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### CARB Releases Draft 2022 Scoping Plan Update

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After extensive collaboration with other state agencies and nearly a year's worth of public workshops on scoping plan topics and modeling, the California Air Resources Board (CARB) released its Draft 2022 Scoping Plan Update (Draft Scoping Plan) on May 10, 2022. The Draft Scoping Plan seeks to build on past successes while identifying technologically feasible and cost-effective approaches to achieve the State's target of reducing greenhouse gases (GHGs) by at least 40 percent below 1990 levels by 2030 (2030 GHG Target) and reaching carbon neutrality by 2045.

Every five years, CARB releases an updated Climate Change Scoping Plan (Scoping Plan). The Scoping Plan serves as a roadmap for the State of California's efforts to achieve its ambitious climate goals. The strategies and recommendations identified in the plans shape the legislative and regulatory agenda and send market signals intended to spur private-sector investment in activities that reduce emissions and build resilient communities. Past Scoping Plans played a key role in establishing a mix of incentives, regulations and carbon pricing that allowed the State to achieve its goal of GHG emissions to 1990 levels four years ahead of schedule.

#### GHG Inventory Scenarios

Informed by input at public workshops, CARB staff performed extensive modeling on four scenarios to achieve both the 2030 GHG Target and carbon neutrality. Each scenario relied on drastic reductions in fossil fuel dependence, ambitious deployment of efficient non-combustion technology, rapid growth in production and distribution of clean energy, progressive phasedown of fossil fuel production and distribution, strong consumer adoption of clean technology and fuel, engineered carbon removal, and some reliance on carbon capture and sequestration (CCS). As outlined further below, CARB staff recommended Alternative 3 (the Proposed Scenario).

In Alternative 1, CARB staff modeled the highest pace of clean energy and technology deployment and adaptation in order to achieve carbon neutrality by 2035. The model assumes phasing out nearly all combustion, including fossil, biomass-derived and hydrogen, by 2035. CCS and engineered carbon removal only plays a limited role in achieving carbon neutrality (potentially forcing hard to electrify sectors such as glass and cement manufacturing to cease operating in California). The model requires early retirement of combustion vehicles, appliances, and industrial equipment. The model also assumes aggressive deployment and adaptation of non-combustion technologies. The model achieves compliance with methane targets via direct regulation of the dairy industry rather than development of new digesters or landfill dairy capture (ultimately leading to a need for herd size reduction). Alternative 1 had the highest direct costs, highest slowing of economic and job growth, and a high degree of uncertainty due to the pace of technology deployment and adoption.

In Alternative 2, CARB staff modeled a strong consumer demand for deployment of new technologies and energy options, including a rapid scale-up of engineered carbon removal technology in order to achieve carbon neutrality by 2035. This approach does not phase out all combustion and allows for end-of-life retirement of existing combustion vehicles, appliances, and industrial equipment. Capture and use of dairy biogas would be allowed for achieving methane targets. Alternative 2 would not restrict CCS or biomass-derived fuels. The model allows all RPS and SB 100 Zero Carbon sources for electricity generation. Alternative 2 had the second highest direct costs and slowing of economic and job growth. It also was deemed to have a high degree of uncertainty due to its reliance on the highest pace of deployment of carbon dioxide removal technology.

Alternative 3 seeks to achieve carbon neutrality by 2045. It most closely aligns with existing statutes and Executive Orders on GHG reduction and employs a broad portfolio of existing and emerging fossil fuel alternatives and clean technologies. The approach would reduce direct emissions while transitioning away from fossil fuels (and reducing petroleum use by 91 percent in 2045 from 2022 levels). Alternative 3 would not phase out all combustion. It would allow for the use of biomass-derived fuels and CCS. Legacy combustion technologies would be allowed to reach end-of-life. Oil and gas extraction and refining would continue but phase down with reduction in demand.

Alternative 4 is similar to the Alternative 3. However, Alternative 4 modeled slower deployment and adoption rates of existing and emerging technologies and a higher reliance on carbon dioxide removal technology. Alternative 4 was deemed to produce the least reduction in fossil fuel combustion by 2045.

In the Draft Scoping Plan, CARB staff recommends Alternative 3 as the Proposed Scenario because it finds that it is the most technologically feasible and cost-effective path toward carbon neutrality. CARB's position is that it provides a feasible timeline for ramping up existing technologies while developing emergent technologies. It has substantially lower direct costs than Alternative 1 or 2 and was found by CARB to do significantly less harm to economic and job growth. CARB asserts there is strong continuity with past Scoping Plans by using and strengthening existing successful programs to support the rapid production and deployment of clean technology and energy. That continuity sends a strong signal to private-sector investors that California is a place worth investing in clean technology and energy.

### **Stakeholder Engagement**

The Draft Scoping Plan recognizes that each of the scenarios modeled represent significant technical challenges that require a transformation of the California economy going forward.

It is clear that there will be significant public comment on the Draft Scoping Plan. The deadline for submitting written public comments on the Draft Scoping Plan is June 24, 2022, at 12:00 pm. Stakeholders also have the opportunity to provide oral comments at a public hearing CARB will hold on June 23, 2022. A final draft will likely be proposed in fall 2022 and CARB will seek to finalize the 2022 Scoping Plan by year-end.

Some of the key issues raised under the Proposed Scenario that stakeholders will be focused on are:

- **Low Carbon Fuel Standard (LCFS):** The Draft Scoping Plan acknowledges the remarkable role the LCFS has played in driving consumption of renewable diesel from less than 2 million gallons in 2011 to nearly 589 million gallons in 2020. The Draft Scoping Plan also recognizes that the LCFS is the only California program to recognize and reward direct air capture of carbon. The Draft Scoping Plan recommends initiating a public process to increase both the stringency and scope of the LCFS (including changes to carbon intensity targets and providing capacity credits for hydrogen and electricity for heavy-duty fueling).
- **Rapid transition to Zero Emission Vehicles (ZEV):** The Draft Scoping Plan envisions 100% sales of truck zero emission vehicles (medium-duty and heavy-duty vehicles) by 2040. The strategies around the push toward ZEV include policies that provide the regulatory certainty necessary to promote private investment. Specifically, the Draft Scoping Plan identifies policies such as hydrogen station grants from the California Energy Commission's (CEC) Clean Transportation Program and infrastructure credits in the LCFS for hydrogen and electricity as fuel.
- **Preserving Clean Energy Options:** The Draft Scoping Plan recognizes that clean energy options such as hydrogen and renewable natural gas must remain options in the transition away from fossil fuels in electricity generation and building decarbonization.
- **Status of the cap-and-trade program:** The Draft Scoping Plan envisions California's landmark cap-and-trade program as playing a reduced role in emissions reductions as compared to the last Scoping Plan in 2017. The Draft Scoping Plan notes that CARB intends to use modeling for the final 2022 Scoping Plan to assess changes necessary to strengthen the cap-and-trade program. It does not provide any indication as to what changes might be in store for the program or what sort of effect those changes might have on carbon pricing or emissions reduction.
- **Hard-to-electrify industries:** The Draft Scoping Plan recognizes that certain industrial processes are hard to electrify. For example, there are few commercially available and economically viable electrification options for processes requiring high heat such as steel forging, glass manufacture, and lime/cement manufacture. Even with a switch to low or zero-carbon fuel, process emissions will continue. The Draft Scoping Plan sees carbon capture and use/sequestration as a vital component of decarbonization for such hard-to-electrify industrial processes. CARB identifies strategies to achieve success in this area, such as leveraging programs like the CEC's Electric Program Investment Charge to invest in research and development to reduce process emissions and to develop infrastructure to support CCS.
- **Reduction in Petroleum Usage:** The Draft Scoping Plan notes that the path to carbon neutrality includes ending dependence on petroleum but recognizes that the timing of this needs to be realistic and is inextricably linked to the additional time required for technologies to evolve and be deployed at lower costs. Reducing petroleum use by 91 percent in 2045 from 2022 levels is the target set forth and this is partially achieved through implementation of CCS and new micro focused technologies that facilitate capturing CO<sub>2</sub> in space constrained and multiple point source facilities such as

refineries. Noting the key linkage with an increased usage of zero carbon fuels and non-combustion technology, GHG emissions could be reduced by approximately 85 percent in 2045 from 2020 levels. The plan acknowledges issues such as leakage and the fact that, even with a partial phase out of production and distribution in California, some demand for petroleum fuels will remain and still need to be met.

The development of the 2022 Scoping Plan provides an opportunity for stakeholders to influence the transformation of the California economy spurred by the State's efforts to achieve its climate goals. Buchalter has experienced attorneys who regularly assist stakeholders in engaging with CARB and all California regulatory agencies who touch these issues. We routinely assist industry participants with both regulatory and transactional advice. If you have questions or need assistance, please contact one of the attorneys listed below.



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