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Environment and Public Works

Hearing on Regulation of Greenhouse Gases under the Clean Air Act
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Chairman Boxer, Ranking Member Inhofe, and distinguished Members of the Committee, thank you for the opportunity to testify before you today on the regulation of greenhouse gases under the Clean Air Act. My name is Mary Nichols, and I serve as Chair of the California Air Resources Board. In addition to my two separate terms leading the Air Resources Board, I have also served as Assistant Administrator for Air and Radiation in the Environmental Protection Agency under President Clinton, Secretary of the California Resources Agency, and Director of the University of California, Los Angeles Institute of the Environment. In short, I have studied, implemented, or been subject to the Clean Air Act in many roles for well over thirty years.

Based on this experience, I believe that over its history the Clean Air Act has been proven to be an extraordinarily effective and flexible tool to protect the health and prosperity of our nation, and I have every expectation that it can continue to play a vital role in addressing the urgent challenge of global climate change.

Let me be clear. Governor Schwarzenegger, and the overwhelming majority of Californians, support Congress in its efforts to craft strong, economy-wide federal climate legislation. We were supportive of the effort made in the Boxer-Lieberman-Warner Climate Security Act and we have particularly appreciated, Madame Chairman, your leadership in bringing that legislation to the floor of the Senate for its successful debate. We look forward to doing everything we can to see successful legislation passed and signed by the next President in the 111th Congress.

However, I must begin by emphasizing the need for urgent action. Climate change is a real and urgent threat to our communities, our state, and our nation. In California, as in many of your states, we are already experiencing the effect of climate change. Over the past 100 years we have experienced a seven-inch rise in sea level, eroding our coastal communities and threatening critical infrastructure. In the winter, more of our precipitation is falling as rain than snow, leading to less water availability in the critical spring and summer – an impact that threatens one of the most productive agricultural regions in the world and a pillar of the nation's export economy. Climate change is also a major factor in our longer and more severe wildfire season – an impact already dramatically illustrated this year with over 1 million acres burned. And these effects are merely a preview. It is predicted that without major efforts to reduce greenhouse gases, in

this century California will see a one to two foot sea level rise, a seventy-five percent loss in snow pack, twice the frequency of drought years, and fifty-five percent more large forest fires. I emphasize this threat in order to preface my contention that we must act urgently, and further that there is unlikely to be one, comprehensive solution to this challenge.

I believe, and many state officials join me in the belief, that the Clean Air Act can be a valuable component of the United States' response to climate change. Opponents of action on climate change are using a false bogeyman of regulatory nightmares under the Clean Air Act to delay any action at all. In fact, the Clean Air Act has been one of the most successful federal programs ever precisely because it is flexible and cost-effective, and there is every reason to believe it will continue to be useful in addressing greenhouse gases (GHGs) in at least two ways:

- **The Clean Air Act can act as bridge to a comprehensive federal policy**. The Act offers the only measures available in the near-term to begin to reduce emissions now. The most well-developed and deployable of these measures – affecting vehicles, fuels, and power plants – are also some of the most powerful and important to have in place as soon as possible. Implementing these aspects of the Act will also build regulatory infrastructure and begin to create the conducive investment environment for low-carbon technologies that is so necessary.

- **In the future, the Clean Air Act will act as valuable complement to an economy-wide market-based emission reduction program** that, we hope, will be enacted by Congress soon. As we have learned in California, an economy-wide cap on greenhouse gases, while necessary, is not sufficient to overcome entrenched market barriers to low-cost GHG reductions. Targeted regulatory programs in certain sectors can accelerate technology deployment and generate savings for consumers that a cap-and-trade alone would not affect.

In my testimony, I hope to support these arguments by: 1) discussing California and other states' experience with building climate policy from the ground up, 2) discussing the principles and strengths of the Clean Air Act that are important for federal climate policy, and 3) proposing a specific sequence of actions the next Administration can take to reap the immediate benefits of Clean Air Act-driven GHG reductions.

California's AB 32 experience – lessons for federal policy

California and other climate leadership states have not waited for the federal government to act. We have taken the initiative and pursued policies that will dramatically reduce our greenhouse gas emissions without negatively impacting our economy. We believe we have developed some valuable experience that can help inform the federal debate, and shed light on the potentially critical role of the Clean Air Act.

In 2006 the California legislature passed and Governor Schwarzenegger signed AB 32, the Global Warming Solutions Act, that established one of the country's most

comprehensive and ambitious greenhouse gas reduction programs. My agency, the California Air Resources Board, was charged with developing the policies necessary to accomplish the ambitious goals of AB 32. **California's experience to date in implementing AB 32 can help inform how Congress and the nation views greenhouse gas regulation under the Clean Air Act.**

Two months ago, my agency released a preliminary roadmap, the Draft Scoping Plan, for achieving the ambitious goals set out in AB 32[1]. Under the Draft Scoping Plan's recommendation, **California will institute a combination of an economy-wide cap-and-trade system and targeted sector-specific regulations**. Our cap-and-trade program will eventually cover 85% of our energy economy, will be linked to our partners in the Western Climate Initiative – currently including seven U.S. states and four Canadian provinces – and will create a reliable long-term carbon constraint signal for industry and business. Our sector-specific policies will include flexible performance standards, market-based measures, and voluntary incentives that are designed to break down market barriers to efficiency, to kick-start transformative low-carbon technologies and strategies, to harmonize related policies, and to provide significant co-benefits to California's economy and residents.

Our policies to address transportation-related GHG emissions are a great example of this integrated and sequenced strategy. At 40% of California's GHG emissions, mobile source emissions must be dramatically reduced if we are to meet our long-term goals, and because of fleet turnover, we must start now. At the same time, economic analysis of the effects of a cap-and-trade by itself – whether in California or nationally – shows that it would have small near-term effect on emissions from the transportation sector. In contrast, **market-based transportation-sector-specific measures such as those we are pursuing in California will generate much-needed innovation in vehicles and fuels, transforming these industries toward a low-carbon future – all while yielding net cost savings to consumers.**

Similarly, California's broad approach to stationary source emissions – including emissions standards and a Renewable Portfolio Standard for electricity, green building and appliance efficiency standards and utility-run energy efficiency programs, and measures to reduce methane releases from landfills and dairies, also look to gather the low-hanging fruit of low-cost emission reductions that might be otherwise be missed due to market imperfections and to create the long-term technological change that will make achieving our climate goals as inexpensive as possible.

Fundamentally, we are taking this approach because we recognize the magnitude of the challenge before us. Beyond 2020, all these mechanisms will be needed to meet California's long-term goal – and the global imperative, according to climate scientists – to cut developed nations' emissions 80 percent from today's levels to stabilize atmospheric greenhouse gases and prevent the most severe effects of climate change. Achieving these reductions will require innovations in technology across all sectors of the

[1] The entire Plan and supporting documents can be found at http://www.arb.ca.gov/cc/scopingplan/document/draftscopingplan.pdf

economy, innovation that requires the combined action of economy-wide cap-and-trade, sector-specific technology-inducing regulatory programs, aligning and mobilizing action across all levels of government, and deep investment in research, development, and deployment.

Perhaps most importantly, California's integrated greenhouse gas reduction program will refute the criticism that greenhouse gas regulation will harm the economy. To the contrary, **our economic analysis of the draft AB 32 Scoping Plan indicates that reducing greenhouse gas emissions through efficiency and new technology will result in net positive benefits to California's economy.** While there are upfront costs to controlling carbon under a cap-and-trade program, targeting standards and programs to catalyze new technology and energy efficiency saves consumers money over the long term – money that is then spent and re-invested in our state's economy. Furthermore, diversifying our energy supply toward renewables will protect us from volatile energy prices and reduce our reliance on imported oil. And there will clearly be criteria pollutant co-benefits from applying clean technologies to both mobile and stationary sources, which will help states like California meet more stringent federal standards now phasing in for ozone and particulate matter – and more importantly, resulting in real reductions in premature death and illness, lost schooldays and lost productivity. These positive benefits in California would be likely to translate nationally under a similar integrated federal program, resulting in huge net social, economic, and environmental benefits for the country.

Principles of the Clean Air Act and California's approach to AB 32

In my agency's long history with the Clean Air Act and in our current experience with implementing greenhouse gas regulations, we believe that there are powerful principles contained in the Clean Air Act that should be embraced in federal climate policy. These include:

- **Science-based.** The Environmental Protection Agency in its implementation of the Clean Air Act (and not incidentally, the California Air Resources Board) have an exemplary record of using the most rigorous, accurate, and up-to-date research on which to base environmental standards. Despite challenges in the past eight years, the EPA and the Clean Air Act remain the world's gold standard in science-based regulation. The Office of Management and Budget has found the Clean Air Act to be one of the most cost-effective programs in all of the federal government, and Congress and the American people should be proud of the well-deserved respect in which agency scientists are held throughout the world.

- **Technological innovation.** One of the greatest successes of the Clean Air Act has been the ability to catalyze innovation that achieves emission reductions faster and more cheaply than were expected by industry. Rigorous performance-based standards with long lead times and phase-in periods allow industry to plan, prepare, and implement emissions controls in the most cost-effective manner, and unleash tremendous creativity and innovative solutions.

- **Flexibility**. Contrary to the contention of political appointees in the current Administration, the Clean Air Act is not a rigid hammer, ill-suited to regulating GHGs. One of the hallmarks of the Clean Air Act is its flexibility to address inherently complex air pollution issues, and the EPA's Advance Notice of Proposed Rulemaking (ANPR) for greenhouse gases properly focuses on the flexibilities inherent in the Clean Air Act for regulating emissions under the Act. For instance, **although EPA should act quickly, it need not regulate every source all at once but rather can phase-in regulations over time**. There is good precedent for both quick action and long-term strategic planning under the Act. EPA has been regulating smog precursors for over 40 years. While some of the most dramatic percentage reductions in smog precursors occurred early on, as they should in attacking global warming emissions, the Act was applied flexibly, and amended over time as needed and as the state of the science and technology warranted. Such an evolutionary approach can work for greenhouse gases as well.

- **Multi-media and multi-pollutant integration**. The Clean Air Act is uniquely suited to considering the interaction between multiple pollutants, and the unintended consequences that actions to reduce one pollutant may have on emissions of other pollutants. Greenhouse gases and climate change have numerous interactions with traditional pollutants, and an integrated multi-media and multi-pollutant approach is necessary to ensure environmental protection and minimize the regulatory burden.

- **Comprehensive inventory, measuring and monitoring.** In order to institute any effective pollution control program, we must have a rigorous and comprehensive inventory of emissions and program for measurement and monitoring over time. The Clean Air Act provides an excellent foundation from which to build, with a mature technical and institutional infrastructure that could be utilized to implement climate policy. We should not recreate the wheel.

- **Cross-agency coordination and stakeholder participation**. EPA will not be acting alone or unbridled in addressing greenhouse gases. Historically, EPA has worked extensively with its sister agencies in implementing complex regulation, and shares or delegates authority to other agencies in dealing with the areas of those agencies expertise, such as energy production, agriculture, and transportation. Also, the extensive stakeholder process EPA engages under the Clean Air Act, including notice-and-comment, technology assessment, and an extensive docket, is a model of transparency and access unrivaled in federal programs.

- **"Cooperative federalism" and the state-federal partnership.** One of the most important lessons of the Clean Air Act is that in implementing any program as complex as air quality, enlisting agencies at all levels of government is critical. The Clean Air Act has historically been implemented with national goal-setting and state and local follow-through. This cooperative federalism ensures a national

floor of minimum standards, allows flexibility in how those standards are met, and creates room for state and local authorities to exceed those standards. Moreover, the structure leverages resources at every level, breaking an enormous task into manageable pieces and helping to harmonize the many policies, from utility regulation to local land use planning, that affect greenhouse gases yet are implemented by state and local governments. Finally, state and local governments are in an excellent position to mobilize the creativity and enthusiasm of their communities to realize the benefits of new industry and clean technologies. The federalist structure of the Clean Air Act is thus a valuable model for federal climate policy.

The CAA is a critical bridge to federal climate policy

Using the Clean Air Act to begin to address the urgent threat of climate change is clearly warranted, feasible, and critical. Climate change is an imminent and serious threat to the public health and welfare, and anthropogenic greenhouse gas emissions are clearly a major pollutant contributing to this problem. The Supreme Court found as much in their 2007 opinion in Massachusetts v. EPA, and despite the Bush Administration's foot-dragging, the eventual finding by EPA of "endangerment" under the law appears inevitable.

The EPA's ANPR lays out a compelling legal argument that EPA must make a finding of endangerment. The ANPR makes clear what American business, the average citizen, and the global community have known for years: we must regulate greenhouse gases. Regardless of whether and how EPA goes on to promulgate regulations, the endangerment finding is demanded by the clear dictates of the Supreme Court's decision in Massachusetts v. EPA and analysis of the facts allowed under that decision.

We believe the Clean Air Act can provide a bridge to comprehensive national policy. While we are optimistic that the next Congress will be able to act quickly to pass comprehensive climate legislation, it is likely that the Clean Air Act offers the most immediate action to begin to reduce greenhouse gas emissions and a crucial bulwark should swift action elude Congress. The most well-developed, effective, and common-sense Clean Air Act GHG regulations could be initiated within weeks of a new Administration taking office, and could begin to take effect as early as 2009. These regulations could address some of the largest sources of GHGs, and would send clear signals to industry eager for stable policy necessary to begin investing in new technology.

The Clean Air Act can be a flexible component of future federal climate policy, complementing economy-wide or sector-specific federal legislation. When Congress enacts new climate legislation, the Clean Air Act can continue to provide a valuable complement to national climate policy. For example, a national low carbon fuels standard policy that could be promulgated under the Clean Air Act would reduce greenhouse gases, accelerate new fuel technologies and the penetration of new advanced biofuel technologies, while also furthering our energy security goals, much more powerfully than economic analysis suggests a cap-and-trade program alone would do.

While much attention has been focused on the hope for one, single legislative solution that would cover and effectively reduce emissions from all sources, it is possible that Congress may act more iteratively. **If federal legislation instead takes a more step-wise approach, Congress may find that creating new programs in some areas and allowing effective Clean Air Act regulation for other areas provides the most cost-effective and politically viable solution.**

The Clean Air Act can help federal climate policy operate more efficiently, and can cost-effectively address some of the lowest-cost emission reductions. Many of the regulatory approaches discussed in the ANPR would effectively lead to wide market penetration of new energy efficient technologies that decrease greenhouse gas emissions while reducing costs to consumers and businesses. For instance, the kind of "best management practices" approach to "PSD permitting" discussed in the ANPR could function like building codes and appliance standards to result in more efficient new buildings that generate net savings to the economy but would not be built without clear policy incentives.

Timing for implementation of Climate Policies under the CAA

The key to successful Clean Air Act implementation is logical sequencing. Critics seek to scare the public with doomsday scenarios of intrusive regulations affecting all aspects of life, but the truth is this can be easily avoided by starting with the most effective regulations and taking time to work with stakeholders and Congress to develop solutions to any more problematic provisions. Due to both resources and discretion, Clean Air Act regulation will necessarily begin with those regulations that are most well-developed, easily implemented, and powerful.

The timeline for successful implementation of the Clean Air Act begins with the new Administration. The next President can signal a dramatic and positive shift in U.S. climate policy by judicious implementation of the Clean Air Act soon after taking office. The sequence that we believe would be most appropriate includes:

> **1. Rescind the hotly contested and flawed decision to deny California's waiver request and grant California and the sixteen states that have adopted its standard authority to go forward with vehicle greenhouse gas standards.** This action will have the most immediate and powerful near-term effect on emissions, and will send a powerful signal that the new administration takes greenhouse gas reductions seriously and that it intends to work in partnership with the states to harness the power of action at each level of government. These regulations are already developed and promulgated, the public supports the law and is eager for cleaner cars, and auto companies have readily available both the technology and in fact the model plans with which to comply. Allowing these standards to go forward would begin to yield climate benefits almost immediately.
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> **2. EPA should, in accordance with their obligations under the science and the law, proceed with issuing the "endangerment" determination, finding that**

climate change poses a clear and present danger to human health and welfare, as elaborated in the ANPR. The endangerment finding has already been prepared based on thorough scientific review; it has been scrutinized by stakeholders across the country; and most importantly it is clearly warranted. It will start the process to begin regulating emissions from the largest contributors to global warming pollution – power plants, vehicles and fuels, and major industries.

3. The President should direct EPA to issue proposed federal standards within the first six months for the two largest sources of global warming pollution: power plants and transportation. The schedule for issuing proposed and final standards for these sources should be announced immediately, simultaneously with the endangerment and waiver decisions. Transportation accounts for about one-third of U.S. global warming pollution. Personal transportation (cars, SUVs, and other light trucks) accounts for more than half of transportation emissions, about one-fifth of total national global warming emissions. As we know in California, emissions standards for vehicles and fuels are two of the most powerful and cost-effective policies to reduce emissions.

4. EPA should propose national emissions standards equivalent to those approved under the California waiver, using its authority to set federal standards under Section 202 of the Clean Air Act. EPA should work with California to continue steady emission reductions and gas savings through 2020 and beyond to 2030. Nationalizing the California program would get the maximum feasible emissions-reducing and gas-saving technology into all vehicles nationwide. The Department of Transportation (DOT) should propose consistent fuel economy standards under the 2007 energy law. That law requires the maximum feasible standards with a floor of "at least 35 miles per gallon" by 2020. As the Supreme Court found in Massachusetts v. EPA, there is no inconsistency between DOT regulating fuel economy and EPA regulating greenhouse gas emissions. The Supreme Court encouraged EPA and DOT to coordinate, while emphasizing that EPA's Clean Air Act mandate is "wholly independent" of the fuel economy law. By instructing the two agencies to work together and with California, the new administration can harmonize all three vehicle standards to the maximum technically achievable and cost-effective level.

5. EPA should also promulgate a national low-carbon fuel standard under Section 211 of the Clean Air Act. This standard is compatible with and would build off of the Renewable Fuels Standard program authorized in the Energy Independence and Security Act of 2007. It would harmonize with and eventually supersede the renewable fuel standard, which applies to only a part of the fuel supply. A Low Carbon Fuels Standard encourages the use of the most advanced low-carbon fuels, of plug-in hybrids using electricity, natural gas vehicles, and hydrogen-powered fuel cell vehicles, while ensuring a steady reduction in overall greenhouse gases emitted for every gallon-equivalent of fuel energy.

6. EPA should set standards for new electricity generation that requires the lowest achievable emission rate for each fuel. This performance-based standard would not dictate specific technologies, but would encourage investment in the most efficient low-emission electricity sources, including providing a powerful driver for the introduction of new carbon control and storage (CCS) technologies. The percentage of CO_2 required to be captured and stored could ramp into full effect over a few years, allowing a period for perfecting the technology. With appropriate lead time, best-in-class GHG emissions should also be required of existing plants. California has followed a similar policy since 2006 because we believe it is critical not to "lock-in" high-pollution facilities now, and not to lock-in our consumers to paying the price of high emissions in the future. Preventing the lock-in of high emissions in America's electricity supply has been identified by scientists as one of the most critical near-term policies we should be taking.

The doomsday scenarios are wrong

Critics of GHG regulation under the CAA have spun doomsday scenarios from the Act's new source review (NSR) programs, national ambient air quality standards (NAAQS) program, and state implementation plans (SIPs). Yet decades of experience in implementing or being subject to EPA's implementation of the Clean Air Act have shown me that there is abundant flexibility to avoid any problems with these programs.

Regarding New Source Review, the specter of laborious individualized permit processes for facilities such as hospitals and schools is a red herring. We agree that requiring individual facilities to obtain individualized permits for emissions of 250 tons of carbon dioxide is a ridiculous result –and this is precisely why it is exceedingly unlikely to happen. **The *Alabama Power* and related case law clearly provide EPA with the flexibility to avoid individual permitting for whole classes of emission sources.** California believes that EPA's proposal of modified "potential-to-emit" tests, general permitting requirements for commercial and residential and other classes, phasing in PSD coverage and applying "presumptive BACT" are very promising alternatives. Together, we believe these flexible options will result in EPA "general permits" for small sources that look very much like the building and appliance efficiency standards with which we are all familiar and that have been a major success in both energy savings and consumer benefits.

Regarding National Ambient Air Quality Standards (NAAQS) and related State Implementation Plans, we do not believe NAAQS listing is necessary before, or required immediately after, regulating stationary or mobile sources under other provisions of the Act. First, there are compelling arguments, discussed in the ANPR, as to whether a GHG NAAQS listing is required at all. Second, EPA has considerable discretion over the timing of any such listing, and even under optimistic assumptions, promulgating NAAQS for GHGs could easily take a decade – more than enough time for Congress to develop a legislative solution to applying this particular part of the Act. Finally, even if a NAAQS were developed, EPA already has authority to modify the actions necessary to meet or maintain the NAAQS. EPA can adopt implementation rules that modify the traditional

rules of monitoring, reporting, and conformity, and could move toward a state Climate Action Plan approach to demonstrating maintenance. In short, we believe that the negative consequences of NAAQS and SIPS for greenhouse gases are eminently avoidable.

Although I am confident that the critics' nightmare scenarios are just smokescreens, I would like to stress that we strongly disagree with the statement that EPA should solve all possible challenges that could someday arise in fully implementing the Clean Air Act for greenhouse gases before it can take any action at all. The imperative to act now is overwhelming, and EPA has well-developed regulatory approaches for major sources to implement in the near term. Over the coming years, the Administration and Congress can work together productively to identify any specific provisions that could prove problematic and address them as necessary in an organized and thoughtful way. The baby should not be thrown out with the bathwater.

Conclusion

So in conclusion, the sky, while warming, is not falling. Critics' attempts to paint the Clean Air Act as unsuited to greenhouse gases is a gross distortion of the Act's history of success and a cynical attempt to delay meaningful action on climate change. California readily agrees that the Clean Air Act is not sufficient in itself to be the only federal policy to control greenhouse gases – we desperately need Congressional action to set firm and ambitious economy-wide cap on emissions. But in the meantime, the Clean Air Act offers powerful, common-sense, and cost-effective tools that we can begin applying right away to begin to bring the problem under control. And in the long-term, we believe Congress will find that sensible regulatory programs under the Clean Air Act will complement an economy-wide climate policy, making the combined effort more effective and efficient.