

July 8, 2016

California Air Resources Board 1001 I Street Sacramento, CA 95814

## Re: 2030 Target Scoping Plan Update Concept Paper

Dear Members of the California Air Resources Board,

Food & Water Watch (FWW), a non-profit organization with more than 170,000 supporters in California, hereby submits these comments on the 2030 Target Scoping Plan Update Concept Paper ("scoping plan update"). The California Air Resources Board (ARB) seeks input on various concepts it is considering with the goal of reducing the state's greenhouse gas (GHG) emissions to 40 percent below 1990 levels by 2030.

As developing nations and coastal communities face the immediate impacts of global climate change, world leaders who must protect constituents, resources and economies look to California to implement a replicable model for reducing and eliminating GHG emissions. The need for urgent and truly effective action and leadership increases every day.

As such, and for the reasons outlined below, FWW strongly urges the ARB to abandon the ineffective market and pricing approaches to GHG reductions contemplated in concepts 1 and 4 and instead focus its efforts and resources on mandating source-by-source reductions among all sectors of GHG emissions.

While we commend ARB efforts to force state GHG reductions, we are concerned that the goals as set forth in the scoping plan update are not sufficiently ambitious. The targets — 40 percent GHG reduction by 2030 and the ensuing 80 percent reduction below 1990 levels by 2050 referenced on page 13 of the scoping plan update — are both premised on the need to cap global emissions at 2 degrees Celsius temperature rise.

However, recent studies indicate that this temperature goal is simply not aggressive enough to avoid many of the catastrophic impacts of climate change. Instead, as world leaders acknowledged at the United Nations Climate Change Conference in December 2015, ARB and other regulators should be seeking ways to prevent temperatures from rising more than 1.5 degrees Celsius. This will only be achieved with a shift to 100 percent renewable energy and zero GHG emissions by 2035. We implore the ARB to be more aggressive in setting the state's GHG reduction goals to meet this needed limit on temperature rise.

### **Carbon Sequestration is Not a Substitute for Mandatory and Permanent Pollution Reductions from the Agriculture and Natural Lands Sectors**

All four concepts of the scoping plan update include measures to reduce emissions from the agriculture and natural lands sector by, among other things, sequestering carbon. While protecting forests, wetlands, riparian and coastal areas, and soils, among various other "natural



and working lands" is an important effort, it is imperative that sequestration of GHG emissions in these lands is not abused as a loophole or alternative to mandatory and permanent pollution reductions — it must be truly complementary to primary efforts of reducing pollution from industry, electric power and transportation, among other polluting sectors. The effort of "Protecting, Enhancing, Innovating, and Increasing Sequestration in the Natural Environment" must also not be used as a backdoor to offsets — as outlined below, offsets are a false solution that will not achieve the emission reductions necessary to avoid the worst effects of climate chaos.

Notwithstanding the above, the ARB's intention to increase conservation of lands capable of sequestering GHG emissions raises significant concerns. For example, the specific listing of the ocean as a natural resource that can "store substantial carbon in biomass and soils," shows an alarming disconnect between the very serious crisis of ocean acidification and eutrophication already overburdening the oceans, and the ARB's seeming intention of further utilizing the ocean as sink for GHG emissions.

Currently, the amount of  $CO_2$  entering the oceans from our atmosphere is critically unsustainable and causing changes to the pH of ocean waters, making them more acidic. This in turn is setting off a chain reaction in ocean ecosystems as the acidic water causes the shells of shellfish to dissolve, something that has already been observed off the coast of California. As our oceans continue to be overburdened with  $CO_2$  they can absorb less and less of it, meaning that in the coming years an increasing amount of  $CO_2$  will remain in the atmosphere — we have nearly exhausted, already, the oceans' capacity to act as a carbon sink. It is not an option for GHG sequestration.

In addition, the scoping plan update also seeks to address GHG emissions from agriculture through this "complementary policy" of using sequestration rather than require mandatory and permanent pollution reductions. Attempts to use sequestration to reduce emissions from agriculture, or any other source of GHG emissions, does not stop emissions from happening or reduce their incidence. It is not enough to use sequestration to address agricultural emissions — this will not achieve a net decrease so long as emissions from agriculture continue with no requirement that they be significantly decreased.

Moreover, the reliance on sequestration efforts — despite ARB's contention that they are a "complementary policy" — is a liability. Natural and working lands are constantly subject to natural disasters like wildfires and droughts, which in turn undo and prevent the sequestration of emissions in these lands. The ARB must first require mandatory and permanent pollution reductions, and any benefits that come from supposedly "complementary policies" like the sequestration of GHG emissions must be solely complementary and not relied upon for major emission reductions.

The inclusion of this complementary policy in all 4 of the concepts is concerning. The extent to which each concept relies on this option must be outlined with greater detail and it must be explicitly stated that sequestration is *only* complementary and that it must only have a limited, ancillary role in the overall need for mandatory and permanent GHG emission reductions.



## Cap-and-trade Will Not Help California Achieve its Reduction Goals

Concept 1 of the scoping plan update, "Complementary Policies with a Cap-and-Trade Program," is, in essence, a continuation of the current system of GHG reductions which relies, in part, on a free market system of allowance auctions and offset programs designed to allow polluting entities flexibility to avoid meeting their own emissions limits. Any market-based approach to pollution control is rife with a significant lack of transparency, while being open to manipulation and fraud, and cannot result in the kind of real, additional and verifiable GHG reductions needed to save this planet from the worst impacts of climate change. Therefore, we ask the ARB to reject concept 1 in any final GHG reduction strategy.

### Previous Failed Experiments in Market-based Solutions in California

The current carbon cap-and-trade approach is not California's first foray into market-based systems for air pollution control. In the 1990s, while Congress enacted Title IV of the Clean Air Act, the city of Los Angeles was experimenting with its own air trading approaches to cut down on several pollutants. Rule 1610 was approved in 1993. It allowed stationary sources of air pollution (typically LA's oil refineries) to purchase emissions credits from scrapyard operators who were removing older, highly polluting cars off the roads. The pollutants traded were volatile organic compounds, or VOCs.

The Rule 1610 program underscored many of the inherent problems with trading programs. Scrapyards were removing engines from old vehicles before demolishing them and selling both the engine and the emissions credits to increase profits. The oil refineries, all located in clusters among communities of color, continued to emit VOCs, along with many other co-pollutants such as benzene, a known carcinogen. These increases in stationary source emissions led to localized hotspots of increased impairment.

The early 1990s also saw Los Angeles introduce the Regional Clean Air Incentives Market, or RECLAIM, to try to reduce smog in the region. Pre-RECLAIM regulatory approaches showed dramatic reductions in many smog-related pollutants, including nitrogen oxides (NOx). These reductions stopped abruptly with the implementation of the new market system. In fact, for the first two years of RECLAIM, emissions actually increased, with only minor reductions (3 percent) in the years following. RECLAIM never did reach its goals. According to an April 2001 article in the Los Angeles Times, one month before the program was scrapped:

Manufacturers, power plants and refineries have reduced emissions by a scant 16 percent — much less than was anticipated by this time. Businesses were given 10 years to eliminate about 13,000 tons of pollution annually, but as the program nears its end they have eliminated just 4,144 tons....

RECLAIM also shares a major problem with all trading programs: it de-motivated technological advances to pollution control, allowing industries to rely on credit purchasing instead of innovation to reduce emissions. The 10 years of RECLAIM were, in effect, a decade lost on making any significant inroads on LA's air problems.



### The Acid Rain Program is not a Cap-and-trade Success Story

Even where cap-and-trade systems have, arguably, resulted in decreases in emissions, they have proven to be less effective than source-by-source, command and control approaches. Title IV of the 1990 Clean Air Act Amendments, known as the Acid Rain Program, or ARP, has become the poster child for pollution trading proponents. It was enacted to address the main causes of acid rain — the emission of sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) from coal-fired power plants — through a system of buying and selling emission allowances. The goal of ARP was to reduce annual SO<sub>2</sub> emissions to about 9 million tons by 2010, down from the 15.7 million tons emitted in 1990.

While recent modeling indicates that this reduction target was reached by 2007, it remains far from clear whether the reductions were due to pollution trading or in spite of trading. For example, we know that the U.S. Environmental Protection Agency (EPA) now attributes at least 1 million tons of SO<sub>2</sub> reductions during ARP to factors unrelated to trading, namely the increased availability and switch to low-sulfur coal sources from the Powder River Basin in the early 1990s.

Prior to the enactment of Title IV, an assessment projection indicated that reductions in SO<sub>2</sub> as great as those achieved under a market-based ARP could be attained if older coal-fired power plants simply complied with the Clean Air Act's New Source Review (NSR) technology retrofitting requirements. But with the introduction of trading, those technological modifications fell by the wayside. As one 2005 report indicates, "Experience since 1990 has shown that most of these facilities have managed operations to avoid triggering NSR, resulting in facility life being extended longer and adoption of new control technologies being slower than many analysts predicted in 1990."

While we may never know the real impact of substituting trading mechanisms for technological upgrades on U.S. SO<sub>2</sub> emissions, results from Europe's contemporaneous acid rain approach indicate that we would have done much better sticking with regulatory approaches. A 2004 comparative study of the U.S. trading approach to SO<sub>2</sub> with the European Union's and Japan's regulatory "command and control" systems show a much greater reduction without trading. While the United States attained a 39 percent reduction in SO<sub>2</sub> during Phase I of the ARP program, the EU achieved a 78 percent reduction. Japan's emissions fell by 82 percent.

The ARP could only be considered a successful trading program if you ignore the reductions we would have achieved had we continued to force these industries to comply with the law and upgrade their reduction technology, without allowing trading.

## European Union Emissions Trading System: Another Failed Experiment in Market-Based Solutions

While we still may not know what impact California's cap-and-trade initiatives have had on actual GHG reductions in the state, we do know that the largest existing carbon market in the world – the European Union's – has, like RECLAIM and Rule 1610, been an abject failure in many ways. With a total value of \$4 billion, as of 2014, the biggest pollution marketplace



experiment is the ongoing European Union Emissions Trading System (EU ETS). It was included as one of the mechanisms for meeting national emissions targets under the Kyoto Protocol to reduce climate-altering greenhouse gas emissions from industries around the globe

Thirty countries are part of this regional cap-and-trade system. The EU ETS only covers certain sectors, such as power generation and steel manufacturing, but not others, such as transport and agriculture. The EU ETS aims to reduce  $CO_2$  emissions in these sectors 20 percent by 2020. Trading started in 2005. It has been fraught with significant problems and, at times, seems to be teetering on complete collapse. As was recently the case in the California allowance market, the price for carbon in the EU ETS has been incredibly volatile. It reached €30 (\$47) in 2008, languished below €10 for most of 2012, hitting a low of €5.99 in April of that year. This kind of volatility undermines economic planning, while allowing some companies to reap a windfall with over-allocation.

The EU ETS has also attracted hackers and outright fraud, culminating in shutting down the spot market in 2011 after a group of Eastern European hackers cost EU governments up to  $\in$ 5 billion in an attack. From stolen and fraudulent credits to stockpiling, plunging demands and miscalculated caps, the carbon cap-and-trade program has more problems associated with it than any traditional regulatory program could.

### Offsets Do Not Achieve Real, Permanent or Additional Emission Reductions

Perhaps one of the most troubling aspects of the current market-based system is the use of offsets in lieu of source reductions. Regardless of whether the proposed offsets occur within or without the state cap-and-trade program, any kind of offset is a legitimate threat to achieving real, additional, or permanent emissions reductions. Offsets allow polluters to avoid the urgent need to stop polluting and instead allow them to pay to continue their harmful activities with impunity, while claiming that emissions have been reduced elsewhere. Moreover, the agenda behind offsets, as is clear here, too often places priority on cost containment, market efficiency and making it easier for polluters to comply, disregarding the true priority of reducing GHG emissions.

The issue of permanence presents the most egregious problem from offsets. The dictionary defines permanence as "the state or quality of lasting or remaining unchanged indefinitely." However, ARB's understanding of permanence is quite distorted: "Permanent means, in the context of offset credits, either that GHG reductions and GHG removal enhancements are not reversible, or when GHG reductions and GHG removal enhancements may be reversible, that mechanisms are in place to replace any reversed GHG emission reductions and GHG removal enhancements to ensure that all credited reductions endure for at least 100 years."

ARB's interpretation sends the contradictory message that offset protocols require permanence, but then allows for situations where permanence can be violated as long as there are backup mechanisms in place. For example, the Forest Buffer Account exists for when a forest used for offsets might burn down or be destroyed by another natural disaster, reversing the offsets generated. However, what's left unsaid is that using a buffer account like this allows the total amount of emissions released to increase — the reversed offsets release emissions, requiring



more offsets to replace those reversed, ultimately increasing the aggregate number of credits used and subsequently increasing the overall amount of emissions allowed. It's not as simple as a one-for-one exchange.

Additionally, offsets conflict with the requirement for permanence when the life of the reductions is only 100 years, instead of achieving true permanence. Crediting periods also contradict the concept of permanence when they only go for 25 or 30 years at a time. This is, again, not permanent. It is also unclear what happens after the crediting periods end, or after the 100 years of "permanence" end. The companies that issue the offset credits might not exist in 25, 30 or 100 years, and these impermanent crediting periods bring all of the offsets issued into question. The entire structure presents a significant risk of large-scale reversal in the future, undoing whatever emission reductions might happen and creating no real progress on the very critical issue of GHG reductions.

Another problem arises in the methodology for measuring the amounts of carbon dioxide ( $CO_2$ ) stored in forests and as well as the methods for calculating emissions reductions from the proposed rice cultivation offsets. Although both methodologies are problematic, they share a significant issue in that they use models and estimates to arrive at the amount of  $CO_2$  stored in a forest or the amount of methane emissions prevented from different rice cultivation practices. From these estimates, offsets are then sold for exact amounts of avoided emissions. A modeled estimate does not equal an exact amount of emissions. It doesn't add up.

Additionality issues also render California's offset program invalid. State regulations hold that, "A registry offset credit must represent a GHG emission reduction or GHG removal enhancement that is real, additional, quantifiable, permanent, verifiable, and enforceable" (Health and Safety Code §38562(d)(1) and (2)). Yet time and again, ARB approves offsets that do not meet this additionality requirement.

For example, Brubaker Farm in Pennsylvania built a manure digester in 2011, using taxpayer funding, to provide electricity for the farming operation. The owner of the farm is on record as saying he originally built the digester not for credits, but for electricity. Yet, in 2015 ARB retroactively certified the Brubaker digester as a GHG offset generator, and California industries can now take advantage of this facility to continue their own emissions even though the digester was already in place, and operating.

Likewise, ARB recently approved the 704-acre Pungo River Forest Conservation Project in North Carolina as a source of GHG offsets even though this stand of forest was put into permanent conservation easement in 2003. Seeking out already existing projects across the country to generate GHG reductions and subsequent offset credits for use in the state of California means that there are no additional GHG reductions taking place through the state's offset program.

The lack of accountability in offset approaches is not restricted to California. A recent study of a European Union offset program found that 80% of credits were unverifiable. This means that polluters were able to buy offset credits to pollute more from sources that may or may not have actually reduced emissions.



## Cap-and-trade Undermines the Clean Air Act

The offset approach is not the only problem. Cap-and-trade is a regulatory framework that seeks to eliminate the most important tenets of the Clean Air Act, which is that companies do not have an inherent right to pollute. Under cap-and-trade policies, polluters are being given a right to threaten public health and the environment, as long as they pay for it. These schemes essentially create loopholes that allow polluters to continue dumping and discharging rather than holding them accountable for pollution.

Trading creates a mechanism where profits determine who is able to pollute and can actually lead to an overall increase in pollution along with regional pollution hot spots, as larger and well-financed polluters will often opt to purchase credits rather than run pollution control equipment. This happened with the Los Angeles air pollution trading programs under the Rule 1610 and RECLAIM programs in which communities of color near the City's refinery district suffered from increased air pollution when these facilities purchased emissions credits instead of installing reduction technologies.

While proponents of cap-and-trade and offsets tout the regulatory flexibility benefits of these policies, in reality these policies allow polluting industries to put profit above the interests of public health and the environment. We need to strengthen protections under the Clean Air Act that have worked for decades to help hold polluters accountable, rather than rolling back some of the most important public health laws for decades.

The threats posed by climate change to our public health, environmental health, communities and livelihoods are permanent and real, and so must our efforts to stop these threats be permanent and real — cap-and-trade and offsets cannot accomplish this. The fact that they require loopholes, distortions and exceptions to even "work" shows that these approaches are not a solution to our climate problem, but simply exist as conveniences for industries that wish to avoid taking the steps necessary to limit their own pollution emissions.

# Carbon Taxes Will Not Result in Any Significant GHG Reductions in California or Elsewhere

Concept 4 of the scoping plan update, "Complementary Policies with a Carbon Tax," represents yet another questionable market-based approach to pollution control. While a simple taxing approach may be subject to less fraud and manipulation than a highly convoluted cap-and-trade system, the fundamental problem with a carbon tax is that it will not result in significant GHG reductions necessary to stave off catastrophic climate change impacts.

As cap-and-trade advocates point to the Acid Rain Program for support, many carbon tax proponents look to the 2008 British Columbia, Canada carbon tax to argue that placing a tax on carbon-emitting fuels is the solution to climate change. Unfortunately, that faith is severely misplaced. The province achieved only minimal GHG emission reductions since implementing the tax, and the existence of a causal relationship between the tax and these declines is questionable. Moreover, these modest emissions reductions are not remotely sufficient to reach



the targets necessary to ensure a sustainable climate, demonstrating that carbon taxes are not a viable policy solution to climate change.

Although greenhouse gas emissions in British Columbia declined during the first full year after the carbon tax was enacted, the policy does not appear to have had a long-term impact. GHG emissions have been rising rapidly in recent years even as the tax rate and total tax revenues have also increased and remain in effect. Moreover, the declines in taxed GHG emissions are more modest and more quickly reversed than the changes to the *untaxed* GHG emissions — exactly the opposite of what would happen if carbon taxes had a causal impact on changing emissions.

Already, British Columbia projects that total GHG emissions will increase over coming years even with the tax in place. Canada's 2016 biennial report on climate change estimates the province's GHG emissions will increase by 7,000 kilotonnes of  $CO_2$  equivalent ( $CO_2e$ ) between 2005 and 2020, and by 18,000 kilotonnes between 2005 and 2030 — preventing British Columbia from meeting its goal of reducing GHG emissions 33 percent below 2007 levels by 2020 by a wide margin.

Even though the British Columbia tax was largely focused on transportation fuels, not even gasoline sales in the state were affected. Total motor vehicle fuel sales in British Columbia have generally risen since the carbon tax went into effect — sales exceeded 2007 and 2008 every year except 2012. In recent years, motor vehicle fuel sales have exceeded the 2004 peak even though the carbon tax reached its highest rate.

It is not surprising that the carbon tax had a negligible effect on gasoline consumption. People are dependent on their vehicles to travel to work and attend to their family responsibilities. According to the U.S. Energy Information Administration, gasoline prices have a minimal effect on car travel. Despite significant volatility in U.S. gasoline prices in recent years, the total number of vehicle miles traveled and household car travel demand changed very little in response to price fluctuations. Without sufficient alternative transportation options, people will continue to drive their cars regardless of significant changes in gasoline prices.

Drivers in the United States have faced considerably larger gasoline price increases than the British Columbia carbon tax without reducing gasoline consumption or travel miles. Even significant changes in gasoline prices have not had any real impact on vehicle miles traveled and subsequent carbon dioxide emissions.

The straightforward data assessment demonstrates that the British Columbia carbon tax has not had a long-term impact on GHG emissions or gasoline consumption trends — both have resumed their rise after a brief decline. Carbon tax proponents have overstated the results of the policy (primarily by focusing on a narrow time window) and over-attributed the causal impact of the carbon tax even on the short-term declines in GHG emissions and vehicle fuel sales.

Although GHG emissions and vehicle fuel sales declined as the carbon tax went into effect, most of these declines are more the result of the economic recession than to the carbon tax. Much of the 2008 to 2009 decline in GHG emissions was likely attributable to the decline in economic output, companies going out of business, rising unemployment, and falling disposable income



that led to less energy use. British Columbia's environment minister from 2011-2013 estimated that two-thirds of claimed emissions reductions between 2007 and 2010 were likely due to the economic recession. In 2009, the first full year the carbon tax was in place, the entire country of Canada experienced a significant drop in GHG emissions, even though the majority of the country had not implemented a comparable carbon tax.

Carbon taxes are also often regressive. Lower-income households bear the disproportionate brunt of carbon taxes levied on transportation fuel, electricity generation and residential heating. These energy costs represent a larger share of expenses for lower-income households making the tax especially regressive.

In a comment to the *Houston Chronicle*, ExxonMobil's manager of environmental policy and planning said that "Trimming carbon emissions to the point that average temperatures would rise roughly 1.6 degrees Celsius — enabling the planet to avoid dangerous symptoms of carbon pollution — would bring costs up to \$2,000 a ton of CO<sub>2</sub>. That translates to a \$20 a gallon boost to pump prices by the end of this century." These price increases would represent an extraordinary and unmanageable burden for average Americans. By 2090, carbon taxes would add US\$22,800 (in today's dollars) to household energy costs.

History proves that strong and enforceable pollution standards work. In contrast, carbon taxes put the cost and responsibility of addressing climate change on individuals instead of holding polluters accountable for destroying our planet. Such taxes are largely ineffectual, having little or no impact on greenhouse gas pollutants. Carbon taxes further endanger meaningful action to reduce harmful GHG emissions. The political capital and institutional engagement wasted pursuing carbon taxes distract us from the necessary pollution reductions required to truly solve the problem.

## Conclusion

Concepts 2 and 3, which avoid market mechanisms while focusing, respectively, on mandatory GHG reduction approaches in the industrial and transportation sectors, are the methods California should employ to address climate change. While not taking a strong position on which of these two remaining concepts would prove most beneficial, FWW does note that all GHG emitting industries and polluters will need to do their share in order to achieve needed reductions to save this planet. Absent from ARB's scoping plan update is any meaningful focus on addressing emissions from the agricultural sector, and instead the plan relies on sequestration as a haphazard solution. While we understand that there are separate, ongoing efforts to mandate methane reductions in that sector, we encourage ARB to continue to move towards strict regulation of the agricultural industry sector, as well as all other sectors of GHG emissions, as it moves to implement climate change goals and remedies in the coming years.

Sincerely,

Rebecca Claassen Santa Barbara County Organizer