

CERTIFIED FOR PUBLICATION

IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA
FIRST APPELLATE DISTRICT
DIVISION THREE

ASSOCIATION OF IRRITATED
RESIDENTS et al.,

Plaintiffs and Appellants,

v.

CALIFORNIA AIR RESOURCES
BOARD et al.,

Defendants and Appellants.

A132165

(City & County of San Francisco
Super. Ct. No. CPF-09-509562)

This appeal questions whether the “Climate Change Scoping Plan” adopted by the California Air Resources Board in 2009 complies with the requirements of the Global Warming Solutions Act of 2006. As did the trial court, we answer this question in the affirmative.

Background

The Legislation

The Global Warming Solutions Act of 2006 (the Act or AB 32) (Health & Saf. Code, § 38500 et seq.)¹ was conceived as groundbreaking legislation. The findings with which the Act begins declare that “[g]lobal warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California” (§ 38501, subd. (a)) and continues: “California has long been a national and international leader on energy conservation and environmental stewardship efforts, including the areas of air quality protections, energy efficiency requirements, renewable energy standards, natural resource conservation, and greenhouse gas emission standards for passenger

¹ All statutory references are to the Health and Safety Code unless otherwise noted.

vehicles. The program established by this division will continue this tradition of environmental leadership by placing California at the forefront of national and international efforts to reduce emissions of greenhouse gases” (§ 38501, subd. (c)).

The Act designates the California Air Resources Board (ARB or the Board) as “the state agency charged with monitoring and regulating sources of emission of greenhouse gases that cause global warming in order to reduce emissions of greenhouse gases” (§ 38510), and imposes numerous directives and timelines on the Board. By June 30, 2007, the Board was to publish “a list of discrete early action greenhouse gas emission reduction measures that can be implemented prior to the measures and limits” to be adopted subsequently (§ 38560.5, subd. (a)), and to adopt implementing regulations by January 1, 2010. (§ 38560.5, subd. (b).) By January 1, 2008, the Board was to “adopt regulations to require the reporting and verification of statewide greenhouse gas emissions and to monitor and enforce compliance with this program.” (§ 38530, subd. (a).) By the same date and after receiving public input, the Board was required to “determine what the statewide greenhouse emissions level was in 1990, and approve . . . a statewide greenhouse emissions limit that is equivalent to that level, to be achieved by 2020.” (§ 38550.)²

The mandate central to the current litigation is contained in section 38561, which provides in part: “(a) On or before January 1, 2009, the [Board] shall prepare and approve a scoping plan as that term is understood by the [Board], for achieving the maximum technologically feasible and cost-effective reduction in greenhouse gas emissions from sources or categories of sources of greenhouse gases by 2020 under this division. . . . [¶] (b) The plan shall identify and make recommendations on direct emission reduction measures, alternative compliance mechanisms, market-based compliance mechanisms, and potential monetary and nonmonetary incentives for sources and categories of sources that the [Board] finds are necessary or desirable to facilitate the achievement of the maximum feasible and cost-effective reductions of greenhouse gas emissions by 2020.

² In December 2007, the Board set the limit at 427 million metric tons of carbon dioxide equivalent (MMTCO₂E).

[¶] . . . [¶] (d) The [Board] shall evaluate the total potential costs and total potential economic and noneconomic benefits of the plan for reducing greenhouse gases to California’s economy, environment, and public health, using the best available economic models, emission estimation techniques, and other scientific methods.”³ The Board is required to update the scoping plan “at least once every five years.” (§ 38561, subd. (h).) Section 38562 requires the Board to adopt implementing regulations by January 1, 2011, to become effective on January 1, 2012.⁴

Adoption of the Scoping Plan

The process for developing and approving the scoping plan in compliance with the statutory mandate was extensive and rigorous. Since no challenge is made to the procedures followed by the Board, the process need not be elaborated in detail. The process involved more than 250 public workshops, more than 350 community meetings, and meetings by several specialized committees, including an environmental justice advisory committee, an economic and technology advancement advisory committee, and a market advisory committee. Technical analyses were submitted to academic peer review. In June 2008, the Board released a discussion draft of the scoping plan, in response to which it received some 5,000 pages of public comments. This was followed by several staff-led public workshops and community meetings. Additional public

³ Other provisions within section 38561 require the Board, in formulating the scoping plan, to consult with all state agencies with jurisdiction over sources of greenhouse gases, including the Public Utilities Commission and the State Energy Resources Conservation and Development Commission (*id.*, subd. (a)) and to consider all relevant information pertaining to greenhouse gas emissions reduction programs “in other states, localities, and nations, including the northeastern states of the United States, Canada, and the European Union” (*id.*, subd. (c)). The Board was required to conduct a series of public workshops to give interested parties an opportunity to comment on the scoping plan. (*Id.*, subd. (g).)

⁴ Section 38562 reads: “On or before January 1, 2011, the [Board] shall adopt greenhouse gas emission limits and emission reduction measures by regulation to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions in furtherance of achieving the statewide greenhouse gas emissions limit, to become operative beginning on January 1, 2012.”

comments were received at Board meetings in June and October 2008. In October the Board released the “Proposed Scoping Plan” which elicited thousands of additional public comments. In all, more than 42,000 people commented on the draft scoping plan. The final public hearings took place over two days in December 2008, during which the Board made some modifications to the proposed scoping plan and, at the conclusion of the hearing, adopted Resolution No. 08-47. The resolution directed staff to take certain steps to finalize the plan and the functional equivalent document (FED) prepared to comply with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.).⁵ The resolution recited that “[t]he recommendations in the *Proposed Scoping Plan* are necessary or desirable to facilitate the achievement of the maximum feasible and cost-effective reductions of greenhouse gas emissions by 2020.” On May 7, 2009, the Board issued Executive Order No. G-09-001 adopting the final scoping plan.

The Scoping Plan

The final plan, entitled “Climate Change Scoping Plan: a framework for change,” is 121 pages in length, plus many lengthy exhibits and appendices. The plan is preceded by a 14-page executive summary and consists of an introductory framework section, a section listing proposed emissions reduction measures, a section discussing methods used to evaluate those measures, a section discussing implementation of the plan, and a final section entitled “A Vision for the Future.” The section on emissions reduction measures lists measures under 18 categories, including “California Cap-and-Trade Program Linked to Western Climate Initiative Partner Jurisdictions,” energy efficiency, low carbon fuel standards, vehicle efficiency measures, a “Million Solar Roofs Program,” industrial emissions, high speed rail, green building strategy, recycling and waste, sustainable forests, water, and agriculture. The plan summarizes the key elements of its

⁵ The FED is essentially the equivalent of an environmental impact report, utilized in connection with a certified regulatory program authorized by Public Resources Code section 21080.5. (See *City of Arcadia v. State Water Resources Control Bd.* (2006) 135 Cal.App.4th 1392, 1421-1423.)

recommendations, designed to reduce greenhouse gas emissions to 1990 levels by 2020, as follows:

- “Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewable energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California’s clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the state’s long-term commitment to AB 32 implementation.”

The scoping plan states that the emissions reduction measures that it recommends “will be developed over the next two years and be in place by 2012.” The report concludes with the suggestion of additional measures to further reduce emissions beyond 2020 and to keep the state on track to meet the goal established by Governor Schwarzenegger in Executive Order No. S-3-05 of an 80 percent reduction below 1990 greenhouse gas emission levels by the year 2050.

The Litigation

On June 10, 2009, a petition for a writ of mandate was filed against the Board and its individual members by the Association of Irrigated Residents, several other nonprofit organizations and several individuals (collectively AIR). The petition alleges that the scoping plan does not comply with the mandates of the Act—AB 32—and that the FED failed to comply with CEQA. With respect to the former, the petition alleges that the scoping plan “(a) fails to achieve the maximum technologically feasible and cost-effective reductions; (b) fails to require emissions reduction measures for significant sources of emissions, namely industrial and agricultural sources; (c) does not develop any policies to avoid the pitfalls of other greenhouse gas emission trading programs and fails

to address how ARB will monitor and enforce reductions in a regional market; (d) fails to assess the likely impacts of proposed policy choices and regulatory programs and fails to propose policies to ensure that compliance with chosen measures will not disproportionately impact already overburdened communities; and (e) fails to prevent increases in criteria and toxic co-pollutant emissions. [¶] Instead, the Scoping Plan's analysis acts as a *post hoc* rationalization for the policy decisions already chosen by ARB." The petition alleges several respects in which the FED assertedly does not comply with CEQA, including the failure to adequately analyze alternatives to the regional cap-and-trade program included in the scoping plan.

The matter came on for court trial in December 2010 and on March 18, 2011, the court entered an extensive order granting in part and denying in part the requested relief. The court held that the scoping plan does not violate the requirements of the Act in any respect and that in selecting the measures included in the plan ARB had not acted arbitrarily or capriciously. The court rejected most of AIR's challenges under CEQA but did find that the FED failed to adequately analyze alternatives to the cap-and-trade program and provided no "meaningful information or discussion about the carbon fee (or carbon tax) alternative." The court therefore held that ARB had improperly approved the scoping plan before completing the necessary environmental review and issued a writ of mandate commanding ARB to set aside its certification of the FED and enjoining ARB from any further implementation of the scoping plan until the deficiencies of the FED were corrected and approved.

ARB promptly noticed an appeal and AIR filed a cross-appeal. This court then granted ARB's petition for a writ of supersedeas, staying enforcement of the writ of mandate. While this appeal has been pending, ARB prepared a supplement to the FED providing the analysis that the trial court had found wanting. On August 24, 2011, ARB certified the supplemented FED and re-adopted the scoping plan. ARB filed a return to the writ and on December 5, 2011, the trial court discharged the writ of mandate. ARB's appeal was then dismissed. Thus, what remains before the court is AIR's cross-appeal

questioning whether the scoping plan satisfies the requirements of the Global Warming Solutions Act of 2006.

Analysis

Standard of review

The parties agree that the adoption of the scoping plan is properly characterized as quasi-legislative administrative action. “[S]tatutory provisions directing [an agency] to develop and prepare a . . . plan and progress report are within the category of quasi-legislative acts.” (*Carrancho v. California Air Resources Board* (2003) 111 Cal.App.4th 1255, 1266.) The limited scope of review of such action is set out in *Yamaha Corp. of America v. State Bd. of Equalization* (1998) 19 Cal.4th 1. “Because agencies granted such substantial rulemaking power are truly ‘making law,’ their quasi-legislative rules have the dignity of statutes. When a court assesses the validity of such rules, the scope of its review is narrow. If satisfied that the rule in question lay within the lawmaking authority delegated by the Legislature, and that it is reasonably necessary to implement the purpose of the statute, judicial review is at an end.” (*Id.* at pp. 10-11.) Thus, the court must first determine whether the administrative action is “ ‘within the bounds of the statutory mandate’ ” (*id.* at p. 16)—that is, whether the scoping plan adopted by the Board is within the authorization conferred by the Act. In answering this question, the court exercises its independent judgment. (*Ibid.*) If answered in the affirmative, the second question is whether the plan “ ‘is reasonably necessary to effectuate the purpose of the statute,’ ” which requires the court to determine only whether the Board exercised its discretion arbitrarily and capriciously, without substantial evidentiary support. (*Id.* at pp. 16-17; see also, e.g., *Carrancho v. California Air Resources Board, supra*, at pp. 1264-1269.)

“An appellate court’s review of the administrative record for legal error and substantial evidence in . . . mandamus cases, is the same as the trial court’s: The appellate court reviews the agency’s action, not the trial court’s decision; in that sense appellate judicial review . . . is de novo.” (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 427.)

AIR characterizes its challenge as being directed to “ ‘the fundamental legitimacy’ of [ARB]’s quasi-legislative action to adopt the scoping plan” requiring the court to exercise its independent judgment. On that premise AIR asserts that the trial court erred in evaluating the plan under the arbitrary and capricious standard. However, the trial court implicitly satisfied itself that the plan “is within the scope of authority conferred,” thus limiting its review of the plan’s specifics to the more deferential arbitrary and capricious standard. We believe this is the correct standard.

“[I]f it can be inferred from the authorizing legislation that a [public agency] has been granted considerable discretion to determine what is necessary to accomplish a valid legislative goal, a more deferential standard of review is appropriate.” (*San Francisco Fire Fighters Local 798 v. City and County of San Francisco* (2006) 38 Cal.4th 653, 670.) ARB is explicitly directed by the Act to “prepare and approve a scoping plan, *as that term is understood by the [Board]*.” (§ 38561, subd. (a), italics added.) The Board is directed to “consult with all state agencies with jurisdiction over sources of greenhouse gases” (*ibid.*) and to receive public input (§ 38561, subd. (g)), to “consider all relevant information pertaining to greenhouse gas emissions reduction programs” in other jurisdictions (*id.*, subd. (c)), to “evaluate the total potential costs and total potential economic and noneconomic benefits of the plan . . . to California’s economy, environment, and public health, using the best available economic models, emission estimation techniques, and other scientific methods” (*id.*, subd. (d)) and, ultimately, to “identify and make recommendations on direct emission measures, alternative compliance measures, market-based mechanisms, and potential monetary and nonmonetary incentives for sources and categories of sources *that the [Board] finds are necessary and desirable* to facilitate the achievement of the maximum feasible and cost-effective reductions of greenhouse gas emissions by 2020” (*id.*, subd. (b)). These directives are exceptionally broad and open-ended. They leave virtually all decisions to the discretion of the Board, from determining the nature of a scoping plan, to determining the best available research techniques, to determining incentives for emissions reduction that are “necessary and desirable,” to weighing economic, environmental and public

health benefits, to determining what is most “feasible and cost-effective.” Determining the content of the scoping plan plainly falls on the “deferential end of the continuum accorded quasi-legislative agency action” for which review under the arbitrary and capricious standard is appropriate. (*Carrancho v. California Air Resources Board*, *supra*, 111 Cal.App.4th at pp. 1268-1269; *Western States Petroleum Assn. v. Superior Court* (1995) 9 Cal.4th 559, 575-576.)

ARB did not disregard the statute or act arbitrarily or capriciously in adopting the scoping plan

On appeal, AIR contends that ARB violated the terms of the Act in three principal respects: it assertedly “(1) limited the scoping plan measures to only those necessary to achieve the minimum reductions required by [the Act]; (2) failed to create and apply a standard criteria for cost-effectiveness; and (3) failed to include feasible and cost-effective direct regulations from the agricultural and industrial sectors in the scoping plan (choosing only to regulate industry through the cap and trade program and allow agricultural sources to provide offsets to industry).”

AIR’s initial contention is that the Board violated the terms of the statute by failing to design the scoping plan to achieve “*maximum* technologically feasible and cost-effective reductions in greenhouse gas emissions.” The scoping plan states repeatedly that it is designed “to achieve the 2020 greenhouse gas emissions limit.” The emissions reduction measures in the draft scoping plan were calculated to achieve an aggregate reduction of 169 MMTCO₂E, which would reduce total emissions to what was determined to be the 1990 greenhouse gas emissions level. AIR contends that while this complies with section 38550 of the Act, requiring the Board to establish the statewide greenhouse gas emissions 1990 level as the limit to be achieved by 2020, it fails to comply with section 38561, which requires the Board to adopt a scoping plan to achieve “the *maximum* technologically feasible and cost-effective reductions” by 2020. AIR argues that rather than using the limit set under section 38550 as the minimum to be achieved by the scoping plan but seeking the maximum level of reductions possible, the Board has converted the limit into a ceiling.

AIR views the matter too narrowly. The goal that the plan sets for 2020 is but a step towards achieving a longer-term climate goal. As the plan states, “we must look beyond 2020 to see whether the emissions reduction measures set California on the trajectory needed to do our part to stabilize global climate. [¶] Governor Schwarzenegger’s Executive Order S-3-05 calls for an 80 percent reduction below 1990 greenhouse gas emission levels by 2050. . . . Full implementation of the Scoping Plan will put California on a path toward these required long-term reductions. Just as importantly, it will put into place many of the measures needed to keep us on that path.” The Board sought to define in the scoping plan measures that will permit the state to reach goals that are attainable by 2020, as a step toward the ultimate objective by 2050. It reasonably set those goals as the 1990 emissions level required by section 38550, but those goals are neither designed to limit nor do they have the effect of limiting emission reductions if greater reductions can be achieved. The draft scoping plan estimated that the measures proposed in the plan would bring emissions down to the 1990 level by reducing the level of emissions projected in 2020 in the absence of those measures (“business-as-usual”) from 596 MMTCO₂E to 427 MMTCO₂E, a reduction of 169 MMTCO₂E. Modifications made subsequently provide a “margin of safety” by recommending additional strategies to account for measures in uncapped sectors of the economy that do not achieve estimated reductions. The modifications further increase estimated aggregate reductions in 2020 from 169 MMTCO₂E to 174 MMTCO₂E.

Contrary to AIR’s argument, the 1990 level which section 38550 requires to be reached by 2020 was not considered by the Legislature to be unrelated to the goal of achieving maximum reductions as required by section 38561. Section 38562, which requires the Board to adopt regulations implementing the measures described in the scoping plan, calls for regulations “to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions *in furtherance of achieving the statewide greenhouse gas emissions limit.*” Nor did the Board consider the two to be unrelated. Resolution 08-47, by which the Board conditionally approved the scoping plan, recites, “The recommendations in the *Proposed Scoping Plan* are necessary or

desirable to facilitate the achievement of the maximum feasible and cost-effective reductions of greenhouse gas emissions by 2020.”

Moreover, the Board did not exclude from consideration measures that AIR contends might provide greater reductions in greenhouse gas emissions. Initially, the lengthy list of recommendations laid out in the scoping plan, touching virtually every sector of the economy, belies the assertion that the scope of measures considered in formulating the scoping plan was narrowly restricted. While the plan does not recommend some direct control measures for the industrial sector that were suggested, it does include for that sector five direct emission reduction measures, including mandatory energy efficiency and co-benefits audits for large industrial sources, and several measures affecting the oil and gas industry. Moreover, emissions from large industrial sources will be restricted by the declining emission cap imposed by the recommended cap-and-trade program.

Even if other measures, such as inflexible emission limits or emission taxes might conceivably result in greater reductions, the Act does not call for maximum reductions without qualification, but for maximum reductions that are both feasible and cost-effective. The record reflects that the Board went to exceptional lengths to obtain informed and scholarly input on the complex scientific and economic issues that bear on these critical qualifications. While there are differences of opinion on many matters, AIR points to no recommendation included in the plan, and no rejection of a suggested recommendation, for which substantial evidence was not presented and considered.

AIR’s principal contention is that the Board recommended implementing a cap-and-trade program to limit industrial greenhouse gas emissions⁶ without considering the

⁶ The amicus curiae brief submitted by the Environmental Defense Fund succinctly summarizes the cap-and-trade program as follows: “Cap-and-trade is a market-based approach to reducing pollution. The ‘cap’ creates a limit on the total amount of emissions from a group of regulated sources, and generally imposes no particular emissions limit on any one firm or source. By establishing a declining, firm limit on the total pollution that can be released, a cap-and-trade program guarantees that the covered sources meet predetermined emissions targets.

feasibility and cost-effectiveness of alternative direct control measures. The record does not support this contention. The Board’s economic analysis of the draft scoping plan, which recommended the cap-and-trade program, was submitted to independent peer reviewers for additional review. Two of those reviewers expressed the concern that the Board’s analysis was designed too narrowly to allow identification of the most cost-effective approach to achieving the emissions limit. In response, the staff explained: “As the draft plan was developed, three major options — use of a cap-and-trade program together with complementary measures; use of a carbon fee together with complementary measures; and use of only sector-specific measures – were evaluated from a number of policy perspectives, which resulted in the preliminary recommendation to use a cap-and-

“The ‘trade’ aspect of a cap-and-trade program creates an incentive for businesses to seek out cost-effective reductions, while also encouraging rapid action to reduce emissions quickly. Regulated entities receive allowances—either through auction, for free, or a combination of both—with each allowance representing the right to emit a ton of greenhouse gas emissions. At specified intervals, regulated businesses must surrender an allowance for each ton of GHG [greenhouse gas] pollution they release. Over time, the total amount of allowances available to all sources is reduced, meaning overall emissions from those sources must be also reduced. If an individual source does not need all of the allowances it has in a given period, it may ‘bank’ those allowances to surrender later or sell them to another registered party. The ability to sell allowances to other businesses that need them creates a market price for pollution reductions and an incentive for businesses to achieve the maximum reductions possible at the lowest cost.

“. . . Through the imposition of a declining cap and flexible compliance system, this policy tool allows the regulator to ensure that desired pollution reductions are obtained, without requiring it to identify in advance the most effective and efficient means of achieving the result at each and every source. . . .

“Pursuant to well-accepted economic theory and observed results from other cap-and-trade regulations, the flexible compliance aspect of cap-and-trade can minimize the costs of achieving a given emissions target relative to conventional regulatory approaches. . . .”

The scoping plan explains further: “California is working closely with other states and provinces in the Western Climate Initiative (WCI) to design a regional cap-and-trade program that can deliver reductions of greenhouse gas emissions throughout the region. ARB will develop a cap-and-trade program for California that will link with the programs in the other WCI Partner jurisdictions to create a regional cap-and-trade program.”

trade program together with complementary measures.” The record supports these statements.

The draft scoping plan included a section entitled “Other Measures Under Evaluation,” which discussed potential measures under the headings “Other Sector-Based Measures,” “Carbon Fees,” and “Offsets.” The discussion of carbon fees describes how such fees might be used, calculated, and implemented, and states: “Carbon fees, while supported by a number of interests, have received less attention during the development of the draft plan, in large part because they provide less certainty in California’s ability to meet specific emission targets, as required under AB 32.” A submission from a scholar at the Goldman School of Public Policy at the University of California at Berkeley explains that cap-and-trade sets a cap on the level of emissions but entails uncertainty as to the price that will be paid for a ton of emissions, while a carbon fee establishes the price but entails uncertainty as to the quantity of emissions that will result. Appendix C to the final scoping plan contains the following explanation with reference to several measures that were not recommended in the plan: “ARB has determined that some of the measures . . . that were still under evaluation in the draft scoping plan are not appropriate to pursue as regulations. However, for many of them, the types of reductions that were being evaluated are likely to be undertaken by facilities covered by the cap-and-trade program in the locations where they are most cost effective. ARB believes, based on the review of emission reduction opportunities conducted for the scoping plan, that significant reduction opportunities exist in the industrial sector that are more readily achieved through market mechanisms than through direct measures.”

The final scoping plan explains the Board’s rationale for recommending a cap-and-trade program in combination with the so-called “complementary measures” by citing the rationale outlined by the Market Advisory Committee and quoting from the report of the Economic and Technology Advancement Advisory Committee, in part, as follows: “A declining cap can send the right price signals to shape the behavior of consumers when purchasing products and services. It would also shape business

decisions on what products to manufacture and how to manufacture them. Establishing a price for carbon and other GHG emissions can efficiently tilt decision-making toward cleaner alternatives. This cap and trade approach (complemented by technology-forcing performance standards) avoids the danger of having government or other centralized decision-makers choose specific technologies, thereby limiting the flexibility to allow other options to emerge on a level playing field. [¶] . . . Complementary policies will be needed to spur innovation, overcome traditional market barriers . . . and address distributional impacts from possible higher prices for goods and services in a carbon-constrained world.” It is not for the court to re-evaluate ARB’s judgment call, which is neither arbitrary nor unsupported in the record.⁷ Moreover, we note that the plan recommends numerous measures in addition to the cap-and-trade program which account for significantly more than half of the projected greenhouse gas emission reductions in 2020.

AIR faults the Board for failing to create and apply standard criteria for cost-effectiveness by which to evaluate alternative measures. Cost-effectiveness is not easily measured, however. The statute provides this definition: “ ‘Cost-effective’ or ‘cost-effectiveness’ means ‘the cost per unit of reduced emissions of greenhouse gases adjusted

⁷ For example, a paper submitted by the Office of Atmospheric Programs of the U.S. Environmental Protection Agency entitled “Experience with Cap and Trade Programs” contained the following:

“Summary: Why Cap and Trade:

- Offers an alternative to traditional regulation and credit trading—not simply a trading feature added to existing regulation
- Provides environmental certainty that a specific emission level is achieved and maintained
- Provides regulatory certainty, compliance flexibility, and lower permitting and transaction costs for sources
- Requires fewer administrative resources from industry and government – if program is kept simple
- Creates incentives for innovation and early reductions
- Can be compatible with other mechanisms—source-specific requirements, taxes, voluntary measures
- Drives costs down making further environmental improvements feasible.”

for its global warming potential.’ ” (§ 38505, subd. (d).) As the scoping plan observes, “This definition specifies the metric (i.e., dollars per ton) by which the Board must express cost-effectiveness, but it does not provide criteria to assess if a regulation is or is not cost-effective.” Nor does it define what is to be included as a “cost” or how such costs are to be measured. As observed in a letter to the Board from the numerous environmental organizations identified below, “Because cost-effectiveness is merely a comparative tool, it is impossible to define cost-effectiveness in the abstract.” The record shows that extended consideration was given to establishing a methodology for evaluating cost-effectiveness. Four possible approaches were studied by staff and described in a white paper presented to a “Technical Stakeholder Working Group.”⁸ Ultimately the Board adopted the so-called “Cost of a Bundle of Strategies” that was unequivocally endorsed in a letter to the Board from the Natural Resources Defense Council, the Union of Concerned Scientists, the Environmental Defense Fund, the Coalition for Clean Air, Californians Against Waste, the Center for Energy Efficiency and Renewable Technologies, California Wind Energy Association, and The Nature Conservancy.⁹ The scoping plan estimates the cost per ton of greenhouse gas emissions reductions from the measures recommended in the plan will range from \$55 per ton to a

⁸ The four approaches were labeled “Cost of a Bundle Strategies,” Cost of the Last Ton Reduced,” GHG [greenhouse gas] Market Prices as Proxy,” and “Zero Net Cost.”

⁹ This approach was described as follows: “To achieve the AB32 2020 emission limit of 427 million metric tons of CO₂e (MMTCO₂e), ARB has preliminarily estimated that emission reductions from business-as-usual of 173 MMTCO₂e will be needed, through a broad spectrum of strategies including performance-based regulations. . . . [¶] The range of cost-effectiveness of a number of strategies can serve as background for establishing the reasonableness of a proposed regulation’s cost-effectiveness. The highest cost-effective strategy and the least cost-effective strategy can form the range representing the bundle that in total demonstrate a path for reaching the emission reduction target. . . . Any proposed regulation falling within this range or, depending on additional factors required by AB 32, reasonably close to this range would be considered cost-effective and would meet the AB32 cost-effectiveness requirement. That is because the suite of strategies or “the bundle” demonstrates how the 2020 emission reduction target can be reached in conjunction with other approaches.”

net savings of \$408 per ton.¹⁰ The plan concludes: “The criteria for judging cost-effectiveness will be updated as additional technological data and strategies become available. As ARB moves from adoption of the scoping plan to developing specific regulations, and as regulations continue to be adopted, updated cost-effectiveness estimates will be established in a rigorous and transparent process with full stakeholder participation.”

AIR, like some who commented on the proposed scoping plan, contends that this approach is circular because it merely estimates the cost-effectiveness of those measures that are included in the bundle of measures recommended as part of the scoping plan, rather than establishing a criterion against which to evaluate each proposed measure. However, in a section entitled “Valid Comparison of Approaches Not Possible” the draft scoping plan explained: “The limitations of the available modeling tools . . . prevent a comparison between market-based approaches and alternative strategies, such as one that relies only on direct regulation. It is worth noting that, to our knowledge, no previous work has made such a comparison in any rigorous way that incorporates the costs and savings of specific reduction measures. Other studies have either only modeled variations on one approach—typically one that includes market-based measures—or have used a broad-brush surrogate for a regulatory approach, such as uniform percentage reductions employed at the sector level, rather than incorporating the detailed cost and savings information from individual measures. [¶] It is important to understand, as well as possible, the potential impacts of the various options available, and we devoted considerable time and effort to analyze alternatives to the preliminary recommendation. We have ultimately concluded that tools are not available to make a valid comparison of one approach to the others, in great part because of the inability of the model to capture the benefits of the market mechanism measures. Therefore, it is inappropriate and

¹⁰ The estimated cost for measures labeled the “Renewables Portfolio Standard” is \$133 per ton, but the plan states that these measures are being implemented for energy diversity purposes in addition to greenhouse gas reductions and that this figure does not take into account energy diversity benefits and therefore should not be used to define the range of cost-effective greenhouse gas measures.

misleading to provide the results in the form of a direct comparison, and we do not report results in that fashion in this document.”

Determining the best means of identifying and implementing the most cost-effective and feasible measures to maximize greenhouse gas emissions reductions involves numerous highly technical and novel scientific, technical and economic issues. The voluminous administrative record makes clear that the Board approached this challenge by soliciting and obtaining knowledgeable input from industry, academia, environmental organizations, and members of the general public. It is not for the court to reweigh the conflicting views and opinions that were expressed on these complex issues, which in the end are largely matters of judgment in all events. We are satisfied that the record provides ample support for the recommendations on which the Board settled, and that its choices were thoughtfully considered, well within the scope of the Legislature’s directive, and not arbitrary or capricious.

AIR contends that the scoping plan fails to “assess” available direct control measures in the agricultural sector and “fails to include them in the plan so as to maximize reductions.” The record, however, reflects extensive analysis of numerous potential measures in the agricultural sector. Consideration was given to at least 11 different strategies applicable to this sector, ranging from agricultural pump efficiency and tractor tire inflation programs to manure management, fertilizer use efficiency, soil carbon sequestration and agricultural biomass utilization.

The final scoping plan recommends only voluntary measures in this sector at present. The single specific proposal included in the plan is “[e]ncouraging the capture of methane through use of manure digester systems at dairies,” and reassessment of the voluntary approach at the five-year update “to determine if the program should become mandatory for large dairies by 2020.” The plan also indicates that the Board has begun a research program to better understand the variables affecting fertilizer N₂O emissions,

“the other significant source of greenhouse gases in the agricultural sector.”¹¹ AIR faults the Board for not recommending a mandatory manure digester protocol and other mandatory agricultural measures. The explanation for not doing so, however, appears among other places in the record in an “Agriculture Sector Write-Up” prepared by staff for public distribution. The write-up explains: “The agriculture sector is unique in that nearly 82 percent of all greenhouse gas (GHG) emissions from the sector involve biological processes. . . . The gaps in scientific knowledge and scientific uncertainty in existing data on greenhouse gas emissions resulting from the complex biological process of agro ecosystems make the identification of real, permanent, additional, verifiable and enforceable reduction measures difficult to immediately implement. Research on understanding these systems, emissions, and rigorous quantification methodologies are needed to achieve the full reduction potential from this sector. . . . [¶] Due to scientific uncertainty resulting from complex biological process of agro ecosystems, traditional command and control regulations may not be feasible for many of the identified measures. In addition, implementation of many measures may not be cost effective without providing additional incentives or establishing an offset market.” With specific reference to the recommendation that the manure digester protocol be voluntary, another document explains: “Establishing a voluntary protocol can help incentivize the installation of manure digesters by legitimizing the technology and offering a pathway to quantify and verify the GHG benefits. Keeping this protocol a voluntary measure helps avoid premature technology mandates which could have significant cost and environmental drawbacks due to digesters currently being a costly, combustion-driven technology.” The Board’s reasoning is neither arbitrary nor irrational.

AIR further contends the “Public Health and Environmental Analysis,” which is Appendix H of the scoping plan, violates the requirement in subdivision (d) of section 38651 that the Board “evaluate the total potential costs and total potential economic and

¹¹ The plan also indicates that the Board will “explore the feasibility of developing sound quantification protocols” to permit the employment of other related strategies in the future.

noneconomic benefits of the plan for reducing greenhouse gases to California’s economy, environment, and public health.” Citing *Association of Irrigated Residents v. San Joaquin Valley Unified Air Pollution Control Dist.* (2008) 168 Cal.App.4th 535 (*San Joaquin APCD*), AIR seems to suggest that this provision requires the scoping plan to include a comparison of the environmental and public health consequences of each measure it recommends with those consequences if the particular measure is not adopted. *San Joaquin APCD* held that the air pollution control district failed to comply with the explicit requirements of a different statute (§ 40724.6, subd. (e)) in failing to conduct an assessment of the public health impacts of a proposed rule. (168 Cal.App.4th at pp. 543-547.) To the extent comparisons may be drawn between the requirements of the two statutes, the appropriate comparison is not to section 38561, subdivision (d), but to section 38562, subdivision (b). The former states that the potential costs and benefits “of the *plan*” must be evaluated—not that each proposed measure must be so evaluated. Section 38562, on the other hand, relates to the adoption of individual measures by regulation and provides that in adopting regulations the Board shall, among other things, design the regulation “in a manner that is equitable, seeks to minimize costs and maximize the total benefits to California, and encourages early action to reduce greenhouse gas emissions” (*id.*, subd. (b)(1)), “[e]nsure that activities undertaken to comply with the regulations do not disproportionately impact low-income families” (*id.*, subd. (b)(2)), and “[c]onsider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health” (*id.*, subd. (b)(6)). The Board emphasizes that further analysis of the environmental and public health consequences of each proposed measure will be considered as part of the process of adopting implementing regulations.

Moreover, contrary to AIR’s assertion, public health and environmental justice were factors considered in connection with each of the 11 measures analyzed for the agriculture sector, including the manure digester recommendation. Although the record contains a discussion of only a few public health or environmental justice impacts from

these measures, that is hardly surprising in view of the determination that further research is necessary to formulate specific proposals in this area.

AIR asserts that ARB “improperly limited its health analysis to the state as a whole, the South Coast Air Basin and the City of Wilmington.” We see in this approach no impropriety or violation of the statutory directive that the Board “evaluate the total potential costs and total potential economic and noneconomic benefits of the plan for reducing greenhouse gases to California’s . . . public health.” (§ 38561, subd. (d).) The South Coast Air Basin was chosen “as an example case” “[i]n order to assess potential air quality benefits of the scoping plan on a regional level.” Wilmington was chosen to evaluate the potential air quality impacts of the scoping plan “as an illustration of the potential for localized impacts.” Indeed, another of AIR’s criticisms is that ARB “made no attempt to analyze potential disproportionate public health impacts to communities living closest to the facilities eligible to participate in the cap and trade system.” However, Wilmington, the community chosen to assess local air quality impacts, the plan points out, “includes a diverse range of stationary and mobile emission sources, including the ports of Los Angeles and Long Beach, railyards, major transportation corridors, refineries, power plants, and other industrial and commercial operations.”

AIR also contends that ARB “further limited its examination of air quality benefits to four sectors: electricity, fuel combustion, transportation fuels, and industry.” Staff did estimate the reductions in emissions to be derived from the measures recommended in the scoping plan for these four major sectors covered in the cap-and-trade program and estimated to be responsible for 85 percent of California’s greenhouse gas emissions in 2020. However, elsewhere air quality benefits, though not quantified, are addressed for other sectors, including water, recycling and waste management, forests, high global warming potential gases, and agriculture. With respect to the water sector, the appendix which includes the analyses of health care benefits observes, simply: “The operation and maintenance of water facilities and related infrastructure do not generally have significant direct air emissions. Significant emissions are indirect and the result of the electricity and natural gas use related to water. Construction activities would have temporary impacts on

air resources, and are regulated by local AQMDs [air quality management districts] and APCDs [air pollution control districts], while construction equipment is regulated by ARB.” With respect to the forest sector, as a second example, the appendix points out, as to air emissions: “forests remove carbon as they grow; but emissions of criteria pollutants from fires can negatively affect air quality.” Although several sources of air emissions associated with forest activities are already regulated, as the appendix describes, the appendix comments on benefits to be achieved from the plan’s recommended measure of establishing and implementing a target to sustain current levels of net carbon sequestration in the forest sector but points out that “[a]ir emissions were not quantified because the measure is still under development.”

Similarly, AIR faults ARB for “limit[ing] its analysis by focusing only on criteria air pollutants such as NO_x and fine particulate matter, and by not including toxic air contaminants.” While quantitative estimates were made only for the criteria pollutants, vehicular air pollutants and other toxics were recognized at various points. ARB contends it was unable to analyze other toxic air contaminants quantitatively. AIR makes no showing to the contrary, but even if other estimates could be made, the failure to make them does not reflect any fundamental flaw in the scoping plan or departure from the statutory mandate.

Conclusion

The Governor and the Legislature have set ambitious goals for reducing the level of greenhouse gas emissions in California and to do so by means that are feasible and most cost-effective. The challenges inherent in meeting these goals can hardly be overstated. ARB has been assigned the responsibility of designing and overseeing the implementation of measures to achieve these challenging goals. The scoping plan is but an initial step in this effort, to be followed by the adoption of regulations, the first of which are already in effect, and plan updates no less than every five years. As the plan itself indicates, there is still much to be learned that is pertinent to minimizing greenhouse gas emissions. It is hardly surprising that the scoping plan leaves some questions unanswered and that opinions differ as to many complex issues inherent in the

task. After reviewing the record before us, we are satisfied that the Board has approached its difficult task in conformity with the directive from the Legislature, and that the measures that it has recommended reflect the exercise of sound judgment based upon substantial evidence. Further research and experience likely will suggest modifications to the blueprint drawn in the scoping plan, but the plan's adoption in 2009 was in no respect arbitrary or capricious.

Disposition

The judgment affirming approval by the California Air Resources Board of the Climate Change Scoping Plan as in compliance with the Global Warming Solutions Act of 2006 is affirmed. Each party shall bear its own costs on appeal.

Pollak, J.

We concur:

McGuinness, P. J.

Jenkins, J.

Superior Court of the City & County of San Francisco, No. CPF-09-509562, Ernest H. Goldsmith, Judge.

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