

SYMPOSIUM ESSAY

GREENING THE GRID AND CLIMATE JUSTICE

BY

ALICE KASWAN*

In this Essay, the author argues that the collateral environmental and economic justice benefits of greening the grid support transformative climate policies that speed the development of fossil fuel alternatives. Moreover, integrating climate justice considerations into the development of a new energy infrastructure will minimize the risks and maximize the benefits of the profound transition ahead.

The Essay reviews the environmental and economic benefits and risks presented by a transition to renewable energy. It also argues that integrating climate justice concerns would, on balance, further rather than hinder the political prospects for greening the grid. The Essay concludes by encouraging an inclusive and participatory process for developing green energy policy.

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* Professor of Law, University of San Francisco School of Law. My thanks to Lewis & Clark Law School for the opportunity to participate in the *Greening the Grid* conference.

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I. INTRODUCTION

Policymakers in Washington and in statehouses around the nation are debating climate change policy. The central concern is, of course, reducing greenhouse gases (GHGs). But when? By whom? How? The answers to these questions have critical implications for renewable energy's role in climate policy. In this Essay, I argue that climate justice considerations, like environmental and economic justice for the most vulnerable, provide strong support for a transformative approach that weans the nation from fossil fuels and greens the grid.

Scientists exhort that dramatic reductions in GHG emissions are necessary to avoid catastrophic impacts from climate change.¹ The most recent federal legislative proposal sets an ambitious goal: an eighty-three percent reduction from 2005 emission levels by 2050.² While some may argue that we should delay significant reductions,³ or pursue strategies that do not require an expensive

¹ See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT: SUMMARY FOR POLICYMAKERS 19–22 (2007), available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf.

² See American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 311 (as passed by House, June 26, 2009). The difficulty of achieving that reduction goal will be compounded by likely population increases and economic growth.

³ Some may doubt the necessity of greening the grid, and hope that geoengineering or carbon storage and sequestration will solve the problem and reduce the need for substantial reductions. See, e.g., *Weekend Edition Saturday: 'Superfreakonomics' Author Says It's All About Economics* (NPR radio broadcast Oct. 17, 2009), available at <http://www.npr.org/templates/story/story.php?storyId=113899727> (providing an interview between author Steven Levitt and NPR host Scott Simon in which Levitt argues that geoengineering solutions, like developing technology to cool the globe, are wiser than strategies to reduce GHG emissions). For an introduction to geoengineering, see Robert Kunzig, *A Sunshade for Planet Earth*, SCI. AM., Nov. 2008, at 46. For information on carbon storage and sequestration, see David J. Hayes & Joel C. Beauvais, *Carbon Sequestration*, in GLOBAL CLIMATE CHANGE AND U.S. LAW 691, 707–15 (Michael B. Gerrard ed., 2007); Alexandra B. Klass & Elizabeth J. Wilson, *Climate Change and Carbon Sequestration: Assessing a Liability Regime for Long-Term Storage of Carbon Dioxide*, 58 EMORY L.J. 103, 115–23 (2008) (describing carbon capture and storage). Such optimism is misplaced. If geoengineering or carbon sequestration and storage do not provide hoped-for solutions, it will be too late to save the planet. In the face of such catastrophic potential consequences, a more precautionary approach that emphasizes near-term GHG reductions is appropriate. See David M. Driesen, *Sustainable Development and Air Quality: The Need to Replace Basic Technologies with Cleaner Alternatives*, 18 WIDENER L.J. 883, 892 (2009) (arguing

investment in alternative energy,⁴ reductions of this magnitude cannot be achieved without relinquishing our reliance on fossil fuels.⁵

Moreover, as this Essay will elaborate, climate justice principles justify a rapid transition to renewable energy.⁶ From a broader social welfare perspective that incorporates the full benefits and costs of policy strategies, carefully designed efforts to green the grid could provide net societal benefits even if they appear more expensive than less transformative options.

Climate justice is relevant not only to the issue of whether (and at what rate) to green the grid, it is highly relevant to the development of alternative energy policy itself. Climate policy presents a “democratic moment”—a time to consider our basic infrastructure and its ideal design.⁷ Green jobs advocate Van Jones states that “[t]oday the ‘clean-tech’ revolution and the transformation of our aging energy infrastructure are poised to become *the* next great engines for American innovation, productivity and job growth, and social equity gains.”⁸ He argues that “we have the chance to build this new energy economy in ways that reflect our deepest values of inclusion, diversity, and equal opportunity for everyone.”⁹ A comprehensive approach that integrates the environmental and economic ramifications of the new energy infrastructure can most effectively maximize the benefits and minimize the risks of the transition ahead.¹⁰

Some of the opportunities created by alternative energy, like increasing U.S. energy security and stimulating green technology development, have been widely discussed.¹¹ Less attention has been given to “climate justice”—

against reliance on carbon capture and sequestration as an alternative to transitioning away from fossil fuels).

⁴ As discussed further below, allowing facilities to purchase offsets—from reductions in other countries or from biological sequestration—would be cheaper than reducing U.S. emissions. See JONATHAN L. RAMSEUR, CONG. RESEARCH SERV., THE ROLE OF OFFSETS IN A GREENHOUSE GAS EMISSIONS CAP-AND-TRADE PROGRAM: POTENTIAL BENEFITS AND CONCERNS, at CRS-6, -22 (2008), available at <http://fpc.state.gov/documents/organization/103675.pdf>. Liberal use of offsets would not, however, further the United States’ transition to renewable energy.

⁵ See Driesen, *supra* note 3, at 891 (arguing that a transition away from fossil fuels is necessary); Mary Christina Wood, *Advancing the Sovereign Trust of Government to Safeguard the Environment for Present and Future Generations (Part I): Ecological Realism and the Need for a Paradigm Shift*, 39 ENVTL. L. 43, 54 (2009) (arguing for transformative change).

⁶ There are many strong justifications for transitioning to renewable energy, including reducing GHGs before it is too late, enhancing the nation’s energy security, and promoting new technological and economic development. This Essay’s focus, however, is on the climate justice justifications.

⁷ See NICHOLAS STERN, THE ECONOMICS OF CLIMATE CHANGE 640–44 (2007).

⁸ VAN JONES, THE GREEN COLLAR ECONOMY: HOW ONE SOLUTION CAN FIX OUR TWO BIGGEST PROBLEMS 180 (2008).

⁹ *Id.* at 11.

¹⁰ See STERN, *supra* note 7, at 349 (advocating a broad approach to mitigation policy).

¹¹ The Waxman-Markey bill is titled the “American Clean Energy and Security Act,” emphasizing the bill’s energy security objectives. American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 1(a) (as passed by House, June 26, 2009). States that have initiated climate change initiatives have emphasized their green technology development potential. See, e.g., Barry G. Rabe et al., *State Competition as a Source Driving Climate Change Mitigation*, 14 N.Y.U. ENVTL. L.J. 1, 37–41 (2005) (describing green technology opportunities); WILLIAM ANDREEN ET AL., CTR. FOR PROGRESSIVE REFORM, COOPERATIVE FEDERALISM AND CLIMATE

to integrating environmental and economic justice into comprehensive energy planning. This Essay argues that as strategies to green the grid are developed, policymakers should integrate goals like reducing co-pollutants, ameliorating impacts on low-income consumers, and creating economic opportunities.

Part II of this Essay focuses on renewable energy's environmental and economic benefits and risks. Part III grapples with a critical political question: Would a comprehensive approach frustrate or further the enactment of federal climate legislation? While the answer is complicated, this Essay argues that, on balance, a comprehensive approach could enhance the prospects of federal legislation. Finally, in Part IV, this Essay notes the importance of a participatory process for evolving green energy policy.

II. THE ENVIRONMENTAL AND ECONOMIC BENEFITS AND RISKS OF REDUCING GHGs

A. Environmental Benefits and Risks

1. Fossil Fuels and Environmental Injustice

Climate policies are likely not only to reduce GHGs but also to significantly impact co-pollutant emissions. The same combustion processes that generate carbon dioxide generate locally hazardous air pollutants.¹² By reducing fossil fuel combustion, greening the grid could serve a critical environmental justice function.

The nation's reliance on fossil fuels has led to extensive air pollution, including sulfur and nitrogen oxides, volatile organic compounds, particulates, mercury, and other hazardous components.¹³ Emissions are disproportionately concentrated in disadvantaged areas¹⁴ since many of the most significant emissions sources, like refineries, power plants, transportation corridors, ports, and other industrial land uses, are located in poor and minority neighborhoods. Power plant emissions have contributed

CHANGE: WHY FEDERAL, STATE, AND LOCAL GOVERNMENTS MUST CONTINUE TO PARTNER 8 (2008), available at <http://www.progressiveregulation.org/articles/federalismClimateChange.pdf> (explaining that states perceive economic development opportunities from pursuing climate policies).

¹² See, e.g., Alice Kaswan, *Environmental Justice and Domestic Climate Change Policy*, 38 *Envtl. L. Rep. (Envtl. Law Inst.)* 10,287, 10,298 (2008); J. ANDREW HOERNER & NIA ROBINSON, A CLIMATE OF CHANGE: AFRICAN AMERICANS, GLOBAL WARMING, AND A JUST CLIMATE POLICY FOR THE U.S. 11 (2008), available at <http://www.ejcc.org/climateofchange.pdf>.

¹³ See Hayes & Beauvais, *supra* note 3, at 708.

¹⁴ See generally JAMES P. LESTER ET AL., ENVIRONMENTAL INJUSTICE IN THE UNITED STATES: MYTHS AND REALITIES 57-60 (2001) (finding that exposure to environmental risk is correlated with race and class); MICHAEL ASH ET AL., JUSTICE IN THE AIR: TRACKING TOXIC POLLUTION FROM AMERICA'S INDUSTRIES AND COMPANIES TO OUR STATES, CITIES, AND NEIGHBORHOODS 6-8 (2009), available at http://college.usc.edu/geography/ESPE/documents/justice_in_the_air_web.pdf (finding that minority neighborhoods face a disproportionate exposure to toxic pollutants); HOERNER & ROBINSON, *supra* note 12, at 2, 12 (observing that African Americans are more likely to live in areas that have failed to attain national air quality standards than non-Hispanic whites). Hoerner and Robinson include numerous citations to studies documenting race-based disparities in exposure to air pollution. *Id.* at 19 nn.33-42.

to persistent ozone nonattainment in many parts of the nation,¹⁵ and coal-fired power plants are a significant source of mercury pollution.¹⁶ Although the federal Clean Air Act¹⁷ has improved air quality in its four decades of implementation, many areas of the country continue to fail to meet minimum public health standards.¹⁸

Concentrated areas of pollution have created significant public health and welfare consequences. For example, fossil fuel-generated nitrogen oxide and volatile organic compound emissions create ozone, which causes heart and respiratory problems and is strongly linked to increased asthma, an affliction that is particularly severe in the African American population.¹⁹ Mercury emissions from coal-fired power plants settle in water bodies and enter the food chain, creating a neurological risk for fish eaters.²⁰ A recent study analyzing the public health benefits that would result from recently-proposed federal climate legislation estimates that the economic value of reducing co-pollutants is substantial, independent of the economic benefits associated with avoided climate change.²¹ The consequences of these public health threats fall not only on those directly exposed, but on society as a whole through higher medical costs, lost school and work days, and lower productivity.²²

¹⁵ See Mack McGuffey & Gary R. Sheehan, Jr., *Taking Care of CAIR*, NAT. RESOURCES & ENV'T, Summer 2005, at 67, 67 (explaining an EPA program targeting power plants to control eastern ozone nonattainment); see also U.S. ENVTL. PROT. AGENCY, NONATTAINMENT AND MAINTENANCE AREAS IN THE U.S.: 8-HOUR OZONE (1997 STANDARD) (2009), available at <http://www.epa.gov/oar/oaqps/greenbk/map8hrnm.pdf>.

¹⁶ See ENVTL. LAW INST., CLEANER POWER: THE BENEFITS AND COSTS OF MOVING FROM COAL GENERATION TO MODERN POWER TECHNOLOGIES 2 (2001) (observing that coal combustion generates one-third of the nation's mercury emissions).

¹⁷ 42 U.S.C. §§ 7401–7671q (2006).

¹⁸ See U.S. ENVTL. PROT. AGENCY, NATIONAL AIR QUALITY: STATUS AND TRENDS THROUGH 2007, at 1 (2008), available at <http://www.epa.gov/air/airtrends/2008/report/TrendsReportfull.pdf>; Driesen, *supra* note 3, at 885–87 (describing recent air quality progress and limitations).

¹⁹ See HOERNER & ROBINSON, *supra* note 12, at 11, 13.

²⁰ *Id.* at 14.

²¹ See BRITT GROOSMAN ET AL., THE ANCILLARY BENEFITS FROM CLIMATE POLICY IN THE UNITED STATES (2009). The Groosman study analyzed the impact of the McCain-Lieberman legislation proposed in 2008. *Id.* at 2. The authors analyzed the likely impact of the legislation on the emissions of six major pollutants from the electricity-generating and transportation sectors, and the health benefits that would flow from the emissions reductions. *Id.* at 2–3. The pollutants included coarse particulate matter, fine particulate matter, volatile organic compounds, nitrogen oxides, ammonia, and sulfur dioxide. *Id.* The study concluded that “the estimated marginal co-benefits are between \$5 and \$14 per ton of [carbon-dioxide equivalent].” *Id.* at 4. With a marginal abatement cost for carbon dioxide of \$9 per ton under the McCain-Lieberman legislation, *id.*, the projected co-pollutant reduction benefits significantly make up for, if not exceed, the projected abatement costs. The reductions in sulfur dioxide pollution from reducing the use of coal provide the greatest public health benefit. See *id.* at 20. Their conclusions are not surprising in light of the continued recognition of the costs resulting from persistent air pollution. In October 2009, the National Academy of Sciences released a study concluding that fossil fuel combustion imposes U.S. public health costs of \$120 billion per year. See Matthew L. Wald, *Fossil Fuels' Hidden Cost Is in Billions, Study Says*, N.Y. TIMES, Oct. 20, 2009, <http://www.nytimes.com/2009/10/20/science/earth/20fossil.html> (last visited Nov. 14, 2009).

²² Cf. *Benefits of Environmental Regulation: Calculating the Economic Gains from Better Health*, ENERGY & ENV'T, July 2005, at 6, 6, available at http://lfee.mit.edu/public/e%26e_July05_FINAL.pdf (discussing benefits to public health from increased environmental regulation).

2. Environmental Benefits

The environmental benefits flowing from co-pollutant reductions are significant. Replacing fossil fuels with renewable energy sources like solar, wind, water, and wave energy creates a critical opportunity to reduce fossil fuel pollution and its associated public health impacts.²³ Several studies have projected that climate policies will lead to substantial reductions in harmful co-pollutants from fossil fuel combustion.²⁴ California, in assessing the public health benefits associated with its proposed strategy for reducing emissions to 1990 levels by 2020, has identified significant reductions in air pollution from proposed reductions in fossil fuel use in general and the use of renewable energy in particular.²⁵ The disadvantaged communities hardest hit by nonattainment would benefit the most.²⁶

The co-pollutant reduction benefits that flow from greening the grid have important implications for climate policy. They provide additional arguments against delay. Delaying transformation in the hope that carbon sequestration and storage or climate engineering will ultimately solve the carbon problem becomes a less appealing option when the ancillary environmental benefits of transitioning away from fossil fuels are taken into account.²⁷

Moreover, incorporating environmental co-benefits changes the calculus for determining the best mix of mechanisms for reaching GHG reduction targets. For example, one of the most contested realms of climate change policy is the extent to which facilities subject to a cap-and-trade program should be allowed to use offsets.²⁸ Under a cap-and-trade program, facilities receive or purchase allowances and can trade allowances with

²³ See Driesen, *supra* note 3, at 890–91 (arguing that reducing air pollution provides a strong justification for transitioning away from fossil fuels); Patrick Parenteau, *Lead, Follow, or Get Out of the Way: The States Tackle Climate Change with Little Help from Washington*, 40 CONN. L. REV. 1453, 1456–57 (stressing the unsustainable nature of coal-fired power).

²⁴ See HOERNER & ROBINSON, *supra* note 12, at 13–14 (discussing studies predicting substantial reductions in pollutants due to climate policy).

²⁵ See 2 CAL. AIR RES. BD., CLIMATE CHANGE SCOPING PLAN APPENDICES app. H, at H-32 to -36 (2008), available at http://www.arb.ca.gov/cc/scopingplan/document/appendices_volume2.pdf (discussing co-pollutant benefits of proposed climate measures in the natural gas and electricity sectors); see also DIANE BAILEY ET AL., BOOSTING THE BENEFITS: IMPROVING AIR QUALITY AND HEALTH BY REDUCING GLOBAL WARMING POLLUTION IN CALIFORNIA 9 (2008), available at <http://www.nrdc.org/globalWarming/boosting/boosting.pdf> (analyzing projected public health benefits from reducing co-pollutants through California's climate change policies). The co-benefits California has projected are based upon the state's 2020 emission reduction goal of achieving 1990 levels by 2020. *Id.* at 5, 7. More stringent future goals would provide a corresponding increase in public health benefits.

²⁶ See HOERNER & ROBINSON, *supra* note 12, at 13.

²⁷ See *supra* note 3 (listing sources discussing climate policies that do not reduce the generation of GHGs). This Essay focuses on air quality co-benefits. Additional environmental co-benefits include reducing environmentally damaging resource extraction, like mountaintop coal mining. See Sara Clark, In Brief, *In the Shadow of the 4th Circuit: Ohio Valley Environmental Coalition v. United States Army Corps of Engineers*, 35 ECOLOGY L.Q. 143, 143–44 (2008) (describing mountaintop coal mining and its impacts).

²⁸ See generally PEW CTR. ON GLOBAL CLIMATE CHANGE, CONGRESSIONAL POLICY BRIEF: GREENHOUSE GAS OFFSETS IN A DOMESTIC CAP-AND-TRADE PROGRAM 2–3 (2008) (summarizing arguments for and against allowing offsets).

other regulated facilities. Some facilities reduce emissions and sell the extra allowances, while others maintain or increase their emissions and purchase allowances to account for them.²⁹ A critical question is whether regulated entities should be allowed to not only buy allowances from other regulated facilities, but buy “offsets” from sources outside of the regulated sectors—in other words, whether they should be permitted to pay nonregulated entities to “offset” their emissions.³⁰ Should U.S. companies be able to buy cheaper offsets from developing countries, rather than reducing themselves? Similarly, should U.S. companies be able to buy offsets from farmers or timber companies for their biological carbon sequestration rather than reducing emissions? Offsets are politically appealing because they are likely to reduce the cost of achieving GHG reductions for emissions-generating sectors and likely to create profit opportunities for offset-generating sectors.³¹

The most recent legislative proposal, the Waxman-Markey bill, allows liberal use of international and domestic offsets.³² Assuming the offset policy worked as intended,³³ offsets would lead to GHG reductions, and would lower the net cost of achieving a given goal. According to some calculations, however, under Waxman-Markey the electricity sector could comply with the law by using offsets and would not have to reduce its own emissions until 2025.³⁴ That type of generous offset policy would allow the electricity sector to avoid making actual reductions and would significantly reduce the incentives for greening the grid. As a consequence, allowing the liberal use of offsets would reduce the co-pollutant reduction benefits associated with a transition to renewable energy.

A narrow focus on lowering the cost of reducing GHG emissions privileges offsets. A more comprehensive perspective would incorporate a given policy’s impact on co-pollutant reductions.³⁵ While offsets may have a

²⁹ See generally U.S. ENVTL. PROT. AGENCY, TOOLS OF THE TRADE: A GUIDE TO DESIGNING AND OPERATING A CAP AND TRADE PROGRAM FOR POLLUTION CONTROL 1–2 (2003), available at <http://www.epa.gov/airmarkt/resource/docs/tools.pdf>.

³⁰ See generally PEW CTR. ON GLOBAL CLIMATE CHANGE, *supra* note 28, at 1–6, 11–12 (describing offsets).

³¹ For example, in its analysis of the Waxman-Markey bill, EPA concluded that precluding the use of international offsets would increase prices by 89% more than they would be under the “core policy scenario.” OFFICE OF ATMOSPHERIC PROGRAMS, U.S. ENVTL. PROT. AGENCY, EPA ANALYSIS OF THE AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009: H.R. 2454 IN THE 111TH CONGRESS 3 (2009), available at http://energycommerce.house.gov/Press_111/20090623/hr2454_epaanalysis2.pdf.

³² American Clean Energy and Security Act, H.R. 2454, 111th Cong. § 311 (as passed by House, June 26, 2009) (adding offset provisions §§ 731–756 to the Clean Air Act).

³³ Ensuring offset integrity—that the offsets present legitimate reductions in emissions—presents considerable challenges. See PEW CTR. ON GLOBAL CLIMATE CHANGE, *supra* note 28, at 3–4 (describing criteria necessary for offsets to be credible).

³⁴ David Schoenbrod & Richard B. Stewart, *The Cap-and-Trade Bait and Switch*, WALL ST. J., Aug. 24, 2009, at A13.

³⁵ See RACHEL MORELLO-FROSCH ET AL., THE CLIMATE GAP: INEQUALITIES IN HOW CLIMATE CHANGE HURTS AMERICANS AND HOW TO CLOSE THE GAP 20–21 (2009), available at http://college.usc.edu/geography/ESPE/documents/The_Climate_Gap_Full_Report_FINAL.pdf (arguing that GHG emission reductions should occur at the dirtiest sources “to get more for our investments in climate change reduction”).

role to play, the ability to realize environmental co-benefits is a relevant factor in determining the extent of that role.

Thus, co-pollutant reduction benefits are significant when considered from a social welfare perspective that integrates a climate strategy's overall costs and benefits.³⁶ A full analysis of environmental benefits suggests the value of reducing emissions through a transition to renewable energy sooner rather than later. The offset example demonstrates the significant role that considering co-pollutant benefits could play in designing climate strategies.

3. Environmental Risks

A comprehensive approach to climate policy requires considering environmental risks as well as benefits. While climate policy is likely to reduce traditional air pollution, some GHG-reducing fuels or technologies may increase, not decrease, co-pollutants. Municipal waste incineration or biomass combustion could reduce GHG emissions, for example, but increase air pollution unless carefully controlled.³⁷ In the fuels context, diesel generates less carbon dioxide than gasoline, but releases more hazardous particulates.³⁸ Before embarking on widespread policies to encourage biomass combustion or biofuels development, policymakers should carefully consider the potential environmental risks such strategies present.

Other alternative energy strategies create different types of risks. Nuclear energy imposes environmental risks from uranium mining, power plant accidents, long-term disposal, and terrorism.³⁹ Wind power could

³⁶ Economist James K. Boyce argues that, in analyzing the economic implications of a given climate change policy, economists should consider not only the "marginal abatement costs," like the direct costs of reducing GHGs, but also the "marginal abatement benefits," including the value of co-pollutant reductions. See Memorandum from James K. Boyce to Econ. & Allocation Advisory Comm. Members 1 (Aug. 3, 2009), *available at* http://www.climatechange.ca.gov/eaac/meetings/20090813/supplemental/Boyce_Memo_for_EAAC_on_Co-pollutants_Co-benefits.pdf.

³⁷ See OFFICE OF ATMOSPHERIC PROGRAMS, U.S. ENVTL. PROT. AGENCY, OPPORTUNITIES TO REDUCE GREENHOUSE GAS EMISSIONS THROUGH MATERIALS AND LAND MANAGEMENT PRACTICES 3 (2009), *available at* http://www.epa.gov/oswer/docs/ghg_land_and_materials_management.pdf (observing the carbon-reduction potential of municipal solid waste combustion facilities); Pace Univ., Power Scorecard: Electricity from Biomass, http://www.powerscorecard.org/tech_detail.cfm?resource_id=1 (last visited Nov. 15, 2009).

³⁸ California has listed diesel pollution as a toxic contaminant due to its extensive health impacts. See CAL. AIR RES. BD., CAL. ENVTL. PROT. AGENCY, HEALTH EFFECTS OF DIESEL EXHAUST PARTICULATE MATTER 5-6 (2008), *available at* http://www.arb.ca.gov/research/diesel/dpm_health_fs.pdf. Biofuels development also raises numerous land use and economic justice considerations. A strong biofuels market could result in the conversion of land uses to biofuel development, with adverse ecological impacts. See FOOD & WATER WATCH ET AL., THE RUSH TO ETHANOL: NOT ALL BIOFUELS ARE CREATED EQUAL 20-25 (2007), *available at* <http://www.newenergychoices.org/uploads/RushToEthanol-rep.pdf>; BRIAN T. TURNER ET AL., CREATING MARKETS FOR GREEN BIOFUELS 9 (2007), *available at* http://docs.nrdc.org/air/files/air_07041601a.pdf. Moreover, land could be converted from agricultural uses to biofuel development, with adverse impacts on the availability and price of basic foods. See FOOD & WATER WATCH ET AL., *supra*, at 39; TURNER ET AL., *supra*, at 9.

³⁹ See U.S. ENVTL. PROT. AGENCY, RADIATION: RISKS AND REALITIES 8-9 (2007), *available at* <http://www.epa.gov/rpdweb00/docs/402-k-07-006.pdf> (describing disposal of radioactive waste, and radioactive waste products resulting from mining, nuclear power generation, and defense weapons production); NATURAL RES. DEF. COUNCIL, NEW NUCLEAR POWER PLANTS ARE NOT A

create noise and aesthetic harms, and negatively impact birds.⁴⁰ Wave power could have adverse impacts on marine environments.⁴¹ This is not to say that these forms of alternative energy should be ruled out due to their potential impacts. Nonetheless, their respective pollution or natural resource impacts are relevant to a comprehensive energy policy calculus.

In advocating for the integration of environmental justice considerations into climate and energy policy, this Essay is not suggesting that such factors should be determinative or outweigh critical GHG reduction objectives. These factors are, however, highly relevant to an overall assessment of the relative strengths and weaknesses of alternative policy options. Policies that integrate environmental objectives could accomplish much more than those that focus solely on GHG reductions. Also relevant, and addressed below, are the economic benefits—and risks—of alternative GHG reduction strategies.

B. Potential Economic Benefits and Risks

1. Existing Disparities

With change comes opportunity. While climate change policies will undoubtedly impose certain economic costs, they could also create significant economic opportunities for disadvantaged communities. A comprehensive approach to climate policy would integrate and seek to maximize the economic opportunities presented by GHG reduction strategies in general, and greening the grid in particular.⁴²

The United States features stark contrasts in the distribution of wealth.⁴³ Nor is that distribution random: Racial minorities are significantly more likely to be impoverished than whites. For example, the 2000 census identified 24.9 percent of African Americans in poverty, compared with 8.1 percent of the white population.⁴⁴ Native Americans and Latinos have similarly high poverty rates.⁴⁵ Inner cities and tribal lands suffer from high

SOLUTION FOR AMERICA'S ENERGY NEEDS 3 (2007), *available at* <http://www.nrdc.org/nuclear/plants/plants.pdf> (discussing security and health risks from the nuclear fuel cycle). Terrorism risks take two forms: potential terrorist attacks on nuclear generating facilities and the risk of stolen nuclear material being used to create bombs. *See id.*

⁴⁰ *See* Ronald H. Rosenberg, *Diversifying America's Energy Future: The Future of Renewable Wind Power*, 26 VA. ENVTL. L.J. 505, 530–31 (2008) (summarizing the environmental risks posed by wind power).

⁴¹ Laura Koch, Comment, *The Promise of Wave Energy*, 2 GOLDEN GATE U. ENVTL. L.J. 162, 166–68 (2008).

⁴² Climate policies are likely to create a wide range of economic opportunities. *See supra* note 11. This Essay's focus is on the potential for climate policy to address the nation's longstanding economic justice challenges.

⁴³ *See* U.S. Census Bureau, U.S. Dep't of Commerce, *Income Inequality (1947–1998)*, <http://www.census.gov/hhes/www/p60204.html> (last visited Nov. 15, 2009).

⁴⁴ ALEMAYEHU BISHAW & JOHN ICELAND, U.S. CENSUS BUREAU, U.S. DEP'T OF COMMERCE, *POVERTY: 1999: CENSUS 2000 BRIEF 5* (2003), *available at* <http://www.census.gov/prod/2003pubs/c2kbr-19.pdf>.

⁴⁵ *See id.* (indicating poverty rates for American Indians and Latinos are 25.7% and 22.6%, respectively).

unemployment, demoralization, and all of the accompanying social problems.⁴⁶ The impact is experienced not only by the poor but also by society as a whole. Poverty and its ills require government spending on unemployment, health care, housing, and the criminal justice system.⁴⁷

2. *Energy Transformation's Economic Opportunities*

a. *Alternative Energy Development in Disadvantaged Areas*

Native American groups in the windy northern plains are recognizing the opportunities that could flow from investing in wind energy on impoverished reservations.⁴⁸ A critical question is whether the tribes themselves will be able to capture the benefits of that investment or whether, instead, private companies develop and profit from the resource.

Native American advocates view the wind potential in Indian Country as an opportunity for indigenous economic development and control.⁴⁹ The environmental imperative of shifting to alternative energy is not their only focus. As Winona LaDuke has stated, "Alternative energy represents an amazing social and political reconstruction opportunity."⁵⁰ If tribes control the renewable energy development on their lands, it could generate not only local and national energy supplies, but increased tribal revenue, employment, and control over their well-being.

Tribes generally do not, however, have sufficient capital to exploit and develop the existing alternative energy potential on their land.⁵¹ Explicit financing mechanisms are necessary to enable tribes to build capital-

⁴⁶ See, e.g., Alan Berube, *Concentrated Poverty in America: An Overview*, in THE ENDURING CHALLENGE OF CONCENTRATED POVERTY IN AMERICA: CASE STUDIES FROM COMMUNITIES ACROSS THE U.S. 3, 13 (David Erickson et al. eds., 2008), available at http://frbsf.org/cpreport/docs/cp_overview.pdf (explaining how low-income residents may end up paying more than families in middle-income neighborhoods for the same goods and services, employers may attach a stigma to extremely poor neighborhoods that discourages them from hiring local residents, and children who live in poor urban neighborhoods generally attend schools where nearly every student is poor and at greater risk of failure); Sandy Gerber et al., *Blackfeet Reservation, Montana*, in THE ENDURING CHALLENGE OF CONCENTRATED POVERTY IN AMERICA: CASE STUDIES FROM COMMUNITIES ACROSS THE U.S., *supra*, at 67, 69 (describing how the Blackfeet Reservation's poverty rate is higher than that of neighboring counties).

⁴⁷ See Gerber et al., *supra* note 46, at 69–72 (discussing the federal government's attempts to address poverty issues on the Blackfeet reservation); NANCY K CAUTHEN & SARAH FASS, NAT'L CTR. FOR CHILDREN IN POVERTY, 10 IMPORTANT QUESTIONS ABOUT CHILD POVERTY & FAMILY ECONOMIC HARDSHIP 16 (2008), available at http://www.nccp.org/pages/pdf/page_131.pdf ("Economists estimate that child poverty costs the U.S. \$500 billion a year in lost productivity in the labor force and spending on health care and the criminal justice system.").

⁴⁸ See, e.g., Patrick M. Garry et al., *Wind Energy in Indian Country: A Study of the Challenges and Opportunities Facing South Dakota Tribes*, 54 S.D. L. REV. 448, 451 (2009); Intertribal Council on Util. Policy, An Intertribal COUP Background Policy Paper for a Comparable and Appropriate Tribal Energy Production Incentive, <http://www.intertribalcoup.org/policy/index.html> (last visited Nov. 15, 2009).

⁴⁹ See Intertribal Council on Util. Policy, *supra* note 48 (discussing the economic potential of tribal wind energy as a basis for a sustainable reservation economy).

⁵⁰ Winona LaDuke, *Local Energy, Local Power*, YES! MAG., Winter 2007, at 26, 27.

⁵¹ See Intertribal Council on Util. Policy, *supra* note 48.

intensive alternative energy projects. In addition, tribes are likely to need job training to develop the skills to build and run energy projects. While some efforts have been made to support tribal control over renewable energy development, a more comprehensive and better-funded approach is necessary to realize its potential.⁵²

b. Urban Revitalization

More broadly, the environmental justice movement has embraced the jobs potential inherent in shifting away from fossil fuels. Environmental justice advocates, attuned to the multiple needs facing disadvantaged communities, have powerfully articulated the integrated environmental and economic opportunities presented by new green-collar jobs.⁵³

According to some studies, energy efficiency and renewable energy are more labor intensive than traditional fossil fuel industries.⁵⁴ Manufacturing new infrastructure, like wind turbines and solar panels, could provide jobs for former workers in the fossil fuel industry. In addition, energy efficiency and alternative energy could generate relatively low- and medium-skilled jobs that would provide an entry point for chronically underemployed residents of disadvantaged communities, providing new hope for communities beset by cycles of poverty and disengagement.⁵⁵ Increasing energy efficiency will require extensive residential and commercial retrofits.⁵⁶ Developing renewable energy could create jobs in distributed solar installation and the construction of wind and solar energy “farms.”

c. Implications for Climate Policy

A comprehensive, carefully crafted energy policy will be necessary to realize economic justice objectives. The market’s invisible hand will not

⁵² See, e.g., *id.* (describing weaknesses of existing financing mechanisms and proposing more promising alternatives). Professor Maxine Burkett has suggested that the United States could develop its own domestic “Clean Development Mechanism” that would generate financing for such socially valuable projects by creating a coordinated process for allowing project developers to sell offsets into a cap-and-trade system. Maxine Burkett, *Just Solutions to Climate Change: A Climate Justice Proposal for a Domestic Clean Development Mechanism*, 56 BUFF. L. REV. 169, 170 (2008).

⁵³ See JONES, *supra* note 8, at 35–36; Burkett, *supra* note 52, at 170, 225; HOERNER & ROBINSON, *supra* note 12, at 37, 40; see also KATE GORDON ET AL., APOLLO ALLIANCE & GREEN FOR ALL, GREEN COLLAR JOBS IN AMERICA’S CITIES: BUILDING PATHWAYS OUT OF POVERTY AND CAREERS IN THE CLEAN ENERGY ECONOMY 14 (2008), available at http://www.americanprogress.org/issues/2008/03/pdf/green_collar_jobs.pdf; ROBERT POLLIN ET AL., NATURAL RES. DEF. COUNCIL & GREEN FOR ALL, GREEN PROSPERITY: HOW CLEAN-ENERGY POLICIES CAN FIGHT POVERTY AND RAISE LIVING STANDARDS IN THE UNITED STATES 28 (2009), available at <http://www.greenforall.org/resources/green-prosperity/green-prosperity/download>.

⁵⁴ See HOERNER & ROBINSON, *supra* note 12, at 30, 33 tbl.10 (describing studies of the number of jobs created by nonfossil fuel energy versus conventional fossil fuels).

⁵⁵ See JONES, *supra* note 8, at 116–29 (describing green-collar job opportunities generated by energy efficiency and alternative energy).

⁵⁶ See generally *id.* at 116–19.

steer new opportunities to the places most in need.⁵⁷ Job training is a critical prerequisite to enable residents of disadvantaged communities to access emerging opportunities.⁵⁸ From a comprehensive policy perspective, the economic co-benefits of alleviating persistent poverty are worth additional government investment.

Local governments are already developing alternative energy programs to meet the twin objectives of environmental protection and poverty alleviation.⁵⁹ California's climate change law includes a specific provision that requires the state, to the extent feasible, to "direct public and private investment toward the most disadvantaged communities in California."⁶⁰ Recent federal legislation has also included job training and other provisions designed to direct "green jobs" to currently depressed areas.⁶¹ Greater development and funding of such programs will be necessary for them to reach their potential.

3. The Economic Risks of Greening the Grid

a. Potential Regressive Impacts

Notwithstanding the potential economic benefits associated with greening the grid and other climate policies, climate policies are likely to pose a number of economic risks for vulnerable populations. Fossil fuels have provided the nation with relatively cheap energy—particularly coal in the electricity sector.⁶² If climate change policies put a price on carbon, as they should, then the cost of coal-fired power will increase as facilities are required to purchase allowances to cover their emissions, and as utilities ultimately invest in more expensive alternatives, including renewable energy.⁶³

⁵⁷ As Van Jones states,

[U]nless the government helps to steer jobs and investment in new directions, those who most need the benefits of a new, green economy are highly unlikely to get them. If the best of the green wave bypasses the most disadvantaged urban and rural communities, then low-income and marginalized places will miss out altogether on their one shot in this new century at a glorious rebirth.

Id. at 62.

⁵⁸ There are not enough trained workers to accomplish many green objectives. *See id.* at 9.

⁵⁹ *See, e.g., id.* at 123, 166–67 (discussing a Richmond, California, solar project designed to integrate environmental and economic justice goals, and further discussing Chicago's green economic initiatives).

⁶⁰ California Global Warming Solutions Act of 2006, CAL. HEALTH & SAFETY CODE § 38565 (West 2006).

⁶¹ *See* JONES, *supra* note 8, at 144; HOERNER & ROBINSON, *supra* note 12, at 36–37 (describing green jobs and block grant legislation). The Waxman-Markey bill establishes a "Low-Income Community Energy Efficiency Program" that authorizes the Department of Energy to provide up to \$50 million per year in grants to community organizations to implement energy efficiency efforts in low-income communities. American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 264 (as passed by House, June 26, 2009).

⁶² *See* ENVTL. LAW INST., *supra* note 16, at 4.

⁶³ *See Protecting Lower Income Families While Fighting Global Warming: Hearing Before the Subcomm. on Income Security and Family Support of the H. Comm. on Ways and Means,*

Increasing energy costs are regressive: They impact the poor more than the rich, since the poor spend a larger portion of their budgets on basic needs, like heating and power.⁶⁴ In addition, the poor spend more of their income on goods and services, the price of which could increase as a result of higher energy prices.⁶⁵ More generally, increasing energy costs could have a recessionary impact and recessions, in turn, can impact poor citizens more severely than the rich.⁶⁶

Climate change policies are also likely to impact those who currently rely on the fossil-fuel industry. Whatever the net employment benefits of climate change policies and greening the grid, they pose the prospect of a significant transition, particularly for the many individuals who have long depended upon the coal and oil industries.⁶⁷

b. Addressing Climate Change Policies' Adverse Economic Impact

Some might argue that these economic impacts on the poor justify a “go slow” approach with less ambitious reduction goals. In contrast, climate justice advocates call for carefully integrating measures to reduce regressive impacts into the design of GHG reduction policies.⁶⁸ Conceivably, policymakers could adopt policies that directly protect consumers from price increases.⁶⁹ That approach would, however, fail to generate a price signal for consumer energy conservation and efficiency. By dampening

111th Cong. 7 (Mar. 12, 2009) [hereinafter *Hearing*] (statement of Terry Dinan, Senior Advisor for Climate Issues, Congressional Budget Office) (observing that a cap-and-trade program would increase the price of energy and energy-intensive goods and services); MCKINSEY & CO., REDUCING U.S. GREENHOUSE GAS EMISSIONS: HOW MUCH AT WHAT COST? 28–29 (2007), available at http://www.mckinsey.com/client/service/ccsi/pdf/US_ghg_final_report.pdf (noting that shifts in the power sector, including shifts to renewable energy, are likely to be expensive).

⁶⁴ *Hearing*, *supra* note 63, at 7 (statement of Terry Dinan, Senior Advisor for Climate Issues, Congressional Budget Office); MORELLO-FROSCH ET AL., *supra* note 35, at 19.

⁶⁵ MORELLO-FROSCH ET AL., *supra* note 35, at 19.

⁶⁶ *Cf.* HOERNER & ROBINSON, *supra* note 12, at 22–23 (observing that spikes in oil prices have triggered recessions, and that the resulting unemployment has a greater impact on African Americans than the general population).

⁶⁷ See *Hearing*, *supra* note 63, at 12 (statement of Terry Dinan, Senior Advisor for Climate Issues, Congressional Budget Office) (noting that workers in the energy industry and industries that are energy-intensive could face unemployment). Dinan’s testimony also notes that those who have invested in these industries could lose value. *Id.* The focus of this Essay, however, is on economic justice for the less advantaged.

⁶⁸ See MORELLO-FROSCH ET AL., *supra* note 35, at 19, 24.

⁶⁹ For example, the Waxman-Markey bill contains allowance-distribution provisions that are intended to lower the impact of climate change requirements on consumers. American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 702 (as passed by House, June 26, 2009) (adding 42 U.S.C. §§ 783 and 784 to the Clean Air Act). The extent to which the provisions would in fact benefit consumers, rather than energy companies, is debated. See MARK HOLT & GENE WHITNEY, CONG. RESEARCH SERV., GREENHOUSE GAS LEGISLATION: SUMMARY AND ANALYSIS OF H.R. 2454 AS REPORTED BY THE HOUSE COMMITTEE ON ENERGY AND COMMERCE 76–77 (2009), available at <http://www.nationalaglawcenter.org/assets/crs/R40643.pdf>.

incentives for energy efficiency, the nation could fail to achieve one of the most cost-effective mechanisms for meeting its emission reduction objectives.⁷⁰

Strategies that preserve energy efficiency incentives while redressing the impacts of higher prices would provide a sounder policy solution. Such efforts would, however, require a source of revenue. One potential financial mechanism for mitigating the economic impact of climate change policies on low-income consumers and workers is auctioning allowances in a GHG cap-and-trade system. The stimulus package and future stimulus efforts could also present important potential resources.⁷¹

Potential uses of auction revenue include investing in energy efficiency and distributed power generation, like solar or wind power, for poor families. Such investments would lower consumption and offset the effect of higher energy charges. A revolving loan fund could also help finance energy efficiency and distributed solar or wind power.⁷² Energy savings could be used to pay back the loan. For those in the lowest income groups or with special energy needs, direct rebates, through direct payments or tax rebates, are another option.⁷³ Auction revenue or stimulus money could also be used to create special skills training programs for unemployed former fossil fuel industry workers.⁷⁴

C. The California Example: A Comprehensive Approach

California's Global Warming Solutions Act,⁷⁵ Assembly Bill 32 (AB 32), passed in 2006,⁷⁶ takes a comprehensive approach that integrates environmental and economic objectives into the state's climate change objectives.⁷⁷ The law requires the California Air Resources Board, the agency responsible for implementing AB 32, to focus not only on cost-effective reductions in GHGs, but also on the ancillary environmental and economic co-benefits intrinsic to achieving GHG reduction goals.⁷⁸ It states that the law should be implemented "in a manner that minimizes costs and maximizes

⁷⁰ See MCKINSEY & CO., *supra* note 63, at 34 (describing increasing energy efficiency as a highly cost-effective mechanism for reducing GHG emissions).

⁷¹ The auction revenue or stimulus money could be used for many laudable goals, including research and development, and capital for alternative energy systems.

⁷² The recently proposed Waxman-Markey bill creates a loan fund for energy efficiency and alternative energy projects. H.R. 2454 § 299D.

⁷³ Recently proposed federal climate change legislation has included provisions to allocate some auction revenue to low-income households. *Id.* § 431 (providing refunds to low-income households in proportion to the climate bill's impact). The Congressional Budget Office has evaluated a number of options for addressing the impacts of climate policy on low-income households. See *Hearing, supra* note 63, at 10–17 (statement of Terry Dinan, Senior Advisor for Climate Issues, Congressional Budget Office).

⁷⁴ The Waxman-Markey bill includes provisions to assist workers impacted by a transition from fossil fuels. H.R. 2454 §§ 421–427 (providing green job and worker transition provisions).

⁷⁵ California Global Warming Solutions Act of 2006, CAL. HEALTH & SAFETY CODE § 38500–38599 (West Supp. 2009).

⁷⁶ Assem. B. 32, 2005–06 Leg., Reg. Sess. (Cal. 2006).

⁷⁷ CAL. HEALTH & SAFETY CODE § 38501(h) (West Supp. 2009).

⁷⁸ *Id.*

benefits for California's economy, improves and modernizes California's energy infrastructure and maintains electric system reliability, maximizes additional environmental and economic co-benefits for California, and complements the state's efforts to improve air quality."⁷⁹ Numerous provisions amplify the state's obligation to consider environmental and economic co-benefits in designing climate policy.⁸⁰ The agency's scoping plan, which outlines the state's strategy, includes analyses of the proposed measures' environmental and economic implications.⁸¹ In addition, AB 32 requires the state to "direct public and private investment toward the most disadvantaged communities in California" to the extent possible.⁸² As Congress considers federal climate legislation, California's AB 32 provides a model for a more comprehensive, integrated approach to developing a new twenty-first century energy infrastructure.

III. THE POLITICS OF INTEGRATING CLIMATE JUSTICE INTO CLIMATE POLICY

Proposals to integrate climate justice into climate change policy are controversial. Adopting effective measures to reduce GHGs and address climate change will present substantial political and economic challenges in its own right. Adding environmental and social justice objectives to that enterprise could, according to the criticism, make it even more difficult to pass climate change legislation.⁸³ There is truth to this concern. The more complicated the objectives, the more complicated the policy calculus, and the more difficult the balancing act. It would undoubtedly be easier to focus solely on what policies would best reduce GHGs, period. Under this view, environmental and social justice groups should hold back so as not to jeopardize the central priority—GHG reduction.

There are three problems with this argument, however. The first is that, as discussed above,⁸⁴ given the scale of the transformations necessary to address climate change, climate policy could make very bad law if it failed to consider and integrate associated environmental and economic implications. Second, also discussed above,⁸⁵ climate policy could miss obvious and compelling opportunities. Third, the argument would be more compelling if climate justice groups' restraint were matched by restraint on the part of all other interest groups. In reality, however, climate change legislation will not

⁷⁹ *Id.*

⁸⁰ AB 32 states that, in developing implementing regulations, the California Air Resources Board should "[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.* § 38562(b)(6). In developing market-based mechanisms, the state should "[m]aximize additional environmental and economic benefits for California." *Id.* § 38570(b)(3).

⁸¹ 2 CAL. AIR RES. BD., *supra* note 25, app. G (containing economic analysis); *see also id.* app. H, at H1–H134 (containing public health analysis).

⁸² CAL. HEALTH & SAFETY CODE § 38565 (West Supp. 2009).

⁸³ *See JONES, supra* note 8, at 58 ("Climate-change activists may be tempted to try to sidestep the issues of racial inclusion in the name of expedience . . .").

⁸⁴ *See supra* Parts II.A.3, II.B.3.

⁸⁵ *See supra* Parts II.A.2, II.B.2.

be drafted in a vacuum, and the question is whose interests it will serve. Climate change legislation is likely to reflect energy security goals and the interests of green businesses, the current fossil fuel industry, and major manufacturers like the auto industry. Adding the interests of disadvantaged groups, groups which have not historically had a strong political voice, would not sully an otherwise pure effort to address climate change. The truth is that climate policy will have profound societal implications, and that all the relevant interest groups have a legitimate interest in having their voices heard.

Another argument against incorporating climate justice principles is the fear that they will increase opposition to the legislation. The greater the emphasis on co-pollutant reductions, the greater the threat to the fossil fuel industry, and the stronger its resistance.⁸⁶ In addition, if efforts to maximize environmental co-benefits, like co-pollutant reductions, were to increase the cost of GHG reductions, industry is likely to resist, even if the net societal impact of combining co-pollutant and GHG reduction goals is positive. On the economic front, channeling economic opportunities to those most in need could smack of politically controversial redistributive politics. Addressing the regressive impact of climate policies could similarly trigger antiredistributive sentiments.

The political risks are real. There are, however, countervailing political considerations that pull in the opposite direction. Pursuing climate justice could expand the political coalition in favor of green energy and other climate change objectives. While some fossil fuel companies appear to have accepted the inevitability of climate legislation,⁸⁷ the politically powerful fossil fuel industry is likely to oppose efforts to transform the nation's reliance on fossil fuels, whether coupled with co-pollutant reduction goals or not.⁸⁸ Arguably, countering these entrenched interests will require a broad coalition that includes poor and working class Americans.⁸⁹

It remains to be seen whether a coalition of green and social justice interests will be sufficient to counter the power of the existing energy industry. But if the green movement does not address social justice, there is a significant risk that poor and working class interests could become organized *against* stringent climate change and green energy initiatives. For example, a California voter proposition to impose a tax on oil was voted down when the NAACP opposed it and the oil industry ran advertisements in

⁸⁶ See, e.g., JONES, *supra* note 8, at 83.

⁸⁷ Some industries have joined the Climate Action Partnership, a collaborative industry and nongovernmental organizational effort to advocate for federal climate change legislation. See U.S. Climate Action P'ship, About Our Members, <http://www.us-cap.org/about/members/index.asp> (last visited Nov. 15, 2009).

⁸⁸ See JONES, *supra* note 8, at 63, 83; Kirsten H. Engel & Scott R. Saleska, *Subglobal Regulation of the Global Commons: The Case of Climate Change*, 32 *ECOLOGY L.Q.* 183, 214 (2005). Oil and coal companies have sponsored grassroots events in opposition to the climate bill and in favor of fossil fuels. See David A. Fahrenthold, *Environmentalists Slow to Adjust in Climate Debate*, WASH. POST, Aug. 31, 2009, at A01, <http://www.washingtonpost.com/wp-dyn/content/article/2009/08/30/AR2009083002606.html> (last visited Nov. 15, 2009).

⁸⁹ See JONES, *supra* note 8, at 83–84.

African American neighborhoods about its potential economic impacts.⁹⁰ The proposition's supporters reportedly focused only on the proposition's energy independence benefits, without directly addressing economic concerns.⁹¹ While it is unclear whether the proposition would have passed with support from disadvantaged communities, it is clear that these interests were organized against, rather than in favor, of the proposition.⁹² More broadly, a slogan being used to enhance fossil fuel use and prevent climate change efforts is "Stop the War on the Poor," a clear appeal to organize poor and working class interests against environmental legislation.⁹³ The potential adverse impact of climate change legislation on the poor has become a frequent argument against recently proposed climate legislation.⁹⁴

In addition, while scientists and environmentalists are haunted by the specter of catastrophic climate change, the risk may appear remote and speculative to the average voter (and that voter's representative).⁹⁵ Air pollution, in contrast, is a more immediate and tangible concern.⁹⁶ Although industry is likely to resist efforts to combine climate and co-pollutant reduction goals, that same combination could make climate legislation more appealing to those who are adversely impacted by air pollution.

Creating a broad coalition among environmentalists, the poor, and the working class will not occur without addressing the issues that concern these populations. To the extent that the movement for green energy focuses on Prius cars, individual solar panels, and polar bears, it will not connect with the immediate needs of the poor.⁹⁷ Instead, it is likely to alienate that population, who may view green proponents as a distant "eco-elite."⁹⁸ As Van Jones states, "Working people will have a powerful incentive to support a green-growth agenda as long as green partisans embrace broad opportunity and shared prosperity as key values."⁹⁹ New coalitions create significant social and cultural challenges,¹⁰⁰ but are likely to be necessary to create the political preconditions for a broad transformation away from fossil fuels.

⁹⁰ *Id.* at 95–97.

⁹¹ *Id.*

⁹² *See id.* at 97.

⁹³ *Id.* at 194.

⁹⁴ *See, e.g.,* Deneen Borelli, Op-Ed, *Cap and Trade Is a Ball and Chain for Poor Americans*, WASH. EXAMINER, Sept. 20, 2009, http://www.washingtonexaminer.com/opinion/columns/OpEd_Contributor/Cap-and-trade-is-a-ball-and-chain-for-poor-Americans-8264490.html (last visited Nov. 15, 2009).

⁹⁵ *See* Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153, 1174–76 (2009) (noting the difficulty most people have in addressing impacts that will not come until well into the future).

⁹⁶ *See* MORELLO-FROSCH ET AL., *supra* note 35, at 21 (observing that climate policies should also focus on co-pollutant reductions because "most Americans continue to rank air pollution as a leading concern").

⁹⁷ JONES, *supra* note 8, at 53 (quoting Majora Carter, founder of Sustainable South Bronx).

⁹⁸ *Id.*

⁹⁹ *Id.* at 55.

¹⁰⁰ To coin Van Jones again, "The affluent have blind spots. The disadvantaged have sore spots." *Id.* at 99.

IV. PARTICIPATORY JUSTICE

A key issue remains: How should climate justice be integrated into climate change and green energy initiatives? That agenda should emerge with the participation of disadvantaged communities. Participatory justice is a key theme within the environmental justice movement.¹⁰¹ Climate justice is not only about achieving certain environmental or economic justice *results*. It is also about democratic participation—the involvement of disadvantaged groups in developing the policies that will affect their well being.

That involvement is key for a number of reasons. Participation achieves not only distributional justice—better air quality and economic conditions—but also the political empowerment of affected communities.¹⁰² Participation is also likely to better meet the actual needs, rather than the perceived needs, of impacted communities. It could also help prevent inadvertent harm, as with well-meaning policies that end up causing unintended adverse consequences for poor communities. “Eco-elites” and disadvantaged communities have much to learn from one another—learning that can happen only with full participation.¹⁰³ And, finally, it is not clear that a true coalition can be built, or that true alliances can be formed, by a top-down approach that attempts to satisfy, but does not actually include, key groups.

Developing such coalitions is not easy. As a practical matter, climate change and energy policy is being made at the national and state level, while many environmental justice and social justice groups operate at the grassroots.¹⁰⁴ Environmental and alternative energy groups often focus on science and economics, and talk a technocratic language that may be alienating to social justice community groups.¹⁰⁵ And economic and social justice advocates focus on integrated issues of economic and social justice that may in turn be alienating and foreign to those accustomed to operating within specialized technical boxes. Nonetheless, nascent efforts to develop such coalitions are emerging.¹⁰⁶ As we consider how to green the grid, these coalitions, and the multidimensional goals they are likely to espouse, can provide a vision for the future that goes beyond counting megawatts.

¹⁰¹ Alice Kaswan, *Distributive Justice and the Environment*, 81 N.C. L. REV. 1031, 1045–47 (2003) (describing the environmental justice movement’s emphasis on political and participatory justice).

¹⁰² See Luke Cole, *Empowerment as the Key to Environmental Protection: The Need for Environmental Poverty Law*, 19 ECOLOGY L.Q. 619, 661–63 (1992).

¹⁰³ “As we build this new green wave, the new environmentalists will need to work in partnership with people of all classes and colors—not just because it is the right thing to do, but because it is also the best way to ensure that we are doing things right.” JONES, *supra* note 8, at 16.

¹⁰⁴ Alice Kaswan, *Environmental Justice: Bridging the Gap Between Environmental Laws and “Justice,”* 47 AM. U. L. REV. 221, 226 (1997).

¹⁰⁵ See *id.* at 267–68 (describing differences in discourse and activities between traditional environmental groups and environmental justice advocates).

¹⁰⁶ See JONES, *supra* note 8, at 115–43 (listing organizations active in promoting green jobs and a green economy).