

REACHING CALIFORNIA’S CLEAN ENERGY GOALS FROM A RIGHTS-BASED PERSPECTIVE¹

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I. INTRODUCTION

It is no secret – and steadily less debated – that we are experiencing the consequences of anthropogenically induced climate change.³ Addressing this reality means connecting mitigation and adaptation avenues directly to the human activities expediting climate change.⁴ Global efforts continue to integrate adaptation strategies and human rights approaches into climate change responses and sustainable development initiatives that are aimed at

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³ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT (Abdelkader Allai et al., eds., (adopted Nov. 12-17, 2007)), http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf; *see also* Fourth National Climate Assessment, Chapter 1, <https://nca2018.globalchange.gov/chapter/1/>; *see also* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, GLOBAL WARMING OF 1.5°C: SUMMARY FOR POLICY MAKERS (Valérie Masson-Delmotte et al., eds.) (2018), https://archive.ipcc.ch/pdf/special-reports/sr15/sr15_spm_final.pdf (hereinafter “IPCC Global Warming REPORT”).

⁴ Alongside mitigation, technology cooperation, and finance, The United Nations Framework Convention on Climate Change (“UNFCCC”) adopted adaptation as one of the four “building blocks” of climate change responses, avowing the requisition of adaptation measures for addressing the unavoidable impacts emanating from global warming. Jessica Ayers & Saleemul Huq, *Supporting Adaptation Through Development: What Role for ODA?*, 27 DEV. POL’Y REV. 6, 675–92 (2009).

reducing greenhouse gas (“GHG”) emissions.⁵ How these efforts play out in local contexts will ultimately determine whether or not these large-scale climate goals can be met.

The United States (“U.S.”) is currently experiencing a disconnect between local and national agendas. Between rolling back domestic environmental regulations and the U.S. abandoning its commitments to the international community, the current political climate makes clear that state and local governments, alongside private entities, must take the lead in the effort to fulfill the U.S.’s commitment to reducing GHG emissions.⁶ California’s torch has historically been a light of sustainability in this dark tunnel, thanks to the state’s consistent efforts aimed at combatting global warming.⁷

The 100 Percent Clean Energy Act of 2018 (“Bill 100”), which took effect January 1, 2019, is an integral part of California’s efforts toward reducing GHG emissions statewide. Bill 100 enhances the renewable portfolio standards (“RPS”), and combined with the Governor’s corresponding Executive Order,⁸ will require

⁵ See James E. Parker-Flynn, *The Intersection of Mitigation and Adaptation in Climate Law and Policy*, 38 ENVIRONS ENVTL. L. & POL’Y J. 1, 4-5 (2015) (This article explores the relationship between mitigation and adaptation strategies and laws, 30-40. It proposes a mitigation-adaptation lens in policy-making and planning based on four parts: Cooperative Federalism and Information Gathering; Searching for Synergies and Trade-offs; Providing Model Approaches and Funding; and Monitoring and Follow-Up. 41-46.); See also IPCC GLOBAL WARMING REPORT, *supra* note 3 at Strengthening the Global Response in the Context of Sustainable Development and Efforts to Eradicate Poverty, <https://www.ipcc.ch/sr15/chapter/summary-for-policy-makers/>.

⁶ For example, the EPA proposed to repeal the Clean Power Plan and replace it with the Clean Energy Rule, eliminating carbon pollution emission limitations for existing stationary sources under section 111(d) of the Clean Air Act. <https://www.epa.gov/stationary-sources-air-pollution/electric-utility-generating-units-repealing-clean-power-plan-0>. Further, in June of 2017, the U.S. President announced his intention to withdraw the U.S. from the Paris Agreement, which would be effective in 2020. <https://www.whitehouse.gov/briefings-statements/statement-president-trump-paris-climate-accord/>.

⁷ LOUISE BEDWORTH, ET AL., CALIFORNIA’S FOURTH CLIMATE CHANGE ASSESSMENT, 14 https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf.

⁸ Cal. Exec. Order No. B-55-18 (Sept. 10, 2018).

that one hundred percent of electricity provided to individual customers and state agencies comes from renewable energy or carbon-free sources by 2045. Sixty percent must come from renewable energy resources like wind, solar, and ocean wave or thermal.⁹ Large hydrological systems and any other zero-carbon polluting resources are still fair game to provide the other forty percent.¹⁰

In the words of former Governor Brown, transitioning to renewable energy “will create good-paying jobs, ensure our children breathe cleaner air and mitigate the devastating impacts of climate change on our communities and economy.”¹¹ It will also ensure that California removes as many GHGs as it emits, which is a crucial step to halting – and in the most ideal scenario, reversing – the destructive effects of climate change that have already taken place.¹² Addressing these vulnerabilities requires involving and educating the public about GHG emission reduction strategies through collaborative regional efforts.

Following a brief history of the foundational efforts to Bill 100 and a high-level explanation of the law itself, this article presents an analytical framework for decision-makers in California to consider when developing policies to implement directives such as Bill 100. This framework consists of five pillars rooted in rights-based principles to help decision makers lead the way in transitioning communities and infrastructures to clean energy with

⁹ CAL. PUB. UTIL. CODE § 399.12(e) These resources are supplied by renewable electrical generation facilities that use “biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, [existing] small hydroelectric generation, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current.” Cal. Pub. Res. Code Section 25741(a)(1).

¹⁰ <https://focus.senate.ca.gov/sb100/faqs>.

¹¹ *Governor Brown Signs 100 Percent Clean Electricity Bill, Issues Order Setting New Carbon Neutrality Goal*, Office of Governor Edmund G. Brown (Sept. 10, 2018), <https://web.archive.org/web/20180911163844/https://www.gov.ca.gov/2018/09/10/governor-brown-signs-100-percent-clean-electricity-bill-issues-order-setting-new-carbon-neutrality-goal/> (hereinafter “*Governor Signs 100 Percent Clean Electricity Bill*”).

¹² *Id.*

equity, justice, and environmental protections.¹³ It also creates spaces to answer questions about Bill 100, such as impacts associated with the costs and reliability of clean energy, or the effects this transition might have on employment and land use.¹⁴

II. CALIFORNIA'S HISTORY OF REDUCING GHG EMISSIONS THROUGH INCREASED RELIANCE ON RENEWABLE ENERGY RESOURCES

The 100 Percent Clean Energy Act did not achieve its success in one fell swoop. Bill 100's goals are the product of decades of incremental developments made toward clean energy. The California RPS Program was originally established in 2002 and required twenty percent of electricity to come from renewable energy sources by 2017.¹⁵ In 2006, Senate Bill 107 moved up the deadline for twenty percent procurement from renewable energy resources to 2010.¹⁶ Then in 2011, Senate Bill 2 (1X) increased the standard to a thirty-three percent renewable portfolio requirement by 2020 and mandated procurement requirements within multi-year compliance periods.¹⁷ The Clean Energy and Pollution Reduction Act was signed into law on October 7, 2015, to double statewide energy-efficiency savings in electricity and natural gas end-uses by raising California's renewable electricity procurement goal from thirty-three percent by 2020 to fifty percent by 2030.¹⁸ This bill also required contracts of ten or more years to account for sixty-five

¹³ The fundamental principles of rights-based approaches are participation, accountability, non-discrimination, empowerment, and linkages to international human rights norms and standards ("PANEL"). MARY ROBINSON, *What Rights Can Add to Good Development Practice*, in: HUMAN RIGHTS AND DEVELOPMENT: TOWARDS MUTUAL REINFORCEMENT (Philip Alston & Mary Robinson, eds., 2005).

¹⁴ Ivan Penn, *California Sets Energy Goal: Zero Carbon*, N.Y. TIMES, B1 (Aug. 28, 2018) (Identifying cost, intermittent sun/wind, and the contribution of vehicle pollution as issues arising out of this bill.)

¹⁵ SB 1078, 2001-2002, Reg. Sess. (Cal. 2002).

¹⁶ SB 107, 2005-2006, Reg. Sess. (Cal. 2006).

¹⁷ SB 2, 2011-2012, Reg. Sess. (Cal. 2011).

¹⁸ SB 350, 2015-2016, Reg. Sess. (Cal. 2015).

percent of procurement, preparing providers for what was to come in Bill 100.¹⁹

The California Public Utilities Commission (“CPUC”) primarily implements these mandates through the state RPS program compliance rules for retail sellers of electricity in California. These include large and small investor-owned utilities (“IOU”), electric service providers (“ESP”), and community choice aggregation programs.²⁰ Similarly, publicly-owned utilities (“POU”) regulated by the California Energy Commission (“CEC”) are required to report on energy efficiency efforts and POUs of certain sizes must produce integrated resource reports (“IRP”) detailing procurement plans to ensure customer energy needs are met.²¹ The CPUC and the California Air Resources Control Board (“CARB”) also have a history of collaborating to reduce GHG emissions and air pollution.²²

Other legislative actions related to the transportation sector,²³ urban infrastructure,²⁴ and programs for affordable solar panels for residential homes²⁵ will significantly influence the success of California's shift to carbon-neutral emissions.²⁶ Similarly, the state climate adaptation strategy ensures “all state departments

¹⁹ *Id.*

²⁰ <https://www.cpuc.ca.gov/rps/>.

²¹ SB 1037, 2005-2006, Reg. Sess. (Cal. 2005); SB 350, 2015-2016, Reg. Sess. (2015).

²² See *The Governor's Climate Change Pillars: 2030 Greenhouse Gas Reduction Goals*, CALIFORNIA AIR RESOURCES BOARD, <https://www.arb.ca.gov/cc/pillars/pillars.htm#pillars> (last reviewed Sept. 20, 2016).

²³ Cal. Exec. Order No. B-48-18 (Oct. 9, 2017) (implements a target of 5 million zero-emissions vehicles in California by 2030, continues rebates for eight more years, and improves charging and refueling infrastructure across California).

²⁴ Assemb. B. 802, 2015-2016, Reg. Sess. (Cal. 2015).

²⁵ Assemb. B. 693, 2015-2016, Reg. Sess. (Cal. 2015).

²⁶ CLIMATE CHANGE, 2, June 27, 2018,

<http://www.ebudget.ca.gov/2018-19/pdf/BudgetSummary/ClimateChange.pdf> (California has instituted an array of programs that work together to aid in the state's transition to neutral carbon emissions, including: the Low Carbon Fuel Standard, Cap and Trade Program, Advanced Clean Cars Program, Short Lived Climate Pollutant Reduction Strategy, Sustainable Freight Action Plan, and the developing Natural and Working Lands Implementation Plan).

and agencies prepare for and are ready to respond to the impacts of climate change.”²⁷ It takes into account an array of domains that intersect with energy to reduce GHG emissions, including transportation, agriculture, and coastal resources.²⁸

California is also a signatory to the U.S. Climate Alliance, a group of states committed to the goals of the Paris Agreement. As members of this alliance, states promote clean energy and carbon reduction and report their progress in reducing greenhouse gas emissions to the global community.²⁹ On its one-year anniversary, the Paris Agreement signatories committed to new areas of collaboration, including grid modernization, renewable energy, and building resilient communities and infrastructure.³⁰ All of California’s commitments are opportunities for coordinating mitigation efforts, climate change adaptation strategies, and sustainable development initiatives. Many of the legal and policy mechanisms in place are somewhat suggestive of the rights-based principles in this framework, and the summary presented is by no means comprehensive.

III. AN OVERVIEW OF BILL 100’S ENERGY PROCUREMENT REQUIREMENTS

On September 20, 2018, then-Governor Jerry Brown signed Senate Bill 100, the California Renewables Portfolio Standard Program: emissions of greenhouse gases.³¹ Bill 100 introduces a statewide policy for one hundred percent of total retail sales of electricity to come from eligible renewable energy and zero-carbon resources by December 31, 2045.³² The Governor’s Message on

²⁷ CAL. PUB. RES. CODE § 71150-71271 (West 2018), CAL. PUB. RES. CODE § 71152 (West 2018).

²⁸ CAL. PUB. RES. CODE § 71153(a) (West 2018).

²⁹ *Alliance Principles*, UNITED STATES CLIMATE ALLIANCE, <https://www.usclimatealliance.org/alliance-principles/> (last visited Jan. 31, 2019).

³⁰ *About the Initiatives*, UNITED STATES CLIMATE ALLIANCE, <https://www.usclimatealliance.org/about-initiatives/> (last visited Nov. 21, 2018).

³¹ *Governor Signs 100 Percent Clean Electricity Bill*, *supra* note 11.

³² *Id.*; Cal. Exec. Order No. B-55-18 (Sept. 10, 2018).

September 10, 2018 also included an Executive Order to achieve carbon neutrality by 2045 and maintain net negative emissions thereafter in an effort to “ensure California removes as much carbon dioxide from the atmosphere as it emits.”³³

Senator Kevin de León authored Bill 100 to send “a message to the rest of the world that we are taking the future into our own hands; refusing to be victims of its uncertainty.”³⁴ In addition to reducing air pollution and GHG emissions, the Legislature intended the program to provide vital benefits to California.³⁵ These benefits include promoting stable retail rates while reducing fossil fuel consumption and balancing a diverse energy-generation portfolio to create a reliable grid by, for example, using land-use planning activities to develop renewable energy resources.³⁶

A. RENEWABLE ENERGY AND ZERO-CARBON SOURCES

While sixty percent of electricity must be procured from renewable energy sources by 2030, the other forty percent of energy can come from any zero-carbon source by 2045. Hopefully, rather than automatically turning to zero-carbon options such as carbon capture and storage or nuclear power, providers won’t stop using renewable sources once they hit the requisite sixty-percent threshold. However, this arrangement also leaves room to develop new technologies and use fossil-fuel assets that still have a long life.³⁷ Reaching these goals requires “continued significant reductions of carbon pollution and increased carbon sequestration in forests, soils, and other natural landscapes and programs” to

³³ *Governor Signs 100 Percent Clean Electricity Bill*, *supra* note 11; Cal. Exec. Order No. B-55-18, (Sept. 10, 2018).

³⁴ *Governor Signs 100 Percent Clean Electricity Bill*, *supra* note 11.

³⁵ S.B. 100, 2017-2018, Reg. Sess. (Cal. 2018) (amending CAL. PUB. UTIL. CODE § 399.11 (West 2017)).

³⁶ *Id.*

³⁷ *Id.* (Amendments made by the Natural Resources Committee to clarify the planning goal of retiring fossil fuels.)

improve air quality and public health across the state, but especially in California's "most impacted communities."³⁸

Most retailers "are well on their way to meeting their current [RPS] compliance obligations" for 2020 and the fifty-percent-by-2030 compliance requisite established in The Clean Energy and Pollution Reduction Act.³⁹ These achievements leave retailers with just a ten-percent increase in renewable energy procurement to meet Bill 100's sixty-percent renewable requirements by 2030. This transition to clean energy, poised primarily as a mitigation effort for reducing GHG emissions, presents a prime opportunity to implement climate change-adaptation and sustainable development initiatives that will prevent the worst effects of climate change from manifesting.

B. RESPONSIBLE GOVERNMENTAL ACTORS

Pursuant to Bill 100, all state agencies must incorporate policies for transitioning to a zero-carbon electric system without increasing GHG emissions in the western grid.⁴⁰ However, a few key state agencies are collectively responsible for meeting the energy procurement and GHG emission reduction goals set by the legislature.⁴¹ As mentioned, under the RPS Program, the CPUC establishes the renewable portfolio standards that govern the procurement of renewable energy resources by investor-IOWs and other retailers.⁴² CPUC and CEC also use IRPs to coordinate long term strategies for electricity procurement by privately and publicly

³⁸ *Governor Signs 100 Percent Clean Electricity Bill*, *supra* note 11; Cal. Exec. Order No. B-55-18, (Sept. 10, 2018).

³⁹ Cal. S.B. 100 Assemb. Analysis (Aug. 20, 2018).

⁴⁰ Cal. S.B. 100 (Sept. 10, 2018).

⁴¹ The Public Utilities Commission, the State Energy Resources Conservation and Development Commission, and the State Air Resources Board, along with the California Environmental Protection Agency.

⁴² *RPS Program Overview*, CALIFORNIA PUBLIC UTILITIES COMMISSION, http://www.cpuc.ca.gov/RPS_Overview/ (last visited Feb. 4, 2018).

owned utilities alike.⁴³ CARB is mainly charged with regulating emissions of multiple GHG sources while the State Energy Resources Conservation and Development Commission is responsible for balancing forms of energy, with an eye towards conservation, to ensure multiple sources are always available and accessible.⁴⁴

Bill 100 leaves flexibility for state agencies to address a range of issues that will inevitably arise. For example, a number of issues arise from a monetary perspective alone, such as division of costs between consumers and providers, especially in the context of capital investments and corresponding rate increases for developing infrastructure necessary to support renewable and carbon-zero energy sources. In addition to more traditional costs for IOU infrastructure allocated through general rate cases at the CPUC, projects for distributed infrastructure such as microgrids and other self-generation mechanisms must be allocated equitably – both economically and geographically. Other cost considerations must also be made in programs targeting increased energy efficiency, whether through updated appliances or newly constructed electric vehicle charging stations.

That brief preview of economic concerns does not address the many additional issues pertaining to reasonable and beneficial water uses, land planning and management, environmental justice, forestry and fire maintenance, or coastal and oceanic priorities. This complexity explains why Bill 100 empowers the responsible state agencies to take appropriate action as necessary to successfully implement its mandates. Hopefully, considering each pillar of the rights-based framework outlined herein will support decision makers in appropriately exercising the flexibility afforded to them by Bill 100.

⁴³ See <https://www.cpuc.ca.gov/irp/>; see also <https://www.energy.ca.gov/rules-and-regulations/energy-suppliers-reporting/clean-energy-and-pollution-reduction-act-sb-350-0>.

⁴⁴ CAL. PUB. RES. CODE § 2421.5(c) (West 2018).

IV. THE RIGHTS-BASED FRAMEWORK

Because climate change presents such an array of issues and uncertainties, there are just as many avenues that experts must develop to address them. While subfields such as Community-Based Adaptation and Renewable Energy have only begun to gain popularity in more recent decades,⁴⁵ the number of approaches developed by professionals in these spaces is already quite expansive. Strategies and programs created to address issues from global warming constantly evolve, integrating new innovative technologies and cutting-edge science. Although a literature review is outside the scope of this article, the important progress that scholars and experts have made towards integrating rights-based approaches and protective environmental measures with sustainable development initiatives that reduce GHG emissions across global scales cannot be understated.⁴⁶

As such, the framework presented here does not reinvent the wheel; it presents a reformulation of popular perspectives that have been actualized through a variety of laws and programs.⁴⁷ It aims to serve as a keystone to bring each of these components into the same conversation, so decision makers can efficiently, responsibly, and

⁴⁵ Jessica Ayes & Tim Forsyth, *Community-based adaptation to climate change*, 51 ENVIRONMENT 22 (2009), http://eprints.lse.ac.uk/24188/1/Ayes_Forsyth_Community_based_adaptation_to_climate_change_2009.pdf (Recognizing the importance of developing local approaches to adaptation aimed at building the capacity of local communities when implementing community-based development initiatives).

⁴⁶ The strength of these principles lies within their derivation from international laws, treaties, and declarations, creating a normative framework that lends global legitimacy to operational practices. PHILIP ALSTON & MARY ROBINSON, HUMAN RIGHTS AND DEVELOPMENT: TOWARDS MUTUAL REINFORCEMENT (Philip Alston & Mary Robinson eds., 2005).

⁴⁷ The United Nations articulated the principles of rights-based approaches to development, including: universality; indivisibility; interdependence; participation and inclusion; equality and non-discrimination; accountability and rule of law; and interrelatedness of human rights. *The Human Rights Based Approach to Development Cooperation Towards a Common Understanding Among UN Agencies*, 2 (2003), https://undg.org/wp-content/uploads/2016/09/6959-The_Human_Rights_Based_Approach_to_Development_Cooperation_Towards_a_Common_Understanding_among_UN.pdf.

justly shift California to a clean-energy grid by 2045. Rights-based approaches engage all stakeholders in all spaces because the distribution of power in society largely dictates access to resources, information, and decision-making processes.⁴⁸ This is achieved through five pillars: (1) Just Participation, (2) Transformative Empowerment, (3) Sustainable Development, (4) Environmental Protection, and (5) Comprehensive Accountability.

1. JUST PARTICIPATION

Just Participation requires prioritizing marginalized communities and vulnerable groups to begin rectifying structural-power imbalances that result from immutable characteristics and social stereotypes. Underlying factors such as gender dynamics, access to education, economic status, and cultural norms drastically affect participation in decision-making and local capacity to adapt to clean energy.⁴⁹ Just Participation emphasizes using participatory methodologies,⁵⁰ both to identify institutionalized inequities and to resolve them in part by including the impacted communities in spaces of power with reworked processes.⁵¹

This pillar addresses the reality that power imbalances and institutional biases heavily influence the distribution of material

⁴⁸ SHEENA CRAWFORD, THE IMPACT OF RIGHTS BASED APPROACHES TO DEVELOPMENT, 48-52 (Roo Griffiths & Magdalene Lagu eds, 2007), https://archive.crin.org/en/docs/Inter_Agency_rba.pdf.

⁴⁹ Frances Cleaver, *Paradoxes of Participation: Questioning Participatory Approaches to Development*, 11 J. INT'L DEV. 597, [598-612] (1999), http://courses.washington.edu/pbaf531/Cleaver_ParadoxesParticipation.pdf.

⁵⁰ Participatory approaches span a spectrum of typologies ranging from participation in information-giving or participation for material incentives to interactive participation or self-mobilization. See Reid, H., Cannon, T., Berger, R., Alam, M., & Milligan, A., *Participatory Learning and Action: Community-based adaptation to climate change*, International Institute for Environment and Development (2009) <http://pubs.iied.org/pdfs/14573IIED.pdf>.

⁵¹ David Dodman & Diana Mitlin, *Challenges for Community-Based Adaptation: Discovering the Potential for Transformation*, 25 J. INT'L DEV. 640, 643 (2013). (Recognizing “that many low-income groups are already and will continue to bear the costs of climate change within the immediacy of their environment [and therefore should be involved in local solutions].”)

resources because communities cannot be treated as fixed and homogenous entities during this transition to one hundred percent clean energy. Power relations are context specific regardless of the type or source of energy at issue, but particularly so for the zero-carbon energy that must be procured per Bill 100. When communities participate, they not only understand the impacts of transitioning to clean energy resources, but they also increase their capacity to make continued sustainable changes to their livelihoods.⁵² Just Participation calls upon decision makers to acknowledge that properly identifying the communities that should be participating is the first step towards equitable outcomes.

2. TRANSFORMATIVE EMPOWERMENT

Once the appropriate communities are reached, Transformative Empowerment calls upon leaders and decision makers to facilitate inclusive processes that foster the exchange of ideas with communities and create opportunities for members to exercise shared agency in decisions impacting the transition to clean energy. Transformative Empowerment seeks to increase marginalized communities' access to, and power in, these spaces because addressing the disparate challenges of climate change requires processes and programs shaped "*from*, rather than *for*, local knowledge and practices."⁵³

The shift to one hundred percent zero-carbon energy cannot be accomplished without raising awareness, education, training, and fostering collective participation in communities across the state. Access to educational resources and decision-making institutions heavily influences communities' vulnerabilities, resilience, and

⁵² Jessica Ayers & Tim Forsyth, *Community-based adaptation to climate change*, 51 ENV'T: SCI. AND POL. FOR SUSTAINABLE DEV'T 22 (2010).

⁵³ Julian S. Yates, *Power and politics in the governance of community-based adaptation*, in COMMUNITY-BASED ADAPTATION TO CLIMATE CHANGE: EMERGING LESSONS 15, 15-34 (Jonathan Ensor, Rachel Berger, Saleemul Huq, eds., 2014).

ability to transition to clean energy.⁵⁴

Increasing the meaningful participation of community members in spaces of power that control the distribution of information, can also be a means of generating new ideas and techniques for adaptation initiatives.⁵⁵ Empowering people to participate productively in local decision-making processes and opportunities for learning will increase communities' abilities to transition to clean energy by developing "locally appropriate solutions to locally defined problems,"⁵⁶ a particularly important outcome considering the disparate economies, geographies, and climates across California.

3. SUSTAINABLE DEVELOPMENT

Sustainable Development defines progress in a way that increases current resiliency, while also seeking to protect and preserve the environment for future generations. Institutionalized changes, such as the shift to renewable energy sources, are important steps to address climate change and build the foundation for other sustainable initiatives. Development initiatives such as infrastructure upgrades or new constructions often emit GHGs. But these development initiatives also have the potential to address the root causes of vulnerability to climate change by building infrastructure capable of providing renewable energy across California.⁵⁷

Transitioning to renewable and carbon-free energy sources to reduce GHG emissions requires developing a clear path of steadily progressive change for individuals and infrastructures alike. The knowledge and practices borne from increasing community participation in decision making can guide state programs and funding to address the underlying causes of vulnerability simul-

⁵⁴ ALEXANDRA HUGHES, ET AL., RIGHTS AND POWER WORKSHOP: REPORT (Feb. 10, 2003), http://www.powercube.net/wp-content/uploads/2009/11/rights_and_power_workshop_report.pdf.

⁵⁵ Ensor, *supra*, note 53.

⁵⁶ *Id.* at 1.

⁵⁷ Jessica Ayers & David Dodman, *Climate change adaptation and development I: the state of the debate*, 10 PROGRESS IN DEV. STUD. 161 (2010).

taneously with the transition to zero carbon energy.⁵⁸ Sustainable development must consider the energy capabilities of housing, urban buildings, domestic and industrial appliances, means of transportation, and access to commercial businesses. Identifying and remedying structural barriers to reducing GHG emissions is undoubtedly a crucial component of Bill 100, to which sustainable development experts can contribute.

4. ENVIRONMENTAL PROTECTION

Environmental Protection for natural resources and species is at the heart of efforts to reduce GHG emissions and shift to carbon free energy. To be clear, without a healthy planet to live on, there are no considerations to make for humans. Understanding this truth is especially critical in California, where intensifying wildfires, coastal erosion, extreme droughts, and increased population density are exacerbating the need for sustainable-development initiatives to prioritize environmental protections.

California legal authorities, such as the California Coastal Act (“CCA”), offer vehicles to preserve natural resources through responsible land and water management.⁵⁹ Other state laws regulate human activities that destroy biodiversity or pollute the environment.⁶⁰ For example, one law in California that measures the environmental impacts of all new projects building renewable energy infrastructure is the California Environmental Quality Act (“CEQA”).⁶¹ These legal restrictions place important boundaries on California’s efforts to meet Bill 100’s clean energy targets. Harnessing solar, wind, and even hydroelectric energy sources does not mean recklessly constructing panels and turbines across natural habitats or building dams and destroying fishers to generate power.

⁵⁸ Lisa Schipper, *Climate Change Adaptation and Development: Exploring the Linkages*. Tyndall Centre for Climate Change Research (2007) http://www.preventionweb.net/files/7782_twp107.pdf.

⁵⁹ CAL. PUB. RES. CODE §30000 (West 2018).

⁶⁰ Such as the California Endangered Species Act. *See* CAL. FISH & GAME CODE § 2050 (West 2018).

⁶¹ *See* CAL. PUB. RES. CODE §§ 21000-21189.57 (West 2018).

Current clean-energy sources such as wind, solar, or hydroelectric also require creative solutions for issues related to generation, space, and battery storage. Alongside innovative technology, statewide preservation and protection of California's natural resources, such as forests and vegetation that sequester carbon, can help achieve carbon-neutral emissions. No environmental consideration should be carelessly dismissed to achieve the clean-energy goals of Bill 100. Rather, resources such as forests should be recognized for the carbon sequestration assets they are. Simply put, human civilization cannot be sustained by recklessly sacrificing species and habitats to provide electricity.

5. COMPREHENSIVE ACCOUNTABILITY

Comprehensive Accountability extends obligations for delivery and oversight beyond traditionally governmental roles to include non-state actors, which is especially important in the context of public utilities and essential services maintained by IOUs, POU's, and a variety of local providers. By engaging with actors across scales and sectors in meaningful ways, "power and responsibility can be shared safely between stakeholders at all 'levels,' building accountability and encouraging willingness to fulfill obligations."⁶²

Bill 100 is a part of the California Legislature's contribution to meaningful progress towards reducing GHG emissions, but this cannot be achieved in a vacuum. State agencies, nonprofits, private companies, and local communities must collaborate to mitigate GHG emissions by transitioning the electricity sector to clean energy in ways that increase California's capacity to adapt to climate change impacts. However, this transition requires governmental bodies to consider the costs for and capacities of electricity providers; making this shift must not result in unreasonable increases to consumer rates, grid-generation instability, mismanagement of natural resources, or less aggressive reductions of GHG emissions.

⁶² CRAWFORD, *supra* note 48 at 59.

In this way, each interconnected pillar of a rights-based framework works to ensure that all Californians take an active part in and benefit from the shift to clean energy. All actors must contribute appropriately to the creation, cost, and implementation of innovative policies and programs to achieve the Bill's goals. Decision makers applying this framework could root Bill 100's implementation in sound principles and identify critical opportunities to engage with available tools and relevant actors.

V. APPLYING THE RIGHTS-BASED FRAMEWORK TO THE CLEAN ENERGY BILL

Bill 100 was crafted purposefully to allow room for nuanced, localized approaches to implementing the overall statewide requirements.⁶³ This is particularly well suited to the framework because it encourages the level of collaboration and community ownership required to achieve the state's energy goals. Applied to Bill 100, the framework helps to identify opportunities for new policies and programs that meet statutory requirements equitably; by focusing on building communities' capacity to adapt to climate change impacts while reducing greenhouse gas emissions. The framework also considers relevant tools already in place that align with these principles and would contribute to California's transition to clean energy. As with the legislation, many existing organizations and legal mechanisms have been paving the way for the transition to one hundred percent carbon free energy for decades. Built in or not, Bill 100 ultimately offers opportunities to create subsequent regulations and policies that ensure equity, inclusion, and protections for human and environmental rights during this statewide shift to clean energy.

⁶³ S.B. 100, 2017-2018, Reg. Sess. (Cal. 2018) (adding CAL. PUB. UTIL. CODE § 454.53) (The commissions and board *shall* use programs authorized under existing statutes to achieve the goals of Bill 100 without increasing carbon emission elsewhere in the western grid or allowing resource shuffling).

A. JUST PARTICIPATION

Bill 100 aims to ensure that all Californians, particularly those in disadvantaged communities, experience improvements in air quality and public health without significantly affecting electricity rates.⁶⁴ The value of this emphasis is especially significant in light of historical patterns of disparate treatment in land practices and industrial activities based on socio-economic factors.⁶⁵ Disadvantaged communities are often identified based on geographic, socioeconomic, public health, and environmental-hazard criteria.⁶⁶ As identified in Bill 100, these criteria can include areas disproportionately affected by pollution or environmental hazards, as well as areas with concentrations of people belonging to traditionally marginalized groups.⁶⁷

The importance of Bill 100's focus on marginalized communities cannot be understated for obvious reasons related to wider equity issues, such as environmental racism and access to justice to name a couple. However, identifying disadvantaged communities also serves as a starting point for identifying communities that are traditionally excluded from decision-making

⁶⁴ CAL. PUB. UTIL. CODE § 399.11(e)(1) (West 2018). (“Supplying electricity to California end-use customers that is generated by eligible renewable energy resources is necessary to improve California’s air quality and public health, particularly in disadvantaged communities identified pursuant to Section 39711 of the Health and Safety Code, and the commission shall ensure rates are just and reasonable, and are not significantly affected by the procurement requirements of this article.”)

⁶⁵ CLIFFORD RECHTSCHAFFEN, EILEEN GAUNA, & CATHERINE A. O'NEILL, ENVIRONMENTAL JUSTICE: LAW, POLICY, & REGULATION 3 (2009) (Environmental Justice recognizes that communities of color and low-income areas have systematically received “disproportionately greater environmental risk while white communities systematically receive better environmental protection.” It also emphasizes the exclusion of these communities from decision-making processes both intentionally through structural impediments and as a result of lack of knowledge or resources).

⁶⁶ *Id.*

⁶⁷ CAL. HEALTH & SAFETY CODE § 39711(a) (West 2018). (The specific criteria include areas with concentrations of low income, high unemployment, low levels of homeownership, high rent burden, sensitive populations, or low levels of educational attainment.)

processes and thus those that should be targeted by outreach and education efforts made by the implementing agency. When identifying these areas, decision makers should take care to actually understand who lives in them.

Here is an opportunity where environmental justice organizations are well-positioned to contribute. Environmental justice focuses on systematic, equitable distribution of protections for marginalized communities.⁶⁸ Procedural justice increases communities' agency in decision-making processes, while social justice principles connect these efforts to broader social-equity goals.⁶⁹ There are a number of environmental justice organizations and resources already in place and in touch with the communities that Bill 100 aims to identify.⁷⁰ Tapping into these networks affords the CPUC streamlined access to disadvantaged areas, allowing for a nuanced approach to inclusion that accounts for structural power imbalances created by race, gender, sexual identity, or age. The CPUC should ensure they both prioritize marginalized communities and also recognize the vulnerable groups within these spaces because energy consumers representative of populations across the state must be involved in the conversations about shifting to carbon-neutral emissions in the coming decades. Ideally, aligning the planning and implementation stages with environmental justice efforts already underway will naturally create spaces to take the next step in addressing institutional and cultural power imbalances.

But, as the next section discusses, Bill 100 does not present an outright challenge to the power dynamics and institutional systems that ultimately control participatory exchanges. Being informed of decisions after they have been made is not the same as being involved in making them. Real questions still remain about

⁶⁸ Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 11, 1994).

⁶⁹ Robert R. Kuehn, *A Taxonomy of Environmental Justice*, 30 ENVTL. L. REP. 10,681 (2000), <https://ir.lib.uwo.ca/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1137&context=aprci>.

⁷⁰ For example, the California Environmental Justice Alliance consists of members and partners dedicated to an energy system in California that is “just, democratic, equitable, and composed of genuinely clean energy.” <https://caleja.org/what-we-do/energyequity/>.

whether the type of participatory opportunities available to communities will result in transformative empowerment, or whether they are hollow systems perpetuating the status quo.

B. TRANSFORMATIVE EMPOWERMENT

As discussed, IOUs are subject to the RPS program establishing procurement requirements for retail sellers. As set forth by Bill 100, three year compliance periods give the CPUC regulatory authority over IOU's energy procurement and prudent management of portfolio risks.⁷¹ Similarly, POUs must develop renewable energy resource procurement plans for unmet long-term generation resource needs to meet compliance periods enforced by the CEC.⁷² These plans require that, for each compliance period, retailers purchase a specific percentage of total kilowatt hours sold to customers from renewable energy resources or credits.⁷³ Locally owned utility companies retain discretion over the resources procured – both from renewable energy sources and additional generation – as well as the reasonable costs incurred by the utility from owning renewable energy resources.⁷⁴

The same way IOUs file ratemaking applications and advice letters to ensure compliance with relevant laws and regulations – which build in opportunities for public comments – POUs must use notice and comment periods to adopt or substantively amend a program enforcing Bill 100.⁷⁵ For example, a public utility company must disclose divesting or canceling commitments that would result in significant economic harm to its retail customers in its

⁷¹ Cal. S.B. 100 (amending CAL. PUB. UTIL. CODE § 399.15).

⁷² Cal. S.B. 100 (amending CAL. PUB. UTIL. CODE § 399.30(a)(1)).

⁷³ *Id.*

⁷⁴ Cal. S.B. 100 (amending CAL. PUB. UTIL. CODE § 399.30(m)(1), (2)).

⁷⁵ Cal. S.B. 100 (amending CAL. PUB. UTIL. CODE § 399.30(e)) (Not less than 30 days' notice will be given for any meeting adopting a plan and not less than 10 days' notice will be given for any meetings substantively changing a program).

procurement plan.⁷⁶ This requirement creates an opportunity for communities and interested parties to be heard by decision makers and establishes a record for potential future litigation.

Communities need accessible information about the processes that serve as the primary vehicles for Transformative Empowerment in Bill 100. In addition to notice and comment periods where written comments officially filed with the CPUC's Docket Office are accepted, some proceedings afford opportunities for community members to attend a Public Participation Hearing ("PPH") and speak to the Presiding Officer(s) making the decision.⁷⁷ Despite these participatory opportunities, there still remain real concerns about the accessibility of a process that requires responses about complex legal and technical issues. Taking time off work to speak in front of a crowd and listening to presentations during a public meeting are just some potential impediments, especially for those in marginalized and financially strained communities. Professionals in the environmental justice field could facilitate participation by these marginalized communities while current systems present such barriers. The goal is to both change processes and empower people; environmental justice organizations already do the latter. Decision makers would benefit from continued collaborations with these leaders while working to increase access to administrative judicial processes.

Additionally, community outreach, working groups, and technical workshops often used in CPUC rulemaking proceedings can be opportunities to combine the technical, scientific information that utilities typically use with traditional knowledge and practices for energy consumption that communities live daily. IOUs and various other local providers should take these opportunities to commit resources and data to developing procurement plans and consumption strategies that align with locally specific experiences

⁷⁶ CAL. PUB. UTIL. CODE § 399.30(1)(1)(B) (West 2018) (Such action can only be taken when the economic harm "cannot be substantially mitigated through resale, transfer to another entity, early closure of the facility, or other feasible measures").

⁷⁷ See "What to Expect at Public Participation Hearings." <https://www.cpuc.ca.gov/General.aspx?id=4519> (last visited, Sept. 2020).

of California customers. There is also strength in burgeoning coalitions like RE100, where over 150 companies across the globe have publicly committed to incrementally increasing production or purchasing of renewable electricity to 100 percent by 2050.⁷⁸ The effectiveness of this transition hinges on cross-sector contributions to fill in the details of implementing Bill 100. This is not the job of government alone.

As much as this shift to clean energy is about curbing greenhouse gas emissions at the source – i.e. the grid – it must be supported by adjustments in people's lifestyles and energy consumption habits. Across the board, the hope is that Bill 100 will facilitate energy conservation by educating people and evolving their everyday habits with respect to electricity use and transportation. Ideally, it will also compel decisions like selecting cleaner transportation options and purchasing energy-efficient appliances. That said, the monetary realities must never be forgotten; this transition will not evenly impact people across economic classes. Facilitating community participation in this transition is one way decision makers can ensure they never lose sight of that reality. Ultimately, affected consumers must be able to afford the rates associated with renewable energy sources.

C. SUSTAINABLE DEVELOPMENT

There is a need to alter major sectors of our civilization in ways that significantly and immediately reduce greenhouse gas emissions related to energy use. That costs money. Still, of monumental importance is the CPUC's obligation to mitigate unreasonable impacts to rates for utility customers resulting from the transition to clean energy.⁷⁹ This is especially influential because

⁷⁸ Companies that commit will electrify 100 percent of their global operations from renewable energy sources produced at their own facilities or purchased from generators and suppliers in the market. Renewable energy sources include biomass, geothermal, solar, water, and wind. <http://there100.org/going-100>; *See also FAQs*, RE100, <http://there100.org/faqs> (last visited Feb. 5, 2019).

⁷⁹ Cal. S.B. 100 (amending CAL. PUB. UTIL. CODE § 454.53(2)).

households must also be able to afford the user-end equipment necessary to adapt to the continuing shifts in intersecting sectors such as building construction and vehicle manufacturing.

In addition to regulating rate increases, the CPUC has authority to direct funds for various state programs towards supporting communities.⁸⁰ With legislative support, the CPUC approved over \$50 million for clean energy electrification pilot programs in eleven low-income communities in the San Joaquin Valley.⁸¹ In over 1,600 households, advanced electric appliances will replace fossil-fuel fired appliances, improving household energy efficiency and reducing indoor air pollution.⁸² Improvements that facilitate the communities' transition to clean energy are especially important in a region suffering from record rates of air pollution and poverty.⁸³

However, economics are not the end all be all. These agencies must take environmental costs and benefits of renewable energy and zero-carbon resources "into full consideration."⁸⁴ We cannot create the infrastructure and systems necessary to sustain one hundred percent carbon free energy by disregarding responsible land management and environmental protections just like we cannot upgrade buildings, appliances, or transportation without making sure everyone can afford the new versions.

Climate-smart agriculture offers a way to reduce greenhouse gases while increasing productivity and building resilience to climate change. This approach involves reducing specific pollutants like methane from dairy and livestock farms, as well as waste from

⁸⁰ For example, the California Alternate Rates for Energy program gives enrolled low-income customers a 30-35% discount on their electric bill and 20% discount on their natural gas bill. S.B. 327 (2012); *See also* <https://www.cpuc.ca.gov/lowincomerates/>.

⁸¹ Rachel Golden, *California Invests \$50 million in Healthy All-Electric Home for San Joaquin Valley Communities*, SIERRA CLUB, Dec. 13, 2018, <https://www.sierraclub.org/articles/2018/12/california-invests-50-million-healthy-all-electric-homes-for-san-joaquin-valley>. (Under A.B. 2672, Disadvantaged communities' access to energy in the San Joaquin Valley).

⁸² *Id.*

⁸³ AMERICAN LUNG ASSOCIATION, STATE OF THE AIR 2018 (2018), https://www.lung.org/local-content/california/documents/state-of-the-air/2018/sota-2018_ca__most-polluted.pdf.

⁸⁴ *Id.*

landfills.⁸⁵ In these ways, funding community-driven climate resiliency projects integrates mitigation strategies. These programs target water and energy efficiency and continue the Energy Corps Program, which trains young professionals on energy and water conservation.⁸⁶ These projects also expand urban parks and provide grants for planting trees in urban areas.⁸⁷

Another intersection of community resilience building and GHG emissions reductions is California’s Cap and Trade Expenditure Plan which provides funding to community-based organizations participating in reducing pollutants and greenhouse gas emissions in at-risk communities that have been heavily impacted by air toxins and criteria pollutants.⁸⁸ The plan also funds low-carbon transportation for trucks and buses to facilitate zero-emission vehicle use.⁸⁹ Although certainly complex, these are the types of collaborative and comprehensive approaches for transitioning to carbon free energy that we must aim for.

D. ENVIRONMENTAL PROTECTION

At its core, Bill 100 is a mitigation tactic to reduce and eliminate greenhouse gas emissions. As such, it inherently protects the environment. Drastically curbing anthropogenically induced global warming is essential to give the environment a chance to heal. Understanding this broader goal, actors maintain responsibility to “take steps to ensure that a transition to a zero-carbon electric system for the State of California does not cause or contribute to GHG emissions increases elsewhere in the western grid.”⁹⁰ In fact, the CPUC cannot approve waivers for “unanticipated curtailment of

⁸⁵ S.B. 605, 2017-2018, Reg. Sess. (Cal. 2017); CLIMATE CHANGE, *supra* note 26, at 12.

⁸⁶ S.B. 5, 2017-2018, Reg. Sess. (Cal. 2017).

⁸⁷ *Id.*

⁸⁸ 2019 Annual Report to the Legislature, <http://www.caclimateinvestments.ca.gov/annual-report>.

⁸⁹ Assemb. B. 617, 2017-2018, Reg. Sess. (Cal. 2017); Assemb. B. 398, 2017-2018, Reg. Sess. (Cal. 2017); CLIMATE CHANGE, *supra* note 26, at 9.

⁹⁰ CAL. PUB. UTIL. CODE § 454.53(a) (West 2018).

eligible renewable energy resources” if the result is an increase in greenhouse gas emissions.⁹¹ And even utility companies with unavoidable long-term contracts and ownership agreements with coal-fired powerplants located outside the state must continue to meet procurement targets from eligible renewable energy resources.⁹² These restrictions balance economic considerations with the need for immediate action to curb GHG emissions.

Bill 100 commits the state’s land-use planning activities to implementation efforts but offers no further guidance to define those activities. This open invitation, especially in light of the legislative intent to implement Bill 100 in concert with related statutory programs, encourages the application of appropriate state and federal laws to this transition. In addition to state laws such as CEQA, CCA, and California Endangered Species Act, federal statutes such as the Clean Water Act, the Clean Air Act, the Endangered Species Act, and the National Environmental Protection Act exist to regulate harmful human activities.⁹³ Though they do not target climate change specifically, these regulatory and enforcement schemes are crucial for environmental and biodiversity protection during California’s shift to clean energy. To the extent feasible, land use, water rights, species and habitat protection, and natural resource management are all inherent priorities that should be affirmatively declared as such in subsequent regulations.

Bill 100 implementation efforts should also link with current commitments to reducing GHG emissions, like the Forest Carbon

⁹¹ CAL. PUB. UTIL. CODE § 399.15(b)(5)(C) (West 2018).

⁹² S.B. 100, 2017-2018, Reg. Sess. (Cal. 2018) (amending CAL. PUB. UTIL. CODE § 399.30(2)). Agreements are only considered “unavoidable” if they were entered into before June 1, 2010, and the time and amount of energy has not been subsequently modified. Cal. S.B. 100 (amending CAL. PUB. UTIL. CODE § 399.30(i)(1)(A)).

⁹³ See CAL. PUB. RES. CODE §§ 21000-2189.57 (West 2018) (California Environmental Quality Act); CAL. PUB. RES. CODE §30000 (West 2018) (California Coastal Act); CAL. FISH & GAME CODE § 2050 (West 2018) (California Endangered Species Act); 33 U.S.C. §§ 1251-1388 (2018) (Clean Water Act); 42 U.S.C. §§ 7401-7431 (2018) (Clean Air Act); 16 U.S.C.A. § 1536 (2018) (Endangered Species Act); 42 U.S.C. §§ 4331-4370m (2018) (National Environmental Protection Act).

Plan.⁹⁴ This plan improves forest management and restoration, provides regulatory relief for permitting processes, reduces barriers for prescribed fires, boosts education and outreach to landowners, and supports wood products innovation “to achieve resilient forests that can withstand and adapt to wildfire, drought and a changing climate, safeguard the state’s water supply, and ensure the state’s forests operate as a carbon sink.”⁹⁵ It is critical to protect the state’s natural resources, and in this context, especially those that help reduce GHG emissions.

E. COMPREHENSIVE ACCOUNTABILITY

When it comes to meeting the requirements set forth in Bill 100, state agencies responsible for setting and enforcing expectations and the relevant utility providers and companies, along with residents of California, are responsible for meeting those expectations. But the expectation for publicly owned electric utility companies to switch to renewable energy sources is accompanied by guidelines to do so.⁹⁶ Sellers must consider “the role of existing renewable generation, grid operational efficiencies, and energy storage” to ensure reliability, meet energy demands, and lower costs to ratepayers.⁹⁷ Public utility companies should engage meaningfully with community groups during notice and comment processes for procurement plans. Facilitating opportunities for contractual work with minority owned businesses or technical workshops in local communities as part of an ongoing process to encourage customer participation in the shift to carbon free energy.

While utilities exercise much of the control when they develop their procurement plans, the state agencies are ultimately responsible for “maintaining and protecting the safety, reliable

⁹⁴ Cal. Exec. Order No. B-52-18 (May 10, 2018).

⁹⁵ *Id.*

⁹⁶ Cal. S.B. 100 (amending CAL. PUB. UTIL. CODE § 399.15).

⁹⁷ Cal. S.B. 100 (amending CAL. PUB. UTIL. CODE § 399.30); CAL. PUB. UTIL. CODE § 454.53(b)(1) (West 2018).

operation, and balancing of the electric system.”⁹⁸ In addition to maintaining the practical operations of the energy system in California, the CPUC is statutorily obligated to “ensure rates are just and reasonable.”⁹⁹ Safety, affordability, and reliability of essential services for all Californians is foundational to all of the CPUC’s obligations for reducing GHG emissions.

That said, the CPUC has the power to set more stringent requirements for procurement from these eligible energy resources during compliance periods.¹⁰⁰ The CPUC can also waive compliance if there are “conditions beyond the control of the retail seller.”¹⁰¹ Considerations include whether portfolio risks such as transmission capacity and foreseeable delays were prudently managed.¹⁰² To increase transparency and accountability, a record from these procurement plan processes should be included when the CPUC considers waiver applications.

Finally, as a further deterrent, the CPUC can schedule penalty payments for noncompliance.¹⁰³ Retailers are only required to meet procurement requirements by the end of each compliance period; they are not required to demonstrate annual specific quantities.¹⁰⁴ However, retailers are subject to penalties for noncompliance and payment for these “shall not be collected in rates.”¹⁰⁵ Hopefully this prohibition gives teeth to enforcement mechanisms and translates into deterrence against noncompliance.

The CEC verifies that facilities’ electric generation is eligible to meet the IRP requirements.¹⁰⁶ The CEC also oversees the procurement of renewable energy by POUs that rely on large

⁹⁸ CAL. PUB. UTIL. CODE § 454.53(b)(1) (West 2018).

⁹⁹ CAL. PUB. UTIL. CODE § 451.

¹⁰⁰ Cal. S.B. 100 (amending CAL. PUB. UTIL. CODE § 399.15).

¹⁰¹ CAL. PUB. UTIL. CODE § 399.15(b)(3) (West 2018) (These include inadequate transmission capacity for sufficient electricity from eligible sources, permitting that delays projects, or increases due to transportation electrification prevent a retailer from complying).

¹⁰² *Id.* at (b)(5)(A)(ii) & (iii).

¹⁰³ Cal. S.B. 100 (amending CAL. PUB. UTIL. CODE § 399.15).

¹⁰⁴ Cal. S.B. 100 (amending CAL. PUB. UTIL. CODE § 399.15).

¹⁰⁵ CAL. PUB. UTIL. CODE § 399.15(b)(8).

¹⁰⁶ Cal. S.B. 100 (amending CAL. PUB. UTIL. CODE § 399.30).

hydroelectric generation.¹⁰⁷ This is incredibly important as large hydroelectric generation continues to be debated as a renewable energy resource and new technologies emerge that alter this energy option. As for enforcement, the CEC is authorized to adopt regulations enforcing Bill 100 against POUs that fail to comply with it.¹⁰⁸ They can issue a notice of violation and correction, or refer the utility to CARB.¹⁰⁹ CARB has the discretion to impose monetary penalties that will ultimately be spent to reduce air pollution or GHG emissions in the geographic area where the utility in violation is located.¹¹⁰

Naturally, all of the agencies will draw on existing practice developed by collaborative stakeholder processes over years to implement monitoring and reporting mechanisms for GHG emission tracking. This is also an opportunity for innovative suggestions to improve this critical piece of California's transition to carbon free energy. For example, a set of rules governing the 2015 Paris Agreement was outlined during the United Nations Climate Change Conference in Poland in December 2018.¹¹¹ The new rules include a section on transparency that could likely control how states track and report emissions and progress toward reductions, particularly with regard to timing and technical guidelines for submitting reports.¹¹² When it comes to tracking emissions, which requires collaboration across scales and between agencies, centrally located and user friendly data is more critical than ever.

¹⁰⁷ *Id.*

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ *Id.* (the funds are deposited in the Air Pollution Control Fund).

¹¹¹ Justin Worland, *Why We Don't Need a Moonshot to Solve Climate Change*, Time, (Dec. 9, 2018) <http://time.com/5473167/climate-change-katowice-poland-conference/>.

¹¹² Rebecca Hersher, *Nations Agree On Rules To Put Paris Climate Agreement Into Action*, NPR, Dec. 15, 2018, 8:24 PM ET, <https://www.npr.org/2018/12/15/677109487/nations-agree-on-rules-to-put-paris-climate-agreement-into-action>. (The U.N. will host a follow up meeting in September 2019 to address outstanding questions about the speed at which countries will commit to transitioning to clean energy sources and whether developed countries will share the economic burden to aid developing countries in making such significant shifts.)

Hopefully, all parties involved use the flexibility afforded by the discretionary authority in Bill 100 to work collaboratively and productively toward meeting the Bill's goals. Perhaps the state agencies will align noncompliance penalty standards and enforcement of them as much as is practical. It will be interesting to see how effective of a stick the monetary consequences are for incentivizing retailers to begin this transition and, as milestone years approach, deterring noncompliance with its requirements. It will also be interesting to see if any litigation results from Bill 100's adopted plans, granted waivers, or issued penalties.

VI. CONCLUSION

The 100 Percent Clean Energy Act of 2018 stands as an extant tool to move California into a sustainable future by reducing and ultimately eliminating California's greenhouse gas emissions. The energy sector transition mandated through Bill 100 presents a crucial chance to create policies that strengthen environmental protections while enhancing people's ability to adapt to the increasingly severe impacts of climate change. Successful implementation requires designing solutions that draw from mitigation and adaptation approaches to achieve sustainable development initiatives transitioning California's energy system to carbon free resources.

As the world's fifth largest economy,¹¹³ and only the second state in the U. S., after Hawaii,¹¹⁴ to commit to carbon-free energy by 2045, this is an extremely impactful and influential step for California to take at a time when the federal government is moving in the opposite direction. How the state implements Bill 100 will be heavily scrutinized, and perhaps, depending upon its success, widely emulated.

¹¹³ Jonathan J. Cooper, *California now world's 5th largest economy, surpassing UK*, USA TODAY (May 5, 2018, 11:05 a.m. ET), <https://www.usatoday.com/story/news/nation-now/2018/05/05/california-now-worlds-5th-largest-economy-beating-out-uk/583508002/>.

¹¹⁴ H.B. 623, 28th Leg. (Haw. 2015).

Now is not the time for California to shy away or fall short. It would be a missed opportunity for the state to do anything less than articulate comprehensive policies informed from an intersectional perspective. By using this rights-based framework to guide the implementation of Bill 100, California is poised to join decision makers and communities in a collaborative union to empower change from the ground up – at a time when drastic change is our only option.