He will explain Pennsylvania's dependence on fossil fuel resources for economic growth and job creation and discuss the devastation, the impact this legislation will have on his State.

I look forward to this conversation today, and I hope that we can work with Frank Pallone and his—and all of you on this committee, how we can make this a bipartisan bill, or start with something that is bipartisan from the very beginning.

[The prepared statement of Mr. McKinley follows:]

# PREPARED STATEMENT OF HON. DAVID B. McKINLEY

Mr. Chairman, we're here today to examine the CLEAN Future Act.

There was a quote used during the Vietnam War when, to paraphrase an American general, we had "to destroy the town to save it."

It reminds me of the motivation behind this proposal. The goal of the Act is to decarbonize the U.S. economy by 2050: net-zero in power sector by 2035, 80% by 2030.

In so doing, we will destroy livelihoods, decimate communities, increase utility bills, threaten the stability of the grid, and we would still have the effects of climate change, since the rest of the world isn't following suit.

Look, we agree—we need to work to reduce carbon emissions. But we also need to understand the consequences before we rush into legislating.

Take a step back. keep in mind, in 2020 60% of our power came from coal, gas, and oil. Is it reasonable to undertake this transformation of the electric grid, in less than 14 years?

Look at solar energy. They predict aggressive growth. Quadrupling in the next 10 years. Increases from 2.3% to 9%. Remember, coal and gas represent 60%.

According to the utilities we've talked with, decarbonizing our power sector by 2035—and 80% by 2030—would take a miracle, and at what cost?

It will increase costs for families with higher utility bills. Estimate: \$2,000 per household annually.

Destroy jobs: not just coal miners and pipeliners, but all the downstream jobs that rely on them. Railroad, barges, machinists, fabricators—where will these workers go—many of whom are making \$70k \$80k \$100k?

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We get vague promises about making solar panels or windmills. Terry O'Sullivan, president of laborers: "It's pie in the sky bulls— about these green jobs being good middle-class jobs, because they're not."

As a result, communities like Welch, West Virginia; Gillette, WY; Hazard, KY; Cadiz, OH will be crushed.

Not to mention: We will be left with a grid that is far less reliable and resilient. With more frequent blackouts and brownouts. Didn't we learn anything from California and Texas about how fragile our grid is?

And for what gain? Even if America totally decarbonizes, the rest of the world will still increase consumption of fossil fuels. We will still have wildfires, droughts and flooding, hurricanes.

Mr. Chairman, we want to work in a bipartisan fashion to address climate change This committee has demonstrated a history of bipartisanship. And if you'll let us, we can do it again. Let's not destroy the village to save it.

I want to welcome Mr. Kevin Sunday of the Pennsylvania Chamber of Commerce, who is testifying today.

He will explain Pennsylvania's dependence on fossil fuel resources for economic growth and job creation.and discuss the devastating impact this legislation would have on his State.

I look forward to today's conversation, and I yield back.

## Mr. McKinley. So I thank you, and I yield back my time.

Mr. Tonko. The gentleman yields back. The Chair now recognizes the very busy chair of the full committee, Mr. Pallone, for 5 minutes for his opening statement.

Chairman Pallone?

# OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REP-RESENTATIVE IN CONGRESS FROM THE STATE OF NEW JER-

Mr. PALLONE. Thank you, Chairman Paul Tonko. I like the char-

acterization of busy. Thank you.

Today we are holding our first legislative hearing on H.R. 1512, the CLEAN Future Act, which is our comprehensive and ambitious legislation to combat the climate crisis and achieve 100 percent clean economy by no later than 2050.

And I just want to say to my friend Mr. McKinley, the ranking member, look, we obviously want to do things on a bipartisan basis. I will keep repeating that over and over again. But I also want to stress, you know, this is the innovation committee. This is the in-

novation country. And we can't be left behind.

I guess, you know, I know that climate change is viewed, obviously, as an environmental issue, a health issue, but it is also a security issue. And, you know, I constantly say to Mrs. Rodgers that, you know, I agree with her that China is the enemy, that China is the competition. But I am just so afraid that, if we don't innovate, if we don't think about the future, if we don't think of what is going to happen in 10 or 20 years, that China is going to eat our lunch, and they are going to take our jobs, and they are going to-you know, and we are just going to be left behind in this global competition.

So, you know, keep a—keep—when you say, like my colleague from West Virginia, that, you know, that we have to look at this long term, that is exactly what we are trying to do. We are trying to look at this long term and be innovative and creative in what

we do, because we don't want to be left behind.

But anyway, I just wanted to say that this CLEAN Future Act is the product of nearly 30 hearings and countless ideas and recommendations from Members. At the heart of our bill is the commitment to achieving net-zero greenhouse gas pollution no later than 2050, with an interim goal of reducing pollution by 50 percent from 2005 levels by 2030. And science is the impetus for our goal, innovation is the impetus.

The climate crisis presents one of our greatest challenges, but it also presents one of our greatest opportunities. And I want to stress the opportunities through innovation. Today's hearing will examine CLEAN Future provisions that seize the opportunity to use climate action to create jobs and support working communities.

First we have the Federal Buy Clean program, which would steadily reduce emissions from construction materials and products used in federally funded projects. This innovative program leverages government funding and procurement power to fundamentally transform and strengthen the competitiveness of the U.S. manufacturing sector.

And next, and first of its kind, we have the Clean Energy and Sustainability Accelerator, which would help States, communities, and companies transition to a clean economy. Capitalized with \$100 billion, the accelerator will mobilize public and private investment.

Finally, the Worker and Community Transition title ensures every worker and community has Federal-level support and resources during the Nation's transition to a clean economy. The legislation creates a new Office of Energy and Economic Transition in the Executive Office of the President, and this office develops programs that support dislocated workers and provides financial assistance to local governments. This assistance, coupled with the bill's infrastructure investments, will support economic development.

Now, collectively, these three provisions provide new opportunities to decarbonize the industrial sector, but also bolster our econ-

omy.

And, you know, I also wanted to mention before I close that there are pathways to industrial decarbonization that already exist. We have many technologies and programs available now that, with meaningful funding and wider deployment, would drive industrial sector improvements. Just today EPA announced that 95 manufacturing plants earned Energy Star certification in 2020 for being amongst the most energy-efficient plants in industries like automotive, baking, cement.

And I know that the Republicans believe in efficiency, believe in resiliency. They talk to me about it all the time. Energy efficiency is crucial as part of a decarbonization strategy, and this Energy Star industrial program will help us reach our clean economy

goals

So I guess what I really want to stress is I believe that these and other climate policies in the CLEAN Future Act will empower America's workers with new, good-paying jobs and ensure that we do not fall behind in global competition. They will revitalize our communities with the support they need to rebuild from the pandemic, and leave no one behind. So I just think that, you know, we are working on protecting the environment, protecting our health. But at the same time, through innovation, we can get there and create more jobs and be competitive, and not be left behind.

And so, you know, I understand what you are saying, Mr. McKinley. I don't disagree with a lot of the things you say, but let's think of ways that we can do this together, which is, I think, our common

goal.

[The prepared statement of Mr. Pallone follows:]

# PREPARED STATEMENT OF HON. FRANK PALLONE, JR.

Today we are holding our first legislative hearing on H.R. 1512, the CLEAN Future Act, our comprehensive and ambitious legislation to combat the climate crisis and achieve a 100 percent clean economy by no later than 2050.

The CLEAN Future Act is the product of nearly 30 hearings and countless ideas and recommendations from Members and stakeholders.

At the heart of our bill is a commitment to achieving net-zero greenhouse gas pollution no later than 2050, with an interim goal of reducing pollution by 50 percent from 2005 levels by 2030. Science is the impetus for our goals.

The climate crisis presents one of our greatest challenges, but it also presents one of our greatest opportunities. Today's hearing will examine CLEAN Future Act provisions that seize the opportunity to use climate action to create jobs and support working communities.

First, the Federal Buy Clean Program would steadily reduce emissions from construction materials and products used in federally funded projects. This innovative program leverages government funding and procurement power to fundamentally transform and strengthen the competitiveness of the U.S. manufacturing sector, all while reducing climate pollution by promoting and expanding the market for cleaner materials

Next, the first-of-its-kind Clean Energy and Sustainability Accelerator would help States, communities, and companies transition to a clean economy. Capitalized with \$100 billion, the Accelerator will mobilize public and private investment to provide financing for a suite of climate-focused projects and the development of State and local green banks where they do not yet exist.

Finally, the Worker and Community Transition title ensures every worker and community has Federal-level support and resources during the Nation's transition

to a clean economy.

The legislation creates a new Office of Energy and Economic Transition in the Executive Office of the President. The office will develop programs to support dislocated workers and provide financial assistance to local governments—including by replacing lost revenue due to the closure of a major employer. This assistance, coupled with the bill's infrastructure investments, will support economic development and diversification for all affected communities.

Collectively, these three provisions provide new opportunities to decarbonize the industrial sector while bolstering our economy.

It's also important to recognize that pathways to industrial decarbonization already exist. We have many technologies and programs available now that, with meaningful funding and wider deployment, would drive industrial sector improve-

Just today, EPA announced that 95 manufacturing plants earned Energy Star certification in 2020 for being among the most energy-efficient plants in industries like automotive, baking, cement, food processing, pharmaceutical, and fertilizer manufacturing. These plants saved nearly \$400 million on energy bills and prevented over

Energy efficiency is a crucial decarbonization strategy for the industrial sector, and the Energy Star Industrial Program will help us reach our clean economy goals. The popularity, trust, and proven track record of Energy Star is why we used it as a model for the "Climate Star" labeling program in the legislation.

I believe these and other climate policies in the CLEAN Future Act will empower American workers with new good-naving jobs and ensure we do not fall behind our

American workers with new, good-paying jobs and ensure we do not fall behind our global competitors. They will revitalize our communities with the support they need to rebuild from the pandemic and ensure a just transition, leaving no one behind.

Climate policies can also decarbonize the industrial sector while supporting com-

petitiveness of domestic manufacturing.

We must use this opportunity to ensure that the economy works for everyone and supports a safe, healthy environment for generations to come. I look forward to hearing recommendations from our witnesses today and from my colleagues in the

Mr. PALLONE. Thank you, Chairman Tonko.

Mr. Tonko. The Chair yields back. The Chair now recognizes Representative Rodgers, the ranking member of the full committee, for 5 minutes for her opening statement.

Representative Rodgers.

# OPENING STATEMENT OF HON. CATHY McMORRIS RODGERS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WASHINGTON

Mrs. Rodgers. Thank you. Thank you, Mr. Chairman Tonko and Chairman Pallone. I appreciated what you had to say there. We have shared goals around protecting our health, protecting our environment, leading the world in innovation.

Our concern is, first of all, America is leading. America is leading in bringing down carbon emissions today. We are doing that through American innovation, American technology. We are doing it through carbon capture, advanced nuclear. We are leading the

world in advanced nuclear technology that is absolutely fundamental to the goals around bringing down carbon emissions.

Our concern is that the agenda, as we hear being promoted right now by many Democrats, is one that is focused on solar and wind and batteries that are controlled by China. And so I am very concerned that there is a lack of recognition that 90 percent of the solar panels, 80 percent of the wind machines, 90 percent of the rare-earth minerals, the batteries, are in Asia or in China.

And so the future, a clean energy future that is based upon those kind of solutions that are dominated by China, is really a pro-China agenda. It is making us vulnerable. Have we not learned anything through COVID and the concern around supply chains as to the vulnerability and the dependence that we have on China for basic, fundamental needs?

So that is—I think that summarizes why there is a fundamental concern with the direction that is being laid out right now.

We—you know, the Republicans on this committee—we are ready, and we are ready to work with you to address the climate risk. We must pursue policies that will not undermine our communities or our national security. It means protecting energy affordability and building a stranger converge.

ability and reliability and building a stronger economy.

We should also work together to help the Nation confront all future risk. We should preserve what is best for our Nation, our communities, our families, and the freedom and dignity of workers. This is the path to securing a cleaner energy future. You can achieve a clean future by relying upon free enterprise and private initiative. This will unleash innovation and transform how we make and do things with massive benefits for our society. It is how America has led the world in lifting people out of poverty and empowering people to build better lives.

America will win the future by building on our assets and our strengths. That includes our abundant resources, which helps us preserve and strengthen our strategic relationships to confront the national security challenges. This is the practical path that Republicans support in our legislative work to update permitting and reduce regulations in order to deploy new, cleaner technologies more quickly and at a lower cost. This path rejects one-size-fits-all central planning—as experience tells us, is suitable only for special in-

terest and Federal regulators.

So today we are talking about the CLEAN Future Act. It is a 1,000-page bill, and it seeks to transform the nation's economy, its energy systems, the way people live on a timeframe and at a scale that far surpasses anything practical. For example, energy technology expert Mark Mills testified before this panel last month on the scale of this transformation, if it were possible just for the power sector. He said this about meeting the goals of 2035: "It would require a continuous construction program at least 600 percent bigger than any single peak year for utility construction that has occurred in the U.S., China, or Germany over the past half century."

Given technological and market realities, this bill would increase American reliance on China and do little to reduce global emissions or improve America's competitive edge. This is not the policy outcome we want. But we will be on this path if we rush down the top-down, regulatory controls over our power, transportation, and industrial sectors.

The problem is, at this pace, it is a rush. And it makes no allowance for technological readiness. Carbon capture for natural gas or industrial processes are tough. It is very tough. And it is chilling. It is a chilling impact for energy workers today in America.

Let's reject the central planning. Let's free our innovators by reducing regulations.

[The prepared statement of Mrs. Rodgers follows:]

# PREPARED STATEMENT OF HON. CATHY McMorris Rodgers

As we work to address climate risks, we must pursue policies that will not undermine our communities or our national security. That means protecting our energy affordability and reliability and building a stronger economy.

We should also work together to help the Nation confront all future risks. We should preserve what is best for our Nation, our communities, and families, and the freedom and dignity of workers.

This is the path to securing a cleaner American energy future. You achieve a clean future by relying upon free enterprise and private initiative. This will unleash innovation and transform how we make and do things, with massive benefits for society.

It's how America has led the world in lifting people out of poverty and empowered people to build a better life. America will win the future by building on our assets and our strengths.

That includes all our abundant resources, which helps us preserve and strengthen our strategic relationships to confront national security challenges.

This is the practical path Republicans support in our legislative work to update permitting and reduce regulations, in order to deploy new, cleaner technologies more quickly and at lower cost.

This path rejects one-size-fits-all central planning that—as experience tells us- is suitable only for special interests and Federal regulators.

Earlier this month, Energy and Commerce Democrats released their draft CLEAN Future Act. This 1,000-page bill seeks to transform the Nation's economy, its energy systems, the way people live—on a time frame and at a scale that far surpasses anything practical.

For example, energy technology expert Mark Mills testified before this panel last month on the scale of this transformation, if it were possible, just for the power sector. He said this about meeting decarbonization goals by 2035.

Quote: It "would require a continuous construction program at least 600% bigger than any single peak year for utility construction that has occurred in the U.S., China or Germany over the past half-century."

Given technological and market realities, this build-out would increase American reliance on China and do little to reduce global emissions or improve America's competitive edge.

This is not the policy outcome we want. But we will be on this path if we rush into place top-down regulatory controls over our power, transportation, and industrial sectors.

This legislation incorporates the Left's relentless drive to eliminate fossil energy, regardless of the harmful strategic or economic impacts. That includes all of the American jobs that rely on fossil fuels.

The problem is the pace, the rush. It makes no allowance for technological readiness. If CCUS is not ready for natural gas or industrial processes, tough

If energy-intensive industries struggle to compete, tough. If overbuilds of renewable energy stifle investment in innovative, more flexible technologies like nuclear, tough.

The chilling implications of this centralized control over our future are clear in the final title of the bill—the Worker and Community Transition title.

This title plainly acknowledges the bill's threats to workers and communities reliant on the high-quality energy-intensive jobs that do so much for American prosperity.

The title establishes new programs to measure likely employment impacts and creates a Federal transition czar, with unlimited authorizations, to provide welfare support and training for workers and communities.

Think about this title and what it signals for Federal planning over our future; over people's own freedom to work and make the best decisions for themselves and their families

Enacting job-destroying policies are not the path to a better future. Our future

should be about building, not destroying.

Consider the reforms Republicans are promoting in our Securing Cleaner Amer-

ican Energy Agenda, building off our work in the Energy Act of 2020

We can update Clean Air Act requirements in the New Source Review program so power plants and manufacturing facilities can make environmental improvements without costly regulatory requirements.

This will attract private capital and it will improve operations to become more productive and cleaner—a benefit to workers and communities that are home to

these operations.

We can update licensing for more rapid deployment of nuclear technology-the kind of technology that can be sited close to industrial facilities, to provide heat and processing for new ways to make fuels.

These breakthroughs actually add to productivity, create wealth across communities-and would transform our world to a more secure energy future. Let's reject central planning. Let's free our innovators by reducing regulations.

Mrs. Rodgers. And with that, I yield back, Mr. Chairman.

Mr. Tonko. Thank you. The gentlewoman yields back.

The Chair would like to remind Members that, pursuant to committee rules, all Members' written statements, opening statements, shall be made part of the record.

I now will introduce the witnesses that we have for today's hear-

First, Dr. Rebecca Dell, Ph.D., director of the industry program at Climate Works Foundation.

Mr. Bob Perciasepe, president, Center of Climate and Energy Solutions, C2ES, on behalf of the Renewable Thermal Collaborative.

Mr. Kevin Sunday, director of government affairs, Pennsylvania Chamber of Business and Industry.

And finally, Mr. Jason Walsh, executive director of the BlueGreen Alliance.

At this time, I recognize Dr. Dell for 5 minutes to provide an opening statement.

And again, welcome, Dr. Dell.

STATEMENTS OF REBECCA DELL, Ph.D., PROGRAM DIRECTOR, **CLIMATEWORKS** INDUSTRY, FOUNDATION; PERCIASEPE, PRESIDENT, CENTER FOR CLIMATE AND EN-ERGY SOLUTIONS, ON BEHALF OF THE RENEWABLE THER-MAL COLLABORATIVE; KEVIN SUNDAY, DIRECTOR, GOVERN-MENT AFFAIRS, PENNSYLVANIA CHAMBER OF BUSINESS AND INDUSTRY; AND JASON WALSH, EXECUTIVE DIRECTOR, **BLUEGREEN ALLIANCE** 

# STATEMENT OF REBECCA DELL, Ph.D.

Dr. Dell. Thank you very much. Good morning, Mr. Chairman and Ranking Member, and thank you to the entire subcommittee for the invitation to testify on the CLEAN Future Act.

Today I will address the importance of Buy Clean for rebuilding our infrastructure, investing in American manufacturing, and addressing the climate crisis.

As you all know, this bill establishes a Buy Clean program to steadily reduce greenhouse gas emissions from Federal construction. I will explain what Buy Clean is and why it is important for addressing bipartisan concerns like infrastructure and national competitiveness. And I will mention some complementary actions that Congress can take to accelerate progress in American manufacturing.

We all know that we need a major national infrastructure investment. The American Society of Civil Engineers recently gave our infrastructure an overall grade of C-minus. Climate change will only accelerate this need. So why should we support Buy Clean?

First, Buy Clean is important because it targets the most important sectors. As Chairman Pallone reminded us, this bill sets a national target of 50 percent reduction of greenhouse gas emissions by 2030 and 100 percent by 2050. We simply cannot achieve these goals without dramatically reducing industrial emissions, which account for a quarter or more of national emissions. These emissions are heavily concentrated in a small number [inaudible] making building materials, like steel and cement. The Government is the largest consumer of building materials, buying nearly half of cement and a fifth of steel. Buy Clean policies require or incentivize the Government to buy building materials made with cleaner processes.

The environmental stakes are not small. Without Buy Clean, the infrastructure bill passed through the House last year could lead to an additional 200 million tons of CO<sub>2</sub> emissions from making the associated building materials. As you consider a major infrastructure reinvestment as part of the economic recovery from COVID—19, it is more urgent than ever that we modernize our infrastructure in a way that does not contribute to the climate crisis.

Second, Buy Clean is powerful because it uses government leverage to increase innovation and competitiveness in manufacturing. Countries and companies around the globe have realized that climate-safe manufacturing and construction practices are essential for their long-term competitiveness. We are significantly behind many other large economies in Europe and Asia in this respect.

Buy Clean offers companies that want to invest in clean manufacturing the opportunity to profit by it. It is not a burden on American manufacturing, but an investment in high-quality jobs. It prevents foreign producers from getting around the rules, and domestic producers would have the same advantages they always have had, like Buy America requirements.

The best part is that Buy Clean is affordable. Cement is responsible for the largest share of emissions in public construction, but it only accounts for about 1 percent of the cost of projects. Because it is such a small portion of the total cost, even if clean cement is more expensive than conventional cement in the near term, it won't significantly change the overall cost of infrastructure.

Finally, Buy Clean—in order for Buy Clean to be successful, it needs leadership and innovation investment. Buy Clean policies should be complemented by dramatically increased investments in industrial innovation and commercialization of critical industrial technologies. This is long overdue.

Manufacturing and construction generate more employment and almost as much GDP as the healthcare industry. Yet healthcare is supported by the innovation activities of NIH, with an annual budget of \$42 billion, or 5,000 percent of what the Government

spends on industrial innovation. Congress should fund programs to commercialize critical new industrial technologies at a much larger scale than currently.

To succeed, this entire agenda needs high-level leadership. Currently, the highest-ranking person in the Federal Government whose job it is to advance the future of American manufacturing has the rank of Acting Office Director. In order for both innovation investments and Buy Clean programs to be successful, Congress should create an additional Assistant Secretary of Energy for Manufacturing and Industry, as recommended in this bill.

In conclusion, Buy Clean supports American innovation and competitiveness, it reduces greenhouse gases and local pollution, and it does not significantly increase costs. We should use Buy Clean, supported by expanded and elevated investments in industrial innovation, to affordably address the climate crisis and increase the competitiveness of American manufacturing.

Thank you very much, and I look forward to answering your questions.

[The prepared statement of Dr. Dell follows:]

Testimony for U.S. House of Representatives Committee on Energy and Commerce Subcommittee on Environment and Climate Change Hearing on the CLEAN Future Act:
Industrial Climate Policies to Create Jobs and Support Working Families

18 March 2021

Rebecca Dell, PhD Program Director, Industry ClimateWorks Foundation

Thank you, Mr. Chairman and Ranking Member, for the invitation to testify on the Climate Leadership and Environmental Action for our Nation's Future Act.

My name is Rebecca Dell. I lead the industry program for the ClimateWorks Foundation, a non-profit organization focused on ending the climate crisis. Our team includes experts in climate science, public policy, strategic philanthropy, and social and economic development who lead global philanthropic programs to accelerate climate solutions to achieve an equitable, climate-safe future. I was previously a policy expert at the U.S. Department of Energy and I have a PhD in climate science from MIT. I'm very pleased to speak about rebuilding our infrastructure, investing in American manufacturing, and addressing the climate crisis.

We all know that we need major national infrastructure investment. Climate change will only increase the need for infrastructure, from wind turbines to flood control systems. Buy Clean is a family of policies that use these investments to transform construction and heavy industry. In this testimony, I'll discuss why:

- (1) Buy Clean is important because it targets the most important sectors.
- (2) Buy Clean is powerful because it uses government leverage to support innovative and competitive manufacturing.
- (3) Buy Clean should be structured to achieve specific policy goals.
- (4) Complementary policies on innovation and governance will help Buy Clean to be as successful as possible.

## (1) Buy Clean is important because it targets the most important sectors.

The CLEAN Future act sets a national target of 50% reduction of greenhouse gas emissions by 2030 and 100% reduction by 2050. Direct emissions from industrial facilities in the United States are about a fifth of total emissions. If we include the indirect emissions from generating electricity consumed by industrial facilities, that number rises to about a quarter. If we also include the imported industrial emissions generated in other countries while manufacturing products that were consumed in the United States, that portion rises to a third of national emissions. We cannot achieve our climate goals without dramatically reducing GHG emissions from industry.

<sup>&</sup>lt;sup>1</sup> https://www.climateworks.org/report/build-clean-industrial-policy-for-climate-and-justice/. See p7 of report.

Industrial emissions are heavily concentrated in a small number of commodity processing industries, especially petrochemicals (largely fertilizer and plastics), refining, steel manufacturing, cement making, pulp and paper, and aluminum. Globally, this short list of industries is responsible for more than 20% of all GHG emissions.<sup>2</sup> These industries are also leading sources of some of the most damaging types of local air and water pollution.

At the same time, the government is the largest consumer of their products. In the United States, nearly half of all cement and a fifth of steel is purchased with tax dollars.<sup>3</sup> We should use government purchasing to create demand for low-GHG versions of the most climate-damaging products. All levels of government have used green purchasing initiatives for many types of products. Buy-clean standards focus on building materials. Building materials are purchased in the largest quantities and in large share by the government, so this product category is the one in which the government has the greatest leverage.

The environmental stakes are not small. Without smart buy-clean standards, the infrastructure bill passed through the House of Representatives in June 2020 (H.R.2) could create an additional 200 million tons of CO<sub>2</sub> emissions. For comparison, in the decade before 2019, the United States managed to decrease annual emissions by only some 220 million tons. As Congress considers a major infrastructure reinvestment as part of the economic recovery from Covid-19, it is more urgent than ever to ensure that we rebuild and modernize our infrastructure in a way that does not contribute to the climate crisis.

# (2) Buy Clean is powerful because it uses government leverage to support innovative and competitive manufacturing.

Countries and companies around the globe have realized that climate-safe manufacturing and construction practices are essential for their long-term competitiveness. The United States is significantly behind many other large economies in this respect. Buy Clean is not a burden on American manufacturing, but an opportunity for American firms to profit by investing in their long-term competitiveness and environmental performance. Businesses cannot make investments in lower-carbon production—including building or upgrading facilities, hiring and training workers, and developing new products—unless they are *confident that markets will exist for those products*. Many lower-carbon materials are currently more expensive, especially as we are learning how to best produce, use, and dispose of them. No one will take the risk and expense of retrofitting a cement kiln with CCS unless they know they can get a premium price for the cement it produces. Commitments through public procurement systems are one of the most powerful ways to provide that confidence.

Crippa, M., G. Oreggioni, D. Guizzardi, M. Muntean, E. Schaaf, E. Lo Vullo, E. Solazzo, F. Monforti-Ferrario, J. G. J. Olivier, and E. Vignati. 2019. Fossil CO2 and GHG Emissions of All World Countries—2019 report. Technical Report EUR 29849 EN; JRC117610, Publications Office of the European Union, Luxembourg.
 Portland Cement Association. 2017. U.S. Cement Industry Annual Yearbook. Technical report.

American Iron and Steel Institute. 2019. Profile 2019-2020. Technical report. https://www.steel.org/wp-content/uploads/2020/12/2020-AISI-Profile-Book.pdf

<sup>&</sup>lt;sup>4</sup> https://www.nytimes.com/2021/03/04/opinion/climate-change-infrastructure.html

<sup>&</sup>lt;sup>5</sup> https://cfpub.epa.gov/ghgdata/inventoryexplorer/#allsectors/allgas/gas/all

<sup>&</sup>lt;sup>6</sup> For example, the five largest steel companies in the world (Baowu, ArcelorMittal, Nippon, Hebei, and POSCO) have all pledged to reduce their CO2 emissions to zero by 2050, but no American steel companies have.

By focusing on market creation, we *eliminate the competitiveness concerns* that many previously discussed policies raise. We are not putting any requirements on American businesses that offshore businesses could avoid, as might happen with a carbon price or direct regulation of the emissions of domestic facilities. All producers regardless of location should access the markets for low-carbon products and processes on equal terms, so there's no risk of undercutting by non-compliant competitors. Additionally, domestic producers would have the same advantages they have always had, including Buy American and Buy America requirements, lower transportation cost, greater understanding of the markets, and easier compliance with domestic requirements. In many industries, like steel, U.S. producers are already considerably cleaner than the global average.

Finally, the best part of Buy Clean is that it is *affordable*. Cement is the material responsible for the largest share of GHG emissions in public construction, and it only accounts for about 1% of the cost of public construction.<sup>7</sup> Many near-term interventions that reduce cement GHG emissions are low- or even no-cost, like increasing the use of clinker substitutes. However, because cement is such a small portion of the total cost, even emissions reductions that are generally considered prohibitively expensive would hardly affect the cost of an infrastructure project. For example, electrifying a cement kiln would cost about \$50 per ton of cement, at typical electricity prices. That would eliminate half of the carbon dioxide emissions and add less than 1% to the cost of a typical project. Retrofitting an existing kiln to capture and store the carbon dioxide emissions could add as little as \$60 per ton of cement and eliminate nearly all carbon dioxide emissions, again at a cost of less than 1% of the total project cost.

Buy Clean policies address critical sectors with high GHG and local pollution emissions, allow firms to make investments that both improve the environment and their long-term competitiveness, supports innovation, and does not significantly increase the cost public construction.

## (3) Buy Clean should be structured to achieve specific policy goals.

In order to be most effective, Buy Clean policies should be designed and enacted so that they:

- Maintain as much flexibility as is possible about the methods and technologies used to reduce emissions, to allow innovation and competition to determine the best outcomes.
- Protect American firms and workers from unfair competition.
- Reward companies that are using current best practices.
- Create additional incentives for firms that take risks on new methods or technologies that
  are even better than current best practices.
- Support investing in workforce training and high-quality jobs.
- Apply to all federally funded construction, including projects that are administered by state, local, and tribal governments, while minimizing the additional administrative burdens created on other levels of government.
- Utilize the expertise of the federal government in environmental protection, energy technologies, procurement, and construction.

<sup>&</sup>lt;sup>7</sup> https://www.climateworks.org/blog/whats-at-stake-with-buy-clean/

- Ensure that all requirements and incentives are robust and properly enforced.
- Creates opportunities for private construction projects to benefit from information compiled and lessons learned in implementing Buy Clean.

Most of these needs are pretty straight-forward and are well addressed in the current draft legislation. Three merit additional discussion: the incentives for innovation and current best practice, and the need for enforcement.

We need Buy Clean to both encourage the uptake of current best practices and to help us get on a pathway toward the climate goals that the CLEAN Futures Act sets for 2030 and 2050. The fact is that current best practice would likely reduce GHG emissions from the building materials industries by 20-30%, significantly short of the 2030 goal of 50% reductions, and not near the 2050 goal of 100% reduction.8 That means we need innovation and the commercialization of new practices and technologies. The most important way to incentivize that commercialization is with a guaranteed market for very low emissions building materials. The Climate Star program could potentially provide this, but the Energy Star program on which it is modeled has historically been much more effective at promoting current best practices and incremental improvements than at creating opportunities for genuinely innovative technologies. Another option would be to set two intensity standards for covered building materials: one standard applies to all materials purchased and requires at least current good practice, and the second standard applies only to a small portion of projects or materials (say 10%) and requires dramatic improvements in performance (say 50% reduction in GHG intensity from current good practice). This structure is analogous to the Renewable Portfolio Standard policies used by many states to begin the deployment of wind and solar power. Like an RPS, it would provide guaranteed, bankable lead markets that could justify significant private-sector risk and investment in at-thetime relatively high-cost technologies. Like wind and solar, those lead markets will be essential to bring new technologies to scale. like alternative concrete formulations or cement chemistries. cement made with carbon capture and storage, CO2-sequestering artificial aggregates, and hydrogen- or electrolysis-based steel. Other policy structures can serve similar functions, for example tradable performance standards, bid discounts, or prizes. The important thing is to structure Buy Clean to incentivize both current best practice and the commercialization of new technologies that will benefit both our environment and our manufacturing sector in the decades to come.

Effective enforcement is essential. Existing procurement requirements like Buy America and Buy American have not been as effective as they should because they do not appropriate mechanisms for enforcement. For example, the Buy America Act has no ongoing enforcement—if a contractor illegally uses foreign-sourced building materials, the only recourse would be a lawsuit, typically brought by a domestic supplier whose products were not used. <sup>9</sup> Buy Clean should include funding for an enforcement and audit staff who would not just maintain the quality of the EPD database (as currently specified), but also undertake enforcement activities designed to ensure that federally funded construction projects are actually using the material specified with the environmental attributes claimed.

<sup>&</sup>lt;sup>8</sup> https://www.nytimes.com/2021/03/04/opinion/climate-change-infrastructure.html

<sup>&</sup>lt;sup>9</sup> https://www.climateworks.org/report/build-clean-industrial-policy-for-climate-and-justice/. See p21 of report.

# (4) Complementary policies on innovation and governance will help Buy Clean to be as successful as possible.

In order for Buy Clean to be as successful as possible, it should be complemented by investments in innovation and the commercialization of strategic new technologies in the industrial sector. We need a dramatic increase in the scale, focus, and ambition of innovation activities in the industrial sector, and in particular we need to create new mechanisms for commercializing large-scale industrial processes with dramatically improved environmental performance. Currently, we spend no more than \$850 million per year on manufacturing and industrial innovation, mostly through DOE's Advanced Manufacturing Office and through relevant programs at NIST. 10 The inadequacy of this sum is clear from two comparisons:

- Manufacturing and construction generate more employment and almost as much GDP as
  the healthcare sector. The healthcare sector is supported by the research and development
  activities of the National Institutes of Health, with an annual budget of \$42 billion, or
  5,000% of what we spend on the industrial sector.<sup>11</sup>
- Even though Germany has one-quarter our population and one-fifth our GDP, the German government spends five times more on its Fraunhofer Institutes than we spend on our analogous Manufacturing USA institutes.<sup>12</sup>

We should increase industrial innovation expenditures to at least \$5 billion per year by expanding existing programs and creating new programs specifically designed to fund the essential final stage of the innovation process: demonstration at scale. There are many important ideas for reducing industrial emissions that have languished in laboratories for decades; other countries are starting to deploy them, and we should too. With these increased investments, we should also create new mechanisms for workers, environmental justice advocates, and other stakeholders to be involved in setting research agendas and ensuring that these additional dollars are spent to improve worker safety and community health and provide local benefits in addition to reducing GHG emissions.

Finally, this entire agenda needs high level leadership within the executive branch. Currently, the highest-ranking person in the federal government whose job it is to advance the future of American manufacturing has the rank of acting office director. In order for both the innovation investments and the technical underpinnings of the Buy Clean program to be a success, Congress should create an additional assistant secretary of energy responsible for manufacturing and industry. Without this position, federal manufacturing policy will continue to lack long-term leadership and the ability to convene the full capacities of the federal government to revitalize our manufacturing sector and achieve our climate goals.

Thank you very much for your time, and I look forward to answering your questions.

<sup>10</sup> https://www.climateworks.org/report/build-clean-industrial-policy-for-climate-and-justice/. See p15 of report.

<sup>11</sup> Manufacturing and construction together employ about 20% more people than healthcare and generate about three-quarters of the GDP that healthcare generates. See <a href="https://fred.stlouisfed.org/graph/?g=vcsD">https://fred.stlouisfed.org/graph/?g=vcsD</a>.

Mr. TONKO. Thank you very much, Dr. Dell. And now we will move to Mr. Perciasepe.

You are recognized, sir, for 5 minutes, please.

## STATEMENT OF BOB PERCIASEPE

Mr. Perciasepe. OK, thank you. Thank you, Mr. Chairman and Ranking Member McKinley. Thank you all for inviting me today. I am here to testify, as you mentioned, on behalf of the Renewable Thermal Collaborative.

I am the president of Center for Climate Energy Solutions. And before joining the Center 7 years ago, I was the Deputy Administrator of the Environmental Protection Agency.

The Renewable Thermal Collaborative is a global coalition of companies and institutions committed to scaling up renewable heating and cooling at their facilities, thus reducing carbon emissions. The collaborative was founded in 2017, and it is facilitated by C2ES, David Gardiner & Associates, and the World Wildlife Fund.

The industrial sector is very challenging to decarbonize due to its very tremendous—its tremendous amount of diversity, and its reliance on a large quantity of energy and heat. And the fundamental nature of many of the core manufacturing processes also produce greenhouse gases. Industrial emissions account for about 29 percent of the emissions in the United States, and they are projected to grow over the next decade under our current situation, as the and become, potentially by 2030, the largest source of emissions in the United States.

The goals of the Thermal Collaborative are to create a community of corporate buyers of technology, of service to establish policy support, and to put us on a path so that the industrial sector can reduce its thermal emissions by 30 percent by 2030, with a goal of full-sector decarbonization by the middle of the century, in 2050.

Policy, and the use of policy, has been an underutilized resource for achieving decarbonization in the industrial sector. And the Thermal Collaborative recently published a report which surveyed leading policies across the world, in Europe and in the United States, on advancing low-carbon technologies. We explored a number of policy approaches to catalyze a wide variety of renewable thermal technologies, including geothermal, beneficial electrification, green hydrogen, solar thermal technologies, renewable natural gas, biomass, and biogas, and others.

Advancing the low-carbon solutions—the level of policies at the State level are often targeted to specific technologies, or specific companies, or specific corporate and business sectors, and they tend to be fragmented. At the Federal level, if you used it as an example of what has been done in the power sector, the production tax credit and the investment tax credit has spurred billions of dollars of investment and reduced the cost of renewable energy in the

power sector.

We identified a number of policies that could really help in the industrial sector: expanded research and development; demonstration and deployment; grant programs; and a national financial facility that could provide grants, as well as crucial financing; deployment initiatives; procurement, as you just heard from Dr. Dell; and renewable thermal portfolio standards that could help.

The CLEAN Future Act is on track on a number of these points,

and I will mention three things in particular.

The Clean Energy Manufacturing Grant Program would support a range of zero and low-emitting technologies, including some of the technologies mentioned in the opening comments already today. The carbon—and there is a special attention to the carbon and energy-intensive industries.

The Carbon Mitigation Fund would support beneficial electrification, and could be benefited by expanding the eligibility to other low-carbon renewable thermal technologies that meet robust sus-

tainability criteria.

And the third one I will mention is the Clean Energy Sustainability Accelerator. In many ways I look at this as the accelerator of innovation. You have lots of innovation taking place already, as many have already mentioned. But what we have here is a financial facility that will help accelerate the deployment of those innovations as they occur, getting to that next step of implementation and deployment, which is very important. And it has a wide variety of flexibilities to enable it to accomplish those goals.

Let me just say, in conclusion here, that fragmented policies that apply only to certain locations or certain technologies or certain kinds of business classes will result in uneven approaches. Federally based financial incentives, such as are envisioned in the CLEAN Futures Act, would really help accelerate the innovation that we need in the industrial sector.

And I will stop with that, and look forward to your questions. Thank you, Mr. Chairman and Ranking Member.

[The prepared statement of Mr. Perciasepe follows:<sup>1</sup>]

 $<sup>^1\</sup>mathrm{Additional}$  information that Mr. Perciasepe submitted has been retained in committee files and is available at http://docs.house.gov/meetings/IF/IF18/20210318/111348/HHRG-117-IF18-Wstate-PerciasepeB-20210318-SD001.pdf.



#### **TESTIMONY OF**

## **BOB PERCIASEPE** PRESIDENT, CENTER FOR CLIMATE AND ENERGY SOLUTIONS (C2ES) ON BEHALF OF THE RENEWABLE THERMAL COLLABORATIVE (RTC)

#### **BEFORE THE**

#### HOUSE ENERGY AND COMMERCE COMMITTEE AND SUBCOMMITTEE ON ENVIRONMENT AND CLIMATE CHANGE

## MARCH 18, 2021

#### Good morning.

Chairman Tonko; Ranking Member McKinley: Thank you for inviting me here today to testify on behalf of the Renewable Thermal Collaborative and C2ES. I am Bob Perciasepe, the president of the Center for Climate and Energy Solutions (C2ES). Before joining C2ES, I was most recently the Deputy Administrator of the U.S. Environmental Protection Agency (EPA) from 2009 through 2014. Before that I was the chief operating officer for the National Audubon Society and the Secretary of Maryland's Department of Environment. A full biography is attached and submitted for the record.

The Renewable Thermal Collaborative (RTC) is a global coalition of companies, institutions, and governments committed to scaling up renewable heating and cooling at their facilities, and dramatically cutting carbon emissions. The RTC was founded in 2017 and is facilitated by C2ES, along with David Gardiner and Associates, and the World Wildlife Fund.

The industrial sector is challenging to decarbonize due to its tremendous diversity, reliance on large quantities of heat, and the fundamental nature of many core manufacturing processes. Although industrial emissions have generally declined in recent years with improved energy efficiency and the move from coal to natural gas, industrial emissions still account for approximately 29 percent of total U.S. emissions. <sup>1</sup> Further, projected increases in production driven by growing demand and declining energy prices could make the sector the largest source of U.S. emissions by 2030.2

Worldwide, heat makes up roughly three-quarters (74 percent) of energy demand for industry and accounts for more than one-fifth of total global energy consumption.<sup>3</sup> In the United States, about 43 percent of industrial emissions (i.e., direct and indirect emissions) come from burning fossil fuels to produce heat or steam. <sup>4</sup> To be effective, low-carbon thermal pathways must be capable of achieving the range of temperatures demanded by each industrial process. The temperature required depends on the nature of the process; it can exceed 1,400 degrees C (2,500 degrees F) for industries such as steel and cement. However, two-thirds of process heat used in U.S. industry is for applications below 300 degrees C (572 degrees F). Substituting low-carbon renewable thermal technologies for half of the fossil fuels currently consumed to produce heat and steam for industry could reduce total U.S. emissions by up to 6 percent.<sup>6</sup>



The goals of the RTC are to create a unique community of corporate buyers and technology and service providers, establish policy support, and put us on the path to reduce industrial sector thermal emissions 30% by 2030 and full sector decarbonization by 2050. To date, policy has been an underutilized tool to advance low carbon renewable thermal technology solutions, especially when compared to the robust use of policy to expand the development and deployment of renewable electricity.

This task is complicated by significant differences which exist between electricity and thermal energy. While primary energy sources that are used to produce thermal energy may be easily transportable, unlike renewable electricity, thermal energy itself cannot travel over long distances, and must be produced on-site or near where it will be used and distributed locally. This presents a challenge as the supply of low-carbon renewable thermal energy sources and technologies is often limited by geography, especially for biomass, solar, or geothermal resources. The disaggregated supply of low-carbon renewable thermal resources makes it more difficult for those interested in utilizing these resources to develop a systematic and comprehensive strategy to evaluate low-carbon renewable thermal opportunities.

RTC recently published a report, titled Low-Carbon Renewable Thermal Technology Solutions: Policies to Support Development and Deployment. In the report, we survey leading policies in Europe and the United States to advance low-carbon renewable thermal technologies, which we define as biomass, biogas (including landfill gas), renewable natural gas (or biomethane), geothermal, beneficial electrification, green hydrogen, and solar thermal technologies. We draw key lessons from those experiences to inform recommendations for federal policymakers. A copy of the report is attached and submitted for the record.

In the report, we explore a number of policy approaches to catalyze a wide variety of low-carbon renewable thermal technologies. These include research, development, demonstration and deployment (RDD&D), technical assistance, financial incentives, market-based mechanisms and federal procurement. As investors, governments and consumers around the globe increasingly demand low-carbon products, companies are focused on finding ways to remove greenhouse gas emissions from their supply chains. Smart federal support for low-carbon renewable thermal technologies could go a long way toward not only ensuring that domestic manufacturing has the tools it needs to compete in a low-carbon world, but can also help establish the U.S. as a global leader in supplying technologies that will enable the transformation to a low-carbon economy.

It will also be critical for policymakers to support impacted communities. Environmental and social justice issues among both workforce and frontline communities should be prioritized in the development of policies to decarbonize the industrial sector. Support from policymakers can enable private sector investments in lowcarbon renewable technologies, which can help industrial companies, as well as the communities in which they operate, to succeed in highly-competitive global markets over the long-term. In particular, financial incentives will be critical to driving the private investment needed to decarbonize the industrial sector.

#### **Advancing Low-Carbon Renewable Thermal Solutions**

Our research found that financial incentives have been an effective tool in the European Union (EU) to support the deployment of low-carbon renewable thermal technologies. However, to date, these incentives have focused largely on bioenergy. In 2017 alone, 15 EU Member States spent more than €6.5 billion to directly subsidize bioenergy. <sup>7</sup> This support has led to widespread use of bioenergy in the EU, which comprised 59



percent of all renewables and 10 percent of all energy sources) to the gross final energy consumption in the EU in 2016. Seventy-five percent of this energy was used for heating purposes. Although these financial incentives have been an effective tool for scaling renewable thermal solutions, incentives to scale bioenergy must also come with full life-cycle greenhouse gas criteria and sustainable land and forest management standards to avoid unintended climate, land, forest and biodiversity impacts. Further, financial incentives should be accessible by a diverse and balanced set of low-carbon renewable thermal technologies.

In the United States, state-level incentives for low-carbon renewable thermal technologies include direct financial incentives, sales tax exemptions and rebates, incentive payments for interconnection costs, and pilot programs. These incentives are frequently aimed at specific technologies and specific customer classes. While this level of specificity may be a result of the fuels or technologies available in a particular state or based on a state's largest sources of emissions, excluding technologies or sectors may create an uneven playing field for promising solutions, or leave certain customer classes without access to the low-carbon renewable thermal solutions they need.

At the federal level, there are fewer examples of financial incentives designed to support low-carbon renewable thermal technologies. In the electricity sector, the PTC and ITC spurred investment on the order of hundreds of billions in the solar photovoltaic and wind industries. This led to drastic cost declines and rapid scaling of renewable electricity technologies. Similar incentives could catalyze the low-carbon renewable thermal sector, with broad enough eligibility and sufficient expiration horizons, including those for CHP and waste heat to power.

A variety of policies exist to support the expanded availability of low-carbon renewable thermal technologies. Funding for research, development and demonstration projects, financial incentives such as grants and tax credits, as well as policies to support clean procurement all help to create market momentum for lower carbon products. Varying levels of commercial readiness for renewable thermal technologies means that to support a broad portfolio of technologies, policymakers will need to provide a range of accessible incentives.

Expanded research and development activities, including the establishment of an industrial emissions reduction technology research, development, demonstration, and commercial application program as authorized in the Energy Act of 2020 would provide important support to advance a broad range of low-carbon renewable thermal technologies.

Grant programs could also provide much needed support to deploy technologies to address industrial thermal emissions. In particular, a national climate bank could provide grants as well as low-cost loans for an expansive range of low-carbon renewable thermal technologies in the residential, commercial and industrial sectors. Close coordination with existing state and local green banks will be important, given their ability to identify and meet local needs, particularly for smaller residential and commercial projects, including those financed through property assessed clean energy (PACE) programs. Further, a national climate bank should help support the establishment of new state and local green banks and also leverage its scale to fund the development of infrastructure projects with regional or even national benefit.

Loan guarantees are an additional tool to help establish market confidence in low-carbon renewable thermal technologies. The Energy Act of 2020 expanded eligibility for the Department of Energy's Loan Program Office to



include technologies or processes for reducing greenhouse gas emissions from industrial applications, including iron, steel, cement, and ammonia production, hydrogen production, and the generation of high-temperature heat. This was a significant step to decarbonizing industrial thermal heat. We hope that the Loan Program Office focuses on not only thermal projects, but is able to support infrastructure projects necessary to facilitate the expanded availability of low-carbon renewable thermal technologies.

Deployment incentives are also a critical tool to decarbonizing the industrial sector. Tax credits for renewable thermal technology deployment, modeled on the highly-effective investment and production tax credits could catalyze significant investment, particularly if they are established on a sufficiently long-term basis that would provide certainty to the market. The Federal government also has a tremendous opportunity to leverage its buying power to scale low-carbon industrial products.

Market-based mechanisms have also proven adept at facilitating both low-carbon renewable thermal and renewable electricity solutions. We identify three market mechanisms in the report that could be well-suited to incentivizing industrial decarbonization: a thermal renewable portfolio standard and accompanying thermal renewable energy credit market; carbon pricing and industrial performance standards.

In electricity markets, renewable portfolio standards helped drive significant adoption of renewable energy by mandating a minimum percentage of electricity generated from renewable sources. As much as half of the growth in renewable electricity capacity since 2000 can be attributed to renewable portfolio standards. § Thirteen states and Washington, D.C. now include low-carbon renewable thermal in their RPS: some states classify low-carbon renewable thermal technologies separately from electricity-generating renewable technologies, while in other states, low-carbon renewable thermal technologies are included with electricitygenerating renewable technologies. Establishing thermal renewable energy credits would not only support renewable portfolio standards, but also help develop credible standards and certification of environmental attributes for low-carbon renewable thermal sources. The expansion of market-based policies could lead to significant deployment of low-carbon renewable thermal technologies. For example, an economy-wide price on carbon emissions – accompanied by a suite of other policies – could accelerate adoption of low-carbon renewable thermal technologies and could generate revenue to support climate mitigation efforts, address impacts on low-income households and support affected workers and communities.

Performance standards can also drive decarbonization across the industrial sector, and a benchmarking process for major industrial subsectors would be a key enabling step toward the enactment of a performance standard.

# **CLEAN Future Act**

The CLEAN Future Act includes a number of policies that would support industrial decarbonization. The creation of an Assistant Secretary for Manufacturing and Industrial Decarbonization at the Department of Energy would aid RDD&D efforts and provide crucial leadership to ensure that domestic manufacturers are able to compete in a low-carbon economy.

There are a number of provisions in the CLEAN Future Act that would help to scale technologies to reduce industrial emissions. The environmental product declarations established as part of the Federal Buy Clean Program would enable the federal government to leverage its purchasing power to drive low-carbon products



into the marketplace, while creating a framework for other purchasers to do the same. The Clean Energy Manufacturing Grant Program in Section 504 would support a range of zero and low-emission thermal technologies, and emphasizes — correctly — the need for special attention to energy intensive industrial products. The Carbon Mitigation Fund would support beneficial electrification, a key strategy for decarbonizing the industrial sector. Expanding fund eligibility to include other renewable thermal technologies, including biomass, biogas (including landfill gas), renewable natural gas (or biomethane), geothermal, green hydrogen, and solar thermal would help ensure that a diversity of technologies are afforded the opportunity to meet the variety of low-carbon thermal needs of industry. Robust sustainability criteria should guide development and deployment.

The Clean Energy and Sustainability Accelerator outlined in the CLEAN Future Act would not only provide financial support to reduce industrial emissions, but also grow market confidence and scale investments in critical low-carbon renewable thermal technologies. As drafted, it would authorize funding for projects in "industrial decarbonization, fuel switching and electrification," which would support a range of low-carbon renewable thermal technologies. Explicitly including infrastructure would ensure that project developers are able to access a low-cost supply of low-carbon renewable thermal energy.

Further, the Accelerator's ability to provide financing through debt, credit enhancements, aggregation and warehousing, equity capital and other financial products approved by its Board of Directors would position it to play an especially important role in regions of the United States with concentrated manufacturing facilities. Not only would it help attract co-investment from the private sector, in doing so it could increase understanding in capital markets about technologies to reduce industrial emissions. It could help underwrite loans and also help reduce the risks and costs for a range of projects by bundling loans. The flexibility to invest senior, mezzanine and especially subordinated debt is also a key feature for attracting private sector investment. Importantly, the Accelerator would also support the establishment of new state and local green banks, which are well suited to enhancing job creation and ensuring that the benefits of low-carbon renewable thermal project development accrue to local communities.

#### **Key insights**

Fragmented policies that only apply in certain locations, to certain technologies, or to certain customer classes can lead to uneven results and slow the development and deployment of low-carbon renewable thermal technologies. In the United States, not all states have low-carbon renewable thermal policies and those that do vary in the types of technologies supported and customers who are able to benefit from those policies. Federal financial incentives will be key to accelerating the deployment of these technologies, and the CLEAN Future Act includes a number of key provisions that can help to accelerate and scale low-carbon renewable thermal technologies. Broad eligibility for the full range of low-carbon renewable thermal technologies can ensure that the range thermal requirements among industrial subsectors can be met with low-carbon technologies.



<sup>&</sup>lt;sup>1</sup> U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2018* (Washington, DC: U.S. Environmental Protection Agency, 2020), Table 2-12, https://www.epa.gov/sites/production/files/2020-04/documents/us-php-inventory-2020-main-text.pdf

<sup>04/</sup>documents/us-ghg-inventory-2020-main-text.pdf.

<sup>2</sup> Doug Vine and Jason Ye, *Decarbonizing U.S. Industry* (Arlington, VA: Center for Climate and Energy Solutions, 2018), https://www.c2es.org/document/decarbonizing-u-s-industry.

https://www.c2es.org/document/decarbonizing-u-s-industry.

3 Elie Bellevrat and Kira West, "Clean and efficient heat for industry," International Energy Agency (commentary), January 2018, https://www.iea.org/commentaries/clean-and-efficient-heat-for-industry.

4 U.S. industrial greenhouse gas emissions were 1,931 MMT CO2 Eq. in 2018 – direct and indirect from imported electricity.

<sup>&</sup>lt;sup>4</sup> U.S. industrial greenhouse gas emissions were 1,931 MMT CO2 Eq. in 2018 – direct and indirect from imported electricity. Industrial CO2 emissions from the combustion of fuels were 1,320 MMT CO2 Eq. in 2018 – direct and indirect. 63 percent of the fossil fuel combustion emissions, 832 MMT CO2 Eq., are attributed to production of steam and/or heat for industrial processes. U.S. Environmental Protection Agency, Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2018.
<sup>5</sup> "Solar for Industrial Process Heat Analysis," National Renewable Energy Laboratory, accessed March 16, 2021,

https://www.nrel.gov/analysis/solar-industrial-process-heat.html.

6 U.S. Environmental Protection Agency, Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2018.

<sup>&</sup>lt;sup>7</sup> The Members States are United Kingdom, Belgium, Spain, Germany, Italy, The Netherlands, Slovakia, Austria, Ireland, Portugal, France, Denmark, Finland, Sweden, and Poland. Renewable Thermal Collaborative, Low-Carbon Renewable Thermal Technology Solutions: Policies to Support Development and Deployment (Arlington, VA: Renewable Thermal Collaborative, 2021), <a href="https://www.renewablethermal.org/low-carbon-renewable-thermal-technology-solutions/">https://www.renewablethermal.org/low-carbon-renewable-thermal-technology-solutions/</a>.

Collaborative, 2021), <a href="https://www.renewablethermal.org/low-carbon-renewable-thermal-technology-solutions/">https://www.renewablethermal.org/low-carbon-renewable-thermal-technology-solutions/</a>.
§ Sasha Stashwick, Burnout: E.U. Clean Energy Policies Lead to Forest Destruction (Rotterdam, The Netherlands: Natural Resources Defense Council, Inc., 2019), <a href="https://www.nrdc.org/resources/burnout-eu-clean-energy-poli-cies-lead-forest-destruction">https://www.nrdc.org/resources/burnout-eu-clean-energy-poli-cies-lead-forest-destruction</a>.

<sup>&</sup>lt;sup>9</sup> Galen Barbose, *U.S. Renewable Portfolio Standards 2018 Annual Status Report* (Berkeley, CA: Lawrence Berkeley National Laboratory, November 2018), <a href="https://eta-publications.lbl.gov/sites/default/files/2018">https://eta-publications.lbl.gov/sites/default/files/2018</a> annual rps summary report.pdf.

Mr. Tonko. Well, thank you, Mr. Perciasepe, for your input. And now we will move to Mr. Sunday.

And again, welcome, Mr. Sunday. It is good to have you joining us, and you are recognized for 5 minutes, please.

## STATEMENT OF KEVIN SUNDAY

Mr. SUNDAY. Thank you, sir, and good morning, Chairman Tonko, Ranking Member McKinley, and members of the committee. Thank you for the honor and privilege to appear before you today to represent the Pennsylvania Chamber of Business and Industry.

We are the largest business advocacy organization in the State of Pennsylvania, which itself is the number-2 State for natural gas development, energy production, and nuclear power. We are the biggest power producer in the 13-State PJM grid, and we are also a leader in a number of manufacturing segments.

My testimony talks about how Pennsylvania's energy and industrial base have helped put this country in the cathird seat for sustainable economic growth. And I reemphasize that our workers and companies are up to the task in meeting the many challenges of the 21st century. Let me make a few summary points in my testimony.

First, the development of Marcellus Shale has led to massive investment in the new pipeline, energy, and manufacturing infrastructure. And projects like the Shell petrochemical facility in southwest Pennsylvania are totally changing the course of a region that was left behind a generation ago.

We are seeing natural gas and renewable resources being paired together to develop resilient microgrid projects at critical infrastructures like airports and the Navy Yard in Philadelphia. Combined heat and power projects are helping universities, hospital systems, and manufacturers in pulp and paper and food product segments manage costs and improve sustainability. And manufacturers in Pennsylvania are underway with a project to use carbon capture and natural gas liquids to sustainably produce ammonia, hydrogen, and fertilizer.

And at the same time, air quality in our State is improving dramatically. We are in statewide attainment, or very close to it, for all national ambient air quality standards. Since 2005 no State has reduced CO<sub>2</sub> emissions more than Pennsylvania, but one. And, as EPA officials recently noted, the nationwide 2030 goals of the Obama administration's Clean Power Plan have already been achieved, due to market forces.

In part because of Pennsylvania's resource base to help this country reduce emissions and send power prices in our regional grid down to generational lows, no country has the story to tell like that of the United States when it comes to reducing costs and emissions while growing the economy. The United States has lapped the European Union in growth over the past decade and a half while reducing emissions more. And our energy prices are much lower.

reducing emissions more. And our energy prices are much lower. And so, while it is reasonable to discuss setting long-term goals, we have real challenges today, and we need smart policy that will unlock further investment and environmental gains. A more predictable, rational, and flexible air quality permit process, including reforms to new-source review, will allow for more investment in do-

mestic facilities, including carbon capture, and a stronger domestic manufacturing base, instead of production in other countries who don't share our country's commitment to stewardship.

In addition, whether it is a bridge, or port, or an energy infrastructure component, it takes entirely long to build any new infrastructure in this country if that project is touched by the National Environmental Policy Act. And it is imperative we streamline the Federal decisionmaking process if America is going to have the in-

frastructure to compete.

The pandemic and recent energy crisis in multiple States have shown the need for smart, durable, bipartisan policy that accommodates resilient energy resources and that allows manufacturers to quickly retool. It is vital we leverage our human capital and knowledge bases in a host of traditional industries to meet the challenges of tomorrow, especially given the economic data showing the only rural regions of the country that are keeping up, in terms of productivity and wage growth, are those with natural resource economies.

And moreover, energy security in the coming decades will require policy that accommodates expanded mining for critical minerals, efficient build-out of energy and telecommunications infrastructure, and continued investment into exploration and production of hydrocarbons and nuclear power.

Finally, given our Nation's environmental requirements are much more stringent than other countries', it is imperative that regulatory policy doesn't end up offshoring key industries like refining, steel, cement, concrete, aggregates, and timber, all resources that we are going to need, regardless of what the energy mix looks like.

In closing, because our State's success has helped the United States keep energy costs lower than nearly every other developed nation while outpacing them in growth, I hope you consider our contributions and assets as you work towards producing durable, bipartisan, effective policy that keeps the United States in a flagship position in this increasingly challenging and dynamic global marketplace.

Again, thank you for the opportunity to appear before you this morning, and I am happy to take any questions you may have, and look forward to the discussion.

Thank you.

[The prepared statement of Mr. Sunday follows:]



Testimony

Submitted on behalf of the Pennsylvania Chamber of Business and Industry

Before the:

United States House of Representatives Committee on Energy and Commerce Subcommittee on Environment and Climate Change

Presented by: Kevin Sunday Director, Government Affairs

Washington, DC March 18, 2021

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## **Executive Summary of Testimony**

The PA Chamber encourages lawmakers on both sides of the aisle to come together to produce durable, bipartisan policy that applies the lessons from Pennsylvania's successful leveraging of our historic leadership positions in energy and industry to produce electricity, natural gas and a host of goods and commodities in an increasingly affordable and sustainable manner, to federal policy that positions America for continued leadership in an increasingly competitive and dynamic global marketplace.

Among all states, Pennsylvania ranks second in total energy production, second in natural gas production, second in installed nuclear capacity, third in coal production, third in electricity production and eighth in manufacturing output. Pennsylvania is also the largest net-exporter of electricity of any state and is the largest producer on the 13-state PJM grid.

Pennsylvania's energy assets have contributed to significant nationwide decreases in commodity costs for gas and electricity and in emissions of NAAQS and greenhouse gasses. Our state has helped position the United States as a leader in sustainable economic growth, as our nation has outpaced other developed countries in keeping energy prices low while growing the economy and reducing emissions.

The private sector is deploying a number of innovative technology and energy solutions to support traditional and emerging industries in a sustainable manner.

Federal infrastructure and air quality permitting must be reformed to position our country for continued leadership. Unilateral obstruction of federally approved interstate projects has real-world consequences for ratepayers, energy security and the economy.

Permitting under the National Environmental Policy Act must be made transparent, fair and nimble so that vital energy and transportation infrastructure necessary for a modern economy can be built in a timely manner.

Pursuing additional reforms to several components of air quality regulation, such as New Source Review and emission reduction credits, will also encourage the expansion of domestic operations.

Federal policy should reward stewardship and build upon existing public and private commitments and leverage the human capital and technology base of traditional industries. This includes continued investment into mining, energy transmission infrastructure and research and development involving advanced nuclear and carbon capture.

Regardless of the future energy mix, our nation's economy will require a strong, competitive domestic industrial base to provide critical minerals, timber, aggregates, concrete, steel and cement.

A strong economy and continued improvements in quality of life depend upon ongoing increases in labor productivity in every region of the country. At present, the only rural communities that are matching urban and metropolitan regions in terms of wage and productivity growth are those communities with natural resource development. Federal policy must support the continued operation and expansion of critical energy and manufacturing industries in these non-metro areas.

Good morning Chairman Tonko, Ranking Member McKinley, and honorable members of the House Energy and Commerce Committee.

My name is Kevin Sunday, Director of Government Affairs for the Pennsylvania Chamber of Business and Industry (PA Chamber). The PA Chamber is the largest, broad-based business advocacy organization in the Commonwealth. Our organization represents thousands of member companies, across every commercial and industrial sector and ranging in size from sole proprietorships to Fortune 100 companies.

It is an honor and a privilege to appear before you this morning to discuss federal energy and environmental policy following the recent introduction of the CLEAN Future Act. It is our sincere hope that lawmakers on both sides of the aisle come together to produce durable, bipartisan policy that applies the lessons from Pennsylvania's successful leveraging of our historic leadership positions in energy and industry to produce electricity, natural gas and a host of goods and commodities in an increasingly affordable and sustainable manner, to federal policy that positions America for continued leadership in an increasingly competitive and dynamic global marketplace. The private sector is continuing to innovate and lead on technology solutions to energy challenges, and it is imperative that federal policy produce a reformed permitting and regulatory process that allows innovation to flourish through a predictable and timely decision-making process. In contrast, policy that brackets energy resources into either mandates or bans, or that simply encourages the closure of domestic facilities and the offshoring of their output to locales with less stringent environmental requirements, will not produce a sustainable economy.

Pennsylvania is the second-largest energy producing state, the second-leading state in natural gas production, the third-largest coal producing state, and the third-largest electricity producer.\(^1\) Our state is also the largest net-exporter of electricity in the country and is the largest electricity producer on the 13-state PJM grid that provides power to 65 million Americans, thanks to our competitive, diverse fleet of power generation resources, including the second-largest amount of nuclear power of any state in the country. Pennsylvania is also eighth in total manufacturing output, with leadership positions in food manufacturing, refined products, pharmaceuticals, steel, cement, aggregates and pulp and paper.

All of our members are committed to the stewardship of our state and nation's land, air and water, and we seek to provide a thoughtful and balanced approach on ways we can continue to reduce our environmental impacts and grow the economy. As policymakers at the federal level take a long-term vision towards energy policy, it is imperative that the goals be established thoughtfully after careful consideration of their ability to be executed in an efficient and effective manner. As energy crises in multiple states have shown, failure to adequately consider the magnitude of downside risks by getting assumptions wrong can produce real-world suffering and impose enormous costs on businesses and consumers.

<sup>&</sup>lt;sup>1</sup> Pennsylvania State Energy Profiles, US Energy Information Administration. https://www.eia.gov/beta/states/states/PA/rankings

# Competitive Markets and Private Sector Leadership Have Delivered Significant Environmental and Economic Progress in Pennsylvania and the United States

Among all states, Pennsylvania is the biggest net exporter of electricity in terms of megawatt hours, according to a recent analysis by the U.S. Energy Information Administration (EIA)<sup>2</sup>. Based on an analysis of EIA data, Pennsylvania exported 36 percent of total megawatt hours in 2019. Pennsylvania is also the largest power producer in the 13-state PJM grid, the largest grid in the country and one that delivers power to the homes, schools, and workplaces of more than 61 million Americans. The competitive markets managed by PIM have resulted in significant reductions in NAAQS criteria and greenhouse gas emissions from the power generation sector. Remarkably, Pennsylvania has remained in a leadership position with respect to power generation and net exports even with a substantial decrease in both tons of emissions and emissions intensity among the portfolio. According to a profile of the state's generation and transmission assets compiled by PJM3, Pennsylvania's average CO2 intensity declined from approximately 1,150 lbs/MWh in 2005 to approximately 765 lbs/MWh in 2019 (a reduction of 33 percent), and SO2 intensity declined from 10 lbs/MWh in 2005 to less than 1 lb/MWh in 2019 (a reduction of more than 90 percent). Since 2005, only one other state has reduced its energyrelated CO2 emissions more in terms of absolute tons.<sup>4</sup> Additional reductions from our state's power generation sector are expected to continue, with PIM reporting more than 11,000 MW of natural gas and solar in the state's capacity queue. Across the 13-state grid, significant amounts of wind (6,240 MW), solar (25,759 MW), storage (3.920 MW) and new natural gas (24,990) capacity are also in the queue.

These significant declines in air emissions have also been paired with decreases in the commodity costs within PJM's energy markets. During the first nine months of 2020, prices in the energy markets were the lowest in the 21-year history of the RTO's organized markets. Energy markets provide approximately two-thirds of the weight of wholesale power prices in PJM. Wholesale prices across PJM for 2019 were the lowest in 15 years, according to the Independent Market Monitor's recent annual report<sup>5</sup>.

Reductions in air emissions have not been limited to the power generation sector. Overall, Pennsylvania's industrial sources have achieved significant declines in emissions of federally regulated pollutants over the past several decades. According to data available on PA DEP and US EPA's websites, these reductions include decline in annual emissions of NOx on the order of 65 percent, SO2 by 90 percent, CO by 69 percent, VOCs by 36 percent and PM 10 by 37 percent. Further, these reductions are yielding a demonstrable improvement in air quality. Every monitoring point in the state is measuring attainment for the 2008 ozone standards of 75 ppb, and in just one year the number of monitoring points measuring non-attainment for the 2015 ozone standard of 70 ppb fell from eight to just four. The state is also measuring attainment at all points for both the annual and 24-hour standards

<sup>&</sup>lt;sup>2</sup> Today in Energy, December 7, 2020. US EIA. https://www.eia.gov/todayinenergy/detail.php?id=46156

<sup>&</sup>lt;sup>3</sup> 2019 Pennsylvania State Infrastructure Report. PJM Interconnection, July 2020. https://www.pjm.com/-

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<sup>&</sup>lt;sup>4</sup> State Energy-Related CO2 Emissions by Year, Adjusted (1990-2018). US Energy Information Administration, March 2, 2021. <a href="https://www.cia.gov/environment/emissions/state/">https://www.cia.gov/environment/emissions/state/</a>

<sup>&</sup>lt;sup>5</sup> 2019 State of the Market Report for PJM. Independent Market Monitor, March 2020. https://www.monitoringanalytics.com/reports/PIM State of the Market/2019.shtml

from PM 2.5, and the Allegheny County Health Department announced in February that for the first time in decades its monitors were measuring healthy levels of air quality for all criteria pollutants.

Pennsylvania's contributions to growing the economy while reducing energy prices and emissions have positioned the United States for leadership in sustainable growth. As EPA's Acting Assistant Administrator Joseph Goffman noted in a recent memo to regional offices, "ongoing changes in electricity generation mean that the emission reduction goals that the [Obama administration's Clean Power Plan] for 2030 have already been achieved." From 2005 to 2019, according to an analysis of World Bank, EIA and International Energy Agency data<sup>7</sup>, the United States' economy grew by 64 percent, to roughly \$21.4 trillion in GDP, while reducing carbon dioxide emissions by 16%. Over the same period, Europe's economy grew at half the same pace (31 percent) yet lagged the United States on emissions reductions on an absolute basis - a reduction of 742 mmt for Europe compared to a reduction of 936 mmt for the United States, or a delta of 210 million metric tons of CO2. More broadly, over the same 15 year period, OECD countries as a whole reduced on net carbon dioxide emissions by 1,524 mmt - of which the United States can proudly lay claim to having been responsible for more than 60 percent of those reductions. Policymakers must not lose sight of the fact that while these reductions were taking place in the developed world, as the economies of India and China grew, so did their greenhouse gas emissions. India's CO2 emissions grew by more than 1,200 mmt, or a 115 percent increase, nearly singlehandedly dwarfing reductions in OECD countries. China's emissions grew by 4,400 mmt, or an 81 percent increase - nearly three times the total reductions of OECD countries. Further, as this international comparison in emissions demonstrates, the offshoring of domestic manufacturing as a result of uncompetitive tax, labor and regulatory policy will result in operations in countries that have much higher emissions intensities.

As the United States develops new technology solutions in both fossil and zero-carbon resources, it is imperative trade and energy policy support the continued export of these solutions to developing countries. In the near-term, this must include liquefied natural gas (LNG), which is currently being shipped to India and East Asia. In addition to providing a reliable, low-carbon resource for countries abroad while supporting domestic exploration and pipeline activity, LNG also provides, for the importing country, greater geopolitical optionality and a reduced reliance on energy developed in countries whose regimes favor neither democracy nor sustainable development.

IEA electricity and natural gas commodity pricing data also hint at why economic growth in the EU has trailed the United States. Industrial users in the United States pay much less for electricity than any European country — in some cases, less than half. Residential electricity prices in the United States are also the fourth-lowest among all developed nations. The United States is also second among all developed nations in terms of lowest natural gas commodity costs for industry and third for residential users. Leveraging these low costs with pro-growth tax and regulatory policy will position Pennsylvania and the United States for further global leadership in economic growth and emissions reductions, but

<sup>&</sup>lt;sup>6</sup> Memorandum to EPA Regional Administrators: Status of Affordable Clean Energy Rule and Clean Power Plan. United States Environmental Protection Agency Office of Air and Radiation. Feb. 12, 2021.

<sup>&</sup>lt;sup>7</sup> World Bank Open Data, March 9, 2021. <a href="https://data.worldbank.org/">https://data.worldbank.org/</a> International Energy Statistics, US EIA. <a href="https://www.eia.gov/international/data/world">https://www.eia.gov/international/data/world</a> CO2 Emissions from Fuel Combustion, International Energy Agency. <a href="https://wds.iea.org/wds/pdf/Worldco2">http://wds.iea.org/wds/pdf/Worldco2</a> Documentation.pdf

policymakers must not sacrifice these economic advantages on costly mandates or unwieldy regulatory mechanisms that raise costs and offshore economic activity. In sum, higher energy prices due to taxes, regulatory requirements or a lack of infrastructure do not result in better environmental outcomes, but they do result in worse economic performance.

#### Pennsylvania's Energy and Manufacturing Sectors Continue to Lead

Pennsylvania is a leading state in terms of food manufacturing, refined products, pharmaceuticals, steel, concrete, cement, aggregates and pulp and paper, as well as industries that helped us weather and overcome the pandemic: health care, telecommunications and logistics. Every one of these industries are working to innovate and make use of domestic energy resources to improve resiliency and sustainability. A few examples include:

- A major metropolitan airport working with leaders in natural gas and renewables to develop a
  microgrid using natural gas developed on-site
- Innovative deployment of nuclear power to provide reliable, baseload, zero-carbon power to a
  data center warehouse
- Fertilizer and ammonia manufacturers producing vital products for the agriculture sector through the use of domestic natural gas liquids and carbon capture and sequestration technology
- Use of natural gas helps a leading pharmaceutical company's manufacturing facility reduce emissions and costs to remain competitive
- · A cement manufacturer switching to natural gas to reduce costs and emissions
- A leading pulp and paper manufacturer turning to natural gas for on-site heat and power to reduce cost and emissions
- A global integrated oil and gas company selecting southwestern Pennsylvania to site a multibillion petrochemical facility, with its produced products boosting domestic medical, automotive, and food manufacturing industries
- A leading consumer products company harnesses local gas reserves to provide all of its heating and power needs while sending excess power back out to the grid
- Waste management, logistics and utility companies are partnering to capture biogas for use as a clean fuel for heavy trucking

These success stories demonstrate just a fraction of the renewal of opportunity that can be achieved in part through policy that allows all segments of the energy value chain to flourish. These segments include the development of our natural resources, power generation from a diverse portfolio of fuel sources, expanded oil, gas and electric infrastructure, and the use of those commodities in manufacturing and industry. The American economy stands to benefit tremendously as energy is developed and moved through infrastructure for final use in homes and businesses; we can also continue to secure additional improvements in air and water quality as we develop this value chain.

# Federal Infrastructure Decision-Making Must Be Streamlined to Support Domestic Manufacturing and Energy Security

As federal lawmakers debate a long-term vision for energy and environmental progress, administration officials and Congress must not lose sight of the many challenges currently facing our existing industries. Addressing these issues through bipartisan reforms can unlock further investment and continue to position the United States for long-term growth. Among these include streamlining the permitting process for infrastructure, providing for a more common-sense and flexible air quality permitting regime, and rewarding stewardship in key industrial sectors.

First, while Pennsylvania has abundant supplies of energy and exports roughly one-third of its electricity and three-quarters of its natural gas, nearby states are facing self-imposed energy crises due to short-sighted political decisions on infrastructure. As a few examples of the real-world impacts of these states attempting to impose unilateral vetoes on federally approved infrastructure projects, utilities in New Jersey have warned state regulators that there may be inadequate supplies of natural gas during the winter season. Electricity market regulators in New England continue to grapple with fuel security and natural gas supply issues, with ISO-NE noting "inadequate infrastructure to transport natural gas has at times affected the ability of natural gas-fired power plants to get the fuel they need to perform. This energy-security risk has become a pressing concern for New England, considering the major role natural gas-fired generation plays in keeping the lights on and setting prices for wholesale electricity." Infamously, several winters ago a ship carrying LNG delivered its cargo to a Boston port despite the city being just a short drive away from some of the most prolific producing shale gas wells in the world in northeastern Pennsylvania. Our federal infrastructure permitting regime was not designed with the intention of allowing single states to unilaterally veto federally approved interstate projects – a position the Biden Administration endorses in its recent Supreme Court filing in *PennEast Pipeline v. New Jersey*. The page of the properties of the prop

Oil pipelines and associated infrastructure are also being impacted or threatened by federal and state regulatory actions – the result of which would eliminate jobs and jeopardize economic vitality. To our north, our allies in Canada are crying foul over the federal government's revocation of the Keystone XL pipeline's cross-border permit. To our west, the state government in Michigan is attempting to obstruct the international, interstate Line 5 project – which supplies crude oil and natural gas liquids to domestic refiners in Michigan, Ohio and Pennsylvania as well as Ontario and Quebec. Crude shipped on Line 5 makes its way to northwest Pennsylvania to be refined and sold at retail outlets in the Great Lakes region. Growing our economy, ensuring reliable energy and meeting environmental goals will require a durable federal permitting approach that considers state interests in interstate permitting but does not allow them to obstruct the construction of vital and necessary projects.

<sup>8</sup> New Jersey utilities warn of gas shortages, argue for new pipelines. Politico Pro New Jersey, Oct. 25, 2019. https://subscriber.politicopro.com/states/new-jersey/story/2019/10/25/new-jersey-utilities-warn-of-gas-shortages-argue-for-new-pipelines-1225986

See also comments of New Jersey Natural Gas, Levitan & Associates, and PSEG Services Corporation in New Jersey Board of Public Utilities Docket GO19070846.

<sup>&</sup>lt;sup>9</sup> Natural Gas Infrastructure Constrains. ISO-NE. <a href="https://www.iso-ne.com/about/what-we-do/in-depth/natural-gas-infrastructure-constraints">https://www.iso-ne.com/about/what-we-do/in-depth/natural-gas-infrastructure-constraints</a>

<sup>&</sup>lt;sup>10</sup> See Brief of the United States as Amicus Curiae Supporting Petitioner, filed March 8, 2021. https://www.supremecourt.gov/DocketPDF/19/19-1039/171249/20210308193306999 19-1039tsacUnitedStates.pdf

Second, and relatedly, the decision-making process for infrastructure permitting in this country needs streamlining. Whether the project in question is a port expansion, a new highway, or an energy project, the National Environmental Policy Act (NEPA), while well-intentioned, has resulted in years of delay to the point where it can take longer to approve a project than to build it. These unreasonable delays are not only costly, but deprive the public and our economy of the benefits that modern infrastructure can deliver. Keeping our transportation, logistics, manufacturing, aviation and energy industries competitive in an intensely dynamic global marketplace will require a more transparent, fair, and nimble approval process, and as Congress and the Biden administration turn the page to an infrastructure package, it is vital these projects be built quickly and efficiently. The PA Chamber is a proud member, alongside leaders from the building trades, agriculture, construction, transportation, manufacturers and trade associations as part of the Unlock American Investment coalition that supports reforms to NEPA.

Paired with tax and regulatory reform, the unprecedented output of our nation's natural resources and the strength of its diverse power generation portfolio of nuclear, coal, natural gas, and renewables has positioned this country to return to levels of GDP growth unseen in more than a decade. An energy-focused economic development strategy for Pennsylvania, as outlined in a recent report entitled Forge the Future, has the potential to bring an additional \$60 billion in state GDP and more than 100,000 jobs to our state. The Appalachian region, including Pennsylvania, Ohio, West Virginia and Kentucky, could become a petrochemicals and plastic manufacturing hub – according to the American Chemistry Council, more than \$28 billion in economic expansion and more than 100,000 jobs could be created should the region capitalize on an ethane storage project and secure the construction and operation of several petrochemical plants. Given the significant energy security, economic opportunity and environmental benefits such a storage hub would represent, we strongly encourage the Biden administration and lawmakers to continue to support an ethane storage hub in Appalachia.

# Federal Energy and Environmental Policy Must Also Encourage Investments into Efficiency Improvements, Domestic Output and Long-Term Energy Security

We must, however, not lose sight of the fact that even if federal infrastructure policy accommodates the rapid and efficient buildout of new and expanded infrastructure, end-users in industrial and manufacturing sectors must be able to operate in a regulatory environment that encourages the adoption of cleaner burning fuels and allows such facilities' to continue and expand domestic operations.

As noted previously in testimony before this committee<sup>11</sup>, economic growth and environmental progress depend upon a well-functioning and rational regulatory system; the federal air quality permitting regime shows signs of being neither and must be modernized. PA Chamber members have reported that the current process is an impediment to investing in the efficiency of their operations and

<sup>&</sup>lt;sup>11</sup> New Source Review Permitting Challenges for Manufacturing and Infrastructure, Feb. 14, 2018. <a href="https://www.pachamber.org/advocacy/legislative\_agenda/communications/PA\_Chamber\_House\_EC\_Sub\_Enviro\_NSR\_Testimony\_021418.pdf">https://www.pachamber.org/advocacy/legislative\_agenda/communications/PA\_Chamber\_House\_EC\_Sub\_Enviro\_NSR\_Testimony\_021418.pdf</a>

Modernizing Environmental Laws: Challenges and Opportunities for Expanding Infrastructure and Promoting Development and Manufacturing, Feb. 16, 2017.

https://www.pachamber.org/advocacy/legislative\_agenda/communications/House\_EC\_Sub\_Enviro\_Modernizing\_Environmental\_Laws.pdf

improving their ability to compete abroad. Because of the costs associated with triggering New Source Review (NSR) thresholds, companies have canceled projects that would have reduced emissions, lowered operating costs and provided an overall benefit to public health and the environment. Disputes between state and federal regulators over interpretation and application of regulatory criteria result in sizeable legal and engineering costs and leave projects in limbo for months, or years. Lenders will not provide financing until the revolving door of lawsuits from third-party groups over the perpetually changing universe of Best Achievable Control Technology (BACT) and Lowest Achievable Emissions Rate (LAER) controls stops spinning.

With respect to NSR, when a new industrial facility is seeking a permit to be built, or when an existing facility is seeking to expand, the project must go through the NSR and Prevention of Significant Deterioration (PSD) permitting processes. The backbone of these programs are the National Ambient Air Quality Standards. NSR was established as part of the Clean Air Act to ensure that counties and regions can progress towards attaining and maintaining air quality that is protective of public health while new facilities are built and existing facilities are modified and expanded.

In practice this regulatory construct discourages expansion of existing manufacturing (and the attraction of new facilities) in non-attainment areas, despite historic improvements in air quality. In many cases, the NSR rules as applied don't allow for significant improvements to existing facilities, as they require application of the highest Clean Air Act standard, rendering projects uneconomic due to compliance costs. Most large-scale manufacturing and industrial facilities will trigger NSR thresholds for one or more NAAQS pollutant, subjecting these facilities to NSR's rigid standards. When these facilities seek to expand their operations, they must calculate, per NSR regulations, if there will be a significant net emissions increase as a result of the modification, compared to recent operational profiles, and EPA has established that such a calculation must assume that a source will produce its maximum possible emissions every hour of every day for the duration of its existence (referred to as "potential to emit" or PTE), even though such a calculation is not representative of any facility's actual operations. Companies must then account for these emissions that will never be emitted by accepting a more stringent limit and installing more costly control technology than would be necessary had the calculation on future net emissions been representative of actual future operational practice. In reality, this has discouraged companies from investing in installing cheaper and cleaner-burning heaters in their boiler systems or other on-site heating and power units. In other words, modifications that increase a facility's output per unit of fuel can trigger NSR thresholds, even if the overall impact is a net environmental benefit.

In a separate step of the NSR process, an existing facility's recent output is compared to the hypothetical, 24/7 output resulting from a modification (potential actual emissions). This comparison penalizes facilities that have not been running at full capacity in the years running up to submitting its plans for NSR review. Importantly, the text of the Clean Air Act and NSR regulations allows applicants a so-called "demand growth exclusion," which allows applicants to exclude a portion of the difference between actual baseline emissions and potential actual emissions by subtracting out emissions that would have been generated but for a lack of market demand. This is a useful, common sense and necessary component of a well-functioning regulatory program to allow for operational flexibility – however, during the Obama administration, the EPA took a severely restrictive view of when the demand growth exclusion can be utilized. In contrast, the Trump administration finalized regulatory reforms to project emissions accounting under NSR regulations, as well as guidance regarding source

aggregation determinations, which were welcome steps towards a more rational permitting approach. We have also applauded and endorsed the Trump administration's change to permitting under hazardous air pollutants (HAPs) regulations, which reward sustainability by no longer requiring facilities who reduce annual emissions below major source thresholds to continue to be permitted and operate as major sources. Such was the illogical and counterproductive approach under the previous federal approach, dubbed "once in, always in."

There is often disagreement on interpretation of NSR requirements between state and federal regulators, putting project applicants in a bind when, fairly late in the game, EPA delivers a series of comments and questions to the state on a project. Compliance with NSR and other environmental requirements has a major impact on the business planning and operational design of facilities. Financial viability of a project depends on receiving timely approvals. PA Chamber members have reported that this tension between state and federal regulators, and the lack of communication to project applicants about that tension until several months into permitting discussions, is not only extremely frustrating, but costly. What may seem like a minor dispute over the calculation of future versus actual emissions can result in tens of thousands of dollars in engineering and legal fees and a need to resubmit an application.

In addition, the current permitting process allows for a revolving appeals process that has killed numerous projects. To move forward with a new facility, applicants must work with regulators to establish what controls (and/or the appropriate amount of offset credits) are needed on the project. Industry must work with regulators at the state and federal level to determine what is the appropriate Best Available Control Technology<sup>12</sup> (or BACT, applied to facilities in attainment areas) or Lowest Achievable Emissions Rate<sup>13</sup> (or LAER, applied to facilities in non-attainment areas). These evaluations examine control technologies employed at constructed facilities throughout the country. Before beginning construction, a facility needs to obtain a pre-construction permit, which establishes what appropriate controls are needed based on presumed impact. A pre-construction permit has a lifespan of 18 months. Too often, however, third-party NGO's challenge the permitting agency's conclusion in the pre-construction permitting process, and the associated litigation results in years of delay. Even if the applicant and agency are successful in court, EPA policy (and the lifespan of the preconstruction permit) requires agencies to undertake another determination on impacts and appropriate technology. Third-party NGO's can then appeal again that the agency's determination was flawed, the process repeats itself and the project never gets off the drawing board - not for an actual lack of being able to comply with the relevant requirements but because there is no clear process to get to a "yes." There is room within the existing regulatory and statutory framework to provide certainty to applicants by limiting the universe of relevant BACT and LAER as it existed when a final and complete application was submitted.

Moreover, policymakers should enact NSR reforms such that the permitting obligations do not discourage a power plant, manufacturing or industrial facility looking to retrofit CCUS technology into the facility's operations. A company proposing to install CCUS technology at an existing facility will have to undergo applicability determinations with state and federal regulators to determine if the project is significant enough to constitute a "major modification" and thus subject to NSR

<sup>12 42</sup> USC § 7479.

<sup>13 42</sup> USC § 7501.

requirements. NSR may also be triggered if the installation of carbon capture technology results in a significant change in the process design of the plant, even if the overall emissions profile of the facility does not change. In a hypothetical future carbon-constrained policy environment, NSR may also be triggered by power plants or industrial facilities seeking to install and operate carbon capture technology that will allow the facilities to run more frequently but with less emissions intensity. Depending on the structure of state air quality requirements (i.e., if the state outright adopts by reference federal NSR requirements) and the judgment of EPA's regional air offices, applicability determination process may include notice and comment and public hearings. Should the project be located in an area that is in attainment with NAAQS, the project may be required to conduct air modeling, which can take a year. As noted in this testimony, there is also risk of litigation from third-party NGO's over what is the relevant technology under LAER or BACT. We project that, absent litigation and with a commitment from air quality regulators on timely permitting, it will take upwards of two years to permit a CCUS project in a best-case scenario. Within PJM, the installation of the technology may require the power plant to go idle for a period of time and lose out on energy and capacity market revenues, which again speaks to the need for a timely, fair and predictable process. Finally, there may be additional delays in constructing and operating infrastructure associated with a CCUS project, due to permitting requirements as they relate to endangered species, pipeline siting, underground injection and NEPA. These challenges were discussed in a recent report from DOE's Lawrence Liverpool National Laboratory<sup>14</sup>, which examined challenges associated with constructing CCUS projects in California – an analysis that is especially salient given that much of the CLEAN Future Act appears to borrow, in both intent and design, from environmental policy established by California state regulators.

We also encourage contemplation of two reforms regarding the use of offset credits — one, given the focus of the Clean Air Act on interstate impacts, being expanding the geography of where a credit may be secured beyond the purchasing facility's region or county, and two, given the shortage of some types of credits and regulators' penchant for justifying new rules on the co-benefits of emissions not being directly regulated, being more accommodating to securing and retiring emission reduction credits (ERCs) of one pollutant (for example, nitrogen oxide) to offset emissions of another (for example, particulate matter).

# Federal Energy and Regulatory Policy Should Reward Stewardship and Build on Existing Capital and Policy Commitments

As noted, beyond Pennsylvania's leadership in power generation and energy production, our state is also a leader in aggregates, concrete, refined products, timber, food manufacturing and life sciences industries, which are vital and necessary sectors to any modern economy. These industries are continuing to deploy capital and leverage Pennsylvania's energy resources in innovative ways. We encourage federal policy that rewards stewardship. We also encourage federal policy to build on ongoing innovations in our state with respect to carbon capture and other emerging solutions.

As Dr. Brian Anderson, director of the Department of Energy's National Energy Technology Laboratory (NETL), situated in southwestern Pennsylvania, recently testified to the Pennsylvania State

<sup>&</sup>lt;sup>14</sup> Permitting Carbon Capture & Storage Projects in California. George Peridas, Lawrence Liverpool National Laboratory, Feb. 2021. <a href="https://www-gs.llnl.gov/content/assets/docs/energy/CA\_CCS\_PermittingReport.pdf">https://www-gs.llnl.gov/content/assets/docs/energy/CA\_CCS\_PermittingReport.pdf</a>

Senate<sup>15</sup>, given the carbon-emitting resources' significant share of domestic energy resources and the intermittent nature of renewable resources such as wind and solar, carbon capture and underground storage "will continue to be necessary to grid-scale energy storage for grid reliability during this energy transition." In other words, should Congress establish a goal of net-zero emissions for the United States by mid-century, it will be absolutely necessary to continue to invest in fossil fuel exploration and associated transmission infrastructure - so that both the fuels themselves and the greenhouse gasses produced during combustion can be moved through a robust and safe network of pipelines. Several leading energy companies are working with DOE NETL on innovative research and demonstration projects involving carbon capture, including applications in power generation and consumer products. PA Chamber members are also working with innovative leaders in the ammonia and fertilizer industries to pair carbon capture technology with locally produced natural gas to produce vital products for the agriculture sector. Companies working in the concrete and cement industries are also switching to natural gas in the near-term to power their industrial processes and examining ways to, in the long term, develop their products with carbon capture. As these efforts show, traditional energy resources can be paired in innovative ways with new technology to create new markets and support vital existing industries.

As domestic and international demand for renewable resources expands, it is also imperative the United States establishes policy that encourages the domestic mining of critical minerals, which are used not just in solar panels but a variety of applications in telecommunications, computer chips and other hardware. Pennsylvania's mining, steel, and timber industries, as well as that of other states, must not be regulated out of existence. Regardless of the composition of our energy mix, our economy will still need timber, aggregates, concrete, steel and cement to build infrastructure, and the human capital and equipment stock used by these industries today can be put to use for critical minerals mining and low-carbon manufacturing and infrastructure buildout tomorrow. Federal energy policy must also continue to support development of an Appalachian ethane storage hub, as well as advances in modular nuclear technology, hydrogen and other emerging energy resources.

We appreciate the recognition in the CLEAN Future Act legislation, specifically its provisions regarding community transitions, which recognizes that significant federal intervention into the private sector through energy and environmental policy may result in economic damage to local communities, many of them in rural America. The energy and manufacturing base in many such communities create high labor productivity and well-paying jobs for workers. While from a national perspective, workers in metropolitan areas on average are more highly paid and productive than in rural areas, as researchers at the Brookings Institution have noted, the most productive industries outside cities are those involving natural resources. To quote their analysis, "many small metro economies are highly productive as well, especially those that specialize in oil, gas and mining." As we have noted throughout this testimony, the United States will continue to need a strong domestic manufacturing, mining, energy production and infrastructure base to continue to grow its economy and meet environmental goals. Regulatory policy that results in the loss of these industries will not produce a sustainable economy and will only

<sup>&</sup>lt;sup>15</sup> Written Comments of Dr. Brian Anderson, Director of the National Energy Technology Laboratory, US Department of Energy, Informational Briefing to the Pennsylvania Senate Environmental Resources and Energy Committee, March 10, 2021. <a href="https://environmental.pasenategop.com/wp-content/uploads/sites/34/2021/03/2021-03.10.2021-Anderson-Written-Comments\_PA-Senate-ERE-Committee-8MAR2021.pdf">https://environmental.pasenategop.com/wp-content/uploads/sites/34/2021/03/2021-03.10.2021-Anderson-Written-Comments\_PA-Senate-ERE-Committee-8MAR2021.pdf</a>

<sup>&</sup>lt;sup>16</sup> Understanding US productivity trends from the bottom-up. Joseph Parilla and Mark Muro, Brookings Institution, March 2017. <a href="https://www.brookings.edu/research/understanding-us-productivity-trends-from-the-bottom-up/#cancel">https://www.brookings.edu/research/understanding-us-productivity-trends-from-the-bottom-up/#cancel</a>

further exacerbate the challenges already facing rural communities. Many of the CLEAN Future Act's provisions are sweeping in their scope and may have significant unintended consequences; as such we strongly encourage deliberation and economic evaluation of these proposals.

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In closing, Pennsylvania's success in energy production and leading in a variety of industrial and manufacturing segments while reducing emissions demonstrates how competitive markets, private sector innovation and stable policy can reap enormous dividends for our environment and our economy. Our success has helped the United States keep costs low, produce massive economic growth and lead the world in reducing greenhouse gas emissions. We stand ready to work with leaders in Washington to continue those trends. I reiterate our encouragement that the Biden administration and lawmakers on both sides of the aisle come together to produce durable, effective, bipartisan energy and environmental policy that keeps the United States in a flagship position in an increasingly challenging and dynamic global marketplace. Thank you for the opportunity to appear before you today.

Mr. Tonko. Thank you, Mr. Sunday, for your contribution to to-day's hearing.

And finally, we will move to Mr. Walsh.

Mr. Walsh, you are recognized for 5 minutes, and welcome.

## STATEMENT OF JASON WALSH

Mr. Walsh. Thank you, Chairman Tonko and Ranking Member McKinley, distinguished members of the subcommittee. My name is Jason Walsh. I am the executive director of the BlueGreen Alliance. On behalf of my organization, our labor and environmental partners, and the millions of members and supporters they represent, I want to thank you for convening this hearing today regarding the CLEAN Future Act and how it can help us rebuild our economy, while creating good jobs, reducing pollution, and revitalizing communities.

Congress has taken historic action to address the COVID-driven health and economic crisis, yet significant challenges facing our Nation remain. We went into this pandemic with three ongoing and interconnected crises: income inequality, racial injustice, and climate change, each of which exacerbates the other. Legislation should tackle these crises at the same time with intersecting solutions. And the CLEAN Future Act is one such piece of legislation.

The Act will help revitalize American manufacturing, support workers and communities impacted by our Nation's energy transition, and invest in clean infrastructure to create good, accessible union jobs.

First, the CLEAN Future Act includes an important focus on the industrial sector. As an integral part of a strategy to address the climate emergency head on, we have the opportunity to modernize and transform our industrial base to make it the cleanest and most competitive in the world, creating a new generation of good, union manufacturing jobs, making clean technology, and making all products in cleaner ways.

The CLEAN Future Act includes a number of key provisions aimed at this outlined in my written testimony. What I will flag today is the Buy Clean provisions in the bill, which ensure that Federal procurement supports cleaner domestic manufacturing of the materials that go into our public infrastructure projects.

I want to note, in particular, the establishment of an interagency transparency and disclosure program to enhance the quality and availability of data used to calculate emissions of eligible materials, and strengthen our understanding of the competitiveness of U.S. manufacturers across industries. We believe this is an important and necessary first step, and, coupled with robust reinvestment in domestic manufacturing, can help ensure that the United States leads the world in manufacturing the technologies and products of the future in an increasingly carbon-constrained global economy.

The CLEAN Future Act is a great first step, but we urge additional enhanced loan and grant funding for wide-scale deployment of emissions-reducing processes across energy-intensive manufacturing subsectors in America, as well as to fill critical supply gaps in clean technology and material supply chains. These policies will help upgrade and modernize the U.S. industrial base and drive a new generation of industrial development that rebuilds good Amer-

ican jobs and is clean, safe, and equitable for workers and communities alike.

As we work to rebuild our economy while tackling the underlying crises of climate change and economic and racial inequality, we must prioritize equitable rebuilding and investments in those workers and communities most in need, including those impacted by changes in our Nation's energy economy. America's energy transition is well underway, but a transition that is fair for workers and communities isn't something that will happen organically.

We need a broad, holistic, governmentwide response. This response must keep workers and communities whole, revitalize and diversify local economies, and address inequities, while ensuring the retention and creation of good-paying jobs. And we should be clear that the best approach to energy transition among workers and communities and sectors not already impacted is one that prevents economic disruption and employment loss before it happens.

BGA strongly supports several structural reforms established in the CLEAN Future Act to realize these goals. We believe these reforms must go hand in hand with additional policies outlined in my written testimony, such as the establishment of an interagency grant program; a broad system of support for workers; the reclamation of damaged lands and waters; and bankruptcy reform.

Lastly, the CLEAN Future Act includes a number of provisions aimed at ensuring that critical infrastructure investments made across the bill will boost our economy and create jobs while simultaneously reducing pollution, combating climate change, and strengthening our communities. Thanks to key, cross-cutting Buy America, prevailing wage, project labor agreement, and community benefit provisions in the bill, these investments will deliver quality, family-sustaining jobs, and accessible pathways into those jobs for all Americans.

In closing, we want to thank the committee for beginning this conversation, and look forward to providing additional feedback and working with you as we move forward on this bill and your broader agenda for the 117th Congress.

Thank you again for the opportunity to testify today. [The prepared statement of Mr. Walsh follows:]



CREATING GOOD JOBS, A CLEAN ENVIRONMENT, AND A FAIR AND THRIVING ECONOMY

## WRITTEN TESTIMONY

# Jason Walsh Executive Director, BlueGreen Alliance Before the 117th United States Congress, House Committee on Energy & Commerce Subcommittee on Environment & Climate Change The CLEAN Future Act: Industrial Climate Policies to Create Jobs and Support Working Communities Thursday, March 18th, 2021

Thank you Chairman Tonko, Ranking Member McKinley, and distinguished members of the subcommittee. My name is Jason Walsh, and I am the Executive Director of the BlueGreen Alliance, a national partnership of labor unions and environmental organizations. On behalf of my organization, our partners, and the millions of members and supporters they represent, I want to thank you for convening this hearing today regarding the CLEAN Future Act and how it can help us rebuild our economy after the COVID-19 pandemic, while creating good jobs, reducing emissions, and revitalizing communities.

We remain in the midst of the COVID-19 pandemic-driven health and economic crisis, which Congress has taken historic action to address. Yet severe economic disruptions remain across our economy, with persistent unemployment, ravaged state and local government budgets, and workers struggling to stay safe on the job. And we know the reality is that we went into this pandemic with three ongoing and interconnected crises: economic inequality, racial injustice, and climate change. The COVID-19 pandemic has cast a harsh spotlight on the severe and disproportionate impacts of these crises.

The world's leading scientific organizations have been unambiguous that climate change is a dire and urgent threat and that the longer we delay, the stronger the action required. Over the last decade, we have witnessed the worsening impacts of climate change on our communities.

At the same time, the United States is struggling with deep and crippling economic and racial inequality. According to the Economic Policy Institute, "the bottom 90% of the American workforce has seen their pay shrink radically as a share of total income," from 58% in 1979 to 47% in 2015.¹ That is almost \$11,000 per household, or \$1.35 trillion in additional labor income. There is a direct correlation with the decrease of worker power

over this time, as the share of workers in a union fell from 24% in 1979 to under 11% in 2021.  $^{\mbox{\tiny ii}}$ 

The deck has been stacked even further against people of color. Data point after data point illustrates the dramatic inequities in our economy. For example, regardless of education level, Black workers are far more likely to be unemployed than white workers and, historically, unemployment rates are twice as high for Black workers. That disparity carries into the workplace as well, with Black workers paid on average 73 cents to the dollar compared to white workers. The wage gap persists regardless of education, and even with advanced degrees, Black workers make far less than white workers at the same level. It's no surprise then that while the poverty rate for white Americans sits at about 8.1%, for Black households, it's 20.7%.

The COVID-19 pandemic puts an even sharper focus on the harmful health impacts of this systemic racism. While Black Americans make up just 12.5% of the U.S. population, they represent 22.4% of COVID-19 deaths. Lower income communities and communities of color are also hit the hardest and are less able to deal with the impacts of the increasing natural disasters we're seeing, from wildfires and hurricanes to heat waves, droughts, and sea-level rise driven by climate change. As wages have fallen and economic mobility and power in the workplace has declined, working people are disproportionately vulnerable to these impacts.

We've seen clearly the danger of this status quo. We need to move urgently on economic recovery. And at the same time, we know that returning to "normal" is not good enough. The solutions to economic inequality, racial injustice, and climate change have to be addressed simultaneously.

Congress must therefore focus on legislative solutions that can tackle multiple of these crises simultaneously. The CLEAN Future Act is one such piece of legislation and lays a solid foundation to avoid the worst impacts of climate change, deliver public health and environmental benefits to communities, create and maintain good jobs, address economic and racial injustice head on, and create a cleaner, stronger, and more equitable economy for every one.

I will focus on a few of the key ways this bill helps to achieve these goals: by focusing on revitalizing American manufacturing and transforming our industrial base, investing in clean infrastructure in ways that create good, unionjobs, and ensuring fairness for workers and communities impacted by our nation's energy transition.

#### **Supporting Clean Manufacturing & Industrial Transformation**

First, the CLEAN Future Act includes an important focus on the industrial sector. As an integral part of a strategy to address the climate emergency head on—and in line with achieving net zero emissions economy-wide by 2050—we have the opportunity to modernize and transform our industrial base to make it the cleanest and most advanced in the world, while spurring the creation of a new generation of good, safe jobs manufacturing clean technology. This industrial transformation can bring dynamic industries back to communities that have been left behind by deindustrialization and under-investment, and provide a starting point for broadly shared growth and prosperity.

The industrial sector represents a significant source of U.S. emissions. In 2018, the largest sources of greenhouse gas emissions by sector were transportation (nearly 28%), electricity production (27%), and industry (22 %), iv However, distributing electricity by end-use reveals that the industrial sector is the largest source of emissions in the United States, responsible for 29% of emissions overall. v

Not only are industrial sector emissions large today, they have been growing and are projected to increase further. Globally, industrial sector emissions increased at an average annual rate of 3.4% between 2000 and 2014, significantly faster than total carbon dioxide (CO2) emissions. Industrial sector emissions are also growing at a faster rate than other sectors. Between 1990 and 2014, industrial sector emissions increased by 69%, while emissions from buildings, power, and transport increased by only 23%. Industrial sector emissions in the United States are projected to increase 17.6% through mid-century.

While other economic sectors are projected to see flat or declining emissions, these climate benefits will be offset by increases in industrial emissions under a business-as-usual scenario.  $^{\rm ix}$  Reductions in the power and transportation sectors, for example, are projected to be offset by an increase in carbon emissions from industrial sources.  $^{\rm ix}$ 

While emissions from a range of economic activities are included in the industrial sector, manufacturing accounts for roughly three-quarters of it. And within manufacturing, several key energy-intensive manufacturing sub-sectors are responsible for the majority of emissions. The six largest sources of industrial sector emissions, now and looking ahead, are chemicals, petroleum refining, iron and steel, food products, paper products, and cement and lime production. Tackling industrial sector emissions must be central to our climate strategy moving forward. In addition, such emissions reductions would support improved public health outcomes for workers and communities that live near manufacturing facilities.xii

At the same time, we need a holistic approach to retaining and growing manufacturing in the U.S., while also investing in these industries to make them the cleanest and most competitive in the world. The COVID-19 crisis has underscored the central importance of manufacturing to the country's economy and security, while revealing profound weaknesses in our critical supply chains. The crisis also has spotlighted the urgent need to curb industrial air pollution, which has contributed to increased mortality rates from COVID-19.

If done right, a robust federal commitment to rebuild American manufacturing can tackle emissions from this sector, support good, middle-class jobs across America, and help our economy recover in a way that we come out of this crisis more competitive in the global economy. The ability of U.S. manufacturers to produce clean technologies and to use cleaner processes will make them more competitive in a global economy in which market demand is shifting inexorably in that direction. The CLEAN Future Act takes several key steps in this direction.

#### Buy Clean

The CLEAN Future Act includes important "Buy Clean" provisions to support clean domestic manufacturing and ensure that the materials that go into our infrastructure projects—like steel and cement—are the cleanest and most sustainable available.

Buy Clean is a policy framework developed by the BlueGreen Alliance, alongside the United Steelworkers and Sierra Club, to support the procurement of sustainable materials and products for use in infrastructure and other public projects. Infrastructure materials produced in energy-intensive sectors—such as steel, cement, and concrete—produce a significant amount of industrial sector greenhouse gas and toxic emissions during the manufacturing process.

At the same time, the U.S. imports as much as it produces in industrial climate pollution. Each year, the U.S. imports manufactured goods with 1.4 gigatons of embedded greenhouse gas emissions—the same amount of climate pollution produced by all factories in the United States. combined <code>xiii</code> Many of these materials could be produced by workers in the United States, but are now routinely imported from countries with lower environmental and health standards, or otherwise by facilities with higher emissions. This is known as the "carbon loophole." A recent report estimates that 25% of the world's total emissions pass through this "carbon loophole."

Buy Clean can help address this problem. The U.S. federal government is a major purchaser of materials and products for use in infrastructure projects and beyond. Buy Clean policies would eventually require or incentivize spending these taxpayer dollars on materials that are manufactured in a cleaner, more efficient, environmentally-friendly manner. By incentivizing the use of lower-emission materials, Buy Clean policies can play a significant role in reducing emissions and driving further improvements in this sector—reducing industrial pollution and health impacts, while supporting family-sustaining jobs and building globally-competitive domestic manufacturing. Buy Clean policies can also help ensure that manufacturers will have a market for their goods if they make the investments needed to clean up their products.

We are currently seeing this policy play out in California. Led by the BlueGreen Alliance, Sierra Club, United Steelworkers, the Alliance for American Manufacturing, and other business, labor, and environmental organizations, a coalition was formed in 2016 to push for a new law in California that required state agencies to consider the embedded emissions of industrial products like steel and glass when contracting for state-funded infrastructure projects. W Many companies in California already had to comply with stringent emissions standards and they were often losing out on public bids to lower cost out-of-state or foreign bidders.

After taking a hard look at the industry in the state, Buy Clean California was passed in the California legislature with bipartisan support and signed into law by Governor Jerry Brown on October 15, 2017. Beginning in 2019, Buy Clean requires contractors who bid on state infrastructure projects to disclose, via an environmental product declaration (EPD), the greenhouse gas emissions data for certain materials, such as steel and glass, produced in their facilities. In 2021, contractors will have to show that these materials do not exceed a certain emissions standard.xd

As the world's fifth largest economy, California has substantial purchasing power; wii Buy Clean California sends a powerful market signal to manufacturers to reduce their emissions in order to participate in the California market. Buy Clean California also works to level the playing field for manufacturers who have invested in clean, efficient manufacturing technologies and processes.

The Buy Clean approach allows California to help clean businesses and industries maintain their position as strong, global leaders on climate action. It creates motivation for suppliers to reduce their climate pollution and will no longer reward manufacturers with the most polluting plants. However, while Congress can look to California as a model, it must recognize in its design considerations the key differences between California and the nation as a whole.

Many U.S. manufacturers are in "energy-intensive, trade-exposed" (EITE) industries and are very vulnerable to global competition. Steel, glass, metal casting, pulp and paper, aluminum, and chemicals are all traded globally and purchased predominantly based on price in a global marketplace. Policies intended to reduce emissions could unintentionally—through increased costs to U.S. manufacturers—result in a phenomenon known as "carbon leakage." Rising costs could push production to manufacturers in countries with less stringent standards, which could ultimately result in an increase in global greenhouse gas emissions in the long term.

Congress therefore must be careful in crafting Buy Clean or other policies aimed at the industrial sector, particularly at EITE industries. That's why we strongly support the establishment in the CLEAN Future Act of an interagency transparency and disclosure program. There is a lot of information we still don't know about the federal procurement of key materials and the competitiveness of U.S. manufacturers across industries. This program is intended to enhance the transparency, quality, and availability of data used to calculate emissions of eligible materials in an environmental product declaration (EPD).

It does this in a few ways, namely by establishing a database to start collecting EPDs for eligible materials, providing technical assistance and financial support to manufacturers to create and submit EPDs, and then working through a stakeholder process to evaluate the EPD process, consider alternative approaches, and provide guidance to manufacturers who want to participate in the federal government procurement process. The bill also requires a report that quantifies and evaluates the level of spending and volume of eligible materials procured by the federal government and other key data points that will be foundational to establishing a Buy Clean program.

We believe these are necessary first steps to fully understand the impact that a future Buy Clean standard would have, and to ensure no unintended consequences for domestic competitiveness. We urge the committee to begin with this transparency and data collection process. We also urge the committee to consider going beyond Buy Clean California, to address the health impacts of industrial air, water, and land pollution and reward good business practices such as equitable hiring and high-road labor standards.

### Direct Investment and Support for Manufacturers

Buy Clean policies must go hand in hand with a robust reinvestment in domestic manufacturing—both to ensure that the United States once again leads the world in manufacturing the technologies and products of the future and to ensure our manufacturers are the cleanest and most competitive in the world. Such investment must

include technical assistance, financing, and other support for domestic facilities to re-tool and upgrade their facilities and processes; investments to support and expand clean domestic manufacturing; and innovation to drive down costs and barriers to critical industrial pollution-reduction strategies.

The CLEAN Future Act includes a number of key provisions aimed at this including:

- Establishment of an Assistant Secretary of Energy for Manufacturing and Industrial Decarbonization to oversee programs related to manufacturing at DOE;
- Technical and financial assistance to assist manufacturers in deploying industrial energy efficiency and smart manufacturing practices; and
- Major grant funding to reequip, expand, and establish facilities to support manufacturing of clean energy technologies and components and industrial emissions reduction;
- The bill also expands and updates clean technology manufacturing loan and grant programs that include targeted support for advanced materials production such as the U.S. Department of Energy's (DOE) Advanced Technology Vehicles Manufacturing Loan Program and Domestic Manufacturing Conversion Grants program.

These steps provide an important foundation, but there is still more to be done to support reinvestment and modernization of our industrial base. This includes enhanced loan and grant funding for wide scale deployment of advanced emissions reducing processes and technologies at industrial facilities as well as significant new funds for full scale deployment of first-in-class ultra low emissions facilities across key energy intensive industrial sectors in America. There is also room for more aggressive action to fill key supply chain gaps in the clean technology and material supply chains, and support the responsible production, reclamation and recycling of critical minerals and materials and the products and technologies made from them.

These policies will help the U.S. achieve global leadership across clean technology manufacturing; cut emissions from the production of essential materials; upgrade and modernize the U.S. industrial base; and undertake a new generation of industrial development that rebuilds good American jobs and is clean, safe, and fair for workers and communities alike.

## **Ensuring Fairness for Workers and Communities**

Lastly, as we work to rebuild our economy while tackling the underlying crises of climate change and inequality, we must prioritize equitable rebuilding and investments in those

workers and communities most in need, including those impacted by changes in our nation's energy system.

America's energy transition is well underway. But a transition that is fair for workers and communities isn't something that will happen organically. Prioritizing and targeting federal resources to workers and communities in places impacted by this shift needs to be a deliberate choice. We need a broad, holistic, and government-wide response that ensures fairness for energy workers and communities in a range of sectors, especially in light of the economic impacts of COVID-19.

This response must keep workers and communities whole, revitalize and diversify local economies, and address inequities while ensuring the retention and creation of—and accessible pathways into—good-paying, union jobs. This includes the recognition that the best approach to energy transition among workers and communities not already impacted is one that prevents economic disruption and employment loss.

BGA supports several structural reforms established in the CLEAN Future Act, which are foundational and necessary to achieve a fair and equitable energy transition of sufficient scale and ambition. This includes the establishment of:

- An Office of Energy and Economic Transition in the Executive Office of the President to coordinate activities concerning energy transition across the federal government;
- An interagency task force and stakeholder advisory committee to enhance coordination of relevant programs and activities intended to support adversely affected workers and communities:
- A program to provide financial assistance to local governments that have lost significant amounts of revenue due to permanent facility closures and to assist local governments in transition planning; and
- A program to fund one-stop, community-based organizations in affected communities to advise workers and communities in applying for assistance; conducting education and outreach activities; providing information on locally available training, counseling, employment opportunities, and wraparound services; and facilitating enrollment in training and educational programs.

These are critical first steps to establishing the kind of structure needed for an effective federal response to energy transition. These steps must go hand in hand with:

 An interagency grant program to ensure adequate funding and coordination across agencies and programs in order to provide effectively aligned and targeted federal resources and services to impacted communities and workers;

- Economic development and diversification to support existing jobs and the growth
  of diverse economic sectors to create good jobs, contribute to stronger, more
  resilient communities, and equitable opportunities for all people.
- A broad system of support for dislocated workers, including wage replacement and guaranteed pensions and healthcare, ensuring workers and communities can plan for transition in advance, and investing in wrap-around workforce development programs:
- Reclamation and remediation of sites to create jobs while restoring land and clean water, prioritizing hiring of local dislocated workers;
- Bankruptcy reform to protect workers, taxpayers, communities, and the environment during bankruptcies by closing loopholes in Chapter 11 bankruptcy law.
- Investments in infrastructure and manufacturing; if paired with labor, equity and environmental conditions, these investments can provide a much-needed jolt to local economies while delivering good jobs and public health and climate benefits to communities; and
- Ensuring investments are required or prioritized in communities and regions
  impacted by energy transition and that hiring of dislocated workers is required or
  prioritized. For example, the Clean Energy Manufacturing Grant Program
  established in Title V of the bill prioritizes applications in these geographies, the
  hiring of displaced workers, and a number of other provisions. These types of
  conditions should apply across the range of investments in the bill.

#### **Ensuring Investments Maximize Benefits for Workers and Communities**

The CLEAN Future Act includes a number of provisions aimed at ensuring that investments made throughout the bill maximize benefits for workers. The CLEAN Future Act includes critical infrastructure investments, including policies aimed at expanding our energy transmission infrastructure and increasing the resilience and effectiveness of our energy grid; supporting weatherization, resiliency, and energy efficiency retrofits, including at schools and public buildings; and funding for the build out of electric vehicle charging infrastructure, environmental remediation, water infrastructure, lead service line replacement, and to address leaking and dangerous natural gas distribution pipelines.

These are all investments that will boost our economy and create jobs, while simultaneously reducing pollution, combating climate change, and strengthening our communities. And—thanks to key cross-cutting provisions in the bill—these investments will deliver not only jobs, but quality, family-sustaining jobs.

The bill incorporates three cross-cutting provisions to protect American workers, including:

- Requiring any project funded under the Act use iron, steel, and manufactured goods produced in the United States;
- Mandating all laborers and mechanics employed by contractors or subcontractors on projects fully or partially funded by the Act be paid wages no less than the local prevailing wage for similar projects; and
- 3. Allowing federal agencies to require use of project labor agreements by contractors, on a case-by-case basis, when awarding contracts under provisions of the Act.

The people who build and rebuild our infrastructure projects should be well-trained, make a decent living, and work in a safe environment. Enforcing Davis-Bacon provisions that ensure workers are paid prevailing wages and utilizing project labor agreements (PLAs) can improve wages, training, working conditions, and project benefits. BGA supports these requirements and benefits extending across all projects funded by this bill.

Investing in infrastructure not only creates jobs at projects themselves, but can support a revival in the U.S. manufacturing sector, with the expansion of good job opportunities at all levels of the domestic supply chain. Ensuring all projects built with public resources are subject to Buy America and Buy American standards helps maximize the return on these investments to taxpayers and bolster American manufacturing.

In addition to these provisions, we encourage the committee to consider additional commitments to:

- Hiring and procurement policies that benefit low-income communities, people of color, and women and require or incentivize the hiring of dislocated workers, such as local or targeted hire;
- Targeting or prioritizing investments in energy transition and other disadvantaged communities, including low-income communities and communities of color;
- Community benefit/community workforce agreements that increase economic opportunities for communities and local workers—especially for people of color and low income communities; and
- Safety and health protections, support for apprenticeship and pre-apprenticeship programs, and other provisions and practices that improve training and access to jobs and career paths.

In closing, we thank the committee for beginning this conversation and look forward to providing additional feedback and working with this Committee as you move forward this bill and your broader agenda for the 117th Congress.

Thank you again for the opportunity to testify today.

<sup>&</sup>lt;sup>†</sup> Economic Policy Institute (EPI), "What labor market changes have generated inequality and wage suppression?" December, 2018. Available online: https://www.epi.org/publication/what-labor-market-changes-have-generatedinequality-and-wage-suppression-employer-power-is-significant-but-largely-constant-whereas-workers-power-has-

been-eroded-by-policy-actions/

ii U.S. Bureau of Labor Statistics (BLS), Union Membership In The United States, September 2016. Available online: https://www.bls.gov/spotlight/2016/union-membership-in-the-united-states/pdf/union-membership-in-theunited-states.pdf; BLS, Union Members Summary, January 2021. Available online: https://www.bls.gov/news.release/union2.nr0.htm

in EPI, "Black workers face two of the most lethal preexisting conditions for coronavirus—racism and economic inequality," June 2020. Available online: https://www.epi.org/publication/black-workers-covid/
"U.S. Environmental Protection Agency (EPA), Sources of Greenhouse Gas Emissions. Available online: https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions

vi Intergovernmental Panel on Climate Change (IPCC), Mitigation Pathways Compatible with 1.5°C in the Context

of Sustainable Development, 2018. Available online: https://www.ipcc.ch/site/assets/uploads/sites/2/2019/02/SR15\_Chapter2\_Low\_Res.pdf; IPCC, "Global Warming of 1.5°C." Available online: https://www.ipcc.ch/sr15/

McKinsey & Company, Decarbonization of Industrial Sectors: the next Frontier, 2018, Available online: https://www.mckinsey.ac.com/industries/oil-and-gas/our-insights/decarbonization-of-industrias/cotors-the-next-frontie

"iii Third Way, Industry Matters: Smarter Energy Use Is Key for US Competitiveness, Jobs, and Climate Efforts,
2018. Available online: https://www.hirdway.org/report/industry-matters-smarterenergy-use-is-key-for-use-competitiveness-jobs-and-climate-effort.viii Utility Dive, "EIA: US Far off Track for Global Climate Goals as F

"" Third Way, Industry Matters: Smarter Energy Use Is Key for US Competitiveness, Jobs, and Climate Efforts, 2018. Available online: https://www.thirdway.org/report/industry-matters-smarterenergy-use-is-key-for-uscompetitiveness-jobs-and-climate-effort

<sup>\*</sup> Utility Dive, "EIA: US Far off Track for Global Climate Goals as Fossil Fuel Reliance Persists," January 2019. Available online: http://www.utilitydive.com/news/eia-us-far-off-track-for-globalclimate-goals-as-fossil-fuelreliance-pers/546857/.

xi Third Way, Industry Matters: Smarter Energy Use Is Key for US Competitiveness, Jobs, and Climate Efforts,

<sup>2018.</sup> Available online: https://www.thirdway.org/report/industry-matters-smarter-energy-useis-key-for-us competitiveness-jobs-and-climate-effort

xiii Climate Works, The Carbon Loophole in Climate Policy, August 2018. Available online:  $https://www.climateworks.org/wp-content/uploads/2018/09/Carbon-Loophole-in-Climate-Policy-Final.pdf \ ^{xiv}\ Ibid.$ 

<sup>&</sup>quot;" Ibid.
"" BlueGreen Alliance, "Buy Clean California Act Clamps Down on Carbon Emissions," October 2017. Available online: https://www.bluegreenalliance.org/the-latest/buy-clean-california-act-clamps-down-on-imported-carbon-

xvi California Department of Government Services, Buy Clean California Act. Available online https://www.dgs.ca.gov/PD/Resources/Page-Content/Procurement-Division-Resources-List-Folder/Buy-Clean-

California-Act

xxii CBS News, "California now has the world's 5th largest economy," May 4, 2018. Available online: https://www.cbsnews.com/news/california-now-has-the-worlds-5th-largest-economy.

Mr. Tonko. You are most welcome, and thank you, Mr. Walsh, and thank you to all of our witnesses for the input that is tremendously valuable to the discussion of this phase of activity in the CLEAN Future Act.

So with that we will now move to Member questions. I will start

by recognizing myself for 5 minutes.

Addressing the needs of people and communities that may be disrupted by the energy transition, which is already underway, isn't going to be easy. We should be honest about that. But our current course of action is to do very little in an uncoordinated manner. We need a range of policies and investments, including economic development, workforce development, environmental remediation, and public benefits to ensure fairness for workers and communities in transition.

So, Mr. Walsh, let's go to you. How can we most effectively deploy this mix of tools in a coordinated way, so that policies are implemented as efficiently as possible?

And can we leverage existing State and Federal programs?

Mr. WALSH. Thank you, Congressman. There are several provisions providing support for workers and communities in title 10, which I think are foundational and necessary to achieve the kind of fair and equitable transition that you are talking about and make it one of sufficient scale and ambition.

So this includes the establishment of an Office of Energy and Economic Transition to the Executive Office of the President to coordinate and align activities across the resources of the Federal Government. You mentioned previous precedents and examples like the Office of National Drug Control Policy that we have placed within the EOP. We are going to need that kind of leadership and coordination at the White House level to really drive this transition in a fair and equitable way.

There are other provisions, like an interagency task force and stakeholder advisory committee, to enhance coordination of relevant programs. There is a program to provide financial assistance to local governments that have lost significant amounts of revenue due to permanent facility closures and assist local governments.

And there is also a program within title 10 to fund one-stop community-based organizations that can help local communities access Federal funds and other kinds of funds and provide technical assistance to those communities as they grapple with some of these challenges. So I think title 10 is a really good first start.

Mr. Tonko. Thank you. And having a skilled workforce is a community asset. Having good infrastructure is a community asset. Mr. Walsh, as Congress thinks about infrastructure or economic recovery packages, how can these things be leveraged or improved upon to put potentially affected communities in a better position to deal with local economic disruption?

Mr. Walsh. Well, let's talk about infrastructure. I mean, I think there are a number of infrastructure investments that are badly needed in energy transition communities. Let's start with coal communities, right, where investments in water infrastructure, in broadband, in the reclamation of abandoned mine lands and waters are all crucial, not just for community health, but are also pre-

requisites for economic development and economic diversification

opportunities.

We are also going to need a fuller package of supports for workers who are making the transition. I realize that is outside the jurisdiction of this committee, but there are a number of ideas that we have and would be happy to talk with members of the committee about.

Mr. Tonko. Thank you. Thank you very much.

Dr. Dell, your Build Clean report makes it clear that we need a holistic approach with several types of industrial policies to achieve our goals for the sector. And we have tried to cover at least some of those ideas in the CLEAN Future Act.

But today United States policy to support manufacturing pales in comparison to our foreign competitors like Germany and like China. Do you have advice on how we should elevate these policies as part of both a national economic strategy and a climate strat-

Dr. Dell. Thank you, Chairman Tonko, for—that is a really im-

portant question.

For a long time, our manufacturing policy in the United States has been quite fragmented and often pushed down to relatively junior levels of the Federal bureaucracy, which makes it very difficult for us to have coherent policy that ties together all of the important issues that have already come up, including workforce development, infrastructure, creation of markets for key new opportunity areas, investments in innovation, all of these.

And so what we need are—is greater focus and attention, and higher-level leadership across multiple parts of the Federal Government. The Department of Energy is a very important part, from the—on the innovation side. But a holistic approach would also require the Environmental Protection Agency, the Department of Commerce, the Department of the Treasury, and many other parts of the Government, which would have to be coordinated from—at the level of the White House.

Mr. Tonko. Thank you very much. And I certainly think it is important that these policies are built on a transparent, standardized, and high-quality data foundation.

So thank you so much for your input.

Dr. Dell. Thank you.

Mr. Tonko. I have exhausted my 5 minutes, and so now will recognize—I will recognize Representative McKinley, subcommittee ranking member, for 5 minutes, sir, to ask questions.

Mr. McKinley?

Mr. McKinley. Thank you, Chairman. And I just want to remind the committee that Kevin Sunday's wife is about to deliver a baby, his second son. So we all have to appreciate the attention that we are getting, his attention, on this very important day.

But let me direct some questions to you to see how alert you are, Kevin. So the first is, are you aware that the International Energy Agency and others have stated that it is virtually impossible to reach net-zero carbon emissions without carbon capture?

Mr. Sunday. Yes, sir.

Mr. McKinley. OK. And so, to capture carbon, won't power plants and industrial facilities need a new source review permit to add this equipment?

Mr. SUNDAY. It is fact-specific if they will need—if NSR would apply, but they are going to at least need to go through the lengthy

determination process.

Mr. McKinley. Thank you. And since NSR is a complex and convoluted process, EPA has issued more than 690 guidelines and policy documents on it over the recent years. Would you agree that this process discourages implementing carbon capture and other clean energy technologies?

Mr. SUNDAY. Yes, I would agree with that.

Mr. McKinley. OK. So in your testimony, you said we need—therefore, we need to reform NSR. My question is, is there NSR reform in this package?

Mr. SUNDAY. Not based on my reading of the bill, no.

Mr. McKinley. Thank you. So why should we expect anyone

across this country is going to do carbon capture?

So when you factor in it takes 2 to 3 years to get a permit, an NSR permit that costs millions of dollars to achieve [inaudible] 2 or 3 years without litigation, and then add the 5 to 6 years for the engineering design, the permitting by the States, and the installation of this equipment, we are talking about—it is conceivable that a utility company or manufacturer—it could take 7 to 10 years to install carbon capture.

So I am back to you, Sunday. Is it reasonable then to assume that we can expect an 80 percent reduction in CO<sub>2</sub> emissions by 2030?

Mr. SUNDAY. No, sir, I believe that would be a very tall order without further reforms.

Mr. McKinley. It would. And what about a 100 percent reduction in CO<sub>2</sub> emissions by 2035 in power plants?

Mr. SUNDAY. No, same thing.

Mr. McKinley. OK. So let me change just—direction just a little bit on this, and go to plastics, because that is part of it, under section 902.

During the pandemic, do you recall the shortage of plastic masks, gloves, shields, and gowns that are PPE?

Mr. Sunday. Yes, yes.

Mr. McKinley. And America was—it was painful and life-threatening for our healthcare workers to not have access to PPE.

So, if the current manufacturers were unable to meet the demand last year and the year before, why—then wouldn't it make more sense to make more facilities, have more facilities to produce more masks, gowns, shields, and gowns?

Mr. Sunday. Yes, we should have a streamlined permit process

to accommodate that type of dynamic market.

Mr. McKinley. So it is fundamental here. Now, so you turn to section 902 of this bill, it withholds permits, new permits, for facilities that would produce plastics or the raw materials to use to produce plastics. Could this section, therefore, prevent the opening of the new petrochemical complex north of Pittsburgh and Monaca, Pennsylvania, or the one being planned in eastern Ohio?

Mr. Sunday. Yes, I believe that language would jeopardize future investment into those types of facilities.

Mr. McKinley. So seriously, we just experienced a shortage of PPE, and this bill calls for more restrictions on the plastics indus-

try. Mr. Sunday, am I missing something?

Mr. SUNDAY. No, sir. And beyond PPE, we use plastics in automotive devices, weatherizing homes, recreational products like canoes and backpacks. We actually use some petrochemicals in, not just storing and transporting the vaccine, but the component itself, to capture the messenger RNA so it can cross the bloodstream. These are vital, life-sustaining products and medical devices that we rely on, as you mentioned.

Just to be clear, my wife is not going into labor, like, at this moment. We are a couple of days away from that, so I am not being negligent by any means, but I appreciate the well wishes there and

the opportunity to speak before you this morning.

Mr. McKinley. Well, thank you again, Mr. Sunday. I have got to say it is just bizarre that, in a bill of this importance, that there is something in there under section 902. I just hope we look at that very seriously, the impact it could have on us.

And I yield back my time.

Mr. TONKO. The gentleman yields back. And Mr. Sunday, to you and your wife, all the best on the pending new arrival.

The Chair now recognizes Representative Pallone, full committee

Chairman Pallone, you are recognized for 5 minutes, please.

Mr. Pallone. Thank you, Chairman Tonko. I wanted to talk about decarbonizing the industrial sector. In the CLEAN Future Act we have provisions that will help drive down emissions in the industrial sector but at the same time rebuilding the country's infrastructure and economy. So let me start with Ms. Dell.

How can we most effectively use a Federal Buy Clean program, which we have in the CLEAN Future Act, to ensure a new infrastructure is developed in a climate-friendly manner?

And why is that crucial that we do that?

Dr. Dell. Thank you so much for the question. I think that the most important reasons why we should invest in a Federal Buy Clean program are, one, that the Federal Government has enormous leverage over emissions, over greenhouse gas emissions, so this is how we actually reduce emissions; and second, this allows us to make a major investment in critical manufacturing sectors.

The members of the committee may or may not be aware that, in the last 6 months, all five of the largest steel companies in the world have committed to bring their emissions to net-zero by 2050. These are companies in China, Japan, South Korea, and Europe. No American steel company has made that commitment. So around the world, companies in these critical industries are realizing that their future competitiveness, their long-term success, is tied to their ability to manufacture in a climate-safe way. And I am very concerned that this is a fast train leaving the station, and American firms are waiting on the platform.

And so, what Buy Clean will do is provide market conditions that allow companies to make a profit by investing in their long-term competitiveness with clean manufacturing, and make a profit by investing in the good jobs that come with that.

Mr. PALLONE. Thank you. I want to ask Mr. Walsh the same

question.

How can we most effectively use a Federal Buy Clean program to ensure new infrastructure is developed in a climate-friendly manner?

But if you could just answer in a minute, because I have a question for Mr. Perciasepe, too, that I would like to get to. Mr. Walsh?

Mr. WALSH. Yes, I mean, I will echo Rebecca's statements. It is incredibly important that we create markets, right, for producing some of these products in lesser-emission ways.

We work closely with a number of industry leaders in the iron and steel industries and the cement industries, and the only thing, really, standing in their way is clear demand signals that the Fed-

eral Government can be a market leader in producing.

I do think the emphasis in title 5 on other forms of investment in clean technology manufacturing are also really important. I think we are particularly interested in and excited by the Clean Energy Manufacturing Grant Program, which also invests in the kind of supply chains that we are going to need as we make this transformation.

Mr. PALLONE. Well, thank you.

So, we also need additional policies and incentives to reach netzero greenhouse gas emissions in the industrial sector. And to that end the Renewable Thermal Collaborative recently released a suite of policy recommendations for Congress to consider. So, Mr. Perciasepe, can I ask you, how could we use existing laws and policies to quickly curb greenhouse gas emissions from the industrial sector?

And hi, how are you doing, by the way?

Mr. Perciasepe. Hello. It is great to see all of you, really.

Well, there is—there are plenty of existing policies in the Federal Government that are designed to provide technical assistance to or advice to many different manufacturers: the advanced manufacturing program at the Department of Energy, and even some of the technical assistance programs at EPA.

But what the CLEAN Futures Act does is take—harnesses some of that, and expands on that. And I think that is a really important part, Mr. Chairman, for us to accelerate those activities that the

Federal Government is able to do.

We have a fragmented system. And I think Dr. Dell mentioned that, that you don't have a cohesive component in the Federal Government looking at this. So there is an ability for the Government to coordinate that, even without legislation, and they should do that.

Mr. Pallone. Thank you so much.

Thank you, Chairman Tonko.

Mr. TONKO. You are welcome.

The gentleman, the Chair, yields back. The Chair now recognizes Representative Rodgers, full committee ranking member, for 5 minutes to ask questions.

Representative Rodgers, please?

Mrs. Rodgers. Thank you, Mr. Chairman, and thank you, every-

one, for joining us here today.

The Republican policies to address climate change and the risks that face us are driven by an appreciation for the beneficial creations of free enterprise, capitalism, private initiative, versus the stifling role of Federal regulatory control and central planning.

Innovation doesn't come from the Federal Government. It comes from the ideas in the garages and in the kitchens of people all over this country. And businesses and innovators should build and deploy clean technologies that take advantage of the abundant, affordable energy that we enjoy today, as Americans. It is a competitive advantage that I am concerned will be lost through legislation like is before this committee today.

It is also so important to our national security, which is why we seek the regulatory and the permitting reforms in the package that

we put together.

You know, I was—when I was elected to Congress, it was interesting. The U.S. was very concerned about the rising cost of natural gas. We were focused on building more import facilities in

order to meet the energy needs in our country.

And then, soon after that, 11 years ago now, in 2009, Waxman-Markey, cap and trade, passed the House. And at that time, nobody accounted for the American shale revolution. Private companies have taken the technological ideas from the labs and tested them and improved them on their own dime and really took the Federal planners by surprise, creating tremendous new economic and security benefits, while reducing emissions.

Mr. Sunday, you have seen the benefits of this energy renaissance. Given today's industrial focus, would you talk about what you see as the biggest threats of proposals like CLEAN Future Act

on industrial progress and the benefits in your region?

Mr. Sunday. Thank you for the question, Congresswoman. I think one of the biggest threats is we don't take into account the reliability and cost impacts of a sudden and abrupt transition.

We know the labor unions estimate the goals of this magnitude would cost about a million and a half jobs over the next decade and a half. The high energy prices would simply result in offshoring of key industries. And, as I have noted in my testimony, higher energy prices don't necessarily translate to better environmental outcomes, but they do translate to worse economic performance for our State and country

Mrs. Rodgers. Thank you. As a follow-up, I have seen in eastern Washington, where I represent, and across the country the positive work to implement technological advances in communities by major companies like Land O' Lakes' American Connection Project. And these companies aren't waiting for the Government to take action, they know that they can do it better and faster than the Federal Government.

What work do energy companies in Pennsylvania do to be good stewards of their communities?

Mr. Sunday. Thank you. In addition, as I mentioned, to keeping energy prices low and reducing emissions to put the United States in a world leadership position, it can touch on a number of community initiatives, whether that is constructing turkey habitat in conjunction with the National Wild Turkey Federation or working with local trade schools to stand up curriculum and, through EITC programs, donate the type of high-tech equipment that kids that maybe colleges and—not everyone needs to go to college, but they do need a good education. And so going and having the skilled trades programs is the focus of a lot of our members so they can draw on the local high-schoolers and put them to work in a family-sustaining job that supports American energy independence.

Mrs. Rodgers. Thank you.

Mr. Walsh, I just wanted to turn to the topic of Buy Green—or Buy Clean, Buy Clean, which is a major provision in this legislation. From your testimony it appears that the Buy Clean legislative provisions are based upon a program that has been mandated in California, and the California program has not been fully implemented. For example, this is the first year that contractors have had to show compliance.

We often have concerns about the aggressive and unworkable policies of California that are—we see resulting in blackouts and increasing energy costs for families and communities. We don't even know how this program is working in California. I just wanted to ask if you could supply for the record evaluations from stake-

holders regarding the competitive impacts of this program.

Mr. WALSH. I only have a few seconds left—happy, happy to do

that, Congresswoman.

You are right, they are just moving into full implementation this year. But the whole idea of Buy Clean is to level the playing field for U.S. manufacturers, and to ensure that taxpayers get the biggest bang for their buck in terms of jobs in this country, and reductions in pollution.

So happy——

Mrs. RODGERS. Thanks.

Mr. WALSH. Happy to engage in a further conversation with you. Mrs. RODGERS. OK, that would be great. And anything you can supply would be helpful.

I yield back.

Mr. Tonko. The gentlewoman yields back, and thank you. The Chair now recognizes the subcommittee chair of oversight of the standing committee, Representative DeGette of Colorado for 5 minutes.

Ms. Degette. Thank you so much——Mr. Tonko. Chair Degette, please——

Ms. DEGETTE. Thank you so much, Mr. Chairman, and thank you for holding this hearing, and for your important legislation as well, because I think workforce transition is really important for everybody to have.

We had a hearing last week in my subcommittee, in the Oversight Subcommittee, about—it was actually about the EPA. But the issue of transitioning in coal-related communities came up with a—in a very powerful way with a witness, actually, from West Virginia. And he was talking about the disruption we are seeing in coal-dependent communities.

But frankly, Mr. Walsh, I would like to go with you. I would like to start with you. This disruption we are seeing in these communities is not necessarily as a result of environmental laws, but of changing market forces where natural gas, wind, and solar energy are out-competing coal, even in the absence of a Federal climate

policy. Is that accurate?

Mr. WALSH. That is accurate, Congresswoman. And, in fact, over the 4 years of the Trump presidency, we saw coal mining jobs continue to decline and coal production hitting its lowest levels since the 1960s, as both utilities and consumers continued to shift to cleaner and cheaper forms of energy.

Ms. DEGETTE. And surely, under the Trump administration, that was not due to Federal energy policies. In fact, the President told the coal miners that he would preserve their jobs. And I believe he wanted to preserve their jobs. But the market just is shifting away

from coal. Is that accurate?

Mr. WALSH. That is accurate. I would call that a false promise, which raised some some false hopes, unfortunately.

Ms. DEGETTE. But what is a real situation, though, is in these communities people are losing their jobs. And I don't think we can brush that under the rug. We need to figure out something to do, which is why we are discussing this bill today. Would that be fair?

Mr. WALSH. That would be fair. And actually, I think your State of Colorado provides something of an example in that regard.

Ms. DEGETTE. Well, thank you for raising that, because in Colorado we have the Colorado Office for Just Transition. And that has been a model for important elements of my bill and the CLEAN Future Act. Are you familiar with that Colorado initiative?

Mr. WALSH. Yes, we had the pleasure of working with Colorado policymakers and our allies to craft the legislation that created that office.

Ms. DEGETTE. And can you briefly describe for folks what that does?

Mr. Walsh. Sure. What it does is to set up a centralized office of just transition within State government in Colorado to play a role that is—it is actually quite analogous to the office that is established under title 10, at a Federal level, of the CLEAN Future Act, basically aligning, coordinating, in particular, different economic and workforce development programs across State government to invest in coal communities and workers and provide support for those communities and workers.

I think it is really worth flagging that they will be the first to tell you that they can't do that alone, as a State.

Ms. DeGette. Right.

Mr. WALSH. But the Federal Government has to be a full partner, particularly when it comes to making investments in workers and communities.

Ms. DEGETTE. Well, and also, Colorado has a much more diverse economy than just coal, for example. So you really need a unified national plan to help States like West Virginia and other States that have an economy much more dependent on coal. Wouldn't that be fair to say?

Mr. WALSH. Yes. And, in fact, I think the hallmark of transition is that it happens very differently in very different parts of the country. And it is based on the economic profile of that community or region and the labor markets of that community and region.

Ms. Degette. Some of the efforts in the past to retrain workers in coal and other energy-dependent communities have not succeeded. Can you tell us a little bit about why those programs haven't succeeded, and what would be different about an initiative

like the one we are discussing today?

Mr. Walsh. We could talk about that for a while, Congresswoman. I will just say, really quickly, that it is absolutely critical that we link job training, workforce development with economic development and economic diversification, because it doesn't do any good to train people for jobs that aren't there. And unfortunately, it is characteristic of coal-reliant communities that they have a very narrow economic base, which is one of the reasons we need to invest in those communities.

Ms. DEGETTE. Great, great.

Thank you so much, Mr. Chairman, I am looking forward to continuing to work with you on these issues, and I yield back.

Mr. Tonko. Thank you, Chair DeGette, and we now will recog-

nize Representative Johnson of Ohio for 5 minutes, please.

Representative Johnson? Mr. Johnson. Thank you, Mr. Chairman. I am going to shift gears a little bit and go a little bit of a different direction in my

questions.

You know, I know that some of my friends on the Republican side today will argue this legislation is a Green New Deal Light. But I would argue that this is actually the tactical implementation plan for the Green New Deal. It is the Green New Deal put into action. The Green New Deal, in its current form, is a short but broad resolution outlining the dangerous and unworkable goals of the radical environmental left. But what we are discussing today, the 900-plus-page CLEAN Future Act, fills in a lot of the blanks.

Today we are discussing decarbonizing industrial sectors. And unfortunately, this legislation is filled with top-down mandates and one-size-fits-all incentives, instead of adopting a true market-driven, all-of-the-above approach, letting American entrepreneurs and innovators lead the way, which is what American workers are so

well known for.

If implemented, we will look awfully foolish a decade or so from now, millions of tons of carbon-intensive manufactured materials and billions of dollars later, only to find out that advanced nuclear technologies have arrived that can provide zero-carbon power, including innovative industrial applications with a fraction of the resources my Democratic colleagues want to use for large-scale wind and solar.

So, Mr. Sunday, your examples of the economic vitality in Pennsylvania are encouraging, especially the central role an all-of-theabove energy approach has played there. I have seen it across the border, in my State of Ohio, as well. We need more American en-

ergy innovation expanding into industrial uses.

But I am worried we aren't focusing on the right policies today. Removing unnecessary barriers and modernizing licensing is critical, which is why I have reintroduced the Strengthening American Nuclear Competitiveness Act. This legislation would improve our strategic competitiveness in nuclear technology and will facilitate investment in U.S. nuclear technology by our allies. It will promote efficient licensing for new industrial uses of nuclear energy and for new techniques to help build American nuclear reactors faster, safer, and at lower cost. Advanced small modular reactors under development are capable of being safely placed next to existing industrial infrastructure.

So imagine the uses of these applications to produce hydrogen or generate heat with zero emissions. After all, isn't that the ultimate goal of the Green New Deal, zero emissions?

So, Mr. Sunday, does this sound like a sound policy?

And could you see these innovations in nuclear technology coupled with the diverse industrial and manufacturing industries in Pennsylvania, Ohio, and across the country?

Mr. SUNDAY. Thank you for the question, Congressman. Yes, I think you are exactly right. That is the type of building on the tradition—the traditional industries and knowledge base we have.

What comes to mind for me is we have great research institutions like Penn State and Carnegie Mellon, who are graduating nuclear engineering students who want to be involved in a growing industry, and advanced nuclear capabilities into their manufacturing space could be just that. That lets them stay in States like ours and grow the domestic base in high-energy uses, whether that is refining, whether that is hydrogen, whether that is nanotechnology, whether that is data centers, all the back-into-the-cloud computing that we take for granted.

Again, a lot of things that we rely on, there is a high energy use, and it is very possible in the future that advanced nuclear fits that. And there is really no credible zero-carbon strategies out there that don't—that wouldn't include carbon capture and advanced nuclear. And it is important that we keep those options on the table.

Mr. JOHNSON. Well, thank you.

Mr. Walsh, do your members believe nuclear technology should

be part of the clean energy solution?

Mr. WALSH. The partners of BGA believe that zero-emission electricity—and nuclear, of course, is an example of that—are absolutely critical to achieving net zero by 2050.

Mr. JOHNSON. Good.

Mr. Walsh. I——

Mr. JOHNSON. Mr. Perciasepe, how about you?

Mr. Perciasepe. I have to remember to unmute. I am here today speaking on behalf of the Renewable Thermal Collaborative, and we feel—let me just say quickly that we feel a significant amount of the lower-energy thermal needs of the industrial sector can quickly and easily, with some incentives, be decarbonized with renewable energy.

But, speaking as a general matter to your bigger question beyond why I am here today, of course, some of the higher-temperature issues in industry will need other technologies, and we see incentives for those in the—in these bills, in this——

tives for those in the—in these bills, in this— Mr. JOHNSON. OK, all right. Well, Mr. Chairman, I have ex-

tended my period, so I yield back.

Mr. TONKO. The gentleman yields back. The Chair now recognizes the chair of the Subcommittee on Consumer Protection and Commerce, Representative Schakowsky, for 5 minutes.

Representative Schakowsky from Illinois, you are recognized now.

Ms. Schakowsky. Thank you so much, Mr. Chairman.

Since 1999 the EPA voluntary Energy Star program has been in effect. And as someone who has absolutely taken advantage of that when I bought some washer-dryer appliances, I think it is really, really terrific. And I know that we now have—are looking at, as part of the legislation we are talking about, an Energy Star program. And I want to just tell you how important it could be to an important business in my district.

There is a major cement manufacturer, Lafarge. It is the—it is headquartered in my district. And so I am especially interested in this new program, because they have both a decarbonized version of their product and the one that has been traditionally used. And the costs are pretty similar, but there is no way to distinguish them, and to encourage the use of the less-carbonized version.

So, Ms. Dell, if you could elaborate on the Climate Star program and—you know, I think people know I am not always for voluntary, but this seems to be working, doesn't it? Or it certainly has in terms of the Energy Star program. Could you talk about that?

Dr. Dell. Sure. Pardon me.

Mr. Tonko. Bless you.

Dr. Dell. Thank you so much for the question.

So this bill contains a provision for something called Climate Star, which is closely analogous to Energy Star but looks at greenhouse gas emissions instead of energy consumption per se. This is a particularly important distinction in the cement industry, which you mentioned, because if you imagine, for example, if you use carbon capture and storage to reduce your emissions, you might not reduce your energy consumption, but you would still be a Climate Star even if you weren't an Energy Star.

And so one thing that has been a real barrier to the broader diffusion of existing lower-carbon alternatives has actually been the public sector's reluctance to use it in public construction. And that

exists at the State, Federal, and local level.

So one of the—so Climate Star will provide information and transparency, and allow customers to feel confident that the thing they are buying is actually better for the climate than the conventional alternative. But it will be even more effective paired with the broader Buy Clean requirements that will move the public sector from being a laggard to being a leader on this issue.

Ms. Schakowsky. Thank you so much. You mentioned the issue

of transparency.

And I wanted to ask Mr. Walsh, from your organization's perspective, why are the transparency measures in the CLEAN Future program so important?

[Pause.]

Ms. Schakowsky. Mr. Walsh?

Mr. WALSH. Because we need the data. We need to know the emissions intensity of these different products. We need to verify it, and we need to learn from it.

There—the system that it builds on that is already being used by many manufacturers' environmental product declarations is called out in the bill. I think we also need, through the Buy Clean program, to understand whether that fully captures lifecycle emissions and emissions connected to transportation. But data is absolutely going to be critical, and we are not going to get it without full transparency.

Ms. Schakowsky. So that is a requirement, not a voluntary,

right, in the bill?

Mr. Walsh. Yes. I mean, it all builds on transparency. This—we have to have that in place as a foundation for the rest of the program to move forward.

Ms. Schakowsky. Well, thank you very much.

And I just have a few seconds, so I will yield back. Thank you. Mr. TONKO. The gentlewoman yields back. We now recognize Representative Duncan of South Carolina.

Representative, you are recognized for 5 minutes, please. Ms. Schakowsky. What—is anything going on on the floor?

Mr. DUNCAN. OK, thank you, Mr. Chairman. I want to thank Ms. DeGette from Colorado for mentioning market forces and how they actually affect what the United States and other countries do with regard to climate versus government regulations.

But I want to address some of the ramifications from an environmental security and competitiveness standpoint. Should we pursue market manipulation—manipulating globalist policies supported by President Biden and the Democrats' CLEAN Futures Act?

I agree with President Biden's Buy American agenda, but that starts with buying American energy and supporting policies to create an environment conducive to supporting American manufacturing. The CLEAN Futures Act and most all energy and environmental policy coming out of the Biden administration undercuts

the Buy America idea across the board.

We don't give enough credit to the environmental progress the U.S. has made as a result of the American energy renaissance. We got here by innovation in the energy industry, not through mandates and regulations. The United States has become the numberone oil and gas producer in the world, while simultaneously outpacing most of the world in reducing emissions. In 2019 U.S. emissions reached our lowest level since 1992. Market forces drove this, not government policies.

I want to thank Mr. Johnson from Ohio for discussing the role that nuclear power and innovation plays in lowering our carbon footprint, while also providing very-good-paying jobs within the en-

ergy sector.

Energy Secretary Jennifer Granholm delivered her first international address as Energy Secretary this week, and she said the U.S. should replicate Germany's 50 percent renewables. But the fallacy in that is this—so she is holding Germany out as the model the U.S. should follow—the fallacy is this: Germany began shutting down all their nuclear power plants after Fukushima. They only have a handful—I think seven—operating now, and are all scheduled to close. Germany imports electricity from France, 75 percent of which is generated from nuclear power. It is the only way Germany's renewables actually work.

The only way Germany can get to the 50 percent or lower renewables is by importing French nuclear-generated electricity. The price of German electricity is twice that of the average French household. Germany's shift to renewables is why countries like Poland are also looking to expand their electricity generation capacity, buying nuclear power plants. They know they can make a fortune off selling power to Germany because of Germany's desire to

feel good and their pretension of being green.

And so if we are talking about global carbon reductions and global energy, nuclear power has got to be a big part of this. Mr. Sunday, you note that, as we develop new technology solutions in both fossil and zero-carbon resources, it is imperative trade and energy policies support the continued export of these solutions to developing countries. I couldn't agree more.

We can help improve the lives of people across the globe by exporting U.S. energy sources, clean-burning natural gas that helps them have electricity and get off of the more climate-producing dirtier energy. Can you speak to some of the geopolitical ramifica-

tions of the U.S. not exporting our energy, Mr. Sunday?

Mr. SUNDAY. Thank you for the question, Congressman. There is a few.

India is a growing market: carbon intensive, a billion people there want reliable, low-carbon energy. LNG is an answer there.

In the Middle East we have seen some turmoil for decades. I was always—the Strait of Hormuz, if an oil tanker went down, it was cause for war. We had that recently, two springs ago. And because of the LNG assets, it has given greater optionality that we didn't descend into another war over that, because we are less reliant on those fuels.

Sending LNG to Southeast Asia to shore up their security reduces their footprints and have to rely less on Chinese and Russian energy, and the same goes for our allies in Eastern Europe.

And we are landing LNG in Spain, in the Mediterranean, in Turkey. And that is allowing them to have the option of turning away and saying, "No, Russia, we would rather have energy from a coun-

try that is interested in democracy."

Mr. DUNCAN. There is no doubt about that. And look, Russia and China are way ahead of us on emerging nuclear technologies. The United States needs to get in gear. We are a true leader in nuclear power. But instead of dealing with bills like the CLEAN Future Act, we need to put our resources toward modernization and innovation in the nuclear power realm and exporting that. It is less carbon footprint, cleaner burning.

And with that, Mr. Chairman, I will yield back.

Mr. TONKO. The gentleman yields back. The Chair now recognizes the gentleman from Maryland.

Representative Sarbanes, you are recognized for 5 minutes, please

Mr. SARBANES. Thank you very much, Mr. Chairman, and thank you for convening today's hearing on the CLEAN Future Act. I want to thank the witnesses for their very valuable testimony.

I am particularly interested today in the focus on communities and in particular how the CLEAN Future Act can take action to protect and uplift communities across the country and in my State of Maryland.

I represent parts of Baltimore, which, as many of you here know, was once a thriving industrial hub. Over time that base shrank,

unfortunately, creating a lot of economic hardship across many communities. And it is vital that we have conversations like we are today on how you can revitalize and reinvigorate our local economies.

The CLEAN Future Act does more than just start that conversation. I have to say it takes action. The measures like the Clean Energy and Sustainability Accelerator and the community transition provisions in title 10 are an example of this. It is a promise to invest in economically distressed communities across the country. And these investments and programs can bring new clean industries to places like Baltimore, which in turn would create jobs, expand economic opportunity, and so forth.

Mr. Perciasepe, first of all, thank you for all your incredible work over the years, your career of commitment on the environment, your service in the past to the State of Maryland, which we are all

very proud of.

Can you speak to the accelerator's potential to jump start investment in clean and innovative industries, especially in parts of our

country that have seen this kind of decline in industrial activity? Mr. Perciasepe. Thank you. Thank you, Congressman, for that question and for the shout out. Baltimore is a favorite—a very im-

portant place in my heart.

You know, there are a number of provisions in the Futures Act that really address and look at the paramount issue that we need to have in a decarbonizing world, and that is how to strengthen American industry and American manufacturing in that environment.

So you have things like the Clean Energy Manufacturing Grant Program which have a focus on small and modest-sized businesses. But you also have the Clean Energy Sustainability Accelerator, which has provisions in it to not just look at funding a particular technology but also funding economic development around a decarbonized future for our manufacturing and industrial sector.

And here is where a facility like the accelerator can not only stimulate innovation, which I think is paramount, but also pull in private capital, giving the confidence that the Federal Government is there with them. Private capital will be needed, as well, as we look at these communities in a broader economic development program.

So I think the accelerator has a lot of mechanisms, and it has a lot of authority in the bill to look at those things more broadly and provide that broader economic development stimulus, which I think will be essential for not only urban areas but also rural

areas, as agriculture and forestry are also part of that.

Mr. SARBANES. Thank you very much. I think it is a terrific idea, this accelerator, and I would emphasize your phrasing here, that it can help stimulate innovation, because we hear this suggestion that somehow the Federal Government is trying to become the chief innovator and crowd out or push away all of the sort of private-sector innovators out there that are getting started.

That is not what we are doing here. We want to stimulate innovation in creative ways. And the Federal Government has done that many times before and can do it through this accelerator pro-

gram.

I have got about 45 seconds left, but, Mr. Walsh, maybe you can speak as well to what you think the potential offer through the ac-

celerator program is.

Mr. WALSH. I mean, I think it is significant, and I just want to say that we strongly support the prioritization of investments in the accelerator to disproportionately impacted communities. We think that is really essential, not just in Baltimore but across the country.

I think we would love to work with you to broaden the definition of what constitutes qualified projects. But I think, as written, this

is a really great start.

Mr. SARBANES. Great, thank you very much.

Mr. Chairman, thank you. I yield back.

Mr. TONKO. You are most welcome. The gentleman yields back. The Chair now recognizes the gentleman from Utah.

Representative Curtis, you are recognized for 5 minutes, please. Mr. Curtis. Thank you, Mr. Chairman. Chairman Pallone, in his opening remarks, reminded us that science was to be our impetus. And I am not a scientist. So at a very surface level, I would like to look at the science of the CLEAN Future Act.

Now, let's suppose hypothetically—just hypothetically—that we take a moonshot and we are able to reduce our greenhouse gas

emissions to zero. Hypothetically, not by 2050 but by 2030.

So I ask—and it is somewhat of a rhetorical question—I ask members of this committee and our witnesses, what would be the impact on worldwide greenhouse gas emissions if we were 100 percent successful with that moonshot?

Now, looking at the Paris Accord—you will know where I am going—China will reach its peak of carbon emissions in 2030. And so I believe the science tells us that, even if we are wildly successful, we will fail in our goal of reducing worldwide carbon emissions even if this bill is implemented. And we all know that there would be more carbon in the air, not less, because of these other countries.

And any one of our witnesses that would like to dispute that or

tell me I am wrong, I would love to hear from you.

And I believe that is because, in the name of the U.S. showing leadership, we are proposing that the U.S. sacrifice U.S. jobs and at the same time we are willing to give a pass to a human-rights-violating dictator.

And let's be honest, in the year 2030 the U.S. could take our greenhouse gas emissions to zero and we would fail in what I believe is a shared goal, reducing worldwide greenhouse gas emis-

sions.

Now, Mr. Sunday, the U.S. has—I am told—has reduced emissions more in the last decade than the next 12 emission-reducing countries combined. In your testimony you said something, and it caught my attention, and you said—I am paraphrasing—"No country has the story to tell like the United States." Why aren't we telling the story, Mr. Sunday?

Why don't we hear this—in your opinion, why aren't we shouting

this from the housetops?

Mr. SUNDAY. Well, that is, in part, why I am so honored to be here today, to help let folks know what Pennsylvania has done to

contribute to that story. It is a story that can't be told. It is a story we shouldn't be ashamed of. And it is trends that we would—should want to continue, continued emissions reductions outpacing the developed world on growth, and keeping consumers' energy costs low—

Mr. Curtis. I have got a-

Mr. SUNDAY [continuing]. Batting three for three.

Mr. CURTIS. Yes, I have got a theory, and I would like to ask you if you feel like you could verify it. We could lower more greenhouse gas emissions by exporting U.S. natural gas to China and India than by implementing the CLEAN Future Act. Do you have a response to that?

Mr. SUNDAY. Not having an advanced degree of mathematics, intuitively, yes. It makes sense, right?

Mr. Curtis. Yes.

Mr. SUNDAY. I would definitely agree with that, yes.

Mr. CURTIS. And so, like, this whole concept of, like, we don't need to kill fossil fuels—fossil fuels, according to your testimony, is our secret weapon to dramatically lower worldwide greenhouse gas emissions.

So I am quite limited on time, but I would like to kind of switch gears for a minute. And Mr. Walsh, I have listened carefully to your testimony, and I believe you are very, very sincere in your desire to help these communities.

I represent a county, and the name of that county is called Carbon County. So you can imagine what they do in this county. And I watched closely the exchange between you and Representative DeGette about how programs have not succeeded there. Are you aware of any programs that have succeeded in these coal countries?

And I don't know that you need to elaborate all of them now, but

are we being successful anywhere in this concept?

Mr. Walsh. I believe we have a lot of really promising examples from the power grant program that we started during the Obama administration and continued through the Trump administration. A lot of that was focused on Appalachia. For a bunch of reasons, in part because we didn't have a whole-of-government approach and an office at the White House, we had a harder time driving investment to coal communities out west, in the district that you represent. But I think there are many examples out there, be happy to share some of them with you for the record, if that would be helpful.

Mr. CURTIS. Yes, I am going to run out of time, so—but I would love to do that offline with you, because I share this goal with you. And I have a theory in this regards, too, is that one of the problems is that our dialogue so often villainizes these people in coal country, and that is a hard way to start. Does that make sense?

And I would love us to think about how we address these communities, and how they feel, before we even come in with these plans because of this villainization.

I regret that I am out of time. I would love to explore that more offline with you.

Mr. WALSH. Will the chairman indulge me, just to respond to that?

I want to strongly agree with you, Congressman. In fact, we need to start from the premise that workers in these communities, these communities themselves, have kept the lights on in this country for generations. They deserve our respect. They deserve our support, which is exactly why we need the kind of policy constructs envisioned by title 10 of the CLEAN Future Act. So we would love to continue that conversation.

Mr. CURTIS. Thank you. Thank you, Mr. Chairman.

Mr. Tonko. The gentleman yields back. The Chair now recognizes the gentleman from California.

Representative Peters, you are recognized for 5 minutes, please. Mr. Peters. Thank you so much, Mr. Chairman. And I also want to begin by acknowledging some of the comments from my colleagues on the other side.

Of course we have to work internationally to solve this problem.

I certainly don't disagree with that.

I believe there is a role for nuclear. I believe there is a role for looking at streamlining permitting, particularly for renewables. And I would love to work with you on all that stuff.

But I do have to one—make the one comment again about reducing our emissions. It is great that we reduce our emissions by the use of natural gas, but let's remember that all of the climate benefits of natural gas are lost unless we deal with methane. And I am talking to my colleagues about that, as well. So—and I think we should not pat ourselves—break our arms patting ourselves on the back about natural gas without dealing very frankly with the methane threat.

I do want to talk to Dr. Dell, and in particular about the comment you made in your testimony: "In order for Buy Clean to be as successful as possible, it should be complemented by investments in innovation and the commercialization of strategic new technologies in the industrial sector." I couldn't agree with you more.

As you well know, concrete is the second-most-used material on Earth after water, and its main binding ingredient, Portland cement, accounts for fully 7 percent of global carbon emissions. The Buy Clean program in the Futures Act would require building materials and products procured with Federal funds to achieve a minimum GHG standard. This provides a strong incentive to reduce the quantity of carbon emissions.

And similar to California's Buy Clean threshold model, our Buy Clean approach goes one step further and includes a program called the Climate Star Program that would establish a voluntary labeling mechanism to identify and promote products with significantly lower embodied emissions than comparable products while meeting strict performance standards in order to reduce GHG emissions and encourage the use of products with lower embodied emissions.

I think that is great. I do have to acknowledge that one of the most popular sports in this committee is to beat up on California. I have to say I heard about rolling blackouts. No one has changed their talking points, apparently, since Texas had their problems.

But let me just say that I heard about a Buy Clean model in New York and New Jersey. So I would like to talk about that and see whether you thought that was a good approach. It is called the Low Embodied Concrete Leadership Act, or LECCLA. And the basic concept is concrete producers would bid on public projects based on the global warming potential values of their concrete in addition to costs. And those with the highest-performing global warming potential scores get a discount rate applied to their bid price, making their bids functionally less expensive and more competitive, relative to lower-performing bids.

For products that use any carbon capture utilization or storage technologies to manufacture their concrete, a discount would be applied. Now, my interest in this is that it might actually incentivize producers to work beyond any threshold that we might set, if the incentive was good enough. So I wanted to hear, if you are able—if you are familiar with the bill, what you thought the benefits of that approach might be and how an approach like this might fit into existing legislation and plans.

Dr. Dell?

Dr. Dell. Thank you so much for the question, Congressman Peters. And if you will indulge me, I will say I used to be your constituent, back when I was a scientist at the Scripps Institution of Oceanography.

Mr. Peters. If you indulge me, I am sympathetic that you had

to move someplace else.

Dr. Dell. You know, I remember at the time one of my colleagues commenting that, when it came to lifestyle, we are the 1

percent. San Diego is a very beautiful part of the world.

But on your substantive question, I think that the broad point that you are making is incredibly important, that what we need in our Buy Clean programs is to both ensure that everybody is using current best practices but also that we are providing incentives for people to innovate, or for people to do new things and to get, you know, new and even better than current best practices systems in place and to make that profitable.

And so I actually think that the New York and New Jersey model is fantastic. I am a big fan of it. And my reading of the CLEAN Futures Act, of this title of the CLEAN Futures Act, is—tells me that there is—the current legislative text retains a lot of flexibility about exactly how the program would be structured that, ideally, would be used to both incentivize innovation and current best practice.

Mr. Peters. Thank you. I have run out of time. I wanted to—but I would just say that, although they always like commenting on California, my subcommittee chair and full committee chair might like an idea from New York and New Jersey, so I think we should pursue it, and I yield back.

Mr. TONKO. The gentleman is absolutely right. We would appreciate that. And he yields back.

So now we now will—the Chair will recognize the gentleman from Alabama.

Mr. Palmer, you are recognized for 5 minutes, please.

Mr. PALMER. Thank you, Mr. Chairman.

Mr. Sunday, the hearing is about creating jobs and working in communities. Would banning the development of natural gas and other fossil fuels create jobs for working communities in Pennsylvania?

Mr. SUNDAY. No, that would cause enormous economic disruptions in our State.

Mr. Palmer. Do you think that would be true in other States?

Mr. Sunday. Yes.

Mr. Palmer. Do you think that if we just completely eliminated the production of steel and petrochemicals that the world would

just quit using steel and petrochemicals?

Mr. SUNDAY. No, and that speaks to the folly of supply-side intervention. There is still a demand, globally, for these products, and it does us no good to lose the domestic base and just have them manufactured somewhere else.

Mr. Palmer. My next question is, do you think that these would simply move offshore, as so many of our industries did during the Obama administration? Do you think that might happen?

Mr. SUNDAY. Yes, that is quite likely.

Mr. PALMER. Can you briefly discuss how NEPA prevents newer

and cleaner infrastructure from being built?

Mr. SUNDAY. Sure. We are part of the Unlock American Investment Coalition, which includes all sorts of builders, groups, contractors, manufacturers, developers. If a federally approved or federally permitted project touches NEPA, we are looking on upwards of 5 years for the Federal agency to get the paperwork done on that. On transportation infrastructure projects, it is upwards of 7

We have got a rail project outside of Philadelphia to expand public transit that has been under NEPA review since 2012. If we want to upgrade our infrastructure, we have got to get our act to-

gether on permitting.

Mr. PALMER. I think the same thing would apply if we wanted to upgrade our electric grid. I assume that most of my Democratic colleagues are aware that we don't have one single grid, that it is a patchwork, and it would be enormously expensive to replace that grid.

I want to talk a little bit more about—under section—under title 5 of the CLEAN Future Act, we will spend billions of dollars to support manufacturing clean energy technologies and components. Some of the covered technologies and components likely include batteries for electric vehicles and solar panels. Both of those require substantial amounts of critical rare-earth materials.

If we are not mining in the U.S. for these materials, where are we going to get them?

Mr. SUNDAY. Well, at present, most of the mining and refining

base for those products is China.

You mentioned the word "rare." They are definitely critical. We have some of those assets here. The problem is a lot of folks are opposing new mining and refining for those types of minerals. So absolutely, smart national energy policy would encourage mining of these types of materials domestically.

Mr. PALMER. We have just established, I think, that if this bill were to pass and become law, that a lot of these industries would move offshore to other countries, everything from steel manufacturing, petrochemicals, to mining and production, and refinement of rare-earth metals, probably to China and India and some other places.

Do you have an idea of what their records are, what their laws are regarding environmental issues, emissions, things like that?

Mr. Sunday. Yes, I think, you know, a cursory look at their emissions output per GDP—much more carbon-intensive, much more particulate matter coming out of their factories. And then it makes its way across the Pacific and contributes to why some of our western States have such persistent ozone issues, because there is so much air pollution from international sources that we still feel the impacts of, believe it or not, halfway across the world.

Mr. PALMER. Are you aware that 25—according to the EPA, 25—up to 25 percent on any given day of the air pollution, the particulate matter over the skies of Los Angeles, are from China?

And they project in a few years 30 percent of all the emissions

over the State of California will be from China.

And also, we had a hearing on the Select Committee on Climate Crisis, and I asked the Democrat witnesses—all three of whom were scientists, one of whom was one of the lead authors and editors of the International Panel on Climate Change report—and I asked them, if we completely eliminated all CO<sub>2</sub> emissions, went to absolute zero in the U.S. and the entire world, would it stop climate change, and the answer was no.

So I might suggest that, if this were to become law, we implement it only in Democrat congressional districts and see how that works out.

I yield back.

Mr. TONKO. The gentleman yields back. The Chair now recognizes the gentlewoman from Michigan.

Representative Dingell, you are welcome to question now for 5 minutes, please.

Mrs. DINGELL. Thank you, Chairman Tonko, and thanks for having this important hearing on the CLEAN Futures Act.

[Inaudible] from the industrial sector present both technical and financial challenges. And I am from the Midwest, and I am watching this happen. But there are solutions to those challenges, and I am thrilled that this hearing is focused on such solutions.

One of the solutions, which I am proud to be spearheading [in-audible] and sustainable accelerator. The accelerator is based on the Green Bank model that has been successfully deployed across cities and States, including my own home State of Michigan. Similar legislation passed the House twice last Congress. And so thank you for including it in the CLEAN Future Act, again.

Capitalized with \$100 billion over a 6-year period, the accelerator will leverage public and private funds to invest in low- and zero-carbon technologies, clean infrastructure buildings and transportation, sustainable agriculture, and so much more. It would also support the development of new State and local green banks. And importantly, it would direct 40 percent of investments to communities on the front lines of climate change, a key pillar of the THRIVE Agenda.

And I would like to thank the Coalition for Green Capital for all

their help in developing and advancing the bill.

Mr. Perciasepe, your testimony outlines some of the benefits of establishing the accelerator, particularly for the industrial sector. Can you elaborate on how this type of financing institution differs from other tools in our toolbox, why it is so important for us to establish a program like the accelerator to help overcome barriers to financing projects that reduce emissions in the U.S.?

Mr. Perciasepe. Yes, thank—Congresswoman, thank you so much for that question and all that you have been doing, working

on these issues.

Let me just give a few highlights of that. Otherwise, we could

spend the rest of the hearing on it.

But the key thing here—and you have already outlined it—is the holistic approach taken here in this financial facility. It looks not just at a particular kind of technology or a particular kind of server, it looks at all of it that is combined. It has to be pulled together to really make sure that we strengthen our economic situation and our economic development as we move forward.

It also has the ability, as you pointed out, to help facilitate local financial facilities. But more importantly, it sends a huge signal to the private markets. We have talked a lot on this hearing so far about market mechanisms versus command and control. Well, here

is a massive market mechanism.

Once the Federal Government makes this kind of significant commitment, which in today's dollars isn't a lot different than what we did in the moonshot, and we send that signal to the private sector, as you have pointed out, it is going to leverage hundreds of billions of dollars of private investment, which is what we need.

The last point I will make: We have innovation going on in this country. When innovators are working, one of the things they see in their future is, "What do I do? How do I get it commercialized? How do I move to the point where things can be implemented?" This facility has the ability to take the innovation that is developed in research and development programs and move it to that next level.

So I think there is a lot of opportunity here, and we are very supportive.

Mrs. DINGELL. Mr. Perciasepe, I have a ton of questions, and I am almost out of time. So let me ask you one more.

Can you—Mr. Chairman, I want to do some for the record—but can you explain why and how a program like the accelerator is so critical to unleashing private investment in clean technology and infrastructure, especially in areas of our economy like the industrial sector?

Mr. Perciasepe. Yes. Well, certainly, the industrial sector is one of the more difficult to visualize how we are going to deal with the great diversity of industrial processes that go on there. Some of those have been mentioned already, including, you know, for instance, LafargeHolcim and cement manufacturing.

The idea of being able to assist in those very varied ways in a more holistic approach with something like the accelerator is really going to provide that impetus for that public-private partnership and drive the market forces of private investment in the same direction.

So I could give you a lot longer explanation, and I would be happy to reply for the record when you send those questions.

Mrs. DINGELL. I will do that.

Mr. Chairman, I yield back zero seconds.

Mr. Tonko. Thank you so much.

The gentlewoman yields back. Next the Chair recognizes the gentleman from Georgia.

Representative Carter, you are recognized for 5 minutes, please. Mr. Carter. Thank you, Mr. Chairman, and thank all of you for being part of this most important discussion. And, Mr. Perciasepe, I want to ask you, Georgia is the number-one forestry state in the Nation. We have more

Mr. Tonko. Excuse me-

Mr. Carter. We have more forestry than any other State in the Nation, and it is extremely important to us. And biomass is something that we have really concentrated on. In fact, we have biomass plants in my district that provide biomass for a number of different industries as well as we send biomass for heating purposes to Eu-

rope, and they use a lot of it, as well.

So I wanted to ask you. During the Obama administration the EPA's Office of Air and Radiation had sent out a memorandum in November of 2014 on the carbon benefits of forest-derived biomass. And the memorandum said—and I quote—"Use of waste-derived feedstocks and certain forest-derived feedstocks are likely to have minimal or no net atmospheric contribution to biogenic ČO2 emissions, or even reduce such impacts, when compared with an alternative disposal.

I know that you have written op eds, as well—in fact, I think you wrote an op ed in The Hill almost a year ago—citing the benefits of biomass. And I wanted to ask you, since you have noted and EPA has noted that the decarbonization benefits of forest-derived biomass—do you agree that it makes sense for the EPA to recognize the benefits of bioenergy produced from forest products that manufacturers?

Mr. Perciasepe. Oh, I am still unmuted, great.

Yes, you know, the Renewable Thermal Collaborative lists biomass as one of their key components of the options available to decarbonize parts of the thermal needs of American manufacturing and industry.

The counterbalance to that, and what is always the hangup in everybody's analysis—and my op ed, not representing the Renewable Thermal Collaborative, but representing myself, pointed out that most of the forest land in the United States is privately owned. And to maintain those forests—needs to be an economic incentive for those forests to be maintained.

And so finding that balance of all the proper sustainable foresting practices to assure that the balance is correct in terms of the carbon neutrality of the use of those forest products is what the discussion is about. And I am confident that we can-we, as a country—can work through that. And I think some of the innovation that will be stimulated by some of the provisions in this bill can, I hope, help move those industries closer together.

Mr. CARTER. Well, I appreciate you saying that very much. I serve on the Select Committee for Climate Change, and I have just—sometimes I run up against a brick wall when I talk about biomass as being carbon neutral. And people just don't want to accept it. But it is carbon neutral.

And if you think about it, you know, with the sustainable forests and everything that we are doing with our forests here in America, that is certainly an egg in the egg basket, if you will, that we need

to be using to fight carbon emissions. Would you agree?

Mr. Perciasepe. Look, we need to preserve the American forest and allow even additional forest to grow. And this is another whole conversation. Again, I think there are some incentives in this bill that will stimulate innovation in this area.

But whether it is 100 percent carbon neutral or 93 percent carbon neutral or 95 percent, that is—that can be determined. And I am going to guess here, without any scientific analysis, that there will be some discounting there because of, you know, transportation issues and other things, but—and management practices—but certainly there are significant benefits. And, you know, certainly the Renewable Thermal Collaborative that I am representing today sees biomass as an important component of decarbonizing industrial heat.

Mr. Carter. Right. Well, thank you for that very much. I appreciate it.

Mr. Sunday, very quickly, because I am running out of time here, under title 9 of this bill all the permits that would essentially be—all permits would essentially be stopped for plastic. And not only that, but this means that recycling of plastics would also be stopped.

How is that going to impact—killing the recycling, cutting-edge technology that we are working on, how is that going to provide us

a realistic path forward?

Mr. SUNDAY. It would do nothing but shoot ourselves in the foot. And again, it calls us to rely on manufacturing in other countries. Mr. CARTER. Right. Well, I am out of time, but thank you, and I yield back, Mr. Chairman.

Mr. Tonko. The gentleman yields back. The Chair now recog-

nizes the gentlewoman from California.

Representative Barragán, you are recognized for 5 minutes,

Ms. BARRAGÁN. Thank you, Chair Tonko, for holding this important hearing in reducing industrial emissions and a just transition. This is an important issue for me.

My district has heavy industry, including oil refineries in Carson, California, and Wilmington, California, that pollute the air in what is a majority Latino and African-American communities. But also these jobs support, are union jobs.

these jobs support—are union jobs.

As we transition away from fossil fuels to a clean energy economy, it is critical we make the necessary investments to ensure that every community can breathe clean air and that no worker is left behind.

Mr. Perciasepe, the industrial sector is a significant contributor for greenhouse gas emissions, and it is also a major cause of the environmental injustice in low-income communities and communities of color. Can you describe how electrifying industry and increasing the amount of clean energy used by the industrial sector can help to reduce the impact of pollution in communities?

Mr. Perciasepe. Yes, that—and thank you for that question. As I mentioned in my testimony, the industrial sector is one of the more complicated ones to decarbonize, because of the diversity of

the different manufacturing processes.

But here—but almost 50 percent of the emissions are coming from the need for heat. And heat is something that is ubiquitous across all industrial sectors. They need to heat things or to create products to drive them, you know, for all different needs. But how that heat is created is about 50 percent of the greenhouse gas emissions. I am rounding here, it might be upper-40 percent.

And so reducing the emissions from that heat, which many have already done, has been pointed out here. There has been some fuel switching to cleaner natural gas, but there is a real opportunity to continue to use things like electrification, using renewable energy for that, or biomass—I was just talking about—but with all—obvi-

ously, with the proper pollution controls on it.

The other place that is really important, Congresswoman, is in the innovation of the industrial processes. How can those industrial processes be modified to reduce the emissions that they produce, as well?

And I think looking at that holistically are what some of the measures in the CLEAN Futures bill tries to do.

Ms. BARRAGÁN. Well, thank you for that.

Now, I think it is helpful to look at incentives that can be helpful in reducing emissions and setting standards for different sectors of our economy. You know, it is critical to reducing fossil fuel usage and reaching 100 percent clean energy

We already have fuel economy standards for transportation. And the CLEAN Future Act proposes a clean electricity standard for utilities. Should we also have standards for the industrial sector to

address climate and environmental justice issues?

And maybe you can elaborate a little bit on what that would look

Mr. Perciasepe. Well, certainly, the thermal part of the industrial sector can be subjected to performance standards similar to a clean energy standard. It is—you know, there is still energy being used. But the industrial process part of it—you know, the making of cement, the cracking of chemicals at a refinery to make plastics and other goods, the moving of iron ore to elemental iron—all of these things require not only heat, but also they have chemical

And so those processes aren't able to—there is innovation that could be occurring there that will help reduce those emissions. But a clean energy-type standard or performance standard could be ap-

plied to the thermal aspects of industrial heat.

Ms. BARRAGÁN. Thank you. Mr. Walsh, in California there are 35,000 abandoned oil wells sitting idle, many leaking methane and harmful chemicals in communities of color. Across the country there are millions of abandoned wells. Could investing in communities to plug and remediate these wells be part of a just transition program that creates immediate job opportunities?

Mr. WALSH. Quickly, absolutely. It has the combined effect of cleaning up polluted sites, but also creating jobs in the short term.

Let me just speak to your other question. I think one of the most important opportunities provided by pursuing solutions around industrial decarbonization is to also reduce criteria pollutants from the industrial sector. And there are ways in which—of deploying technologies that can do both. And that is what is so exciting, I think, about this industrial title.

Ms. BARRAGÁN. Great, thank you, sir. With that, Mr. Chairman, I yield back.

Mr. TONKO. The gentlewoman yields back. The Chair now recognizes the gentleman from Texas.

Representative Crenshaw, you are recognized for 5 minutes, please.

Mr. CRENSHAW. Thank you, Mr. Chairman. Thank you all for being here. Look, I want to focus on costs and benefits and tradeoffs.

Policymaking is about tradeoffs, not necessarily solutions. And when you have a preferred solution in mind, well, then there is a large incentive to exaggerate problems, exaggerate benefits associated with that solution, and diminish the costs associated with that. So there is a lot of things to cover here.

I want to hit the transition of jobs, or the supposed transition of jobs. The reality is that this bill creates one job, and that is a director of a task force that would have—would supposedly transition workers to green energy jobs. The problem is—and this has already been acknowledged in this hearing—that if there is no opportunity on the other end of that, well, these government programs never work.

The Washington Post had to fact-check John Kerry using Bureau of Labor Statistics data when John Kerry claimed that the fastest-growing jobs in America, or some of them, were renewable energy jobs. Here is the thing. By percentagewise, that might be true. But in reality, when you actually look at the—in absolute numbers, it is only about 10,000 new jobs over the next 10 years. Here's the other thing. These jobs, on average, pay about \$20,000 less than oil and gas jobs.

This idea that we are just going to transition jobs is a myth. It is a fantasy.

I want to hit on the Buy Clean program, and this question will be directed to Ms. Dell, just a quick question.

If the plan was implemented perfectly—we didn't lose any industry, let's say, which, of course, is quite the assumption—how much would we actually reduce carbon emissions?

Dr. Dell. Thanks so much for the question. The first thing I would say is that one of the most important aspects of Buy Clean is that it has no incentive whatsoever to offshore production. Exactly the same standards are applied to overseas production—

Mr. CRENSHAW. Please answer the question. I have such—if we had an hour, I would love to talk with you. But please answer the question that I asked.

Dr. Dell. Sure, that is all I wanted to say. And so building materials in the U.S. represent a few percent of our total emissions. So

if we brought those to zero, we might see an impact of a few hundred million tons of  $CO_2$ .

Mr. Crenshaw. OK, so a few percent meaning 3 percent of U.S. emissions?

Dr. Dell. Well, that depends very sensitively on how much

money Congress decides to spend on infrastructure.

Mr. CRENSHAW. Let's say it is 10 percent. All right? Let's say we reduce U.S. emissions by 10 percent. U.S. emissions account for about 15 percent of global emissions. This would equal about 1 percent decrease in global emissions, which is kind of nothing, practically speaking, at a huge cost.

I realize you claim that there is no cost to this. I notice you said that in your testimony too, but you did not cite any references. Do you have any references now for why there would be no cost? Have

you consulted with industry about this?

Dr. Dell. Yes, so in my written testimony there are extensive footnotes which provide all the numbers. But I didn't say there would be no costs. I said the costs would be very modest.

Mr. Crenshaw. OK—— Dr. Dell. Typically——

Mr. Crenshaw. A lot of people in industry would vehemently disagree.

I want to move on and ask another question—

Dr. Dell. Very modest compared to the cost of the infrastructure project, not necessarily very modest compared to the cost of the old way of making cement.

Mr. Crenshaw. OK. Again, cost benefits is what I am trying to

get at.

On plastic manufacturing—so there would be a pause on new plants in the next 3 years. On this question, what benefits do we expect from doing that?

Is the benefit directed towards emissions, or plastics recycling, or are we afraid plastics are going in the ocean?

What is the expected benefit?

Dr. Dell. So I was not invited to testify on the plastics title of the bill.

Mr. Crenshaw. OK. Does any other witness want to answer that question?

[No response.]

Mr. CRENSHAW. OK, well, I am going to say it is both, right? I am going to say that maybe my colleagues are expecting both, OK? So it is emissions and we don't like plastic in the oceans.

I don't like emissions. I want to reduce emissions. I also don't

like plastic in the oceans.

Here's the thing. Let's look at this study: Danish Ministry of Environment and Food found that you would have to use a cotton bag 20,000 times just to have less environmental impact than a simple plastic bag. Now, look, I am a millennial. I take that cotton bag to Whole Foods. I do. But I know I am virtue signaling. I know that it is actually bad for the environment. We need to acknowledge this reality.

In Čalifornia you can't get a plastic bag.

Here's the other thing. If we are concerned about plastic in the oceans, let's be honest, you are in America. Your straw isn't going

into the ocean. It just isn't. Ten rivers contribute to 90 percent of plastic in the oceans. It is not your straw.

Mr. Sunday, in my limited time left, can you hit this theme of

the costs that are being ignored by this bill?

Mr. SUNDAY. Sure. I think, broadly speaking, we see significant public intervention in the marketplace. You see a glut of the thing that the government is trying to buy and scarcity and high prices for the things that the market actually needs. So that has been an underexplored aspect of all of this.

If private companies' management wanted to make a significant change, then we would need to see some modeling, some analysis, some real extensive understanding of tradeoffs before we would jump on that sort of massive shift in approach on the private side.

So from where we sit in Pennsylvania—like, again, we have done everything we should be doing, in terms of air quality, energy costs, and manufacturing, and we want to see those trends continue.

Mr. CRENSHAW. Thank you, and I yield back no time. Thank you, Mr. Chairman.

Mr. TONKO. The gentleman yields back. The Chair now recognizes the gentleman from Virginia.

Representative McEachin, you are recognized for 5 minutes, please.

Mr. McEachin. Thank you, Mr. Chairman, and thank you for your excellent leadership in this area and for the introduction of the CLEAN Future Act.

You know, to my mind there is nothing more important than combating our climate crisis. I have said it before and I will say it again: It is the most important issue of the 21st century. We have exactly one opportunity to get it right, and we can't afford to miss the mark. I will go ahead and skip right to my questions.

Mr. Walsh, first of all, thank you for the wonderful and out-

Mr. Walsh, first of all, thank you for the wonderful and outstanding work that you and the others on the BlueGreen Alliance are doing. You previously worked on coordinating interagency efforts through the POWER initiative. Can you give us a sense of the importance of having a formalized process to reach across agencies and to incorporate stakeholder input in the design and implementation of Federal programs?

How critical is participation through an advisory committee otherwise—of affected workers or community members to the success of these efforts?

It is a 2-part question.

Mr. Walsh. A coordinated office is essential. What we did during the Obama administration, as you and I have talked about, was kind of ad hoc, kind of jury-rigged. I think we got a lot done, but what we were missing was a structural system in place that would allow different offices, different agencies to work together. So that was vitally important.

On the point of public participation, look, you know, the best kind of economic development is from the bottom up, right? The way you get that is getting full buy-in and full participation from community members, economic developers, other stakeholders in local communities about their vision, their plan for the economic future of their community. So it is absolutely vital.

Mr. McEachin. Thank you. That is a nice segue into my next question about empowering local leaders. Can the Federal Government play a role in the community-driven economic redevelopment by supporting capacity building, technical assistance, and financial

support?

Mr. Walsh. Yes, it can, and I think in title 10 you see some clear examples of that, in particular the establishment of, essentially, community hubs, right, that would put into practice what I just described about bottom-up planning and also really help navigate—help these local communities and workers navigate the Federal resources that are out there. That, in my experience, is incredibly important.

Mr. McEachin. Sir, I am sure you will agree with me that remediation is an awfully important aspect of what we have to do to get to where we need to be by 2050: the cleaning up of abandoned mine field—I mean, abandoned mines, Superfund sites, orphan oil wells, orphan gas wells, and brownfield sites. How can these remediation activities help provide jobs, protect public health, and lay the groundwork for future economic growth in these communities?

Mr. WALSH. Well, I mean, they create jobs for a number of different trades in the cleanup itself, some of which is actually highly skilled. So there is an immediate job creation incentive right there.

But it also recognizes that you are not really going to get economic development in places that are badly polluted, right? Businesses aren't going to locate there, new businesses aren't going to grow there. People aren't going to want to live there. If you have got a watershed, for example, that is poisoned by acid mine drainage, then that is not an attractive place to build a new business or a new industry sector. So it is a vital precondition for economic diversification to clean up the mess that was left behind.

I would also say, look, we talked about—you heard a little exchange before about costs. Let's also be clear that—the costs of pol-

lution, right?

You know, the University of Minnesota issued a report in 2019 that found that poor air quality is responsible for more than 100,000 deaths in the United States due to heart attacks, strokes, lung cancer, and other diseases. And these, of course, are impacts that disproportionately impact communities of color and low-income communities.

If we are going to have a full conversation about costs, we need to be talking about those costs, as well. And cleaning up those costs, cleaning up that pollution not only addresses that, but creates jobs and creates the conditions for sustainable, more resilient economic development.

Mr. McEachin. Well, thank you for that very fine answer. You know, we—historically, we have undervalued the societal cost of pollution, and we appreciate you bringing our attention back to that

Mr. Chairman, I am out of time. I yield back.

Mr. Tonko. Yes, the gentleman yields back. The Chair now recognizes the gentlewoman from Delaware.

Representative Lisa Blunt Rochester, you are recognized for 5 minutes, please.

Ms. Blunt Rochester. Thank you, Mr. Chairman, for calling this important hearing on the CLEAN Future Act. And thank you to all the witnesses for your testimony today.

As has been said, and as we all know, the climate crisis continues to threaten our country and the world. And in order to avoid the worst effects of climate change, we need to move to a 100 per-

cent clean energy future.

Transitioning to a clean energy future is not only an imperative for our planet, but it is also an opportunity to rebuild our economy in the wake of the COVID-19 pandemic. And millions of new construction, skilled trades, and engineering jobs needed to build a clean energy future will help us to create a cleaner, healthier, more equitable and sustainable country.

Mr. Walsh, I would like to start with you. In response to Representative Crenshaw's question, and as someone who works closely with unions, how do you view the relationship between tackling

the climate crisis and jobs?

And does it create more net jobs or not?

And then secondly, if you could just talk about how people from varying skills and educational levels will also be able to partake.

Mr. Walsh. Thank you for the question, Congresswoman. It is our view that rebuilding and repairing our infrastructure and our industrial base to be modern, safe, less polluting is an enormous job-creation opportunity. We can cite different metrics. Some have actually been referenced in this committee in the past.

But I want to emphasize just how much work will be involved in doing all of those things in the industrial sector, in the energy sector, in the building sector, as you know well, in environmental remediation. These are enormously big projects that we need to

take on and that will create a lot of jobs.

Now, the key is to make sure that the jobs created are high quality, and the jobs are accessible to the broadest range of the American people, right? And so we have some work to do in that regard. It is the case that the job quality of jobs that are in the wind and solar industries right now is really mixed. It is not good enough. But what that doesn't mean is that we should try to stand in the way of this transformation. What that means is that we should use well-established policy levers to improve the quality of jobs in those sectors, right?

Ms. Blunt Rochester. Yes.

Mr. WALSH. This act does that, right? It uses a prevailing wage.

Ms. Blunt Rochester. Yes.

Mr. WALSH. It uses project labor agreements. It uses community benefits. So I just want to be really clear about that point.

Ms. Blunt Rochester. Thank you for clarifying.

And I think that it is important to say that this isn't easy work. As you may know, I served as Secretary of Labor in Delaware and also head of state personnel. And so jobs are a passion for me, which is why I created our first-of-its-kind, bipartisan Future Work Caucus in the Congress to look at challenges and opportunities.

And earlier this week, just this week, I got to visit the Port of Wilmington, where they are showing us how they are using automation in ways to not displace workers—they have worked with the union with a guarantee that no one would lose their job, but they are also now being able to expand.

And so, in shifting to a clean energy future, how can we alleviate even some of the fears of automation in the industrial sector?

Mr. Walsh. Talk to the bricklayers. What they will tell you is that—I mean, as folks who know—and you know the construction trades—this is incredibly skilled work. It is also dangerous work, and it is hard on the body, right?

If you can surgically use robotics to lift things on a construction site, you are not only going to be increasing productivity, but you are going to be helping that bricklayer that is, you know, right next to that machine that is helping that person do their work. So I think that is part of the conversation that we need to be having.

Ms. Blunt Rochester. Yes, thank you.

And Dr. Dell, what role does data play in our evolution to a clean

energy future?

And how can we use data to support our low-carbon investments? Dr. Dell. Thank you for the question. As has come up already in the hearing, data and transparency are going to be critical for this because we want to be—we want to design our policies to reward people who—and firms that are using the cleanest and most modern techniques. And in order to do that, we need to have accurate information about what are the environmental performance of not just domestic firms, but also international firms that want to participate in domestic markets.

Ms. Blunt Rochester. Thank you so much. My time has expired, but I want to thank the chairman for his leadership and his vision in this area.

Thank you, I yield back. Mr. TONKO. Thank you very much. The gentlewoman yields back. Next the Chair recognizes the gentleman from Florida.

Representative Soto, you are recognized for 5 minutes, please,

and thank you for your patience.

Mr. Soto. Thank you, Chairman. I want to start with a history lesson. Quote, "As we sign this bill in this room, we can look back and say, 'In the Roosevelt Room, on the last day of 1970, we signed a historic piece of legislation that put us far down the road toward a goal that Theodore Roosevelt, 70 years ago, spoke eloquently about, a goal of clean air, clean water, and open spaces for future generations of Americans." That was a quote by Republican President Richard Nixon during the Clean Air Act signing ceremony.

When the Clean Air Act was first—became law in 1970, it passed in the Senate unanimously, and only one person voted against it, one member of the House voted against it. What a shining environ-

mental achievement. So what has happened since then?

I realize this is hard for many of you, since there are major coal, oil, or gas industries in your States that provide jobs. And we need to work together to ensure transition in these communities. Because we know why: We face a climate crisis.

We must reduce carbon emissions to avoid intensifying hurricanes—we know that in Florida—rising sea levels—we also know that in Florida—extreme heat in the summer and extreme cold in the winter. Its effects are even worse. Our agriculture could start to fail, and more Americans will go hungry. We can see the entire southern United States find themselves as climate refugees. Add political destabilization, war, and famine across the world and you

fully begin to understand the impacts that happen.

In addition, I have heard countless arguments about China and India. Let me say it again: Their failures don't define American excellence. We do. And as we develop these technologies, we will sell them abroad and position ourselves for continued economic dominance in the 21st century.

So once again, our Nation has to come together with a comprehensive plan. That is what the CLEAN Futures Act is. It moves us towards carbon neutrality by 2050, with decarbonization of government, transportation, utilities, manufacturing, and agriculture. And we will continue to convert our transportation system with electric vehicles.

The facts that my colleagues—the fact that my colleagues across the aisle aren't motivated by the climate crisis, perhaps other things will motivate you, like the fact that the private sector is already moving forward with all this. Look no further than Ford or GM and the electric vehicles. They are rolling on the market faster than you could think. Millennials, the biggest generation, they are moving along. Consumer preferences, insurance companies, reinsurance markets, board rooms are moving forward.

You blocked the Clean Power Plan, utilities still moved forward. You blocked the auto fuel efficiency standards, auto manufacturers still moved forward. So we could either work on this bill, or communities you represent can be left behind. And sooner or later, they will realize that it is your fault, that we should have worked

together on this.

Lastly, I want to mention that this would include solar, and it would include hydro, and it would include wind, and it would also include nuclear power. President Biden's climate plan includes nuclear power. Let me repeat that: President Biden's plan includes nuclear power. It calls for the development of small modular reactors, SMRs. So I offer to work with you all.

Let me end just by talking to Mr. Perciasepe. We know we have in Florida the Martin Next Generation Solar Energy Center located in Indiantown, and concentrating solar power has been a real potential

Can you go into some of the roles that CSP can play in expanding the use of renewables in the industrial sector, Mr. Perciasepe?

Mr. Perciasepe. Thank you. Thank you for that question.

Yes, concentrated solar power is different, in a way, than what we traditionally think with the photovoltaic cells. It is taking—concentrating the forces of the sun into a more defined point or space, which can create very high temperatures.

And so, for some industrial operations that need high temperatures and have the space for that kind of a collection system, you can definitely achieve some exceedingly high temperatures, which is really one of the more challenging parts of the industrial sector. But if you are looking at an industrial park, or some other large industrial complex, usually it will be harder to implement that.

So it has a role, it is an important part of the solution, but it will have that geographically limited ability.

Mr. Soto. Thank you, Mr. Perciasepe. My time has expired, and I yield back.

Mr. TONKO. The gentleman yields back. The Chair now recognizes the former vice chair of the standing Committee on Energy and Commerce, and a fellow New Yorker.

Representative Clarke, you are recognized for 5 minutes, please. Ms. Clarke. Let me thank you, Mr. Chairman and Ranking Member McKinley, for convening today's hearing, a hearing on an important set of provisions within the CLEAN Future Act. And thank you to our witnesses for your testimony.

We have heard from our witnesses it is crucial that we scale up

investment in the clean technologies and infrastructure.

Just a couple of weeks ago I was speaking with a minority-owned clean energy startup called WeSolar CSP, which has an office in my district. Their unique solar thermal technology allows them to provide scalable clean energy for a variety of applications, including industrial. Now that we—now what they need is the financing opportunity to put their technology into action. I think that the Clean Energy Sustainability Accelerator included in the CLEAN Future Act is a perfect example of how the Federal Government can help address this need.

In my home State of New York we have seen firsthand just how beneficial these types of programs can be. Since its inception, the New York Green Bank has used \$1.2 billion of public funds to stimulate over 3.4 billion in total investment in clean energy and en-

ergy-efficiency projects across New York State.

But that is not all. I am proud to say that New York City is home to the first local green bank in the United States, known as the New York City Energy Efficiency Corporation. In my district in Brooklyn this program helped finance an affordable multifamily solar and storage microgrid at the Marcus Garvey Apartments, serving 625 units. This investment has resulted in a clean and resilient energy system that also provides major savings on energy costs for community residents.

Across the Nation, State and local green banks have helped communities save money, improve efficiency, and reduce emissions.

Now it is time we bring this model to the Federal level.

So, Mr. Perciasepe, do you agree that establishing a national accelerator will help reduce the cost of climate action and expedite the transition into a cleaner, healthier, and more prosperous economy?

[Pause.]

Ms. Clarke. Mr. Perciasepe?

Mr. Perciasepe. Yes, I am—can you guys hear me?

Ms. CLARKE. We can now.

Mr. Perciasepe. I am sorry, I hope it is not my side over here, but I am on my personal Internet here.

The accelerator is broadly constructed to look at solutions and cooperating with the local green banks, as well. So I think it has a great opportunity to help accelerate the work that is underway by existing green banks but also filling gaps where those existing green banks haven't yet gone, in the more broaderMs. Clarke. And why is it so important that we make financing for clean technology and clean infrastructure more accessible, all

the way down to the community level?

Mr. Perciasepe. Well, one of the barriers, obviously, to transition and also to innovation is that next step. And whether it is transitioning at the community level, or becoming more resilient at a community level, which is also part of the portfolio of the accelerator, all of these things require that insertion of investment.

And so this is a real opportunity to bring together both the green and clean technology and accelerating that and providing financing for it to move toward being commercialized and at the same time looking at the infrastructure and other needs at the local commu-

nity level as part of that resiliency component.

Ms. Clarke. Yes, I couldn't agree more. The ability to focus investments on local circumstances is critical to addressing the needs of local communities, particularly environmental justice communities. I am very glad to see that our committee's accelerator proposal places this issue front and center by directing 40 percent of investments to frontline and disadvantaged areas.

I thank my colleague, the gentlelady from Michigan, Rep. Dingell, for her leadership on the accelerator, and I look forward to

working with her and the committee to advance this program.

With that, Mr. Chairman, I yield back.

Mr. Tonko. The gentlewoman yields back. And now we go to, I believe, our last colleague to question, and that would be the gentleman from Virginia.

Representative Griffin, thank you for your patience, and you are

recognized for 5 minutes, please.

Mr. GRIFFITH. Thank you very much for letting me waive on, Mr. Chairman, I greatly appreciate it, and it is a policy of—it is a bipartisan policy this committee has had for some time. It allows us to get into issues that we consider important even if we are not on the subcommittee, if we are on the full committee. So I do appreciate it.

Mr. Sunday, I have appreciated your perspective today and in your testimony on how we can leverage our historical leadership in energy and industry to continue leading the world in clean and affordable electricity. On page 9 of your testimony you state that the cost of triggering NSR, new source review, has caused companies in your State to cancel projects that would have reduced emissions, lowered operating costs, and improved public health and our environment.

I would like to describe—I always like to describe this as forcing a company to swallow the apple whole, whereas I think, if we take bites or if we allow the company to take bites out of that apple, they would be able to consume the apple. In other words, get the improvements that are needed out there. But if they are forced because of NSR to take it all in at one time, then they just don't do it.

Do you agree with that assessment or analysis?

Mr. SUNDAY. Yes, I do. It is certainly an obstacle to enhancing the operations of domestic facilities and getting cleaner. It is a very perverse regulatory approach that discourages cleaner operations from our facilities. Mr. GRIFFITH. And in fact, I will tell you that—and I have said this before in committee in other contexts—that, you know, whether they could get around it or not, I have a furniture manufacturing facility in my district that now has a conveyor belt to nowhere. It goes out, oh, I don't know, 75, 50—75, 100 yards and comes back because at one time part of their paint process was at

the other end of the conveyor belt.

But they had been advised by their attorneys, because of NSR, not to take that conveyor belt out because then that would trigger the entire set of the Clean Air Act rules coming down on their heads. And they are like, "OK, it costs us a couple of seconds in manufacturing of each piece of furniture that we do, case goods, but even though we are fighting every second to get it better to compete with the Chinese, we can't afford to have—suddenly to have all these new rules placed on us at one time."

Is that—do you have similar stories, or have you heard stories

like that, as well?

Mr. SUNDAY. Yes, it comes up in a number of contexts. Maybe you come out of an economic recession and your factory wants to run more. NSR is going to hit you if your emissions—if you are going to make a significant modification.

In other circumstances, maybe you want to add another shift, and NSR again comes into play. As you mentioned, it discourages

efficiency improvements.

And, you know, and we have had the opportunity at the Chamber to come down in front of this committee in the past and talk about, you know, your potential solutions, other ways to make NSR better.

Whatever we want to make in this country, whether it is solar panels, telecommunications assets, et cetera, NSR reform has got to be on the table if we are going to talk about competitiveness.

Mr. GRIFFITH. And I appreciate that. And people need to remember that NSR is just one piece of the complicated Clean Air Act regulatory puzzle, and providing much-needed clarity to this complex program does not take away from other provisions under the Clean Air Act. And it is clear that providing greater certainty through commonsense, targeted reforms would replace some of the ambiguity and confusion surrounding NSR and result in a more effective and efficient program.

And you mentioned that I have legislation, and I do, the NSR Improvement Act, and it would do that. But there is nothing in the CLEAN Future Act or the Climate Leadership and Environmental Action for our Nation's Future Act. There is nothing in there that

deals with NSR reform, is there?

Mr. Sunday. No, sir.

Mr. GRIFFITH. Yes. Let me ask you this. Would adopting an hourly emissions rate test like the one used in the EPA's new source performance standard program enhance the new source review, or NSR program, so that companies can update their facilities and install technologies like carbon capture? Would that be helpful?

Mr. SUNDAY. Yes, and that is a solution we have endorsed in the

past.

Mr. GRIFFITH. Yes, I think that makes sense. And in fact, as you may recall, the language that was in the underlying bills that

started the NSR and started the new source performance standard, that language is virtually identical. But because of interpretations in different divisions of the EPA, we have a completely different application. Is that not your understanding, as well?

Mr. SUNDAY. Yes, it really depends on the regional office. Yes.

Mr. Griffith. Yes. And that makes it hard for businesses to make decisions, does it not?

Mr. SUNDAY. Yes, or at least causes certain parts of the country to lose out on investment.

Mr. GRIFFITH. And that investment would make the air cleaner, correct?

Mr. SUNDAY. Correct. Again, we are always—we can't just put blinders on and pretend that it is only what is going on in the United States. It is a globally competitive market.

Mr. GRIFFITH. I am for getting the air cleaner. Let's pass some NSR reform. Thank you for your testimony.

I yield back.

Mr. Tonko. The gentleman yields back. And I believe that completes the list of colleagues who had chosen to ask questions.

I again thank our witnesses for joining us at today's hearing.

Their input is extremely appreciated.

I do remind Members that, pursuant to committee rules, they have 10 business days by which to submit additional questions for the record to be answered by our witnesses. I ask that each witness please respond promptly to any such questions that you may receive

Before we adjourn, I know that a number of documents have been asked to be entered into the record by our colleagues, so I hereby ask unanimous consent for the following documents to be entered into the record: a letter from Fortera; a report from Analysis Group entitled "Accelerating Job Growth and an Equitable Low-Carbon Energy Transition: The Role of the Clean Energy Accelerator;" a report from Brattle entitled "Clean Energy and Sustainability Accelerator: Opportunities for Long-Term Deployment;" a statement from the American Forest & Paper Association; a statement from the Ultra Low-Carbon Solar Alliance; a report from Coalition for Green Capital entitled "Accelerating Investment in Clean Energy & Climate Infrastructure to Create Jobs & Drive an Equitable & Just Transition: Policy Analysis of the Clean Energy and Sustainability Accelerator;" a letter from the Industrial Energy Consumers of America; a report from ClimateWorks entitled "Build Clean: Industrial Policy for Climate and Justice;" a report from the Just Transition Fund entitled "National Economic Transition Platform;" a report from the State of Colorado's Department of Labor and Employment entitled "Colorado Just Transition Action Plan;" a report from the State of Colorado's Department of Labor and Employment entitled "The Need for Federal Support to Ensure Just Transitions for Local Energy Economies;" a letter from the Biotechnology Innovation Organization; a letter from the Portland Cement Association; a report from the Lawrence Livermore National Library entitled "Permitting Carbon Capture and Storage Projects in California.'

Without objection, so ordered.

[The information appears at the conclusion of the hearing.<sup>1</sup>] So with all of that, we again encourage our witnesses to respond promptly to any questions that are submitted after this formal part of the hearing.

And at this time the subcommittee is adjourned.

[Whereupon, at 1:40 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

¹The Analysis Group, Brattle, Coalition for Green Capital, ClimateWorks, and Lawrence Livermore National Library reports have been retained in committee files and are available at https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=111348.



March 17, 2021

The Honorable Paul Tonko
Subcommittee on Environment and Climate Change
Committee on Energy and Commerce
U.S. House of Representatives
2369 Rayburn House Office Building
Washington, D.C. 20515

The Honorable David McKinley
Subcommittee on Environment and Climate Change
Committee on Energy and Commerce
U.S. House of Representatives
2239 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Tonko and Ranking Member McKinley,

Thank you for holding the March 18 hearing titled "The Clean Future Act: Industrial Climate Policies to Create Jobs and Support Working Communities."

I appreciate your leadership and collaboration in sponsoring and ensuring inclusion of the bipartisan Clean Industrial Technology Act of 2019 in the landmark Energy Act of 2020 as incorporated in the Consolidated Appropriations Act, 2021 (Public Law 116-260). The CIT Act, also sponsored by Reps. Casten, Johnson of Texas and Radewagen, and its Senate companion sponsored by Senators Whitehouse, Capito, Braun, Manchin and Booker, authorized a DOE research and development program reducing emissions from cement and several other industrial materials.

A federal buy clean program, along the lines of sections 521 to 525 of the Clean Future Act (H.R. 1512), would incentivize cement producers to create cleaner materials that will help the industry meet its long-range environmental goals. The federal government is the single largest consumer of cement in the U.S. -- about 55% of the 150 million tons sold each year.

#### Background

Cement is a major contributor to  $CO_2$  emissions -- making up 6-8% of global emissions. Several attempts have been made to reduce  $CO_2$  emissions in the cement industry, with a critical limitation due to cement chemistry. In traditional cement production, a large percentage of  $CO_2$  is chemically emitted from the feedstock unavoidably. Despite the technological advances in production equipment and efficiencies brought on by economies of scale, the industry is unable to significantly reduce  $CO_2$  emissions due to the fundamental chemistry of cement production. Until



now, cement producers have not had access to technology that could economically reduce their emissions further.

Fortera, a California-based materials technology company (www.forterausa.com), would like to introduce the Subcommittee to a new Low  $CO_2$  Cement that would help meet the goal of reducing U.S. cement carbon emissions while keeping cement production and jobs here in the U.S.

- Reduced CO<sub>2</sub> Emissions. Fortera cement releases 60% less CO<sub>2</sub>, doubles natural resource
  utilization, and has a pathway to a zero CO<sub>2</sub> cement through integration with green
  energy.
- No Trade Exposure. Fortera's cement will give an immediate advantage in cost and
  carbon reductions to existing U.S cement producers. The new cement is produced onsite
  using 100% of a plant's existing infrastructure and personnel from the quarry to the kiln,
  with the Fortera process added on the back-end. The cement consumes less energy and
  is 10% lower in cost to manufacture.
- Cement Producers Control Their Future. A U.S. cement producer can start by comanufacturing Fortera's cement, gradually increasing production to meet progressive emission goals on an as needed basis. Fortera can be blended with traditional cement or used stand-alone. Every dollar invested by the producer is recouped through a proportional increase in production of sellable cement without cannibalizing any existing equipment, margin, or market share.

Fortera is currently building a small commercial plant in Redding, California to demonstrate the commercial scalability, the quality of the final product, and the competitive economics of the production process. The plant will be the first installation of its kind to capture  $CO_2$  directly from a cement kiln and convert it into a profitable product.

We welcome the opportunity to discuss our technology further as the Subcommittee considers environmental legislation this Congress.

Sincerely,

Ryan Gilliam,

CEO & Co-Founder of Fortera Corporation



#### AF&PA Statement for the Record

#### **House Energy and Commerce Committee Hearing:**

"The CLEAN Future Act: Industrial Climate Policies to Create Jobs and Support Working Communities"

#### March 18, 2021

AF&PA appreciates the opportunity to submit comments for the hearing referenced above. As the notice for the hearing stated that it will discuss three sections of the bill -- the Buy Clean Program, the Clean Energy and Sustainability Accelerator, and the Community Transition provisions—we are providing introductory comments about AF&PA and limited comments on the first two sections, as those are more relevant to AF&PA. We also are providing some overall principles that we believe are applicable to any climate policy.

#### Introduction to AF&PA and Members' Bioenergy Profile

The American Forest & Paper Association (AF&PA) serves to advance a sustainable U.S. pulp, paper, packaging, tissue and wood products manufacturing industry through fact-based public policy and marketplace advocacy. AF&PA member companies make products essential for everyday life from renewable and recyclable resources and are committed to continuous improvement through the industry's sustainability initiative — <u>Better Practices, Better Planet 2020</u>. The forest products industry accounts for approximately four percent of the total U.S. manufacturing GDP, manufactures nearly \$300 billion in products annually and employs approximately 950,000 men and women. The industry meets a payroll of approximately \$55 billion annually and is among the top 10 manufacturing sector employers in 45 states.

Paper and wood products manufacturers produce enormous amounts of carbon-beneficial bioenergy integral and incidental to making products that meet essential societal needs, such as promoting literacy, health and hygiene, global commerce, our sense of community, and more. Most of this bioenergy is extracted from biomass residuals of the manufacturing process that otherwise would be wasted and emit greenhouse gases such as carbon dioxide (CO<sub>2</sub>) and methane. This bioenergy displaces fossil fuel in the manufacturing process or is sold onto the electricity grid.

# **AF&PA'S Voluntary Emissions Reductions**

In 2011, as part of the association's voluntary *Better Practices, Better Planet 2020* sustainability goals initiative, AF&PA set a goal to reduce member greenhouse gas (GHG) emissions—measured

March 18, 2021 Page 2

in carbon dioxide equivalents per ton of production—by 15 percent. After meeting that goal ahead of schedule, members set a 20 percent reduction goal and they exceeded that goal in 2018, when our emissions were 23.2 percent lower than in 2005.

While we recognize that the U.S. currently is considering an updated Nationally Determined Contribution (NDC), to put these and other emission reductions in context, it is helpful to consider the existing U.S. NDC that was part of the Paris Accord. Specifically, the U.S. NDC was to achieve a 17% GHG mass reduction between 2005 and 2020, and a 26-28% GHG mass reduction by 2025, with best efforts to achieve a 28% GHG mass reduction by 2025.

AF&PA members have already exceeded those targets, by reducing direct GHG emissions and indirect emissions by over 40 percent on a mass basis between 2005-2018. Further, as stated above, AF&PA members have reduced their direct and indirect emissions by 23.2 percent between 2005-2018 on an intensity basis.

In addition to our members' voluntary progress discussed above, AF&PA currently is developing new sustainability goals to replace the existing *Better Planet* 2020 goals; these new goals will be announced in the next few months. Among others, we are working on a new GHG reduction goal.

## **Industry Innovation**

The industry also is innovating for the future. The industry's Alliance for Pulp and Paper Technology Innovation—APPTI—works to transform the paper and forest products industry through innovation in its manufacturing and products. For instance, a project is underway to reduce the energy used in certain paper manufacturing processes by 23 trillion BTUs, which would lead to significant GHG reductions. This project is being carried out by a team led by the Georgia Institute of Technology and is funded by APPTI members and the Department of Energy's RAPID Institute.

APPTI identifies high priority, pre-competitive technology challenges for the pulp and paper industry and promotes scientific research and development projects to address them. Current projects under development, if implemented, could achieve significant energy and related GHG reductions for the industry.

# Climate Principles

AF&PA believes that any comprehensive climate legislation must balance environmental, social, and economic concerns to ensure that our nation's economy and forest products industry remain globally competitive.

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In particular, any legislation should recognize the forest products industry's important and unique role in reducing GHGs, including sustainable forest management practices, carbon sequestration, biomass energy use, electricity generation, and paper recovery for recycling. Sustainably managed forests and our products sequester and store approximately 16 percent of annual U.S. carbon dioxide emissions. Paper recycling reduces waste, extends the fiber supply, and reuses a renewable resource that sequesters carbon. Paper recycling also avoids landfill methane emissions and reduces total energy required to manufacture several paper products, improving the overall life-cycle performance of the industry's products. Any climate legislation should recognize early actions taken to reduce GHG emissions.

The carbon benefits of sustainably managing working forests should be recognized and promoted. Forests sequester carbon as they grow and provide fiber for renewable and recyclable products that also store carbon. Increasingly it is recognized that working forests and forest products are essential elements of any plan to achieve climate goals. There also is a strong consensus on the carbon benefits of bioenergy produced from biomass residuals. It appears that the bill recognizes the climate benefits of paper and wood products manufacturing renewable biomass energy from residuals to some extent. However, its provisions are inconsistent and include requirements that effectively could bar biomass energy from receiving the full benefits provided for other favored energy sources. We will provide additional comments as the Committee moves forward in the process.

Policy makers should recognize that sustainably managed forests provide the raw material for forest products manufacturers, and that wood fiber is their number one cost. Any proposed policies that could increase costs should also include provisions to minimize the negative effects on our members' competitiveness in the global marketplace.

From a broader perspective, it is critical to recognize that U.S. manufacturers must compete globally. To the extent that Congress adopts laws that increase the domestic cost of production for U.S. based manufacturing, those higher costs of production will shift production jobs, and economic growth outside of the U.S.

In turn, since U.S. manufacturers are more efficient uses of fuel and natural resources than manufacturers in most other countries, when production shifts outside the U.S., there will be a net increase in global GHG emissions.

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#### Comments on CLEAN Futures

#### **Buy Clean Program**

Under the Buy Clean program, agencies would procure increasing amounts of eligible materials demonstrated to have lower amounts of embodied GHG emissions pursuant to Product Category Rules (PCRs) designated by EPA in consultation with other agencies and Environment Product Declarations (EPDs). Paper and paper-based products are not included in the primary or secondary list of eligible materials for the program. (The Buy Clean lists likely will be the starting point for the materials included in the voluntary Climate Star program, which is somewhat similar to the Energy Star program.) Nonetheless, AF&PA has a strong interest in ensuring that any congressionally mandated system for weighing the environmental and climate benefits of one product versus another are established pursuant to clear, transparent and scientifically-sound criteria. Accordingly, we urge the Committee to carefully consider whether relying exclusively on embodied GHG emissions based upon EPDs that may not include end-of-life data provides all the information needed to make valid comparisons among products.

#### Clean Energy and Sustainability Accelerator

This program would, among others, fund a "Green Bank" ("a dedicated public or nonprofit specialized finance entity") to finance projects to make the U.S. a world leader in addressing climate issues through deployment and development of new technologies. Qualified projects include industrial decarbonization, and agriculture and forestry projects. Qualified projects also include renewable energy projects, but biomass renewable energy is not listed.

AF&PA supports funding for\_research and development of new industrial technology. The CLEAN Future Act's goal for the U.S. to achieve a 100 percent clean energy economy by 2050 is extremely aggressive and can only be achieved by the deployment of new and innovative technology. We believe, however, that biomass energy should be included in the list of qualified renewable energy projects, for the reasons discussed above.

Thank you for the opportunity to provide our industry's input and we look forward to working with you as this process moves forward.

Please don't hesitate to contact Julie Landry (Julie Landry@afpandpa.org with any questions.



# Statement of the Ultra Low Carbon Solar Alliance regarding House Energy and Commerce Committee

# Subcommittee on the Environment and Climate Change

# Hearing on H.R. 1512 The CLEAN Future Act: Industrial Climate Policies to Create Jobs and Support Working Communities

# March 18, 2021

Thank you for the opportunity to provide this statement on behalf of the Ultra Low Carbon Solar Alliance, comprised of companies from across the global solar supply chain who have decarbonized their manufacturing operations to improve the carbon performance of solar energy.

As the Committee considers the CLEAN Future Act we want to bring an emerging issue in solar energy to your attention. Solar photovoltaics are an important source of low carbon energy as we increasingly electrify our economy. It is in fact the fastest growing source of power generation globally. All solar provides low carbon power generation. But not all solar is created equal. Carbon emissions in some parts of the global solar panel supply chain can be significant.

China has come to dominate solar manufacturing, and much of their manufacturing is reliant on coal-fired electricity. This is especially true for the most energy-intensive part of solar manufacturing, making polysilicon, the photovoltaic material that allows solar panels to convert sunlight to energy. Producing the ultra-pure polysilicon required for solar panels is an energy-intensive proposition, and China has funneled state subsidies into creating explosive growth in polysilicon production in the coal-rich western province of Xinjiang, which now produces almost one-half of the world's polysilicon supply. That manufacturing is based almost entirely on coal-fired power. Polysilicon production in the US and EU, on the other hand, is powered by decarbonized grids, generally with high levels of renewable energy.

As a result, solar panels produced from the Chinese supply chain have roughly twice the supply chain carbon emissions, or embodied carbon, as solar panels from the cleaner US and EU supply chains. Because of China's outsized role in solar manufacturing, well over half of the solar panels used in US energy projects, be they utility scale or single home rooftops, consist of these high carbon Chinese panels. Using these solar panels with high levels of embodied carbon reduces the benefits of switching to solar, and of electrifying our transportation and building sectors. It ironically means that US efforts to expand the use of solar energy are unintentionally supporting coal-fired power in China.

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Fortunately, there is sufficient manufacturing capacity for polysilicon, the primary source of embodied carbon in solar panels, in the US and EU to provide both of those markets with low embodied carbon solar panels. The US also produces low carbon thin film solar panels.

This means that governments and the private sector have a clear choice: to support carbon-intensive Chinese manufacturing with their solar purchasing, whether projects or power purchase agreements, or to support decarbonized US and EU solar manufacturing in how they purchase or incentivize solar power.

That choice is sharpened by the extensive reporting of the use of forced labor of Uighurs, Kazakhs, and other Muslim ethnic minorities in the Chinese solar industry in Xinjiang, a practice that both the Trump and Biden Administrations have decried.

By deploying low embodied carbon solar we can not only avoid significant solar supply chain carbon emissions and other unsustainable practices; we can significantly expand clean energy jobs and manufacturing in the United States. A policy and market preference for solar panels from a decarbonized supply chain would expand demand for US-made polysilicon and solar panels. This would help US solar manufacturers grow and expand here, producing additional manufacturing jobs and enhancing the resilience of the solar supply chain by reducing today's very high reliance on Chinese production. It would also change the calculus for investing in solar manufacturing in the US and potentially see important parts of the solar supply chain like solar wafer and cell production return to the US. Using data from the National Renewable Energy Laboratory and the National Association of Manufacturers we have estimated that expanding the US solar supply chain sufficiently to produce all of the low carbon solar panels deployed in the US would add 150,000 manufacturing and related jobs. The EU has estimated creating 400,000 jobs in expanding their solar supply chain. The result would be a US solar supply chain with expanded employment and greater resilience and security.

Such preferences for Ultra Low Carbon Solar have already been successfully implemented. France has for some years had a program that preferentially purchases solar panels with low levels of embodied carbon, and American and European manufacturers have competed well in that market. South Korea has implemented a similar program. The EU has just launched a new initiative to support expansion of manufacturing across the solar supply chain to provide low embodied carbon solar panels for their market and for export.

Whether it is in a Buy Clean Program, federal purchasing, infrastructure and resilience grants, or incentives for solar energy, the Congress should ensure these programs support clean, sustainable solar manufacturing by specifying the use of low embodied carbon solar. The technical elements of determining embodied supply chain carbon emissions in solar panels have been well established such as

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through the Environmental Product Declaration for solar photovoltaics, providing the tools to support such a preference.

 $The \ Committee \ should \ ensure \ that \ US \ policy \ supports \ clean \ and \ sustainable \ solar \ manufacturing.$ 

We appreciate the opportunity to provide our thoughts on this important topic and look forward to working with the Committee to make better solar power a reality.



# **Industrial Energy Consumers of America**

The Voice of the Industrial Energy Consumers

1776 K Street, NW, Suite 720 • Washington, D.C. 20006 Telephone (202) 223-1420 • www.ieca-us.org

March 17, 2021

The Honorable Frank Pallone, Jr. Chairman Committee on Energy and Commerce U.S. House of Representatives Washington, DC 20515

The Honorable Cathy McMorris Rodgers Ranking Member Committee on Energy and Commerce U.S. House of Representatives Washington, DC 20515 The Honorable Paul Tonko
Chairman
Subcommittee on Environment and Climate
Change
U.S. House of Representatives
Washington, DC 20515

The Honorable David McKinley
Ranking Member
Subcommittee on Environment and Climate
Change
U.S. House of Representatives
Washington, DC 20515

Re: Comments for the Record on H.R. 1512, The CLEAN Future Act, Title V, Industry; Title VIII, Economy-wide Policies

Dear Chairmen Pallone and Tonko and Ranking Members McMorris Rodgers and McKinley:

On behalf of the Industrial Energy Consumers of America (IECA), we thank you for holding this important hearing. IECA companies are 100 percent manufacturing companies. The majority are energy-intensive trade-exposed (EITE) companies. The U.S. industrial sector is a significant climate and middle-class jobs success story. According to the U.S. Energy Information Administration (EIA) from 1990 to 2019, the industrial sector reduced energy intensity by 54 percent, while increasing gross output by 359 percent. Absolute GHG emissions were reduced by 16 percent, more than any sector of the U.S. economy. There are 13 million manufacturing workers, accounting for 8.4 percent of the entire workforce that pay family sustaining wages and benefits that average over \$88,000 per year. There is no sector of the U.S. economy that is more able to contribute to middle class job creation.

# **EXECUTIVE SUMMARY**

**Title V, Section 504, Clean Energy Manufacturing Grant Program** is very positive and supports investing in the domestic production of clean products. It will create jobs and investments. Today, most of the clean products are imported and many are energy-intensive. To manufacture these clean products will increase use of energy by our sector. By doing so, we are reducing global GHG emissions because the U.S. manufacturing sector has a carbon intensity of about one-third that of China. Section 504 will result in increased GHG emissions for our sector and conflicts with our ability to comply with Title VIII State Implementation Plans.

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Title VIII, Subtitle B, Clean Energy and Sustainability Accelerator has merit for clean energy products and technologies that are "commercially available," but not for product process technologies that are desperately needed to decarbonize EITE industries. The manufacturing sector would not have equal access to these funds. We note that under (b) Environmental Justice Prioritization (on page 758) that "the Accelerator shall, as applicable, prioritize the provision of program benefits and investment activity that are expected to directly and indirectly result in the deployment of projects to serve, as a matter of official policy, climate-impacted communities."

We support the concept behind **Title V Subtitle C-Federal Buy Clean Program**, but not as currently designed. The program mirrors the California program. We are happy to work with you to construct a program that will receive wide support by EITE manufacturing companies.

Title VIII, "Regulations of GHG emissions for facilities of 25,000 tons of CO2 per year" is inconsistent with the goal to grow manufacturing jobs, strengthen the U.S. supply chain, and compete and win against China and other countries. EITE industries do not have the product process technology to decarbonize, nor do we have a low carbon alternative to natural gas. Other countries, like China, subsidize their manufacturing sector and are not subject to carbon reduction requirements or costs associated with absolute CO₂ reductions. U.S. manufacturing must have a level-playing field, especially with China. EITE industries can continue to increase energy efficiency and reduce GHG intensity. EITE industries consume about 80 percent of all energy from the U.S. manufacturing sector. A better path forward is to implement cost-effective GHG policies identified in our February 9, 2021 communication to Committee entitled "Climate Policy Priorities for Energy-Intensive-Trade-Exposed Industries for the Biden Administration and the U.S. Congress."

#### TITLE VIII ECONOMY-WIDE POLICIES

**Title VIII, "Regulations of GHG emissions for facilities of 25,000 tons of CO2 per year"** requires states to submit state implementation plans (SIPs) to the EPA to achieve the stated goal of 100 percent clean economy by 2050.

EITE companies desire to continue contributing to the reduction of GHG emissions and
are working every day to reduce their carbon intensity. However, manufacturing
product process technology does not exist which would allow the EITE industries to
rapidly decarbonize, and this legislation will result in GHG and economic leakage:
Technologies used by the manufacturing sector are very diverse, capital intensive, and
designed to operate for many decades. Research investments are being made, but it will
take decades to develop and deploy new less carbon-intensive process technology that
is cost-effective.

The power sector has carbon-free energy technology to help them decarbonize. The transportation sector has electric vehicle and low carbon transportation fuels to help them decarbonize. There is no such silver bullet for the manufacturing sector.

 EITE industries are <u>dependent</u> upon the market for the supply of less carbon-intensive energy, feedstocks, and electricity: We are primarily dependent upon suppliers to

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provide less carbon-intensive energy. There are no economical supplies of less carbon-intensive fuels and feedstock available to support decarbonization.

- Trillions of dollars of EITE process equipment is designed to use natural gas, not electricity: The industrial sector consumes about 28 percent of U.S. natural gas. Natural gas is used as a fuel and feedstock. As a fuel, there are hundreds of thousands of individual pieces of equipment and process technologies that are designed to use only natural gas, not electricity. Replacing equipment would be cost prohibitive and significantly increase operating costs. In most cases, the technology does not exist to switch from natural gas to electricity. Most importantly, the cost of a Btu of electricity versus a Btu of natural gas makes electricity cost-prohibitive. For these reasons, the industrial sector cannot currently transition away from natural gas to electricity in a cost-effective manner. Less expensive wind and solar does not always translate into lower electric costs. California has one of the highest electricity prices in the nation.
- Hydrogen, as a less carbon intensive alternative, injected into natural gas pipelines, is
  problematic: Hydrogen is a less carbon intensive fuel for potential injection into natural
  gas pipelines. Hydrogen mixed in natural gas will damage manufacturing turbines,
  compressors, and other equipment. Plus, the cost of hydrogen is cost prohibitive at
  today's prices. Hydrogen also substantially increases NOx emissions, which would
  conflict with our facility air permits and could result in reduced production of products.
- Power quality and reliability are critical to manufacturing operations: Power quality disruptions can potentially damage equipment, products, and output and may also present a hazard to plant personnel. Due to the intermittency of renewable energy, we are already experiencing problems with power quality in buying power off the grid. It is for this reason that there are limitations to the volume of renewable energy that our facilities will be able to use. Self-generation overcomes the problem and is also reliable. It behooves policy makers to encourage self-generation, because if these facilities shutdown and we buy more power from the grid, it adds significant stress to a grid that is already fragile. It would also increase costs to retail electricity consumers. The less power that we pull off the grid the better for everyone.
- Carbon capture and sequestration (CCS) technology R&D and infrastructure requires
  additional government support to realize its potential contribution for EITE industries
  but will be limited in use due to locational issues: CCS remains cost prohibitive. Scaling
  up CCS such that it becomes economical and accessible requires additional financial
  incentives, regulatory streamlining, and infrastructure development such as pipelines
  and geologic resources. And, most places in the country are not physically located
  where these attributes are located.
- Include a job retention safety valve: State Governors should be given the ability to optout if manufacturing jobs are at risk.
- Greater federal investments in EITE DOE R&D are needed to accelerate decarbonization technology solutions.

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#### SUBTITLE C - FEDERAL BUY CLEAN PROGRAM

The Federal Buy Clean Program provides an incentive to reduce embodied energy intensity of products by competing for federal infrastructure spending dollars. However, unless it is better designed and considers costs, it can result in unintended consequences, as it did in California.

We have companies that produce products in California and understand the "Buy Clean California Act" program enacted in 2017. Unfortunately, the program did not consider valuable input from the manufacturing sector. As a result, too few companies are able to participate and the program is overly complex.

One of the most important issues is the ability to verify the embodied energy intensity of imported products. If the Administrator and Secretary of Energy cannot assure third party verification of embodied energy of imported products versus products manufactured in the U.S., the program will not work and actually discriminate against compliant U.S. manufacturing companies. This is especially problematic with China due to their lack of transparency.

IECA would be happy to organize a meeting with these companies and Committee staff to provide input so that there is robust participation in the Federal Buy Clean Program.

#### SECTION 504 - CLEAN ENERGY MANUFACTURING GRANT PROGRAM

IECA strongly supports Section 504. This provision provides meaningful grants to encourage production of clean products and technology. These grants are a recognition that other countries are subsidizing their manufacturing sectors to achieve strategic technology advantage, while creating jobs and investment. The U.S. is behind in producing needed clean products and technology. The clean energy product space is dominated by imported products that increase our trade deficit and do not contribute to job creation.

We request that the same rebate levels available to facilities that employ less than 500 employees be available to companies that employ more than 500 employees. Larger plants use more energy. Therefore, there is more to gain in GHG emissions reductions per dollar spent.

#### TITLE VIII, SUBTITLE B-CLEAN ENERGY AND SUSTAINABILITY ACCELERATOR

Title VIII, Subtitle B, Clean Energy and Sustainability Accelerator has merit for commercially available clean energy products and technologies, but not for product process technologies that are desperately needed to decarbonize EITE industries. The later are risky multi-year R&D projects that will require the DOE and national lab funding and collaboration with industry.

The Accelerator focuses on products and technologies that IECA companies are currently investing to meet company sustainability goals and consistently reduce energy consumption. It is more likely that small and medium size companies may take advantage of the program. Larger companies may continue to finance projects through normal self-financing corporate options.

Importantly, it appears that the manufacturing sector would not have equal access to these funds. We note that under (b) Environmental Justice Prioritization (page 758), that "the Accelerator shall, as applicable, prioritize the provision of program benefits and investment

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activity that are expected to directly and indirectly result in the deployment of projects to serve, as a matter of official policy, climate-impacted communities."

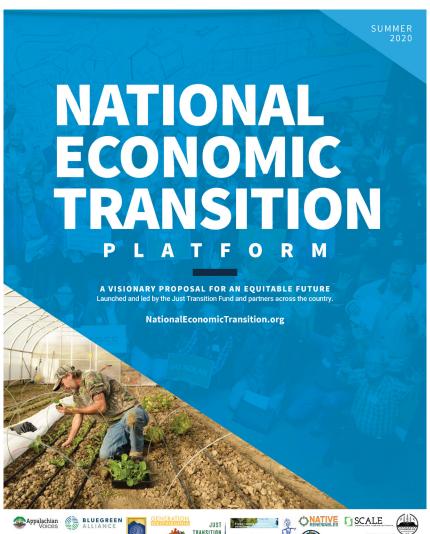
We desire to work with Congress to implement policy that will cost-effectively reduce GHG emissions, increase jobs and investments, and repair supply chain challenges that increase economic and national security.

Sincerely,

Paul N. Cicio

Paul Cicio President & CEO

The Industrial Energy Consumers of America is a nonpartisan association of leading manufacturing companies with \$1.1 trillion in annual sales, over 4,200 facilities nationwide, and with more than 1.8 million employees. It is an organization created to promote the interests of manufacturing companies through advocacy and collaboration for which the availability, use and cost of energy, power or feedstock play a significant role in their ability to compete in domestic and world markets. IECA membership represents a diverse set of industries including: chemicals, plastics, steel, iron ore, aluminum, paper, food processing, fertilizer, insulation, glass, industrial gases, pharmaceutical, building products, automotive, independent oil refining, and cement.























#### THE CHALLENGE

Workers and families affected by the changing coal economy are facing a profound crisis complicated by unique difficulties. Prior to the COVID-19 pandemic and economic decline, coal facility closures, layoffs, and cuts to vital services were devastating to people and places dependent on the coal economy—many of whom are still struggling following earlier economic declines, the loss of manufacturing jobs, or inequality and widespread poverty. For low-income communities and communities of color already disproportionately left behind by the status quo, the need for equitable and inclusive economic growth is vital. But, now, with COVID-19, these unique challenges are exacerbated. The closure of even more coal facilities is accelerated, giving communities little time to plan for the disappearance of their largest employer and the erosion of the tax base, which provides critical funding for public services, local education, and health care systems.

We envision a future where the communities hit hardest by the decline of the coal sector build locally driven, vibrant, inclusive, and resilient economies with thriving, locally owned businesses and quality, family-sustaining jobs.

#### **OUR VISION**

We envision a future where the communities hit hardest by the decline of the coal sector build locally driven, vibrant, inclusive, and resilient economies with thriving, locally owned businesses and quality, family-sustaining jobs. This is a future where communities of color, indigenous and Native communities, low-income communities, and others that are too often shut out of equitable economic growth opportunities are prioritized. To realize this vision, we're asking America's leaders to make a big, bold investment in our future and create an ambitious national community transition program.

From Appalachia to the Navajo Nation, we have an opportunity to ensure the workers and communities on the frontlines of our nation's energy transition become more prosperous and resilient and that low-income communities and communities of color that have been left behind aren't just included, but help lead the way. Although each place is unique, transitioning communities all need a diversified 21st-century economy, good-paying job opportunities, sound infrastructure, and a clean, healthy environment. Based on decades of work in the field, we've learned that the most durable solutions are:

- Community-driven, built from the ground up by local leaders and local ideas.
- Place-based strategies, which leverage local assets and improve quality of life.
- Inclusive, relevant, and accessible to all, including those historically left behind.
- Community-supporting jobs with family-sustaining wages that build a more resilient future.



Photo enurtary Natural Capital Insectment Euryl/Sam Levitan

#### THE PLAN

Today, 80 organizations and individuals urged national leaders to support this National Economic Transition platform. Our platform empowers workers and communities—in rural, urban, and tribal settings—as positive agents for change as our country adapts to the realities of climate change. This National Economic Transition Platform creates a framework from which national leaders can develop a comprehensive community and worker transition program our communities need and deserved.

Drawing from the decades of economic and workforce development experience of community and labor leaders living and working in America's coal communities and the experience and unique know-how of tribal leaders, the ideas presented here represent the wisdom and best thinking of those directly affected. The platform is built on the foundation of two immediate, first steps: the creation of an inclusive national transition task force charged with creating a national action plan, and the development of a new federal Office of Economic Transition, guided by an advisory board reflective of affected stakeholder groups and communities.

These entities will help launch and synchronize the efforts of a range of interdependent and synergistic economic development strategies to create vibrant, livable, inclusive places and communities, represented by the seven pillars of this platform:

- Invest in local leaders and long-term economic development planning. Building the capacity of community-based leaders and organizations provides communities with the resources and incentives to plan early for and respond to coal facility closures. These investments ensure communities are prepared for a transition that protects workers and is responsive to local needs.
- 2. Expand investments in entrepreneurship and small businesses in new sectors to help communities diversify and strengthen their economies. Investing in small businesses in diverse sectors of the economy—like health care, renewable energy, sustainable agriculture, and remote work opportunities—grows not just resilience, but stronger, healthier communities.
- 3. Provide bridge support and pathways to quality in-demand, family-sustaining jobs for workers. By providing a bridge of support for workers affected by closures, comprehensive workforce development efforts, and skills training for in-demand jobs, leaders can create a pathway to effective and equitable access to high-quality jobs in the public and private sectors.
- 4. Reclaim and remediate coal sites to create jobs while cleaning up the environment. Initiatives to reclaim, remediate, and reuse coal sites and clean up coal ash requires a sizable workforce and immediately creates jobs for workers while curbing public health and environmental risks.
- 5. Improve inadequate physical and social infrastructure. Investing in critical infrastructure, like improved connectivity, stimulates economic development and builds community resiliency. Infrastructure projects create jobs, reduce inequities, and help boost investment in healthy, livable communities.
- Address the impact of coal company bankruptcies on workers, communities, and the environment. Holding companies accountable to financial regulations and bankruptcy laws when closing operations helps protect worker pay and benefits, while also ensuring polluted sites are reclaimed for new development.
- Coordinate across programs to ensure communities have access to the resources they need. Launching an interagency grams program helps ensure affected stakeholders have a voice and empowers local communities with federal resources.

By investing at scale in a new national community transition program that is aggressive and ambitious, coordinated and sustained, we can build inclusive, equitable, sustainable, and resilient communities for our children, working families, and future generations.



Photo courtesy Fah

#### **INTRODUCTION**

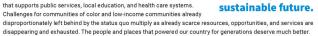
From Appalachia to the Navajo Nation, and the Illinois to the Powder River Basin, workers and families affected by the changing coal economy are facing a profound crisis. Coal facility closures, layoffs, and cuts to vital services are hitting the people and communities already facing a decades-long economic decline, a black lung epidemic, and environmental devastation. Even before the COVID-19 pandemic and economic decline, reliance on a troubled coal-based economy resulted in high poverty rates, deep job losses, and shrinking opportunity. Challenges—from decaying infrastructure to inadequate healthcare access to the opioid epidemic—only make the future of these communities more uncertain

COVID-19 is making an already precarious economic situation in these communities more unstable. Many of these places haven't recovered from the Great Recession, were struggling from the loss of manufacturing jobs, or were never on equal or strong footing to begin with. These new economic and public health crises are layered on to the existing crises spurred by the transition from coal and threaten to inflict more turmoil on people and communities. The national economic decline is accelerating the decline of the coal sector, likely leading to the rapid closure of even more coal facilities. That will leave more communities with little time to plan for the disappearance of their largest employer and the tax base that supports public services, local education, and health care systems.

Challenges for communities of color and low-income communities already



their own paths to a bright and



Yet people living and working in American communities dependent on coal are confronting these challenges, spurring economic development, and charting their own paths to a bright and sustainable future. Local leaders are embracing innovative ideas that foster locally driven, equitable economic opportunity and build resilience to help weather future crises. Workers in Wayne, West Virginia are learning to install solar panels; Navajo communities and entrepreneurs near the recently closed coal-fired Navajo Generating Station in Northern Arizona are launching clean energy and sustainable tourism enterprises and partnerships; and community members from Southwest Virginia to western Colorado are creating regional food markets. There are sustainable, equitable, and inclusive solutions for economic development for the people and places hit hardest by the transition away from coal, and they are driven by communities, built from the ground up.



#### **SEIZING THE OPPORTUNITY**

We envision a future where the communities hit hard by the decline of the coal industry have vibrant, resilient economies with thriving local businesses and quality, family-sustaining jobs. To realize this vision, America's leaders must make a big, bold investment to create an ambitious national community and worker transition program.

Our nation has the opportunity to ensure the communities on the frontlines of our energy transition become more prosperous and resilient and to develop a framework that can be applied to other communities facing similar changes and challenges now and in the future. We cannot afford to miss this chance. Our National Economic Transition platform draws from the decades of economic and workforce development experience of community, tribal, and labor leaders living and working in America's coal communities. We also drew insight from the public and private sectors and philanthropy. The platform creates a framework from which national leaders can develop the comprehensive community and worker transition program our communities need and deserve.

#### **GETTING STARTED**

To scale innovative solutions that prioritize the economic and climate challenges before us, we need a national commitment that is ambitious, coordinated, and sustained. We need a new federal transition program that will target and expand resources for affected communities and workers and coordinate across sectors and agencies.

National leaders should take two interim, concrete actions to help create the ambitious national transition program and synchronize these efforts:

 Create a National Community Transition Action Plan, created within a one-year period, that would identify priorities and needs across affected communities. To help create this plan, we recommend the immediate creation of an inclusive national just transition task force, which can assess the financial and social costs of the energy and economic transition, identify solutions, and make recommendations about a path forward

2. Create a new federal Office of Economic Transition to coordinate and oversee the new national community transition program. Guided by an advisory board reflective of affected stakeholder groups and communities, the Office would be charged to help synchronize ongoing efforts and leverage new public and private sector investments. The new Office should work to implement the action plan created by the task force.

#### **ABOUT OUR PLATFORM**

Intended to help strengthen and diversify local economies undergoing transition, the National Economic Transition platform combines workforce and economic development strategies, provides both immediate and long-term support to affected workers and communities, encourages entrepreneurial development, and promotes a clean environment. Our platform empowers workers and communities—in rural, urban, and tribal settings—as positive agents for change as our country reduces the risks and adapts to the realities of climate change while confronting economic and public health crises. These are solutions built by and for communities to create thriving, resilient economies that can withstand shocks like COVID-19 and equip workers and families.

The framework for this platform is built on seven pillars of integrated federal policy solutions that will help create vibrant, livable communities. Fully addressing the challenges of the energy transition requires a substantial local, state, and federal-level investment, as well as investment from the private sector and philanthropy. Only by investing at scale can we build resilient communities for our children, working families, and future generations.

More than 80 organizations and individuals collaborated to develop this National Economic Transition platform because we know that the communities in which we live, work, and play deserve better. Together, we call upon national leaders to advance its framework to serve the people and places affected by past and future coal closures.

### **#1 LOCAL LEADERSHIP**

nvest in local, community-based leaders to help communities plan and respond. Leadership comes in all forms. Local leaders may be individuals from government, labor, non-profit, faith-based, small business, tribal or community organizations, or individual community members. Furthermore, local leadership will include prepresentation from every part of the community, especially low-income communities and communities of color that have been left behind by the status quo. To ensure a community can plan for and respond to past, current, and future impacts from the decline of coal, local leaders must have access to adequate resources—both funding and expertise—to gather information about the impact, bring their community together to create a collective vision for the future, and plan a long-term strategy that fits the context of their community. Federal leaders should:



- A. Provide critical capacity-building support for local leaders and organizations. Given the local nature of this work, federal support should be provided to help build the capacity of local community-based leaders and organizations and facilitate community-driven planning processes and on-going program development and implementation. This is achievable through training and mentorship programs, grant funding to directly support salaries and materials needed for planning and program implementation, support from resource experts, and other technical assistance.
- to help communities plan early The sooner a community begins to plan for the transition away from coal, the more opportunity there is and to capitalize on and reinvest in a community's assets. Eligible assistance and federal funding
  - to address job and economic loss communities should receive technical to plan for their future prior to the announcement of coal mine or plant closures. Creating a transition plan that identifies impacts, assets, and desired outcomes is strongly recommended and should make communities more competitive for further federal funding. Transition should be seen as a multi-year, multi-stage effort to build just, equitable, and prosperous communities.
- too often left out of economic Funding should be directed to support leadership and develop capacity in Black, brown, and Indigenous-led organizations, as well as others too frequently left behind by the status quo and/or investments and planning around transition priorities, including young people, workers, women, and LGBTQ people.

### **#2 RESTORATIVE ECONOMIC DEVELOPMENT**

nvest in entrepreneurs and locally owned small businesses to grow diverse economic sectors that contribute to stronger, more resilient communities, improved public health, restored ecosystems and equitable opportunities for all people. Supporting local entrepreneurship and business development can create

entrepreneurship and business development can create economic resilience that resists shocks like COVID-19, encourages younger generations to stay and build their communities, and protects the health of individuals, communities, and places. Growing businesses in diverse economic sectors doesn't just create jobs, it can support clean air and water and the healthy stewardship of farmland, forests, and watersheds that is necessary for this resilience. Investments can support local communities in identifying the economic opportunities unique to their local assets that can fulfill these goals and ensure growth is equitable and



inclusive. Communities and groups most adversely affected by resource extraction economies, including Native/Indigenous People and communities of color, should receive particular attention. To this end, the federal government must institute policies, regulations, programs, and tax structures that help expand these key sectors. Furthermore, any federal programs created for this purpose should develop with input from affected workers and communities, and include strong labor and procurement standards and respect for workers' organizing rights. Federal leaders should:

#### A. Expand entrepreneurship and small business developmen

support in coal communities. Prioritize investment in new and expanding small to mid-size, locally owned enterprises in sectors, such as those identified below, that support a restorative economy. This investment should include increased support for the entrepreneurial ecosystem, such as training, mentorship, and technical assistance for startups and business expansions, as well as physical infrastructure. Increased access to capital, including flexible financing, loan guarantees, rate buydowns, collateral supports and a range of investment types will also grow these types of busines Furthermore, leveraging resources from the Department of Housing and Urban Development, the Department of Agriculture, the Economic Development Administration, the Community Development Financial Institution Fund, the Small Business Administration, the Department of Energy, the Department Of Interior, and other federal agencies will support this work. Private sector investments that bridge capital gaps are needed to scale promising transition work

### B. Expand the clean, renewable energy sector, including energy efficiency, clean technology innovation, and manufacturing.

This sector has great potential for creating good-quality jobs while also addressing the climate crisis by reducing carbon emissions. Expand energy efficiency retrofits for residential, commercial, and public buildings, prioritizing housing, schools, and municipal structures using grants, low-cost loans, on-bill financing, and other mechanisms. Businesses can realize substantial savings from efficiency measures and can use clean, renewable energy to stabilize costs over time. Residential efficiency measures can make homes safer, healthier and more comfortable while also reducing household energy bills. The federal government can support this sector through grants, rebates, tax credits, and innovative financing and policy initiatives that will make these measures affordable even for low-income households and small businesses. Programs should incentivize regional clean-tech manufacturing, and grants or low-interest financing should be available to groups that include tribal organizations non-profits, and low-income communities that can't take advantage of tax credits. Federal policy should facilitate community solar and third party purchase agreements with strong labor standards, which are key to expanding the clean. renewable energy sector

### **#2 RESTORATIVE ECONOMIC DEVELOPMENT (CONT'D)**

- C. Invest in health as an economic driver by expanding essential health care infrastructure. Federal programs should increase the number and capacity of healthcare professionals and invest in prevention and wellness by expanding primary care, mobile, and black lung clinics, as well as dental care, mental health services, and substance abuse prevention and recovery facilities. Guided by the ideas of local leaders, programs should provide cutting-edge, trauma-informed support for communities after closures.
- and forestry sectors. Communities need funding and other financial assistance for land and water access, land restoration, and sustainable production systems, including soil carbon sequestration practices on farms, ranches, and forest land. Programs should expand local food system infrastructure—such as food hubs, farmers' markets, and processing-that can return more value to farmers and communities. Support for regenerative agricultural practices can support farmers directly, put more money into impacted communities, and also sequester carbon, mitigate against drought, and increase land health and
- D. Expand the sustainable agriculture



E. Expand availability of, and infrastructure for, remote work opportunities across sectors. COVID-19 pandemic has demonstrated that there are numerous remote work opportunities available in communities that are equipped with affordable high-speed broadband. With expanded access to key infrastructure paired with strengthened rural-to-urban partnerships, transitioning communities can close the digital divide and leverage demand from outside markets to create quality remote career opportunities that offer workers flexibility as well as nationally competitive salaries and benefits. Programs should encourage companies, organizations, and government agencies to promote quality remote work opportunities, and to prioritize making such opportunities available for qualified applicants

in transitioning and other rural communities.

### **#3 WORKFORCE DEVELOPMENT & WORKER HEALTH**

rovide a broad system of support for workers and viable pathways to quality, family-sustaining jobs. Communities and workers affected by coal closures need targeted workforce development and training programs, in addition to investment in broader economic development strategies that spur quality job creation. Because coal closures can significantly affect supply chains and deplete the local tax base, causing local businesses to close and interrupting public sector services, solutions must include a special focus on the long-term needs and the well being of all workers affected by these economic changes. In rural communities, in urban settings, and on tribal lands, displaced coal workers and affected community members need targeted support to help manage the transition. To ensure workers have effective and equitable access to high-quality jobs (especially good union jobs) in both the public and private sectors, federal leaders should:

- A. Provide a bridge of support for workers. Worker packages should include paid training connected to high-quality employment, guaranteed pensions, relocation assistance, healthcare support, and a bridge of meaningful wage differential and replacement until an affected worker either retires or finds new employment. Coal companies must pay their fair share to ensure miners suffering from black lung disease receive the benefits to which they are entitled.
- B. Provide skills training and connect workers to in-demand jobs. Workforce programs should position workers to access high-quality, in-demand jobs by identifying existing workforce skill gaps in partnership with employers and developing and delivering demand-driven training to fill those gaps. Program participants should connect with employment through on-the-job training models, including formalized apprenticeships (and preapprenticeships) with unionization, and/or comprehensive job



- C. Invest in wrap-around workforce development programs. Workforce programs should provide healthcare, transportation, childcare and other critical services that often prevent workers from completing training programs and obtaining the credentials they need for in-demand jobs. This includes access for those workers from Native/Indigenous communities and communities of color. Federal leaders should increase investment in workforce development programs at tribal colleges and state community colleges. Social enterprises are particularly important vehicles for creating quality jobs that prioritize up-skilling and wrap-around supports.
- D. Require more from companies. Ensure utilities and mining companies issue longer periods of advanced closure notices and help communities prepare for transition. Advance notice and specific, defined schedules of phased closure are needed, with planned attrition and early retirement buyouts included. Require companies to work directly with affected workers, stakeholders, and communities to create workforce transition plans that prioritize the existing workforce either for immediate reclamation/remediation opportunities locally or jobs elsewhere within the utility or company or tied to company reinvestment in the community.

### **#4 RECLAMATION**

eclaim, remediate, and reuse coal sites to create jobs while restoring land and clean water. As coal production declines and workers and communities face an uncertain future, reclamation and remediation of coal sites offer a bright spot. Clean-up and decommissioning activities require a sizable workforce and can immediately mitigate the impact of layoffs and put former coal employees to work. Federal leaders should prioritize miners and power plant workers for reclamation and remediation jobs when possible and:

A. Ensure coal companies reclaim both existing and legacy abandoned could mine sites. Federal policy should end self-bonding (which allows coal companies to promise to complete reclamation) and review all bonds to ensure they adequately cover reclamation costs. Fund reclamation of historic abandoned mine sites by reauthorizing the federal Abandoned

Mine Land (AML) fee paid on each ton of coal mined. The RECLAIM Act would direct \$1 billion over five years to reclaim abandoned mine lands and repurpose them for comunitysupported economic development projects like solar farms, recreation areas, and sustainable farming and forestry.

B. Expand the EPA Brownfields program with designated funds to repurpose former coal sites for new development. Redeveloping power plant and industrial sites—associated with coal extraction, processing, transportation, and combustion—offers near-term job creation and new economic development opportunities. Expand the Brownfields program to meet the number of former coal sites in need of repurposing. The Brownfields program should coordinate with the Department of Labor to ensure that clean-up programs hire retrained workers, when possible, in affected communities.



C. Require utilities to pay for the complete cleanup and remediation of coal ash waste and groundwater contamination. Federal coal ash rules should be strengthened and federal policy should require coal-fired power plants to post bonds that cover the full cost of remediation. Require utilities to excavate coal ash from all utilities and sispose of it either in lined, dry landfills, away from waterways, or by recycling it for cement or other uses, in a manner that protects public health and the environment.

D. Plan for unanticipated closures and the possibility of inadequate reclamation funds. Federal policy should require all coal mines and power plants to provide advance notice of closure, develop closure plans that include safety and worker transition plans, and detail company resources available for closure. The Office of Surface Mining Reclamation and Enforcement should require all state regulatory authorities to develop bond forfeiture contingency plans and response plans. A new federal program should provide funding for unanticipated closures, including when bonds are insufficient to cover the full costs of reclamation and remediation.

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### **#5 INFRASTRUCTURE**

nvest in physical and social infrastructure to stimulate economic development and build a foundation for change. When coal plants close, the lost tax revenue negatively impacts both physical infrastructure, like local schools, as well as societal services like fire departments. Investing in a community's physical infrastructure (such as roads, rails, airports, and drinking and wastewater), social infrastructure (such as education, health, housing) and tech infrastructure (like broadband) helps create jobs, stimulate the local economy, and encourage private investment. Communities should drive infrastructure investment decisions and planning.

- A. Provide support to communities facing the loss of significant local tax revenue from coal closures. The federal government should establish or augment programs to provide temporary replacement of lost tax revenue previously provided through local property taxes or state severance taxes derived directly from coal, focusing on locations where local taxation authority has been maximized.
- B. Prioritize connectivity through broadband access. Economic development and participation in new economic opportunities is driven by connectivity. Federal programs should ensure coal communities have reliable, affordable, broadband access that enables them to develop remote work opportunities, access training opportunities, and benefit from and advance next-generation clean energy technologies.
- C. Invest in social infrastructure. A healthy and educated workforce in both the public and private sectors is essential for prosperity. Healthcare facilities, tribal and community colleges, and public schools should be accessible and modernized. Investment in supporting the local public sector workforce is essential. Federal programs should restore and maintain public community social spaces and provide funding for the public sector, public services, and community programs that support recreation, arts, and other creative programming.
- D. Invest in physical infrastructure. Federal programs should prioritize investments in improving roads, rails, and airports in affected communities, creating jobs and providing important economic development opportunities. Federal programs should also support robust water infrastructure, especially in light of the impact of coal mining and processing on wells and waterways, to ensure that every community has access to affordable potable water, wastewater systems, and solid waste treatment or removal. These infrastructure projects will immediately create jobs and better conditions for long-term economic growth, as well as have a critical impact on public health.

- E. Maximize benefits of infrastructure investments for workers and communities. Federal policy should ensure that projects built with public resources include labor standards, domestic content requirements, project labor agreements, community benefit agreements, local hiring, and other provisions that improve training, working conditions, and project benefits for communities.
- F. Invest equitably in tribal and Indigenous communities. Seventy-five percent of the unelectrified homes in the U.S. are located on tribal lands, and tribal and indigenous communities in general need significant investment.



### **#6 BANKRUPTCY**

rotect workers, taxpayers, communities, and the environment during bankruptcies. Companies often enter bankruptcy proceedings owing workers and local and state governments unpaid wages, taxes, royalties, and paycheck contributions to retirement and health plans. Federal law prioritizes repayment of bank loans rather than repayment of debts to workers and their communities. As more companies go through bankruptcy, fewer companies will be available to purchase mines and take over reclamation obligations, increasing the likelihood of mine closures and bond forfeitures. Many states' bonding systems are not robust enough to withstand widespread bankruptcy, which will leave abandoned mines with inadequate reclamation funding. A series of protections, if established prior to future bankruptcies, can help buffer workers and taxpayers from some of the worst impacts of bankruptcies. Federal leaders should:

#### A. Require performance bonds to ensure workers are paid.

Federal policy should require coal companies to carry surety bonds to ensure that employee payroll and retiree pensions are covered in the event of bankruptcy, similar to requirements in Kentucky and Montana for certain mining companies and other companies.

B. Ensure financial compliance. It should be the responsibility of regulatory agencies to ensure that companies do not owe back taxes or federal royalties, unpaid employee wages or pensions, or paycheck contributions before approving transfer of leases and mining permits, which offloads these liabilities to new owners.



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## #7 COORDINATION AND ACCESS

mpower local communities by providing direct access to federal resources. We recommend a structure of supports to ensure federal programs are coordinated, grounded in communities, and responsive to local needs. In addition to creating the national task force, coordinating office, and advisory board mentioned above, federal leaders should:

#### A. Launch a comprehensive, interagency grants program

Participating agencies should include (but not be limited to) the Appalachian Regional Commission, Economic Development Administration, the Environmental Protection Agency, the Department of Energy, the Department of Agriculture, the Small Business Administration, and the Department of Labor. Tribal interests must be represented. Agency coordination, community engagement, and early planning are essential to build lasting economic resilience. Participation in a stakeholder process to facilitate community ownership and engagement should be a requirement to access funds.

B. Ensure affected communities have a voice. It is incumbent upon the federal government to help communities understand how to access and apply for transition funds. The Appalachian Regional Commission (ARC) has played an important role in helping Appalachian communities respond to the changing coal economy. Federal leaders should ensure communities in the West, Midwest, and affected sovereign tribal nations have similar representation modelled after the ARC's regionally-responsive structure.

2



#### **CONCLUSION**

While many communities that once relied on coal are in crisis, leaders from these communities are developing and implementing solutions that create inclusive, equitable, and sustainable economic growth. This National Economic Transition platform represents the best thinking of those local leaders and the best of those solutions, offering federal and national leaders a path forward to ensure that no community in this country is left behind during the transition away from coal. The stakes are high.

Already, COVID-19 has layered challenges upon challenges for those already facing unprecedented struggles. The livelihoods of thousands of communities and tens of millions of people rely on us getting this transition right. Political leaders across the country must make the decision to engage and make significant investments now using the community-driven framework and scalable solutions provided by this platform.

For the health of our communities, the strength of our economy, the future of the country, and the well-being of the communities that powered this country for generations, this is an opportunity we cannot afford to miss.

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Learn more at National Economic Transition.org



### **COLORADO JUST TRANSITION ACTION PLAN**

December 31, 2020

#### **EXECUTIVE SUMMARY**

Colorado, like the nation, is transitioning away from coal as a fuel for generating electricity. This is due to increased competition from other lower-cost energy sources as well as laws and regulations to protect public health and counter climate change. While this transition is creating many new opportunities, it will also result in the loss of stable, high-paying jobs and economic opportunities in communities where coal is mined and burned to fuel the economy

In 2019, the Colorado General Assembly made a "moral commitment to assist the workers and communities that have powered Colorado for generations" by supporting "a just and inclusive transition" away from coal. It created the Office of Just Transition (OJT) and, among other things, charged it with preparing a "final just transition plan for Colorado" by the

This Action Plan fulfills that requirement. It is approved by the executive directors of the Colorado Department of Labor and Employment (CDLE) and the Colorado Department of Local Affairs (DOLA). It is based in large part on the <u>Draft</u> Colorado Just Transition Plan prepared after a year of extensive study and deliberation by the Colorado Just Transition Advisory Committee (JTAC, also created by legislation). And it reflects input from a wide range of stakeholders, issue experts, state agencies, and members of the public.<sup>2</sup>

#### **Goals and Actions**

Our overarching goal is to avert yet another boom-bust cycle in Colorado by helping coal communities and workers transition to prosperous futures



Specifically, through a just transition we intend to help each <u>community</u> end up with more family-sustaining jobs, a broader property tax base, and measurably more economic diversity than when family-sustaining jobs, a bio this process began in 2019.

To achieve these goals, we will:

- 1. Align state and federal programs to assist local strategies
- Target early successes in business start-ups, expansions, retention, and attraction Empower communities with resources to drive their own economic transitions
- Coordinate infrastructure investments to support local and regional transition strategies Identify and support state, regional, and local institutions to facilitate needed investments
- Attract grants and investments to power local economic growth

<sup>&</sup>lt;sup>1</sup> Throughout this document, we refer frequently to Colorado House Bill 19-1314, which established the Just Transition process in Colorado. Readers can find this statute at C.R.S. 8-83-501 through 8-83-506.

<sup>2</sup> Much of this input came during a formal public comment period from September 15 through November 30, 2020. The OJT received 51 individual responses to an online survey as well as comments submitted by email from seven organizations and two individuals. All comments will be catalogued and their relevant contents will be made available on the OJT website by the end of January 2021.



Similarly, through a just transition we intend to help workers who are laid off from the coal industry or related businesses secure good new jobs with family-sustaining incomes-and to help them do so without sacrificing their families' economic security. This includes achieving secure retirements for older workers who may not wish to stay in the workforce.

To achieve these goals, we will:

- Empower workers and their families to plan early for future success
- Encourage the federal government to lead with a national strategy for energy transition workers
   Prepare, for future consideration, a detailed state program to help displaced workers build skills, find good jobs or
- 4. Explore strategies to protect family economic security through the transition



Finally, because some strategies recommended by the Just Transition Advisory Committee would likely entail significant costs, this plan also includes efforts to identify potential funding options from public, non-profit, and private sources should the State decide to move forward with any of these recommendations. This includes ways to help communities bridge gaps in property tax revenues and to pay for new programs to serve displaced workers.

To achieve these goals, we will:

- Develop realistic options for further State support of just transition strategies
- Work with utilities and mining companies to increase transition funding
- Ensure the OJT has adequate capacity to continue to develop and implement this Action Plan

#### Planning for a Just Transition in the time of COVID

We considered a wide range of factors in developing this Action Plan. One of the most unexpected was the COVID-19 pandemic, which hit halfway through our planning process. Some have asked why the State should focus at all on assisting a relatively small number of workers and communities at a time when many thousands of workers in every corner of the state are facing so much disruption and uncertainty.

The most direct answer to this question is that the law directs us to do so. But the more appropriate answer is that the two challenges are different in nature. And because the major effects of the pandemic on our economy and workforce will almost certainly have passed before the major effects of the coal transition occur, there is no reason we cannot address

A pandemic is, one hopes, an extremely infrequent phenomenon that requires an extraordinary response from every sector of society -- much like the response to natural disasters. Quite literally, these events require us all to drop what we are doing to confront an immediate and often existential threat.

The transition away from coal to generate electricity, on the other hand, is a predictable result of a fundamental shift in the energy economy. We can see it coming long in advance. And for workers and communities, its effects are consistent with the loss of any large local employer or economic driver. Transitions like this have happened in rural Colorado throughout our state's history, and it is due in part to inadequate (or nonexistent) government response that they too often have perpetuated boom-bust cycles that have devastated families and communities.

We believe it is a fundamental obligation of government to address both kinds of challenges – those that urgently threaten the health and safety of our citizens and those that arise more predictably from fundamental shifts in our economy over time. Except in the most extreme of circumstances, one should not preclude the other

Still, it is true that the immediate challenges of the ongoing COVID pandemic will affect the pace at which we can prepare for the longer-term challenges of the transition away from coal, especially where public finances are involved. As a result, this Action Plan focuses on the early and relatively low-cost actions we can take now to prepare. It defers until later those decisions that might drive the higher costs we do not yet know how to pay and that, in any case, will not have an impact on workers or communities for at least several more years.

This is not a dodge. It is an honest and responsible reflection of the times we are in. The JTAC made strong recommendations for increased infrastructure investments in transition communities and income support programs for dislocated workers. Together, these recommendations would likely cost the state over \$100 million to implement. but we do not yet know where that money might come from. We think that advancing any recommendation with a high price tag and no firm suggestion of how to pay for it, at a time when public revenues are significantly stressed, would be a sure-fire way to have that recommendation rejected.

These recommendations deserve to be considered on their merits, not triaged in lean times based solely on their costs. Luckily, we have at least several years before the higher-cost challenges are likely to occur. We commit to use that time to study these proposals further, consider alternatives, and explore realistic funding options. And while we cannot promise these recommendations will be adopted at a later date, we are confident they will stand a better chance of serious consideration when state revenues have recovered and we have a better understanding of the proposals, how much they might cost, and how we might pay for them.

#### A Long-term Commitment

Legislation refers to this as "a final just transition plan for Colorado." But it is "final" only in the sense that it comes at the end of the initial planning process. Colorado's transition away from coal as a fuel for generating electricity is likely to last a decade or longer, and our strategies for ensuring a "just transition" will adapt to changing circumstances over time. Updating this plan will be the ongoing responsibility of the Office of Just Transition, working hand-in-hand with the Just Transition Advisory Committee, relevant state agencies, workers, communities, and other stakeholders.

In his budget for FY 2021-22, Governor Polis has proposed an increase in the number of staff in the Office of Just Transition to a total of 3.5 FTE – a clear indication of the Administration's commitment to the long-term success of state and local just transition efforts.

<sup>&</sup>lt;sup>3</sup> This is a rough estimate for Colorado's coal transition workers derived from estimates for all "fossil fuel industry dependent workers" in Pollin, Robert, et al, A Green Growth Program for Colorado: Climate Stabilization, Good Jobs, and Just Transition, Department of Economics and Political Economy Research Institute (PERI), University of Massachusetts-Amherst, April 2019, pages 64-86.

#### JUST TRANSITION STRATEGIES AND ACTIONS

This Action Plan is divided into two main sections – one on communities and one on workers. While the interests and challenges of both overlap significantly, we think this structure brings the most clarity to the strategies outlined. A third section deals with funding issues. Each section provides a brief overview of the major challenges the plan is designed to address, followed by specific strategies and action steps we are taking. While not identical, this Action Plan closely tracks the Draft Just Transition Plan submitted by the Just Transition Advisory Committee in August 2020.



#### A. Helping Coal Communities Transition to Prosperous Futures

More good jobs, more diverse economies, broader property tax bases.

HB 19-1314 directs the Office of Just Transition to submit a plan designed to assist "communities and workers whose coal-related industries are subject to significant economic transition." It defines a "coal transition community" as "a municipality, county, or region" that has been or will be affected "by the loss of fifty or more jobs in total from a coal mine, coal-fueled electrical power generating plant, or the manufacturing and transportation supply chains of either."

By this definition, all or parts of 11 Colorado counties are potential coal transition communities. However, some of these communities have or will face far more significant challenges than will others. This plan refers to these as "Tier One Transition Communities." They include the West End of Montrose County, which is already more than a year into its transition away from coal (the mine there closed in 2017 and the power plant closed in 2019). They also include communities in the Yampa Valley (Moffat, Rio Blanco, and Routt counties), Morgan County, and Pueblo, each of which will likely see meaningful declines in economic activity, their employment base, and property tax revenues before 2030.

OJT will keep a close eye on the "Tier Two Transition Communities" (Delta, El Paso, Gunnison, La Plata, and Larimer counties), though current information strongly suggests they will experience much milder effects (if any), at least for the foreseeable future. The Tier One communities are the ones that likely will command most of our attention and benefit most from our work. (For more detail on Tier One and Tier Two transition communities, see the Appendix at the end of this document)

While the actual closures of Colorado's remaining coal-fired power plants, and any related closures of coal mines, are at least several years off,4 jobs are already starting to disappear from communities through attrition. Other economic impacts – and the uncertainty that accompanies them – are also likely to begin prior to actual closures. Effective economic development and diversification strategies will take time and resources, and will require a long-term commitment from all involved. So planning and implementation must and will start immediately.

Effective economic development and diversification strategies also require strong leadership from and broad public engagement within the communities themselves. And while these strategies should be agile and opportunistic, they intentionally must focus on the unique assets of each community and build on existing strengths. Attracting new businesses to these communities is important. So too is building from within. Experience shows that strategies to retain and expand existing businesses often make the biggest difference over the long term.

Finally, successful transitions will require significant levels of investment in these communities from the public, private and nonprofit sectors. But investing in communities that are facing hard economic times can be seen as a risky proposition. Achieving the levels of investment these communities need to successfully transition to prosperous futures

<sup>&</sup>lt;sup>4</sup> Under current plans as of the end of 2020, the next closures of coal-fired power plants in Colorado will be in 2023 (Comanche 1 in Pueblo and Drake in Colorado Springs), with all remaining plants closing in 2025 or later. However, we need to be prepared for dates to change. The power plant in Nucla, originally scheduled to close in 2022, closed instead in 2019 with only a few months' notice. So we must and will be prepared to respond to changing circumstances.

will require concerted and coordinated efforts. And those efforts must focus on quality as well as quantity. The coal jobs that will leave these communities are mostly high-paying with generous benefit packages. In its draft plan, the JTAC wrote, "We would consider it a failure to replace a job people have raised families on with a job that barely allows them to make ends meet." We share that sentiment

This Action Plan has six Community Strategies to begin to address these challenges.

#### **Community Strategy 1:**

#### Align state and federal programs to assist local strategies

Description: Both the State and the Federal Government have a wide range of programs, incentives, and other tools to assist with economic development, and these are most effective when they are coordinated and often stacked upon one another. At its best, community and economic development is a team sport, requiring coordinated action among all levels of government and sectors of the local economy. This first strategy is about maximizing that coordination in transition communities to take full advantage of all available tools to create a strong environment for job creation through business retention, expansion and attraction. This was a key recommendation of the JTAC in its draft plan.

- The Governor has directed state agencies to make assisting coal transition communities a priority. His
  Cabinet's Environment and Renewables Working Group adopted two "Wildly Important Goals" related to economic development and job creation in coal transition communities. These goals will be updated to reflect the commitments made in this Action Plan. All these goals are posted online on the Governor's <u>Dashboard</u> and tracked through metrics that are updated regularly. Interested parties can follow the
- Administration's progress toward meeting them.

  The OJT will establish State Action Teams to work with each Tier One community or region. Each team will coordinate and align existing state programs, funding, and infrastructure investments to support transition plans in its partner community or region. Each team will include Regional Managers and the Rural Prosperity Manager from the Department of Local Affairs, key staff from the Office of Economic Development and International Trade, and representatives of other state agencies as appropriate. We will also invite representatives of relevant federal agencies to participate as needed, including the U.S. Economic Development Administration (EDA).
  In addition, the OJT will establish a statewide Just Transition Team made up of experts in relevant fields
- (including finance, grant opportunities, business recruitment and site selection, business expansion, and more) to support the State Action Teams with critical guidance and expertise, and to help coordinate and execute support strategies at the state level. Together, the State Action Teams and the statewide Just Transition Team will serve as the main vehicles for any assistance provided to these communities under the provisions of the Rural Economic Advancement of Colorado Towns (REACT) Act established in 2018.<sup>5</sup>
- The OJT will ask each Tier One transition community to establish a corresponding team of key local leaders and stakeholders to coordinate with its State Action Team. In the case of multi-jurisdictional communities (the Yampa Valley or Morgan County, for example), individual municipalities or counties may choose to establish their own teams, so long as they work in coordination with one another.

Authority: These actions can be taken within existing authority.

Funding: These actions can be accomplished within existing funding, with any minimal additional costs initially covered through fundraising from foundations and other stakeholders

**Timing:** Ongoing beginning in January 2021. **Lead:** OJT, with DOLA and OEDIT.

FREACT was established by Senate Bill 18-005 and can be found at C.R.S. 34-32-3601 through 34-32-3605.

### Community Strategy 2:

Target early successes in business start-ups, expansions, retention, and attraction

Description: Starting immediately, the State will work through the State Action Teams (established through Community Strategy 1) to help coal transition communities achieve early successes in attracting new businesses and creating good new jobs – and retaining existing jobs – consistent with local plans. While the full transition away from coal will take a long time, early successes will serve as a downpayment on the State's commitment to that process and create momentum for the long-term. Again, the quality of jobs created – not just the quantity – will be an important measure of success, as will the equitable distribution of the benefits of new growth throughout the community.

Among other things, State Action Teams will work with communities to help make sense of the almost dizzying array of programs and incentives available through the state and federal governments. These tools can be strategically mixed and matched to great effect, and many larger cities and regions have the capacity and expertise on staff to do just that. For smaller communities with much leaner staff resources, sorting through dozens of programs, funds, and incentives to find the right tool (or tools) for a given opportunity can at times be overwhelming. Our State Action Teams will support and assist those local efforts to take full advantage of opportunities and maximize success.

#### First Actions:

- OEDIT has waived local matching-fund requirements for the Strategic Fund Job Growth Incentive program
  for companies locating in Just Transition communities (one deal waiver per county) to attract new
  primary employers and help diversify the economy. This waiver will last at least through the end of
  calendar year 2021, when it will be re-evaluated and may be extended.
   OEDIT has committed at least \$\$500,000 in strategic funds in Calendar Year 2021 for grants to attract
- OEDIT has committed at least \$500,000 in strategic funds in Calendar Year 2021 for grants to attract
  new businesses to Tier One communities or to help grow existing businesses in these communities.
  This commitment may be extended in future years, depending on outcomes and available funding.
- To drive early successes in *local business retention and expansion*, State Action Teams will assist Tier-One communities in navigating and maximizing benefits from the very wide array of programs and tools that can:
  - Help local businesses stabilize and expand operations (though Small Business Development Centers or other support organizations such as Manufacturer's Edge).
  - Increase access to capital for local businesses (through the CLIMBER Fund, Energize Colorado Gap Fund, EDA Statewide Revolving Loan Fund, CDBG regional revolving loan funds, credit enhancement programs run by CHFA on behalf of OEDIT, Community Development Financial Institutions (CDFIs) and other non-profit lenders and traditional banking and capital resources).
  - Increase access to and maximize private capital from local, state, and national investors through
    the federal Opportunity Zone (OZ) program (through increased awareness; technical support for
    including OZs in community development plans; assistance in layering them on top of other
    incentive and grant programs; sponsoring events that spotlight local development plans for
    potential investors; and marketing OEDIT's OZ Capital Accelerator Program to support local
    businesses and start-ups).
  - Expand awareness of and participation in business support incentives (such as the Rural Jump Start, Procurement Technical Assistance Center (PTAC), Venture Capital Authority (VCA)/Greater Colorado Venture Fund, Enterprise Zone and Enhanced Rural Enterprise Zone Tax Credits (EREZ), Job Growth Incentive Tax Credits (JGITC), Strategic Fund cash job growth incentives, Advanced

- Industries grants and incentives, Skill Advance Colorado job training dollars, and Minority Business
- **Encourage and support entrepreneurial development** (in partnership with the SBDC, StartUp Colorado and other partner organizations).
- Expand the use of free consulting, classes and technical assistance opportunities (through local chambers, entrepreneurial groups and economic development organizations).
- Assist with "Shop Local" opportunities.
- Leverage unique opportunities in specific sectors (for example, in partnership with the Colorado Energy Office, OEDIT has allocated \$2 million in loan guarantees to the Colorado Clean Energy Fund to support construction jobs that provide energy-saving building upgrades in coal transition communities).
- 4. To drive early successes in business attraction, in addition to the supports listed above, the State will:

  - Host local educational and resource forums to encourage participation in existing programs.

    Develop strategies to attract new businesses to transition communities and expand awareness of site selection opportunities with JTC communities (working with OEDIT's Global Business Development Division).
  - Develop and expand remote work opportunities in transition communities (by assisting communities in training local remote employees and employers and attracting remote work opportunities and businesses through OEDIT and DOLA's Location Neutral Employment Marketing (LONE) program, CDLE's remote worker and employer certification, and the Rural Technical  $\,$ Assistance Program within OEDIT).

Authority: These actions can be taken within existing authority.

Funding: These actions can be accomplished within existing funding, with any initial additional costs

covered through fundraising from foundations and other stakeholders. Timing: Ongoing beginning December 2020.

State Lead/Support: OEDIT, with CDLE (OJT) and DOLA.

#### **Community Strategy 3:**

Empower communities with resources to drive their own economic transitions

Description: If economic development is a team sport, then local leaders are the best quarterbacks. In other words, the most effective and long-lasting economic development strategies usually come from within communities themselves, reflecting their own priorities and building on existing strengths. The state will work with appropriate jurisdictions within Tier One communities to ensure each has the staff capacity and expertise to effectively develop and implement local transition strategies. These local strategies, and the local leadership behind them, will serve as the foundation of the State's ongoing partnership with these communities on transition issues. We will ask communities to submit applications outlining how the added capacity and expertise will be used to advance their local transition strategies (which should be focused and demonstrate broad community support). This was a key recommendation of the JTAC.

The Department of Local Affairs has committed up to \$500,000 in the current fiscal year for grants to Tier One communities to build the staffing and expertise (including shared regional and statewide capacity) to develop and implement their local transition strategies. Funding will come from the Energy and Mineral Impact Assistance Fund (EIAF) and Rural Economic Development Initiative (REDI) fund, with a goal of continuing and increasing this commitment in future years, depending on revenue. If needed, OJT will seek additional funding from stakeholders.

- 2. DOLA and OJT will closely coordinate to expedite applications for these funds from Tier One communities. Communities will outline how the added capacity and expertise will be used to advance local transition plans, which should be focused, demonstrate broad community support, and include strategies to retain coal transition workers.
- Upon request from communities, state action teams will assist with developing rural economic diversification and transition roadmaps. These roadmaps will engage community stakeholders in the development of local strategies to support business retention, attraction, and expansion as well as community development.
- Colorado has submitted a grant application to the U.S. Economic Development Administration (EDA) requesting more than \$2.3 million over 2 years to support the development and implementation of local "COVID-19 Recovery and Resiliency Roadmaps" throughout rural Colorado. A decision on this application is expected from EDA in the first quarter of 2021. If successful, this grant would significantly increase the resources available to support local recovery efforts, and designation as a Tier One Transition Community would be a key consideration in the disbursement of grant funds.
- OJT will work with DOLA and OEDIT to establish a peer-to-peer mentoring and networking program among coal transition communities and with other communities (in Colorado and around the country) that have experienced or are undergoing similar transitions. This action will capitalize on the momentum of the coal impacted cohorts that collaborated under the POWER+ program in 2018-19.

Authority: These actions can be taken within existing authority.

Funding: These actions can be accomplished within existing funding, with any minimal additional costs initially covered through fundraising from foundations and other stakeholders. If successful, the requested EDA grant would provide significant additional support.

Timing: Ongoing from January 2021. Lead: OJT, with DOLA and OEDIT

#### **Community Strategy 4:**

#### Coordinate infrastructure investments to support local and regional transition strategies

**Description:** As an essential transition strategy, the JTAC recommended the State "invest in physical and community infrastructure to maintain and improve quality of life and critical services." It stated that a community's physical and cultural assets "are key components of [its] appeal – the ability to reach one's markets by road, rail or air -- or broadband -- as well as quality schools, higher education and apprenticeship programs, a wide range of quality healthcare services, and other community assets such as parks, arts facilities, and recreational opportunities."

We agree, and we intend for the OJT to consider a number of these investments (especially including broadband). However, as we outlined earlier, in the current fiscal environment we are not able to advance any specific strategies that could drive significant new costs, as some of these could. Instead, at this early stage we will work to coordinate and focus existing state efforts to maximize their effect in transition communities <u>within existing resources</u>. We will also work with transition communities to take advantage of targeted funding opportunities from other sources, including the federal government and the philanthropic community.

 CDLE and DOLA will convene a cabinet-level working group to prioritize and coordinate infrastructure
investments that best support local strategies within existing resources. This may lead to the formation of regional state field teams representing various state agencies to coordinate resources and support infrastructure investment. Communities will be encouraged to assist this process by identifying areas

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that most need investments and incorporate them into a comprehensive strategy based on asset management principles and a capital improvement plan

OJT will lead an effort to identify additional resources and partners to drive community investments.

Authority: These actions can be taken within existing authority. Funding: These actions can be accomplished within existing funding, though additional state funding may be requested in future years.

**Timing:** Ongoing beginning in February or March 2021. **Lead:** OJT, with CDLE and DOLA.

#### **Community Strategy 5:**

#### Identify and support state, regional, and local institutions to facilitate needed investments

Description: For Tier One communities, the pending loss of major industrial assets will result in the loss of high-paying jobs and millions of dollars in property taxes. In fact, assuming the average mill levy rate in Colorado (81.7 mills), we calculate it would require the creation of nearly \$2.75 billion in new commercial property value (2019 dollars) to replace all the property taxes paid by Colorado's existing coal facilities. However, if we assume the average mill levy rate currently assessed in Tier One communities (70.19), the value of new commercial property that would be needed to replace the lost property taxes rises to nearly \$3.2 billion.

That will take a lot of investment, some of which will certainly come from within the communities themselves. But there probably is no way to do the job completely without attracting significant sums from outside. This is the basis of this and the subsequent strategy (community strategies 5 and 6).

A critical component of the draft plan from the JTAC was the need for investment strategies that lower and share overall risk, thereby encouraging a wide range of investors to make significant commitments to coal-transition communities. The JTAC recommended establishing a "statewide independent investment intermediary focused on leading and structuring investments" in transition communities. It also recommended establishing a statewide investment fund with two components – a "First Risk Capital Fund" to make commitments to local deals that lower the risk for other investors, and a "Permanent Investment Capital Fund" to provide long-term capital for these deals

We agree these functions are essential. We also believe that initial steps and "proof of concept" can be achieved within existing authority and structures and will not require any legislation or the creation of new institutions at this time. What they will require for success is expert leadership and effective coordination among existing funds and institutions. These include the Just Transition Cash Fund, established by HB 19-1314. The OJT is authorized to "seek, accept, and expend gifts, grants, or donations from private or public sources" to help achieve the goals of the legislation.<sup>7</sup> They also might include state financial authorities, revolving loan programs, and community development financial institutions, among other tools.

These mechanisms should be used explicitly to support the kind of investments that lead to jobs that provide family-sustaining incomes, meet appropriate labor standards, and share community benefits equitably. While it will be hard to match the pay scales and benefit packages that current coal workers receive, these state-sponsored entities should seek to support the creation of stable, well-paying jobs that truly contribute to community well-being and resilience.

<sup>&</sup>lt;sup>6</sup> Both estimates were calculated by staff using the uniform 29 percent commercial property assessment rate and average county mill levies as reported in the Division of Property Taxation's 2019 Annual Report. levies as reported in <sup>7</sup> C.R.S. 8-83-504(2).

#### First Actions:

- 1. OJT will work with experts in OEDIT, DOLA, and the Colorado Treasurer's Office and in consultation with other financial experts, transition communities, and the Colorado Attorney General's Office – to create an effective and accountable governance structure and a network of financial institutions to support investments in coal transition communities that meet the goals established by the JTAC.
- 2. OJT will seek funding from interested parties to support this governance structure and meet the administrative and operational costs of the network until the whole enterprise can become self-supporting.

Authority: These actions can be taken within existing authority.

Funding: The initial consultation and design actions can be accomplished within existing funding, with any additional costs initially covered through fundraising from foundations and other stakeholders. Additional state funding may be requested in future years.

Timing: January through September 2021. Lead: OJT, with OEDIT and DOLA.



#### **Community Strategy 6:**

#### Attract grants and investments to power local economic growth

Description: No investment strategy succeeds without capital. The previous strategy is all about ensuring the right structures and expertise are in place to facilitate effective investments through appropriate institutions. This final community strategy is about making sure those institutions actually have the capital needed to drive those investments. Based on some initial exploration by OJT and several stakeholders, we believe there may be significant interest among potential investors at the state and the national level. This strategy is about further gauging that interest and getting a firm understanding of how best to attract that capital to Colorado's coal transition communities.

#### First Actions:

 In early 2021 the OJT will work with the Governor's Office and the Treasurer's Office, and perhaps other stakeholders, to gather high level input on investor interest. We intend for this to lead to a convening, also in early 2021, of a series of conversations with distinct groups of funders and investors, including local and national foundations, family offices, community development financial institutions (CDFIs), impact investors, opportunity funds, and institutional investors. These conversations would focus on generating specific guidance for how best to structure our finance-related strategies and to more broadly and deeply gauge investor interest and capacity to support economic diversification in coal transition communities.

Authority: This action can be taken within existing authority.

Funding: This action can be accomplished within existing funding, with any additional costs initially

covered through fundraising from foundations and other stakeholders. Additional state funding may be requested in future years.

Timing: January through September 2021. Lead: OJT, with OEDIT.

#### The Property Tax Gap

Coal facilities are intertwined with their communities, and nothing demonstrates that better than their property taxes. In 2019, the state's coal-fired power plants and coal mines paid an estimated combined total of \$65 million in property taxes to over 95 separate jurisdictions, including 18 fire protection districts, 16 school districts, 14 water conservation districts, 8 counties, 7 library districts, 6 hospital or health districts, 5 municipalities, 5 cemetery districts, 4 water and sanitation districts, 2 area colleges, 2 parks and recreation districts, and 11 other entities. If and when these coal facilities close, these revenues will disappear

In some cases, the hole left behind will be quite small (less than \$100). But in many cases, the hole left behind will be very large (especially in school districts, which account for almost exactly half of the revenues lost). And collectively these holes will be very challenging to refill. At the average total mill levy rate in Colorado (81.7), it would take nearly \$2.75 billion in new commercial property value to generate \$65 million in annual property taxes. At the average total mill levy rate in Tier One transition communities (70.19), it would take nearly \$3.2 billion in new commercial property value to generate \$65 million in annual property taxes.

Rebuilding that tax base will be one of the central measures of success for Colorado's just transition efforts in coal-transition communities. So, too, will be helping these communities bridge the gap between the time revenues from coal facilities are lost and the time those revenues are replaced through new growth



#### B. Protecting the Economic Security of Coal Workers and Their **Families**

Good new jobs and secure retirement

HB 19-1314 defines a "coal transition worker" as "a Colorado worker laid off from employment . . . in a coal mine, coal-fueled electrical power generating plant, or the manufacturing and transportation supply chains of either." By this definition, somewhere between 2,000 and 3,000 Coloradans currently are potential coal transition workers. However, as with the communities in which they live, some of these workers will face far more significant challenges than will others.

A total of over 90 workers lost their jobs when the coal mine and power plant in the West End of Montrose County closed. And attrition is already beginning to erode employment at some of the remaining coal-fired power plants. However, actual layoffs from these power plants, and from any coal mines due to the closure of these plants, are not expected to begin until later in the process - perhaps not until 2025, with the largest numbers likely not coming until 2028 or later.

By definition, one asset all coal transition communities will have is a skilled and capable workforce. While some – perhaps many – of these workers will choose to move away from coal communities, one top goal of this Action Plan is to help these communities retain as many workers as possible by providing good opportunities for them to continue to thrive

And whether a laid off worker decides to move or not, we want to engage them early in the State's workforce development system, as the Just Transition Advisory Committee recommended. That will be the best way to assist all who are interested in developing individual transition plans "for achieving their financial, career and/or retirement goals while maintaining or achieving economic self-sufficiency." These individual transition plans should lead to early engagement

Derived from county profiles prepared by the Keystone Policy Center for the Just Transition Advisory Committee, July 2020.
 Both estimates were calculated by staff using the uniform 29 percent commercial property assessment rate and average county mill levies from the Division of Property Taxation's 2019 Annual Report.

with appropriate education and training programs – preferably while the workers are still employed in the coal industry. And if the experience in the West End of Montrose County is any guide, some of that training will help more than a few displaced workers start their own businesses.

Engaging workers early in the workforce system also should be the best way to reduce costs later in the process. That is a good thing, because as we have discussed, we feel that we must defer for later consideration the more costly worker strategies proposed by the JTAC. Current closure plans suggest we still have time to do so.

These challenges and strategies are outlined in more detail in the four Worker Strategies below.

#### Worker Strategy 1

#### Empower workers and their families to plan early for future success

Description: The JTAC recognized that early planning was critical to success for both communities and workers. But while we have a high level of certainty about which specific communities will be the hardest impacted by closures, we have less certainty about whom among the more-than 2,000 coal-related workers will actually be laid off, what they will try to do next, and what level of income their new careers will generate.

This strategy entails reaching out broadly to power plant workers, miners, and others early in the closure process – perhaps 2 years ahead of an announced closure – to establish a relationship between them and the state workforce system. This also includes reaching spouses and perhaps other members of their households whose future employment may be key to family economic security. Our goal is for these early relationships to lead to effective early planning, counseling, career coaching, job training and other activities that will shorten the transition period for these workers and their families and help them find high quality opportunities after coal.

#### First Actions

1. OJT is working with the Division of Employment and Training at CDLE to develop an outreach strategy, workforce toolkit and quick action plan to deploy when closures are announced (preferably at least 2 years ahead of closure). This strategy will include identifying any additional resources that may be needed (though we believe most of this can be done within existing capacity). We will also identify and engage key partners, such as local community colleges, to help develop and execute the strategy.

Authority: This action can be taken within existing authority.

Funding: This action can be accomplished within existing funding, though modest additional resources may be needed for future implementation.

Timing: Ongoing beginning in January 2021. Outreach strategies, workforce toolkit, and quick action plan should be complete by December 2021.

Lead: CDLE.

## ➤ Worker Strategy 2

#### Encourage the federal government to lead with a national strategy for energy transition workers

Description: The JTAC made significant recommendations for how the public sector can assist workers as they transition from the coal industry to good job opportunities elsewhere in the economy (or to retirement when appropriate). These recommendations include training strategies, financial support for job search and relocation, and temporary "wage differential" and "wage replacement" benefits for those whose new jobs pay less than they were earning in the coal industry. These recommendations are the subjects of worker strategies 3 and 4 below.

However, we believe these programs and benefits would be most appropriately provided at the national rather than the state level, and Worker Strategy 2 is about working with our congressional delegation, other states and national stakeholder groups to encourage the federal government to take on this task. This is our preferred option for reasons of consistency, equity, funding, and simplicity.

Most of this action plan addresses what the legislation refers to as Colorado's "moral commitment to assist the workers and communities that have powered Colorado for generations." It is clear that lawmakers saw this moral commitment arising directly from the pending closure of Colorado's coal-fired power plants.

But the transition away from coal is not just a Colorado phenomenon. Much of the coal mined in the United States crosses at least one state border before it is consumed, and some leaves the country entirely. For example, one Colorado mine sends all of its coal to a power plant in Utah, while much of the coal burned by the five power plants in eastern Colorado is mined in Wyoming. The state's largest mine exports most of its coal out of state (some of it to Japan), and plans are well advanced to re-open another coal mine in the state to serve markets in Asia 10

For a variety of reasons, miners are likely to make up a significant majority of those who could be laid off from the coal industry in Colorado during this transition. But many (if not most) are likely to be laid-off due to business decisions made or public policies set outside the state. It seems unlikely that lawmakers intended Colorado's "moral commitment" to extend to those whose job security depends not on Colorado power plants but on national and international markets or business and regulatory decisions made outside Colorado.

The transitions we are seeing in energy markets are national – even global. And we believe the most consistent and equitable response, at least with regard to workers, should be national. The alternative is a hodge podge of state responses, perhaps with some states providing varying levels of assistance to displaced workers and other states providing no support at all. A uniform national approach would avoid such dispartites.

In addition, the JTAC recommended a generous level of assistance for workers. At this stage, there are too many variables and unknowns to say with confidence precisely how much these benefits could cost the State to provide. But work done by the JTAC, using research conducted by the Political Economy Research Institute at the University of Massachusetts-Amherst, suggests the total cost of the worker benefits recommended by the JTAC could total \$100 million or more over the duration of the transition. No matter how worthy the purpose, we think it is improbable that lawmakers within the next few years would commit to this level of expenditure from a state budget already constrained by a pandemic and the nation's most restrictive tax and spending limitations. We suspect other states will face similar barriers.

The Federal Government is in a far better position to establish and fund uniform benefits for all energy workers in transition throughout the country. It may also be able to do so relatively simply, in part by amending the existing Trade Adjustment and Assistance Act Program, which already includes financial assistance for certain displaced workers as well as training, job search, and relocation benefits. We believe extending this national program to cover displaced energy workers would be a much better solution than relying on states to adopt a variety of programs that might actually increase national disparities.

#### First Actions:

The OJT will work with the Governor's Office and relevant Cabinet representatives to explore the
feasibility of and gauge support for a national strategy to assist displaced energy workers. We will reach
out to legislative leadership, Colorado's congressional delegation, transition communities, labor leaders,
utility representatives, environmental organizations and more to share the concept and enlist support.

<sup>&</sup>lt;sup>10</sup> This refers to the announced plans of Allegiance Coal Limited, an Australian company that in October 2020 acquired the idle New Elk Mine near the town of Weston in Las Animas County. According to the company's <u>website</u>. Allegiance plans to return the mine to production in 2021.

Based on the response, we will work with the delegation to develop a legislative strategy and with allies to develop an advocacy strategy and try to build a broad national coalition of support.

Authority: This action can be taken within existing authority. Funding: This action can be accomplished within existing funding. Timing: Ongoing beginning in January 2021. Lead: O.JT.

#### **Worker Strategy 3**

Prepare, for future consideration, a detailed state program to help displaced workers build skills, find good jobs, or start businesses.

Description: The JTAC recommended the state develop "a package of <a href="maining.job.search.and-relocation support services.">minilar to the federal Trade Adjustment Assistance (TAA) Program, to help workers achieve their transition goals" (HB 19-1314 specifically directed the advisory committee to consider TAA as a model). For reasons outlined in the description of the previous strategy, we believe the goals of this recommendation are best achieved at the federal level. However, should that strategy not result in federal action, we want to be ready with options for consideration of a state-level program to help workers develop new skills, find new jobs or start their own businesses. Any such program would require legislative authorization and funding, and so our goal is for these options to be ready for consideration as early as the start of the 2022 legislative session.

#### First Actions:

1. The OJT will lead a process within CDLE, with the assistance of other stakeholders as appropriate, to design a detailed proposal that reflects both the goals of the JTAC and the fiscal realities of the State of Colorado. The proposal will emphasize a broad range of skill development and education choices to help displaced workers maximize their future opportunities. Our goal will be to have a proposal complete by October or November 2021. We will also work to build consensus among stakeholders to support a common approach.

Authority: This action can be taken within existing authority.

Funding: This action can be accomplished within existing funding. If ultimately authorized by the General Assembly, implementation of some components could require significant additional state funding. Timing: January through November 2021.

Lead: CDLE.



#### **Worker Strategy 4**

Explore strategies to protect family economic security through the transition.

Description: The JTAC recommended Colorado implement temporary "wage and health differential" and "wage and health replacement" benefits for displaced workers. It did so out of a clear commitment to the economic well-being of those workers who, through no fault of their own, could suffer the most from the transition away from coal. The JTAC recommended benefits to cover "all or part of the difference in income and health benefits between an individual's previous coal-related employment" and their new income. They would last between three and five years, depending on a displaced worker's age and length of service.

This is a bold recommendation – to our knowledge, no state offers benefits of this level or duration to displaced workers. Through HB 19-1314, lawmakers directed the JTAC to consider these benefits. But they also recognized

they could drive significant costs and could set a precedent for other workers who lose their jobs due to future disruptions in this and other economic sectors. The advisory committee made a good effort to estimate what these benefits for laid-off coal workers might cost. It also made good progress in developing criteria that might be used to determine whether to provide similar benefits to other disrupted workers in the future.

Nevertheless, too much uncertainty remains around cost and scalability for us to feel comfortable advancing this recommendation — especially in the midst of the COVID pandemic and resulting economic downtrun. Despite the JTAC's hard work, we do not yet know how the State might pay for these benefits, and we do not adequately understand the magnitude of the precedent we would be setting for future economic disruptions.

We understand the potential benefits of financial support for these workers, and we urge their consideration as part of the federal response recommended in Worker Strategy 2 (above). In the meantime, OJT will drive a serious process to gain more certainty about costs, scalability, potential sources of funding, and possible alternatives at the state level. And we will engage a broad range of stakeholders in a dialogue about whether the State should implement such a strategy – and how it might do so.

#### First Actions:

- OJT will continue to work with state economists to estimate the costs of different assistance options to more accurately inform future decision making.
- The State will engage existing employers in the coal industry to discuss the role they can and should play
  in assisting with worker transitions through severance packages, funding retirement benefits, and other
  strategies (possibly including securitization there is more on this in Funding Strategy 2 later in this
  plan).
- 3. OJT will engage a broad range of stakeholders to help build on the JTAC's work to determine options; identify potential models from around the country; better understand the role and relationship to existing temporary support programs (including Unemployment Insurance and TAA); discuss eligibility issues concerning miners who serve markets other than Colorado power plants; and further explore the precedential implications of establishing new worker benefits as well as further develop the criteria that might guide their application to other sectors.

Authority: These actions can be taken within existing authority. Funding: These actions can be accomplished within existing funding. Timing: Ongoing beginning in January 2021. Lead: OJT, with CDLE.

#### An Ongoing Commitment to Disproportionately Impacted Communities

Throughout this document, we reference the explicit "moral commitment" made in HB 19-1314 to coal transition communities and workers. The same sentence in the bill's legislative declaration also includes a moral commitment to "the disproportionately impacted communities who have borne the costs of coal power pollution for decades." As the JTAC's draft plan explains, this refers to residents throughout Colorado who may have been "disproportionately exposed to pollution and other environmental hazards by virtue of where they live (for example, low-income neighborhoods located near industrial facilities), where they work, or other factors often related to their socioeconomic status."

HB 19-1314 provides no further guidance to either the JTAC or the OJT on how specifically to address issues facing disproportionately impacted communities. But we agree with the JTAC that the Legislature included

<sup>11</sup> C.R.S. 8-83-501(1)(c)(II).

these communities in the bill because it "wanted their voices and their lived experiences to be centered in our work." In other words, the Legislature clearly intended for us to keep a close eye on issues of environmental justice.

In many ways, these issues have a broader context than the rest of our work – something the Legislature recognized when it included similar provisions in other climate and environmental legislation it passed in the same session as HB 19-1314. And we agree with the JTAC that these issues are best addressed in that broader context, which is why we are following its suggestion that OJT participate actively in emerging interagency efforts – led largely by the Colorado Department of Public Health and Environment – rather than creating our own independent (and potentially isolated) approach.

OJT will continue to rely on the advice of the Disproportionately Impacted Communities subcommittee of the JTAC, and it will play as active a role as possible in broader interagency efforts. As with our work on behalf of transition communities and workers, this is a long-term challenge to which we make a long-term commitment.



#### C. Finding Resources to Support the Transition

A Shared Obligation

Funding a just transition for Colorado coal communities will be a shared obligation among public and private actors at the local, state, and national levels. As the JTAC clearly recognized, and as we have pointed out throughout this document, figuring out the funding details in a time of significant economic uncertainty and fiscal constraints is among the most challenging parts of our work.

Luckily, most of the early actions outlined in this plan can be achieved within existing resources – or with very modest increases in state funding or support from other stakeholders. And getting these early actions right – planning well for the transition at the community and individual levels and laying a solid foundation for future strategies – could greatly reduce the long-term costs of the transition at all levels. There are a wide range of potential sources of funding for these early actions – even some of the more costly ones. And some sources are particularly well suited for specific strategies in this Action Plan. We are optimistic about many of these.

Specifically, we are encouraged by early indications that there may be meaningful investor interest in supporting business attraction and expansion to diversify local economies in transition communities. In the community section, we outlined our commitment to get the process right to take advantage of any such opportunities. And we believe there may be enough interest among foundations and other funders to provide start-up costs of some of the strategies we have outlined – a task we describe in Community Strategy 6.

We also will explore ways to maximize investment and financial support for this plan from existing employers (utilities, power plants and mines), whom we believe have an obligation to assist. Coal workers and communities have not only fueled our economy – they have fueled the economic success of these companies and, for some, their shareholders. Tri-State, which owns both Craig Station and the Colowyo mine in Moffat County, set a hopeful example by pledging \$5 million to community support when it closed its Escalante plant in New Mexico. In addition, Senate Bill 19-236 requires that any utility that files a Clean Energy Plan with the Public Utilities Commission that includes the accelerated retirement of existing facilities must also include workforce transition and community assistance plans. <sup>12</sup> At a minimum, this will apply to the three power plants owned by Xcel Energy (Hayden Station in Routt County, Comanche Station in Pueblo County, and Pawnee Station in Morgan County) if, as expected, the Clean Energy Plan Xcel submits in early 2021 includes accelerated closures of these facilities.

<sup>&</sup>lt;sup>12</sup> C.R.S. 40-2-125.5(4)(a)(VII).

As for potential public funding for the strategies in this plan, much work remains to be done. We have already outlined actions to better determine the costs of some strategies proposed by the JTAC. And we have suggested there is a significant role for the Federal Government to play in funding retraining and income support for displaced workers throughout the nation. We are committed to fill out the rest of the puzzle over the coming year.

This Action Plan has three specific Funding Strategies to begin to address these challenges.



#### **Funding Strategy 1**

#### Develop realistic options for further State support of just transition strategies

Description: The potential big ticket items for which we have not yet identified appropriate or adequate sources of immediate funding include:

- Expanding infrastructure in transition communities, the costs of which could be large but can also be scaled based on available resources.
- Helping communities bridge the gap created by lost property tax revenues. The total property taxes paid in 2019 by all coal mines and coal fired power plants was approximately \$65 million. Through equalization under the School Finance Act, roughly a quarter of the total loss would be redistributed and shared with all school districts throughout the state.<sup>13</sup> Another specific portion (not yet calculated) would be backfilled through the community assistance plans required of some utilities in SB 19-236.<sup>14</sup> The rest – perhaps \$40 million or more annually if all coal facilities close -- will be lost to counties and other local taxing districts (fire protection, libraries, water conservancy, and more). This gap will persist until new economic growth generates enough new property value to permanently replace what is lost in these communities when coal facilities close.
- Some of the more ambitious components of the JTAC's recommendations for workers especially wage differential and wage replacement benefits, which could cost \$100 million or more over the duration of the transition.

#### First Actions

- OJT is working with economists at CDLE and issue experts in state government to develop the most dependable estimates of program costs and the actual levels of revenues lost to individual taxing districts in coal transition communities.
- 2. OJT is working with fiscal experts to identify specific funding options, including repurposing existing revenue streams and tax expenditures, developing other sources of funding, and other fiscal strategies for lawmakers (or voters) to consider should they decide to move forward with any of the more costly strategies discussed in this plan.

Authority: These actions can be taken within existing authority. Funding: These actions can be accomplished within existing funding.

**Timing:** Ongoing beginning in December 2020. **Lead:** OJT.

<sup>&</sup>lt;sup>13</sup> For a good introduction to how equalization works within Colorado's School Financing formula, see <u>School Finance in Colorado (2020)</u>, Colorado Legislative Council Staff, Research Publication #746, especially "Local Share and State Aid" (pages 14-16).

<sup>14</sup> C.R.S. 40-2-125.5(4)(a)(VII).

### Funding Strategy 2

Work with utilities and mining companies to increase transition funding

Description: As mentioned, we believe the utilities and mining companies share some of the obligation for funding community and worker transitions, and we will work with them on ways to do that. Options include direct financial assistance for communities and workers as well as locating new energy infrastructure projects in transition communities for the benefit of local tax revenue and employment. An additional mechanism, referred to as power plant "securitization," was authorized through SB 19-236 and could provide significant additional resources for communities and workers through a form of debt refinancing.

#### First Actions:

- The OJT will seek to work directly with and assist power plant and mine owners on strategies for supporting transition workers and communities, either directly or by helping fund some of the strategies in this Action Plan.
- The OJT will coordinate with the Colorado Energy Office and staff at the Public Utilities Commission to further explore options, including securitization, that can be leveraged through the regulatory process.

Authority: These actions can be taken within existing authority. Funding: These actions can be accomplished within existing funding. Timing: Ongoing beginning in January 2021.
Lead: OJT, with CEO.

### Funding Strategy 3

Ensure the OJT has adequate capacity to continue to develop and implement this Action Plan.

Description: By far, the greatest needs for investment and funding are in transition communities and among displaced workers. The role of 0.JT and other state agencies is to effectively coordinate and support those transition efforts and to leverage state resources, programs, and authority to benefit local transitions. Right now, the 0.JT is an office of one person. In his budget for FY 2021-22, the Governor has requested a modest increase in funding and staffing (up to a total of 3.5 FTE) for the office to better ensure it can achieve its goals on behalf of these communities and workers.

#### First Actions:

CDLE will support the Governor's budget request for OJT through appropriate channels and will provide
any data and other information the General Assembly needs to determine whether to include additional
funding for OJT in the state budget.

Authority: This action can be taken within existing authority. Funding: This action can be accomplished within existing funding. Timing: January through June 2021.
Lead: CDLE.

#### D. Keeping this Action Plan Current

A long-term commitment to success

Colorado's transition away from the use of coal as a fuel for generating electricity will span many years. We anticipate three basic phases (with some overlap):

- 1. Preparation, during which we lay the groundwork for a successful transition by planning and beginning to implement strategies to assist communities and workers. This phase began with the passage of HB 19-1314
- almost two years ago, and we expect it will continue until 2023 and longer in some communities.

  Closure, during which Colorado's remaining power plants (and some coal mines) close down. This will be the period of maximum negative impact to workers and local economies. While it will happen sooner in some communities than in others, as a state we expect this phase to last from 2023 through at least 2030.
- 3. Recovery, during which workers and communities complete their transitions to a future after coal a future we are committed to making as bright and prosperous as possible. We believe this phase can begin soon, as communities get a head-start on diversifying their economies and workers start planning early to take charge of their own futures. It will end when we have accomplished the goals for workers and communities laid out in the Executive Summary of this plan. 15 How long this phase lasts will depend on how soon we start and how much energy and focus each of us brings to the effort.

This plan outlines only those strategies and actions we plan to take over the next several years - during this initial preparation phase of the transition. We intend for these strategies and actions to lay a solid foundation for an effective longer-term process. And we will be reporting on our progress and updating this plan on an annual basis. We will do so through a transparent process that engages stakeholders (especially through the Just Transition Advisory Committee), builds on successes, and reflects the lessons from any mistakes we make along the way.

None of this will be easy. But the Office of Just Transition takes seriously the "moral commitment" the State made in House Bill 19-1314 to "a just and inclusive transition." Coal workers and communities are obviously in this for the long

<sup>To Goals from the Executive Summary:

Through a just transition we intend to help each community end up with more family-sustaining jobs, a broader property tax base, and measurably more economic diversity than when this process began in 2019.

Through a just transition we intend to help workers who are laid off from the coal industry or related businesses secure good new jobs with family-sustaining incomes – and to help them do so without sacrificing their families' economic security. This includes achieving secure retirements for older workers who may not wish to stay in the workforce.</sup> 

# **APPENDIX**

#### **Coal Communities**

When HB 19-1314 passed in 2019, eight coal-fired power plants were operating in Colorado. One closed that year, and the remaining seven are likely to close over the next 10-15 years. As a direct result, at least some of Colorado's six operating coal mines are likely to close as well. "The most regarding six counties. This plan refers to chose as "Ell-The most regarding six counties." This plan refers to these as "Tier One Transition" and the plant of the plant pla Communities." They are:

- . The West End of Montrose County, and particularly the towns of Nucla and Naturita, which was home to a coal-fired power plant (closed in 2019) and a coal mine (closed in 2017) that together employed over 90 workers, and in 2017 paid \$1.8 million in property taxes to the county, local schools and other special districts.
- The Yampa Valley (Routt, Moffat and Rio Blanco counties and the communities of Craig and Hayden), which as a region is home to two
  coal-fired power plants and four coal mines that collectively employ almost 1,000 workers, and in 2018 paid over \$19 million in property taxes
  to local districts. Most of these facilities are expected to close between 2025 and 2031.
- Morgan County, and the cities of Ft. Morgan and Brush, which is home to a coal-fired power plant that employs nearly 80 workers and in 2018
  paid approximately \$12.7 million in property taxes to local districts. Early closure of this facility has not been announced but could happen between 2025 and 2030.
- . Pueblo County and the City of Pueblo, which are home to a coal-fired power plant that employs 150 workers and in 2018 paid more than \$29 million in property taxes to local districts. Two of the three units of this facility are set to close between 2023 and 2026. The accelerated closure of the third unit has not been announced but could happen by the early 2030s.

A second tier of communities in five Colorado counties either face significantly less disruption or are home to coal mines that supply markets that are not directly related to electrical generation in Colorado. They are:

- El Paso County, home to two coal-fired power plants that together employ 166 workers. One is scheduled to close in 2023 and the other in 2030. However, because they both belong to Colorado Springs Utilities, a community-owned utility run by the City, there will be no property taxes lost when they close. The utility has also committed that there will be no layoffs resulting from these closures.
- Larimer County, home to a coal-fired power plant that employs approximately 100 workers and is scheduled to close by 2030. This facility is
  owned by Platte River Power Authority, which also is a community-owned utility (serving the cities of Estes Park, Fort Collins, Longmont and Loveland), meaning there will be no property taxes lost when it closes. The utility has also stated it will try to avoid any layoffs resulting from
- Gunnison County, home to the state's largest coal mine, and neighboring Delta County, where most of the miners live. With roughly 350 employees, the closure of this facility would significantly impact both counties and nearby communities. However, no such closure is puknown or anticipated, and the mine serves mostly out-of-state markets (including some global customers).
- La Plata County, home to a coal mine that employs around 90 workers. This facility is owned by and provides fuel for a regional cement and concrete producer. It is not related to electricity generation and is not expected to close within the timeframe of this plan.

Finally, we should note that coal mining might soon make a comeback in Las Animas County, which has a long history with the industry dating back more than a century. The new owners of New Elk Mine - an idle coal mine near Weston, west of Trinidad - recently announced plants to reopen the mine to provide coking coal to markets in Asia. Their plans are to begin production in 2021 and to employ over 300 people at full production, suggesting that coal mining may continue in Colorado long after the State's last coal-fired electrical power plants close.<sup>17</sup>

<sup>&</sup>lt;sup>16</sup> Closure dates and plans referenced in this document are based on formal announcements from the companies themselves or are estimated based on best available information from the companies and other reliable sources. The greatest uncertainty exists around the potential closure of coal mines. All of the dates in this document should be considered to be estimates, and none should be considered firmly established unless explicitly stated.
<sup>17</sup> Information about plans for the New Elk Mine are from a briefing of Just Transition Office Staff by Mark Gray, Chairman and Managing Director, Allegiance Coal Limited, November 2, 2020, and from Allegiance Coal Limited's Website.



The Office of Just Transition

March 1, 2021

# The Need for Federal Support to Ensure Just Transitions for Local Energy Economies

Colorado is the first state to develop a detailed <u>statewide plan</u> to help workers and communities transition away from coal as an economic driver. In that process, we have learned some valuable lessons that can benefit other states and the nation as a whole. Chief among them is the critical role the Federal Government can and should play to ensure a "just transition" for fossil-fuel workers and communities.

Key to the success of any state's just-transition strategy is the active partnership of the Federal Government. Specifically, the Federal Government can:

- Lead a national strategy for impacted fossil-fuel workers
- · Address local budget shortfalls due to loss of property taxes and other revenues
- Help finance state and local economic development, resiliency, and diversification
   offerts.

The nation's transition to new sources of energy will create many thousands of new jobs and significant economic opportunities throughout the economy. Still, there will be job losses and difficult challenges resisting fossil-fuel communities and workers. In Colorado, several thousand high-paying jobs are likely to disappear over the next decade as we transition away from coal as a fuel for generating electricity. Tens of thousands of other coal jobs will likely disappear from other states, from Wyoming to West Virginia, over the same period.

These changes are the result of a fundamental transition in energy markets and the nation's response to the global climate crisis. But while this shift may be both essential and inevitable, we have a choice as to how traditional energy workers and communities will experience it. With their skills and hard work, they have powered our nation's prosperity for generations. In 2019, Colorado acknowledged a moral obligation to ensure they continue to share in our nation's prosperity, and it established the nation's first state Office of Just Transition, along with an advisory committee representing affected parties and stakeholders.

States have a critical role to play in advancing a "just transition" for fossil-fuel workers and fossil-fuel communities. But they cannot do it alone, especially when it comes to worker-related strategies that may cost significant amounts of money. Nor should they — most of the coal that has fueled our economy is concentrated in a handful of states with relatively small populations. For example, Wyoming and West Virginia combined account for over half of the nation's coal and more than a third of the nation's coal miners, but only one-half of one percent of the nation's GDP.

These states should not be left to fund <u>worker</u> transitions on their own. The entire country has benefited from their work, and the Federal Government must therefore play a strong role in ensuring consistent and equitable transitions for workers throughout the nation.

Nor should states be left to fund <u>community</u> transitions on their own. Coal facilities are usually among the largest economic drivers and property tax payers in their communities. And while successful transitions must be driven at the community level and build on local strengths, assets, and visions, the Federal Government is the *only* partner with the capacity to provide consistent and equitable financial support for these efforts.

1

# 1. A national strategy for impacted fossil-fuel workers

Colorado's Just Transition Advisory Committee made significant recommendations for how the public sector can assist coal workers as they transition to good jobs elsewhere in the economy (or to retirement when appropriate). These recommendations include training strategies, assistance with job searches and related expenses, and temporary income support.

These recommendations recognize the difficulty of the transition many workers will face. But they also will be costly to implement (we estimate they will total at least \$100 million in Colorado alone, and more in other states with much higher numbers of coal workers), which is why the Office of Just Transition has not endorsed them in their entirety as a state-funded strategy. Leaving the development and financing of worker transitions to individual states will lead to a hodgepodge of responses, with some states able to provide varying levels of assistance to displaced workers and other states unable to provide any support at all.

A uniform national approach would avoid such disparities, while making just transitions more affordable and effective. And by spreading the responsibility across all 50 states, it would be a fairer approach. The Federal Government is in a far better position than individual states to establish and fund uniform benefits for all energy workers in transition. It may also be able to do so relatively simply, in part by amending existing programs (such as the Trade Adjustment Assistance program) that already provide assistance for other displaced workers. We believe extending existing national programs to cover displaced fossil-fuel workers would be a much better solution than relying on states to construct and fund their own programs from scratch.

#### 2. Address local budget shortfalls due to loss of property taxes and other revenues

Local communities often depend on coal mines and power plants for a large portion of property taxes and other revenue that support local schools and other critical infrastructure and services. The loss of these revenue streams could be devastating to many communities, making recovery much more difficult

In Colorado, we estimate it could take the creation of over \$3 billion in new commercial property value to replace the property taxes that will be lost due to the closure of the state's coal mines and power plants. That will take time, and meanwhile these communities will need to continue to provide essential services. The ability of individual states to backfill for the loss of local revenues until new employers and economic drivers take their place will vary significantly – and in all cases will be difficult. Here again, the Federal Government can play an important (and temporary) role to help communities get back on their economic feet.

# 3. Finance state and local economic development, resiliency, and diversification

Effective local economic recoveries cannot happen from the top-down. They must be driven by communities themselves. But many of the most heavily affected communities in Colorado – and throughout the nation – are small and therefore will require additional technical and financial resources to lead and implement promising strategies. States can and should help. But, again, the Federal Government is the <code>only</code> partner in this process that can provide consistent financial support for these recovery efforts.

For more information on Colorado's transition work and experience, contact the Colorado Office of Just Transition at cojusttransition@state.co.us.



# March 18, 2021

The Honorable Paul Tonko Chairman Subcommittee on Environment and Climate Change Committee on Energy and Commerce Committee on Energy and Commerce U.S. House of Representatives Washington, DC 20515

The Honorable Frank Pallone, Jr. Chairman U.S. House of Representatives Washington, DC 20515

The Honorable David B. McKinley Ranking Member Subcommittee on Environment and Climate Change U.S. House of Representatives Washington, DC 20515

The Honorable Cathy McMorris Rodgers Ranking Member Committee on Energy and Commerce Committee on Energy and Commerce U.S. House of Representatives Washington, DC 20515

Dear Chairman Tonko, Ranking Member McKinley, Chairman Pallone, Ranking Member McMorris Rodgers, and Members of the Subcommittee:

The Biotechnology Innovation Organization (BIO) is pleased to submit a statement for the record to the United States House of Representatives Committee on Energy and Commerce Subcommittee on Environment and Climate Change hearing entitled, "The CLEAN Future Act: Industrial Climate Policies to Create Jobs and Support Working Communities."

# **Introduction**

BIO¹ represents 1,000 members in a biotech ecosystem with a central mission – to advance public policy that supports a wide range of companies and academic research centers that are working to apply biology and technology in the energy, agriculture, manufacturing, and health sectors to improve the lives of people and the health of the planet. BIO is committed to speaking up for the millions of families around the globe who depend upon our success. We will drive a revolution that aims to cure patients, protect our climate, and nourishes humanity.

Our members use technology to enhance cultivation and food production and produce sustainable biofuels, renewable chemicals, and biobased products, which provide a cost-competitive alternative to petroleum's value chain that also generates added value through economic development, job creation, and environmental and public health. Companies are utilizing biological processes to convert biomass and waste feedstocks into everyday products while creating new markets for agricultural crops, crop residues, and waste streams - in addition to contributing to a circular economy.

<sup>1</sup> https://www.bio.org/

#### **Overview**

BIO welcomes this opportunity to provide input on H.R. 1512, the *Climate Leadership and Environmental Action for Our Nation's (CLEAN) Future Act.* 

To tackle the climate crisis, it is crucial to lead with science and U.S. innovation. We must incentivize the adoption of innovative and sustainable technologies and practices and streamline and expedite regulatory pathways for breakthrough technology solutions to reduce carbon in hard to abate sectors. In doing so, the federal government can support pioneering technology breakthroughs that reduce greenhouse gas emissions in manufacturing, transportation, and agricultural supply chains to build a stronger, more resilient, and environmentally sustainable economy.

Federal climate policy should modernize infrastructure and manufacturing capacity to increase availability of biobased products. Climate legislation should seek to increase the use of biobased manufacturing, low-carbon fuels, and sustainable agricultural solutions to promote resilient and sustainable supply chains across economic sectors including translating sustainability to best practices to all bioindustries. If done right, climate legislation will drive adoption of market pull incentives for investment in and use of innovative technologies and products that fight climate change.<sup>2</sup>

BIO applauds the *CLEAN Future Act* including provisions supporting the production and deployment of sustainable fuels. It is critical that the Industrial Sector provisions of H.R. 1512, support and promote the development of biobased manufacturing to reduce emissions, rebuild our national economy and workforce in a forward-looking manner, and bolster our economic independence in a way that facilitates self-sufficiency. Finally, BIO welcomes the inclusion of comprehensive environmental justice provisions.

# **Transportation Sector**

#### Pathways

BIO is pleased the *CLEAN Future Act* includes Sec. 411 ACCELERATING APPROVAL OF CLEAN FUELS. The U.S. Environmental Protection Agency's (EPA) delays in approving biofuel pathways and facility registrations have led to an erosion of the Renewable Fuel Standard (RFS) as Congress intended. Developing and producing these fuels and attracting investment to sustainable fuel projects has been curtailed because of EPA's actions. This hampers the growth of rural America and stymies the development of the bioeconomy. Bringing these innovative technologies online will be critical to creating a resilient, healthier transportation sector in a post-COVID economic recovery. BIO also supports bipartisan, stand-alone legislation from Senators John Thune (R-SD) and Jeanne Shaheen (D-NH), S. 218³, to address this issue.

<sup>&</sup>lt;sup>2</sup> https://www.bio.org/strategic-vision

https://www.congress.gov/bill/117th-congress/senate-bill/218

Beyond the CLEAN Future Act, BIO would urge the Committee to use its oversight authority over EPA to ensure the Agency interprets the RFS broadly and accommodate all pathways and approve facility registrations that could fall within the existing statute. Specific areas that would have an impact immediately to accelerate the production of low carbon sustainable fuels are related to biological carbon capture and utilization (CCU), the interpretation and eligibility of "renewable biomass", the use of biointermediates, and life-cycle and tracking methodologies for sustainable fuels from waste agricultural residues such as corn kernel fiber. This would have immediate benefits for reducing greenhouse gas emissions in the transportation sector and agricultural sector by create more demand for waste feedstocks and renewable biomass.

# Transparency of Small Refinery Exemptions

BIO applauds the inclusion of Representatives Angie Craig (D-MN) and Dusty Johnson (R-SD) bipartisan Renewable Fuel Standard Integrity Act, H.R.  $1113^4$  in SEC. 413 INFORMATION IN PETITION SUBJECT TO PUBLIC DISCOLUSRE of the CLEAN Future Act.

When allowed to work, the RFS has enabled billions of dollars of investment in new technologies that have led to the rapid growth of the renewable fuels industry, the development of new fuel technologies, and the biobased economy. The growth of the biofuels industry has bolstered our rural communities and provided agriculture producers stable commodity markets, benefitting our nation's economic and energy security. Unfortunately, the demand destruction caused by the EPA's drastic expansion of small refinery exemption waivers or small refinery exemptions (SREs) has had a major impact on the industry, costing jobs, stifling investment in innovation, and undermining efforts to reduce greenhouse gas emissions in the transportation sector.

Providing greater transparency, predictability, and accountability to EPA's SRE process as proposed in H.R. 1512, will ensure success of the sustainable fuels industry, enable agriculture to reduce emissions, and bring even greater job growth to rural America.

# Biofuel Infrastructure

BIO appreciates the Committee's interest in expanding U.S. electric vehicle infrastructure and access. However, we urge the Committee to recognize biofuels already provide a strong and immediate solution to reducing emissions in transportation. It is critical the Committee understands that these solutions are available today, and do not require a mass turnover in vehicles. Reducing carbon emissions now is much like compounding interest. Just in the way that a dollar saved today is better than a dollar saved tomorrow, limiting carbon emissions today is far more valuable than limiting the same or a greater amount emission later.

<sup>&</sup>lt;sup>4</sup> https://www.congress.gov/bill/117th-congress/house-bill/1113

BIO urges the Committee to include language in the *CLEAN Future Act* to invest and develop biofuels infrastructure and access. This includes the development of biorefineries and deployment of advanced biofuels as well as investments in infrastructure to help consumers access low carbon fuels.

Bolstering the U.S. Department of Energy (DOE) Energy Efficiency and Renewable Energy (EERE) Bioenergy Technology Office (BETO) will help fund vital research and development of technologies to convert our nation's biomass resources into clean, renewable fuels, as well as chemicals and industrial products. BETO Systems Development and Integration (SDI) program is working to establish first-of-a-kind integrated biorefineries, to produce advanced biofuels, such as sustainable aviation fuels, that are capable of efficiently converting a broad range of biomass feedstocks into commercially viable biofuels, biopower, and other bioproducts. While the U.S. Department of Agriculture's (USDA) Higher Blends Infrastructure Incentive Program (HBIIP) could provide a model for developing the needed infrastructure to deploy low carbon fuels.

# Additional Provisions

BIO urges the committee to recognize that because of biotech innovations, the production of biofuels is becoming more efficient and environmentally sustainable. Unfortunately, EPA's current greenhouse gas modeling for ethanol and biodiesel do not reflect these improvements. Including Senators Thune and Amy Klobuchar's (D-MN) bipartisan *Adopt GREET Act*, S. 193<sup>5</sup> in H.R. 1512 will ensure these benefits are recognized.

BIO also encourages the Committee to further examine the development of a federal Low Carbon Fuel Standard (LCFS) that is technology and feedstock neutral and builds on the success of the RFS to ensure agriculture and low carbon, sustainable fuels are part of future solutions to significantly reduce emissions in transportation.

# **Industry**

Federal Buy Clean Program

BIO is pleased that the *CLEAN Future Act* establishes a federal "Buy Clean" standard for the use of federal funds to incentivize more sustainable practices. These standards, we hope will promote the procurement of building materials and products that are manufactured through low greenhouse gases (GHGs) intensity processes.

While we appreciate the intent, we encourage the Committee to recognize that similar programs have existed for some time now, such as the USDA BioPreferred Mandatory Federal Purchasing program and the EPA's Environmentally Preferable

<sup>&</sup>lt;sup>5</sup> https://www.congress.gov/bill/117th-congress/senate-bill/193

Purchasing Program but without agency mandated key performance indicators or methodologies to hold them accountable the intent alone has failed to create the necessary market pulls for these more sustainable products. In other words, there are no consequences fiscally or otherwise if the federal funds are not being utilized to procure low carbon alternative products. We urge the Committee to put in place mechanisms to hold parties accountable that fail to do the necessary due diligence. BIO also recommends the scope of the "Buy Clean" standard can be expanded to other areas of government procurement beyond the building and construction sector.

BIO is also heartened to see the Committee recognize that both biogenic carbon-based products as well as carbon sequestered products can help to achieve lower GHGs manufactured goods. The transformation of biomass (and its embodied "biogenic" carbon<sup>6</sup>) into products represents in effect a removal of CO<sub>2</sub>, via its continued storage in the product over a period. Biobased products can thus contribute to reduce the CO<sub>2</sub> level in the atmosphere and address global warming. For GHG accounting purposes, biogenic carbon embodied in a product should be considered as a CO<sub>2</sub> reduction or a "negative emission". Therefore, it is essential that biogenic carbon flows are assessed in a correct, transparent, and consistent way in Life Cycle Assessments (LCA) and product carbon footprint (PCF) tools. The lack of adequate assessment would hinder the introduction of innovative solutions to climate change rather than support it. We are therefore supportive of establishing a National Environmental Product Declaration (EPD) database to help verify the embodied carbon of materials and products acquired with federal funds.

# Clean Energy Manufacturing Grant Program

BIO is pleased to see the Committee recognizes the need for the establishment of a program to award grants to existing manufacturers for projects to reequip, expand, or establish a facility. Often developers, especially those in the bioenergy and biotech sectors come face to face with the valley of death in their innovation pipeline from proof of concept to scale up. While venture capitalist and government funding are prevalent for new concepts and stage one projects, the funding often dries up post pilot phase where scale up challenges and retrofitting capital investments are needed for commercial viability. Ultimately, the valley of death reflects the perceived imbalance of risk and reward for an investment at this stage as well as the resulting difficulty for a biotech company in raising capital during this time. This is exactly where there needs to be governmental intervention strategy to enable fledgling innovators crossover into the commercially successful threshold. For example, while EERE and the Advanced Research Project Agency–Energy (ARPA-E) are admirable grant programs, but much of their focus is on projects that are in large part early – stage.

<sup>&</sup>lt;sup>6</sup> Biogenic carbon: carbon which is contained in biomass Biomass: material of biological origin excluding material embedded in geological formations or transformed to fossilized material.

Support Platform Technologies to Revolutionize Energy and Industry

Innovations like synthetic biology, gene editing, cell culturing, and fermentation hold tremendous potential to solve urgent challenges throughout industrial and manufacturing supply chains, which will only be compounded by climate change. These platform technologies can revolutionize manufacturing by optimizing processes for producing sustainable chemicals, biobased products, and biofuels. <sup>7</sup> Producers and developers will need access to these innovative technologies to increase production while cutting down on their environmental footprint. Enabling regulatory systems to keep pace with advancements in biology is essential if society is expected to fully benefit from food, health, and industrial products developed using the very latest cutting-edge platform technologies.

Furthermore, domestic regulatory pathways must provide for more expedient approval timelines to ensure the economics of new product development are not a deterrent to bringing new products to market. In the absence of a predictable and well-designed regulatory product approval system developers may choose to invest in more mature markets with better approval timelines. Investments by the government in next generation of biotechnologies and genomics will also be critical to meet the challenge of climate change.

# **Waste Reduction**

BIO is supportive of the Committee's goal of reducing plastic waste and in addressing related climate change impacts. We applaud the committee for the inclusion of zero waste and recycling initiatives in the bill and believe these are a much-needed positive step toward mitigating climate change. With the world population projected to increase to 10 billion by 2050, meaningful action is required to fundamentally alter the way in which we manufacture, use, reuse, and recycle plastics.

We, however, would like to point out that not all plastics have the same environmental footprint and there needs to be a distinction in both policy and practice to appreciate these very distinct physical and environmental properties. As BIO highlighted last year in a statement submitted to the Committee's hearing, "Reduce, Reuse, Recycle, Reform: Addressing America's Plastic Waste Crisis," biotechnology is enabling the production of sustainable alternatives to petroleumbased plastic.8 The innovations and technologies emerging from the biotechnology sector, such as alternative biobased/biodegradable/biocompostable plastics, and carbon recycling, are central to enabling societies and economies to restructure, adapt to a changed environment and mitigate against future impact on the planet. Importantly, the biomanufacturing and synthetic biology sector is developing new techniques which are allowing other foundational industries and sectors to improve their environmental performance and overall competitiveness.

<sup>7</sup> https://www.bio.org/blogs/synthetic-biology-sustain-agriculture-and-transform-food-system 8 https://www.bio.org/letters-testimony-comments/bio-testifies-biobased-products-address-plastic-waste

The National Bioeconomy Strategy<sup>9</sup> of the United States rightly raise concerns about the long-term effects of plastics in the environment and calls for the increased use of biobased renewable and sustainable materials as a means of addressing these issues. Accordingly, to achieve this objective BIO is supportive of developing a more holistic regulatory framework which includes creating effective standards and definitions specific to advanced biotechnologies and bioproducts. Biobased plastics standards, including standards for compostable plastic products, must be addressed as part of an overall North American plastic waste agenda. The development of guidelines around labeling for recyclables and compostables, require standardization in cohort with innovative technology manufacturers. Its success requires coordinated and adopted standardized terminology, government regulations and policy incentives to provide the impetus for consumers and manufacturers to shift towards the adoption of alternative plastics as a practical solution to addressing the environmental performance issues.

We urge the Committee to recognize that putting in place a pause on permitting for new and expanded plastic production facilities that does not account for the strides the biobased and plant-based alternatives sector is making can decimate a burgeoning industry especially considering a post COVID world where green jobs have the potential to truly transform how we address recovery.

#### **Environmental Justice**

BIO applauds the Committee's efforts to address environmental justice. As part of BIO's BIOEquality Agenda<sup>10</sup> broadening access to biotechnology advances to clean the environment and elevate community health is critical to health equity in disadvantaged communities.

Harmful tailpipe emissions, including particulate matter (PM) from the transportation sector disproportionately affect areas comprised of minority populations. For example, according to a study by the Union of Concerned Scientists (UCS), African Americans and Latinos breathe in about 40 percent more particulate matter from cars, trucks, and buses than white Californians<sup>11</sup>. Another UCS study found Northeast communities of color breath 66 percent more air pollution from vehicles<sup>12</sup>.

According to the National Bureau of Economic Research, the United States saw fine particulate pollution increase 5.5 percent between 2016 and 2018. According to the American Lung Association, State of the Air report for 2019, more than four in ten Americans live in counties that have unhealthy levels of ozone pollution or particulate matter.<sup>13</sup> Prior to COVID-19, the World Health Organization<sup>14</sup> found that

<sup>&</sup>lt;sup>9</sup>https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/national\_bioeconomy\_blueprint\_april\_20\_12\_ndf)

<sup>10</sup> https://www.bio.org/bioequality-agenda

https://www.ucsusa.org/resources/inequitable-exposure-air-pollution-vehicles-california-2019

<sup>12</sup> https://www.ucsusa.org/about/news/communities-color-breathe-66-more-air-pollution-vehicles

http://www.stateoftheair.org/key-findings/
 https://www.who.int/health-topics/air-pollution#tab=tab 1

4.2 million deaths<sup>15</sup> every year occur because of exposure to ambient air pollution. Since then, numerous studies have found that long-term exposure to levels of tiny particulate matter were linked to a significant increase in the mortality rate for COVID-19<sup>16</sup>.

Biobased technologies can reduce pollution in the transportation and manufacturing sector, improving environmental and human health. As BIO stated in its comments to the EPA's Scientific Advisory Board (SAB) Review of COVID-19 Pandemic Scientific and Technical Issues to Inform EPA's Research Actives<sup>17</sup>, "our member companies offer several solutions that can not only help combat this pandemic, but also lessen the impact of a future pandemic by helping to establish a resilient, sustainable bioeconomy." As the Committee seeks to tackle the impact poor air quality has on disadvantaged communities, BIO encourages it to support the deployment of biotechnology and biobased technologies to reduce pollution, rebuild the workforce, and enhance human health through improved air quality.

# **Conclusion**

BIO is committed to working with the Committee, Congress, and the Administration to address the climate crisis. We urge you to support policy that advances pioneering technology breakthroughs. With science we can return our Nation and the world to health and prosperity by taking bold and drastic action to address the climate crisis.

https://www.who.int/gho/phe/outdoor\_air\_pollution/burden/en/
 https://www.newscientist.com/article/2241778-are-you-more-likely-to-die-of-covid-19-if-you-live-in-a-pollutedarea/

https://yosemite.epa.gov/sab/sabproduct.nsf//0/2996BA363B41C2598525854C0048EA69?OpenDocument



**Portland Cement Association** 

200 Massachusetts Ave NW, Suite 200 Washington D.C., 20001 202.408.9494 Fax: 202.408.0877 www.cement.org

March 3, 2020

The Honorable Paul Tonko Chairman Energy & Commerce Subcommittee on the Environment House of Representatives Washington, DC 20515

Dear Chairman Tonko:

I am writing on behalf of the Portland Cement Association to share our views on the Clean Future Act (CFA). Sustainability and environmental stewardship are top priorities for America's cement manufacturers.

PCA, founded in 1916, is the premier policy, research, education, and market intelligence organization serving America's cement manufacturers. PCA members represent 93 percent of the United States' cement production capacity and have facilities in all 50 states. Cement and concrete product manufacturing, directly and indirectly, employs approximately 600,000 people in our country, and our collective industries contribute over \$100 billion to our economy. Portland cement is the fundamental ingredient in concrete. Cement and concrete products are used to build highways, bridges, runways, water & sewage pipes, high-rise buildings, dams, homes, floors, sidewalks, and driveways. These products also are building blocks for many of the infrastructure projects needed to maintain a resilient, weather-resistant, and adaptive economy. The Association promotes safety, sustainability, and innovation in all aspects of construction, fosters continuous improvement in cement manufacturing and distribution, and promotes economic growth and sound infrastructure investment.

PCA and its members support market-based policies and initiatives that will enable the industry's continued reduction of its carbon footprint responsibly and sustainably. Foremost we want to see any legislation address global warming while preserving the global competitiveness of America's manufacturers. With that in mind, we offer our comments on the CFA based on their order in the draft legislative text.

# Title I - National Climate Target

Section 102 (Federal Agency Plans) directs federal agency heads to "achieve, in combination with the other Federal agencies, the national goal declared by section 101 [i.e., a 100 percent clean economy by not later than 2050]." While we believe that the provision was well-intentioned to push the federal government to do its share in reducing GHGs from its operations, we worry that the language outlining actions to meet goals in paragraph (b) could be read to expand the scope of federal agency authority under existing statutes. This could allow if not force agencies to issue regulations and "any other action the [Agency] determines appropriate to achieve the national goal," clashing with economy-wide policy provisions established in Title VIII. We encourage language that clarifies the intent of Section 102 to limit federal authority to the operations of the federal government itself.

We strongly support the bill's establishment of a Clean Economy Federal Advisory Committee (CEFAC) and the inclusion of representatives from the manufacturing sector, as reflected in section 104(a)(2)(L). Given the unique and particularly significant impact that federal climate policy will have on the nation's energy-intensive, trade-exposed (EITE) industries like those highlighted in section 421(c), CEFAC should include at least two additional representatives from EITE industries, including at least one industry for which manufacturing process emissions make up a significant portion of emissions. This committee is particularly important given the bill's lack of language addressing issues of leakage and international competitiveness. In addition, the scope and recommendations of the CEFAC should be expanded to require formal consultation during implementation of other critical components of the Act, including, at minimum, the Act's proposed FERC carbon pricing regime (Title II), any proposed Product Category Rule (Title V), any proposed State Model Program and regulatory structure for review of state programs (Title VIII), and any proposed Backstop Fee (Title VIII). The CEFAC should be directed to work with EPA, the Department of the Treasury, and other federal agencies in developing legally defensible regulatory and tax policies to address carbon leakage.

# Title II - Power

Cement manufacturers use significant power to drive machinery at their kilns, such as grinders, and support measures to reduce emissions from power generation. We support the Title's provisions expanding the use of clean power, such as hydroelectric. We believe that further GHG reductions could be made through nuclear energy investments and licensing reform. Lastly, a portion of any fees collected through the Alternate Compliance Payment program should go to federal research and development for commercially viable, large-scale carbon capture technologies. We also support the recognition of "waste-to-energy" as a valuable tool in reducing energy-related emissions in this section and encourage the Subcommittee to reinforce the importance of waste-to-energy policies in the industrial sector, as discussed further below.

#### Title III - Efficiency

PCA has concerns that the CFA that would require state and local governments to adopt specific codes to receive federal funding. This mandate would create a de facto national building code based on two organizations, the International Code Council (ICC) and the American Society of Heating, Refrigerating, and Air Conditioning Engineers. Recognizing PCA is a member of the ICC, these private organizations have internal processes for revising their codes that are mainly outside the realm of widespread public input compared to local government. Local governments are best able to decide what building codes should be based on their experience, climate, and natural disaster risks.

Further, the language seems to place energy efficiency to be superior to any other considerations. Public safety must be the foremost consideration in any code so that buildings can resist such threats as fires, hurricanes, and tornados. We encourage the Committee to maintain the current state and local role for building codes, with the Department of Energy providing technical assistance to hit national emissions targets.

# <u>Title IV – Transportation</u>

We encourage the Committee to collaborate with the House Transportation and Infrastructure Committee on how to reduce transportation emissions. The transportation sector makes up 29% of the United States total emissions. While mobile source energy efficiency is one key consideration, the efficiency of our nation's transportation infrastructure is also essential.

One tool that would apply to buildings and roadways is a life cycle perspective that considers not just the cars but the highways, roads, and surfaces they travel over. As Dr. Jeremy Gregory of the Massachusetts Institute of Technology testified on September 18 at the Subcommittee hearing on reducing industrial emissions, one opportunity to reduce fuel consumption would involve improving the pavement vehicle interaction (PVI) by reducing the "roughness or deflection in the pavements (which leads to additional energy dissipation in the vehicle)." By allowing for an accurate accounting of how much the material and construction play in pavement performance, reductions could be made to a significant contributor to global warming in the United States, transportation emissions.

MIT has conducted extensive research analyzing the fuel-efficiency impacts associated with road-material selection, based on the pavement-vehicle interaction, as well as the heat-island impacts of different pavement types and colors and their ability to absorb or reflect light. Pavement-vehicle interaction is the relationship between a vehicle's tires and the road's surface, such as roughness, texture, and deflection. PVI can lead to excess fuel consumption and greenhouse gas emissions. A study of the California Department of Transportation's highway network identified 1 billion gallons of excess fuel consumption over a five-year period as a result of the increased rolling resistance associated with some pavement types. See Attachment MIT CSHub, "Carbon management of infrastructure performance: Integrated big data analytics and pavement-vehicle-interactions, (Oct. 2016). These numbers demonstrate that building and maintaining stiffer pavements is important to reducing the nation's greenhouse gas emission. Also, research indicates that cities experience higher temperatures than less urban surroundings as heat-islands, the albedo effect. This is in part from street color and texture and how surfaces absorb heat. Considering these impacts from PVI and the albedo effect, the Committee should consider the role of building materials that have less impact on increasing temperatures when setting building material standards

# Title V - Industry

PCA appreciates the Committee's recognition that the industrial sector is unique, and that climate mitigation strategies and solutions appropriate to the power, oil and gas, and coal industries may not apply to our nation's manufacturers. This is particularly the case for EITE industries like cement manufacturing.

Cement manufacturing is both energy and carbon-intensive, a function of the tremendous heat energy and fuel needed to convert limestone and other materials into cement and the unavoidable carbon dioxide released during this chemical reaction. The cement industry is also trade-exposed. Cement is traded globally as a commodity in a massively competitive marketplace. The Environmental Product Declaration (EPD) requirement puts American producers at a significant competitive disadvantage to foreign countries who can export less regulated and/or higher-carbon cement into the U.S. market without incurring carbon-related costs imposed on domestic

manufacturers. As Congress embarks on establishing carbon policies, it must take into consideration the impacts on the U.S. cement industry and the unintended consequence of making cement plants uncompetitive and driving jobs offshore while maintaining or increasing global emissions.

With these considerations in mind, PCA applauds the Committee for including a separate title to address some of the unique challenges facing industrial manufacturers.

As an initial matter, PCA and its members support the CFA's efforts to provide DOE with more authority and direction with respect to supporting research, development, demonstration, deployment, commercialization, and technical assistance programs related to industrial applications of energy efficiency, energy management systems, fuel switching, carbon capture, and carbon removal technologies. *See* Section 501. PCA also supports the legislation's recognition that increased federal funding will be critical to accelerating the development of these technologies.

Cement manufacturers face unique and fundamental challenges associated with further decarbonizing the cement industry. While energy efficiency and alternative fuels will continue to be critical components of the industry's decarbonization strategy, 60% of the industry's CO2 emissions result from the chemical process of manufacturing cement. Currently, there is no commercially available, affordable, and scalable technology available to the cement industry for the capture, use, and storage (CCUS) of these manufacturing process emissions. Indeed, at the current pace of research and development, commercially available and economically viable CCUS technologies suitable for widespread adoption is years if not decades away. For us to meet the CFA's national goal of "a 100 percent clean economy by 2050," technological development will have to be accelerated, with a focus on industrial sectors like the cement industry. Such progress will require targeted federal funding and financial incentives to move the technology from the demonstration and pilot stage to commercial-scale use, as well as a significant investment in infrastructure to transport and store CO2 reliably.

We recommend that the Committee add language within the bill that requires that technologies be large-scale and commercially viable before they are used in setting mitigation reduction goals or timeframes. Any climate reduction mandate for manufacturers should account for the time needed to 1) bring specific technologies to commercial scale and economic practicability within specific industries, 2) establish the federal, state, and local infrastructure and legal systems needed to support all stages of carbon capture, compression, transport, utilization, and/or storage, and 3) accommodate the lengthy process needed for individual plants to site, design, permit, finance, construct, and operationalize specific technologies.

We also encourage the addition of a section related to alternative fuels that expands the definition of Waste-to-Energy referenced in Title II to include post-industrial and post-consumer non-hazardous secondary materials, including plastics, paper and fabrics/fibers that are not typically recycled. These materials are less carbon-intensive than traditional fossil fuels and divert methane-generating waste from landfills and are excellent alternative fuel sources for cement kilns and other industrial sources.

Current regulations disincentivize the use of alternative fuels, and climate legislation should reduce these barriers. Today, alternative fuels make up only about 15 percent of the fuel used by domestic cement manufacturers, compared to more than 36 percent in the European Union - as high as 60 percent in Germany. While our members would like to use more of these materials, current regulations and permitting requirements discourage manufacturers from increasing their use of alternative fuels, even when the emissions characteristics of such fuels are better than traditional fossil fuels. Federal policies should encourage the beneficial reuse of otherwise landfilled materials for energy recovery, reducing reliance on traditional fossil fuels, reducing GHG and air emissions from fossil fuel combustion, and decreasing public health and vector risks from land disposal.

With respect to the proposed Federal Buy Clean program in Subtitle C, PCA and its members believe that any such program would have to proceed very cautiously, with extensive consultation and participation by stakeholders during the development of product category rules (PCRs) and Environmental Product Declaration (EPD) standards. PCA and its members support efforts to inform building material users and procurement officials about the performance characteristics, resilience, durability, and energy and environmental impacts of their products across their full lifecycle. Current methodologies, however, frequently tell only part of the story.

EPDs have been identified as one way to inform the decisions of architects, engineers, and the public in the marketplace. Most EPDs limit their lifecycle impact analysis to a "cradle-to-gate" analysis of the product, however, ignoring the lifecycle impacts and benefits of the selected material and products during the use and post-use phases – critical considerations when making building decisions and formulating long-term climate policy. Even within a specific product category, the detail and specificity of the PCRs driving development of specific EPDs can influence the EPD's reliability in accounting for unique differences in suppliers and material sources. This system is particularly problematic when EPDs are used to compare different materials rather than just suppliers. Finally, EPDs only tell part of the story of a specific product's broader social impact because other benefits, like resilience, durability, heat resistance, and adaptability to climate change, may be excluded.

Given these challenges associated with use of EPDs as voluntary reference tools, implementing a system requiring their use in federal decision making is a momentous endeavor, requiring significant analysis to avoid unintended consequences. There are many different types of cement products and thousands of types of concrete products, each with environmental profiles. Further, implementing this system on a facility-by-facility basis with so many subcategories will impede infrastructure planning and construction. To be fair, any enforceable EPD requirement would need EPDs to be based on a cradle-to-grave LCA for full reductions to be made. The materials listed in section 501 are also not cohesive to the entire universe of building materials, giving some an unsubstantiated edge. Finally, we urge caution in using such a system for construction materials because it could lead to decision making based on perceived differences in a limited set of environmental impacts over the strength and other performance characteristics of the product necessary for the job.

#### <u>Title VI – Environmental Justice</u>

Title VI includes provisions that would expand federal and state authority to regulate "coal combustion residuals units (CCR)," including CCR landfills, CCR surface impoundments, or lateral expansions of a CCR unit. It would also prohibit, as open dumping, the use of CCRs in unencapsulated beneficial uses. While PCA appreciates and supports the need for sound regulatory policies that reduce long-term disposal of CCRs, PCA cautions the Committee to not impose undue restrictions on the beneficial use of coal ash. According to EPA's own 2015 regulatory impact analysis for the 2015 CCR rule, the beneficial use of CCRs provided "over \$2.3 billion in annual national environmental benefits", and "annual material and disposal cost savings of approximately \$2 billion annually." EPA, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule, 80 Fed. Reg. 21301, 21329 (April 17, 2015) Indeed, over a third of the benefits resulting from the 2015 CCR regulation were based on projected increases in beneficial use, accounting for annual benefits of between \$79 million and \$117 million. Id. at 21459.

While the bill does not address CCR piles or storage of CCR for beneficial use directly, PCA urges the Committee to consider the indirect impacts of any CCR policy and prevent policies that would discourage CCR generators from making them available for beneficial use, or that would hinder the storage and use of this valuable material by industries that incorporate these materials into encapsulated products and materials. This is particularly important for the cement and concrete industries, which accounted for over 60 percent of all encapsulated use of CCRs in 2018. Once blended into cement and/or concrete and used in end products, the CCRs, and their constituent parts, are bound within the mineral structure of the building material, minimizing the risk of release into the surrounding environment while providing important performance benefits to the end product. The use of CCRs in cement also provides carbon reduction benefits, offsetting the need for clinker and giving CCR an important role in the cement industry's long-term carbon reduction effort strategy.

Any long-term fix to the challenge of managing coal combustion residuals in the environment should protect, if not expand, current regulatory incentives for the on-site storage and beneficial use of CCRs for cement manufacturing and other encapsulated applications. This includes permitting the temporary storage of CCRs destined for encapsulated beneficial use at cement and concrete facilities.

# Title VIII - Economy-Wide Measures

PCA finds Title VIII to be the most problematic part of the CFA because it will result in a regulatory patchwork system that will inhibit voluntary investment, job creation, and economic growth. On its face, Title VIII essentially grants states almost complete discretion, subject to regulatory approval, for determining how to regulate industry and other elements of the state economy to meet the law's ambitious carbon reduction goals. The legislation could result in companies having to comply with multiple sets of requirements as it would allow one state to impose rigid command and control performance standards on industrial sources, another state to establish an intrastate cap-and-trade regime, and another state to impose a carbon tax.

While regulatory flexibility and federal/state cooperation are important elements of any regulatory strategy, regulatory certainty and consistency are equally, if not more important to the business community, especially the manufacturing and industrial sectors where regulatory policies can require hundreds of millions of dollars of capital investment, reengineering of operations, and even the economic future of facilities and jobs within specific communities. Major capital investment decisions are often developed on 5 to 10-year horizons, taking into account economic projections, trade considerations, legal and regulatory projections, and other factors. The unusually broad and open-ended state mandate within Title VIII will have significant negative economic impacts with respect to jobs, economic growth, and interstate and international commerce. CFA's state-based regime for cutting emissions will likely result in a 50-state patchwork of requirements for reducing GHGs. The regulatory inconsistency, uncertainty, and instability of such a patchwork system will inhibit voluntary investment, job creation, and economic growth. It also raises concerns for EITE industries like cement, where the risk of trade leakage is among the most significant threats to the US industry and the mechanisms for mitigating leakage risks are largely untested.

PCA urges the Committee to work with the manufacturing and industrial sectors to explore the implications of a patchwork approach and discuss options for mitigating adverse impacts. PCA also recommends that EPA be directed to consult with the CEFAC as part of the development of any regulatory requirements, model plans, or state plan criteria required under Title I, Subtitle A.

Should the Committee not pursue one national scheme, it should provide more direction to EPA and the states to integrate state-level policies with broadly applicable federal policies in the bill. For example, the statute should include express provisions in the carbon inventory process to account for transportation-related emissions within the state – a significant source type and one where states have control over transportation planning. Any federal Model Climate Pollution Phaseout Control Plan should allow for, if not require, interstate trading of credits, and provide the architecture for federal oversight and operation of such a system.

Finally, despite the Committee's acknowledgments in its framework document that trade leakage is a concern, the CFA Discussion Draft omits any discussion or remedy for trade leakage. A strong and legally defensible policy framework for protecting EITE industries from trade leakage will be critical to the success of any national carbon mitigation mandate. California, the European Union, and Mexico with existing greenhouse gas regimes all classify the cement industry as an EITE and consider the unique challenges EITE industries face in implementing policies. If a system like the CFA goes into effect without leakage protection, it would have devastating impacts on the cement industry and other EITE sectors. Domestic cement manufacturers would face competition from foreign suppliers who import less regulated, higher-carbon materials into the U.S. market without complying with the stringent wage, environmental, health, and safety standards required of domestic manufacturers, or provide significant subsidies. The perverse result would be that domestic climate policies could undermine domestic competitiveness while increasing global carbon emissions through higher shipping and transportation-related emissions and in many cases, sourcing products from less carbon-efficient manufacturers abroad.

Making sustainable progress toward GHG emission reductions while minimizing costs to society requires consistent, predictable policy and a regulatory environment that fosters innovation, investment, and economic growth. The CFA must protect the ability of EITE industries to compete in the global economy, such as free emissions allowances, a border adjustment, or other policy mechanisms.

PCA appreciates the opportunity to share our members' views on this legislation. Our members share the Committee's goal of decarbonizing the global economy and is committed to working with policymakers on fair and realistic solutions that achieve reductions without harming the U.S. economy, the environment, and the people in our communities. We look forward to working with the Subcommittee to shape and advance legislation that provides cement manufacturers with the support required to build on its history of sustainable investment in a responsible and sustainable manner.

Sincerely,

Sean O'Neill Senior Vice-President, Government Affairs Portland Cement Association

# Attachment-Additional Questions for the Record

Subcommittee on Environment and Climate Change
Hearing on
"The CLEAN Future Act: Industrial Climate Policies to Create Jobs and Support Working
Communities"
March 18, 2021

Mr. Kevin Sunday, Director of Government Affairs, Pennsylvania Chamber of Business and Industry

# The Honorable Cathy McMorris Rodgers (R-WA)

- You made an important point in your testimony that, "at present the only rural communities that are matching urban and metropolitan regions in terms of wage and productivity growth are those with natural resource development."
  - a. What have you seen in terms of productivity growth in rural communities with the shale revolution?

RESPONSE: Labor productivity is an under-valued metric (versus more broadly recognized and examined metrics like jobs, GDP and wages) and is useful for the context of understanding the competitiveness and quality of local and regional economies, as it measures the real economic output per hour of labor. An increase in a region's labor productivity indicates the region's workforce and assets are producing more and more goods and service that are found to be of value in a global economy. As such, we appreciate the additional focus from Leader Rodgers following the opportunity to testify on these policy matters.

As the PA Chamber's testimony noted, labor productivity growth has been highest in urban metropolitan areas. The only small metro economies that have fared well this century, compared to large urban areas, are those that specialize in oil, gas and mining. Within Pennsylvania, we have seen rural communities, particularly those in southwestern Pennsylvania which is host to the deposits of shale that also contain valuable natural gas liquids (which are used in a host of important manufacturing contexts, from outdoor recreation equipment to automotive components to medical devices), see greater increases in labor productivity compared to rural counties that do not have a defined mining or energy industry. As a specific comparison, the greater Pittsburgh metro (which includes the six rural and suburban counties adjacent to Allegheny County which hosts Pittsburgh) saw a nearly

12% increase in labor productivity from 2008-2019 (the 9<sup>th</sup> highest growth of metro areas in its peer group), based on an analysis of Census and Moody's economic data conducted by the Brookings Institution (see Metro Monitor 2020). This compares to a mere 4.5% productivity increase in the Erie metro area over the same period (66<sup>th</sup> among its peer group) or the York-Hanover metro (64<sup>th</sup>) – smaller metros within Pennsylvania that are have significant manufacturing operations but lack energy and mining resources. We would further note that the mere presence of energy resources are not a panacea – the state of New Mexico, for example, is the number three oil producer, but its state regulatory and tax environment are among the most burdensome in the nation, and among the least accommodating to entrepreneurship. A key catalyst for the growth and success of small metro economies who have oil and mining resources is a welcoming regulatory and tax environment that fosters the build-out of high value enterprises along the supply chain.

2. In your view, if we enact policies that stifle or effectively ban new development and delivery of energy resources, what would that mean for the residents and workers in these rural committees?

RESPONSE: Pennsylvania enacted state legislation that assesses a per-well impact fee for every unconventional natural gas well developed in the state. To date, this program has collected more than \$2 billion in revenue - the majority of it directed, per the law's funding formula, to counties with the most drilling activity, where the impact fee proceeds are used for infrastructure improvements, conservation projects, water infrastructure, emergency response equipment and other valuable public services that would not be funded but for shale gas development. This is in addition to the several billion dollars in royalties that have been paid out to landowners in Pennsylvania, which has helped keep family farms in business during volatile seasons in commodity (especially dairy) markets. The loss of drilling activity would represent the loss of one of the strongest catalysts for growth and support for the economies of rural Pennsylvania should these revenues and royalties evaporate as a result of federal policy - along with the direct and induced economic activity of local workers finding jobs in and supporting energy development. Nor is this loss hypothetical - one need only cross Pennsylvania's border and compare how many farms have been lost in rural upstate New York, despite straddling similar natural resources. Pennsylvania also has a strong coal and non-coal mining base - natural resources which may contain geologic strata rich in the rare earth critical minerals needed in advance manufacturing and alternative energy technology. Premature retirement of these industries, and the erosion of local workforces, will leave future generations in these communities at a disadvantage versus skilled workers who will need to be imported from other regions of the country.

a. What is the impact, to the extent that productivity growth is slowed or declines in rural areas?

RESPONSE: Simply put, the erosion or decline in labor productivity is an erosion and decline in the quality of life for a community's resident. By extension, labor productivity correlates with a region's standard of living, opportunity to form new businesses, ability to agglomerate and synthesize talent among various industries, attract new investment, and fund public services.

There is much discussion about finding new work for the tens of thousands of people who will lose their livelihoods because of the anti-fossil energy provisions and related impacts on energy intensive industry in the CLEAN Future Act.

From your perspective, how do wages in fossil energy related fields stack up with other sectors?

RESPONSE: Energy workers, broadly speaking, enjoy high wage premiums versus other sectors. A recent job and wage growth report from the National Association of State Energy Officials noted energy workers enjoy average wages 34% higher than the median worker. The report noted workers in the natural gas industry earned wages 59% higher than the median among all workers, and power generation workers earned 42% more versus the median. The report also showed that, within Pennsylvania, oil, petroleum and natural gas provided the most employment among all energy resources.

We also would note that prior to the pandemic workers in these industries saw substantially larger wage increases versus other sectors since 2016. According to state and federal wage and employment data, wages in the construction trades and extraction industries grew by 12% over that time, gas plant operations by nearly 20% and chemical plant operators 33.9%.

- 4. The Wall Street Journal reported that Toyota and Honda announced on March 17, 2021 that they would halt production at plants in North America in part because of a squeeze in crucial supplies, including plastic components, petrochemicals, and semiconductors.
  - a. What does this development signify for supply chain risks relating to policies in the CLEAN Future Act that may affect the Ethane Hub, plastic feedstocks, other components of industry?

RESPONSE: The announcement that automakers have suspended production due to a shortage of petrochemicals, plastics and semiconductors highlights the issues with respect to supply chain vulnerabilities, which were already noted during the pandemic, when there was a shortage of PPE and medical supplies. Both events speak to the need for a dynamic and secure supply chain, including a strong domestic productive sector. A regional ethane storage hub could be vital component of securing long-term domestic production of vital plastics and petrochemicals necessary for the production of medical supplies, automotive components and other vital commodities and goods.

b. How much should Congress focus on prioritizing the competitiveness of the U.S. supply chain and its industrial and manufacturing base when establishing environmental policy?

RESPONSE: As the International Energy Association's models clearly state, the world will continue to increase its demand for energy and improved quality of life, which will be met by an increase in manufactured goods and improved delivery of services. The only question is who will provide this energy and goods - countries like the United States, which are committed to human rights, environmental stewardship and democracy, or nations such as Russia or China who have very clearly demonstrated that the environment (and human rights and democracy) plays little role in their mining and energy development plans? Further, this question is not resolved by attempts to deflect the conversation away from the production of coal, oil and natural gas to renewable and nuclear resources - the same questions regarding stewardship of natural resources will come into play, given the substantial mining and processing that will need to take place to meet growing demand for hydrogen and critical minerals. Therefore we encourage Congress to elevate the importance of domestic competitiveness in all aspects of the supply chain - from mining and extraction to refining and processing to manufacturing and end use - as environmental policy is established. Arguably, executive branch agencies have not heeded such approaches in the past, which have been written into bedrock environmental statutes, including the Clean Air Act, which expressly defines its purposes, among others, to promote the productive capacity of the nation's population.

5. The CLEAN Future Act, as currently written, encourages federal agencies to mandate project labor agreements, or PLAs, on projects funded under this bill.

Government-mandated PLAs are controversial because in practice, they limit the pool of qualified bidders to primarily unionized contractors and union labor. I am not anti-union. I am pro-worker and pro-competition.

In Washington state, the unionization rate is relatively high at 18.6% - and that is not a bad thing at all. What I am concerned about is that PLAs would discriminate against the more than 80% of non-union contractors in Washington who would just want a fair shot at competing for projects funded under this bill.

Consider this example from another state: A solicitation for a federal agency contract in Manchester, New Hampshire, was originally issued with a PLA mandate. After nearly three years of PLA-related delays and litigation, the project was rebid with a PLA and then again without a PLA following a successful GAO bid protest against the PLA.

Comparing the project's 2013 bid results with and without a PLA suggests that PLA mandates increase costs and reduce competition. Without a PLA, there were more than three times as many bidders (nine vs. three) and the lowest bidder's offer was \$6,247,000

(16.47%) less than the lowest PLA bidder. In addition, firms that participated in both rounds of bidding submitted an offer that was nearly 10% less than when they submitted a bid with a PLA. The low bidder under the PLA mandate was from Florida, but without a PLA, a local firm from New Hampshire won the contract and completed it on time and on budget to the satisfaction of the Department of Labor.

Stories like this are why I am a cosponsor of the Fair and Open Competition Act (FOCA), which would prohibit federally mandated PLAs and ensure a level playing field for competition during the procurement of taxpayer-funded construction projects, while still allowing federal agencies to award contracts to businesses that voluntarily enter into a PLA.

What is most beneficial for workers, taxpayers, and communities: when federal government mandates PLAs on projects funded under this bill, or through fair and open competition, where project owners would be able to voluntarily enter a PLA?

RESPONSE: Unquestionably, the most beneficial outcome for all parties involved in a project is reached when the management of projects are able to make determinations based on the economics of the project, the availability of skilled labor and other factors regarding when and whether to contract with organized labor on a project. Mandated project-labor agreements raise costs with no commensurate gains in construction times or quality of service, as noted by various reports and studies, conducted by government agencies and independent researchers.

# The Honorable Richard Hudson (R-NC)

 Top-down, one-size-fits-all mandates and costs on Americans, threaten our nation's energy dominance and our national security.

Before the Coronavirus shut down our energy economy all Americans were benefiting from an energy renaissance. We had become the number one producer of oil and natural gas in the world which lowered energy costs to millions of Americans.

Rather than substitute government mandates and taxes for consumer choices, we must continue to unleash American innovation and free enterprise--- using all our resources to protect our economic and energy security.

Republicans want to work with Democrats to promote more innovative technologies. Our approach is to find ways to build and deploy new technologies faster. I introduced a bill – the Advanced Nuclear Deployment Act-- this past week that will help license the new micro-reactors that are being developed. These small reactors, as small as 1.5 megawatts, can be used in new ways, like providing power to military bases, to cool server farms, or for durable power for manufacturing facilities, without all the land and transmission costs and uncertainty that comes with renewables.

What would innovations like this mean for industrial development?

RESPONSE: As companies engage with shareholders, vendors and regulators on sustainability, more low- and zero-carbon options within the domestic energy toolkit are an asset. Small modular reactors have the potential to deliver baseload, zero-carbon emissions with minimal operational or supply chain footprints. Such a resource could provide reliable, sustainable power to a variety of high-energy industrial and commercial operations, including data centers and manufacturing clusters.

2. My bill also establishes an expedited licensing for second and subsequent builds of reactors that have been proven. This will help make for faster deployment of these technologies because investors would have regulatory certainty. This will be good for energy reliability and for clean energy. I'm disappointed the CLEAN Future Act is focused on regulation and mandates than on licensing reforms like this.

In your experience, should the federal government promote policies that help update regulations or lift regulatory burdens that stifle deployment of technologies like this?

RESPONSE: Pennsylvania was host to the first commercial nuclear plant in this nationa's history and retains a strong supply chain base to support its existing nuclear fleet, which is the second-largest among all states in the nation. This supply chain base includes a nationally recognized nuclear engineering program at Penn State University, where students learn by helping manage a test reactor. In the competitive markets, to the extent nuclear has had trouble competing, it is very clear much of the cost pressures have come as a direct result of federal overregulation, not marginal operational costs. In fact as the PJM's Independent Market Monitor's most recent report noted, nuclear facilities in the 13-state grid operate with zero marginal costs just like wind and solar. However, nuclear's capacity factor, or the functional output of actual energy produced versus its theoretical maximum potential, is 93% across PJM, compared to solar at just 16% or on-shore wind at 26% - meaning nuclear is producing essentially round the clock, except for refueling and maintenance outages. Despite this, nuclear's levelized cost of energy within PJM all things considered is higher than coal or gas, in large part due to onerous regulatory requirements. Rethinking our approach to the operational and licensing requirements of nuclear, along with continuing to support research and development into the commercialization of advanced nuclear technologies, will be vital if the resource is to continue to play a vital role in the energy transition.

Mr. Jason Walsh Page 1

# Attachment-Additional Questions for the Record

# Subcommittee on Environment and Climate Change Hearing on "The CLEAN Future Act: Industrial Climate Policies to Create Jobs and Support Working Communities" March 18, 2021

Mr. Jason Walsh, Executive Director, BlueGreen Alliance

# The Honorable Frank Pallone, Jr. (D-NJ)

1. Generally, how do project labor agreements (PLAs) protect both workers and taxpayers?

**RESPONSE:** A **Project Labor Agreement** (PLA) is a pre-hire collective bargaining agreement with one or more labor organizations that establishes the terms and conditions of employment for a specific construction project. PLAs offer increased wages and benefits for workers, cost savings and safety standards for project developers, and other benefits for communities.

PLAs benefit union and nonunion workers because they ensure that wages and benefits are defined and protected at local standards. PLAs and unionization lead to higher wages for workers. For example in California, workers earn an additional .49 cents on the dollar for overall benefits including health care and retirement, compared to nonunion counterparts. PLAs often ensure that the local workforce is paid a prevailing wage, which establishes a wage floor for each occupation that all contractors on a project must pay at or above—typically set to reflect the average or market wage for a given type of work in a given area. Over the lifetime of a typical construction worker in the renewable sector, prevailing wages result in an additional \$300,000 in wages and benefits.

PLAs are also beneficial to the taxpayer and project developers, as they do not incur a statistically higher cost and often reduce project cost for developers and save public funds in the long run. On average, for every dollar spent on a project with PLAs, between \$1.5 and \$1.8 is created in economic output. PLAs are estimated to be responsible for over a billion dollars in GDP in Illinois. PLAs use a skilled labor workforce and often avoid labor disputes which allows for a project to move forward with greater efficiency. PLAs see fewer cost overruns thanks, at least in large part, to the stabilizing effects of unionization. Further, PLAs often lead to safer working conditions as a result of a more skilled workforce. Data suggests that the construction industry is volatile, resulting in a constant loss of human capital. Additionally, accidents, including death, are more common in states with low-road contractors. PLAs and high-road labor standards can mitigate construction industry volatility and increase site safety. Reports indicate that PLAs decrease the significant gap between expected and realized energy savings in various energy efficiency measures.

Further, PLAs provide opportunities and benefits for communities as they offer hiring opportunities to historically marginalized communities, e.g. racial minorities, women, and veterans. Communities in which the projects are built from PLAs because many PLAs provide recruiting, hiring, and training for local residents or historically marginalized communities.

Mr. Jason Walsh Page 2

PLA's, Community Workforce Agreements (CWAs), and Community Benefit Agreements (CBAs), can be expansive in scope and are sometimes negotiated with both union and community partners. According to the AFL-CIO, CWAs "go well beyond the traditional experience and use of PLAs" to "explicitly address the legitimate needs and interests of urban communities that have historically been excluded from the benefits of economic development." In addition to the collective bargaining aspects of a PLA, CWAs frequently include local hire provisions, targeted hire of low-income or disadvantaged workers, and the creation of pre-apprenticeship pathways for careers on the project.

Targeted Hire provisions—often a key feature of CWAs—mandate or incentivize the hiring of workers on a project from certain communities, which may include women, people of color, veterans, the formerly incarcerated, indigenous people, economically disadvantaged communities, communities heavily impacted by climate change or climate change policies, and many others. These communities may be targeted through contracting requirements, hiring requirements, or by the use or establishment of preapprenticeship programs. Ideally, these provisions establish long-lasting pipelines for members of disadvantaged communities to access good jobs and careers in the clean economy. Similar to Local Hire provisions, Targeted Hire is also a frequent provision of Community Workforce or Community Benefit Agreements negotiated for a particular project.

How have PLAs been used to ensure publicly-funded projects are efficient and costeffective? Please provide examples.

RESPONSE: PLAs and CWAs have been used across the country to ensure communities are benefiting from proposed projects. For example, <a href="Maryland's Clean Energy Jobs Act">Maryland's Clean Energy Jobs Act</a>, which opened an application period for up to 1,200 MW of new offshore wind projects and established a process for regulatory review of project proposals, requires any project approved to use a community benefit agreement and pay prevailing wages. Additionally, <a href="Washington State's Clean Energy Transformation Act">Washington State's Clean Energy Transformation Act</a> takes steps to ensure job quality by incentivizing labor standards through the use of tiered exemptions from state and local sales tax. The bill ties eligibility for tax credits to the implementation of strong labor standards. For example, to be eligible for a 100% tax remittance, developers of renewable energy projects must have a Community Workforce Agreement (CWA) or PLA. Additional state level examples of PLAs and high-road standards can be found <a href="here">here</a>.

i https://laborcenter.berkeley.edu/pdf/2016/Link-Between-Good-Jobs-and-a-Low-Carbon-Future.pdf

 $<sup>^{</sup>ii} \ \underline{\text{https://www.bluegreenalliance.org/wp-content/uploads/2020/07/StatePolicyToolkit}} \ \ \underline{\text{Report2020}} \ \ \underline{\text{vFINAL.pdf}}$ 

iii https://laborcenter.berkeley.edu/pdf/2016/Link-Between-Good-Jobs-and-a-Low-Carbon-Future.pdf

 $<sup>{\</sup>color{blue} {^{v}}} \\ \underline{\text{https://ler.illinois.edu/wp-content/uploads/2015/01/ILEPI-LEP-Economic-Commentary-Illinois-PLAs-in-CDB-Projects-FINAL1.pdf} \\ \underline{\text{https://ler.illinois-plane1}} \\ \underline{\text{https://ler.illinois-edu/wp-content/uploads/2015/01/ILEPI-LEP-Economic-Commentary-Illinois-PLAs-in-CDB-Projects-FINAL1.pdf} \\ \underline{\text{https://ler.illinois-edu/wp-content/uploads/2015/01/ILEPI-LEP-Economic-Commentary-Illinois-PLAs-in-CDB-Projects-FINAL1.pdf} \\ \underline{\text{https://ler.illinois-plane1}} \\ \underline{\text{h$ 

vi https://ler.illinois.edu/wp-content/uploads/2015/01/ILEPI-LEP-Economic-Commentary-Illinois-PLAs-in-CDB-Projects-FINAL1.pdf

vii https://ler.illinois.edu/wp-content/uploads/2015/01/ILEPI-LEP-Economic-Commentary-Illinois-PLAs-in-CDB-Projects-FINAL1.pdf

viii https://laborcenter.berkeley.edu/pdf/2014/WET-Plan-Appendices14.pdf

 $<sup>^{</sup>ix} \, \underline{https://laborcenter.berkeley.edu/pdf/2014/WET-Plan-Appendices14.pdf}$ 

<sup>\*</sup> https://ler.illinois.edu/wp-content/uploads/2015/01/ILEPI-LEP-Economic-Commentary-Illinois-PLAs-in-CDB-Projects-FINAL1.pdf