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Implementation of AB 32 Reducing Greenhouse Gases with Emerging Public Policies *Public Comment on Global Warming Solutions Act Implementation* **Commonwealth of Massachusetts Global Warming Solutions Act 10-Year Progress Report How California Came to Pass AB 32, the Global Warming Solutions Act of 2006** Shockproofing Society **Exploring Cap-and-Trade Governor's Budget Proposal to Implement the Global Warming Solutions Act of 2006 ("AB 32").** *California Global Warming Solutions Act of 2006 Assembly Bill 32* **Drawdown** Addressing the Employment Impacts of AB 32, California's Global Warming Solutions Act *Productivity and the California Global Warming Solutions Act* **An Introduction to California's Greenhouse Gas Emission Trading Program Too Good to be True?** Climate Change Mitigation *What Role Can CEQA Play in Reaching GHG Emissions Reductions Goals Set Forth in AB 32 -- An Analysis of CEQA, AB 32, and Recommendations for CEQA Reform PM2.5 Co-benefits of Climate Change Legislation* **An Assessment of California's Cap-and-trade Revenue Options & Free Allowance Allocation Methods** Essays on the Comparison of Climate Change Policies **How Smart is CEQA about Climate Change? A Golden Opportunity Legislative Summary Climate Change Draft Scoping Plan Legislative Bill Summary, ... Legislative Session Climate Change from the Streets** *Equitable Energy for Massachusetts Draft Climate Implementation Plan* Legislative Bill Summary ... Legislative Session *Massachusetts Clean Energy and Climate Plan for 2020* Climate Change Draft Scoping Plan Life Cycle Assessment of Ground Improvement Methods **Modeling of GHG Mitigation Strategies in the Trucking Sector** Hemp for Victory *Efficient Energy Use Consulting in the Bay Area for Implementation of the California Global Warming Solutions Act of 2006* **Supplemental Health Impact Assessment of AB32 California's Global Warming Solution Act of 2006** Beyond AB 32 Relating to California's Regulatory Environment and AB 32 (Nunez), the Global Warming Solutions Act of 2006 (Chapter 488, Statutes of 2006) *Losing Earth The Suicidal Planet Three Lingering Design Issues Affecting Market Performance in California's GHG Cap-and-Trade Program*

Hemp for Victory May 24 2020 "In a report by the world's top environmental scientists, the only thing listed that mankind can do to have an impact on changing weather patterns is to reduce the excess CO2 levels from the air. Hemp for Victory: A Global Warming Solution is a key for reducing the effects of global warming using hemp. Why hemp? In this book you'll learn: hemp is a biomass champion, breathing in more carbon dioxide (the most abundant greenhouse gas) than any other plant. This carbon dioxide is turned into wood and fiber by photosynthesis. Hemp wood takes the pressure off our forests by making paper and building materials like pressboard. Hemp is the best plant at consuming the greenhouse gas CO2, a step the world leading scientists say is critical to at least slowing down the dramatic effects of global warming. Remove the cause, CO2 pollution, and the effect, global warming, can be reduced, if not healed. Hemp can do all the jobs fossil fuels do now. When used as a biofuel, hemp replaces toxic energy (i.e. fossil fuels, nuclear power) with clean sustainable energy. Hemp biofuel can be processed to run any engine, heat or cool any building, run any factory, and eliminate the greenhouse gases and pollution that come from modern energy sources. The Museum has thousands of hemp exhibits both on line and in the private wing, many included in this book. The Museum's founder and curator, Richard M. Davis, wrote this dynamic piece of literature that gives chapter and verse of how to best re-hemp the planet. This book is based on the museum's extensive research on hemp and the environment. The museum is also developing a Hemp for Victory plan to successfully use hemp to help solve the survival problem of global warming by coordinating famers with growing and market information. A 20% recreational hemp tax plan is in development to finance the program and help deal with the current impact of global warming, i.e. Hurricane Katrina."--Back cover.

How Smart is CEQA about Climate Change? Jul 06 2021 Analysis of greenhouse gas (GHG) emissions under the California Environmental Quality Act (CEQA) is an emerging practice, which, if done correctly, could contribute significantly towards meeting California's GHG emission reduction goals set under the Global Warming Solution Act of 2006. Whether CEQA analysis is adequate in assessing climate impacts of GHG emissions has yet to be determined. In this research, I evaluated the quality of climate change analyses in the draft environmental impact reports (DEIRs) prepared for 14 mixed-use projects in California. Results of this research indicated that CEQA analysis did not adequately include the effects of population density around the project sites, nor were project-related Vehicular Miles Traveled (VMT) accurately accounted for while estimating GHG emissions. Thus, potential GHG emission reduction benefits of mixed-use developments located in higher densities may not be realized using the current analysis methods.

Reducing Greenhouse Gases with Emerging Public Policies Jan 24 2023 Global warming is an overarching issue worldwide that has caused an increase in extreme weather events and coastal flooding, impacted food security, and created a loss of both biodiversity and unique ecosystems. Certain regions around the world appear to be more proactive in the fight to reverse, or at least contain, the effects of global warming. One such area is California that is currently implementing the Global Warming Solutions Act to minimize the main source of global warming: greenhouse gas emissions. The purpose of this research paper is to assess the effectiveness of programs and resources implemented under the Global Warming Solutions Act to predict its success in reducing emissions to specific levels by 2020, as promised in the Act's framework. The research method will include interviews to collect qualitative data from government agencies implementing programs and/or providing resources related to the Act. Quantitative data will also be collected through surveys administered to students and faculty on the implementation team for the California State University, Northridge Climate Action Plan and also those teaching and studying under its Institute of Stability. Data collected will be used to determine relationships between the policy's programs and resources to assess their effectiveness or ineffectiveness. The results will help predict the overall probability of the Global Warming Solution Act's ability to fulfill its commitment to reduce greenhouse gas levels in California to what they were in 1990, by next year (California Air Resources Board, 2018).

A Golden Opportunity Jun 05 2021 The landmark California Global Warming Solutions Act of 2006, also known as AB 32, is the most ambitious global warming solutions law in the nation. The state's next step: putting in place the specific measures that will bring emissions levels back to 1990 levels by 2020 to meet AB 32's limit. This June 2007 report describes how California is protecting the state from global warming pollution while growing its economy and encouraging the innovative clean technology industry.--Provided by publisher.

How California Came to Pass AB 32, the Global Warming Solutions Act of 2006 Oct 21 2022

Public Comment on Global Warming Solutions Act Implementation Dec 23 2022

Shockproofing Society Sep 20 2022

Supplemental Health Impact Assessment of AB32 California's Global Warming Solution Act of 2006 Mar 22 2020

Implementation of AB 32 Feb 25 2023

Climate Change Draft Scoping Plan Apr 03 2021

Draft Climate Implementation Plan Nov 29 2020

Addressing the Employment Impacts of AB 32, California's Global Warming Solutions Act Apr 15 2022

Beyond AB 32 Feb 19 2020 California is beginning the process of considering possible next steps for the State's climate policy beyond the 2020 emission target mandated in the Global Warming Solutions Act of 2006 (“AB 32”). As it proceeds along this path, it is very important for the State to consider the international, national, and in-state realities and consequences of its actions.Internationally, California's intent to address global climate change should be considered in the context of three key factors. First, California, currently representing less than one percent of global GHG emissions, an amount that will surely decline with time, itself can do very little directly to address the problem. Meaningful action will require the participation of all major emitting countries, including more meaningful action nationally by the United States. Second, current negotiations are seriously fragmented due to severe challenges reaching consensus. Nations are pursuing domestic policies of greatly varied stringency and credibility. These efforts are less than needed to address the climate problem, in part, due to a basic challenge of the “global commons”: although the costs of actions are incurred by the jurisdiction taking action, the benefits of those actions - the reduced risk of climate change - are spread globally. Third, the Air Resources Board (ARB) has indicated that the State should aim to reduce GHG emissions to 80 percent below 1990 levels, a level of reductions that is consistent with scientific guidance on the actions needed to stabilize atmospheric GHG concentrations if achieved throughout the world. Within the State, the changes in infrastructure, equipment, and behavior that would be needed to meet this 2050 goal would be both broad and deep. The costs to achieve such targets are unknown, given the many technology uncertainties, but would likely be very significant. Thus, pursuing these targets, without reciprocal commitments from other nations, would likely impose large costs without achieving comparable benefits.

Drawdown May 16 2022 NEW YORK TIMES BESTSELLER For the first time ever, an international coalition of leading researchers, scientists and policymakers has come together to offer a set of realistic and bold solutions to climate change. All of the techniques described here - some well-known, some you may have never heard of - are economically viable, and communities throughout the world are already enacting them. From revolutionizing how we produce and consume food to educating girls in lower-income countries, these are all solutions which, if deployed collectively on a global scale over the next thirty years, could not just slow the earth's warming, but reach drawdown: the point when greenhouse gasses in the atmosphere peak and begin todecline. So what are we waiting for?

Productivity and the California Global Warming Solutions Act Mar 14 2022 This dissertation examined the effect of California environmental regulation, AB32 on the Portland Cement Mining and Manufacturing industry which was directly targeted by the legislation. The researcher examined the effect of productivity on the Portland Cement industry operating within California by comparing changes specific labor and fuel use productivity measures to changes in the same measures for organizations operating outside of California. These differences were examined using an independent sample t-test to determine if any changes were statistically significant. The results showed statistically significant increases in productivity for direct labor, total employee labor, and combustible fuel use when analyzed to the p = .05 level of significance. The results of this dissertation suggest that Porter’s hypothesis that environmental regulations can increase operational efficiency for organizations could be true. While the results do seem promising for those who advocate for stricter environmental regulation, the limitations of the study, specifically the infancy of the data set, and the lack of specific financial measures should also be considered. Regardless of the limitations, the results of this research project are useful to business leaders, accountants, and legislatures who are dealing with possible incoming regulations or trying to write those regulations.

PM2.5 Co-benefits of Climate Change Legislation Oct 09 2021 The Scoping Plan for compliance with California Assembly Bill 32 (Global Warming Solutions Act of 2006; AB 32) proposes a substantial reduction in 2020 greenhouse gas (GHG) emissions from all economic sectors through energy efficiency, renewable energy, and other technological measures. Most of the AB 32 Scoping Plan measures will simultaneously reduce emissions of traditional criteria pollutants along with GHGs leading to a co-benefit of improved air quality in California. The present study quantifies the airborne particulate matter (PM2.5) co-benefits of AB 32 by comparing future air quality under a Business as Usual (BAU) scenario (without AB 32) to AB 32 implementation by sector. AB 32 measures were divided into five levels defined by sector as follows: 1) industrial sources, 2) electric utility and natural gas sources, 3) agricultural sources, 4) on-road mobile sources and 5) other mobile sources. Air quality throughout California was simulated using the UCD source-oriented air quality model during 12 days of severe air pollution and over 108 days of typical meteorology representing an annual average period in the year 2030 (10 years after the AB 32 adoption deadline). The net effect of all AB 32 measures reduced statewide primary PM and NO[subscript x] emissions by ~1% and ~15%, respectively. Air quality simulations predict that these emissions reductions lower population-weighted PM2.5 concentrations (i.e. PM2.5 exposure) by ~6% for California. The South Coast Air Basin (SoCAB) experienced the greatest reductions in PM2.5 concentrations due to the AB 32 transportation measures while the San Joaquin Valley (SJV) experiences the smallest reductions or even slight increases in PM2.5 concentrations due to the AB 32 measures that called for increased use of dairy biogas for electricity generation. The ~6% reduction in PM2.5 exposure associated with AB 32 predicted in the current study reduced air pollution mortality in California by 6.2%, avoiding 880 (560-1100) premature deaths per year for the conditions in 2030. The monetary benefit from this avoided mortality was estimated at $5.4B/yr with an efficiency of $35k/tonne ($23k/tonne-$45k/tonne) of PM, NO[subscript x], SO[subscript x], and NH3 emissions reduction.

Exploring Cap-and-Trade Aug 19 2022 Climate change is an urgent issue unlike anything humanity has ever faced. This thesis explores a market-based tool to reduce greenhouse gas emissions and limit global warming. Specifically, it uses the California cap-and-trade program as a case study. It provides background information on this program, which was established from the California Global Warming Solutions Act of 2006 (AB 32) and in 2017 was extended to 2030. Evaluating market-based tools is becoming increasingly important as countries and states look for ways to reduce climate pollution and create investments in a clean energy future. Through analysis of government reports and a literature review, this paper finds that the program is not performing at its optimum. It recommends reducing the number of allocated permits to increase the demand and the price. Additionally, it recommends implementation of processes that evaluate and reconsider how different programs created under AB 32 can complement carbon pricing--not undermine its ability to reduce emissions. Although the California cap-and-trade program is not performing at its optimum, the program represents California's commitment to addressing climate change and acts as an international inspiration for climate action. There are multiple states that are currently considering implementing carbon pricing tools. This paper concludes by providing an overview of the pending carbon legislation in Oregon.

Commonwealth of Massachusetts Global Warming Solutions Act 10-Year Progress Report Nov 22 2022

Losing Earth Dec 19 2019 ‘Nathaniel Rich’s account starts in Washington in the 1990s and tells the story of how climate change could have been stopped back then, if only the powerful had acted. But they didn’t want to.’ – Observer By 1979, we knew all that we know now about the science of climate change – what was happening, why it was happening, and how to stop it. Over the next ten years, we had the very real opportunity to stop it. Obviously, we failed. Nathaniel Rich tells the essential story of why and how, thanks to the actions of politicians and businessmen, that failure came about. It is crucial to an understanding of where we are today. ‘The excellent and appalling Losing Earth by Nathaniel Rich describes how close we came in the 70s to dealing with the causes of global warming and how US big business and Reaganite politicians in the 80s ensured it didn’t happen. Read it.’ – John Simpson ‘An eloquent science history, and an urgent eleventh-hour call to save what can be saved.’ – Nature ‘To change the future, we must first understand our past, and Losing Earth is a crucial part of that when it comes to the environmental battles we’re facing.’– Stylist

Too Good to be True? Jan 12 2022 California's Global Warming Solutions Act of 2006 limits California's greenhouse gas (GHG) emissions in 2020 to their 1990 level. Global climate change is a pressing environmental problem, and the best possible public policies will be required to address it. Therefore, analyses of prospective policies must themselves be of high quality, so that policymakers can reasonably rely on them when making the critical decisions they inevitably will face. In 2006, three studies were released indicating that California can meet its 2020 target at no net economic cost - raising questions about whether

opportunities truly exist to substantially reduce emissions at no cost, or whether studies reaching such conclusions may simply severely underestimate costs. This paper provides an evaluation of these three California studies. We find that although opportunities may exist for some no-cost emission reductions, these California studies substantially underestimate the cost of meeting California's 2020 target. The studies underestimate costs by omitting important components of the costs of emission reduction efforts, and by overestimating offsetting savings that some of those efforts yield through improved energy efficiency. In some cases, the studies focus on the costs of particular actions to reduce emissions, but fail to consider the effectiveness and costs of policies that would be necessary to bring about such actions. While quantifying the full extent of the resulting cost underestimation is beyond the scope of our study, the underestimation is clearly economically significant. A few of the identified flaws individually lead to underestimation of annual costs on the order of billions of dollars. Hence, these studies do not offer reliable estimates of the cost of meeting California's 2020 target. Better analyses are needed to inform policymakers.

The Suicidal Planet Nov 17 2019 An outstanding overview of global warming--and solutions to the global crisis--from a distinguished world-class authority.

Modeling of GHG Mitigation Strategies in the Trucking Sector Jun 24 2020 In response to the growing climate change problem, many governments around the world are seeking ways to reduce the greenhouse gas (GHG) emissions of various sectors of the economy. The trucking sector is important in meeting this challenge in the US because it is responsible for a share of emissions that is significant and rapidly growing. For governments to intervene in this sector smartly, they need models that capture its key incentives, constraints and dynamics, while making the most out of the limited data available. However, existing models fall short of this ideal. This dissertation first introduces the Trucking Sector Optimization Model (TSO) as a tool for studying the decisions that carriers and shippers make within a short-run time horizon--modeling the dynamics of truck fleets, penetration rate of Fuel Saving Technologies (FSTs) such as aerodynamic improvements and low rolling resistance tires, and changes in the demand of trucking. In addition to estimating tailpipe GHG emissions, the model also estimates emissions from upstream fuel production sources, vehicle manufacturing, and pavement rehabilitation activities. This model is then used to evaluate the effectiveness of various incentives-based and regulation-based strategies that California's government could implement in the trucking sector to help achieve the objectives of the Global Warming Solutions Act of 2006 (AB 32). The strategies analyzed are: fuel taxation, mileage taxation, truck purchase taxation, FST subsidies, FST regulations, increases in the allowed weight of trucks, and the Low Carbon Fuel Standard recently introduced in California. Results indicate that there presently exist significant economic incentives for carriers to invest in FSTs beyond what is currently commonplace. The correction of market mechanisms that are responsible for this apparently suboptimal behavior, would lead to significant reductions in emissions, and would also allow for incentive-based strategies to have their first-best outcomes. Without making these corrections, the regulation approach currently adopted in California, of mandating certain investments in FSTs, serves as a reasonable first-step in meeting AB 32's medium-term emissions target. However, moving forward, the correction of these market mechanisms and subsequent implementation of incentives-based strategies, particularly those that are complementary with each other, should be a priority. Based on their estimated effectiveness, these and other recommendations are articulated in a seven-step plan for reducing trucking related emissions in the state. The remaining chapters of this work study some long-run factors that affect how carriers manage their fleets and invest in FSTs, in particular considering that they often discount heavily the future because of the existence of various market failures, hidden costs and uncertainties in the industry. The nature of these issues is not investigated deeply in this research, but their effect on carriers is captured by parameterizing the level of discounting in an improved model called the Trucking Sector Trip Segmentation Model (TSTS). This model represents the long-term decisions made in this sector better than the TSO model by: (i) modeling endogenously how trucks are utilized throughout their service-lives, and (ii) capturing some heterogeneity in truck retirements. The first of these improvements is made possible by incorporating information on the performance of trucking (the ability of carriers to complete shipments) and on the spatial distribution of shipment demand. The second of these improvements is made possible by assuming that truck retirements follow a log-logistic function. Combining both of these methodological improvements with a parameterized discount rate provides analysts a more flexible model for studying the long-term decisions made in the trucking sector, especially regarding FST investments, which impact greatly emissions and costs. The TSTS model is then used to evaluate the effectiveness of three additional governmental interventions that reduce GHG emissions, which could not have been studied with the TSO model. Improvements in trucking performance--by reducing congestion or shipment waiting times for example--were found to significantly incentivize investments in FSTs and reduce GHG emissions. However, 40 - 50% of these reductions were offset in the aggregate by increases in the demand for shipments precipitated by the lower market prices of trucking. Mode-shifts were also found to incentivize investments in FSTs because they distort the spatial distribution of shipments in ways that favor making greater capital investments because trucks are used more intensely and retired quicker. And finally, implementing FST regulations that only apply to a subset of the truck fleet (as in California currently) also reduces emissions, but incentivizes other changes in how the industry operates. The TSO model is best suited for studying the dynamics and transitions of truck fleets in response to governmental interventions, while the TSTS model is best suited for studying long-run responses. Together, they allow policy makers and researchers to study a wide range of issues in the trucking sector, considering many interactions and responses that had not been adequately explored previously. They also share a rich theoretical framework that can be used in future research to develop better models of this sector, especially to help design interventions that have environmental objectives.

An Introduction to California's Greenhouse Gas Emission Trading Program Feb 13 2022 Even though climate change will require a global solution, the efforts of individual nations and sub-national governmental units have become increasingly important for demonstrating leadership in creating effective regulatory programs and possible solutions. California's Global Warming Solutions Act of 2006, also referred to as A.B. 32, and the associated greenhouse gas emission trading program are one set of such efforts. With A.B. 32, the state of California has created one of the most comprehensive and complex climate change programs in the world - a legally binding set of mandates for the state government to reduce greenhouse gas (GHG) emissions to 1990 levels by the year 2020 that is implemented in part by a highly sophisticated GHG trading system. Although a number of years have already passed since A.B. 32's first enactment, the highest-profile regulatory action, the emission trading program, also referred to as a cap-and-trade system, became effective only recently. This short essay is designed to provide an introduction to the basic aspects of the California Global Warming Solutions Act as well as the GHG Emission Trading Program. In particular, the essay will touch on the scope of the emission trading program's carbon cap and what sources are covered, the cap decline by 2020, carbon allowances and offset-credits as well as related allowance banking issues, reporting and compliance processes, and linkage with other emission trading systems.

Climate Change Draft Scoping Plan Aug 27 2020

Climate Change from the Streets Feb 01 2021 This dissertation analyzes the emerging epistemologies of climate change in California as articulated by social movements, experts, and subnational governments. As the world's eighth-largest economy and the only state in the U.S. to implement a comprehensive program of regulatory and market-based mechanisms to achieve reductions in greenhouse gas (GHG) emissions, California represents an important site of inquiry. The passage of Assembly Bill 32, the Global Warming Solutions Act of 2006 has made the state a global leader on climate change science and policy innovation. While no subnational government can halt climate change alone, California's environmental policies have a long history of success and replication. Through an extensive analysis of the state's climate policies and interviews with key stakeholders, this dissertation highlights the challenges California faces in influencing global climate policy while addressing the needs of local communities that are already adversely impacted by air pollution. As cities and public agencies appropriate leadership roles in climate governance, policy formulation is increasingly emerging as an expert-driven process that emphasizes global GHG reductions as the goal and geographically-neutral economic and technological fixes as the solution. In this process, community-based strategies that integrate climate change interventions with population health outcomes are often excluded. This dissertation asks how environmental justice advocates are engaging strategically in the policymaking process in order to legitimize or contest regulatory policies regarding climate change in the face of ongoing pollution, illness, and injustice. In answering this question, the dissertation centers on three areas of inquiry: (1) the public health and environmental justice aspects of municipal climate action plans; (2) the conflict over statewide carbon pricing and use of its revenue for investment in communities most impacted by air pollution; and, (3) the social implications of international forest carbon-offset projects allowable under California's market-based climate change law. These cases provide critical insights into environmental inequities and the emerging epistemologies of climate change on multiple scales. The dissertation findings demonstrate that the implementation of climate policies can either serve to exacerbate or redress underlying environmental health inequities in urban communities. In particular, these cases highlight the environmental justice strategies that are challenging a priori policy expertise to produce new local, place-based conceptualizations of climate change that underscore population health and community well-being.

Efficient Energy Use Consulting in the Bay Area for Implementation of the California Global Warming Solutions Act of 2006 Apr 22 2020

Climate Change Mitigation Dec 11 2021 Anthropogenic climate change and the mitigation strategies aimed to attenuate it are both issues of great importance for human rights, public health, and socioeconomic equity. To understand these concerns and to better inform policy and strategic action it is critical to explore: 1) the disparities in the costs and benefits of climate shifts; 2) the abilities of different populations to adapt to these shifts; and 3) the social and health equity dimensions of the climate change mitigation strategies imposed. The health and equity implications associated with anthropogenic climate change mitigation are multi-scaled and range from the household level (i.e., in the case of household-level energy efficiency and fuel switching projects); to the regional and community levels (i.e., in the case of communities that benefit and are impacted by California's Global Warming Solutions Act, or AB 32); to the national and international levels where resource transfers from more developed nations to less developed nations are key to reaching climate mitigation goals. Critical to the generation of sound and equitable climate mitigation policy is the manner in which climate change mitigation efforts are measured, monitored and evaluated. In other words, methods and metrics determine what is seen and what is rendered invisible. These measurements act as a partial determinant of the observed outcomes and subsequently, the policy decisions that are guided and bolstered by their results. It is therefore crucial to unpack the methodologies and metrics used to measure and evaluate climate change mitigation strategies in order to understand and predict impacts and benefits, and to assess the equity dimensions of different mitigation measures. Chapter 2 focuses on the environmental health and equity dimensions of both anthropogenic climate change and the California Global Warming Solutions act of 2006 (AB 32) in California. I argue here that anthropogenic climate change is an issue of great importance for human rights, public health, and socioeconomic equity because of its diverse consequences overall as well as its disproportionate impact on vulnerable and socially marginalized populations. It is clear that that anthropogenic climate change will affect industrial and agricultural sectors, as well as transportation, health, and energy infrastructure and these shifts hold significant health and economic consequences for diverse communities throughout California. Without proactive policies to address these equity concerns, climate change will likely reinforce and amplify current as well as future socioeconomic disparities leaving low-income, minority, and politically marginalized groups with fewer economic opportunities and more environmental and health burdens. Chapter 3 explores the rapidly expanding scientific literature that describes black carbon (BC) emissions and their climatic and human health effects. In addition to scientific uncertainties due to differences in atmospheric models and how to sort out regional effects, inconsistencies in definitions, metric and measurement methods, data collection and characterization, system boundaries, and time horizons, have led to confusion about the importance of BC as a climate-forcing and health-damaging agent relative to other climate-altering and health-damaging pollutants. The focus on metrics and measurement issues in Chapter 3 leads into Chapter 4 where I shift my gaze to the carbon-offset market and look at accountability components of the monitoring and evaluation (M & E) of cookstove carbon offset projects. While many studies focus on accountability mechanisms between social actors in the carbon-offset arena, there are no studies that have looked at M & E requirements as a source of accountability themselves. I contend that the Gold Standard Foundation (GSF), the primary certifying body of carbon credits on the voluntary market could develop metrics and M & E requirements to discipline evaluators and project developers into more responsible and accountable behavior. This in turn may produce M & E results with a higher standard of veracity to be reported to the certifying institutions and other stakeholders. I identify the existing accountability flaws in the GSF monitoring methodology and make recommendations to improve the M & E requirements. These improvements could further strengthen the authoritativeness of the GSF, make the accountability system more influential, and hopefully lead to more trusted carbon credits, more effective emission reductions, and greater sustainable development gains.

What Role Can CEQA Play in Reaching GHG Emissions Reductions Goals Set Forth in AB 32 -- An Analysis of CEQA, AB 32, and Recommendations for CEQA Reform Nov 10 2021 The Global Warming Solutions Act of 2006 (AB 32) intends to reduce the effects of climate change through several mechanisms, including greenhouse gas (GHG) emissions reduction. AB 32 established a statewide GHG emissions goal, which requires California to decrease its GHG emissions to 1990 levels by 2020. The California Environmental Quality Act (CEQA) is an environmental assessment law adopted in 1970 that requires lead agencies (private developers, public agencies, etc.) to consider and disclose the potential significant environmental impacts of new development projects the lead agency is planning. CEQA has attracted much controversy since adoption and continues to be the topic of much debate, especially regarding potential reform. The passage of Senate Bill (SB) 97 in 2007 tasked the Office and Planning and Research (OPR) to develop new guidelines to help analyze GHG emissions in the CEQA environmental review process. This was the first time CEQA review was required to include climate change related analysis. Significant potential exists to integrate CEQA and AB 32 to achieve even greater emission reductions. Potential for CEQA reform includes incorporating the carbon-offset program established under AB 32 as part of the California cap-and-trade program into CEQA projects, expanding CEQA streamlining to include projects that employ green building, energy efficiency, and VMT reducing projects, and improving the energy conservation analysis, as well as the GHG and transportation assessments under CEQA.

Legislative Bill Summary ... Legislative Session Oct 29 2020

Legislative Summary May 04 2021

Legislative Bill Summary, ... Legislative Session Mar 02 2021

Three Lingering Design Issues Affecting Market Performance in California's GHG Cap-and-Trade Program Oct 17 2019 California's GHG cap-and-trade program is a key element of policies designed to achieve the goal of the Global Warming Solutions Act of 2006 (AB 32) to reduce GHG emissions to 1990 levels by the year 2020. Throughout the process of implementing its GHG cap-and-trade program, ARB has shown an admirable willingness to continue discussions to refine and improve the program's design. Although the program has now entered its first compliance period and has already undertaken its first allowance auction, there is still opportunity for further refinement of a program that will be in effect through 2020. In this spirit, we recommend that ARB consider modifications to three program elements - the Allowance Reserve, offset programs, and holding limits - that would improve program performance without compromising environmental performance. The cap-and-trade program has important consequences both within and outside California. Within California, design of an effective cap-and-trade program will help to lower the economic cost of meeting AB 32's ambitious emission targets. However, in terms of addressing the climate change problem, California's greatest impact may come not from the actual emission reductions achieved by the state, but by the leadership it provides on climate policy. As other countries and states watch California's policy outcomes, they will draw important lessons about which policies can help achieve policy objectives with limited economic disruption, and whether such commitments should be pursued. By developing policies that achieve environmental goals while minimizing economic risks, California can provide a positive example for other jurisdictions considering similar climate commitments.

Essays on the Comparison of Climate Change Policies Aug 07 2021 The California Global Warming Solutions Act of 2006 requires year 2020 greenhouse gas (GHG) emissions in the state to be reduced back to 1990 levels. Several mitigation strategies have been explored and are expected to be implemented over the next few years. Among others, land use policies have been advocated as an important means to curb GHG emissions through the reduction of vehicle miles traveled (VMT), while an economy-wide cap and trade system would ensure that a certain level of GHG reductions is achieved although at unknown costs. The first

essay of this dissertation aims to contribute to the ongoing discussion over the impact of land use policies by implementing a modified two-part model (M2PM) with instrumental variables (IV), a procedure that respectively takes into account the large mass of observations with zero car travel, and the possibility of residential self-selection, both of which could otherwise bias the estimates. The analysis takes advantage of a large dataset on travel patterns and socio-economic characteristics of more than 7,000 households across the 58 counties in the state of California. Results show that although VMT elasticities with respect to residential density are larger than others found in the recent econometric literature, the actual impact of residential density on VMT would not be as large unless very large increases in residential density occur. On the other hand, recent estimates of the elasticity of VMT with respect to the price of gasoline imply that moderate increases in the price of gasoline would suffice to reduce travel by similar magnitudes. The second essay reconsiders the debate over quantity (e.g., tradable permits) and price (e.g., taxes) controls by introducing uncertainty in the damage from the externality under a controlled environment. Economic theory predicts that quantity and price instruments for the control of externalities will produce identical outcomes as long as certain conditions obtain - namely negligible transaction costs and certainty about marginal control costs. This theoretical prediction explicitly renders irrelevant any uncertainties regarding the marginal damages in determining the market equilibrium outcome. Uncertainty about marginal damages may be important in practice, however, due to citizen participation in the permit market or to behavioral considerations. Through a laboratory experiment the instrument's equivalence is tested under different environments (including uncertainty about the marginal damages) that comply with the mentioned conditions. Results from the comparative analysis of a tax and a tradable permit system in a market composed of individuals with heterogeneous marginal abatement costs lend support to the equivalence of instruments.

California Global Warming Solutions Act of 2006 Assembly Bill 32 Jun 17 2022

Massachusetts Clean Energy and Climate Plan for 2020 Sep 27 2020

An Assessment of California's Cap-and-trade Revenue Options & Free Allowance Allocation Methods Sep 08 2021 Global climate change has caught the attention of climate scientists, the general public, and public officials over the past forty years. A relatively new policy instrument used to combat climate change and its negative effects is cap-and-trade. In 2006, California passed into law the landmark California Global Warming Solutions Act (AB 32) to reduce statewide greenhouse gas emissions over the 21st Century. The law authorizes the California Air Resources Board to setup and implement a cap-and-trade program intended to reduce greenhouse gas (GHG) emissions by allocating free and auctioning carbon allowances and using cap-and-trade auction revenues to fund programs fulfilling the goals of the California Global Warming Solutions Act. My questions are whether carbon allowances should be allocated freely or purchased at auction and how should California spend cap-and-trade revenues generated from the cap-and-trade auctions to meet the goals of AB 32? I review the relevant literature on auctioning allowances, freely allocating allowances, and free allocation schemes. I detail five potential allocations of cap-and-trade revenues and evaluate them against seven criteria used to judge each revenue allocation. The five spending options include a K-14 energy efficiency program, supplementing funding for the implementation of the Sustainable Communities and Climate Protection Act of 2008, expanding forestry efforts, increasing money to alternative fuel and vehicle efficiency research and development, and creating a Green Bank that finances various energy efficiency and alternative energy programs. The seven evaluative criteria are efficiency, equity, external environmental effect, transparency/ accountability, legality, robustness/improvability, and political acceptability. A review of the literature I determine California should use an initial mix of allocating allowances for free and auctioning allowances that shifts toward an auctioning of allowances over time and the output-based updating allocation scheme is the best way to allocate free allowances. After analyzing the different spending alternatives against the seven criteria, I determine cap-and-trade revenue options should be spent on funding for research and development funding for alternative fuel and vehicle efficiency projects, with secondary emphasis on increased forestry and supplementing funding for the implementation of the Sustainable Communities and Climate Protection Act of 2008.

Equitable Energy for Massachusetts Dec 31 2020 Massachusetts is widely recognized as a climate leader and a state that prioritizes social equity. However, existing Massachusetts climate policy does not effectively reduce greenhouse gas emissions and has limited support for marginalized communities. The state's annual $730 million of investment in energy efficiency is governed by the Green Communities Act, which emphasizes cost-savings for consumers rather than environmental benefits or social equity. The state's Global Warming Solutions Act does impose a legal obligation to reduce greenhouse gas emissions to 25% by 2020 and 80% by 2050 based on 1990 levels. Yet these emission reductions will not be achieved without new policies that effectively regulate carbon emissions. Finally, the state's existing environmental justice policy of Executive Order 552 is not enforced and does not govern the distribution of the $730 million of annual investment in energy efficiency. This thesis explores these challenges and suggests a new climate policy framework of "equitable electrification." To achieve this framework, Massachusetts should impose new regulations on the use of petroleum products in building heating systems. The state should also reform the Mass Save energy efficiency investment criteria to prioritize electric heat pumps. To increase support for environmental justice households, municipalities should consider administering their energy efficiency investments directly instead of using existing utility programs. Finally, policymakers should consider new legislation that imposes a progressive carbon price and prioritizes investments for marginalized communities. By pursuing these recommendations, Massachusetts can develop more effective climate policy that reduces greenhouse gas emissions while increasing social equity.

Life Cycle Assessment of Ground Improvement Methods Jul 26 2020 The ground improvement industry exceeds $6 billion worldwide annually and is an integral part of project site improvement prior to development. Currently the environmental impacts of ground improvement methods are not rigorously considered and costing is based solely on construction costs; externalities such as environmental damage costs are not included. Increasing concern over greenhouse gases, as demonstrated by the California Global Warming Solutions Act of 2007, suggests that ground improvement methods should not only be assessed based on cost and engineering criteria, but also by their carbon footprints. Treasure Island in San Francisco, California was chosen as an idealized site to compare five different ground improvement methods; (deep soil mixing, vibro replacement, vibro compaction, deep dynamic compaction, and earthquake drains). All were compared on the basis of a functional unit of treating 25,000 cubic meters (50 m x 50 m x 10 m) of loose, sandy hydraulic fill. Each method was required to meet a performance specification of SPT blow counts over 15 in order to mitigate liquefaction potential. Deep soil mixing was the most impactful method, mainly due to the use of portland cement. Introduction of slag cement reduced greenhouse gas emissions to nearly a quarter of the conventional method. Outcomes for all other methods were heavily dependent on transportation of materials and mobilization. The redevelopment of Treasure Island was used as an idealized site scenario for the purpose of comparing multiple ground improvement scenarios. These scenarios were combinations of ground improvement methods that would be realistic choices for when Treasure Island is redeveloped. At the site level, considering the actual soil conditions, a combination of vibro replacement, deep dynamic compaction, and vibro compaction resulted in the lowest environmental impact based on greenhouse gas emissions and life cycle energy.

Relating to California's Regulatory Environment and AB 32 (Nunez), the Global Warming Solutions Act of 2006 (Chapter 488, Statutes of 2006) Jan 20 2020

Governor's Budget Proposal to Implement the Global Warming Solutions Act of 2006 ("AB 32"). Jul 18 2022