

Ms. Rajinder Sahota
California Air Resources Board
1001 I Street
Sacramento, CA 95814

July 8, 2016

Submitted electronically via: www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm

RE: 2030 Target Scoping Plan Update Concept Paper – Energy system solutions

Dear Ms. Sahota,

Thank you for this opportunity to provide feedback on the 2030 Target Scoping Plan Update Concept Paper. We appreciate ARB's commitment to stakeholder participation, especially through this type of early, informal engagement that provides stakeholders an opportunity to inform ARB's thinking and lay out some of the important issues California will face in the decision-making process.

With respect to long-term transformation of the energy sector in California, we believe ARB has outlined a reasonable set of actions and alternatives to analyze and consider within the scoping plan update. We also look forward to hearing any recommendations or suggestions other stakeholders have for refining these alternatives. Nevertheless, we believe that ARB's draft concept paper, like most other regulatory processes in California up to this point, has missed a key issue - the role and design of natural gas markets in any plan to transition towards a future powered by a lower carbon, lower cost and more reliable energy system. Without addressing the complexity of natural gas markets and their role in utility and independent energy producer investment decisions, goals such as high penetration of renewables and demand response may never be met, or may be achieved at sub-optimal cost.

Over the past several years, as states like California have achieved dramatic gains on local, regional and industrial scale renewable energy generation, the natural gas and electricity systems have become increasingly codependent. With an abundance of natural gas leading to low prices, increased investment has been directed into long-term infrastructure, to produce, distribute and utilize natural gas as the backbone of our electricity grid – especially for firming and shaping electric grids to accommodate more renewables. At the same time, under the prevailing market design and framework, the entire range of ancillary services that both natural gas and clean energy resources provide is not being fully valued – meaning competition between gas and clean energy on an equal footing that calls forth increased investment and innovation in clean energy systems has been lacking. Put together, for the Scoping Plan goals of high penetration of renewables to be accomplished – more attention on gas markets refinements, ancillary service valuation, and fostering market competition and price formation is needed.

An electricity grid that is based primarily on natural gas (instead of a diversity of clean, low carbon resources) for smoothing electricity fluctuations will not have the long-term climate benefits that ARB and the state of California seek. Thus, it is crucial to effectively manage and moderate the transition

towards larger volumes of renewable sources of energy by designing gas markets that facilitate this progression.

Any short or long term strategy for reducing the climate impact of California's energy sector must evaluate the balancing and reliability services needed to accommodate large volumes of renewable energy, and stimulate large volumes of demand reducing technology and technology applications. In the short term, California needs to determine the full scope of energy market changes necessary to call forth competition between gas and clean energy - changes that can facilitate innovation and cost reduction. In the long term term, (but starting immediately) California needs to make the changes identified – with changes likely needed at the local, state, regional and federal levels. As California implements those changes – statewide energy planners and utilities will need to engage in a fundamental rethinking of how best to invest in the state's energy system going forward.

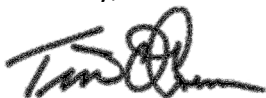
Once completed, a market-focused approach to California's energy system can yield competition from non-emitting energy options like demand response and battery storage – competition that will allow for the role of natural gas to be transformed from a core energy fuel to a fuel that supports, rather than inhibits, our transition to a clean energy future. While natural gas may still be needed to help balance the electricity grid during periods of peak demand and manage some portion of the variable nature of wind and solar generation – the final outcome will enable an electricity grid that is more nimble and responsive to demand and supply fluctuations, and is lower carbon overall.

Notwithstanding the need to evaluate and reform natural gas market design as identified above, the Scoping Plan concept paper misses this issue. Without this focus, Scoping Plan implementation will likely perpetuate the status quo - a model that entails large fixed costs borne by ratepayers to build (and overbuild) sufficient capacity to ensure an adequate supply of natural gas that meets peak demand. In the current model, as infrastructure investment becomes an even larger portion of the overall cost of natural gas, higher costs are passed on to utilities and ratepayers, despite being primarily built to meet peak demand and therefore not used for long periods of time. The existing model therefore runs counter to the envisioned framework that has Californians paying for natural gas when it is needed, i.e. in periods of peak demand, while also ensuring that carbon emissions are included in embedded costs.

Based on the aforementioned analysis, EDF recommends the ARB Scoping Plan Concept Paper place additional focus on the need for market refinements to generate greater price formation in natural gas markets that yields competition between natural gas and clean energy resources. When implemented, this focus will allow natural gas and clean energy resources to be more fully valued based on their range of capabilities, instead of having natural gas be considered a cheap default fuel that forms the backbone of our electricity grid.

In summary, we thank ARB for their leadership and urge the Board to move forward with a Scoping Plan Update that includes an analysis of the design of natural gas markets.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim O'Connor". The signature is fluid and cursive, with a large initial "T" and "O".

Tim O'Connor
Director, California Oil and Gas Program
Environmental Defense Fund