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A Model for Community-Led Energy Planning and Climate Justice: Renewable Energy Development on the Hawaiian Island of Molokai

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A MODEL FOR COMMUNITY-LED ENERGY PLANNING AND CLIMATE JUSTICE: RENEWABLE ENERGY DEVELOPMENT ON THE HAWAIIAN ISLAND OF MOLOKAI

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ABSTRACT

This Essay studies the ongoing clean energy transition on the Hawaiian island of Molokai. Efforts to reduce the island's reliance on imported diesel fuel and exposure to volatile petroleum prices requires improving access to energy resources and mitigating climate change impacts. Rather than relying on or retrofitting inequitable legacy models, Molokai has opted to pursue low-cost, clean, and affordable distributed local energy. This essay posits that the contemporary model of the Molokai Community Energy Resilience Action Plan (CERAP), through the use of citizen involvement to generate community empowerment and integration of the work of the Hawaii Natural Energy Institute (HNEI) and the State of Hawaii, can be used as a model for community-driven energy planning on the United States mainland. Molokai's clean energy transition is an important example of how to mitigate climate impacts through incorporating renewable energy projects into existing energy infrastructure while responding to energy justice concerns.

* Professor of Law, University of Richmond School of Law. Many thanks to Richard Wallsgrove for his keen insights about Hawaii energy policy and energy deployment on Molokai. This Article also owes a great debt to the pioneering efforts of Professor Shalanda Baker, who catalyzed the efforts of Molokai's residents to think about alternatives to utility-scale electricity on the island. SHALANDA H. BAKER, REVOLUTIONARY POWER: AN ACTIVIST'S GUIDE TO THE ENERGY TRANSITION 65–69 (2021). *Note*: The Hawaiian language uses two diacritical marks, which have been omitted here for clarity except for their use in document titles.

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INTRODUCTION

Throughout the United States, laws and policies promote the rapid decarbonization of energy systems to mitigate climate change impacts by increasing deployment of clean and renewable energy.[1] This Essay studies the ongoing clean energy transition on the Hawaiian island of Molokai. Molokai, Hawaii's fifth largest island, is only 38 miles long and 10 miles across at its widest point, with about 7,000 residents.[2] Low-cost, clean, and affordable distributed local energy would reduce Molokai's reliance on imported diesel fuel and its exposure to volatile petroleum prices, improve access to energy resources, and mitigate the impacts of climate change.

Molokai's clean energy transition is an important example of how to mitigate climate impacts through incorporating renewable energy projects into existing energy infrastructure while responding to energy justice considerations. Scholars have demonstrated the urgent need to pursue energy justice while transforming energy systems.[3] This includes remedying procedural inequities and historical injustices in the distribution of energy benefits and burdens and creating equal access to new clean energy resources. A community-driven process for planning for Molokai's energy future, with extensive citizen involvement and technical support from the Hawaii Natural Energy Institute ("HNEI"), led to the creation of the Molokai Community Energy Resilience Action Plan ("CERAP"), which addresses these concerns. This Essay concludes that the CERAP can serve as a model for community-driven energy planning on the mainland, although differences between Hawaii and the mainland counsel caution about directly applying all lessons learned.

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1. *See generally* Joel B. Eisen, Felix Mormann, & Heather Payne, *Virtual Energy*, 2024 U. ILL. L. REV. 107.

2. *Molokai*: *Hawaiian by Nature*, HAW. TOURISM AUTH., https://www.gohawaii.com/islands/molokai [https://perma.cc/SYD8-7CYM] (last visited Aug. 16, 2023); *Eight Major Islands*, HAW. VISITORS & CONVENTIONS BUREAU, https://www.hvcb.org/school-report/eight-major-islands/ (last visited Dec. 14, 2023).

3. *See, e.g.*, Alexandra B. Klass & Gabriel Chan, *Regulating for Energy Justice*, 97 N.Y.U. L. REV. 1426 (2022); Richard J. Wallsgrove, *Restorative Energy Justice*, 40 UCLA J. ENV'T. L. & POL'Y 133 (2022); Shelley Welton & Joel B. Eisen, *Clean Energy Justice: Charting an Emerging Agenda*, 43 HARV. ENV'T L. REV. 307 (2019); Shalanda H. Baker, *Anti-Resilience: A Roadmap for Transformational Justice Within the Energy System*, 54 HARV. C.R.-C.L. L. REV. 1 (2019).

I. MOLOKAI'S ROLE IN HAWAII'S CLEAN ENERGY TRANSITION

A. Hawaii's Move to Clean Energy

Hawaii is a leader among the states in transforming its electric grid from relying on fossil-fuel fired electricity generation to clean energy sources.[4] The 2008 launch of the Hawaii Clean Energy Initiative (HCEI) created a groundbreaking agreement between Hawaii and the U.S. Department of Energy to collaborate on reducing the state's dependence on imported fossil fuels.[5] Since then, the state has pursued a two-fold pathway for energy transition from fossil fuels, which consists of a policy and regulatory framework to drive investment and technological innovation, and a stakeholder alliance to foster common understanding and widespread support for the clean energy agenda. Hawaii's energy laws include state mandates supporting the deployment of clean, renewable energy, and comprehensive statewide policies to reduce greenhouse gas emissions that contribute to climate change. In 2015, Hawaii enacted a landmark law that made it the first state to set a 100% renewable portfolio standard[6] for the electricity sector, requiring the state's utilities to generate 100% of their electricity from renewable energy sources by 2045.[7] The law sets forth five intermediate targets, including 40% by 2030 and 70% by 2040.[8] In 2018, a follow-up law aims to make the entire state effectively net negative for carbon emissions by 2045.[9]

Hawaii is making substantial progress toward meeting the renewable electricity targets. In 2022, the state generated 33.2% of its electricity from

4. John Fialka, *As Hawaii Aims for 100% Renewable Energy, Other States Watching Closely*, E&E NEWS (Apr. 27, 2018), https://www.scientificamerican.com/article/as-hawaii-aims-for-100-renewable-energy-other-states-watching-closely/ [https://perma.cc.CA9L-YVK9].

5. *Hawaii's Clean Energy Vision*, HAW. STATE ENERGY OFF., https://energy.hawaii.gov/what-we-do/clean-energy-vision/#:~:text=Clean%20Energy%20Initiative&text=The%20initiative%20was%20launched%20in,dependence%20on%20imported%20fossil%20fuels [https://perma.cc/ZY7U-NK7K] (last visited Aug. 16, 2023).

6. HAW. REV. STAT. § 269-92 (2023); Will Caron, *Hawaii to adopt 100 percent renewable portfolio standard*, HAW. INDEPENDENT (May 5, 2015), https://www.thehawaiiindependent.com/story/hawaii-to-adopt-100-percent-renewable-portfolio-standard

7. HAW. REV. STAT. § 269-92 (2023).

8. *Id.*

9. HAW. REV. STAT. § 225P-5 (2023).

renewable sources.[10] State laws promoting distributed generation—small-scale sources largely sited at customers' premises,[11] such as rooftop solar systems—have had considerable success,[12] although less so since 2015 when Hawaii's rooftop solar incentives were reduced.[13] Utility-scale solar plants (those large enough to meet the demand of numerous households) have been built on several islands.[14] As a result, in 2022, solar power provided about 17% of Hawaii's total electricity. [15] This share will likely increase, as there are more projects forthcoming.[16] With the closure of the state's last coal-fired plant in 2022 under a state law mandate to do so, fossil fuel power plants are being completely phased out.[17] Two other plants are slated to retire in 2024.[18]

The investor-owned utility Hawaiian Electric is an important stakeholder in Hawaii's electric grid.[19] Hawaiian Electric owns the sole utilities on Molokai, Oahu, and all other islands except Kauai, which is

10. This figure is derived from calculations performed by the authors, using data from the most recent RPS reports by the state's two utilities. *See infra* notes 20-22 and accompanying text (describing the utilities and their service territories). Following a 2022 amendment to state law, compliance with the Hawaii renewable portfolio standard is based on renewable electricity generation for each utility as a percentage of its net electricity generation. HAW. REV. STAT. § 269-92(a)(4)-(6) (2023). The relevant 2022 figure for Hawaiian Electric was 31.8%. HAW. ELEC., 2022 RENEWABLE PORTFOLIO STANDARD STATUS REPORT 2 (2022). The figure for the Kauai Island Utility Cooperative was 60.2%. KAUA'I ISLAND UTIL. COOP., RENEWABLE PORTFOLIO STANDARDS (RPS) STATUS REPORT 1 (2022). As a percentage of total net electricity generation for both utilities combined, renewable electricity generation was therefore 33.2% of the state's total. E-mail from Mark B. Glick to Joel Eisen (Dec. 19, 2023) (table detailing the relevant calculations) (on file with authors).

11. Eisen, Mormann, & Payne, *supra* note 1 (manuscript at 9) (on file with authors).

12. Tyler McNish, *Reform Incentives, Transform the Grid: Making Good on Hawai'i's Renewable Energy Ambitions*, 45 ECOLOGY L. Q. 583, 595 (2019) (dramatic growth from 2007–2017).

13. Pub. Utils. Comm'n, 325 P.U.R. 4th 339 (Haw. P.U.C. 2015). The subsequent decrease in rooftop solar installations of about 75% has recovered somewhat, but installations are still much lower than at the peak. *Hawaii Solar*, SOLAR ENERGY INDUS. ASS'N, https://www.seia.org/state-solar-policy/hawaii-solar [https://perma.cc/K2LR-UUKC] (last visited Aug. 16, 2023).

14. *Hawai'I Statewide Energy Projects Directory*, HAW. STATE ENERGY OFF., https://energy.hawaii.gov/information-center/project-development-center-tools/hawaii-statewide-energy-projects-directory/ [https://perma.cc/XYV7-55DB] (last visited Aug. 16, 2023).

15. *Hawaii State Energy Profile*, *supra* note 10; *Hawaii Solar*, *supra* note 13.

16. *Proposed Energy Projects*, HAW. STATE ENERGY OFF., https://energy.hawaii.gov/information-center/project-development-center-tools/proposed-energy-projects/ [https://perma.cc/7SB3-ED2J] (last visited Aug. 16, 2023).

17. *Hawaii's Clean Energy Vision*, *supra* note 5; HAW. REV. STAT. § 342B-36 (2023).

18. *Proposed Energy Projects*, *supra* note 16.

19. An investor-owned utility is owned by its shareholders. Joel B. Eisen & Heather Payne, *Utilities with Purpose* (forthcoming 2024) (manuscript at 13) (on file with authors).

served by a cooperative.[20] Previously, the Hawaiian Electric utility for Molokai, Maui and Lanai was known as Maui Electric Company, under which name some regulatory filings are still filed.[21] For convenience, this Essay uses "HECO" to refer to all utilities in Hawaiian Electric's service territory. Collectively, HECO delivers 94% of the state's electricity.[22] On each island it serves, HECO handles all three functions of generating electricity, transmitting it throughout the island, and distributing it to customers.[23] The state's electricity regulator, the Hawaii Public Utility Commission ("HPUC"), determines HECO's rates and terms of service.[24]

B. Electricity on Molokai: Differences from the Mainland

Hawaii's ability to meet its aggressive clean energy goals is shaped by factors that make it different from mainland states. The first factor is the physical realities of its electric grid. Individual grids on six main islands are not interconnected,[25] so Molokai's grid is isolated from those of other islands. Electricity cannot be transmitted between islands, although proposals for inter-island submarine transmission cables have been contemplated for decades.[26] As a result, Molokai must be energy self-sufficient. By contrast, utilities on the mainland often draw electricity from multi-state networks administered by regional grid operators.[27]

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20. In a cooperative utility, consumer members are the owners. Alexandra B. Klass & Gabriel Chan, *Cooperative Clean Energy*, 100 N.C. L. REV. 1, 10–11 (2021); *see* KAUA'I ISLAND UTIL. COOP., https://www.kiuc.coop/ [https://perma.cc/S5AH-5WJ3] (last visited Aug. 11, 2023).

21. HAW. ELEC., *Our History and Timeline*, https://www.hawaiianelectric.com/about-us/our-history (last visited Dec. 14, 2023).

22. *Hawaii Electricity Profile 2021*, U.S. ENERGY INFO. ADMIN. tbl. 3, https://www.eia.gov/electricity/state/Hawaii/ [https://perma.cc/6LMN-8BLL] (last visited Aug. 16, 2023)

23. *Electric Utilities*, HAW. PUB. UTIL. COMM'N, https://puc.hawaii.gov/energy/ [https://perma.cc/JQB8-6AS3] (last visited Aug. 16, 2023).

24. HAW. REV. STAT. § 269-6(a) (2023); *Electric,* HAW. PUB. UTIL. COMM'N, https://hpuc.my.site.com/cdms/s/regulated-entities/electric [https://perma.cc/FQ9A-A5XB] (last visited Aug. 16, 2023).

25. McNish, *supra* note 12, at 589–90.

26. Baker, *supra* note 3, at 68 (noting discussions in 2016); *Hawaii Deep Water Cable Program*, HAW. GROUNDWATER & GEOTHERMAL RES. CTR., https://www.higp.hawaii.edu/hggrc/projects/geothermal-digital-collection/geothermal-collections/geothermal-topic-guides/hawaii-deep-water-cable-program/ [https://perma.cc/QS99-QE4M] (last visited Aug. 16, 2023).

27. *RTOs and ISOs*, FERC, https://www.ferc.gov/power-sales-and-markets/rtos-and-isos [https://perma.cc/9T5T-KJGG] (last visited Aug. 16, 2023).

Molokai's electricity generation portfolio relies heavily on oil. The vast majority of the island's electricity generation (86%) comes from generators powered by diesel fuel at HECO's Pala'au Power Plant, with a total nameplate capacity of 12 megawatts (MW).[28] Rooftop solar systems supply the remaining amount.[29] Fuel for the Pala'au plant is imported to Oahu to be refined, and then transported to Molokai on a barge.[30] High and volatile oil prices have drastically increased electricity prices on Molokai and other Hawaiian islands over the past several decades.[31] The island residents connected to the grid currently pay as much as four times the national average for electricity.[32] While Molokai residents use less electricity on average than mainland consumers, the average island consumer's monthly bill was still nearly $200 in 2023.[33]

High electricity rates have harmed Molokai's residents, 72% of whom are Native Hawaiians,[34] and most of whom live a rural lifestyle. Major employers departed the island years ago, and today about 40% of the population relies on subsistence farming, hunting, and fishing.[35] By one

28. *See Power Facts*, HAW. ELEC., https://www.hawaiianelectric.com/about-us/power-facts [https://perma.cc/LEV4-QLMK] (last visited Aug. 16, 2023) (listing the Pala'au plant); Kahenawai Hirata, *Understanding Molokai's Electric Grid*, THE MOLOKAI DISPATCH (Mar. 2, 2022), https://themolokaidispatch.com/understanding-molokais-electric-grid/#:~:text=According%20to%20Hawaiian%20Electric%20this,solar%20systems%20on%20the%20island [https://perma.cc/Q5V2-VTRQ] (providing the 86% figure).

29. Hirata, *supra* note 27.

30. *Hawaii State Profile and Energy Estimates*, *supra* note 10.

31. McNish, *supra* note 12, at 597 (chart showing increases from 2001-2017).

32. *Average Price of Electricity*, HAW. ELEC., https://www.hawaiianelectric.com/billing-and-payment/rates-and-regulations/average-price-of-electricity [https://perma.cc/9UPZ-CS2G] (last visited Aug. 16, 2023); *US Electricity Profile 2021*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/electricity/state/ [https://perma.cc/W7EZ-9DGW] (last visited Aug. 16, 2023) (national average figures). A number of Molokai residents are not connected to the grid. A 2021 Sustainable Molokai community survey of nearly 100 residents found that about 68% get electricity from HECO, 25% use solar that connects to the HECO distribution grid and about 7% of the population lives "off the grid," finding other solutions like gas generators to produce power. Lauren Teruya, *Molokai Has An Electricity Problem. This Co-Op Wants To Change That*, HONOLULU CIV. BEAT (Sept. 22, 2021), https://www.civilbeat.org/2021/09/molokai-has-an-electricity-problem-this-co-op-wants-to-change-that/ [https://perma.cc/UW97-2L2Y].

33. *Hawaiian Electric: Typical bills lower than a year ago*, THE MAUI NEWS (Aug. 16, 2023), https://www.mauinews.com/news/local-news/2023/05/hawaiian-electric-typical-bills-lower-than-a-year-ago/#:~:text=Typical%20bill%20prices%20this%20year,2022%2C%20%24198.42%20in%20May%202023 [https://perma.cc/6ANQ-98QD] ($195 per month, slight decrease).

34. Malia Akutagawa, Harmonee Wiliams, & Emillia Noordhoeck, MOLOKAI ENERGY ASSESSMENT 6 (2014).

35. *Population Served*, MOLOKAI CMTY. HEALTH CTR., http://molokaichc.org/population-

estimate, 56% of Molokai residents live below 200% of the federal poverty guidelines,[36] and one-third of residents receive federal food assistance.[37] This and the high cost of electricity create an elevated level of energy insecurity.[38] According to one state government source, Hawaiian residents at or below the poverty line spend 15.2% of their monthly income on electricity).[39] As one article put it, residents often must choose "between using power at night or feeding their children."[40] Residents cope by consuming less or using generators or propane-fueled appliances, which create GHG emissions.[41] And like other small islands, Molokai is vulnerable to impacts of climate change, such as rising sea levels,[42] which make transitioning the island from dependence on the diesel generators to other sources of electricity generation all the more urgent.

Another factor that differentiates Molokai from the mainland is that it has limited capacity to support large developmental projects. Although it has abundant resource potential for generating electricity from renewable resources (especially solar[43] and wind[44]), it is a remote island with minimal

served/ [https://perma.cc/G5XQ-TSYG] (last visited Aug. 16, 2023).

36. Baker, *supra* note 3, at 66.

37. Wade Graham, *Why Molokai, With All Its Wonders, Is the Least Developed of Hawai'i's Islands*, SMITHSONIAN (Aug. 30, 2019), https://www.smithsonianmag.com/travel/why-molokai-least-developed-hawaiis-islands-180973019/ [https://perma.cc/2L6J-FF6T].

38. Energy insecurity is the inability to adequately meet energy needs, which can have considerable economic and health impacts. Diana Hernández, *Energy Insecurity And Health: America's Hidden Hardship*, HEALTH AFF. HEALTH POL'Y BRIEF (June 29, 2023),

https://www.healthaffairs.org/do/10.1377/hpb20230518.472953/ [https://perma.cc/SYX9-PEVL]; Baker, *supra* note 3, at 70-71 ("[T]he high cost forces a choice between paying for energy or paying for other items needed in daily life."); Sanya Carley, *Energy Insecurity During the Time of COVID,* KLEINMAN CTR. FOR ENERGY POL'Y (Apr. 2023), https://kleinmanenergy.upenn.edu/wp-content/uploads/2023/04/KCEP-Digest55-Energy-Insecurity-Covid.pdf [https://perma.cc/8CE9-G825].

39. HAW. DEPT. OF BUS., ECON. DEV'T AND TOURISM, ELECTRICITY BURDENS ON HAWAI'I HOUSEHOLDS2 (July 2021), https://files.hawaii.gov/dbedt/economic/data_reports/reports-studies/Electricity_Burdens_on_Hawaii_Households_2021.pdf [https://perma.cc/6ETB-ULUE].

40. Teruya, *supra* note 31.

41. *Id.*

42. *Hawai'i Sea Level Rise Vulnerability and Adaptation Report,* HAW. CLIMATE CHANGE MITIGATION & ADAPTATION COMM'N, https://climateadaptation.hawaii.gov/wp-content/uploads/2018/01/SLR-Report_-January-2018.pdf [https://perma.cc/8T39-WDBE] (potential devastating impacts of sea level rise); Akutagawa, Williams, & Noordhoeck, *supra* note 34, at 32 (impacts on Molokai).

43. *Island of Molokai, Solar Radiation Ranges*, HAW. OFF. OF PLAN. https://files.hawaii.gov/dbedt/op/gis/maps/solrad_molokai.pdf [https://perma.cc/7MRW-F9D3] (last visited Aug. 21, 2023).

44. *Wind Power Density of Maui County at 50 Meters*, AWS TRUEWIND, https://www.hawaiianelectric.com/documents/clean_energy_hawaii/renewable_energy_sources/maui_

roadways, limited infrastructure, and only a small port.[45]. Given these factors and the current unavailability of renewable generation cost data outside of rooftop solar, it is challenging to accurately estimate new large-scale renewable generation resources.

Finally, land ownership on Molokai presents challenges for siting renewable energy projects. Molokai has an area of about 165,800 acres,[46] mostly in Maui County, and includes three districts: West Molokai, Central Molokai, and East Molokai. Its Kalaupapa peninsula is in the administrative control of Kalawao County and consists of 10,779 acres established by a 1980 federal statute as Kalaupapa National Historical Park.[47] Much of the remaining available land for energy projects is either controlled by large absentee landowners whose consent would be required, or small landowners who would have to agree collectively to host projects. Much of West Molokai has a single owner, the Molokai Ranch, owned by the Guoco Group, which is headquartered in Hong Kong.[48] Ownership interests in Central Molokai are dominated by the Department of Hawaiian Home Lands (DHHL)[49] and by Molokai Ranch but also include smaller parcels. A large part of the DHHL land has been subdivided and leased, so leaseholders or "homesteaders," not the Department, are responsible for land use decisions among the leased parcels.[50] East Molokai is largely owned by small landowners, except in the Halawa area, where Puu o Hoku ranch has significant holdings.[51]

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county_PWR_50m_19_july_04.pdf [https://perma.cc/GHP5-N3WQ].

45. *Moloka'I Island – Kaunakakai Small Boat Harbor,* HAW. DLNR DIV. OF BOATING & OCEAN REC., https://dlnr.hawaii.gov/dobor/kaunakakai-small-boat-harbor/ [https://perma.cc/7YEL-VM4P] (last visited Aug. 21, 2023).

46. *Land Use Forecast, Island of Moloka'I,* CNTY. OF MAUI (Oct. 13, 2013), https://www.mauicounty.gov/DocumentCenter/View/96604/LandUseForecast-Molokai_Draft_201310 [https://perma.cc/TY3D-NKD8].

47. *Frequently Asked Questions*, KALAUPAPA NAT'L HIST. PARK, https://www.nps.gov/kala/faqs.htm [https://perma.cc/7TCX-HPX9] (last visited Aug. 21, 2023).

48. Christine Hitt, *Hawaii residents' ongoing war with billionaire owner of Molokai Ranch*, SFGATE (June 15, 2023), https://www.sfgate.com/hawaii/article/hawaii-billionaire-owner-molokai-ranch-18152398.php [https://perma.cc/WY88-K8QG]. Molokai Ranch takes up 55,000 acres, or about one-third of the entire island. *Id.*

49. HAW. DEPT. OF HAWAIIAN HOME LANDS, https://dhhl.hawaii.gov/ [https://perma.cc/3TNM-EB7A] (last visited Aug. 21, 2023).

50. *About the Department of Hawaiian Home Lands*, DEPT. OF HAWAIIAN HOME LANDS, https://dhhl.hawaii.gov/dhhl/ [https://perma.cc/8U9R-93SV] (last visited Aug. 21, 2023).

51. *About Us*, PU'U O HOKU RANCH, https://puuohoku.com/about-us/ [https://perma.cc/W4BV-2VU9] (last visited Aug. 21, 2023).

II. STAKEHOLDERS AND REGULATORY ENVIRONMENT FOR ENERGY PLANNING ON MOLOKAI

As a remote island economy, transforming Molokai's electrical generation, transmission, and distribution system to make it cleaner, more reliable, and affordable involves many complex issues. To help address the many questions, members of the Molokai community devised a collaborative and inclusive energy planning process that culminated in a preferred clean energy transition strategy, the CERAP. The initial phase of the CERAP began in late 2021, and a report was issued in June 2023.[52] The report was based on 713 collected surveys and more than 2,800 one-on-one conversations with residents and business owners who were pivotal in developing the CERAP and informing the regulatory environment in which the CERAP is an input.[53]Technical and policy analysis identified various scenarios and, with community input, yielded ten preferred initial energy projects for the island.[54]

A. Citizen Organizing and Stakeholder Involvement

To appreciate the CERAP's origins, it is essential to understand the importance to Molokai residents of community self-determination of their energy future, and islanders' historical resistance to out-of-state developers with big plans for their island. As one article put it, "Molokai residents have long been known for choosing their own path."[55] Citizen opposition to previous projects proposed by off-island developers with little attention to benefits for island residents and resident approval[56] was an important cause of their failures as well as a catalyst for community-based organizations to become actively involved in energy planning efforts.[57]

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52. *Molokai Community Energy Resilience Action Plan*, MOLOKAI CLEAN ENERGY HUI (June 2023), https://www.molokaicleanenergyhui.org/molokai-cerap [hereinafter "CERAP"].

53. *Id.* at 44–45.

54. *Id.* at 66–67 (describing analysis and modeling), 72–73 (identifying the ten preferred projects).

55. Catherine Cluett Pactol, *Molokai Decides Its Own Energy Future*, THE MOLOKAI DISPATCH (Sept. 14, 2022), https://themolokaidispatch.com/molokai-decides-its-own-energy-future/ [https://perma.cc/GVL3-JALZ].

56. CERAP, *supra* note 52, at 26.

57. *See* Akutagawa, Williams, & Noordhoeck, *supra* note 34, at 58 (a 2012 survey found strong

In 2007, the proposed "Big Wind" renewable generation project would have resulted in the construction of 200 MW of wind turbines on both Lanai and Molokai, with electricity sent to Oahu via a one-way inter-island transmission cable.[58] No energy produced on Molokai or Lanai would have been distributed to residents. Proposed by then-Governor Linda Lingle and HECO as a state priority,[59] the state reversed course in 2013, announcing that the project was not essential for the state to meet its energy transition goals.[60] The project was later formally abandoned by an HPUC order[61] due to citizen opposition and other factors.[62] In 2013, Princeton Energy Group proposed an alternative to Big Wind, a 2.7 MW solar project for Molokai.[63] In 2018, Molokai New Energy Partners ("MNEP") acquired the project. That year, the HPUC approved a power purchase agreement (PPA),[64] but the project was never completed.[65] Project delays by MNEP resulted in its alleged failure to meet a guaranteed commercial operations deadline and other guaranteed project milestones,[66] which contributed to community resistance to the project.

Molokai residents failed to embrace this project because it was proposed and tightly controlled by outside developers, rather than being based on a community-led process.[67] And, as Professor Shalanda Baker

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community support for a bottom-up process).

58. Akutagawa, William, & Noordhoeck, *supra* note 34, at 39.

59. Press Release, Haw. State Energy Off., State and Hawaiian Electric Strike Sweeping Agreement For Hawaii's Energy Future (Oct. 20, 2008), http://energy.hawaii.gov/state-and-hawaiian-electric-strike-sweeping-agreement/ [https://perma.cc/T78G-KCG5] (describing the accord between two state agencies and HECO).

60. Duane Shimogawa, *Glick: Hawaii doesn't need Lanai's Big Wind to reach renewable energy goal,* PAC. BUS. NEWS (July 2, 2013), https://www.bizjournals.com/pacific/news/2013/07/02/glick-hawaii-doesnt-need-lanais-big.html [https://perma.cc/8DUP-UTHP].

61. Pub. Utils. Comm'n, No. 2013-0168, 2017 WL 3620038 (Haw. P.U.C. 2017).

62. McNish, *supra* note 12, at 610 (noting "lukewarm economic analyses by HECO of the value of interisland cables"); Robin Kaye, *Remembering Big Wind's Big Fail On Lanai*, HONOLULU CIV. BEAT (Sept. 26, 2022), https://www.civilbeat.org/2022/09/remembering-big-winds-big-fail-on-lanai/ [https://perma.cc/2P2K-SMSG].

63. Akutagawa, Williams, & Noordhoeck, *supra* note 34, at 72.

64. Maui Elec. Co., No. 2018-0053, 2018 WL 3729761 (Haw. P.U.C. 2018).

65. Letter from Kevin M. Katsura, Director, Haw. Elec. Co., to Commissioners, Haw. Pub. Utils. Comm'n (June 23, 2020), https://dms.puc.hawaii.gov/dms/DocumentViewer?pid=A1001001A20F23B63054E00114 [https://perma.cc/AGG3-PU8D] (terminating the project).

66. Molokai New Energy Partners v. Maui Elec. Co., Civ. No. 20-00134 JMS-KJM at 1 (D. Haw. July 28, 2021).

67. Pactol, *supra* note 54.

describes it, it offered "minimal economic benefits to local residents."[68] In 2016, Professor Baker visited Molokai and raised awareness of potential alternatives to utility-scale projects.[69] Sustainable Molokai[70] is a citizen group formed in 2010 after resident opposition helped end a major development plan for the island[71] and after the publication of the path-breaking report, *Molokai: Future of a Hawaiian Island*.[72] Sustainable Molokai commented on the solar project that:

Unfortunately, . . . the proposed [project] promises no solid community benefits, offers insufficient savings for Molokai ratepayers, and provides little potential for community ownership, job creation, or other ways of more deeply engaging the community in the island's energy transition. The proposal continues a model of investor-driven energy investments and decisions, with little community stake in the planning, design, ownership, or benefits of the proposed project.[73]

In October 2020, Sustainable Molokai board members initiated and proposed a new community-led energy group, the Molokai Clean Energy Hui ("Hui").[74] This continued a decade-long trend of community-led efforts by Sustainable Molokai and others, dating to the 2010 opposition to the development plan, to gather and share their experiences on the challenges posed when the community was not meaningfully engaged in planning and development of the major energy projects that had been proposed for the island. Sustainable Molokai dedicated a staff member, Leilani Chow, to help coordinate the Hui and recruit a diverse group of Molokai residents with a strong interest and background in renewable energy.[75]

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68. Baker, *supra* note 3, at 83.

69. *Id.* at 68.

70. SUST'AINABLE MOLOKAI, https://www.sustainablemolokai.org/ [https://perma.cc/82RH-EDVD] (last visited Aug. 17, 2023).

71. Dan Barry, *Island's Battles Over Land Use Halt Development*, N.Y. TIMES (Nov. 8, 2008), https://www.ntyimes.com/2008/12/08/world/americas/08iht-hawaii.1.18479169.html [https://perma.cc/87YK-EQWH].

72. Akutagawa, Williams, & Noordhoeck, *supra* note 34, at 7.

73. Henry Curtis, *Federal Lawsuit --- Molokai New Energy Partners LLC v. Maui Electric Company, Limited*, ILLANI MEDIA (May 8, 2020), http://www.ililani.media/2020/05/federal-lawsuit-molokai-new-energy.html [https://perma.cc/7Z73-PED4].

74. *Molokai Clean Energy Hui*, SUST'AINABLE MOLOKAI, https://www.sustainablemolokai.org/renewable-energy/molokai-clean-energy-hui [https://perma.cc/H2FA-MXHN] (last visited Aug. 21, 2023).

75. *Meet our Team*, SUST'AINABLE MOLOKAI, https://www.sustainablemolokai.org/meet-our-team, [https://perma.cc/KJ46-55M7] (last visited Dec. 14, 2023)

The HNEI[76] was also critical to the CERAP's development. HNEI, part of the University of Hawai'i at Mānoa, conducts research on renewable energy technologies with demonstration projects and other activities focusing on integrating clean energy into the grid.[77] From the beginning, Sustainable Molokai included HNEI, with its energy policy practice leadership, to help formulate the CERAP, provide technical expertise to the community, and perform modeling to evaluate alternative scenarios for clean energy deployment.[78] Additional support has come from the Hawaii State Energy Office ("HSEO"), the state's primary government entity for supporting the HCEI.[79] Its primary roles and activities include facilitating development of renewable energy projects through coordination, recommendations, and communication with all stakeholders.[80] HSEO provided dedicated staff in support of the CERAP in fulfillment of its mission "to promote energy efficiency, renewable energy, and clean transportation to help achieve a resilient clean energy economy."[81] By 2023, the CERAP core team consisted of the 14 Sustainable Molokai/Hui staff,[82] and critical support from HNEI and HSEO.

B. Regulatory Environment

The CERAP's regulatory context involves proceedings before the HPUC, which regulates HECO's plans for capital improvements such as proposals to build power plants that generate electricity.[83] Over the past decade, HPUC orders have transformed this process and impacted the development of clean energy. Recently, Molokai residents and community groups have interacted with HECO and the HPUC in proceedings that will determine how and when clean energy is sited on the island.

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76. *See* HAW. NAT. ENERGY INST., https://www.hnei.hawaii.edu/ [https://perma.cc/X4R2-FNW5] (last visited Aug. 17, 2023).

77. HAW. REV. STAT. § 304A-1891 (2023).

78. *Moloka`i Proposes to Control its Energy Future,* LLILANI MEDIA (July 12, 2023), http://www.ililani.media/2023/07/molokai-proposes-to-control-its-energy.html [https://perma.cc/3X62-LHTV]

79. HAW. REV. STAT. § 196-71(a) (2023).

80. HAW. STATE ENERGY OFF., ANNUAL REPORT 19 (2022), https://energy.hawaii.gov/wp-content/uploads/2022/08/2022_Annual-Report_FINAL-1.pdf [**https://perma.cc/43CM-5U2S].**

81. HAW. REV. STAT. § 196-71(a) (2023).

82. *Meet our Team*, *Supra* note 76.

83. HAW. REV. STAT. § 269-6(a) (2023); *Electric*, *supra* note 23.

A major milestone came with the start of HECO's integrated resource planning ("IRP") process in 2012.[84] This process "had the potential to chart a roadmap for the renewable energy transformation."[85] In the IRP process, a utility is required to create a multi-year plan to meet demand for electricity, with participation from a wide range of stakeholders.[86] The output is a plan to guide future investments, and the process is "integrated" because all sources of supply and demand are required to be considered.[87] In 2014, after criticism from participants in the proceeding,[88] the HPUC issued a landmark order that rejected HECO's IRP. The HPUC believed that HECO was not moving rapidly enough toward a clean energy future.[89] By not proactively lowering costs, responding to its customers, and deploying more clean energy, HECO's plan "failed to grapple sufficiently with the rapidly changing landscape of renewable energy development in the state."[90] The HPUC's order appended a guidance document called "Commission's Inclinations on the Future of Hawaii's Electric Utilities."[91] These documents mapped out a comprehensive new vision for the state's utilities. HECO was required to file two new plans, a "Power Supply Improvement Plan" ("PSIP") and "Distributed Generation Interconnection Plan" (DGIP) that would establish the steps it would take to modernize its system and incorporate more renewable energy.[92]

In 2018, a new paradigm for Hawaii energy planning – "Integrated Grid Planning" – replaced the IRP and PSIP processes.[93] However, prior HPUC actions on the first HECO PSIP are still important to the CERAP's development. In 2017, the HPUC approved HECO's third try at a PSIP.[94]

84. Pub. Utils. Comm'n, No. 2012-0036, Order No. 30233 (Haw. P.U.C. 2012).

85. McNish, *supra* note 12, at 615.

86. JIM LAZAR, ELECTRICITY REGULATION IN THE US: A GUIDE 106–09 (2nd ed. 2016).

87. Coley Girouard, *Understanding IRPs: How Utilities Plan for the Future*, ADV. ECON. UNITED BLOG (Aug. 11, 2015, 4;59 PM), https://blog.advancedenergyunited.org/understanding-irps-how-utilities-plan-for-the-future [https://perma.cc/WW77-NXKW].

88. The objections are summarized in the HPUC order. *See generally Infra* note 92.

89. Pub. Utils. Comm'n, No. 2012-0036, 2014 WL 2448815, *41 (Haw. P.U.C. 2014).

90. SHALANDA H. BAKER, REVOLUTIONARY POWER: AN ACTIVIST'S GUIDE TO THE ENERGY TRANSITION 42 (2021).

91. Pub. Utils. Comm'n, No. 2012-0036, 2014 WL 2448815 (Haw. P.U.C. 2014).

92. *Id.* at *43–47.

93. HAWAI'I NAT. ENERGY INST., SUPPORT OF INTEGRATED GRID PLANNING 1 (2022), https://www.hnei.hawaii.edu/wp-content/uploads/Support-of-Integrated-Grid-Planning.pdf. The HPUC docket for IGP is Instituting a Proc. to Investigate Integrated Grid Plan, No. 2018-0165 (Haw. P.U.C. 2018).

94. Pub. Utils. Comm'n, No. 2014-0183, 2017 WL 3115285 (Haw. P.U.C. 2017).

The approved PSIP included plans for HECO to procure nearly 400 MW of new renewable generation capacity by 2021, some of which would be utility-scale.[95] The HPUC directed HECO to provide "an opportunity for competitive bidding for resources that can provide comparable services as. . .utility-owned generation," which would include renewable generation and other resources.[96] The HPUC also directed HECO to "pursue transparent, competitive and community-engaged efforts for. . . Molokai. . . for procuring resources and further considering the costs and benefits of early attainment of 100% renewable generation, consistent with the needs and goals of these communities."[97]

Following this order, a regulatory docket was established to set up a process to procure new renewable energy power production capacity,[98] using the state's framework for competitive bidding via requests for proposals ("RFP").[99] In 2019, the HPUC transferred the procurement process to a new docket designed to procure variable renewable electricity generation paired with energy storage on Molokai (2019-0178).[100] That year, HECO conducted an RFP that resulted in a proposed 4.4 MW solar project for Molokai, which was subsequently withdrawn by its developer.[101]

A second HPUC proceeding for Molokai renewable energy involves a program designed to lead to implementation of community (or "shared") solar projects.[102] Community solar projects are particularly important for community energy self-determination.[103] They are designed to allow a group of participating subscribers to benefit from a solar facility, and can be

95. *Id.* at 27.
96. *Id.* at 43.
97. *Id.*
98. To Institute a Proc. Relating to A Competitive Bidding Process To Acquire Dispatchable and Renewable Generation, No. 2017-0352 (Haw. P.U.C. 2017).
99. Pub. Utils. Comm'n, No. 03-0372, 2006 WL 4451565 (Haw. P.U.C. 2006) (under this framework, competitive bidding is required for utilities to acquire generation resources).
100. Pub. Utils. Comm'n, No. 2017-0352, 2019 WL 4168818 (Haw. P.U.C. 2019) (creating Docket No. 2019-0178, Requests to Institute a Proceeding Relating to a Competitive Bidding Process To Acquire Variable Renewable Dispatchable Generation Paired With Energy Storage For the Islands of Molokai and Lanai).
101. Catherine Cluett Pactol, *Large-Scale Renewable Energy Bids Opening Soon*, MOLOKAI DISPATCH (Apr. 9, 2021), https://themolokaidispatch.com/large-scale-renewable-energy-bids-opening-soon/ [https://perma.cc/28ED-PYBK].
102. For Approval to Establish a Rule to Implement a Community-Based Renewable Energy Program and Tariff and Other Related Matters, No. 2018-0165 (haw. P.U.C. 2018).
103. *See* Sara C. Bronin & Hannah J. Wiseman, *Community-Scale Renewable Energy*, 14 SAN DIEGO J. CLIMATE & ENERGY L. 165 (2013).

structured to extend participation in clean energy benefits to electricity consumers that cannot take advantage of privately-owned rooftop solar.[104] The Hoahu Energy Cooperative Molokai,[105] a volunteer grassroots nonprofit organization formed in 2020 by Molokai community advocates, is designing, and will own, two community solar projects.[106] These projects are included in the CERAP project list.[107]

III. THE MOLOKAI COMMUNITY ENERGY RESILIENCE ACTION PLAN

In 2021, local residents sought an alternative to energy projects promoted by out-of-state developers without local involvement.[108] They decided to "flip the process. Instead of waiting for a developer to propose a project for Molokai, the community would decide its own energy design and destiny, then solicit proposals to fill those needs."[109] A primary regulatory implication of the CERAP is presenting a portfolio of energy asset development and ownership alternatives for the HPUC's consideration that are community-driven, informed by modeling scenarios. It also includes detailed recommendations by HNEI and others that consider a wide variety of factors, including community preferences and how proposed project scenarios compare with possible alternatives. In contrast to previous proposals, the CERAP embraces the principle of residents' self-determination of their energy future. It is designed to "achieve a total island community energy system that: 1) consists of equity, fairness and self-determination; 2) supports a total island economy resulting in long term cost savings and greater economic prosperity; and 3) is more resilient and reliable."[110]

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104. *Community Solar Basics*, U.S. DEPT. OF ENERGY, https://www.energy.gov/eere/solar/community-solar-basics [https://perma.cc/WRX4-QBYV] (last visited Dec. 14, 2023)

105. HO'AHU ENERGY COOP. MOLOKAI, https://hoahuenergy.coop/ [https://perma.cc/P7TD-8KHH] (last visited Aug. 17, 2023).

106. Press Release, *Hawai'i's first two community-owned and -designed solar projects coming to Molokai*, HO'AHU ENERGY COOP. MOLOKAI & HAWAIIAN ELEC. (Jan. 12, 2023), https://hoahuenergy.coop/press-release/ [https://perma.cc/X89A-L5A6].

107. CERAP, *supra* note 52, at 81.

108. *Id*. at 28.

109. Pactol*, supra* note 54.

110. *Id.* (quoting Mark Glick).

The HPUC's relationship to the CERAP effectively began in May 2021 when Commissioner Jennifer Potter addressed the Hui about the HPUC's role and procedures, and stated "This is a new commission, we're not the old commission. We can do things differently..." [111] . The Hui followed with a request that the HPUC hold a status conference on the Molokai renewable energy procurement docket.[112] Sustainable Molokai and the Hui stated that it had concerns with HECO's RFP and HECO's proposed project at Pala'au and asked for a "short pause to hold well-structured discussions by committed participants from the Molokai community."[113] By September 2021, Sustainable Molokai and the Hui announced that the CERAP process would soon be underway. The HPUC acknowledged that a community-based plan "could provide valuable analysis and insights that could support technically sound, community supported clean energy development on Molokai."[114] The HPUC issued an order to suspend the docket to allow time for development of a community-based energy plan.[115] Rarely, if ever, had a community group requested a status conference with a PUC to seek a pause to an ongoing utility-led generation planning and procurement effort which resulted in a commission order providing the community-driven process the time and institutional support to conduct its analysis and report.[116]

The final CERAP report in June 2023,[117] made with HPUC and HECO support, described the community's organizational efforts and the HNEI analysis of clean energy options for Molokai. The CERAP benefited from considerable citizen involvement at every stage of its development and the

111. CERAP, *supra* note 52, at 30.

112. Letter from Molokai Clean Energy Hui & Ho'auh Energy Coop. Molokai, to Pub. Utils. Comm'rs (May 14, 2021), https://dms.puc.hawaii.gov/dms/DocumentViewer?pid=A1001001A21E14B62707J02541 [https://perma.cc/2RPF-YTVW] (RE: Docket No. 2019-0178, Requests to Institute a Proc. Relating to a Competitive Bidding Process To Acquire Variable Renewable Dispatchable Generation Paired With Energy Storage For the Islands of Molokai and Lanai, Molokai Clean Energy Hui Requests for a Status Conference regarding Hawaiian Electric's March 29, 2021 Letter on the proposed "Molokai Plan" and "Pala'au RFP").

113. *Id.*

114. Pub. Utils. Comm'n, No. 2019-0178, 2021 WL 4553006 (Haw. P.U.C. 2021).

115. *Id.*

116. To demonstrate the uniqueness of this action, a search by the authors of major HPUC dockets such as the 2014 IRP docket, the Integrated Grid Planning docket and others found no similar instances of this type of request. Pub. Utils. Comm'n, Search Cases and Filings, https://hpuc.my.site.com/cdms/s/search (last visited Dec. 14, 2023).

117. CERAP, *supra* note 52 at 81.

attendance and active participation of HECO at CERAP meetings.[118] The CERAP also benefited from the diversity of resource advisors from the energy community who joined the Hui's monthly meetings and the CERAP team to provide expertise, guidance and contacts, and commentary on questions from the community participants.

The CERAP report expressed community consensus on a portfolio of 10 renewable energy projects intended to help Molokai achieve 100% clean energy: five priority projects ready for design and action and five additional projects that require further analysis.[119] HNEI found that the community-preferred community-scale solar systems can feasibly achieve 90% renewable penetration with 10% curtailment or less.[120] To be cost-effective, these would be installed adjacent to the existing electrical distribution lines to minimize grid ties and interconnection costs that would apply depending on location and grid characteristics at the site.[121] HNEI, with assistance from the solar company HNu Energy, also referred to studies and discussion on current and planned deployment of grid-forming inverters, batteries, and synchronous condensers that could achieve system stability with extremely high levels of intermittent power, including solar or combinations of solar and wind.[122] Nested microgrids were also considered for the resilience of critical infrastructure which could operate independently during outages of the broader grid. [123]

The need to make progress was apparent. Oil volatility impacts increased Molokai's diesel fuel costs for electricity generation from roughly $4.8 million in 2021 to $8.1 million in 2022 – a 40% increase.[124] And based on the 2021-2022 average annual diesel fuel cost of $6.5 million, approximately $162 million in savings could be available over the next 25

118. *Id*. at 39.
119. *Id.* at 13.
120. *Id.* at 67. Here, "community scale" solar means non-distributed solar projects (that is, they are off site and not at subscribing customers' premises) that can be equivalent to large-scale solar arrays in that they can serve multiple customers. https://www.energy.gov/eere/solar/community-solar-basics. In addition, "curtailment" means stopping addition of renewable electricity to the grid when more is produced from wind and solar than is needed. Devonie Oleson, *Reframing Curtailment: Why Too Much of a Good Thing Is Still a Good Thing*, NAT'L RENEW. ENERGY LAB (July 18, 2022), https://www.nrel.gov/news/program/2022/reframing-curtailment.html [https://perma.cc/7Q9V-M9R8].
121. CERAP, *supra* note 52, at 67.
122. *Id.*
123. *Id.*
124. *Id.*

years to help pay for Molokai's transition to renewable energy.[125] In July 2023, the Hui requested a status conference with the HPUC to share CERAP recommendations and seek guidance on how to best integrate CERAP outcomes into current and future HECO energy planning for Molokai. The Hui reiterated the fundamental objectives of CERAP to secure non-disrupting energy for all critical infrastructure, increase fair access to reliable and resilient electricity for Molokai's most vulnerable communities and residential areas, and prepare Molokai's energy systems for disaster, which prioritizes building a more resilient and decentralized grid. The status conference is scheduled for September 18, 2023, at which time the HPUC is expected to provide its initial comments on the CERAP Report and next steps.[126]

IV. IMPLICATIONS FOR ENERGY JUSTICE

The development of the CERAP is an important example of how moving from fossil fuels to clean energy provides an opportunity to recognize and remedy systemic failures of energy infrastructure. The transition to clean energy can have positive impacts on climate change, but it is also imperative to recognize how fossil fuel intensive systems have harmed communities like Molokai, and how communities have been shut out of planning for and receiving the benefits of clean energy. Professor Richard Wallsgrove has written eloquently about "restorative energy justice," which embodies both "the notion of remaking or replacing what has been lost" and "seeking to repair wider social relationships and rectify injustice."[127] The clean energy transition can be a "transformative tool" to address inequalities in the energy system's procedures and the distribution of energy benefits and burdens.[128] As a caveat, there is no guarantee that the HPUC will advise or compel Hawaiian Electric to develop an energy blueprint for Molokai that precisely tracks the CERAP recommendations given Hawaiian Electric's incentives and capacity to build centralized generation or distributed generation it owns.[129]

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125. *Id.*

126. Molokai Clean Energy Hui, *Milestone in Renewable Energy Planning*, MOLOKAI DISPATCH (Aug. 9, 2023), https://themolokaidispatch.com/milestone-in-renewable-energy-planning/ [https://perma.cc/BL6N-BRGL].

127. Wallsgrove, *supra* note 3, at 150.

128. *Id.*

129. Eisen and Payne, *supra* note 19, at 23, 26.

A. The Molokai Experience Advances Understanding of Energy Justice

As described elsewhere, energy justice has multiple dimensions.[130] One is attaining procedural justice, or remaking procedures for planning and deployment of clean energy to engage all stakeholders and ensure that all citizens have equal access to new clean energy resources.[131] This includes how new clean energy projects are analyzed and selected for building. Statements from Sustainable Molokai and the Hui about how utilities and out-of-state energy developers have preordained project outcomes and not substantially involved residents in HECO's planning process are not atypical. Utility analyses of project costs and benefits are often "largely out of public sight,"[132] and, given the utility's built-in profit motive, are based primarily on economic factors with community values usually ignored.[133] In Hawaii, Molokai's separation from other islands can exacerbate this, as HPUC meetings take place on Oahu, not Molokai.[134]

In a more democratic system, utility planning should interface with and be informed by community participation and planning processes. It is essential to rely on inclusive, citizen-driven, bottom-up processes designed to create alternatives to existing models of planning for deployment of future electricity generation. The CERAP is different from previous efforts to develop renewable energy on Molokai because energy asset development and ownership alternatives under consideration are community-driven, not top-down by utilities and private project developers as is the current norm.[135] The CERAP process and results demonstrate that project selection done with sensitivity to community values and preferences, with involvement by members of the community from the outset, strengthens the likelihood of community support for the outcome.

130. Welton and Eisen, *supra* note 3.
131. *Id.* at 342.
132. Eisen and Payne, *supra* note 19, at 55.
133. Pactol, *supra* note 54 (quoting Mark Glick).
134. Wallsgrove, *supra* note 3, at 152–53.
135. As an example, utility IRPs often rely on the company's assumptions and modeling about necessary projects, not the preferences of the affected communities. Eisen and Payne, *supra* note 19, at 55.

The regulatory system typically offers relatively limited opportunities for significant public participation. Even when it does, meaningful participation is difficult because it requires considerable technical expertise to understand its dynamics. Once again, the Molokai experience is informative. The HPUC paused the ongoing regulatory proceeding after the request by the Hui and made it clear that its eventual decision would reflect community-generated data, plans, and assumptions.[136] Specifically, the HPUC concluded that the CERAP's findings would be useful in the procurement proceeding and continued its supervision by requesting periodic updates as the plan was developed.[137] This involvement is an unusual and commendable event, and the HPUC's parallel consideration of planning scenarios generated by the utility and by the community-led process is unique and worth emulating in whole or part elsewhere. In addition, the HNEI's involvement in the process shows how an unbiased source of technical expertise can inform the process and gain community support for a portfolio of clean energy projects. Developments in the community solar regulatory proceeding planning and approving projects by a new citizen-led entity for project ownership are noteworthy given the high degree of attention being devoted to community solar projects on the mainland.[138] If the citizen-led cooperative succeeds on Molokai, that might prove to be worth emulating elsewhere.

The result of the planning and regulatory processes must also ensure equity in distributing the benefits and burdens of a clean energy transition. The electricity generation portfolio proposed in the CERAP can improve energy access, resiliency, and affordability. It can make a significant contribution to climate change through reducing greenhouse gas emissions while providing electricity to all island residents at an affordable cost, being flexible enough to accommodate growth, and resilient in responding to threats to the grid. The CERAP technical analysis demonstrates that the

136. *See supra* note 116 and accompanying text. .

137. Pub. Utils. Comm'n, Order No. 37991, 2021 WL 4553006 (Haw. P.U.C. 2021) (calling for periodic updates); Letter from Leilani Chow, Coordinator, Molokai Clean Energy Hui, to Pub. Utils. Comm'rs (Mar. 29, 2022), https://dms.puc.hawaii.gov/dms/DocumentViewer?pid=A1001001A22C31A95146C01169 [https://perma.cc/2RPF-YTVW] (6-month update).

138. Jon Reed, *Community Solar Is Growing to Fill the Gaps in Clean Energy*,CNET (Nov. 10, 2023) https://www.cnet.com/home/energy-and-utilities/community-solar-is-growing-to-fill-the-gaps-in-clean-energy/ [https://perma.cc/9425-3GBV].

proposed projects can accomplish these goals, especially when compared to existing expensive generation from diesel fuel. The community solar projects also intend to benefit all residents, not just a select few.[139] Finally, these projects can directly involve local residents in ownership benefits.

B. Translating Lessons Learned to the Mainland

It is difficult to predict whether the CERAP's success can be replicated on the mainland. Its development relied on individuals and organizations with persistence and the ability to articulate a vision for residents' energy self-determination. The community organizations we have discussed had organized to resist off-island development proposals, had visions of potential alternatives, and had the ability to mobilize the community. None of that will be as prevalent on the mainland where developing a shared understanding of how a proposed energy project might impact the community is considerably more difficult.[140] The political scientist Elinor Ostrom has observed that self-governance of important matters is more likely in communities with high levels of autonomy and internal trust.[141] Molokai's small size and ease of organization around shared community values makes this more likely than in some mainland communities where the potential for serious political backlash against clean energy proposals is increasingly present.[142]

While Molokai residents were fortunate to have the HNEI's technical assistance to help them understand complex matters, other communities may not have this type of resource readily available. Given Molokai's size and isolation of its electric grid, the HNEI was able to model scenarios for a full clean energy transition which could be embodied in the CERAP and presented as comprehensive alternatives to utility plans. This would be much more difficult to do elsewhere. A major utility's IRP can run to hundreds of pages and propose far more action items than the CERAP does. Formulating a companion plan in parallel with that would be difficult for even the most well-organized community. Simultaneously navigating the

139. Pactol, *supra* note 54.

140. Kristen van de Biezenbos, *Negotiating Energy Democracy*, 33 J. OF LAND USE & ENV'T L. 331 (2018) (analyzing the difficulties of citizen participation in energy projects).

141. *See generally* ELINOR OSTROM, GOVERNING THE COMMONS (1990).

142. *See* Lawrence Susskind et al., *Sources of opposition to renewable energy projects in the United States*, 165 ENERGY POL'Y 1 (2022).

complex landscape of PUC proceedings[143] would be difficult without any guarantee that a PUC's action would be put on hold while the community articulates a clean energy vision. Nonetheless, some CERAP elements are instructive on the mainland, particularly the principle of local self-determination as a foundation of energy democracy.

CONCLUSION

The Molokai CERAP is noteworthy as an early successful experience in providing a vision for the island's energy future, while involving a local community and responding to its concerns. As one of us has said elsewhere, "The novel community-driven planning process undertaken by Molokai Clean Energy Hui and Sustainable Molokai shows promise as an effective method of self-determination and community empowerment."[144] As stakeholders in the energy system are just beginning to address energy justice issues,[145] the unique experience of developing the CERAP shows how valuable it can be to move away from legacy models of energy planning and include local residents in the conversation about a clean energy future.

143. The roughly 25 documents in the Molokai docket are a fraction of the docket size of a mainland utility's proceeding aimed at deploying new energy projects.

144. Catherine Cluett Pactol, *Molokai Energy Planning Up for Review*, MOLOKAI DISPATCH (June 7, 2023), https://themolokaidispatch.com/molokai-energy-planning-up-for-review-2/ [https://perma.cc/2A26-YGTV].

145. Hawaii's PUC recently created a docket to evaluate all PUC actions in an energy justice context, with results expected in 2024. Instituting a Proc. to Investigate Equity, Pub. Utils. Comm'n, No. 2022-0250 (Haw. P.U.C. 2022).