

# Independent Emissions Market Advisory Committee

## First meeting summary

The first meeting of the Independent Emissions Market Advisory Committee (IEMAC or Committee) occurred on June 20, 2018, in the Klamath Training Room of the California Environmental Protection Agency (CalEPA) Building, 1001 I Street, Sacramento.

The Committee consists of:

- Dallas Burtraw, Resources for the Future, participating by video link
- Ann Carlson, University of California Los Angeles
- Danny Cullenward, Near Zero
- Quentin Foster, Environmental Defense Fund
- Meredith Fowlie, University of California Berkeley, participating by phone
- Ross Brown, Legislative Analyst's Office – observational member only

Per Health and Safety Code Section 38591.2, the Committee will meet at least once annually through 2030 and produce an annual report to the Joint Legislative Committee on Climate Change Policies and the California Air Resources Board (CARB) on the environmental and economic performance of the Cap-and-Trade program and other climate policies. CalEPA Counsel Chris Tiedemann distributed the attached memorandum and briefed members of the Committee on requirements of the Bagley-Keene Open Meeting Act and Public Records Act.

The Committee selected Dallas Burtraw as Chair and Ann Carlson as Vice Chair. Rajinder Sahota, Assistant Division Chief of Industrial Strategies Division, CARB, delivered the attached presentation: *2017 Scoping Plan Update and Scope of Current Cap-and-Trade Rulemaking*. The presentation provided background, displayed the reductions expected from the 2017 Scoping Plan, and discussed the Cap-and-Trade Program and its post-2020 direction in light of AB 398 (E. Garcia, Statutes of 2017). Major points included:

- The California economy is growing while emissions are declining.
- The 2017 Scoping Plan is a blueprint for how California will reach its goal of a 40 percent reduction in GHG emissions by 2030.
- The economy-wide Cap-and-Trade program features a declining cap and a steadily increasing floor price for allowances.
- AB 398 requires changes to the design of the post-2020 Cap-and-Trade program, including the price ceiling, two containment points, reductions in offset use limits, and allocation assistance factors.

Emily Wimberger, Chief Economist, CARB, delivered the attached presentation: *Economic Analysis of the 2017 Scoping Plan Update and Cap-and-Trade Program*. The presentation focused on CARB's use of the Pathways and REMI models to calculate the economic impact of the two programs. Major points included:

- A description of Pathways and REMI and how the ARB used the two models together.
- Pathways results for 2030: capital costs, \$6.7 billion; fuel savings, \$6.6 billion.
- REMI results: change in Gross State Product, -0.6 to -0.3 percent; change in employment, -0.3 to -0.2 percent; change in personal income, -0.1 percent.
- Avoided health impacts: \$1.2 to \$1.8 billion in 2030.
- Future climate damage avoided by GHG reductions in 2030: \$1.9 to \$11.2 billion.
- Scoping Plan cost to households in 2030: \$115 to \$280.
- Uncertainty analysis indicated a 96 percent likelihood of reaching the 2030 target.

Committee questions to Rajinder Sahota and Emily Wimberger included:

- Danny Cullenward asked about the effect on the Cap-and-Trade Program of expanding the electricity market from the California Independent System Operator (CAISO) to a regional market. Ms. Sahota replied that to the extent that it spurs regional development of renewable electricity, it would be a great benefit. The ARB's focus right now is on accurate data and accurate price signals, she said.
- Dallas Burtraw asked about the impact of the CAISO Energy Imbalance Market on greenhouse gas (GHG) emissions of imported power. Ms. Sahota explained that not all of the emissions get counted, so CARB makes an adjustment based on the default emission factor, which is for marginal natural gas generation in the Western grid.
- Dallas Burtraw asked about the potential for interaction between the Short-Lived Climate Pollutant (SLCP) measures and the Cap-and-Trade Program. Ms. Sahota confirmed that the two are separate. If the SLCP were to fall short of expectation, then in the 2022 Scoping Plan review, CARB could address the situation by adopting additional measures.
- Quentin Foster asked how the Scoping Plan takes into account the GHG emissions from wildfires. Ms. Sahota replied that they are not tracked as part of the inventory. Wildfire emissions are hard to measure and the fires themselves are sporadic and unpredictable. She underscored the need for better forest management activities to prevent large-scale wildfires.
- Ann Carlson asked about the Federal waiver for California vehicle standards. Ms. Sahota replied that CARB attorneys are working on it. The legal process might delay the standards going into effect, but the ARB would not lose in the end.
- Dallas Burtraw commented on the importance of assigning the auction revenue to the proper sectors in modeling the economic impact. Dr. Wimberger replied that CARB performed the economic impact modeling prior to the passage of AB 398, and that going forward CARB will try to model the requirements of that legislation.
- Meredith Fowlie asked how REMI handles trade flows to other states. Dr. Wimberger replied that REMI treats all the other states as a single region.
- Danny Cullenward asked how CARB calculated the 96 percent probability of achieving the 2030 target. Dr. Wimberger replied that it came out of a Monte Carlo analysis of the uncertainty ranges in assumptions. CARB will provide information about the ranges and why those values were chosen.
- Ann Carlson asked what are the biggest uncertainties and how can the Committee help? Ms. Sahota said that CARB finds it challenging to attribute the environmental and economic impacts to specific policies, as well as dealing with uncertainty in performance of the economy over the

next 13 years. Dr. Wimberger agreed and also mentioned the need to convey complicated processes to the public, as well as understand the interaction between measures.

Discussion included the following points:

- Meredith Alexander, Sacramento Municipal Utility District, asked for more detail on how CARB represented the use of allowance value in the REMI modeling. Dr. Wimberger replied that she used the historical disbursement pattern of the Greenhouse Gas Reduction Fund (GGRF). CARB has modeled other scenarios, such as giving all of the auction revenue back to consumers. CARB is also working on quantifying the economic value of co-benefits of GGRF programs. Ashley Conrad-Saydah, CalEPA Deputy Secretary for Climate Policy, added that guidelines for the GGRF now require agencies to report co-benefits of their programs.

After the discussion concluded, the Committee opted to form several subcommittees, each consisting of two members, to address the environmental and economic performance of the Cap-and-Trade program and other climate policies:

- Price ceiling: Quentin Foster and Dallas Burtraw
- Interactions between policies: Dallas Burtraw and Ann Carlson
- Environmental Justice: Quentin Foster and Meredith Fowlie
- Offsets: Ann Carlson and Danny Cullenward
- Leakage: Meredith Fowlie and Danny Cullenward
- Over-supply of allowances: Danny Cullenward and Dallas Burtraw

Sub-committees expect to produce short assessments of each of these topics for discussion at the next IEMAC meeting. Members may ask CARB for publicly-available data and information to aid in their analyses and sub-committee work.

The next IEMAC meeting will occur on September 21, 2018. The agenda for the next IEMAC meeting will be posted by September 11, 2018.

Contact email: [iemac@calepa.ca.gov](mailto:iemac@calepa.ca.gov)