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The Honorable Mary D. Nichols, Chairman California Air Resources Board 1001 I Street Sacramento, CA 95814

> Comments on the Proposed First Update to the Climate Change Scoping Plan

Dear Chairman Nichols:

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> We are submitting these comments on behalf of California Unions for Reliable Energy (CURE), a coalition of construction unions including affiliates of the International Brotherhood of Electrical Workers, United Association of Plumbers and Pipefitters, the International Brotherhood of Boilermakers, the Heat and Frost Insulators and the Cement Masons. CURE appreciates the opportunity to comment on the Air Resources Board's Proposed First Update to the Climate Change Scoping Plan.

> The Proposed Update offers a critical look at California's progress in meeting the goals of AB 32, expands on California's existing climate action policies and lays out new strategies to help California achieve its long-term goal of an emissions limit 80% below 1990 levels by 2050. We appreciate the Air Resources Board's continued innovation and leadership in the effort to address climate change.

A key element of the Air Resources Board's initial Scoping Plan was to increase electricity generation from renewable sources to at least 33% of the statewide electricity mix by 2020. The Legislature enacted and Governor Brown signed SBx1-2 to implement this goal. What was once thought to be a difficult and expensive program has proven to be neither. It is now clear that we will meet and perhaps exceed that goal, and at a very modest incremental cost. In addition, the RPS program has created tens of thousands of middle class construction jobs and injected billions of dollars into the California economy. By any measure, this program has been a spectacular success.

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In the Proposed Update, ARB identifies new sector-specific actions to reduce greenhouse gas emissions. For example, the Proposed Update requires State agencies to develop, by 2016, a "comprehensive and aggressive (but flexible) program to drive utilities toward providing zero or near-zero GHG energy resources." (Proposed Update, p. 50.) The Proposed Update also calls for the development of a mid-term statewide emission reduction target for the years between 2020 and 2050. With respect to the RPS program, the Proposed Update recommends that the California ISO study the integration requirements needed to support a portfolio that is 50% renewable energy.

We suggest that the Proposed Update should say more about increased deployment of renewable energy. To reach a mid-term emission reduction goal and our ultimate 2050 goal, we will have to mostly decarbonize electricity generation. This will require a much more sophisticated expansion of renewable generation. Diversity in renewable fuel sources, characteristics and locations will be required. We will have to do a much better job of selecting the renewable projects so that we can operate the electric grid without relying on fossil fuels. This will mean more use of California's rich geothermal resources, storage (both battery and pumped storage), solar thermal and wind, along with photovoltaic and other current technologies. Thus, we suggest that the Proposed Update identify the need for more carefully planned expansion of renewable generation, the need to expand use of geothermal, pumped storage and, for the first time, consider the role of offshore wind.

California has some of the world's best geothermal resources. Yet over the past decade there have been almost no new geothermal power plants. California's decarbonized electric system of the future will surely require increased utilization of this resource. We suggest that the Proposed Update identify increased utilization of geothermal resources as part of the future electric supply portfolio.

In addition, although California has an abundance of strong, steady winds off its coast, offshore wind power has not been identified as part of California's renewable energy future because commercial technology for installing wind turbines in the State's deep coastal waters was unavailable. Floating foundations, capable of supporting large, highly efficient offshore turbines – with capacities of at least 6 MW, twice the output of the largest inland machines – are rapidly being commercialized. Commercial-scale offshore turbines installed on prototype floating foundations are currently generating power off the coasts of Norway, Portugal and Japan. Three of California's major Pacific Rim trading partners -- China, Japan, 1644-038cv

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and South Korea -- have deepwater wind resources near population centers and significant programs underway to develop those resources. Floating foundation technology is on track for commercial deployment early next decade, in time to play an important part in California's planning for post-2020 renewable energy and GHG reduction goals.

Offshore wind development is a logical next step to diversify California's renewable energy resources. Offshore wind can achieve significant reductions in carbon emissions, create high-wage, high-skill construction, operation and maintenance jobs, and nurture a new class of clean tech manufacturing jobs.

We respectfully request that the Proposed Update include recommendations that will allow offshore wind to become part of California's renewable energy mix needed to meet post-2020 emission reduction goals, along with increased levels of geothermal, solar thermal and pumped storage projects. All of these resources require substantial lead times. Accordingly, it is appropriate for the Proposed Update to identify now the need to develop them.

Thank you for considering our comments on the Proposed Update.

Sincerely,

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