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Air Resources Board Chairman
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Mary D. Nichols is a Professor in the UCLA Institute of the Environment (IoE) and Professor in Residence at the Law School and the School of Public Affairs. Her principal areas of interest are the role of science in environmental decision-making and the creation of new institutions for environmental governance. A former IoE director, Chairman Nichols took leave in 2007 when Gov. Arnold Schwarzenegger appointed her to head the California Air Resources Board.

Photo credit: UCLA Institute of the Environment



Thank you, Glen (MacDonald, IoE Director).

It feels good to be back home and see the IoE family ... My, how you've grown!

This may seem hard to believe today, but the Institute – with its offering of a richly diverse and highly integrated study of the environment – initially drew fewer than a dozen students. Clearly, they were ahead of the curve.

One of those trailblazers – the very first student to enroll – is here today. Laura Gardner, where are you? (*Recognize*)

I see the guest list also includes the entire graduating Class of 2007. Dorothy Le, would you please stand? (*Recognize*)

Yes, it was just Dorothy back then. I'm glad to see we're now up to 62 graduates, and that total enrollment has shot up to about 230. I understand that environmental science is now one of the fastest growing majors on campus – and I'm not at all surprised.

The students entering the IoE program recognize that we are on the cusp of a new industrial revolution – a wholesale societal transformation that happens maybe once in a hundred years.

I'm talking about the transition of an economy powered by fossil fuels to one grounded in clean and efficient low-carbon energy. We've reached the end of an era that saw progress in smokestacks and smoky air – and entered



a new era that marks prosperity by their absence. The CEOs who are excelling in this green revolution speak not so much of growth for growth's sake but of being athletic – trim, fit and healthy – and muscular in quality and performance.

The IoE graduates have positioned themselves to ride the crest of this new revolution. To catch its waves, you have to swim against the tide of narrow specialization. And that's exactly what the students here have done.

They completed what is probably the most multidisciplinary undergraduate program on campus – one that centers on environmental science but also integrates environmental economics, law and policy.

This is exactly the kind of education we need now.

About 40 years ago, ecologist Barry Commoner wrote a brilliantly simple set of principles governing life on Earth. I found his "First Law of Ecology" especially helpful in governing the California Air Resources Board. It says, "Everything is connected to everything else."

This concept reliably guides my thinking on how best to develop policies and regulations to mitigate and adapt to climate change.

The brain trusts that the air board has assembled for these climate change solutions include experts energy and economics, venture capital, urban planning and building design, forestry and dairy management – to

name just a few on the fields we've tapped. It's a mosaic of expertise as interconnected as climate change itself.

This holistic approach to problem solving is a relatively recent development at the air board.

In my first stint as board chairman, from 1978 to 1983, engineers pretty much ran the air pollution control shop. Chemical engineers reformulated gasoline to be lead-free. Mechanical engineers redesigned exhaust systems to remove ozone-forming emissions. A big part of my job then was to phase out leaded gasoline and phase in catalytic converters.

The air board – where I'm once again chairman -- continues to rely on engineers for ever-cleaner fuels and engines. But our expanded mission of fighting global warming has vastly diversified the expertise we require, the audiences we reach and the interests we regulate.

We recently expanded our venue from vehicles to entire transportation systems. We're now at the forefront on streamlining freight operations across the board, from ships to ports to freeways and rail yards.

We entered the field of energy planning last fall when Governor Schwarzenegger directed the air board to implement an accelerated Renewable Energy Standard – by 2020 utilities must generate at least 33 percent of their electricity from sources such as solar and wind power that do not rely on fossil fuels.

At the same time, we've proposed the nation's first plan for a broad-based cap-and-trade system using market forces to reduce global warming emissions.

And, for the first time in its 40-year history, the air board is venturing into land use planning– as yet another way to reduce climate-altering vehicle emissions. We will be doing this under authority of the Sustainable Communities Strategy and Climate Act of 2008, also known as Senate Bill 375. This is the nation's first law to control greenhouse gas emissions by curbing urban sprawl.

The air board is scheduled in September to set carbon reduction targets for passenger vehicles in 18 metropolitan areas. Passenger vehicles, after all, are the largest single source of greenhouse gas emissions in California, accounting for 30 percent of the total. And the single most powerful way for California to shrink its carbon footprint is to spend less time on the road.

The law leaves it to the local governments in each region to decide how best to reduce the amount of driving, such as through compact and transit-friendly development.

This calls for an unprecedented level of collaboration among city, county and regional planners. For the first time, California's urban areas will integrate transportation and land-use plans and align them with realistic projections of future housing needs.

The growing collaboration among diverse disciplines reflects a broader shift toward more integrated environmental problem solving, not just at the ARB or the IoE or even in California, but across continents. It's a more holistic approach driven by the urgency of climate change and the lure of economic opportunity in the transition to a low-carbon economy.

Many of you may choose to enter the private sector, to work at bioengineering firms, perhaps, or in the clean technology companies. That is crucially important work.

But I cannot overestimate the power of innovation and leadership in the public policy arena at this formative stage of the new industrial revolution.

Scientific and technological advancements remain in the conceptual realm without public buy-in. We can't count on concerns over planetary warming to increase demand for more fuel-efficient cars and solar panels, or to curb sprawl and cut vehicle miles traveled.

We're banking on setting ambitious and forward-looking standards to ease and speed the shift to a cleaner and more efficient low-carbon economy.

As you know, California is a pioneer in addressing climate change. The state's Global Warming Solutions Act – better known by its dull but short bill number, AB 32 – requires the state to cut its greenhouse gas emissions to 1990 levels by 2020. That's about 15 percent lower than today's levels.

But our efforts don't stop there. Our plan for implementing AB 32 calls for an 80 percent reduction below the 1990 levels by 2050. One result of this long-range commitment means that by 2035 – 25 years from now – the vast majority of new passenger vehicles sold in California will need to run pollution-free.

Our climate policies are designed to get us there. They're already helping to create the next generation of clean fuels, accelerating the rollout of zero-emission vehicles and changing the way we plan our cities and build our homes.

This is the path that scientists say we need to take to avert the worst effects of climate change. But it's also the road that takes Californians where they need and want to be on air quality, energy security, economic sustainability and more livable communities.

Think of AB 32 as an accelerator that gets us where we want and needs to be anyway – only faster.

Of course, we have our critics claiming AB 32 will seriously harm California's economy. But every one of the credible forecasts to date predicts the economic impacts would be small: Here are the facts: California's economy will continue to grow robustly whether or not we put into effect all our plans under AB32.

But with those measures in place, we would be less dependent on fossil fuels and protected against volatile oil prices, we would have greater energy security, we would be generating a strong clean tech sector and generate tens of thousands of new, good paying green jobs. We would continue to lead the nation in investment in clean energy ventures, and be in

a far better position to take advantage of the global market for clean technology.

We cannot afford to cede the field to Texas or Massachusetts, let alone China. It seems to me that AB32 is a better option for our economic and environmental future.

The Air Board's latest economic analysis shows that California businesses and consumers actually would see their fuel expenditures drop by an average of 5 percent in 2020 -- the result of increased investment in cleaner fuels and energy efficiency.

The reduced consumption of gasoline and diesel would save California \$3.8 billion annually by 2020. That's money Californians can put back into local communities by spending on goods and services they'd like to have.

AB 32 is not likely to go away. Let me tell you why. The scientific foundation for the law continues to grow stronger. The recently reported inaccuracies in the Intergovernmental Panel on Climate Change assessments are unfortunate. But they do not undercut the remarkably vast body of evidence linking human-caused pollution to global warming.

Congress won't likely derail or preempt the measures in AB 32, beyond, perhaps, folding California's cap-and-trade program into a federal version.

The federal climate bill passed by the House last fall borrows heavily from AB 32 -- as does the Kerry-Lieberman bill released last month (May 12).

If anything, California's climate actions, together with those in other states, will gain more steam nationally as Congress squabbles and stalls. As you may know, last year the federal EPA adopted on a national scale California's policy of limiting greenhouse gas emissions from new passenger vehicles.

And last month President Obama signed an order making it clear that California retains its authority under the Clean Air Act to set its own, tougher standards on the next generation of vehicles and fuels. But our goal is to develop, with the federal agencies, a single national standard, so that manufacturers will be able to build a single, light-duty national fleet.

It's safe to say that investing in clean technology will continue to be a good bet. Even in 2009 – one of the worst years in economic history – clean energy revenue continued to expand.

AB 32 creates the conditions that allow California to remain No. 1 in clean energy investments. Three out of every five dollars invested in clean technology in North America comes to California. We've laid the groundwork to go after those markets and jobs.

We are taking sustainability out of the realm of speeches and into the marketplace.

And we're counting on you, the Class of 2010, to take sustainability out of the conceptual, academic and into the marketplace. You're at the forefront of this revolution. Your timing couldn't be better. And in the worlds of both politics and business, timing is everything.

I wish you all the best. Thank you.

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