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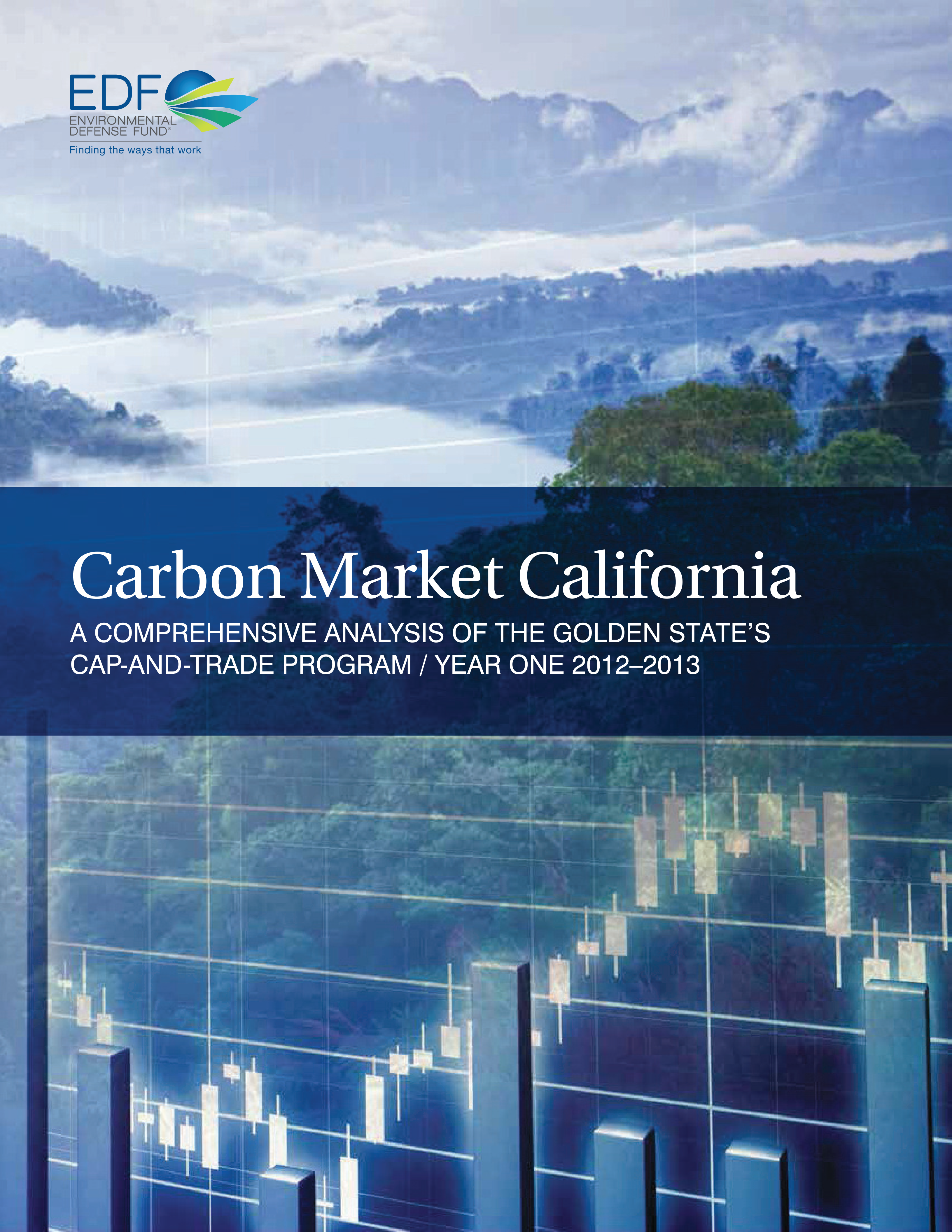

Carbon Market California

A COMPREHENSIVE ANALYSIS OF THE GOLDEN STATE'S CAP-AND-TRADE PROGRAM / YEAR ONE 2012–2013

Executive summary

January 1, 2014 marked one year since the start of California's landmark cap-and-trade program, a market-based system to reduce greenhouse gas (GHG) pollution. The program will be the second-largest carbon market in the world, after the European Union's, and will cover 85% of all carbon pollution in the state by 2015. It is the most discussed program in a suite of strategies being deployed to achieve the goal of California's Global Warming Solutions Act—also known as Assembly Bill 32 (AB 32)—a 2006 law requiring the state to reduce GHG emissions to 1990 levels by 2020. California is the eighth-largest economy in the world and the first state in the nation to employ an economy-wide cap-and-trade program. While no state or country can stop climate change alone, California's environmental policies have a history of success and replication. The importance of California's program is thus magnified by the example it sets, and the world is watching to see whether the state's carbon market will succeed.

One year into the program, the outlook is positive. California's cap-and-trade system weathered legal challenges and demonstrated a successful launch and viability during its initial year. In the first five auctions, all of the offered emission allowances usable for compliance in 2013 were sold. Similarly, the secondary market for carbon allowances has shown stability, and carbon prices close to the floor indicate the long-term possibility of low marginal abatement costs for regulated entities. Contrary to some predictions of harsh economic damage, capping carbon pollution in California has occurred amidst sustained and promising economic recovery and growth, including a stronger housing market and lower unemployment rate.

This report provides an overview and analysis of California's carbon market after one year in operation. Included are a background on the cap-and-trade program, an account of the carbon market's progress to date, and an analysis of what the market's performance means for California's environmental and economic goals. This analysis includes in-depth summaries and trends observed from the quarterly auctions and secondary market activity, along with evaluations of market performance by industry experts and academics. Updates regarding litigation, proposed regulatory amendments, and international agreements are also discussed.

Five key conclusions from the program's first year and five key considerations for the program's future are highlighted on pages vii and viii.

Tim Connor

First year conclusions

1. **The successful state-run auctions are evidence of a well-constructed, strong, and adaptive policy.** California had the good fortune of learning from predecessor cap-and-trade programs like the European Union Emissions Trading System (EU-ETS) and the Regional Greenhouse Gas Initiative (RGGI). The five successful quarterly auctions conducted thus far are evidence of a strong design for California's program. Each auction has shown a solid demand for current year allowances, with numerous compliance entities participating and allowance prices remaining stable and reasonable. The California Air Resources Board (CARB) has developed a robust administrative framework. To date, there have been no signs of market manipulation, the auction platform and logistics have been straightforward, and key market communications have been timely and well managed.

2. **The secondary market for California carbon allowances is robust and healthy. Although the offset market was quiet, late 2013 issuance of CARB offset credits suggests greater offset market activity lies ahead.** Since the first auction commenced, allowance prices have stabilized on the secondary market and the volume of traded allowances has increased. This reflects increased confidence, familiarity, and participation in the market. Furthermore, since CARB offset credits have been issued and the first surrender date for compliance instruments by regulated entities approaches in November, it is likely that increased interest in the market will result in more offset transactions.

3. **Wise investment of the auction proceeds will be an integral part of achieving the state's AB 32 pollution reduction goals.** State auction proceeds—$533 million to date—will boost clean energy in California, improve air quality, and create jobs. California law requires that auction proceeds be invested in further reducing GHG emissions. Although the goal of the cap-and-trade program is not to raise money, this first year of auctions has shown that a meaningful amount of money can be generated from the sale of allowances. While Governor Brown has taken a one-time loan of $500 million from the state's auction proceeds, he has committed to return these funds and invest future funds to cut carbon pollution. Furthermore, as required under law passed in 2011, at least 25% of the proceeds must be invested in a manner that benefits disadvantaged communities in California that are most impacted by climate change and poor environmental quality.

4. **The average price for allowances suggests that achieving the cap may be less costly than some expected.** Some critics of the program, including regulated businesses, have expressed fear of high compliance costs from AB 32. The reality of current allowance prices—just over $11—is in stark contrast to those fears, and shows that the cost of emissions reductions will be much lower in this first compliance period than previously expected. Even if prices hover above the floor, the cap ensures reductions will be met and that companies will incorporate the cost of carbon into their strategic planning.

5. **Market experts interviewed for this report expressed overwhelming positive views regarding the first-year performance of California's cap-and-trade program.** In addition to noting the auction mechanism is well designed, experts felt the complete sale of current allowances and improved liquidity in the secondary market are encouraging signs of a well-functioning market. All of those interviewed were confident that the market is here to stay and highlighted the importance of post-2020 goals.

Future considerations

While the data presented in this report indicate the first year of cap and trade in California has been a success, there are upcoming program milestones and other important factors that may impact the market.

1. **The end of the first compliance period:** California will know more about the program's success in November 2014 when regulated entities will first have to surrender allowances. At that time, the state and general public will have additional information about how the program is functioning, what emissions reductions have been achieved, and how entities are meeting their compliance obligations.

2. **Linkage with Quebec:** California and Quebec formally linked their cap-and-trade programs beginning on January 1, 2014. The Quebec linkage expands the market and provides regulated entities greater flexibility in meeting their compliance obligations cost-effectively. More importantly, it paves the way for other linkages which could create greater environmental and economic benefits.

3. **Proposed cap-and-trade regulation amendments:** Continued market oversight has resulted in a list of proposed cap-and-trade regulation amendments scheduled for consideration in spring 2014. One such amendment includes maintaining the integrity of price containment mechanisms, including credible offsets. Offsets, banking, and other cost containment mechanisms will continue to be important features of the cap-and-trade program.

4. **Fuels coming under the cap in 2015:** The cap more than doubles in size to include distributors of transportation fuels and natural gas on January 1, 2015, the start of the second compliance period. Under the current regulation, suppliers of transportation fuels will not receive any free allowances, meaning they will be required to purchase allowances to cover their emissions. This will significantly impact the supply and demand outlook for carbon allowances.

5. **Post-2020 goals:** Cap and trade, in combination with complementary measures like the Renewable Portfolio Standard and Low Carbon Fuel Standard, are keeping California on track to meet 2020 reduction targets. However, California must set post-2020 goals in order to provide regulated entities with certainty moving forward. With legal challenges mostly overcome and regulated entities showing stronger demand for future vintage allowances, California is seeing more confidence in the longevity of the market. Conversations about setting a 2030 carbon pollution reduction target have begun and it is crucial for policymakers to think about post-2020 program design elements to ensure more ambitious reductions can be met at reasonable costs.