United States House of Representatives
Select Committee on the Climate Crisis

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"Solving the Climate Crisis: Cleaning Up Heavy Duty Vehicles, Protecting Communities"

Questions for the Record

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The Honorable Kathy Castor

1. In your testimony, you referenced examples of inclusive financing programs that helped low-income customers have access to energy efficiency upgrades to buildings. Could you please provide additional detail about these programs and explain how a similar model could be applied to public school transportation? What policies should Congress adopt to promote broader use of inclusive financing?

There are a number of inclusive financing programs that have been deployed to help address the upfront cost barriers for building energy efficiency upgrades.

In 2009, Green For All was proud to be a part of a program with the city of Portland, Oregon. Like many communities across the country, residents in Portland were experiencing the effects of the Great Recession, and needed a way to preserve jobs, create jobs, and spur economic growth. The city found a way by launching an inclusive financing pilot project to provide deep home energy efficiency retrofits for residents. The project was developed with Clean Energy Works Oregon, a nonprofit now known as Enhabit.[1]

Leveraging public dollars to attract outside investment, Portland established a self-sustaining revolving loan fund to offer low-interest financing for residents to overcome the upfront cost barriers for deep home energy efficiency retrofits. The program provided residents with an Energy Advocate to asses their homes needs, along with the low-interest financing that would allow residents to pay back the loan from their bill savings through a charge on their utility bill, known as on-bill financing. In addition, Green For All worked with Portland to facilitate a community worker agreement for the program to achieve triple-bottom line results by requiring the jobs to be prevailing-wage jobs, setting goals for local and targeted hiring, and contracting with women and minority-owned businesses. The initial pilot was so successful, Portland was able to attract $20 million from the federal government to expand the program.

[1] https://enhabit.org/programs/clean-energy-works/

Learn more about Portland's financing program design in our report: https://www.greenforall.org/clean_energy_works_portland_report (2009).

Find a summary of Portland's high-road jobs outcomes from the project here: https://www.greenforall.org/high_road_outcomes_in_portland_s_energy_efficiency_upgrade_pilot (2011)

Green For All collaborated with the National Housing Trust to create a guide to On-Bill Programs that Advance Multi-family Energy Efficiency, which is available here: https://www.greenforall.org/on_bill_programs_that_advance_multifamily_energy_efficiency (2013). This report highlights four case studies on multi-family energy efficiency programs: PSE&G New Jersey Multifamily Program, MPower Oregon, Windsor Efficiency PAYS, and MidWest Energy HowSmart® Kansas.

Green For All offers a Best Practices Guide for High Road Agreements here: https://www.greenforall.org/high_road_agreements_a_best_practice_brief_by_green_for_all (2012).

Pay As You Save (PAYS) is another program model to help address barriers that can prevent low-income populations from accessing clean energy solutions. The PAYS model utilizes a tariff-based method; customers select their improvements through their utilities, and pay for their improvements over time. Until the investment is recovered, the tariff for the PAYS charge applies automatically to any future customers at that site. The PAYS model supports widespread adoption even in market segments that are hard to reach, such as renters, low and moderate-income households, multifamily buildings and municipal customers. For instance, this model eliminates debt-based disqualification. The debt-free PAYS model has yielded average energy savings of 25% and has been adopted by utilities in Kansas, Kentucky, North Carolina, New Hampshire, Hawaii, California and Arkansas. Learn more about the PAYS program by Roanoke Electric in North Carolina here.[2] (page 14-16).

If applied to public school transportation, similar models of local lending and tariff-based payments could enable districts to invest in making the switch from diesel to electric buses. Like energy efficiency upgrades for buildings or solar panel installation, electric buses have a higher upfront cost, which can be a barrier for many schools. But because electric buses are so much cheaper to fuel and maintain, an inclusive financing approach to remove the upfront cost barrier and allow the school to pay back a loan out of their savings would make it much more feasible for more schools to adopt electric buses. Other federal policies that would assist in broadening the scope of electric buses include matching programs, and interest-free government-funded loans that prioritize low-income and minority-serving schools and districts.

2. California's Gross State Product is over $3 trillion. If it were a sovereign nation, it would have the 5th largest economy in the world. For those that suggest that decarbonization requires sacrificing economic growth, how would you respond?

[2] https://d3n8a8pro7vhmx.cloudfront.net/greenforall/pages/7020/attachments/original/1464933284/TOOLKIT_1_-_Fair_and_Just_Investments.pdf

Civil rights leader Van Jones said in a 2018 statement, “Everything that’s good for the planet is a job. It’s a contract. It’s a business opportunity. Solar panels don’t put themselves up. Wind turbines don’t manufacture themselves. Organic gardens don’t make themselves. Every single thing that we need to make the Earth whole is also work that can make our society whole.”

Protecting our environment and building our economy are not at odds. Decarbonization involves engaging people across sectors of society, from architects to farmers to truck-drivers. Within these fields, decarbonization allows opportunities for educational, professional, and economic progress, and these jobs can provide steady income, job security, and significant benefits for workers. For example, the transition to clean and renewable energy has created so many jobs that solar panel installers and wind turbine technicians are now at the top of the United States’ list of fastest-growing jobs, and continue to grow in popularity, need, and compensation.[3]

Republican and former Governor of California Arnold Schwarzenegger said on *The Van Jones Show* last year, “The fact of the matter is in California we have a 4.3% economic growth and the nationwide growth is only 1.3%[...] How is that possible when we have the strictest environmental laws in the United States? So we have already proven you can do both - you can protect the environment and protect the economy at the same time. It’s that simple.” Watch the segment here: https://www.youtube.com/watch?v=D3xpPyai8zo

It is worth noting California has dedicated a significant portion of its climate investment dollars to programs and projects that benefit the state’s most disadvantaged communities. A minimum of 35% of the state’s cap and trade dollars, for instance, are required to be spent in disadvantaged communities or to benefit disadvantaged communities. In practice, the state regularly invests more than half of its climate dollars to benefit disadvantaged communities. This matters not only from a moral perspective, but from an economic perspective too.

When new technologies and businesses come to market, their products and services are generally more limited in quantity during the early stages. This can keep prices high, making them affordable only to “early adopters” or people with the means and readiness to adopt them.

As green businesses pick up market share and have more capital to invest in improving technology, purchasing materials in larger quantities, and so forth, prices can drop and put them within reach of lower and moderate income consumers. The green economy is not immune to these realities. Electric vehicles and solar panels were more expensive at first, and are gradually becoming more affordable. Government incentives and subsidies in the right places can help spur the kind of growth needed to put the green economy within reach of more Americans. Targeted investments in bringing clean technology to harder to reach markets, and making them affordable for lower-income consumers has not only been a way to ensure the green economy does not leave anyone behind in California, it has been a way to bolster green business growth and clean technology advancement, which I would argue, has helped California’s economy continue to prosper.

[3] https://cleantechnica.com/2019/01/26/solar-pv-installer-wind-turbine-tech-are-fastest-growing-occupations-in-us/

It is also important to recognize that California is not the only state proving you can have strong environmental policies and a strong economy. In Lancaster, Pennsylvania -- a city that developed its first clean energy goals in 2011 -- the city's clean energy infrastructure provided a cost-effective approach to stormwater management that saved the city about $2.8 million in energy, air-quality, and climate-related benefits.[4] There are multiple benefits to protecting our environment and transitioning to a clean economy.

In California and across the country at large, smart decarbonization policy can and should move us towards a more sustainable and prosperous future for all Americans.

3. California is a national leader in the deployment of electric vehicles as well as electric buses. How do low-income communities and communities of color benefit from these policies? Where should Congress focus its resources to provide the greatest benefit to these communities?

Low-income communities and communities of color are hit first and worst by pollution. In the transportation context, decades of discriminatory land use and urban planning decisions have created a situation where communities of color are more likely to live near busy roads, freeways and highways, ports, and other major sources of tailpipe emissions. And the cumulative impacts of these conditions put them at greater risk of asthma, cancer, and pollution-related disease. These communities have much to gain from investments in low-carbon transportation and mobility options, and the transition to zero-emission vehicles; It directly impacts their health and lives.

California has made big commitments like putting 5 million electric vehicles on the road by 2030[5] and transitioning to 100% zero-emission bus fleets by 2040,[6] which have made the state a national leader in the deployment of electric vehicles. One might think that because communities of color are disproportionately affected by tailpipe pollution it would mean they are natural beneficiaries of these policies but the issue requires much more attention and intention than that.

The fact is, higher income consumers can more readily afford and access EVs on their own. To expand access to EVs, California offers rebate programs to low-moderate income consumers on a sliding scale. Individuals making less than or equal to 300% of the federal poverty level are offered higher rebates. In total, a qualifying low-income individual in California could receive up to $13,500 to scrap an old emitting vehicle and replace it with the purchase of a new EV.

California also recognizes that vehicle ownership is not the right solution for everyone. In some cases, consumers can opt to receive a bus or transit voucher to scrap their old emitting vehicle if they would rather not replace it. To see a sampling of California's various incentive programs for both rural and urban areas, visit the Resource Finder at http://upliftca.org/resource-finder/.

In terms of federal policy, the federal government should conduct an analysis of existing clean vehicle tax, rebate, voucher, and incentive programs, and evaluate their impacts. How is each one structured? Who do

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[4] https://www.epa.gov/sites/production/files/2015-10/documents/cnt-lancaster-report-508_1.pdf
[5] https://cleantechnica.com/2018/01/30/california-wants-5-million-zero-emissions-cars-roads-2030/
[6] https://ww2.arb.ca.gov/news/california-transitioning-all-electric-public-bus-fleet-2040

they benefit? How can they be strengthened to direct investments to the people who actually need help accessing EVs? For wealthier individuals, EV ownership is a matter of marketing. They have the means to make the choice to buy the EV. That is not true for many Americans, and the federal government should be focusing its resources on creating the conditions that would enable them to make those choices, too. Moreover, policies and incentive programs should be structured in such a way as to meet the needs of lower and moderate-income consumers. For instance, a tax credit that gives a taxpayer a $2,500 credit or rebate only after they file their taxes, does nothing to help people who cannot afford the sticker price of an EV. We also know that lower-income Americans do not typically purchase new vehicles, and while there has not been much of a used EV market to-date, that is changing, and incentives should support the purchase of both new and used EVs.

Another issue to consider is how to prioritize zero-emission technology investments compared to other types of “cleaner” but still dirty fuels. While we recognize EV technology may not be ready for mass deployment in all transportation scenarios, wherever zero-emission options are available, they should be given priority over alternative fuel vehicles. For instance, electric school buses and transit buses are viable and available today. Therefore, the federal government should no longer be investing in diesel, natural gas, or other forms of “cleaner” but still dirty buses. The purpose of the public’s limited dollars should be to spur new economic growth and provide investments in cutting-edge technology that will keep the United States competitive while solving our greatest societal challenges. In the bus scenario in particular, the cost of buses is so great that agencies expect to get the full life-cycle use out of them. That means, these buses will be in existence for many years to come, and as they come to the end of their life and are retired, they should be replaced with the absolute best available technology on the market today, which is a zero-emission bus.

Finally, we have seen public transportation infrastructure deprioritized all across the country, in favor of freeway widening projects that only keep more cars on the road. As a result, there are low-income communities locked out of economic opportunities, education, and healthcare because they lack reliable bus service and transportation options where they live. In some neighborhoods, including in Oakland, CA, there is not adequate bus service to meet the demand. This results in a situation where it is commonplace that a bus becomes full by the time it reaches your stop, and needs to skip your stop. You are then left at the bus stop stranded and unable to get to work on time. You may even lose your job if it occurs too regularly, and these are circumstances beyond your control. There are rural communities where it can take 8 hours round trip on multiple buses just to get a child to the nearest hospital. These are not conditions that can be remedied by continuing to favor individual vehicle ownership and the idea that American households should have 2 and 3 cars each in our policymaking. We need to look at transportation systems comprehensively and design systems where people -- not only goods -- can get to where they need to go with ease, efficiency, and affordability.

<u>The Honorable Garret Graves</u>

1. You noted in your testimony the support for the Clean School Bus Act of 2019. Do you believe this legislation better addresses this issue when compared to the EPA’s Clean School Bus program?

The Clean School Bus Act of 2019 and the EPA's existing Clean School Bus Rebate Program should not be viewed as "either-or." By Clean Energy Works' estimate, it would take at least $6 billion to transition just 10 percent of the nation's school bus fleet. There is no way for cash-strapped schools to be able to make this transition without funding and financing to overcome the upfront cost barriers of buying electric. More funding -- not less -- is needed. And our children deserve it. Children are an especially vulnerable population when it comes to exposure to toxic tailpipe emissions. The Clean School Bus Act of 2009 is meant to augment and complement other programs and available funds to help schools in making the transition to zero-emission electric buses that give kids a cleaner, safer ride to school.

The Clean School Bus Act of 2019 would provide grants of up to $2 million to local governments to invest exclusively in electric buses and charging infrastructure, and to train their workers to operate and maintain the electric buses. Importantly, it gives funding priority to schools that serve low-income populations, and would authorize a total of $1 billion dollars over 5 years for a Clean School-bus Grant Program run by the U.S. Department of Energy.[7]

The EPA's program commits $9.3 million in rebates to replace older diesel-powered school buses with newer, cleaner buses -- not necessarily electric or zero-emission buses. It also funds retrofits for existing buses in accordance with the Diesel Emission Reduction Act (DERA) of 2010. The program's focus is on reducing children's exposure to toxic emissions from school buses, and was designed with 2010 conditions in mind. There has been significant technological advancement since the DERA of 2010. Today, technology has moved beyond lower-emission buses to now having fully zero-emission buses on the market that can travel more than 150 miles on a single charge. Given this, the federal government should consider amending EPA's existing program to refocus bus replacement dollars on replacing older buses with electric. Why expose kids to dangerous levels of emissions if we don't have to?

School buses are expensive, and schools expect to get the full life-cycle value out of the bus, which can be 10-12 years. That means, buying "cleaner" diesel buses today locks children into having to breathe toxic emissions for a full decade. Today, better technology exists. Zero-emission electric buses are ready for deployment and are serving schools in many different parts of the country now. Federal dollars and grant programs to replace older, retiring buses should go toward zero-emission electric bus technology.

The EPA's current program goes beyond bus replacement, and provides funding for retrofits, as well. Until all dirty buses reach their retirement age and can be replaced with clean zero-emission buses, a process that could take a decade or more to complete, the EPA should continue to fund school bus retrofits that will reduce children's exposure to emissions.

Children's health must be a top-priority. Both the Clean School Bus Act of 2019 and the EPA's Clean School Bus Rebate Program are critical programs for reducing harmful exposure to tailpipe emissions and curbing climate risk.

[7] https://scipol.org/track/clean-school-bus-act

2. In your testimony, you say there are an estimated 150 million Americans living in neighborhoods that don't meet federal air quality standards. Do you know how many of them are in California?

According to the American Lung Association's State of the Air report, California is home to seven of the top 10 "Smoggiest Cities" in the United States.[8] It is estimated that 90% of Californians live in counties with unhealthy air.[9] With an estimated population of 39.56 million (2018), that would mean California is home to about 35.6 million Americans living in low-quality air conditions or approximately 23.5% of all Americans who are experiencing similar conditions.

California has a population of over 39 million, a warm climate that helps form pollutants, and a topography that traps pollution, which creates unique challenges for the state in tackling air pollution. These challenges have been recognized by the federal government and are a key reason why California is given a special waiver to set higher vehicle emissions standards that the federal standards. Other factors contribute to the problem, such as rising housing prices which push people to live further and further away from where they work, and result in an increase in the overall vehicle miles travelled. While the state has enacted numerous policies to reduce emissions, it still has more work to do.

Approximately 76.5% of Americans living in poor air quality areas live outside of California. Cities that made the top 10 "Sootiest Cities" list include: Fair Banks, AK; Pittsburgh, PA; four cities in Ohio; and Weirton, West Virginia.[10]

3. Your program exists to lift people out of poverty, according to your testimony. How will changes in the heavy-duty transportation industry affect the low-income neighborhoods from an economic standpoint?

First, we aim to reduce transportation costs for low-income households and expand mobility access. Lower-income earners spend a higher percentage of their incomes on basic necessities like energy and transportation, while low-income communities can oftentimes be locked out of economic opportunities due to inadequate transportation and mobility access. By investing not only in clean transportation solutions like electric vehicles, but also improved and expanded public transit service, transit-oriented affordable housing development, electric vanpools and rideshare programs for rural communities, and other solutions that help people reach jobs, education, and healthcare more efficiently and affordably, we can reduce the cost of living and improve quality of life.

Second, we aim to leverage job creation to put the people who most need work, to work doing the job that most needs done: building a more sustainable future.

Shifting the transportation industry from dirty diesel to electric vehicles shifts the job market, as well. It is estimated the industry will require 40 million installed chargers across the United States, Europe, and

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[8] https://www.usatoday.com/story/news/nation/2019/04/24/air-pollution-smog-soot-worst-california/3551734002/
[9] https://www2.calstate.edu/csu-system/news/Pages/California-Named-State-with-the-Worst-Air-Quality-Again.aspx
[10] https://www.usatoday.com/story/news/nation/2019/04/24/air-pollution-smog-soot-worst-california/3551734002/

China.[11] As electric vehicles become more widespread, technicians will be needed across the country to install and support these technologies. If we look to the spike in solar panel installers and wind turbine technicians as an example, we can see how clean technology can energize our economy and provide new, well-paying, and cutting-edge jobs to the people who need them most. The federal government can help ensure this by tying federal funds to fair labor and workforce standards such as paying a prevailing wage, local and targeted hiring, contracting with women, minority, and veteran-owned businesses, requiring entities receiving public dollars to be union neutral, and more. Senator Gillibrand's Build Local Hire Local Act of 2019 is an excellent example of how this could be done.

While the automobile industry will face some disruptions in its traditional forms of production, the electric car industry doesn't eliminate the industry and the need for automobile technicians.[12] Rather, it opens up the market for potentially higher-paying jobs, like engineering autonomous technology, and hardware and software engineers. This will require a shift in our job training and workforce development programs to include creating job training pathways and pipelines for low-opportunity youth, women, minorities, veterans, and other vulnerable populations to access these new jobs.

4. Are you aware of the attached "The 200" lawsuit in California[13]? Without the need to comment directly on the lawsuit, what are you doing to ensure that energy, environment and climate policies in California are not creating an undue burden on those who are already struggling economically?

California utilizes a variety of tools and policies to identify its most vulnerable and disproportionately impacted populations, dedicate and direct resources to benefit those communities, routinely evaluate and measure program success, and maintain a transparent process by which the public can view results.

For example, CalEnviroScreen is a mapping tool the state uses which looks at cumulative impacts to identify the most "disadvantaged" populations. The tool includes environmental indicators like air quality and toxic exposure, health indicators such as asthma and cancer rates, vulnerable population factors such as children and senior populations, income and poverty indicators, and other risk factors that would illustrate where there are disproportionate pollution burdens and people who lack the means to address the issues on their own.[14] The tool both identifies where heavy sources of pollution are found, as well as where the people who are most susceptible to the effects live.

Policymakers use the tool to make informed climate and clean energy investment decisions. Senate Bill 535 (2012) required a portion of California's cap and trade dollars go to benefit the most disadvantaged communities, and today the state spends more than 50% of the funds on programs that benefit these communities.[15]

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[11] https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/charging-ahead-electric-vehicle-infrastructure-demand
[12] https://evadoption.com/15-shifts-how-the-transition-to-electric-vehicles-will-transform-industries-jobs-and-the-environment/
[13] https://centerforjobs.org/ca/news/behind-the-green-curtain
[14] https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30
[15] https://ww2.arb.ca.gov/resources/documents/cci-funding-guidelines-administering-agencies

It is worth noting that equity has become such a key priority for the state that it uses a variety of metrics for evaluating the success of its climate programs;[16] Whereas most programs would measure greenhouse gas reduction levels as the sole measure of success, California considers co-benefits and impacts such as preventing displacement, engaging the community, and workforce development and job creation.

If the federal government were to adopt a national carbon pricing program, which could provide significant funding for many clean energy solutions, it should adopt many of the criteria described above that would ensure dollars are deployed to create fair and inclusive access to and participation in the clean economy. You will find Green For All's two-pager on the key principles of effective and equitable carbon pricing policy here.[17]

Additionally, Congress should consider developing a system for evaluating all policies, especially climate and energy policy, through an equity screen. Bills would be evaluated in terms of how well they propose to address existing disparities and whether it would be likely to widen or narrow the gap between the eco-haves and eco-have nots. A scoring rubric could be developed to assign value to different equity measures, assigning the bill an "equity score." In many ways, this would be similar to how bills are evaluated and marked up for their financial or budgetary impact.

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[16] https://ww2.arb.ca.gov/resources/documents/cci-methodologies

[17] https://d3n8a8pro7vhmx.cloudfront.net/rebuildthedream/pages/7689/attachments/original/1487686952/GreenForAll_CarbonPricingPolicy_2Pager_(3).pdf?1487686952