California accounts for about one percent of the world's greenhouse gas emissions. As the Brown Administration enters its final year, I want to set out my view of why California's actions on climate change are so important and how they will change the world. I thank the faculty at Berkeley Law's Center for Law, Energy, and the Environment and at UCLA Law's Emmett Institute on Climate Change and the Environment for the opportunity to share my views in a series of blog posts over the coming weeks.

Under SB 32 (2016), the state must reduce its greenhouse gas emissions by 40% below 1990 levels by 2030. For the statisticians, California's 1990 emissions were 431 million metric tons of CO_2 equivalent, making our 2030 target 259 $MMTCO_2e$. Achieving the reduction will be no small undertaking. The law requires that the world's sixth largest economy massively reduce carbon-based emissions as it continues to grow, and to do so in twelve years.

Therein lies the challenge and the opportunity. If California—a large, sophisticated, diversified economy—can succeed, so can the rest of the world.

While some see the challenge as primarily about technology and finance (how do we build a carbon-free economy and how do we pay for the transition), I believe that the greater challenges are around political will and issues of scale. More on will and scale and technology and finance later. First, I want to describe the roadmap for California's transition.

Jerry Brown provided the vision succinctly in his 2015 inaugural address at the beginning of his fourth term. He identified five pillars of action by 2030:

- 50% renewable portfolio
- Double energy efficiency in buildings
- Cut oil used for transportation by 50%
- Significantly reduce short-lived climate pollutants (methane, black carbon, HFCs)
- Make working and natural lands carbon sinks rather than sources

I would add two to this list:

- Integrate resilience and adaptation into all infrastructure
- Capture carbon from the atmosphere

The roadmap for these actions and others are set forth in some detail in the Air Resources Board's Scoping Plan. This is an economy-wide blueprint for a 40% greenhouse gas reduction over twelve years, well worth a read for anyone interested in how such change is possible.

In the next few blog posts, I will describe the Governor’s five pillars (plus my two additions), before returning to the issues of political will and scale.

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