June 30, 2026

The Honorable Chair and Members
of the Hawai‘i Public Utilities Commission
Kekuanao‘a Building, First Floor
465 South King Street
Honolulu, Hawai‘i 96813

Dear Commissioners:

Subject: Docket No. 2026-0001
Instituting a Proceeding to Investigate Integrated Grid Planning
Action Plan 2026 Annual Update

In accordance with Order No. 40651, issued on March 7, 2024, and Order No. 42352, issued on February 25, 2026, in Docket No. 2018-0165, the Hawaiian Electric Companies[1] hereby provide its annual update of the Action Plan as described in Chapter 2 of the Companies' 2023 Integrated Grid Plan Final Report, filed on May 12, 2023 in Docket No. 2018-0165.

Also included as Attachment 1 is the Companies' Prioritizing and Advancing Renewable Energy Zones Report ("REZ Report"). The REZ Report aligns with the 2024 Commission Inclinations White Paper and the Governor's Executive Order 25-01 (Accelerating Hawai‘i's Transition Toward 100 Percent Renewable Energy), which developed a structured methodology to identify, evaluate and prioritize two REZ on O‘ahu for near-term development.

Sincerely,

/s/ Ken Aramaki

Ken Aramaki
Director, Integrated Grid Planning

Enclosures
c: Service List

[1] Hawaiian Electric Company, Inc., Hawai‘i Electric Light Company, Inc., and Maui Electric Company, Limited are collectively referred to as the "Hawaiian Electric Companies" or "Companies."

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Integrated Grid Plan
Action Plan Annual Update

Hawaiian Electric

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The Integrated Grid Plan provides a short-term action plan and long-term strategy to meet the energy needs of our customers up to and beyond 2045. The short-term action plan includes immediate actions that must be taken to achieve our 2030 goals and set a path toward 2045 net-zero decarbonization. In meeting these goals, the action plan provides foundational actions that retain the flexibility to realize the benefits of technological advances, respond to changing customer and community needs, and adapt to evolving environmental conditions.

This section provides an update to the Action Plan provided in the May 2023 IGP Final Report and highlight early elements of our transition to the Second Cycle of IGP.

1.1 Key Finding and Recommendation: Stabilize Utility Rates and Advance Energy Equity

To stabilize rates and advance energy equity, we will need to:

- Pursue the least costly pathway, which maximizes solar, wind and energy storage
- Provide at least $3,000 per megawatt in community benefits packages per year to host communities of large-scale projects
- Keep rates lower than the status quo of fossil fuel reliance
- Examine forms of relief for LMI customers
- Pursue federal funding to expand customer access to renewable technologies and reduce the cost of grid modernization

Original actions identified in the First Cycle of IGP that we can take within the next five years to stabilize rates:

1. Use competitive procurements to the extent possible for all types of renewable generation as a means to attract lowest pricing possible for customers
2. Pursue federal funding with up to 50% match for climate adaptation program and Phase 2 grid modernization
3. Work with stakeholders to address affordability through the Energy Equity docket

1.1.1 Use competitive procurements to the extent possible for all types of renewable generation as a means to attract lowest pricing possible for customers

Competitive procurements through Requests For Proposals ("RFP") continue to be the preferred vehicle for the acquisition of all types of large-scale generation and storage. On June 17, 2026, the Commission issued Decision and Order No. 42665 approving, subject to modifications the Companies' Updated IGP RFP, filed on June 27, 2025, and corrected on July 1, 2025.

1.1.2 Pursue federal funding with up to 50% match for climate adaptation program and Phase 2 grid modernization

Hawaiian Electric pursued federal funds (Grid Resilience and Innovative Partnerships ("GRIP") Round 1, Topic Area 1) in April 2023 to match customer funds requested as part of Docket No. 2022-0135 "Climate Adaptation T&D Resilience Program" in the application filed on June 30, 2022. Hawaiian Electric received notification from the U.S. Department of Energy ("DOE") of successful selection for award on October 17, 2023, and is currently engaged in negotiations with DOE. Hawaiian Electric subsequently received approval for the cost-matching funds from the Hawai'i Public Utilities Commission ("PUC") in Docket No. 2022-0135 (see Decision and Order No. 40566 issued on January 31, 2024). The award amount approved by both the DOE and the PUC was $95 million each, resulting in a total of $190 million of funding to implement high-priority resilience investments in utility infrastructure primarily for wildfire risk mitigation.

However, Hawaiian Electric was not awarded by the DOE for any GRIP Round 2 grants in 3 topic areas that were submitted.

In May 2026, Hawaiian Electric submitted an application for Infrastructure Investment and Jobs Act (IIJA) – Speed to Power through Accelerated Reconductoring and other Key Advanced Transmission Technology Upgrades (SPARK) – [Grid Resilience and Innovation Partnerships (GRIP) Round 3] DOE funding opportunity to pursue federal funding with up to 50% match for a South Maui 69 kV reconductor project to address South Maui load growth capacity need and wildfire risk mitigation need. According to the DOE, the anticipated selection notification will be announced in August 2026.

1.1.3 Work with stakeholders to address affordability through the Energy Equity docket

Feedback from the Commission's draft report in Docket No. 2022-0250 (the "Energy Equity Docket") was incorporated into the draft IGP RFP filed on May 2, 2025.

1.2 Key Finding and Recommendation: Grow the Marketplace for Customer-scale and Large-scale Renewable Generation

To grow a thriving, competitive marketplace for customer-scale and large-scale renewable generation, we will need:

- Greater customer participation in energy generation and storage
- Widespread adoption of energy efficiency
- Rapid development of low-cost renewables and transmission

The following are the original near-term actions identified in the First Cycle of IGP to increase customer participation and to develop low-cost renewables and transmission infrastructure.

Increase customer participation:

1. Implement new distributed energy resources (DER) programs to use deployed advanced metering infrastructure (AMI): Smart DER Tariff and bring-your-own-device options, targeting 1,186 MW of private rooftop solar capacity by 2030
2. Implement community-based renewable energy projects for low- and moderate-income customers and the Tranche 1 procurement
3. Implement advanced rate designs and conduct time-of-use (TOU) study to use deployed AMI
4. Procure energy efficiency and other grid services to meet grid needs and reduce supply-side requirements
5. Review lessons learned from the Phase 2 Tranche 1 community-based renewable energy procurement, and propose changes, if necessary, for a more robust program

Develop low-cost renewables and transmission:

6. Update key assumptions based on current market conditions (i.e., fuel forecasts) during and following the Stage 3 request for proposals (RFP)
7. Complete Stage 3 procurement and work with stakeholders to execute the projects that are selected
8. Complete Land Request for Information to identify potential sites for large-scale renewable generation and development of REZs in concert with communities
9. Issue an additional competitive procurement for renewable dispatchable generation after Stage 3 and determine market for long lead renewable resources (i.e., offshore wind and other technologies to achieve commercial operations by 2035) and REZs for each island
10. Continue finding solutions to improve the interconnection process, including working with State and county agencies

1.2.1 Implement new distributed energy resources (DER) programs to use deployed advanced metering infrastructure (AMI): Smart DER Tariff and bring-your-own-device options, targeting 1,186 MW of private rooftop solar capacity by 2030

Smart Renewable Energy (also known as Smart DER) and Bring Your Own Device ("BYOD") Level 1 programs initiated on April 1, 2024 for all islands in Docket No. 2019-0323. With the start of the new programs, all interim DER programs were closed at the end of March 2024. The BYOD Level 1 program is similar to Battery Bonus where there is no control signal dispatched from the utility and the battery is responding every day on a scheduled dispatch.

On March 21, 2025, the Commission ordered the modification to BYOD Level 1 to modify certain parameters and updating the name to BYOD Plus. The new program launched on May 15, 2025. The BYOD Plus program is operationally similar to BYOD Level 1 but instead modifies certain incentive and enrollment parameters.

Through the IGP, DERs represent another opportunity for customers to access renewable energy options. Since the time DERs first launched in the early 2000's, there have been periods of rapid uptake as well as federal and local tax incentives that have bolstered the market for many years. As DERs continue to be a resource option in the resource portfolio, we will consider more thorough analysis of the current and future DER market opportunities, especially on the island of O'ahu where the market potential is a key factor with respect to the feasibility of some of the IGP scenarios.

1.2.2 Implement community-based renewable energy projects for low- and moderate-income customers and the Tranche 1 procurement

Community-Based Renewable Energy (also known as Shared Solar) commenced a Phase 2 of the program on April 9, 2020 in Docket No. 2015-0389. This led to the development and procurement of dedicated low-and-moderate-income ("LMI") and Tranche 1 projects, as well as small projects. Dedicated LMI project subscriber organizations commit to subscribing LMI customers defined by the Federal Housing and Urban Development ("HUD"), geographic location by zip code, or by participating in comparable programs as defined by Tariff Rule 29. Further, commercial subscribers can participate if they are a 501(c)(3) organization or government entity. Seven such projects were awarded capacity for a combined total of 23 MW across O'ahu, Maui and Hawai'i Island with guaranteed commercial operations by the end of 2025. However, three projects (8.5 MW) subsequently withdrew.

We procured five additional projects with a combined capacity of over 14 MW across O'ahu, Hawai'i Island and Moloka'i for Tranche 1 projects which are open to any eligible customer on those islands. These projects were planned to achieve guaranteed commercial operations in 2026 but only the two Moloka'i projects remain in development.

1.2.3 Implement advanced rate designs and conduct time-of-use (TOU) study to use deployed AMI

Update Note (2026): With the closure of the ARD Track, see note below.

On May 21, 2025, the Commission ordered the Parties in Docket No. 2019-0323 to file final briefs on the ARD TOU Study including any recommendations for the future of ARD TOU rates by June 18, 2025, and ordered the ARD Track of Docket No. 2019-0323 closed after the filing of those final briefs, unless otherwise ordered by the Commission.

1.2.4 Procure energy efficiency and other grid services to meet grid needs and reduce supply-side requirements

In Docket No. 2022-0041, the Commission issued Decision and Order No. 40082 on July 12, 2023, approving the third procurement of an aggregator on O‘ahu with modifications to the contract. Hawaiian Electric filed an amendment to the Grid Services Purchase Agreement ("GSPA") on December 29, 2023. Subsequently, the Commission closed the docket on January 26, 2024. Prior to commencement of operations under the contract, the contract was terminated.

In Docket No. 2017-0352, one GSPA contract remains active and is working to catch up on their customer enrollment.

We are focused on the implementation of currently available grid service programs and working with the Commission on potential upcoming grid service procurements, such as Wheeling and VPPs. In the Wheeling docket (2024-0200), the Commission is investigating implementation of intragovernmental and retail wheeling in two separate tracks. Pursuant to Act 266, the Commission must implement a wheeling tariff by January 1, 2027. In the VPP docket (2026-0084), the Commission is investigating launching a new VPP program for behind-the-meter grid flexibility services through a third-party Edge-DERMS. This docket is also on an ambitious schedule. We will continue to work with stakeholders in both dockets to launch these new offerings to customers and meet legislative and regulatory requirements.

Currently, we do not administer Energy Efficiency ("EE") programs for electric utility customers in Hawai‘i, however, we support collaboration with Hawai‘i Energy, the Commission's third-party administrator that promotes EE savings across the state.

1.2.5 Review lessons learned from the Phase 2 Tranche 1 community-based renewable energy procurement, and propose changes, if necessary, for a more robust program

Community-Based Renewable Energy (also known as Shared Solar) will incorporate Phase 2 Tranche 1 lessons learned in Docket No. 2015-0389, following the final award of projects and prior to the commencement of Tranche 2. Since the final award of Tranche 1 projects on February 22, 2023, we have gathered feedback from customers, developers and stakeholders on ways to expand the number of projects available, increase subscription opportunities, and reduce administrative burden.

In their 2024 Inclinations, the Commission noted that the current Phase 2 program has enrolled only a fraction of the program cap and developers have struggle to meet the program's requirements and schedules. The Commission intends to study whether the CBRE program should be restructured to replace Subscriber Organizations with utility managed, on-bill customer enrollment among other modifications for simplified interconnection, flat export rate, focus on lower income communities, and guaranteed bill discount.

1.2.6 Update key assumptions based on current market conditions (i.e., fuel forecasts) during and following the Stage 3 request for proposals (RFP)

We have continued to update assumptions since the inputs and assumptions were approved for the first IGP cycle. Hawaiian Electric is in the process of updating new fuel forecast and resource costs with stakeholders in the Second Cycle. The updated forecasts will use the 2026 fuel price forecast from the Energy Information Administration Annual Energy Outlook and 2024 resource cost forecast from the National Laboratory of the Rockies ("NLR") Annual Technology Baseline.

The update to use the conservative resource cost forecast is intended to better reflect market pricing in the planning models. Hawaiian Electric experienced project delays and price increases due to external supply chain disruptions such as the COVID-19 pandemic that resulted in numerous amendments to project applications. Current events in Federal policy – particularly trade tariffs and the availability of Federal investment tax credit – is increasing project pricing risk.

1.2.7 Complete Stage 3 procurement and work with stakeholders to execute the projects that are selected

Hawaiian Electric selected 15 renewable energy projects in December 2023 and January 2024 from the Stage 3 RFPs on O'ahu, Hawai'i Island, and Maui. As of this Action Plan, 4 projects have subsequently withdrawn, 2 projects have been approved, 5 projects have been submitted to the Commission for review, and 4 projects are continuing contract negotiations to produce long-term contracts for approximately 302 megawatts (MW) of variable generation, 660 MW of firm generation, and 1.1 gigawatt-hours (GWh) of storage. Estimated completion dates for the projects range from 2027 to 2033.

1.2.8 Complete Land Request for Information to identify potential sites for large-scale renewable generation and development of REZs in concert with communities

Hawaiian Electric completed prior Land Request for Information ("Land RFI") efforts in April 2023 and October 2024. Over the past year, the Company's work under this action has focused not on conducting a new Land RFI, but on using those prior results, together with technical analysis and stakeholder engagement, to support Renewable Energy Zone ("REZ") planning and designation on O'ahu. The prior Land RFI responses informed the evaluation of potential areas for large-scale renewable development and associated transmission needs and supported the prioritization of O'ahu REZ 1 and 6, consistent with the Governor's Executive Order and the Commission's 2024 Inclinations. Going forward, the Company expects to continue using this information to support REZ implementation, future procurements, and related infrastructure planning.

1.2.9 Issue an additional competitive procurement for renewable dispatchable generation after Stage 3 and determine market for long lead renewable resources (i.e., offshore wind and other technologies to achieve commercial operations by 2035) and REZs for each island

Over the past year, Hawaiian Electric continued advancing the post-Stage 3 procurement pathway through the revised draft IGP RFP filed on June 27, 2025 for O'ahu and Hawai'i Island. As currently framed, the draft IGP RFP seeks additional renewable energy and firm capacity on both systems, while also reflecting system stability considerations identified through planning studies.

The longer-term procurement outlook has also evolved over the past year. Consistent with prior action plan updates, a long-term RFP remains the vehicle for resources that require longer development time or supporting infrastructure. At the same time, the Company's work on REZ prioritization has sharpened the near-term focus. In alignment with the Governor's Executive Order and the Commission's 2024 Inclinations, the Company worked with State agencies, the IGP Stakeholder Technical Working Group ("STWG"), the IGP Community Working Group ("CWG"), and the public to prioritize O'ahu REZ 1 and 6. This Action Plan includes the REZ Report (Attachment 1), which provides additional detail on the development of the prioritized REZ designations and the next steps for translating those designations into future procurement and transmission development.

The Company also continues to evaluate longer-lead resource pathways in light of changing policy, market, and community considerations. As discussed in the previous action plan update, longer-term procurements would be intended to seek resources that require extended development time or long-lead infrastructure to complete, while minimizing the risk of building infrastructure that is not ultimately utilized for renewable energy development.

1.2.10 Continue finding solutions to improve the interconnection process, including working with State and county agencies

Hawaiian Electric continues to improve the interconnection process by increasing the quality and specificity of interconnection information provided to prospective developers and bidders. Standardized interconnection approaches, standard equipment and design templates, updated Company specifications, and additional up-front information on injection capacity and preferred interconnection locations have been incorporated into the current procurement process. In addition, the IGP RFP includes a Preliminary Interconnection Report process and opportunities for bidders to engage with Company subject matter experts before submittal, which is intended to reduce uncertainty and improve bid quality.

In addition, the Hawaii Electric Reliability Administrator (HERA) has stood up its Large Generator Interconnection Process (LGIP) in June 2026, intended to also cover improvements in the interconnection process. Additional recommendations and changes to the process may be identified in this process.

1.3 Key Finding and Recommendation: Create a Modern and Resilient Grid

To create a resilient grid with enough capacity to meet the State's policy goals, we will need:

- Investment of $59.4 million in distribution upgrades over the next 10 years
- Investment of $1.33 billion through 2035 to expand or create new transmission interconnection points between renewable projects
- Initial investment of $190 million to improve the resilience of the transmission and distribution grid

The following are the original near-term actions identified in the First Cycle of IGP to upgrade the distribution system, develop REZs, and improve grid resilience.

Upgrade the distribution system:

1. Issue expressions of interest for qualified distribution non-wires alternatives opportunities
2. Prepare extraordinary project recovery mechanism requests to implement distribution upgrades needed to support electrification and expansion of private rooftop solar hosting capacity, and other requests to support expanded distribution capacity for new housing and commercial developments

Develop REZs:

3. Continue community engagement to determine feasibility of developing REZs
4. Create a transmission siting and routing process in collaboration with communities, State, county, landowners, and project developers

Improve grid resilience:

5. Pending Public Utilities Commission approval, implement and execute a 5-year, $190 million climate adaptation program to harden our grid and implement other resilience measures
6. Develop resilience modeling and performance target levels of resilience to inform future hardening and other resilience investments
7. Leverage an energy transition initiative partnership program and Resilience Working Group to identify other microgrid opportunities
8. Execute North Kohala microgrid and RFP, apply lessons learned, and pursue additional microgrid opportunities to enhance community resilience
9. Complete rollout of AMI and obtain approval of phase 2 grid modernization to enhance system reliability and resilience

1.3.1 Issue expressions of interest for qualified distribution non-wires alternatives opportunities

Over the past year, Hawaiian Electric continued evaluating the results of recent Non-Wires Alternatives ("NWA") expressions of interest and procurements, including the Waikoloa EOI[1] and previously issued EOIs and the North Kohala energy storage RFP.[2] These efforts have not yet produced a viable NWA project. The experience from these solicitations nonetheless continues to inform the Company's screening of future NWA opportunities, including where system need, timing, and market interest may or may not align.

Recent solicitation experience indicates that while NWAs remain an important planning tool, successful implementation depends on alignment among location-specific system needs, project timing, market readiness, and commercial viability. The Company will continue to evaluate future opportunities where NWAs may be a practical alternative to traditional wires investments.

1.3.2 Prepare extraordinary project recovery mechanism requests to implement distribution upgrades needed to support electrification and expansion of private rooftop solar hosting capacity, and other requests to support expanded distribution capacity for new housing and commercial developments

We are continuing to monitor the timing and need for circuit upgrades to serve new load and/or increase DER hosting capacity. Examples of recent projects that were initiated or installed since the previous update:

- Line extension and infrastructure installation to serve new developments.
- Installation of new substation equipment to increase capacity.
- Reconductor distribution circuits to increase capacity and mitigate voltage issues.
- Install voltage regulators to mitigate voltage issues.
- Reconductor subtransmission lines to increase capacity.
  - Install line sensors to actively monitor power flow to utilize cable to a greater capacity.
    - Install switches to facilitate isolating subtransmission lines to allow for faster restoration.

[1] *See* https://www.hawaiianelectric.com/documents/clean_energy_hawaii/selling_power_to_the_utility/competitive_bidding/20240405_waikoloa_eoi.pdf

[2] See https://www.hawaiianelectric.com/clean-energy-hawaii/selling-power-to-the-utility/competitive-bidding-for-system-resources/north-kohala-energy-storage-rfp

Hawaiian Electric is evaluating whether to package future projects and upgrades together as part of an application for cost recovery to the Commission. An example is to include voltage regulators in the Grid Mod Phase 2 application, as it aligns with the field device strategy and the further additions of DERs.

In addition, the following projects were initiated or are in-progress to increase capacity primarily due to load forecast increases:

1. Kewalo T4 (Docket No. 2023-0212) – A new transformer and associated equipment is being installed to serve the load growth in the Kakaʻako and Kewalo areas.
2. Waikoloa T2 (Docket No. 2024-0137) – A new transformer and associated equipment is being installed to serve the load growth in the Waikoloa area on Hawaii Island.
3. Waipiʻo Tsf 3 (Docket No. 2023-0303) – A new transformer and associated equipment is being installed to serve the load growth because of the Koa Ridge development.
4. Auiki Substation (Docket No. 2018-0185) – A new substation and associated equipment is being constructed to serve the load growth in the DoT harbors area.
5. Kulanihakoi Substation (Docket No. 2020-0182) – A new substation was energized to serve the Hoʻopili expansion.

Hawaiian Electric will continue to identify and pursue projects that increase distribution capacity to support new developments.

1.3.3 Continue community engagement to determine feasibility of developing REZs

Over the past year, the Company has done extensive engagement with the community in efforts to designate two REZ in accordance with the 2024 PUC Inclinations. The REZ engagement combined government coordination, elected official outreach, community dialogue, and public communications to support informed participation and meaningful stakeholder input. The approach recognized that successful REZ implementation depends not only on technical and regulatory readiness, but also on cultural awareness, transparency, and early collaboration with affected communities.

Formal briefings were conducted with state agencies to align environmental review, land use, infrastructure planning, cultural resource management, and permitting processes. The IGP Community Working Group served as an advisory forum, providing structured feedback on technical issues, community concerns, and implementation considerations, helping refine engagement strategies ahead of broader public outreach.

Community members were invited to review proposed REZ boundaries and provide location-specific feedback through an interactive online platform. A newsletter, media release, and targeted social media campaign reinforced key messages and encouraged participation. Outreach also included presentations to six City and County of Honolulu Neighborhood Boards within the study area. Two public meetings provided opportunities for direct engagement with residents and stakeholders through informational presentations, question-and-answer sessions, and facilitated feedback discussions.

1.3.4 Create a transmission siting and routing process in collaboration with communities, State, county, landowners, and project developers

Over the past year, Hawaiian Electric advanced this action primarily through the REZ engagement and prioritization effort on Oʻahu. As the Company evaluates large-scale renewable development areas and the transmission needed to enable them, the transmission siting and routing process is being informed by the same cross-functional engagement conducted with State agencies, stakeholder groups, and the public as part of the REZ process. This includes early discussion of land use, environmental review, cultural resources, and infrastructure planning considerations that will affect future routing and siting decisions.

Consistent with the Action Plan's broader structure, the near-term update here is not that the Company has completed a final transmission siting framework, but rather that it has spent the last year building the stakeholder and agency foundation needed to support future routing and transmission development decisions tied to REZ implementation and longer-term procurements. Additional detail on this work is provided in the REZ Report included with this Action Plan update.

1.3.5 Develop resilience modeling and performance target levels of resilience to inform future hardening and other resilience investments

Hawaiian Electric contracted with the Pacific Northwest National Laboratory ("PNNL") to develop resilience performance models leveraging PNNL's Electrical Grid Resilience and Assessment System ("EGRASS"), Recovery Simulator and Analysis ("RSA") tool, and Grid Utility Asset Vulnerability and Criticality Assessment ("GUAVA") framework. Originally developed for Puerto Rico following the aftermath of Hurricane Maria, the EGRASS, RSA, and GUAVA modeling frameworks are used to assess the impact on infrastructure as a result of severe weather events (particularly hurricanes and storms) by estimating the risks (including probabilities of failure) of various components of the electric system (including poles) and analyzing the outcomes of simulations which estimate the impacts of severe weather events on system survivability and reliability. This modeling effort is ongoing and will provide key insights to inform storm hardening priorities using approaches such as cost-benefit analyses of hardening alternatives. To date, we have developed wind fragility models of our transmission system components and developed a model to simulate the time to restore the Oahu and Hawaii Island transmission systems after a major storm or hurricane. Subsequent phases will be necessary to extend the modeling and analysis to the transmission system for Maui, as well as the distribution systems for all islands.

In 2024, Hawaiian Electric also developed a wildfire risk model to enable quantitative risk-informed decision making for wildfire mitigation planning efforts. This model was used to develop and prioritize wildfire mitigation projects to be implemented as part of the 2025-2027 Wildfire Safety Strategy by estimating the wildfire risk associated with each circuit and the cost effectiveness of mitigation options. See Docket No. 2025-0156 for future updates to the Company's wildfire mitigation plans.

1.3.6 Leverage an energy transition initiative partnership program and Resilience Working Group to identify other microgrid opportunities

In April 2021, we were selected as a recipient of the DOE's Energy Transitions Initiative Partnership Project ("ETIPP"), which provided National Lab support to develop a community-informed map of potential hybrid microgrid locations on O'ahu. The project is in its final stages and we plan to make these maps and deliverables available publicly. The data and information from this project will also be used to assess potential microgrid locations.

1.3.7 Execute North Kohala microgrid and RFP, apply lessons learned, and pursue additional microgrid opportunities to enhance community resilience

We continued to pursue grant opportunities in efforts to secure outside funding to support the project; however, to date has not been selected. The project is currently being re-evaluated to see if alternative solutions such as incorporation with the HRD Wind Farm is a feasible option that lowers overall cost of the system without compromising reliability and resilience of the solution.

1.3.8 Complete rollout of AMI and obtain approval of phase 2 grid modernization to enhance system reliability and resilience

On February 28, 2022, in Docket No. 2018-0141, the Commission ordered Hawaiian Electric to deploy Advanced Metering Infrastructure ("AMI") to all customers, excluding opt-outs, by Q3 2024. At project completion, Hawaiian Electric had deployed more than 447,000 AMI meters to customers. Since then, we continue to install AMI meters to customers who were previously non-responsive when contacted during the project to schedule their AMI meter exchange. As of the end of 2025, we now have more than 456,000 AMI meters across the service territory.

While we were unsuccessful in pursuit of DOE IIJA grant funding for Grid Modernization Strategy ("GMS") Phase 2, GMS Phase 2 remains necessary to modernize the Hawaiian Electric's grid and address resiliency (including wildfire mitigation), reliability and DER integration drivers.

Given the potential opportunity to seek securitization financing approval under Act 258, we have been rescoping the strategy and components of GMS Phase 2. In Q3 of this year, we plan to file an updated and supplemented application in Docket No. 2019-0327, requesting PUC approval of costs to implement a Distribution Operations Platform ("DOP"), field devices ("Field Devices"), expansion of Supervisory Control and Data Acquisition ("SCADA"), and expansion of the Private LTE ("PLTE") network.

1.4 Key Finding and Recommendation: Secure Reliability through Diverse Energy Sources and Technologies

Creating a reliable clean energy grid will require:

- Developing renewable firm generation that is modern and flexible
- Adoption of emerging technologies

The following are the original near-term actions identified in the First Cycle of IGP to secure reliability and adopt emerging technologies.

Secure reliability:

1. Continue to monitor the condition of an aging generation fleet and prepare contingency plans as necessary; manage prudent and essential capital investments in generating units that could potentially be retired or deactivated in the near future, balanced with ensuring short-term reliability
2. Acquire new firm generation and solar, wind and energy storage projects through the Stage 3 procurement to facilitate deactivation and retirement of existing fossil-fuel generation through 2035
3. Complete a resource adequacy study to review reliability planning methods and renewable resource accreditation methodologies

Adopt emerging technologies:

4. Continue to require grid-forming technology for inverter-based resources, including for large-scale standalone wind and solar when technology is commercially available
5. Continue to monitor and evaluate the performance of new solar and storage projects, including continued assessment of system security risks as more renewable systems are brought online
6. Continue to monitor and invest in advanced technologies to operate the high inverter-based grids and seek new grid technologies to improve the reliability of the grid
7. Implement IEEE 2800-2022 in future large-scale inverter-based resource projects
8. Continue engagement with the DER industry to improve inverter performance to address system security concerns
9. Continue evaluating advanced equipment for providing system stability (e.g., grid-forming STATCOM)
10. Develop interconnection standards for grid interface of electric vehicles to get ahead of potential system security risks seen today with rooftop solar systems

1.4.1 Continue to monitor the condition of an aging generation fleet and prepare contingency plans as necessary; manage prudent and essential capital investments in generating units that could potentially be retired or deactivated in the near future, balanced with ensuring short-term reliability

Hawaiian Electric continues to maintain and make appropriate investments in generating units, completing necessary maintenance outages and overhauls on each unit. Similarly, we continue to make capital investments in existing generating units and completed more than 95 capital projects in 2024 and 2025.

Generating units are monitored continuously by operators and notifications of maintenance needs are made as necessary. In addition to continuous monitoring by operators, we manage and maintain existing generating units by executing a maintenance basis program which includes preventative and predictive maintenance with engineering oversight. Electrical, boiler, and turbine subject matter experts ("SMEs") also monitor equipment and help specify maintenance needs. Through this comprehensive system, all critical components receive maintenance based on monitoring (predictive maintenance technologies such as vibration monitoring) and/or time. When corrective needs are identified, they are planned into the units' maintenance schedules. This maintenance basis is executed by a team of maintenance personnel, planners, engineers, and SMEs.

We continue to develop the Waena BESS (Docket No. 2020-0132) which is under construction and Waiau Repowering (Docket No. 2025-0211) which is in the engineering and procurement phase, in addition to developing contingency plans on Maui, Hawai'i Island, and O'ahu. Recent EPA approval and partial disapproval of the State's regional haze implementation plan may allow for discussions with the State and the EPA to request contingent operation of Maui and Hawai'i steam generating units for some period after 2028 to maintain grid integrity and mitigate potential customer cost impacts if necessary at that time. As part of the contingency planning, we are also continuing to make investments in critical spares and making investments in long-term lead items such as spare transformers.

1.4.2 Acquire new firm generation and solar, wind and energy storage projects through the Stage 3 procurement to facilitate deactivation and retirement of existing fossil-fuel generation through 2035

As described in Section 1.2.7 above, firm projects were selected from the Stage 3 RFPs for O'ahu, Maui, and Hawai'i Island in December 2023 and January 2024. These projects, once in service, will help to facilitate the deactivation and retirement of existing fossil fuel resources at existing power plants, like Waiau, by providing additional renewable capacity and energy.

1.4.3 Complete a resource adequacy study to review reliability planning methods and renewable resource accreditation methodologies

E3, a consultant to Hawaiian Electric, recently completed an independent resource adequacy study that examined different capacity planning criteria and resource accreditation methodologies. The study found that the different criteria and methodologies could produce resource portfolios with similar installed capacity, reliability, and cost. Possible next steps were also outlined for the Commission's consideration regarding reliability standards. The study was filed as an exhibit to our April 8, 2024 letter providing comments on Commission Order No. 40651 in Docket No. 2018-0165.

Based on the feedback from the Commission in Order No. 41022, we plan to continue to refine the resource accreditation methodology for variable resources. Additionally, Hawaiian Electric has been an active participant in the HERA Working Group proceedings and will continue to engage with stakeholders to evaluate different resource adequacy requirements to be used in future IGP cycles.

1.4.4 Continue to require grid-forming technology for inverter-based resources, including for large-scale standalone wind and solar when technology is commercially available

Hawaiian Electric continued to require grid-forming ("GFM") capability for the battery energy storage inverter component in Stage 3 and IGP RFP procurements, and procurement language has been refined to include more specific performance requirements, including alignment with portions of IEEE 2800-2022. Planning and interconnection studies conducted to date indicate that some level of GFM capability improved system stability for the cases evaluated, and the Company therefore continues to include GFM capability as an important element in procurement design. BESS resources are required to be capable of support system restoration as a cranking path following black start.

The Company also continues to evaluate the amount and type of capability needed to support long-term system stability. Due to its interdependent roles on the power system, continued work is needed to assess the roles of conventional resources, inverter-based resources, contingency reserve requirements, and other operational measures. The Company has not yet received a proposal with commercially available GFM technology for a large-scale standalone wind or solar plant, but it continues to monitor the market and evaluate retrofit options for existing resources where appropriate.

Grid-Following ("GFL") inverter-based resources (i.e., Customer DER, utility-scale resources without BESS and/or prior to Stage 2 procurements) continue to impact the stability of the system and drives the need for GFM. In addition to the implementation of GFM, controls and curtailment will need to be implemented to GFL systems in order to mitigate further impacts to stability of the system. For IGP-RFP, a GFM resource procurement target has been developed for Oahu and Hawaii island to support the stability of the systems; however, due to the interdependent nature of resources on the system, the ability to maintain system stability within planning criteria be evaluated in the detailed bid evaluation process to confirm.

1.4.5 Continue to monitor and evaluate the performance of new solar and storage projects, including continued assessment of system security risks as more renewable systems are brought online

Several new solar and storage projects went into service recently: on Maui, AES Kuihelani in May 2024, on Hawaiʻi Island, Hale Kuawehi Solar in March 2025, and on Oahu, Kupono Solar in Jun 2024, and Hoohana Solar in July 2025. While we are continuing to gain operational experience with these new projects, the management of these resources is expected to become more complex as more projects are added and some reactive power/voltage oscillations under certain system conditions have been experienced. We have come to understand that behavior at the inverter-level, such as tripping during disturbances, will be correlated and thus a project can have a large contingency effect even if the capacity is delivered through two interconnections, which is incorporated into target sizing. Further, there are notable differences in capabilities and performance depending on project, requiring detailed analyses and monitoring of project preand post-COD. Complexities have emerged in tracking and verifying the performance of inverter-based resources, and maintaining accurate models, given inverter-based resource behaviors are changed through firmware and parameter changes and issues may only appear under certain system conditions. The procurement language reflects lessons learned in commissioning and modeling and we are engaging with industry on these emerging issues. As noted in Section 1.4.9 below, future contingency resources may also be needed for system security.

1.4.6 Continue to monitor and invest in advanced technologies to operate the high inverter-based grids and seek new grid technologies to improve the reliability of the grid

We continue to monitor and evaluate advanced technologies that support the planning, operation, and integration of high inverter-based grid systems. To improve the reliability of its grids with increasing inverter-based renewable energy and storage systems, we are currently working with research and industry partners in various research and pilot projects to develop and evaluate new grid solutions and operational support tools needed to monitor and manage the variability of photovoltaic and energy storage systems. In addition, advanced technologies to mitigate wildfire risk and increase grid resilience are being evaluated and developed. These efforts are being done through collaborative engagements that leverage industry expertise and external funding (e.g., federal grants) to lower costs to customers.

In 2026, the Flexible Energy Scheduling Tool for Integrating Variable generation ("FESTIV") software tool is being expanded to the Maui and Hawaii grid systems. This tool, first commissioned on Oahu in 2024 with the Electric Power Research Institute ("EPRI") in collaboration with other utilities, will help coordinate and schedule generating resources to meet operating reserve needs and maintain reliability on the utility grid with high penetrations of renewable energy inverter-based grid systems and energy storage.

In November 2024, we executed another project with EPRI to evaluate an asset management tool to assess the health, performance, and risk of substation circuit breakers. The objective is to identify the highest-risk circuit breakers using EPRI's risk ranking framework and advanced data science algorithms to prioritize work or condition-based maintenance or proactive replacement, avoiding the risk of extended outage and potential failure.

As high penetration of DER and utility-scale solar, storage and wind displace conventional plant, the system behavior and dynamics have changed and vary depending on the online resource mix. These changed system conditions result in a need to record resource performance in the dynamics time frame and detect system oscillations in real-time, identify causes and solutions. This rapid change in the system is increasing need for collection and analysis tools providing high resolution data of system state variables, such as provided from disturbance monitors and PMU data, to detect stability issues and identify contribution and performance of other resources during stability and disturbance events.

Based on results of EPRI testing in 2023-2024 of radio frequency ("RF") sensors on substation insulators on Maui to assess early detection of significant contamination of insulators in substations and alert operators that pre-emptive maintenance is needed to avoid potential flashover, equipment failure, and extended outages. We will continue RF monitoring to manage the safety and fire risks of contaminated insulators, and support reliability by reducing extended outages at the substation.

In 2026, we received Commission approval for the "Wildfire Enhanced Fast Trip ("EFT") Reliability Mitigation" pilot project to evaluate fault signaling technology on four EFT-enabled distribution circuits that can mitigate the negative reliability impacts from EFT implementation while preserving the effectiveness of EFT in reducing wildfire ignition risk. In 2026, we are developing a pilot project to evaluate transmission-level reclosers, a new technology in the utility industry, to enable sectionalizing transmission and sub-transmission lines and isolating faults to increase reliability performance. Also work continues to develop pilot projects to evaluate pole-mounted sensor devices, for early fault detection ("EFD") to maintain or improve advanced grid reliability and resilience. The technologies under evaluation utilize multiple sensor packages and waveform analytics to detect, locate, and report on anomalies in power lines such as arc faults, equipment degradation, broken strands on conductor, down conductors, loose tie wire, and vegetation contact.

We are awaiting official notification of grant awards under the Federal Emergency Management Agency's ("FEMA") Hazard Mitigation Grant Program ("HMGP") for four projects aimed at increasing grid reliability and resilience: (1) Lahaina Critical Customer Hubs ("CCH"), (2) Energy Management System ("EMS") modernization, (3) climate and wildfire probabilistic risk mitigation tool, and (4) data-driven distribution digital twin model for grid resiliency.

On June 6, 2025, the Commission issued Decision and Order No. 41745 to approve the Oahu Dynamic UFLS project funding (Docket No. 2024-0283). On June 5, 2026, Hawaiian Electric filed a long-term UFLS solution study report prepared by Danovo Energy Solution, a consultant hired by Hawaiian Electric, to the Commission per the Order No. 41745. In this study report, different long-term UFLS solutions were evaluated and a high-level roadmap for developing a long-term UFLS solution was proposed. DUFLS remains a no regret solution, and further increases in DERs will require longer-term UFLS solutions that build upon and complement each other to mitigate the decrease of UFLS effectiveness due to DER.

1.4.7 Implement IEEE 2800-2022 in future large-scale inverter-based resource projects

In the Stage 3 RFP contract performance standards, we partially adopted IEEE 2800-2022 standard and merged it with our existing RDG project performance standards, and generated the latest version of RDG project performance standard. These requirements have also been included in the IGP RFP performance standards.

1.4.8 Continue engagement with the DER industry to improve inverter performance to address system security concerns

The Company submitted its response to D&O 41841 (Docket No. 2020-0132) on August 27, 2025 providing its "Plans for mitigation Distributed Energy Resource ("DER") impacts." This white paper discusses the currently identified impacts of DERs, which include system strength and inertia reduction, momentary cessation risk, legacy DER tripping, and UFLS effectiveness. There is also a recognition that are other impacts as the system continues to evolve to higher levels of inverter-based resource mixes.

Recent operating experience has also highlighted the importance of future DER control capabilities and the need to address aggregate DER behaviors that can create system concerns under certain conditions, such as storm mode responses, anti-islanding behavior, and behaviors impacting power quality (i.e., flicker). Identification of system impacts is challenging without broader visibility into and control of distributed devices and the ability to isolate common-mode behaviors. Ongoing DER testing, standards development, monitoring, and industry engagement are intended to improve ride-through performance, reduce adverse aggregate DER behaviors, and inform future DER control requirements needed to maintain system security as DER penetration increases.

1.4.9 Continue evaluating advanced equipment for providing system stability (e.g., grid-forming STATCOM)

We are experiencing operational impacts from the reduction in conventional plants, under high penetration of DER energy and utility scale wind, solar, and storage and this is expected to increase. The amount of contingency reserve on GFM resources or other resource must-run rules required to transition to operation with fewer conventional plants while maintaining acceptable reliability will continue to be analyzed, considering the challenge with obtaining models that accurately capture the actual dynamics behavior of DER and utility scale resources. Project withdrawals have continued to hinder the ability to increase the amount of GFM resources and thus, GFM contingency reserves. It should be noted as well that active management of these resources continues to grow in complexity with the continued addition of resources. Such increased complexities may lead to the addition of future contingency resources (e.g., GFM STATCOM, standalone FFR) to supplement the security of the system. Additional monitoring and control capabilities will be required in system operations.

1.4.10 Develop interconnection standards for grid interface of electric vehicles to get ahead of potential system security risks seen today with rooftop solar systems

We have worked with EPRI to understand how existing EV chargers perform under fault conditions. Electromagnetic Transient (“EMT”) models were created in this process to incorporate the aggregated behaviors of EV chargers on the system for future analyses. A key takeaway was that EV chargers’ behaviors under fault conditions vary and have the potential to mitigate impact to the system if standard requirements are developed. We will continue to analyze these behaviors and anticipate developing standard requirements in the future.

2 2026 IGP Plan

This section provides a comparison of the 2026 IGP Plan to the 2025 IGP Plan. Descriptions of the resource changes in the 2026 IGP Plan are also provided with summary tables of the 2025 IGP Plan, the 2026 IGP Plan, and description of changes made to the 2025 IGP Plan. The 2026 IGP Plan began with the 2025 IGP Plan that was filed on June 30, 2025 and was updated with changes in scope and timing for planned projects from previous RFPs and the placeholders for the IGP RFPs.

Additional resources needed to achieve the RPS, GHG, and DER goals set by the Governor's Executive Order and the PUC Inclinations are not included in the 2026 IGP Plan below. The Companies propose that these interim RPS, GHG, and DER goals and resulting resource plans be re-assessed holistically with stakeholders as part of the Second Cycle of IGP.

2.1 O‘ahu

Table 2-1: O‘ahu Resource Plan

O‘ahu Resource Plan Update · IGP RFP: First Round · IGP RFP: Second Round · Long-term RFP				
Year	**2025 IGP Plan**	**2026 IGP Plan - Redline**	**2026 IGP Plan**	**Description of Changes**
2026	Remove 15 MW Load Build Remove 26 MW Load Reduce Install 6 MW LMI Kaukonahua Standalone Solar Install 6 MW 30 MWh Pu‘uloa Solar S3 RFP Install 1.7 MW KHLS Install 30 MW 240 MWh Waiawa Ph 2 Solar	Remove 15 MW Load Build Remove 26 MW Load Reduce ~~Install 6 MW LMI Kaukonahua Standalone Solar~~ ~~Install 6 MW 30 MWh Pu‘uloa Solar S3 RFP~~ Install 1.7 MW KHLS Install 30 MW 240 MWh Waiawa Ph 2 Solar Install 7 MW 35 MWh Mountain View Solar	Remove 15 MW Load Build Remove 26 MW Load Reduce Install 1.7 MW KHLS Install 30 MW 240 MWh Waiawa Ph 2 Solar Install 7 MW 35 MWh Mountain View Solar	Removed Kaukonahua Standalone Solar due to withdrawal. Updated Pu‘uloa Solar COD to 11/2027. Updated Mountain View Solar COD from 10/2025 to 11/2026.
2027	Install 120 MW 480 MWh Mahi Solar and Storage S3 RFP	~~Install 120 MW 480 MWh Mahi Solar and Storage S3 RFP~~ Install 6 MW 30 MWh Pu‘uloa Solar S3 RFP	Install 6 MW 30 MWh Pu‘uloa Solar S3 RFP	Updated Mahi Solar and Storage COD to 10/2028. Updated Pu‘uloa Solar COD to 11/2027.
2028	Install 99 MW Pu‘uloa Energy 1 S3 RFP	~~Install 99 MW Pu‘uloa Energy 1 S3 RFP~~ Install 120 MW 480 MWh Mahi Solar and Storage S3 RFP	Install 120 MW 480 MWh Mahi Solar and Storage S3 RFP	Updated Pu‘uloa Energy COD to 10/2029. Updated Mahi Solar and Storage COD to 10/2028.
2029	Install 84.2 MW Waiau 11-12, Waiau Repower S3 RFP Remove 108.1 MW Waiau 5-6	Install 84.2 MW Waiau 11-12, Waiau Repower S3 RFP Remove 108.1 MW Waiau 5-6 Install 99 MW Pu‘uloa Energy 1 S3 RFP	Install 84.2 MW Waiau 11-12, Waiau Repower S3 RFP Remove 108.1 MW Waiau 5-6 Install 99 MW Pu‘uloa Energy 1 S3 RFP	Updated Pu‘uloa Energy COD to 10/2029.
2030	IGP RFP: First Round - Install 750 GWh Renewable Energy + 350 MW GFM (363 MW hybrid solar)	~~IGP RFP: First Round - Install 750 GWh Renewable Energy + 350 MW GFM (363 MW hybrid solar)~~		Updated IGP RFP: First Round COD to 11/2031 based on latest estimate and Order No. 42665.

O‘ahu Resource Plan Update IGP RFP: First Round IGP RFP: Second Round Long-term RFP				
Year	**2025 IGP Plan**	**2026 IGP Plan - Redline**	**2026 IGP Plan**	**Description of Changes**
2031	Remove 30 MW Kahuku Wind Install 84.2 MW Waiau 13-14, Waiau Repower S3 RFP Remove 169.1 MW Waiau 7-8	Remove 30 MW Kahuku Wind Install 84.2 MW Waiau 13-14, Waiau Repower S3 RFP Remove 169.1 MW Waiau 7-8 IGP RFP: First Round - Install 750 GWh Renewable Energy + 350 MW GFM	Remove 30 MW Kahuku Wind Install 84.2 MW Waiau 13-14, Waiau Repower S3 RFP Remove 169.1 MW Waiau 7-8 IGP RFP: First Round - Install 750 GWh Renewable Energy + 350 MW GFM	Updated IGP RFP: First Round COD to 11/2031 based on latest estimate and Order No. 42665. Specific technologies are removed from RFPs as RFPs are expected to be technology agnostic.
2032	Remove 1 MW Kapolei Sustainable Energy Park Remove 69 MW Kawailoa Wind	Remove 1 MW Kapolei Sustainable Energy Park Remove 69 MW Kawailoa Wind	Remove 1 MW Kapolei Sustainable Energy Park Remove 69 MW Kawailoa Wind	
2033	Remove 5 MW Kalaeloa Solar Two Remove 5 MW Kalaeloa Renewable Energy Park Remove 164.9 MW Kahe 1-2 Remove 60 MW Load Build 3 Remove 60 MW Load Reduce 3 208 MW KPLP Biodiesel Conversion S3 RFP Install 84.2 MW Waiau 15-16, Waiau Repower S3 RFP IGP RFP: First Round - Install 81 MW Firm IGP RFP: Second Round - Install 232 GWh Renewable Energy (11 MW Standalone Solar, 99 MW Onshore Wind) IGP RFP: Second Round - Replace prior RFP withdrawals or shortfall from First Round IGP RFP	Remove 5 MW Kalaeloa Solar Two Remove 5 MW Kalaeloa Renewable Energy Park Remove 164.9 MW Kahe 1-2 Remove 60 MW Load Build 3 Remove 60 MW Load Reduce 3 208 MW KPLP Biodiesel Conversion S3 RFP Install 84.2 MW Waiau 15-16, Waiau Repower S3 RFP ~~IGP RFP: First Round - Install 81 MW Firm~~ ~~IGP RFP: Second Round - Install 232 GWh Renewable Energy~~ ~~(11 MW Standalone Solar 99 MW Onshore Wind)~~ ~~IGP RFP: Second Round - Replace prior RFP withdrawals or shortfall from First Round IGP RFP~~	Remove 5 MW Kalaeloa Solar Two Remove 5 MW Kalaeloa Renewable Energy Park Remove 164.9 MW Kahe 1-2 Remove 60 MW Load Build 3 Remove 60 MW Load Reduce 3 208 MW KPLP Biodiesel Conversion S3 RFP Install 84.2 MW Waiau 15-16, Waiau Repower S3 RFP	Updated IGP RFP: First Round COD to 12/2034 based on latest estimate and Order No. 42665. Updated IGP RFP: Second Round COD to 12/2034 based on latest estimate and Order No. 42665.

O'ahu Resource Plan Update IGP RFP: First Round IGP RFP: Second Round Long-term RFP				
Year	**2025 IGP Plan**	**2026 IGP Plan - Redline**	**2026 IGP Plan**	**Description of Changes**
2034		IGP RFP: First Round - Install 81 MW Firm IGP RFP: Second Round - Install 232 GWh Renewable Energy IGP RFP: Second Round - Replace prior RFP withdrawals or shortfall from First Round IGP RFP	IGP RFP: First Round - Install 81 MW Firm IGP RFP: Second Round - Install 232 GWh Renewable Energy IGP RFP: Second Round - Replace prior RFP withdrawals or shortfall from First Round IGP RFP	Updated IGP RFP: First Round COD to 12/2034 based on latest estimate and Order No. 42665. Updated IGP RFP: Second Round COD to 12/2034 based on latest estimate and Order No. 42665. Specific technologies are removed from RFPs as RFPs are expected to be technology agnostic.
2035				
2036	LT RFP: Install 2,230 GWH Renewable Energy	LT RFP: Install 2,230 GWH Renewable Energy	LT RFP: Install 2,230 GWH Renewable Energy	
2037	Remove 171.5 MW Kahe 3-4	Remove 171.5 MW Kahe 3-4	Remove 171.5 MW Kahe 3-4	
2038				
2039	Remove 27.6 MW Waianae Solar	Remove 27.6 MW Waianae Solar	Remove 27.6 MW Waianae Solar	
2040	Remove 24 MW Nā Pua Makani Wind Install 12 MW 48 MWh Standalone BESS Install 28 MW Recovered PV Potential Install 24 MW Recovered Wind Potential	Remove 24 MW Nā Pua Makani Wind Install 12 MW 48 MWh Standalone BESS Install 28 MW Recovered PV Potential Install 24 MW Recovered Wind Potential	Remove 24 MW Nā Pua Makani Wind Install 12 MW 48 MWh Standalone BESS Install 28 MW Recovered PV Potential Install 24 MW Recovered Wind Potential	
2041	Remove 109.6 MW Clearway Projects	Remove 109.6 MW Clearway Projects	Remove 109.6 MW Clearway Projects	
2042				
2043				
2044	Remove 20 MW West Loch Solar	Remove 20 MW West Loch Solar	Remove 20 MW West Loch Solar	

O‘ahu Resource Plan Update / IGP RFP: First Round / IGP RFP: Second Round / Long-term RFP				
Year	**2025 IGP Plan**	**2026 IGP Plan - Redline**	**2026 IGP Plan**	**Description of Changes**
2045	Install 182 MW 728 MWh Standalone BESS Install 1,310 MW 2,619 MWh Aggregated DER BESS Install 1,310 MW Aggregated DER Install 129 MW Recovered PV Potential Biodiesel Conversion on all firm units	Install 182 MW 728 MWh Standalone BESS Install 1,310 MW 2,619 MWh Aggregated DER BESS Install 1,310 MW Aggregated DER Install 129 MW Recovered PV Potential Biodiesel Conversion on all firm units	Install 182 MW 728 MWh Standalone BESS Install 1,310 MW 2,619 MWh Aggregated DER BESS Install 1,310 MW Aggregated DER Install 129 MW Recovered PV Potential Biodiesel Conversion on all firm units	
2046	Remove 269.5 MW Kahe 5-6	Remove 269.5 MW Kahe 5-6	Remove 269.5 MW Kahe 5-6	
2047				
2048				
2049				
2050	Install 127 MW 508 MWh Standalone BESS Install 947 MW 1,894 MWh Aggregated DER BESS Install 947 MW Aggregated DER	Install 127 MW 508 MWh Standalone BESS Install 947 MW 1,894 MWh Aggregated DER BESS Install 947 MW Aggregated DER	Install 127 MW 508 MWh Standalone BESS Install 947 MW 1,894 MWh Aggregated DER BESS Install 947 MW Aggregated DER	

2.2 Hawai‘i Island

Table 2-2: Hawai‘i Island Resource Plan

Hawai‘i Island Resource Plan Update / IGP RFP: First Round / IGP RFP: Second Round / Long-term RFP				
Year	**2025 IGP Plan**	**2026 IGP Plan - Redline**	**2026 IGP Plan**	**Description of Changes**
2026	Remove 3.17 MW Load Build Remove 4 MW Load Reduction Install 3.4 MW 13.7 MWh LMI Kalaoa Solar A Install 3.4 MW 13.7 MWh LMI Kalaoa Solar B	Remove 15.5 MW Puna Steam Remove 3.17 MW Load Build Remove 4 MW Load Reduction ~~Install 3.4 MW 13.7 MWh LMI Kalaoa Solar A~~ ~~Install 3.4 MW 13.7 MWh LMI Kalaoa Solar B~~	Remove 15.5 MW Puna Steam Remove 3.17 MW Load Build Remove 4 MW Load Reduction	Puna Steam to be temporarily removed from service 8/2026 Removed Kalaoa Solar A due to withdrawal Removed Kalaoa Solar B due to withdrawal
2027	Remove 20.5 MW Tawhiri	Return 15.5 MW Puna Steam Remove 20.5 MW Tawhiri	Return 15.5 MW Puna Steam Return 1.25 MW Pana‘ewa D24 Remove 20.5 MW Tawhiri	Puna Steam assumed to return to service 6/2027 Pana‘ewa D24 assumed to return to service from 3/2027
2028	Remove 33.8 MW Hill5-6 Remove 12.1 MW Wailuku Hydro PGV capacity increase to 46 MW	Remove 33.8 MW Hill5-6 Remove 12.1 MW Wailuku Hydro PGV capacity increase to 46 MW	Remove 33.8 MW Hill5-6 Remove 12.1 MW Wailuku Hydro PGV capacity increase to 46 MW	
2029				
2030	Install 86 MW 344 MWh Keamuku Solar S3 RFP Biodiesel Conversion 60 MW Hamakua Firm Renewable Energy Install 7.5 MW 30 MWh Hamakua Firm Renewable Energy Battery IGP RFP: First Round - Install 435 GWh Renewable Energy (30 MW onshore wind + 115 MW Paired PV)	Install 86 MW 344 MWh Keamuku Solar S3 RFP Biodiesel Conversion 60 MW Hamakua Firm Renewable Energy Install 7.5 MW 30 MWh Hamakua Firm Renewable Energy Battery ~~IGP RFP: First Round - Install 435 GWh Renewable Energy (30 MW onshore wind + 115 MW Paired PV)~~	Install 86 MW 344 MWh Keamuku Solar S3 RFP Biodiesel Conversion 60 MW Hamakua Firm Renewable Energy Install 7.5 MW 30 MWh Hamakua Firm Renewable Energy Battery	Updated IGP RFP: First Round COD to 11/2031 based on latest estimate and Order No. 42665.

Hawaiʻi Island Resource Plan Update · IGP RFP: First Round · IGP RFP: Second Round · Long-term RFP				
Year	**2025 IGP Plan**	**2026 IGP Plan - Redline**	**2026 IGP Plan**	**Description of Changes**
2031	Remove 10.25 MW Kanoelehua CT1 Remove 13.8 MW Keāhole CT2	Remove 10.25 MW Kanoelehua CT1 Remove 13.8 MW Keāhole CT2 IGP RFP: First Round - Install 435 GWh Renewable Energy	Remove 10.25 MW Kanoelehua CT1 Remove 13.8 MW Keāhole CT2 IGP RFP: First Round - Install 435 GWh Renewable Energy	Updated IGP RFP: First Round COD to 11/2031 based on latest estimate and Order No. 42665. Specific technologies are removed from RFPs as RFPs are expected to be technology agnostic.
2032	IGP RFP: First Round - Install 30 MW Firm	~~IGP RFP: First Round - Install 30 MW Firm~~		Updated IGP RFP: First Round COD to 12/2033 based on latest estimate and Order No. 42665.
2033	IGP RFP: Second Round to replace possible Stage 3 RFP withdrawals	~~IGP RFP: Second Round to replace possible Stage 3 RFP withdrawals~~ IGP RFP: First Round - Install 30 MW Firm	IGP RFP: First Round - Install 30 MW Firm	Updated IGP RFP: First Round COD to 12/2033 based on latest estimate and Order No. 42665. Updated IGP RFP: Second Round COD to 12/2034 based on latest estimate and Order No. 42665.
2034		IGP RFP: Second Round to replace possible Stage 3 RFP withdrawals	IGP RFP: Second Round to replace possible Stage 3 RFP withdrawals	Updated IGP RFP: Second Round COD to 12/2034 based on latest estimate and Order No. 42665.
2035				
2036				
2037				
2038				
2039				
2040	Install 1 MW 4 MWh Standalone BESS Install 20 MW 80 MWh Hybrid Solar AggA Install 1 MW Wind New AggA	Install 1 MW 4 MWh Standalone BESS Install 20 MW 80 MWh Hybrid Solar AggA Install 1 MW Wind New AggA	Install 1 MW 4 MWh Standalone BESS Install 20 MW 80 MWh Hybrid Solar AggA Install 1 MW Wind New AggA	
2041				
2042				
2043				
2044				

Hawaiʻi Island Resource Plan Update IGP RFP: First Round IGP RFP: Second Round Long-term RFP				
Year	**2025 IGP Plan**	**2026 IGP Plan - Redline**	**2026 IGP Plan**	**Description of Changes**
2045	Install 2 MW 8 MWh Standalone BESS Biodiesel Conversion on all firm units	Install 2 MW 8 MWh Standalone BESS Biodiesel Conversion on all firm units	Install 2 MW 8 MWh Standalone BESS Biodiesel Conversion on all firm units	
2046				
2047				
2048				
2049				
2050	Install 15 MW 60 MWh Hybrid Solar AggA Install 2 MW Wind New AggA	Install 15 MW 60 MWh Hybrid Solar AggA Install 2 MW Wind New AggA	Install 15 MW 60 MWh Hybrid Solar AggA Install 2 MW Wind New AggA	

2.3 Maui

Table 2-3: Maui Resource Plan

Maui Resource Plan Update · IGP RFP: First Round · IGP RFP: Second Round · Long-term RFP				
Year	**2025 IGP Plan**	**2026 IGP Plan - Redline**	**2026 IGP Plan**	**Description of Changes**
2026	Remove 4.73 MW Load Reduce Grid Service Remove 1.88 MW Load Build Grid Service Install 40 MW 160 MWH Waena BESS Remove 30 MW Kaheawa Wind Power 1 Install 30 MW Kaheawa Wind 1	Remove 4.73 MW Load Reduce Grid Service Remove 1.88 MW Load Build Grid Service ~~Install 40 MW 160 MWH Waena BESS~~ Remove 30 MW Kaheawa Wind Power 1 Install 30 MW Kaheawa Wind 1	Remove 4.73 MW Load Reduce Grid Service Remove 1.88 MW Load Build Grid Service Remove 30 MW Kaheawa Wind Power 1 Install 30 MW Kaheawa Wind 1	Updated Waena BESS COD to 5/2027
2027	Remove 11.3 MW Kahului 3 Install 40 MW 160 MWh Kuihelani Phase 2 Solar Install 20 MW 80 MWh Pūlehu Solar & Storage Install 40 MW ʻŪkiu Energy ICE Install 2.5 MW 10.9MWh LMI Pi'iholo Road Solar + Battery	~~Remove 11.3 MW Kahului 3~~ ~~Install 40 MW 160 MWh Kuihelani Phase 2 Solar~~ Remove 11.5 MW Kahului 4 Install 2x1.825 MW Internal Combustion generators at Kuihelani Install 20 MW 80 MWh Pūlehu Solar & Storage ~~Install 40 MW ʻŪkiu Energy ICE~~ ~~Install 2.5 MW 10.9MWh LMI Pi'iholo Road Solar + Battery~~ Install 40 MW 160 MWH Waena BESS	Remove 11.5 MW Kahului 4 Install 2x1.825 MW Internal Combustion generators at Kuihelani Install 20 MW 80 MWh Pūlehu Solar & Storage Install 40 MW 160 MWH Waena BESS	Kahului 3 removal from service swapped with Kahului 4 Install two additional 1.825 MW internal combustion generators at Kuihelani Updated Kuihelani Phase 2 Solar COD to 11/2028 Updated ʻŪkiu Energy ICE COD to 11/2028 Removed LMI Pi'iholo Road Solar + Battery due to withdrawal Updated Waena BESS COD to 5/2027
2028	Remove 9.47 MW Kahului 1-2 Remove 11.5 MW Kahului 4 Remove 12.34 MW Māʻalaea 13	Remove 9.47 MW Kahului 1-2 Remove 11.3 MW Kahului 3 ~~Remove 11.5 MW Kahului 4~~ ~~Remove 12.34 MW Māʻalaea 13~~ Install 40 MW 160 MWh Kuihelani Phase 2 Solar Install 40 MW ʻŪkiu Energy ICE	Remove 9.47 MW Kahului 1-2 Remove 11.3 MW Kahului 3 Install 40 MW 160 MWh Kuihelani Phase 2 Solar Install 40 MW ʻŪkiu Energy ICE	Kahului 3 removal from service swapped with Kahului 4 Māʻalaea 13 removal from service delayed. Updated Kuihelani Phase 2 Solar COD to 11/2028 Updated ʻŪkiu Energy ICE COD to 11/2028

Maui Resource Plan Update / IGP RFP: First Round / IGP RFP: Second Round / Long-term RFP				
Year	**2025 IGP Plan**	**2026 IGP Plan - Redline**	**2026 IGP Plan**	**Description of Changes**
2029	Remove 12.34 MW Māʻalaea 12	~~Remove 12.34 MW Māʻalaea 12~~		Māʻalaea 12 removal from service delayed.
2030	Remove 33 MW Māʻalaea 4-9 Remove 7.5 MW Māʻalaea 1-3 Remove 12.34 MW Māʻalaea 11	~~Remove 33 MW Māʻalaea 4-9~~ ~~Remove 7.5 MW Māʻalaea 1-3~~ Remove 12.34 MW Māʻalaea 11	Remove 12.34 MW Māʻalaea 11	Māʻalaea 1-9 assumed to remain in service.
2031	Remove 12.34 MW Māʻalaea 10	~~Remove 12.34 MW Māʻalaea 10~~		Māʻalaea 10 removal from service delayed.
2032		Remove 12.34 MW Māʻalaea 10	Remove 12.34 MW Māʻalaea 10	Māʻalaea 10 removal from service delayed.
2033	Remove 21 MW Kaheawa Wind Power 2 Remove 21 MW Auwahi Wind IGP RFP Second Round - 230 GWh Energy Target (40 MW Onshore Wind, 25 MW Hybrid Solar) IGP RFP: Second Round - Replace prior RFP withdrawals	Remove 21 MW Kaheawa Wind Power 2 Remove 21 MW Auwahi Wind ~~IGP RFP Second Round - 230 GWh Energy Target (40 MW Onshore Wind, 25 MW Hybrid Solar)~~ ~~IGP RFP: Second Round - Replace prior RFP withdrawals~~	Remove 21 MW Kaheawa Wind Power 2 Remove 21 MW Auwahi Wind	Updated IGP RFP: Second Round COD to 12/2034 based on latest estimate and Order No. 42665.
2034		IGP RFP Second Round - 230 GWh Energy Target IGP RFP: Second Round - Replace prior RFP withdrawals	IGP RFP Second Round - 230 GWh Energy Target IGP RFP: Second Round - Replace prior RFP withdrawals	Updated IGP RFP: Second Round COD to 12/2034 based on latest estimate and Order No. 42665. Specific technologies are removed from RFPs as RFPs are expected to be technology agnostic.
2035		Remove 12.34 MW Māʻalaea 12 Remove 12.34 MW Māʻalaea 13	Remove 12.34 MW Māʻalaea 12 Remove 12.34 MW Māʻalaea 13	Māʻalaea 12 removal from service delayed. Māʻalaea 13 removal from service delayed.
2036	LT RFP: 391 GWh Energy Target (192 MW Hybrid Solar)	LT RFP: 391 GWh Energy Target ~~(192 MW Hybrid Solar)~~	LT RFP: 391 GWh Energy Target	Specific technologies are removed from RFPs as RFPs are expected to be technology agnostic.
2037		Remove 5.5 MW Māʻalaea 7	Remove 5.5 MW Māʻalaea 7	Māʻalaea 7 assumed removed from service
2038				

Maui Resource Plan Update IGP RFP: First Round IGP RFP: Second Round Long-term RFP				
Year	**2025 IGP Plan**	**2026 IGP Plan - Redline**	**2026 IGP Plan**	**Description of Changes**
2039				
2040	Remove 5.74 MW SMRR PV Install 18 MW Onshore Wind (AggC) Install 43 MW 172 MWh Hybrid Solar Battery (AggC)	Remove 5.74 MW SMRR PV Install 18 MW Onshore Wind (AggC) Install 43 MW 172 MWh Hybrid Solar Battery (AggC)	Remove 5.74 MW SMRR PV Install 18 MW Onshore Wind (AggC) Install 43 MW 172 MWh Hybrid Solar Battery (AggC)	
2041				
2042				
2043				
2044				
2045	Install 8 MW 32 MWh Hybrid Solar Battery (AggB) Install 66 MW 264 MWh Hybrid Solar Battery (AggC) Install 41 MW Onshore Wind (AggC) Biodiesel Conversion on all firm units	Install 8 MW 32 MWh Hybrid Solar Battery (AggB) Install 66 MW 264 MWh Hybrid Solar Battery (AggC) Install 41 MW Onshore Wind (AggC) Biodiesel Conversion on all firm units	Install 8 MW 32 MWh Hybrid Solar Battery (AggB) Install 66 MW 264 MWh Hybrid Solar Battery (AggC) Install 41 MW Onshore Wind (AggC) Biodiesel Conversion on all firm units	
2046				
2047				
2048				
2049				
2050	Install 57 MW 228 MWh Hybrid Solar Battery (AggB) Install 57 MW 228 MWh Hybrid Solar Battery (AggC)	Install 57 MW 228 MWh Hybrid Solar Battery (AggB) Install 57 MW 228 MWh Hybrid Solar Battery (AggC)	Install 57 MW 228 MWh Hybrid Solar Battery (AggB) Install 57 MW 228 MWh Hybrid Solar Battery (AggC)	

2.4 Moloka‘i

Table 2-4: Moloka‘i Resource Plan

Moloka‘i Resource Plan Update IGP RFP: First Round IGP RFP: Second Round Long-term RFP				
Year	**2025 IGP Plan**	**2026 IGP Plan - Redline**	**2026 IGP Plan**	**Description of Changes**
2026		Install 0.25 MW 1 MWh Kualapu‘u Community Based Renewable Energy (CBRE Phase 2) Install 2.2 MW 10.1 MWh Pala‘au Community Based Renewable Energy (CBRE Phase 2)	Install 0.25 MW 1 MWh Kualapu‘u Community Based Renewable Energy (CBRE Phase 2) Install 2.2 MW 10.1 MWh Pala‘au Community Based Renewable Energy (CBRE Phase 2)	Updated COD for CBRE Phase 2 projects
2027				
2028				
2029	Installed 0.4 MW 1.6 MWh Standalone BESS Installed 3 MW 12 MWh Hybrid Solar Storage Installed 3 MW Hybrid Solar	Installed 0.4 MW 1.6 MWh Standalone BESS Installed 3 MW 12 MWh Hybrid Solar Storage Installed 3 MW Hybrid Solar	Installed 0.4 MW 1.6 MWh Standalone BESS Installed 3 MW 12 MWh Hybrid Solar Storage Installed 3 MW Hybrid Solar	
2030	Installed 0.1 MW 0.4 MWh Standalone BESS Installed 8.5 MW 34.0 MWh Hybrid Solar Storage Installed 8.5 MW Hybrid Solar	Installed 0.1 MW 0.4 MWh Standalone BESS Installed 8.5 MW 34.0 MWh Hybrid Solar Storage Installed 8.5 MW Hybrid Solar	Installed 0.1 MW 0.4 MWh Standalone BESS Installed 8.5 MW 34.0 MWh Hybrid Solar Storage Installed 8.5 MW Hybrid Solar	
2031				
2032				
2033				
2034				
2035	Installed 0.1 MW 0.4 MWh Standalone BESS Installed 2.3 MW 9.2 MWh Hybrid Solar Storage Installed 2.3 MW Hybrid Solar	Installed 0.1 MW 0.4 MWh Standalone BESS Installed 2.3 MW 9.2 MWh Hybrid Solar Storage Installed 2.3 MW Hybrid Solar	Installed 0.1 MW 0.4 MWh Standalone BESS Installed 2.3 MW 9.2 MWh Hybrid Solar Storage Installed 2.3 MW Hybrid Solar	
2036				
2037				

Moloka'i Resource Plan Update / IGP RFP: First Round / IGP RFP: Second Round / Long-term RFP				
Year	**2025 IGP Plan**	**2026 IGP Plan - Redline**	**2026 IGP Plan**	**Description of Changes**
2038				
2039				
2040	Installed 1.1 MW 4.4 MWh Hybrid Solar Storage Installed 1.1 MW Hybrid Solar	Installed 1.1 MW 4.4 MWh Hybrid Solar Storage Installed 1.1 MW Hybrid Solar	Installed 1.1 MW 4.4 MWh Hybrid Solar Storage Installed 1.1 MW Hybrid Solar	
2041				
2042				
2043				
2044				
2045	Installed 0.1 MW 0.4 MWh Standalone BESS Installed 2.6 MW 10.4 MWh Hybrid Solar Storage Installed 2.6 MW Hybrid Solar Biodiesel Conversion on all firm units	Installed 0.1 MW 0.4 MWh Standalone BESS Installed 2.6 MW 10.4 MWh Hybrid Solar Storage Installed 2.6 MW Hybrid Solar Biodiesel Conversion on all firm units	Installed 0.1 MW 0.4 MWh Standalone BESS Installed 2.6 MW 10.4 MWh Hybrid Solar Storage Installed 2.6 MW Hybrid Solar Biodiesel Conversion on all firm units	
2046				
2047				
2048				
2049				
2050	Installed 1.2 MW 4.8 MWh Hybrid Solar Storage Installed 1.2 MW Hybrid Solar	Installed 1.2 MW 4.8 MWh Hybrid Solar Storage Installed 1.2 MW Hybrid Solar	Installed 1.2 MW 4.8 MWh Hybrid Solar Storage Installed 1.2 MW Hybrid Solar	

2.5 Lānaʻi

Table 2-5: Lānaʻi Resource Plan

Lānaʻi Resource Plan Update · IGP RFP: First Round · IGP RFP: Second Round · Long-term RFP				
Year	**2025 IGP Plan**	**2026 IGP Plan - Redline**	**2026 IGP Plan**	**Description of Changes**
2026				
2027				
2028				
2029	Installed 0.6 MW 2.4 MWh Standalone BESS Installed 0.3 MW 1.2 MWh Hybrid Solar Storage Installed 0.3 MW Hybrid Solar	Installed 0.6 MW 2.4 MWh Standalone BESS Installed 0.3 MW 1.2 MWh Hybrid Solar Storage Installed 0.3 MW Hybrid Solar	Installed 0.6 MW 2.4 MWh Standalone BESS Installed 0.3 MW 1.2 MWh Hybrid Solar Storage Installed 0.3 MW Hybrid Solar	
2030	Installed 4.9 MW 19.6 MWh Hybrid Solar Storage Installed 4.9 MW Hybrid Solar	Installed 4.9 MW 19.6 MWh Hybrid Solar Storage Installed 4.9 MW Hybrid Solar IGP Lānaʻi RFP: Install 35.8 GWh Renewable Energy	Installed 4.9 MW 19.6 MWh Hybrid Solar Storage Installed 4.9 MW Hybrid Solar IGP Lānaʻi RFP: Install 35.8 GWh Renewable Energy	Update from proposed IGP RFP for Lānaʻi
2031				
2032				
2033				
2034				
2035	Installed 0.3 MW 1.2 MWh Hybrid Solar Storage Installed 0.3 MW Hybrid Solar	Installed 0.3 MW 1.2 MWh Hybrid Solar Storage Installed 0.3 MW Hybrid Solar	Installed 0.3 MW 1.2 MWh Hybrid Solar Storage Installed 0.3 MW Hybrid Solar	
2036				
2037				
2038				
2039				
2040	Installed 1 MW 4 MWh Hybrid Solar Storage Installed 1 MW Hybrid Solar	Installed 1 MW 4 MWh Hybrid Solar Storage Installed 1 MW Hybrid Solar	Installed 1 MW 4 MWh Hybrid Solar Storage Installed 1 MW Hybrid Solar	
2041				
2042				

Lānaʻi Resource Plan Update · IGP RFP: First Round · IGP RFP: Second Round · Long-term RFP				
Year	**2025 IGP Plan**	**2026 IGP Plan - Redline**	**2026 IGP Plan**	**Description of Changes**
2043				
2044				
2045	Installed 0.2 MW 0.8 MWh Standalone BESS Installed 1.5 MW 6.0 MWh Hybrid Solar Storage Installed 1.5 MW Hybrid Solar Biodiesel Conversion on all firm units	Installed 0.2 MW 0.8 MWh Standalone BESS Installed 1.5 MW 6.0 MWh Hybrid Solar Storage Installed 1.5 MW Hybrid Solar Biodiesel Conversion on all firm units	Installed 0.2 MW 0.8 MWh Standalone BESS Installed 1.5 MW 6.0 MWh Hybrid Solar Storage Installed 1.5 MW Hybrid Solar Biodiesel Conversion on all firm units	
2046				
2047				
2048				
2049				
2050	Installed 0.1 MW 0.4 MWh Standalone BESS Installed 0.9 MW 3.6 MWh Hybrid Solar Storage Installed 0.9 MW Hybrid Solar	Installed 0.1 MW 0.4 MWh Standalone BESS Installed 0.9 MW 3.6 MWh Hybrid Solar Storage Installed 0.9 MW Hybrid Solar	Installed 0.1 MW 0.4 MWh Standalone BESS Installed 0.9 MW 3.6 MWh Hybrid Solar Storage Installed 0.9 MW Hybrid Solar	

Prioritizing and Advancing Renewable Energy Zones

Designation of pilot zones on O‘ahu

June 30, 2026

Hawaiian Electric

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Glossary of terms, abbreviations and acronyms

Acronym	Definition
CWG	Community Working Group
FEMA	Federal Emergency Management Agency
MW	Megawatt
NEPA	National Environmental Policy Act
NREL	National Renewable Energy Laboratory
O&M	Operations and maintenance
PV	Photovoltaic
REZ	Renewable energy zone/s
RFI	Request/s for information
RFP	Request/s for proposals
STWG	Stakeholder Technical Working Group
TMK	Tax map key/s

1. Executive Summary

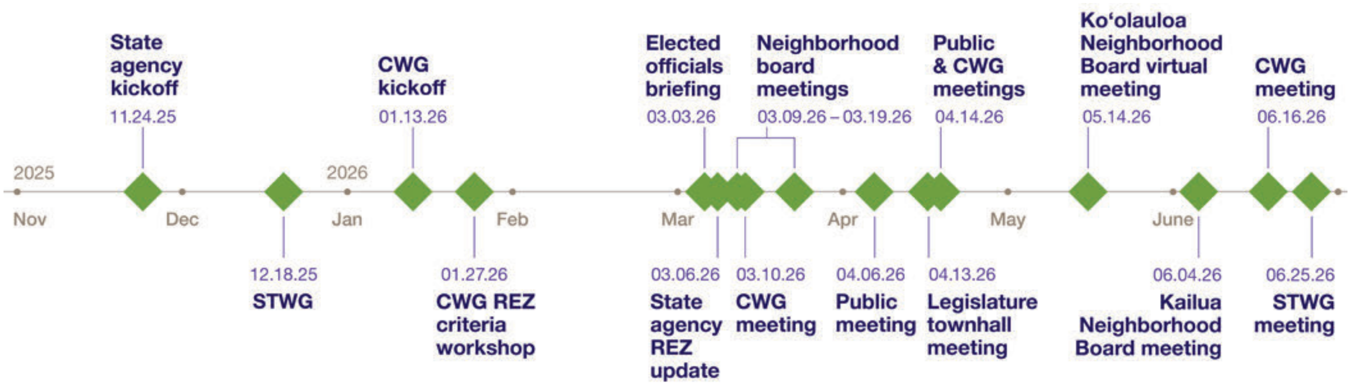
Hawaiian Electric's Renewable Energy Zones (REZ) planning process is a critical step toward meeting the State of Hawai'i's mandate for a net zero carbon economy by 2045. REZ serve as the building blocks of the clean energy grid, allowing for planned, strategic coordination of grid upgrades that support new generation projects. Benefits of REZ include reducing project costs, minimizing impacts on communities and the environment and streamlining connection of clean generation to the grid.

Guided by the Public Utilities Commission's inclinations and the Governor's Executive Orders, Hawaiian Electric developed a structured methodology to identify, evaluate and prioritize two REZ on O'ahu for near-term development. This approach helps deliver the greatest value to customers while aligning with statewide decarbonization goals. Hawaiian Electric partnered with HDR Engineering to apply a data-driven approach that considers factors that fall into three general groups:

- **Cost effectiveness and efficiency**: Prioritizing locations that provide the best value for money
- **Equity and environment**: Prioritizing locations that would result in an equitable distribution of generation projects among the community and seek to limit environmental disturbance caused by the project
- **Resilience and climate**: Avoiding locations at high risk for climate effects

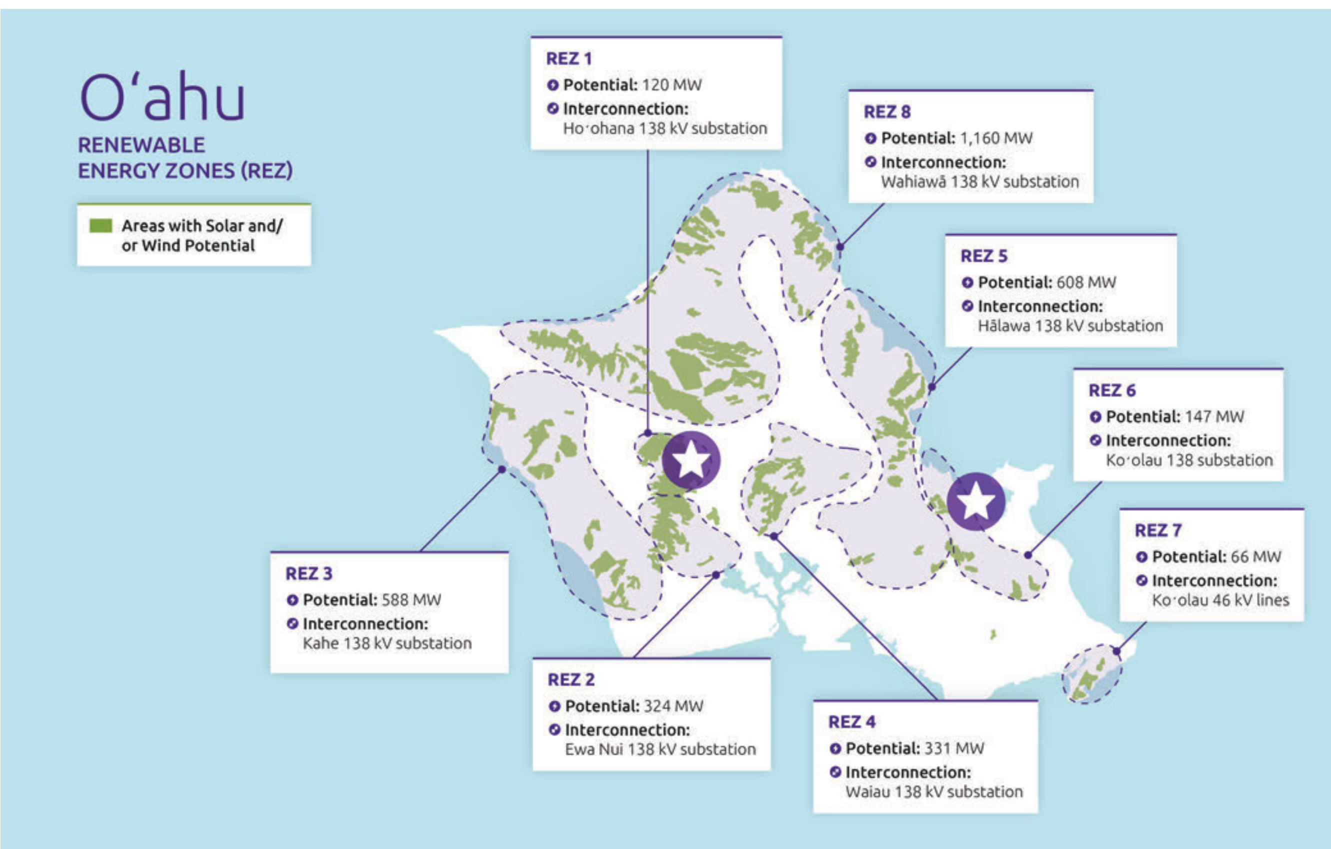
A central focus of the REZ planning process is financial responsibility. Hawaiian Electric used cost estimate data to assess and compare relative development costs, grid integration costs, and operations and maintenance (O&M) expenses. This comprehensive approach enables Hawaiian Electric to advance REZ that balance technical benefits with cost-effective solutions. Equally essential to REZ planning is engaging partners and the public at every stage. Hawaiian Electric actively engaged neighborhood boards, state agencies, elected officials, developers, the Community Working Group (CWG) and the Stakeholder Technical Working Group (STWG) to solicit input and incorporate feedback into the prioritization process.

Figure 1-1. Timeline of partner and public engagement in REZ planning



Based on this integrated methodology, **Hawaiian Electric recommends prioritizing Zones 1 and 6 on O'ahu for near-term development and advancing them into Phase 2 (conceptual design and procurement).** These zones show strong overall technical performance, relatively contained transmission scope and ability to advance material amounts of renewable capacity within a manageable cost and risk profile. Figure 1-2 shows all identified REZ on O'ahu, with the two priority zones starred.

Figure 1-2. Priority REZ on O'ahu



REZ development is broken into three phases, following this general structure:

- **Phase 1:** REZ identification and prioritization
- **Phase 2:** Conceptual design and procurement
- **Phase 3:** Project development and implementation

Moving Zones 1 and 6 into Phase 2 represents pilot zones that are a crucial first step toward building out an extensive REZ program across the islands. These pilots provide the opportunity to move from planning into execution while maintaining financial discipline and responsiveness to stakeholder feedback. Advancing these two pilots will allow Hawaiian Electric to gain essential experience working with government agencies, developers and communities to plan, construct and deliver generation and transmission projects within each REZ and inform the development of additional REZ. Taking a phased approach positions the REZ program to move forward deliberately while retaining flexibility to respond to evolving technical, community and regulatory considerations. See near-term action plan on the following page for an overview of recommended next steps.

This report provides detailed analysis and documentation to support these recommendations, offering a transparent foundation for ongoing development and execution of the prioritized REZ. The following sections explain the technical methodology used to identify and prioritize REZ, describe the extensive stakeholder engagement that informed those decisions, demonstrate alignment with state decarbonization mandates and outlines the next steps required to advance the highest priority zones into development.

While these two pilot zones represent an important step forward, it's not nearly enough to meet future energy needs. The First Cycle Integrated Grid Plan identified the expansion of REZ on O'ahu as a potentially cost-effective way to supply enough generation to power an increasingly electrified society. Hawai'i may not be able to meet its energy goals on the timeline mandated by the state without rapid and extensive development of renewable generation and the transmission infrastructure needed to support the added capacity. Shared commitment, collaboration and sustained engagement of partners—including government agencies and community members—is crucial to moving this ambitious work forward.

Limited land availability and competing land use priorities remain major challenges for REZ development on O'ahu. Hawaiian Electric continues to coordinate with state agencies and stakeholders to identify opportunities for renewable energy development while balancing housing, agriculture, environmental and community needs. This effort requires continued collaboration with the State of Hawai'i's Office of Planning and Sustainable Development in its development of the Integrated Land Use Study. Hawaiian Electric's REZ prioritization report serves as a preliminary plan that provides targeted areas to focus near-term locations. As REZ development progresses, Hawaiian Electric and the Office of Planning and Sustainable Development will continue to coordinate any input needed for either analysis.

Community engagement will also remain central to the advancement of REZ and individual projects within zones. Hawaiian Electric is committed to communicating proactively and transparently with our communities. Designating two REZ for near-term development lays the foundation for renewable energy generation and transmission projects that will each individually undergo a rigorous process of community input and environmental review before approval and construction. Construction associated with REZ would begin in 2030 at the earliest.

Near-Term Action Plan

Recommended next steps to move from planning to execution

ZONE 1:

Lower-impact pilot emphasizing rapid progression into development

- Initiate land discussions with state agencies, the Department of Defense, private landowners and potential use of parking lots (where feasible)
- Advance conceptual design for the substation and the limited underground transmission line segment
- In parallel, prepare a developer procurement package to solicit interest for renewable generation within the zone, incorporating lessons learned from prior RFIs

ZONE 6:

Moderate complexity pilot that incorporates both generation development and defined greenfield transmission scope

- Initiate land acquisition discussions with state agencies, the Department of Defense and private landowners, with emphasis on areas identified through prior state land opportunity workshops
- Begin transmission development with corridor identification, environmental and permitting studies and early community engagement to inform routing decisions
- Advance conceptual design for the substation
- In parallel, prepare developer procurement package to support market readiness

ALL ZONES:

- Continue community engagement and maintain transparent communication as projects advance from zone selection to project siting
- Align execution sequencing with regulatory approvals and capital planning requirements

2. Introduction

This section provides an overview of Hawaiian Electric's REZ planning. It describes what REZ are and their benefits, outlines relevant work completed to date and situates the prioritization process in the context of regulatory guidance and the Integrated Grid Plan.

2.1 REZ Overview

Renewable energy zones (REZ) are areas with strong potential for clean energy generation and efficient connections to the grid. REZ serve as the building blocks of the clean energy grid, allowing for planned, strategic coordination of grid upgrades that support new generation projects.

Benefits of REZ include:

- Reducing project costs
- Streamlining connection of clean generation to the grid, speeding delivery time as new resources come online
- Minimizing impacts on communities and the environment
- Expanding grid capacity, modernizing infrastructure and delivering reliable energy
- Stabilizing rates by reducing dependence on imported oil and supporting local energy production

REZ help planners understand where it makes the most sense to build new renewable generation projects, and where more transmission lines are needed to carry new sources of energy to customers. Determining which locations make the most sense requires careful consideration of many factors, such as:

- Optimal locations for renewable resources
- Amount and connectivity of available land, and competing land use needs
- Costs
- Vulnerability to climate impacts like tsunamis and wildfires
- Potential impact on communities and the environment

Hawaiian Electric needs to build new transmission infrastructure as part of REZ to expand the grid's capacity. Transmission infrastructure takes much longer to build (often 10 to 20 years), compared to clean generation projects (some utility-scale solar can be developed in just 2 to 5 years). It is therefore crucial that planning and building transmission starts well in advance, so the grid is ready when new clean energy resources come online.

REZ are a key part of Hawaiian Electric's Integrated Grid Plan, which charts a path to creating a safe, reliable and resilient grid powered by 100% renewable resources by 2045. Through the REZ program, Hawaiian Electric is working alongside state leaders, agencies, communities and developers to build the infrastructure needed to meet growing electricity needs and align with state mandates for a net zero carbon economy.

2.2 Identification of REZ and Land Use Opportunities

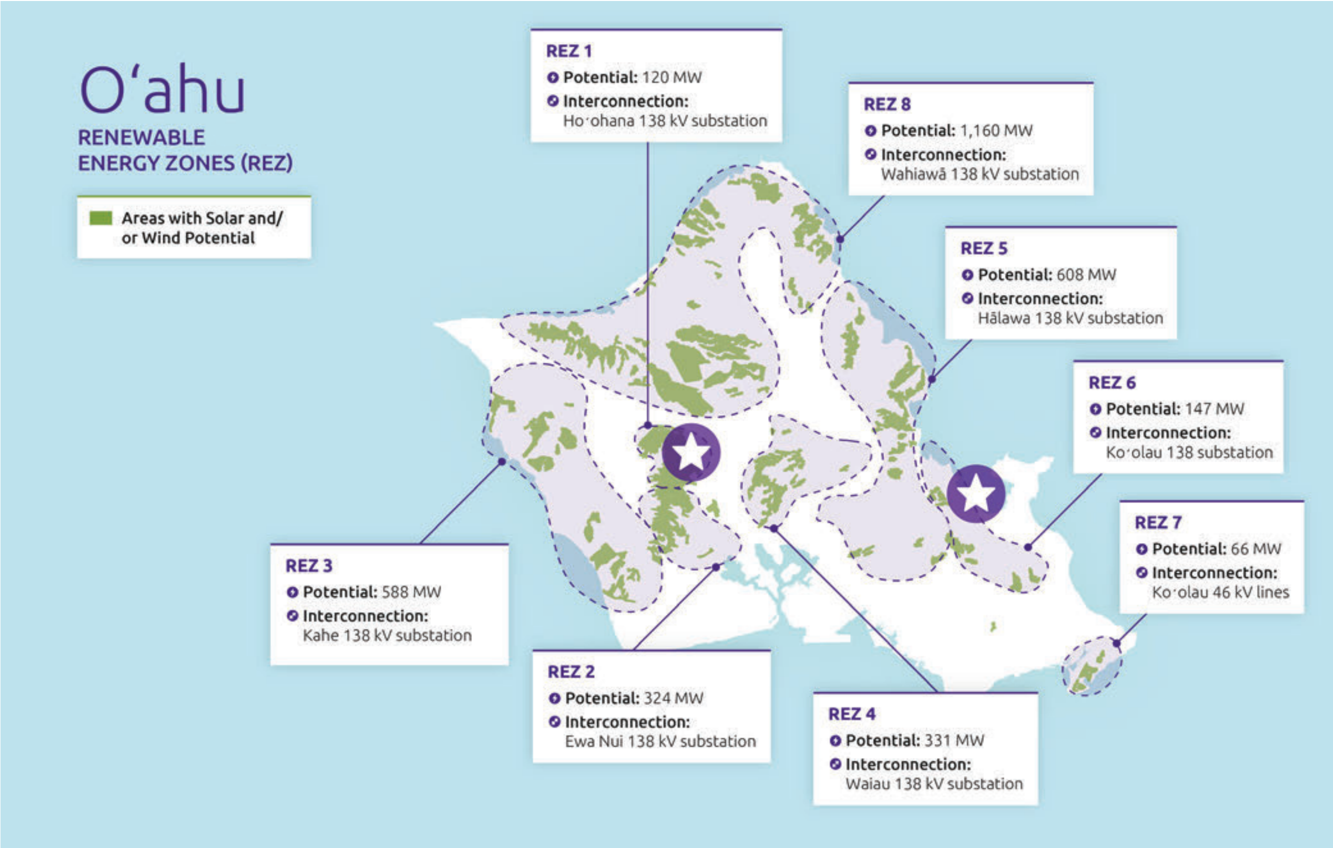
Hawaiian Electric identified REZ on O‘ahu, Hawai‘i Island and in Maui County during the first cycle of its Integrated Grid Planning process. In 2021, Hawaiian Electric conducted a Transmission Renewable Energy Zone Study[1] and presented its findings to the Stakeholder Technical Working Group.

Hawaiian Electric procures its generation resources through Requests for Proposals (RFP) allowing the market to develop and propose projects to interconnect to the system. A challenge for Hawaiian Electric is the uncertainty around where developers will choose to site new projects or identifying viable opportunities for generation development. Through its Stage 1 and 2 procurements, it was recognized prime locations for grid-scale development—with flat land, rich solar and wind resources, and adjacent to existing transmission—had been developed. Additionally, available transmission capacity was becoming increasingly constrained. In response, Hawaiian Electric conducted technical analyses to identify the upper bounds of REZ development and to determine the transmission infrastructure needed to support the interconnection of large quantities of new generation resources to the system. REZ consolidate and target geographically proximate areas to enable more efficiently planning and design of transmission to support multiple projects within the same region.

Community members played a key role in informing the identification of REZ. In 2023, the public provided comments about local challenges and opportunities for potential energy projects on an interactive map. This input, along with the technical analysis, helped Hawaiian Electric identify REZ across the islands, including eight REZ on O‘ahu. Figure 2-1 provides a map of the eight identified REZ on O‘ahu.

[1] Hawaiian Electric's Transmission Renewable Energy Zone Study (November 2021) can be found at: https://www.hawaiianelectric.com/a/9996. Hawaiian Electric presented slides on this study to the Stakeholder Technical Working Group in October 2021 – those slides can be found at: https://www.hawaiianelectric.com/a/9834

Figure 2-1. Map of all O'ahu REZ



As shown on the map, each zone contains specific areas of renewable generation potential highlighted in green. The map also shows the total generation potential in megawatts (MW) and lists the closest substation interconnection point for each zone.

The focus of this prioritization analysis is to identify two REZ to move forward with in the short-term, but eventually all REZ on O'ahu will need to be considered to work toward meeting future renewable energy goals and targets. Given the large generation potential on REZ 8, this area will be an important component for meeting these future goals. In the next phase of work, Hawaiian Electric will meet with developers and landowners to discuss specific project opportunities in the two prioritized REZ. The feedback received by developers during this phase will also be a critical part of the decision to pursue future REZ for development.

2.2.1 State of Hawai'i's Integrated Land Use Study

Limited land availability and competing land use needs remain a primary challenge to the development of REZ. Throughout the REZ evaluation process, Hawaiian Electric has worked to bring stakeholders to the table to consider opportunities for renewable energy development on land owned by the state or Department of Defense—yet identifying prioritized areas for renewable energy development remains a challenge for any agency.

Hawaiian Electric continues to track the State of Hawaiʻi's Integrated Land Use Study to be conducted by the Office of Planning and Sustainable Development. Given Oʻahu's limited land resources, the Office of Planning and Sustainable Development encourages Hawaiian Electric to look for co-located opportunities between housing, energy and agriculture (for example, agrivoltaics). Hawaiian Electric's REZ prioritization report serves as a preliminary plan that provides targeted areas to focus near-term locations. As REZ development progresses, Hawaiian Electric and the Office of Planning and Sustainable Development will continue to coordinate any input needed for either analysis.

2.3 Prioritizing REZ for Near-Term Development

Hawaiian Electric's Integrated Grid Plan calls for the eventual development of all identified REZ on Oʻahu to meet growing energy needs. Hawaiʻi will not be able to meet its energy goals on the timeline mandated by the state without rapid and extensive development of renewable generation and the transmission to support the added capacity. This work cannot be carried forward without the shared commitment, collaboration and sustained engagement of partners, including government agencies and community members.

In its "2024 Inclinations on the Future of Energy in Hawaii," the Public Utilities Commission calls for "urgent and substantial energy infrastructure upgrades for public safety, reliability and resiliency," and directs Hawaiian Electric to "partner with government authorities on the designation of at least two REZ on Oʻahu no later than the second quarter of 2026 and thereafter to encourage utilization of the REZ in RFPs."[2]

REZ development is broken into three phases, following this general structure:

- **Phase 1:** REZ identification and prioritization
- **Phase 2:** Conceptual design and procurement
- **Phase 3:** Project development and implementation

Prioritization of two REZ on Oʻahu to move into Phase 2 is a way to maintain urgent and meaningful progress toward statewide renewable energy goals. Hawaiian Electric partnered with HDR Engineering to develop a data-driven prioritization framework that considers both technical factors and stakeholder and community input to rate or score the eight Oʻahu REZ. This framework allows Hawaiian Electric, its partners and the public to compare REZ against a variety of crucial considerations and to weigh the importance of those considerations—such as cost, development time, potential community impacts, equity and climate risks.

Based on this framework, Hawaiian Electric is recommending the top two highest scoring REZ for advancement into Phase 2. These two priority zones represent "pilots" that will allow Hawaiian Electric to

[2] Hawaii Public Utilities Commission's 2024 Inclinations on the Future of Energy in Hawaii, https://puc.hawaii.gov/wp-content/uploads/2025/01/Hawaii-PUC-Energy-Inclinations-White-Paper-FINAL.12.31.24_signed.pdf

gain crucial experience working with government agencies, developers and communities to build out REZ. They are an important first step toward creating an extensive REZ program across the islands.

The following sections of this report describe Hawaiian Electric's methodology to develop the prioritization framework. It details the process behind identifying and weighting criteria, including engagement of technical and community voices, and documents the results—showing which REZ rose to the top. The final section of the report outlines the recommended REZ and next steps.

3 Engineering and Technical Screening

This section describes the prioritization framework and data-driven screening process used to identify the top four REZ. It should be noted that some numbers and terminology presented in this section may differ from what was previously presented to stakeholders since results from this study have evolved over time. However, the overall findings have not changed from what was presented previously to stakeholders.

3.1 Defining Priorities and Criteria

Hawaiian Electric identified three key priorities for the screening process:

- **Cost effectiveness and efficiency**: Prioritize locations that provide the best value for money
- **Equity and environment**[3]: Select locations that would result in an equitable distribution of generation projects among the community and seek to limit environmental disturbance caused by the project.
- **Resilience and climate**: Avoid locations at high risk for climate effects

Given these priorities, Hawaiian Electric identified various criteria to measure the performance of each zone in relation to these priorities. This resulted in six criteria for cost effectiveness and efficiency, two for equity and environment and one for resilience and climate. These nine criteria, along with definitions, are provided in Table 3-1.

Table 3-1. Screening Criteria

Priority	Criteria	Description
Cost Effectiveness and Efficiency	Generation potential	Cost of transmission construction per MW of generation capacity enabled
	Schedule / timing	Duration of transmission construction to support MW capacity
	Maintenance costs	Estimated transmission infrastructure maintenance costs by location
	Known developer interest	Locations in which developers have expressed interest in the past
	State land opportunity	Locations identified by state agencies as opportunities for renewable energy development during a workshop in November 2025

[3] This is the final name for the priority, adjusted after receiving stakeholder feedback.

Priority	Criteria	Description
	Land availability	Indicator of land availability based on amount of: • State-owned land • Land with buildings • Land with landowner interest
Equity and Environment	Equity	Spreading development among zones; consider existing generation locations
	Environmental impacts	Relative complexity of permitting within each renewable energy zone
Resilience and Climate	Limited climate risk exposure	Relative risk for i) wildfires, ii) flooding, and iii) tsunamis

3.2 Criteria Scoring Process

This section describes the process used to score the REZ locations for each criterion. The same general process was followed with minor adjustments given the particular data. Additional details and screenshots can be found in the discussion of each criterion in section 4.5. An overview of the scoring process is described below:

- **Step 1: Collect data**—data was gathered to measure the criteria. Most information was collected in the form of geospatial data to help distinguish values for one REZ versus another. Other data was broken out for each generation project (also referred to as "step") that could be developed within a given REZ.

  One example of data collected is provided below. In this example, GIS "Flood Zones" data was pulled from Honolulu City and County to show the acres of land by flood risk level for each REZ. See sample in partial screenshot below:

Name	zone	SUM_Acres
Zone 1	Undetermined Risk	9049.83
Zone 2	100-year floodplain	173.68
Zone 2	500-year floodplain	24.02
Zone 2	AREA OF MINIMAL FLOOD I	290.80
Zone 2	Undetermined Risk	10459.75
Zone 3	100-year floodplain	2182.39
Zone 3	500-year floodplain	228.69
Zone 3	AREA OF MINIMAL FLOOD I	5241.77
Zone 3	Undetermined Risk	45750.14

- **Step 2: Define criteria measure**—the data was translated into one value per REZ. This was often done by taking a weighted average of the data based on the acres of land within each REZ.

  In this same example, the qualitative flood data is assigned to a quantified value to distinguish the risk level. Specifically, the "area of minimal flood", "500-year floodplain", "100-year floodplain" were assigned values of 10, 5, and 0, respectively, to provide higher scores for areas of lower flood risk. A weighted average flood risk value was calculated per REZ based on the acres of land falling within each risk category. See sample in partial screenshot below:

Name	zone	SUM_Acres	Risk Score
Zone 1	Undetermined Risk	9049.83	n/a
Zone 2	100-year floodplain	173.68	0
Zone 2	500-year floodplain	24.02	5
Zone 2	AREA OF MINIMAL FLOC	290.80	10
Zone 2	Undetermined Risk	10459.75	n/a
Zone 3	100-year floodplain	2182.39	0
Zone 3	500-year floodplain	228.69	5
Zone 3	AREA OF MINIMAL FLOC	5241.77	10
Zone 3	Undetermined Risk	45750.14	n/a

- **Step 3: Score REZ**—the scoring framework used for all criteria[4] includes five possible scores: 0, 3, 5, 7, 10, where 0 is the worst, and 10 is the best. Percentiles are applied to the data to allocate each REZ to one score.

  In the flood example, the 20th, 40th, 60th, 80th, and 100th percentiles were calculated based on the weighted average flood risk per REZ. This created thresholds to translate the weighted average risk levels to one of the five possible scores based on the overall distribution of data. See example in partial screenshot below:

percentile	low	high	score	
20%	0.00	5.42	0	*worst*
40%	5.42	6.52	3	
60%	6.52	7.41	5	
80%	7.41	7.99	7	
100%	7.99	8.17	10	*best*

Zones	Weighted Average Metric	score
Zone 1	n/a	n/a
Zone 2	6.20	3
Zone 3	7.00	5
Zone 4	8.07	10
Zone 5	7.68	7
Zone 6	8.17	10
Zone 7	1.12	0
Zone 8	5.23	0

  In this example, REZ 4 and REZ 6 achieve the highest scores, indicating that they have the lowest risk of flooding. REZ 1 only includes land with "undetermined risk" and therefore is not assigned a score.

  While most criteria use the 20th, 40th, 60th, 80th, and 100th percentiles to allocate data to the five-score framework, some criteria used a modified approach that involves truncating the dataset used to calculate the percentiles. For instance, the data used for Generation Potential includes the transmission construction costs and the associated MW of generation enabled for each generation project (or step) within a REZ. The cost per MW of generation enabled was calculated for each project within a REZ. The cost for REZ 7 is zero because no new transmission construction is needed to enable that generation. In this case, the zero cost was assigned the highest score of 10, and four percentiles (25th, 50th, 75th, and 100th) were used to allocate the data to the remaining four possible scores. For some other criteria, the data includes several repeated values, which often results in more than one score assigned to the same value. These cases also applied percentiles to a truncated

[4] An exception to this is the Land Availability criterion, which caps the highest possible score at 7 to prioritize State Land Opportunity. This is discussed further in section Land Availability.

dataset to create a unique set of scores for each data value. For more details on the approach used for each criterion, see the criteria calculation descriptions in section 4.5.

3.3 Criteria Scores

This section describes the criteria, data sources and highest scoring REZ. Criteria are organized by the three priorities: 1) cost effectiveness and efficiency, 2) equity and environment and 3) resilience and climate.

3.3.1 Cost Effectiveness and Efficiency

This section describes the six criteria for cost effectiveness and efficiency. The first three criteria are based on data by project (or step) within each REZ and are driven by the transmission cost and generation output enabled. The remaining criteria use geospatial data and typically involve calculating a weighted average value per REZ group based on the acres of land.

3.3.1.1 Generation Potential

Generation Potential captures the cost of transmission construction per MW of generation capacity enabled, measured as $/MW. Data on transmission costs and MW of generation enabled were based on estimates from Hawaiian Electric, developed as part of the *Hawaiian Electric Transmission Renewable Energy Zone (REZ) Study, November 2021.* Figure 3-1 below includes a screenshot of the data used for this criterion.

Figure 3-1. Transmission Costs per MW Generation Enabled

Project / Step	REZ	Cumulative MW	Total Transmission Cost (includes Network Expansion)	Incremental MW	$/MW
1	REZ 1	120MW	$24,600,000	120	$205,000
1	REZ 2	135MW	$22,600,000	135	$167,407
2	REZ 2	270MW	$24,500,000	135	$181,481
3	REZ 2	324MW	$40,500,000	54	$750,000
1	REZ 3	135MW	$113,800,000	135	$842,963
2	REZ 3	270MW	$71,500,000	135	$529,630
3	REZ 3	405MW	$337,000,000	135	$2,496,296
4	REZ 3	588MW	$251,600,000	183	$1,374,863
1	REZ 4	135MW	$58,200,000	135	$431,111
2	REZ 4	270MW	$69,400,000	135	$514,074
3	REZ 4	331MW	$144,600,000	61	$2,370,492
1	REZ 5	135MW	$109,400,000	135	$810,370
2	REZ 5	171MW	$49,400,000	36	$1,372,222
3	REZ 5	306MW	$170,400,000	135	$1,262,222
4	REZ 5	441MW	$171,300,000	135	$1,268,889
5	REZ 5	608MW	$416,200,000	167	$2,492,216
1	REZ 6	147MW	$91,200,000	147	$620,408
1	REZ 7	66MW	$0	66	$0
1	REZ 8	135MW	$1,420,300,000	135	$10,520,741
2	REZ 8	270MW	$111,800,000	135	$828,148
3	REZ 8	405MW	$130,100,000	135	$963,704
4	REZ 8	540MW	$145,300,000	135	$1,076,296
5	REZ 8	680MW	$900,000	140	$6,429
6	REZ 8	815MW	$202,800,000	135	$1,502,222
7	REZ 8	950MW	$235,400,000	135	$1,743,704
8	REZ 8	1160MW	$495,600,000	210	$2,360,000

As shown in the figure, transmission cost estimates are developed for each project within a REZ group. Each transmission project is associated with a certain MW of generation enabled. Projects are iterative and build on one another. In REZ 2 for example, to enable 324MW of generation, all three projects must be built. As mentioned earlier, the cost per MW for REZ 7 is zero because no new transmission construction is needed to enable generation. The cost for the first project in REZ 8 is significantly higher than other projects because this includes substantial transmission upgrades, involving the construction of new 138 kV transmission line between Kahe 138 kV and Wahiawa 138 kV substations.

Two methods were considered to develop REZ scores. Because projects are iterative, one approach considered the incremental cost per MW for the first project in each REZ group. A second approach considered the weighted average incremental cost per MW for the full REZ group, assuming that all projects would be constructed. After discussions with Hawaiian Electric and stakeholders, it was decided to base REZ scores on the $/MW value for the first project within each REZ. However, a sensitivity analysis was also included to consider the group average.

Percentiles were used to allocate the incremental cost per MW to the five-score framework. The truncated approach was used to allow zero to be the only value to receive a top score of 10. See screenshots of tables below in Figure 3-2. As shown in the figure, the highest score was assigned to the project with the lowest cost per MW, prioritizing the most cost-effective investments. REZ 7 achieved the top score of 10, followed by REZ 1 and REZ 2 with scores of 7.

Figure 3-2. Generation Potential Scores

Group- first project		
Zones	Avg $/MW	**Score**
REZ 1	$205,000	7
REZ 2	$167,407	7
REZ 3	$842,963	0
REZ 4	$431,111	5
REZ 5	$810,370	3
REZ 6	$620,408	5
REZ 7	$0	10
REZ 8	$10,520,741	0

Percentile	low	high	Score	
	$0	$0	10	*best*
25%	$1	$318,056	7	
50%	$318,056	$620,408	5	
75%	$620,408	$826,667	3	
100%	$826,667	$10,520,741	0	*worst*

3.3.1.2 Schedule/Timing

The schedule/timing criterion measures the duration of constructing transmission lines to enable new generation, measured in years. Construction duration was estimated by HDR Engineering's subject matter experts in project management, transmission line design and substation design. Estimates were provided for each project (or step) within a REZ group. Estimates were based on a description of the transmission project, including transmission line length, terrain accessibility and whether or not underground work is needed. A partial screenshot of the dataset is provided below in Figure 3-3.

Figure 3-3. Schedule/Timing Data (Partial Screenshot)

Step	Row Labels	Cumulative MW	Transmission Length-total (mi)	OH Accessible (mi)	OH Inaccessible (mi)	Overbuild (mi)	UG (mi)	Construction Schedule (years)	Notes
1	Group 1	120MW	0.3	0.1	0.0	0.0	0.1	5	Minimal substation work. Cutover of T-lines. Some UG work.
1	Group 2	135MW	1.3	0.5	0.0	0.8	0.0	7	Substation work inside fence. ~1 mile of T-line.
2	Group 2	270MW	1.6	1.4	0.0	0.0	0.2	3	Substation work inside fence. ~2 miles of T-line and some UG work.
3	Group 2	324MW	2.2	2.0	0.0	0.0	0.1	3	Substation work inside fence. ~2 miles of T-line and some UG work.
1	Group 3	135MW	3.9	0.0	3.8	0.0	0.1	9	Existing and greenfield substation work. ~4 miles of inaccessible greenfield T-line work.
2	Group 3	270MW	3.3	0.3	2.6	0.4	0.1	3	Substation work inside fence. ~3 miles of T-line and some UG work.
3	Group 3	405MW	25.3	10.5	6.9	7.6	0.3	5	Greenfield T-line at ~25 miles, some inaccessible and UG work.
4	Group 3	588MW	21.7	7.0	1.8	12.9	0.1	5	Greenfield T-line at ~22 miles, some inaccessible and UG work.

Transmission projects with a shorter construction duration were given a higher score to prioritize projects that could be completed faster. For consistency with Generation Potential, the first project approach was applied for the main analysis, considering the construction years for the first project in each REZ. A sensitivity analysis was also run to consider the average construction years per REZ group.

Percentiles were used to allocate the construction years per REZ to the five-score framework. The truncated values approach was used due to the limited number of unique data values in the first project approach (which would have resulted in multiple scores assigned to the same value), and to ensure that a zero value was the only value to receive the top score (10) for the average approach. See screenshots of tables below in Figure 3-4. As shown in the figure, REZ 7 achieved the highest score given that no additional construction was needed. REZ 1 achieved the second highest score of 7, with a five-year estimate to construct the first project.

Figure 3-4. Schedule/Timing Scores

	OPT- first project	
Zones	years	Score
Group 1	5	7
Group 2	7	5
Group 3	9	0
Group 4	9	0
Group 5	9	0
Group 6	8	3
Group 7	0	10
Group 8	9	0

Percentile	low	high	Score
	0	0	10
25%	1.00	6.50	7
50%	6.50	7.50	5
75%	7.50	8.25	3
100%	8.25	9.00	0

3.3.1.3 Maintenance Costs

Without specific data on costs to maintain the new transmission lines, a qualitative assessment of high, medium, low and very low was assigned. This assessment was performed by the same group of subject matter experts from HDR Engineering who considered details of the transmission line projects, such as line length, terrain accessibility and underground lines, to estimate the relative maintenance costs. Estimates were provided for each project (or step) within a REZ group. Figure 3-5 provides a partial screenshot of the dataset with estimated maintenance cost qualitative assessment.

Figure 3-5. O&M Cost Data (Partial Screenshot)

Step	Row Labels	Cumulative MW	Transmission Length-total (mi)	OH Accessible (mi)	OH Inaccessible (mi)	Overbuild (mi)	UG (mi)	O&M (low, med, high)	Notes	O&M score
1	Group 1	120MW	0.3	0.1	0.0	0.0	0.1	Very Low	Minimal additional O&M costs.	10
1	Group 2	135MW	1.3	0.5	0.0	0.8	0.0	Low	Some additional O&M costs.	7
2	Group 2	270MW	1.6	1.4	0.0	0.0	0.2	Low	Some additional O&M costs.	7
3	Group 2	324MW	2.2	2.0	0.0	0.0	0.1	Low	Some additional O&M costs.	7
1	Group 3	135MW	3.9	0.0	3.8	0.0	0.1	Medium	Additional O&M costs for greenfield sub, veg clearing, accessibility to T-line.	5
2	Group 3	270MW	3.3	0.3	2.6	0.4	0.1	Medium	Additional O&M costs for greenfield sub, veg clearing, accessibility to T-line.	5
3	Group 3	405MW	25.3	10.5	6.9	7.6	0.3	High	Additional O&M costs for greenfield sub, veg clearing, accessibility to T-line. High for line length.	0
4	Group 3	588MW	21.7	7.0	1.8	12.9	0.1	High	Additional O&M costs for greenfield sub, veg clearing, accessibility to T-line. High for line length.	0

The “high”, “medium”, “low”, and “very low” assessments were allocated to scores of 0, 5, 7, and 10, respectively to prioritize projects that are less costly to maintain over time. For consistency with Generation

Potential, the first project approach was applied for the main analysis, and a sensitivity analysis was run to consider the average per REZ.

For the first project approach, the score was taken directly from the first project within each REZ. For the average approach, the average maintenance score was calculated per REZ and then rounded to the closest score within the five-score framework. Under both scenarios, REZ 1 and REZ 7 both achieved the highest score of 10. See results for the first project approach in Figure 3-6 below.

Figure 3-6. O&M Cost Scores

Zones	first project
Group 1	10
Group 2	7
Group 3	5
Group 4	7
Group 5	5
Group 6	7
Group 7	10
Group 8	5

3.3.1.4 Known Developer Interest

In 2023, two Requests for Information (RFI) were released by Hawaiian Electric to gather information from developers on potential interest in sites for utility-scale renewable generation investment, and to identify areas with landowners open to having discussions with prospective developers. While the precise results of these RFIs are confidential, results were aggregated and anonymized to identify the overall areas of interest for this analysis.

For every location of interest identified by a developer, the full area of the corresponding parcel was used. Acres with developer interest were aggregated by REZ and divided by the total REZ area to calculate the percentage of REZ with developer interest. A higher percentage of land with developer interest translated to a higher score.

Percentiles were used to allocate the percent of land with landowner interest to the five-score framework. The default approach was used because this allows any area with landowner interest noted to receive one of the top two highest scores. See screenshots of tables below in Figure 3-7. As shown in the figure, developers only expressed interest in sites within REZ 3, 6, and 8; all other REZ received a score of zero. REZ 8 and REZ 3 had the largest percent of acres with interest and therefore received the highest score of 10.

Figure 3-7. Known Developer Interest Scores

Zones	Total Acres	Acres (%)	Score
1	0.0	-	0
2	0.0	-	0
3	3,552.0	6.81%	10
4	0.0	-	0
5	0.0	-	0
6	4.37	0.03%	7
7	0.0	-	0
8	7,062.9	10.63%	10

percentile	low	high	score	
20%	0.00%	0.00%	0	*lowest score*
40%	0.00%	0.00%	3	
60%	0.00%	0.01%	5	
80%	0.01%	4.10%	7	
100%	4.10%	10.63%	10	*best score*

3.3.1.5 State Land Opportunity

In November 2025, Hawaiian Electric hosted a workshop with state agencies to seek input on suggested areas of state-owned land that agencies felt could be appropriate for renewable energy development. These suggested areas are referred to as "areas of opportunity".

The workshop had 12 represented organizations in attendance. Attendees included representatives from the Agribusiness Development Corporation, Department of Hawaiian Home Lands, Department of Land and Natural Resources, Army, Navy, State of Hawaii Office of Planning and Sustainable Development, Office of Hawaiian Affairs, Hawaiian State Energy Office, and Hawaii Housing Finance and Development Corporation. Based on the input from these organizations, two areas of opportunity were identified: REZ 3 and REZ 6. These two REZ were assigned a top score of 10, and the remaining REZ scored 0.

3.3.1.6 Land Availability

The land availability criterion is intended to prioritize REZ with readily available land for renewable energy development. The criterion is based on three components, as described below. All three components were manually capped at a maximum score of 7 to prioritize the state land opportunity criterion, since this includes directly identified areas of opportunity.

- **State-owned land**: It is assumed that state-owned land will be less challenging for renewable energy development given the statewide directive to deliver net zero carbon emissions by 2045. This criterion is measured by the percentage of land within a REZ that is state-owned, where a higher percentage translates to a higher score.

  Data on land zoning was retrieved by Honolulu City and County GIS Open Data. As described above, the maximum score was capped at 7, therefore percentiles were calculated to divide the data into quartiles to align with four potential scores. REZ 3 and REZ 5 scored the highest, with the largest percentage of state-owned land. See Figure 3-8.

Figure 3-8. Land Availability Scores: state-owned land

state-owned land

Zone	Percent State Land	Score
Zone 1	13.7%	5
Zone 2	9.2%	3
Zone 3	36.7%	7
Zone 4	12.4%	3
Zone 5	40.9%	7
Zone 6	31.3%	5
Zone 7	1.2%	0
Zone 8	8.0%	0

percentile	low	high	Score
25%	0%	9%	0
50%	9%	13%	3
75%	13%	33%	5
100%	33%	41%	7

- **Land with buildings**: Acres of land with building development was pulled from FEMA's USA Structures database. Within each REZ, the percentage of land with existing building development was calculated. REZ with a higher percent of land with buildings received a lower score as this would pose challenges to utility-scale generation development.

  Because scores were capped at 7, percentiles were applied to divide the data into quartiles to align with the four potential scores. REZ 4 and REZ 8 received the highest scores since they had the lowest percentage of land with building development. See Figure 3-9.

Figure 3-9. Land Availability Scores: building development

building development

Zone	Percent Developed Land (Buildings)	Score
Zone 1	4.3%	3
Zone 2	3.9%	3
Zone 3	2.2%	5
Zone 4	0.7%	7
Zone 5	1.0%	5
Zone 6	5.8%	0
Zone 7	11.2%	0
Zone 8	0.8%	7

percentile	low	high	Score
25%	0%	1%	7
50%	1%	3%	5
75%	3%	5%	3
100%	5%	11%	0

- **Landowner interest**: As discussed for the known developer interest criterion, a land RFI was issued in 2023 to collect interest from both developers and landowners. This criterion uses data from this RFI to estimate the acres of land with landowner interest. For every site identified by a landowner, the full area of the parcel was included in this analysis. The acres of land were aggregated by REZ and divided by the total REZ area to calculate the percentage of land with landowner interest.

  Because scores were capped at 7, percentiles were applied to divide the data into quartiles to align with the four potential scores. Even with repeated zero values, percentiles did not result in multiple scores assigned to the zero value, and therefore the default approach was used. REZ 4 and REZ 5 received the highest score since they had the highest percentage of land with landowner interest. See Figure 3-10.

Figure 3-10. Land Availability Scores: landowner interest

landowner interest

Zone	Percent of Land with Landowner Interest	Score
Zone 1	0.00%	0
Zone 2	0.00%	0
Zone 3	0.14%	3
Zone 4	13.45%	7
Zone 5	9.20%	7
Zone 6	2.14%	5
Zone 7	0.00%	0
Zone 8	3.04%	5

percentile	low	high	Score
25%	0.00%	0.00%	0
50%	0.10%	1.14%	3
75%	1.14%	4.58%	5
100%	4.58%	13.45%	7

3.3.2 Equity and Environment

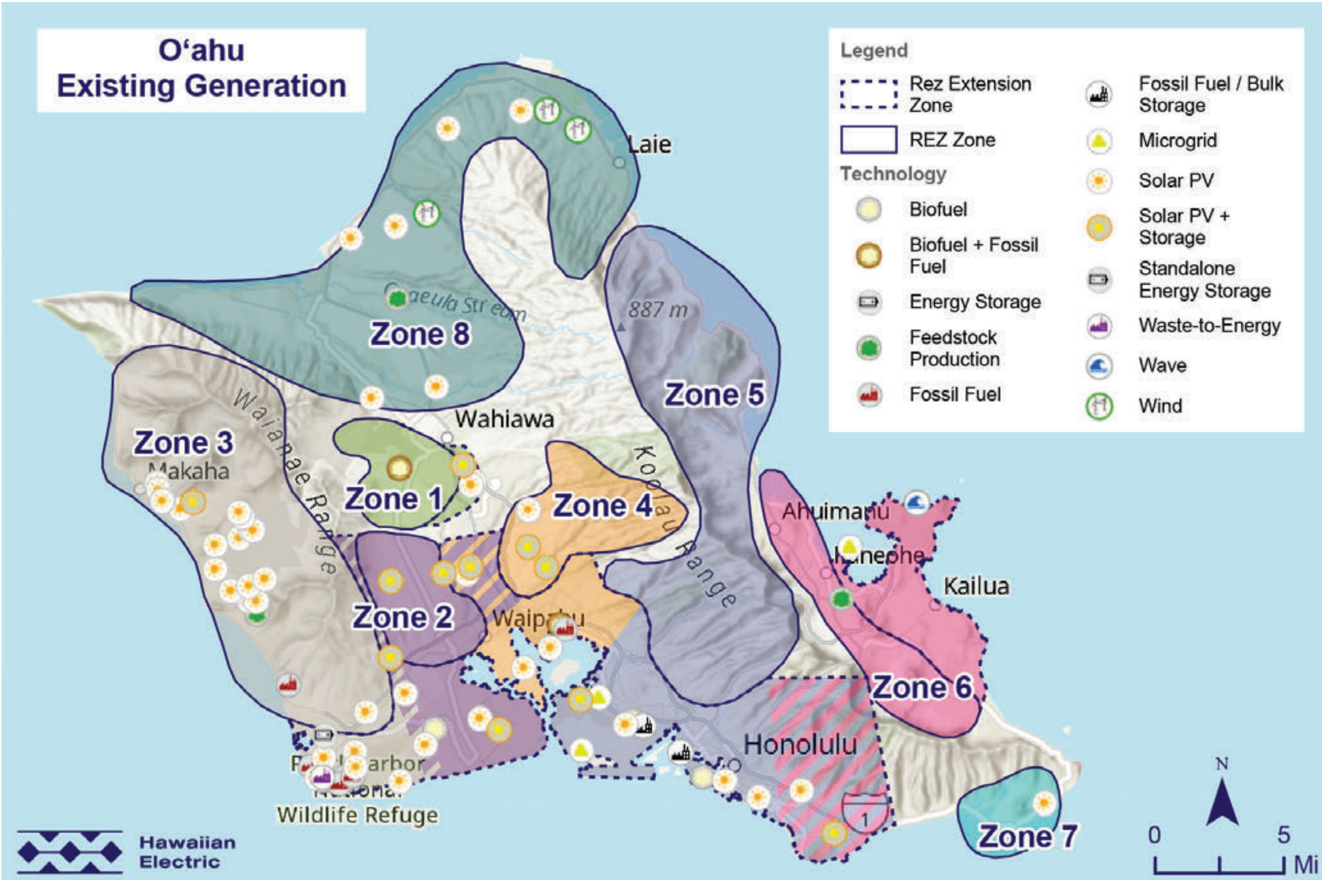
This section describes the two equity and environment criteria.

3.3.2.1 Equity

The equity criterion considers the distribution of existing utility-scale generation facilities (of all technologies) to help inform a location for future generation facilities that is fair and equitable. Based on community engagement, it was understood that many residents of O'ahu would not support renewable development near their communities. Communities have raised concerns about the proximity of facilities to residences and potential damage to the surrounding environment. Therefore, to avoid overburdening communities with several existing facilities, REZ with fewer utility-scale generation facilities were prioritized for locating new renewable generation.

Data on existing generation facilities was gathered from the *Hawaii Statewide Energy Project Directory*. Many facilities were located outside the REZ borders. However, it was decided that these facilities could still affect populations living within the nearby REZ, and therefore the REZ boundaries were extended for this criterion. Figure 3-11 illustrates how the REZ borders were extended to include all generation facilities. As shown in the figure, some facilities were located between more than one REZ, and in these cases they were allocated to all affected REZ.

Figure 3-11. Map of Existing Generation Facilities on O'ahu



Source: generated by HDR team, based on data from Hawaii Statewide Energy Project Directory

The dataset included generation facilities of varying technologies, and therefore different measures were used to classify the relative size of the facilities. Solar, wind, wave energy conversion plants and other similar technologies were aggregated and measured in terms of footprint (acres). Fossil fuel, biofuel, waste-to-energy and similar facilities were aggregated and measured in terms of nameplate capacity (MW). The data was then filtered to only consider projects that: 1) had a project footprint greater than or equal to 1 acre, 2) had a nameplate capacity greater than or equal to 5 MW, or both. This resulted in two criteria used to measure equity:

- **Equity—footprint**: All facilities measured by acres were aggregated by REZ to calculate the percent of REZ area with existing generation facilities. Areas with a lower percentage of land with existing facilities received a higher score. Percentiles were used to allocate data to the five-score framework. REZ 6 and 7 received the highest score of 10. See scores below in Figure 3-12.

Figure 3-12. Equity Score: Footprint

Solar/PV/etc.			
Zone	acres	% of Land Area	Score
Zone 1	21.9	0.24%	7
Zone 2	1300.3	11.92%	0
Zone 3	528.5	1.01%	5
Zone 4	1202.1	8.13%	0
Zone 5	122.3	0.27%	5
Zone 6	20.9	0.16%	10
Zone 7	1.0	0.02%	10
Zone 8	1271.2	1.91%	3

percentile	low	high	Score
20%	0.00%	0.19%	10
40%	0.19%	0.26%	7
60%	0.26%	1.19%	5
80%	1.19%	5.64%	3
100%	5.64%	11.92%	0

- **Equity—capacity**: All facilities measured by MW capacity were aggregated by REZ to calculate the total MW of existing generation by REZ. Areas with a lower MW received a higher score. Percentiles were used to allocate data to the five-score framework. A truncated data approach was used to avoid having multiple scores assigned to one value, and to distinguish zero as the only value to receive the top score. REZ 2, 6, 7 and 8 all received the highest score of 10. See scores below in Figure 3-13.

Figure 3-13. Equity Score: Capacity

Fossil Fuel & Biofuel		
Zone	Total MW	Score
Zone 1	50.0	5
Zone 2	0.0	10
Zone 3	1677.1	0
Zone 4	753.0	3
Zone 5	11.0	7
Zone 6	0.0	10
Zone 7	0.0	10
Zone 8	0.0	10

percentile	low	high	Score
	0.00	0.00	10
25%	1.00	40.25	7
50%	40.25	401.50	5
75%	401.50	984.03	3
100%	984.03	1677.11	0

3.3.2.2 Environmental Impacts

The environmental impacts criterion considers the relative complexity of obtaining environmental permits within each REZ. While not a direct measure of environmental risk from generation development, the relative challenge with obtaining a permit is intended to represent the level of environmental risk. Note that Hawaiian Electric is committed to public engagement to understand potential environmental effects in a community and this metric is not intended to replace these efforts. Instead, this criterion is meant to provide a high-level indicator on relative environmental risk comparing one REZ to another.

Permitting data was collected and combined from 15 different sources.[5] Twelve relevant federal, state and local permits were identified from GIS datasets. A subject matter expert with HDR Engineering was engaged

[5] Sources include: Hawaii State Energy Office Permit List; Land & Water Conservation Fund Projects; ESRI USA National Park Service Lands (2025); Honolulu City & County GIS Open Data (Federal Owned Land (2020), EVOA Hawaiian Homelands Parcels (2025), State Land Use Districts (2025), Zoning – Special District (2024), Special Management Areas (2025), Flood Zones (2024)); Hawaii Statewide GIS Program (Airports (2021), Reserves (2024), Restricted Watersheds (2024), Wildlife Sanctuary, Department of Defense Land (2021) *retired dataset), subject matter expert estimate of level of difficulty of permits.

to help classify the various levels of complexity for each permit. The subject matter expert engaged is an environmental planner with over 15 years of experience who specializes in environmental documentation and land use entitlements. The following complexity rating system was developed in conjunction with this SME:

- **Low complexity (0)**: Low effort, quick turnaround, relatively straight forward. No public outreach required. No public hearings.
- **Medium complexity (5)**: Medium level of effort. Includes required public outreach and up to one public hearing.
- **High complexity (10)**: Complex. Challenging and long process with up to two public hearings.

As shown above, complexity ratings were based on the amount of effort required to obtain the permit, and the time and meetings required. A higher rating indicates more risk of environmental impacts. Medium-high and medium-low scores were also included as needed when permits fell between these three low, medium and high categories. Table 3-2 below shows how each of the 12 identified permits were scored in terms of relative complexity.

Table 3-2. Environmental Permit Difficulty Ratings

Permit Level	Permit Name	Complexity Score
Federal Permits	National Environmental Policy Act (NEPA)	High (10)
	Section 6(f) Land and Water Conservation Fund Act	High (10)
	Federal Aviation Administration Form 7460-1 (Notice of Proposed Construction or Alteration in Airspace)	Low (0)
State Permits	Coastal Zone Management Federal Consistency Certification	Low (0)
	Conservation District Use Permit	High (10)
	Lease, Easement or Right-of-Entry	Medium-High (7.5)
	Hawaii Community Development Authority - Heeia Development Permit	Medium-High (7.5)
Local Permits	State Special Use Permit (O'ahu)	High (10)
	Certified Shoreline Setback Variance	High (10)
	Flood Determination Approval + Flood Hazard District Variance (O'ahu)	High (10)
	Special District Permit (Major and Minor) (O'ahu)	Medium-High (7.5)
	Special Management Area Assessment (O'ahu)	High (10)

Source: permit data collected from 15 GIS sources, classified relative complexity level by SME.

For each REZ, the acres of land associated with each permit was aggregated and used to calculate a weighted average permit complexity score. Percentiles were applied to allocate average complexity scores to the scoring framework. Locations with a lower average complexity score received a higher overall score. See scores in Figure 3-14. As shown in the figure, REZ 1 and REZ 3 received the highest score of 10, indicating a lower level of environmental risk from renewable generation development.

Figure 3-14. Environmental Impact Scores

Zone	Avg. Complexity Score	Score
Zone 1	5.43	10
Zone 2	9.00	0
Zone 3	6.90	10
Zone 4	8.12	5
Zone 5	8.03	7
Zone 6	8.63	5
Zone 7	9.94	0
Zone 8	8.68	3

Weighted Permit Score by Land Area

percentile	low	high	Score
20%	-	7.35	10
40%	7.35	8.10	7
60%	8.10	8.64	5
80%	8.64	8.87	3
100%	8.87	9.94	0

most complex = lowest permit score

3.3.3 Resilience and Climate

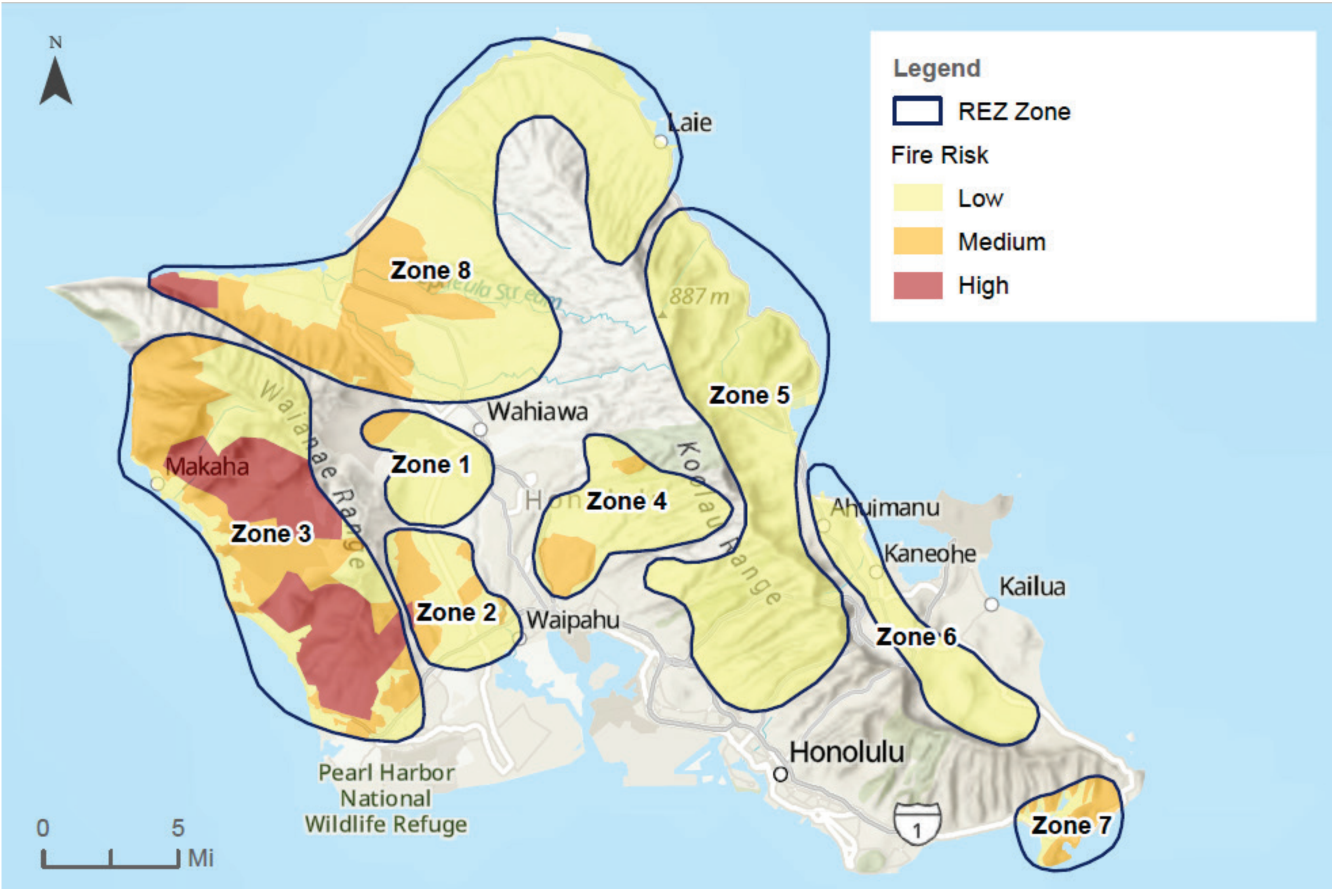
This section describes the three-part resilience and climate criterion.

3.3.3.1 Risk of Exposure to Fire

This criterion measures the relative risk of wildfires within each REZ. Areas with a higher risk of fires pose a greater threat to community safety and damages to future transmission and generation infrastructure and therefore were not prioritized for this study. Areas with lower risk were prioritized by assigning higher scores, while higher risk areas received low scores.

To measure this criterion, GIS data was collected from Hawaiian Electric. The data included acres of land within each REZ classified as low, medium, or high risk of fires. Figure 3-15 illustrates the acres of land within each REZ classified as low, medium, or high risk of fires.

Figure 3-15. Relative Risk of Fires



Source: Map created by HDR based on Hawaiian Electric's 2025–2027 Wildfire Safety Strategy, Appendix D, which can be viewed at hawaiianelectric.com/documents/safety_and_outages/wildfire_safety/2025-2027_wildfire_safety_strategy_appendix_b-d.pdf

These low, medium and high classifications were assigned to values of 10, 5 and 0, respectively, to reward low risk areas with a higher score. A weighted average score was calculated based on the amount of low, medium, and high risk land within each REZ. Percentiles were applied to the average scores to allocate REZ to the five-score framework (see Figure 3-16). REZ 5 and REZ 6 received the highest overall score of 10, due to the lowest average risk of fires.

Figure 3-16. Risk of Fire Scores

Fire Risk		
Zones	weighted avg. score	score
Zone 1	9.5	7
Zone 2	8.3	3
Zone 3	4.6	0
Zone 4	9.1	5
Zone 5	10.0	10
Zone 6	10.0	10
Zone 7	6.7	0
Zone 8	8.6	5

percentile	low	high	score
20%	0.00	7.34	0
40%	7.34	8.51	3
60%	8.51	9.18	5
80%	9.18	9.81	7
100%	9.81	10.00	10

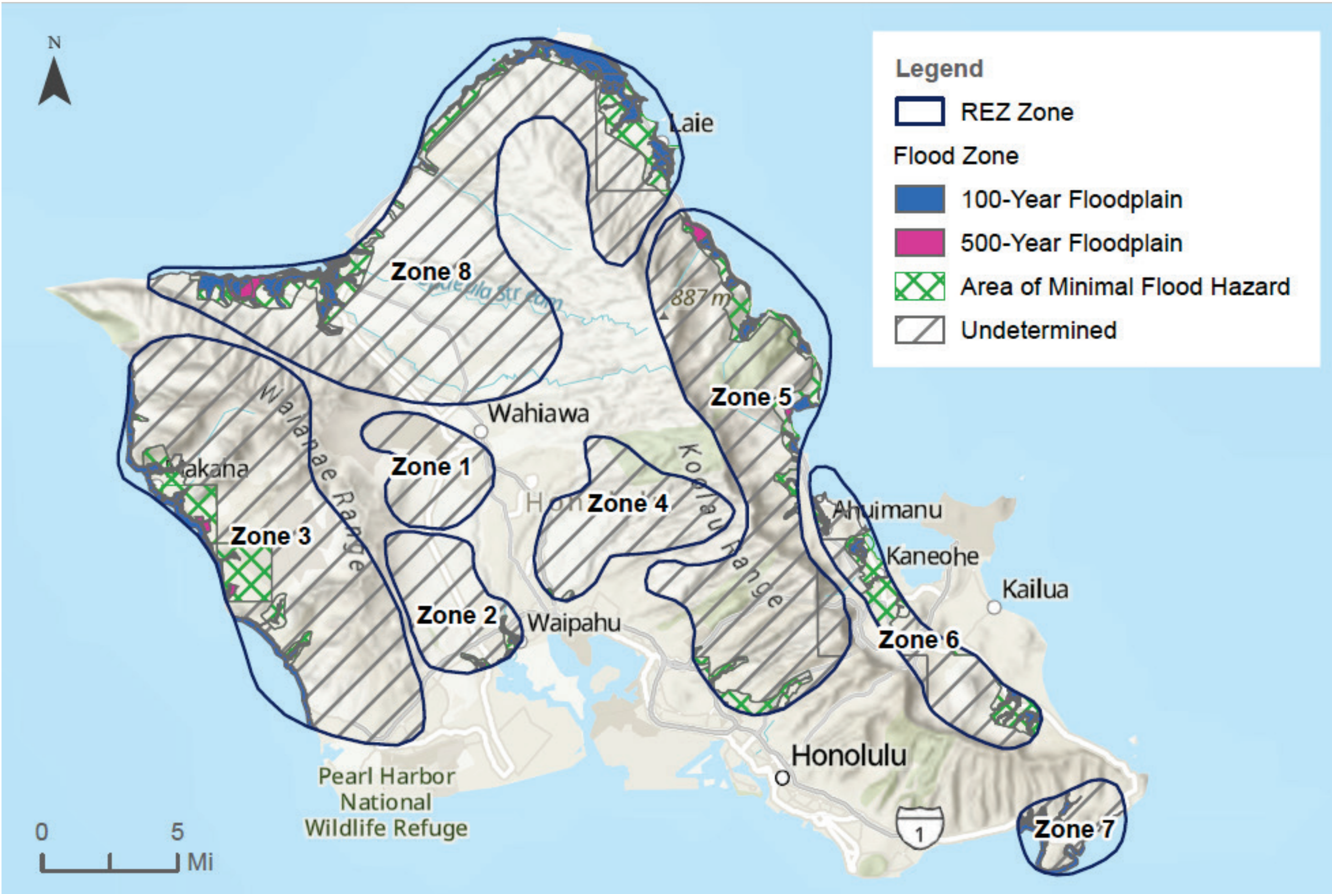
3.3.3.2 Risk of Exposure to Flood

This criterion measures the relative risk of flooding within each REZ. Areas with a higher risk of flooding pose a greater threat of damages to future transmission and generation infrastructure and therefore were not prioritized for this study.

To measure this criterion, GIS data was collected from Honolulu City and County Open Data “Flood Zones.” This dataset reflects flood zone information prior to the updated FEMA Flood Insurance Rate Map for O’ahu, which became effective on June 10, 2026. Hawaiian Electric will incorporate the updated data in future planning efforts.

The flood risk data used in the evaluation included acres of land within each REZ classified as “area of minimal flood”, “500-year floodplain”, “100-year floodplain” and “undetermined risk”. Figure 3-17 illustrates the acres of land within each REZ with these flood risk classifications.

Figure 3-17. Relative Risk of Floods



Source: Map created by HDR team based on Flood Zones GIS data from Honolulu City and County.

The “area of minimal flood”, “500-year floodplain” and “100-year floodplain” were assigned values of 10, 5 and 0, respectively, to prioritize areas with lower levels of flooding. Areas of “undetermined risk” were excluded. A weighted average score was calculated based on the amount of land classified as “area of minimal flood”, “500-year floodplain”, “100-year floodplain” within each REZ. Percentiles were applied to the average scores to allocate REZ to the five-score framework (see Figure 3-18). REZ 4 and REZ 6 received the highest overall score of 10, due to the lowest average risk of flooding. REZ 1 only included land with “undetermined risk” and therefore did not receive a score for this criterion.

Figure 3-18. Risk of Flood Scores

Flood Risk		
Zones	Weighted Average Metric	score
Zone 1	n/a	n/a
Zone 2	6.20	3
Zone 3	7.00	5
Zone 4	8.07	10
Zone 5	7.68	7
Zone 6	8.17	10
Zone 7	1.12	0
Zone 8	5.23	0

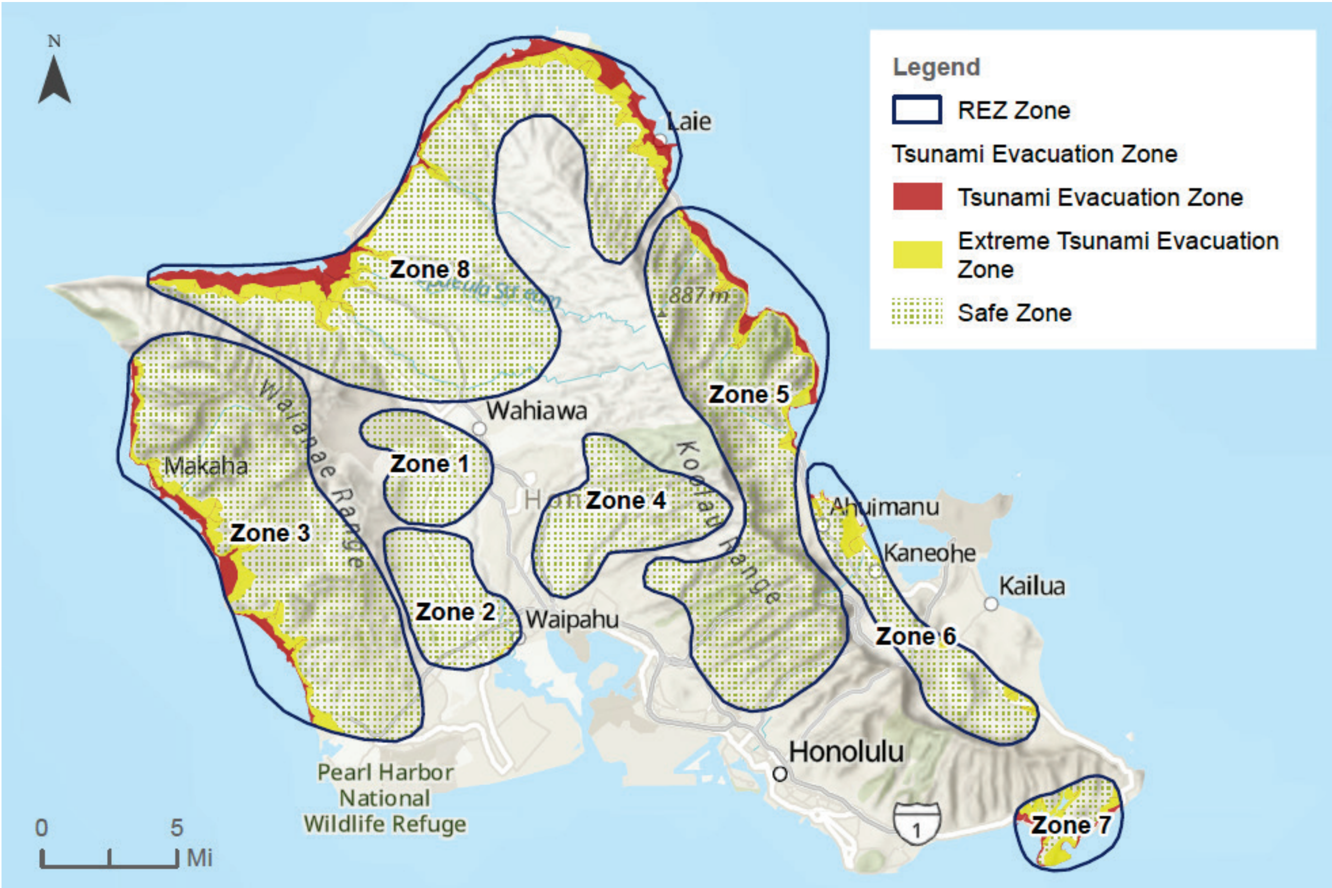
percentile	low	high	score
20%	0.00	5.42	0
40%	5.42	6.52	3
60%	6.52	7.41	5
80%	7.41	7.99	7
100%	7.99	8.17	10

3.3.3.3 Risk of Exposure to Tsunami

This criterion measures the relative risk of tsunamis within each REZ. Areas with a higher risk of tsunamis pose a greater threat of damages to future transmission and generation infrastructure and therefore were not prioritized for this study.

To measure this criterion, GIS data was collected from *Honolulu City and County Open Data "Tsunami Evacuation Zones"*. The data included acres of land within each REZ classified as "safe zone", "tsunami evacuation zone", and "extreme tsunami evacuation zone". Figure 3-19 illustrates the acres of land within each REZ with these tsunami risk classifications.

Figure 3-19. Relative Risk of Tsunami



Source: Map created by HDR team based on Tsunami Evacuation Zones GIS data from Honolulu City and County.

The "safe zone", "tsunami evacuation zone", and "extreme tsunami evacuation zone" were assigned values of 10, 5, and 0, respectively, to prioritize areas with lower risk of tsunamis. A weighted average score was calculated based on the amount of land classified as "safe zone", "tsunami evacuation zone", and "extreme tsunami evacuation zone" within each REZ. Percentiles were applied to the average scores to allocate REZ to the five-score framework (see Figure 3-20). REZ 1 and REZ 4 received the highest overall score of 10, due to the lowest risk of tsunamis.

Figure 3-20. Risk of Tsunami Scores

Tsunami Risk		
Zones	weighted avg. score	score
Zone 1	10.00	10
Zone 2	9.96	7
Zone 3	9.12	5
Zone 4	10.00	10
Zone 5	9.51	5
Zone 6	8.99	3
Zone 7	6.41	0
Zone 8	8.66	0

percentile	low	high	score
20%	0.00	8.79	0
40%	8.79	9.09	3
60%	9.09	9.60	5
80%	9.60	9.98	7
100%	9.98	10.00	10

3.4 Criteria Weighting

After scoring all criteria, a simple average could be calculated to determine the overall highest scores. However, this doesn't account for the relative importance of one criterion or another. Therefore, weights were developed to help align the criteria with broader priorities. For example, weights might be used to prioritize REZ that score high in terms of resilience and climate over cost effectiveness and efficiency. Additionally, weights can be used to prioritize certain criteria over others to represent the priority category. For instance, weighting known developer interest higher than maintenance costs would indicate the relative level of importance of these criteria for capturing cost effectiveness and efficiency.

To gather feedback on the criteria and input on weights, Hawaiian Electric hosted a workshop January 26–29, 2026, with the Community Working Group (CWG). The Hawaiian Electric team explained each criterion, walked through the data and calculation process and sought input to develop weights for the prioritization process. Appendix B includes the presentation materials provided at this workshop. Note that the presentation reflects the results presented at that time, but some values have since been updated based on feedback throughout the process. Final results are presented in the body of this report.

A survey was developed to gather qualitative input from the CWG on the criteria and any suggestions for improvements, as well as quantitative input on the criteria weights. The workshop led to a 54 percent response rate. An anonymized aggregation of comments and responses are provided in Appendix A. Results from the weighting exercise are explained below.

First, participants were asked how they would allocate limited resources among the three priorities: cost effectiveness and efficiency, equity and environment, and resilience and climate. An average was taken across all budget allocations and converted to a percentage to represent the relative importance of these three priorities. The results included the following weights:

- 29% for cost effectiveness and efficiency
- 38% for equity and environment
- 33% for resilience and climate

This indicates that participants valued all three priorities relatively equal, with a slight preference for equity and environment.

Next, participants were asked to allocate resources among the criteria within each priority category. This indicates the relative importance of each criterion to measure the given priority. Budget allocations were averaged and converted to a percentage. These percentages were then multiplied by the priority weight to estimate the weight of each criterion overall (i.e., such that all criteria weights sum to 100%). Results are presented below in Table 3-3.

Table 3-3. Criteria Weights

<table>
<tr><th>Priority</th><th>Criteria</th><th>Weight</th></tr>
<tr><td rowspan="7">Cost Effectiveness and Efficiency</td><td>Generation potential</td><td>6.4%</td></tr>
<tr><td>Schedule / timing</td><td>3.9%</td></tr>
<tr><td>Maintenance costs</td><td>5.2%</td></tr>
<tr><td>Known developer interest</td><td>2.5%</td></tr>
<tr><td>State land opportunity</td><td>2.3%</td></tr>
<tr><td>Land availability
• State-owned land
• Land with building development
• Land with landowner interest</td><td>
3.1%
2.3%
3.5%</td></tr>
<tr><td>Total</td><td>29%</td></tr>
<tr><td rowspan="3">Equity and Environment</td><td>Equity</td><td>17.2%</td></tr>
<tr><td>Environmental impacts</td><td>20.4%</td></tr>
<tr><td>Total</td><td>38%</td></tr>
<tr><td rowspan="2">Resilience and Climate</td><td>Limited climate risk exposure
• Wildfires
• Flooding
• Tsunamis</td><td>
14.0%
11.6%
7.8%</td></tr>
<tr><td>Total</td><td>33%</td></tr>
</table>

Note: Values shown may not add to totals due to rounding.

4. Results and Sensitivity Tests

This section summarizes the REZ evaluation results and highlights the highest-ranked zones.

4.1 Highest-Ranked REZ

Weights based on the CWG input were applied to the scores for each criterion and used to calculate an average score for each REZ. Based on the average score, each REZ was ranked from 1 to 8. Table 4-1 below shows the scores for all eight REZ under each criterion, and the final weighted average score and rankings.

Table 4-1. REZ Scores for All Criteria

Priority	Criteria	Weight	REZ 1	REZ 2	REZ 3	REZ 4	REZ 5	REZ 6	REZ 7	REZ 8
Cost Effectiveness and Efficiency	Generation potential	6.4%	7	7	0	5	3	5	10	0
	Schedule	3.9%	7	5	0	0	0	3	10	0
	Maintenance costs	5.2%	10	7	5	7	5	7	10	5
	Developer interest	2.5%	0	0	10	0	0	7	0	10
	State land opportunity	2.3%	0	0	10	0	0	10	0	0
	State-owned land	3.1%	5	3	7	3	7	5	0	0
	Land with buildings	2.3%	3	3	5	7	5	0	0	7
	Landowner interest	3.5%	0	0	3	7	7	5	0	5
Equity and Environment	Equity-footprint	8.6%	7	0	5	0	5	10	10	3
	Equity- MW	8.6%	5	10	0	3	7	10	10	10
	Environmental impacts	20.4%	10	0	10	5	7	5	0	3
Resilience and Climate	Wildfires	14.0%	7	3	0	5	10	10	0	5
	Flooding	11.6%	n/a	3	5	10	7	10	0	0
	Tsunamis	7.8%	10	7	5	10	5	3	0	0
Weighted Average Score (high = best)			**6.3**	**3.3**	**4.6**	**5.1**	**6.1**	**7.1**	**3.3**	**3.3**
Rank (low = best)			**2**	**6**	**5**	**4**	**3**	**1**	**8**	**7**

As shown in the table, **the four highest-ranked REZ are:**

- **REZ 6**
- **REZ 1**
- **REZ 5**
- **REZ 4**

The high ranking for REZ 6 is driven by its high scores for equity (few existing generation facilities) and climate resilience (low risk for fires and floods). These criteria fall within the two priority groups with the highest weights (resilience and climate and equity and environment) and therefore are prioritized relative to other criteria. While the weights are lower, REZ 6 also achieved top scores for being an area with known developer interest and being identified by states as an area of opportunity.

REZ 1 included high scores for climate resilience (low risk of tsunamis) and environmental impacts (low risk to environment). REZ 1 also achieved the highest scores of the top four REZ for generation potential, schedule and maintenance costs, indicating that building in REZ 1 would be cost effective and a relatively quick effort.

REZ 5 also achieved high scores for climate resilience (low risk of fires and floods) and environmental impacts (low risk to environment). REZ 5 outperformed the other top four REZ in terms of land availability, receiving a high score for having areas with landowner interest in renewable development, and having a relatively large proportion of state-owned land, both of which could facilitate new projects.

REZ 4 scored high for climate resilience (low risk of floods and tsunamis) and received fairly high scores for land availability due to having few buildings as well as areas with landowner interest in renewable development.

4.2 Sensitivity Analysis

Sensitivity analysis was performed to test how results could change under different assumptions. Five scenarios were run:

- **Group average**: As discussed in section 4.5.1, data for generation potential, schedule and maintenance cost criteria was provided on a per project / per step basis. The main analysis used results calculated for the first project within a REZ group, since these represent the first possible options for investment. This sensitivity scenario assumes that a weighted average value for the REZ group was used to assign a score instead.
- **Even split**: This scenario assumes an even split of the criteria, rather than applying weights to convey relative importance.

- **100% Cost effectiveness and efficiency**: This scenario assumes that only cost effectiveness and Efficiency criteria were considered. The other two priorities were excluded.
- **100% Equity and environment**: This scenario assumes that only equity and environment criteria were considered. The other two priorities were excluded.
- **100% Resilience and climate**: This scenario assumes that only resilience and climate criteria were considered. The other two priorities were excluded.

Table 4-2 below presents the top four ranked REZ for the main analysis compared to each sensitivity analysis scenario. As shown in the table, the top four ranked REZ remain pretty consistent across scenarios, the main change is the order of those top four REZ. In two cases, REZ 3 enters the top four, and in one case REZ 7 enters the top four. But the most common REZ included in the top four include REZ 1 and REZ 6, followed by REZ 4 and REZ 5.

The top four REZ are the same when comparing the main analysis (first project approach) with the group average scenario. This indicates that the decision of whether to take the group average versus the first project for the generation potential, schedule/timing and maintenance costs criteria was not critical, though some differences exist between these two scenarios for the ranking of REZ outside the top four. The even split scenario is also very similar to the main analysis, with only one REZ differing in the top four. This reflects the minor distinctions made between the three priority groups during the CWG weighting exercise.

Table 4-2. Top 4 REZ—Sensitivity Analysis Results

Rank	Main Analysis	Group Average	Even Split	100% Cost Effectiveness and Efficiency	100% Equity and Environment	100% Resilience and Climate
1	REZ 6	REZ 6	REZ 6	REZ 7	REZ 1	REZ 6
2	REZ 1	REZ 1	REZ 1	REZ 6	REZ 6	REZ 4
3	REZ 5	REZ 5	REZ 5	REZ 1	REZ 3	REZ 5
4	REZ 4	REZ 4	REZ 3	REZ 4	REZ 5	REZ 1

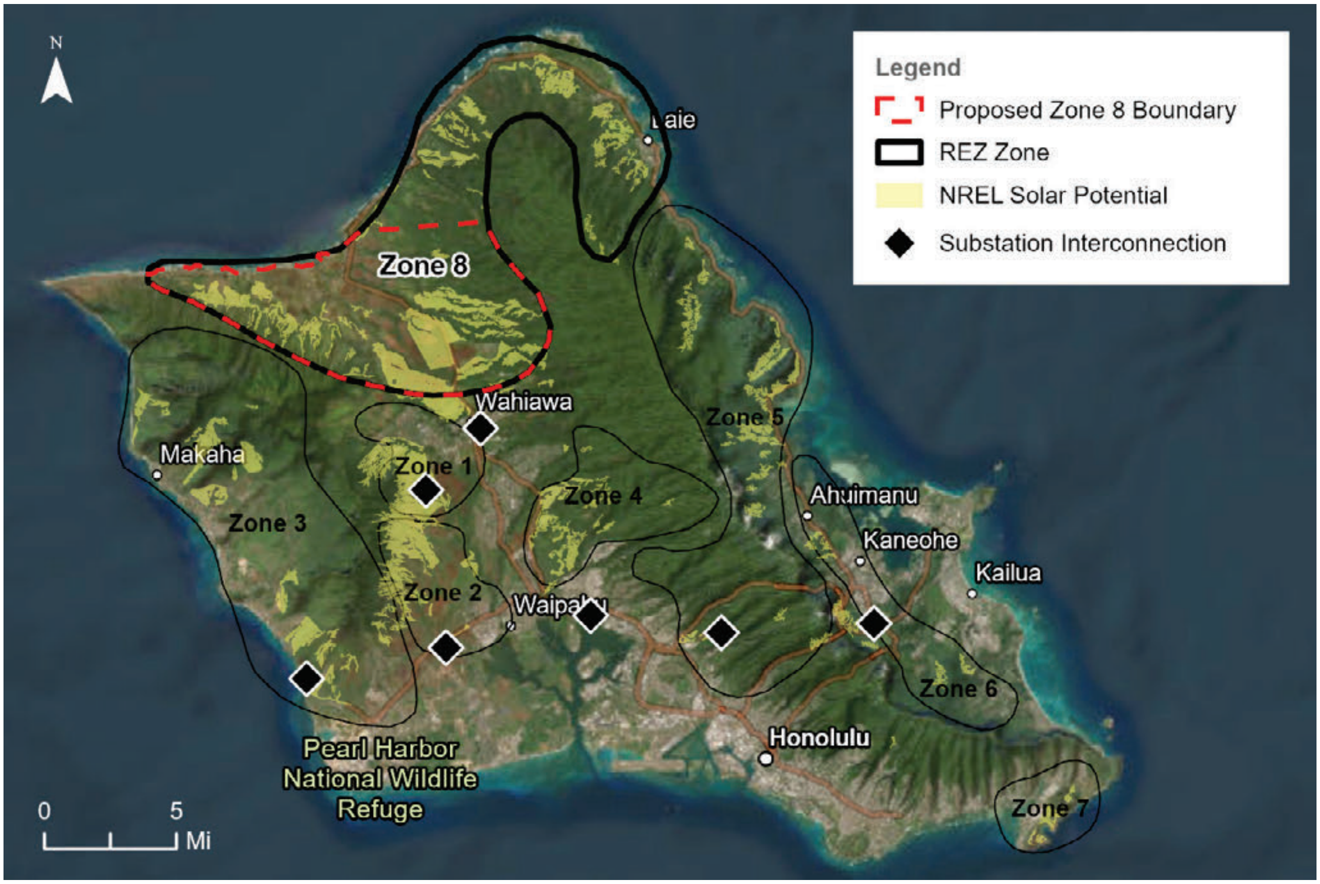
4.3 Scenario Analysis

In response to some stakeholder comments, two alternative scenarios were evaluated, as described below, and additional details can be found in Appendix C.

4.3.1 Modified REZ 8 Area

One scenario analysis considered a modified, smaller area for REZ 8. The map in Figure 4-1 below illustrates the modified REZ 8 area evaluated.

Figure 4-1. Modified REZ 8 Area for Scenario Analysis



The prioritization scoring process was rerun to consider the modified REZ 8 area for each criterion. For criteria with data by project (i.e., generation potential, schedule/timing and maintenance costs), only the first five projects were considered out of the total eight projects within REZ 8 to reflect the smaller modified area. For the rest of the criteria, only data corresponding to the new modified REZ 8 area was incorporated.

After calculating the updated scores for each criterion, a new set of weighted average scores were calculated. The scenario analysis revealed that the changes to the REZ 8 boundaries do not meaningfully affect the overall ranking of the top REZ; the top four REZ remained the same. REZ 8 remains outside the top four REZ under the main analysis (first project approach), and REZ 8 only enters into the top four REZ under the 100% equity and environment sensitivity scenario.

The results show that although REZ 8 experiences some improvements in scores (in particular for the existing generation and environmental impact criteria), this is not sufficient to offset the low scores of other criteria. Specifically, lower scores for REZ 8 are driven by:

- Having a relatively high risk of floods and tsunamis (climate risk exposure)
- Having a relatively low percentage of land that is state-owned (land availability—zoning)

- Not being identified by state agencies as an area of opportunity (state land opportunity)
- Higher costs and longer times to construct transmission lines (generation potential and schedule/timing)

It should also be noted that while Zone 8 includes the highest MW potential, building new generation here would require substantial transmission upgrades, resulting in a higher cost relative to other REZ (discussed further in Section 4.5.1).

4.3.2 Alternative Land Availability Data

A second scenario analysis considered alternative land availability data provided directly by one of the STWG participants. This data uses the following filters to identify land that is preferable for utility-scale solar development:

- Slope percent less than 10%
- Parcel size of 50 acres or greater
- Road accessibility
- Other factors typical for photovoltaic (PV) construction[6]

The resulting available acres of buildable land by REZ is shown below in Figure 4-2.

Figure 4-2. Alternative Available Land Data

REZ Group	Buildable Area (Acres)
1	0
2	88
3	465
4	0
5	511
6	122
7	0
8	10,739
Not Within REZ Group	469
Total	12,394

As shown in the figure, applying these filters result in zero acres of buildable land in two of the top four REZ (REZ 1 and REZ 4), as well as for REZ 7. However, these results are contingent on applying the filters listed above. This prioritization study builds on prior Hawaiian Electric analysis and stakeholder discussions, which relied on the *NREL (2021)*[7] study (scenario PV alternative 1). The NREL study used a different set of filters to

[6] The exact criteria included here were not provided.

[7] NREL, "Assessment of Wind and Photovoltaic Technical Potential for the Hawaiian Electric Company", Updated July 30, 2021

identify areas of solar potential, including over 40 different specifications. Examples of these filters include the following:

- Slope percent up to 10%
- Slope percent up to 15% or 20% given additional costs
- Excluding wetlands
- Excluding urban zones
- Excluding important agricultural lands

For a map illustrating these areas of solar potential, refer back to Figure 2-1.

Additionally, the prioritization process included a land availability criterion, which considers the proportion within each REZ of state-owned land, land with buildings, and areas where landowners expressed interest in renewable energy development. This criterion was used to further down select REZ areas with available land in addition to renewable energy potential.

To evaluate the alternative land availability data, a scenario was run to replace the existing land availability criterion and scores with the new data. Percentiles were applied to the alternative land availability data to allocate REZ to the five-score framework. This resulted in a top score of 10 for REZ 8 for land availability, and a score of 0 for all REZ with zero buildable acres. The same weight as the previous land availability criterion was applied to calculate the weighted average scores. No other changes were made to the scores of the other criteria. After calculating the total weighted average scores, the top four ranked REZ included:

- REZ 6
- REZ 5
- REZ 1
- REZ 3

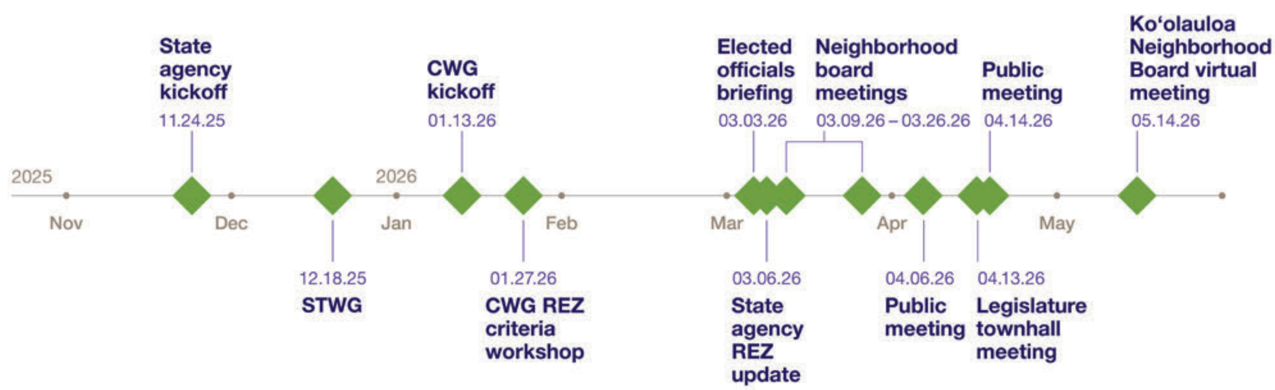
While REZ 3 replaced REZ 4 in the top four REZ, all other top REZ remain the same as in the main analysis results. The results of all these sensitivity analyses indicate that making these changes to the data will not result in significant changes to the overall results.

It should be noted that this scenario analysis assumes that there are still viable options for renewable energy development within all eight REZ. Because the amount of buildable land depends on the filters applied, this criterion was treated as amount of preferred land for renewable energy development by REZ.

5. Engaging Partners and the Public

This section describes the communications and engagement process undertaken to inform and involve key partners and the public throughout REZ evaluation. The engagement was structured around a series of workshops and feedback sessions held from late 2025 through early 2026, with the goal of providing transparent decision-making and incorporating diverse perspectives into the REZ planning process.

Figure 5-1. Timeline of partner and public engagement in REZ planning



Input from state agencies, legislators, technical advisors and the public helped refine evaluation criteria. Public feedback on individual REZ tended to be general in nature and did not identify any fatal flaws that would prevent near-term development of the highest-ranked zones. Feedback from the public also highlighted key considerations around land use, transmission, environmental impacts and community acceptance. The following subsections summarize workshops and meetings with each of the groups engaged throughout the REZ evaluation process.

5.1 State Agency Feedback

Hawaiian Electric hosted a workshop with state agency representatives on November 24, 2025, to identify where renewable energy development is most feasible on O'ahu. Across the breakout groups, agencies emphasized that while some parcels near existing solar infrastructure and those that have potential for hydropower show promise, much of the island faces constraints. Steep terrain, cultural sensitivity, endangered species, agricultural priorities and military aviation or security requirements significantly limit where large-scale renewable projects can be sited.

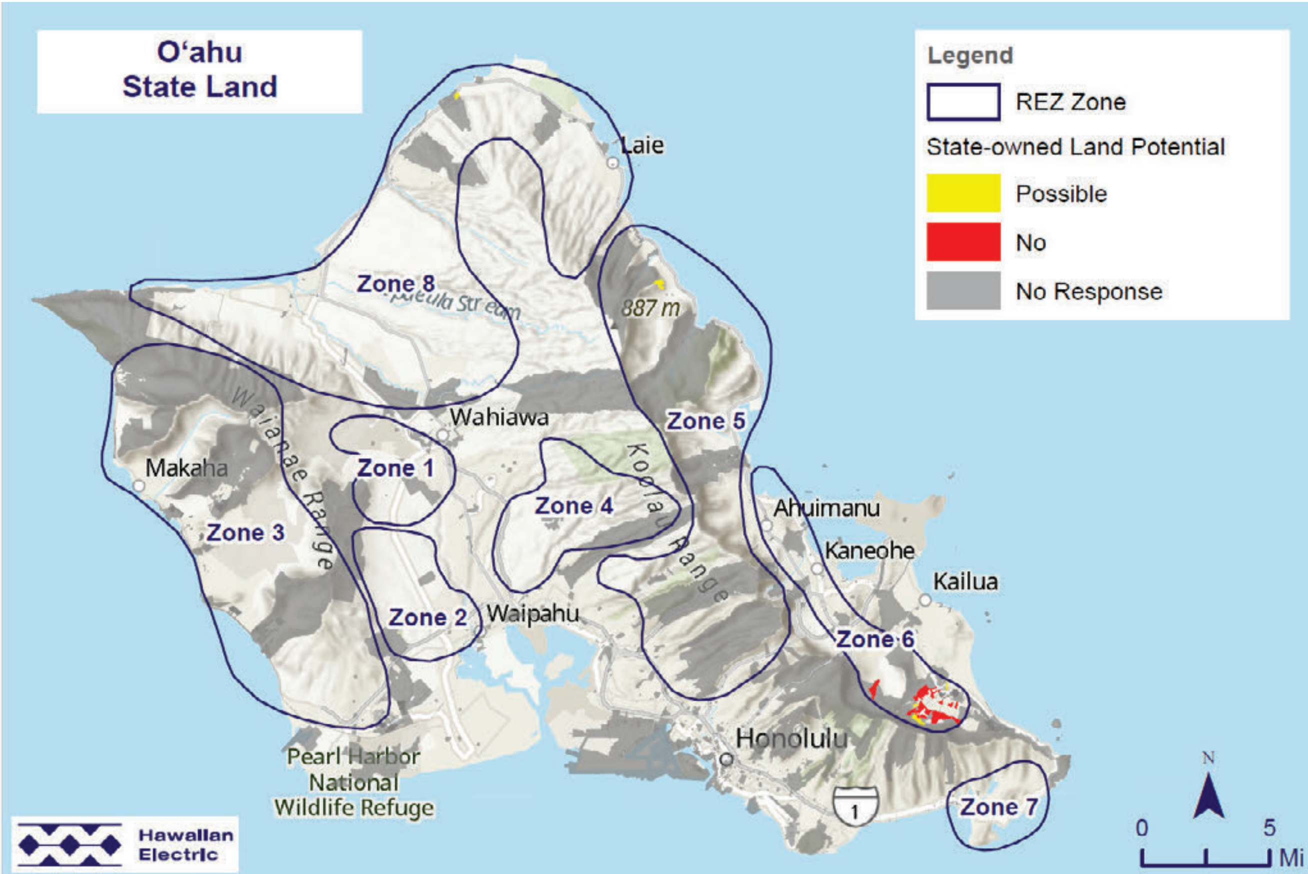
Participants also highlighted the importance of aligning REZ planning with broader state priorities, including food security (agriculture), reforestation and transportation decarbonization. Hawaii Department of Transportation noted opportunities for solar co-location in transportation rights-of-way and the need to balance renewable development with support for locally grown biofuels. The Department of Natural Land and Resources also noted some potential parcels for co-location in Zone 6. Overall, for state agencies, Zones 3 and 6 emerged as the most viable areas for REZ designation with state land opportunities, while others were dismissed due to environmental, cultural or land-use conflicts.

Hawaiian Electric followed up with state agencies by email on March 9, 2026, to request feedback on specific tax map keys (TMKs) that would potentially be available for renewable energy development. Agencies were asked to prioritize larger areas (greater than 10 acres) in or near REZ 1, 4, 5 or 6, and to classify that land as either:

- Red: not able to be used (land occupied or plans to occupy)
- Yellow: may be able to be used
- Green: good opportunity

Results of this request are illustrated by the map in Figure 5-2 below. Responses were received from two agencies, which indicated 5 TMKs classified as yellow (possible opportunity) in REZ 6, 5 and 8, and 72 TMKs classified as red (unavailable) in REZ 6. The remaining agencies were colored grey to represent unknown / no response.

Figure 5-2. State TMKs of Opportunity



5.2 Stakeholder Technical Working Group Feedback

The Stakeholder Technical Working Group (STWG) was involved in the prioritization process by identifying considerations to analyze each zone. Stakeholder feedback emphasized the need for clearer, more realistic framing of REZ and their underlying assumptions. Participants noted that while indicative nameplate capacity estimates were based on a 2022 study showing significantly higher solar than wind potential and aligned with NREL research, simplified metrics (such as area-based potential, equity scores or permitting difficulty) are often misleading and limited in value. Different technologies have distinct land-use footprints, environmental impacts and operational profiles, making simplified scoring inadequate. There was strong interest in expressing generation potential in terms of MW that can realistically be accommodated, factoring in climate resilience and alignment with the desired resource portfolio. Stakeholders also questioned the relevance of current equity metrics, noting they may not reflect actual outcomes and should not override market signals.

Additional feedback focused on transmission-driven planning, land availability and practical buildability. REZ were generally supported as a way to cluster projects and justify proactive transmission development beyond Integrated Grid Plan projects, but many cautioned that zones should be presented as guidance for where new transmission should be developed, not predictions of where projects will be built. Limited information on landowner willingness, community acceptance, agricultural land value and developer behavior was flagged as a major gap, especially given the preference for private lands and proximity to existing transmission.

On O'ahu, participants expressed concern that high-MW potential areas such as Zone 8 lack transmission, creating a substantial barrier.

Overall, stakeholders recommended more granular information for decision making that prioritizes transmission access, diverse resource mixes (not just solar), environmental considerations and development feasibility.

5.3 Community Working Group Feedback

Community Working Group (CWG) participants were involved in the prioritization process by providing feedback on weighting of each criteria that were developed based on feedback from the STWG. The group discussed that REZ size and shape were initially derived from a 2022 study overlaying solar resource potential with access to existing transmission, resulting in preliminary boundaries intended to guide future transmission planning. Stakeholders requested more granularity, transparency and refinement on these, particularly around equity, environmental impact and land use.

Equity was seen as a valid consideration, but participants questioned why community resilience, quality-of-life impacts and other consequences were excluded. Similarly, environmental impact metrics such as permitting complexity were viewed as imperfect proxies, with requests for more direct consideration of true environmental and social effects, including impacts to prime agricultural lands. In response, Hawaiian Electric renamed this category of criteria to be Equity and Environment rather than the originally proposed Community and Environment.

Additional feedback focused on land availability, cost, process clarity and long-term planning. Stakeholders questioned the emphasis on state-owned land given competing state priorities, despite the Governor's Executive Order directing agencies to prioritize REZ development. Other discussion surrounded distinguishing existing versus incremental generation, considering MW density and land footprints, accounting for varying project economics across REZ, and recognizing that full build-out of a zone is unlikely from a community perspective. Participants also sought clarity on how transmission buildout, RFPs, developer access and community value considerations would ultimately be handled. Participants encouraged Hawaiian Electric to continue investigating how large consumers can contribute to renewable energy and utilization of parking lots for renewable generation siting.

Feedback on the overall engagement process included recommendations to hold conversations with all groups to have more inclusive, transparent conversations, and so that each group can hear other perspectives.

5.4 Legislative Feedback

Hawaiian Electric held open briefing sessions for legislators to learn about the REZ program. The team received several suggestions that can be addressed in project development phases beyond this initial planning phase.

5.5 Public Feedback

Hawaiian Electric hosted open house meetings with presentations on what REZ are, why Hawaiian Electric is pursuing them, and the priority zones on O'ahu in April 2026. One public open house meeting focused on Zones 1 and 4 was held on Monday, April 6, and another public open house meeting focused on Zones 5 and 6 was held on Tuesday, April 14. Attendees were able to speak with Hawaiian Electric staff and provide conversational feedback or place location-specific comments on an in-person and virtual map of the zones.

Public feedback demonstrated broad support for Hawai'i's transition to renewable energy, but with strong conditions around reliability, affordability, transparency and land use. Many participants emphasized that power reliability and power quality must not decline as renewable sources are deployed, citing concerns about outages, grid stability, maintenance of new technologies and the need for clear performance metrics. There was recurring skepticism that renewables alone, particularly solar, can meet evening peak demand without sufficient firm or backup resources, and repeated calls for careful planning to avoid rolling blackouts. Cost was a major theme: Residents asked how rates will be affected over the long term, who ultimately pays for infrastructure and whether benefits will meaningfully reduce bills, especially for low-income households, renters and condo residents who lack access to rooftop solar. Equity and intergenerational impacts were raised as a concern, alongside requests for more disclosure about long-term pricing, risks of technological obsolescence and clearer explanations of tradeoffs.

Equally prominent were concerns about siting and community impacts. Many commenters urged Hawaiian Electric to avoid or minimize use of agricultural land, culturally sensitive areas, burial sites, flood zones and residential neighborhoods, and to prioritize already-built environments like rooftops, parking lots and malls. Residents worried about property values, visual and noise impacts, environmental contamination from batteries or solar facilities and health or ecological effects tied to wind and other technologies. There was interest in alternative approaches, including shared/community solar, microgrids, resilience hubs, localized generation, small-scale wind, hydro or emerging storage technologies, but also caution about nuclear power and unproven solutions. Across meetings, attendees consistently asked for deeper, smaller-scale and more ongoing engagement, expressing that this is a permanent land-use decision that requires trust, full information and a partnership with communities rather than a top-down process.

Location-specific feedback emphasized strong concern about placing renewable energy projects near residential neighborhoods, agricultural lands, culturally significant areas, and sensitive ecosystems, particularly in Windward Oʻahu communities such as Kailua, Kāneʻohe, Koʻolaupoko and Pearl City. Many residents opposed wind and large ground-mounted solar in these areas due to noise, visual impacts, wildlife risks, cloudier microclimates and proximity to homes, schools and burial sites.

Commenters questioned REZ boundary assumptions and urged avoidance of flood zones and conservation lands, while supporting development on already-disturbed or built environments. Across locations, there was a clear preference for rooftop solar, parking-lot canopies, public facilities, agricultural on-site generation and community or shared solar paired with storage. These solutions were seen by the community as better aligned with local conditions, minimizing community harm while improving resilience and reducing transmission needs. Generally, there was higher opposition to Zone 5 than other zones.

6. Recommendations and Next Steps

This section presents the priority O'ahu REZ to advance into Phase 2 (conceptual design and procurement) and outlines actionable next steps.

6.1 Evaluation and Engagement Recap

Hawaiian Electric ranked the eight O'ahu REZ by scoring them on each of the following criteria:

- **Cost effectiveness and efficiency:**
  - Generation potential
  - Schedule/timing
  - Maintenance costs
  - Known developer interest
  - State land opportunity
  - Land availability
- **Equity and environment:**
  - Equity – prioritizing REZ with fewer existing utility-scale generation facilities
  - Minimizing environmental impacts
- **Resilience and climate:**
  - Risk of wildfire
  - Risk of flooding
  - Risk of tsunami

The scores were then weighted using input from the CWG. After applying the weights, **the four highest-ranked REZ are**:

- **REZ 6:** High scores for equity, resilience and climate and known developer interest
- **REZ 1:** High scores for resilience and climate and minimizing environmental impacts, as well as high scores for generation potential, schedule and maintenance costs
- **REZ 5:** High scores for resilience and climate and minimizing environmental impacts, as well as high scores for land availability, landowner interest and state-owned land. However, there was greater public opposition to this REZ than other zones.
- **REZ 4:** High scores for land availability, landowner interest and resilience and climate

These top four REZ remained largely consistent under additional sensitivity analyses. Input from state agencies, legislators, technical advisors and the public did not identify any fatal flaws that would prevent near-term development of the highest-ranked zones.

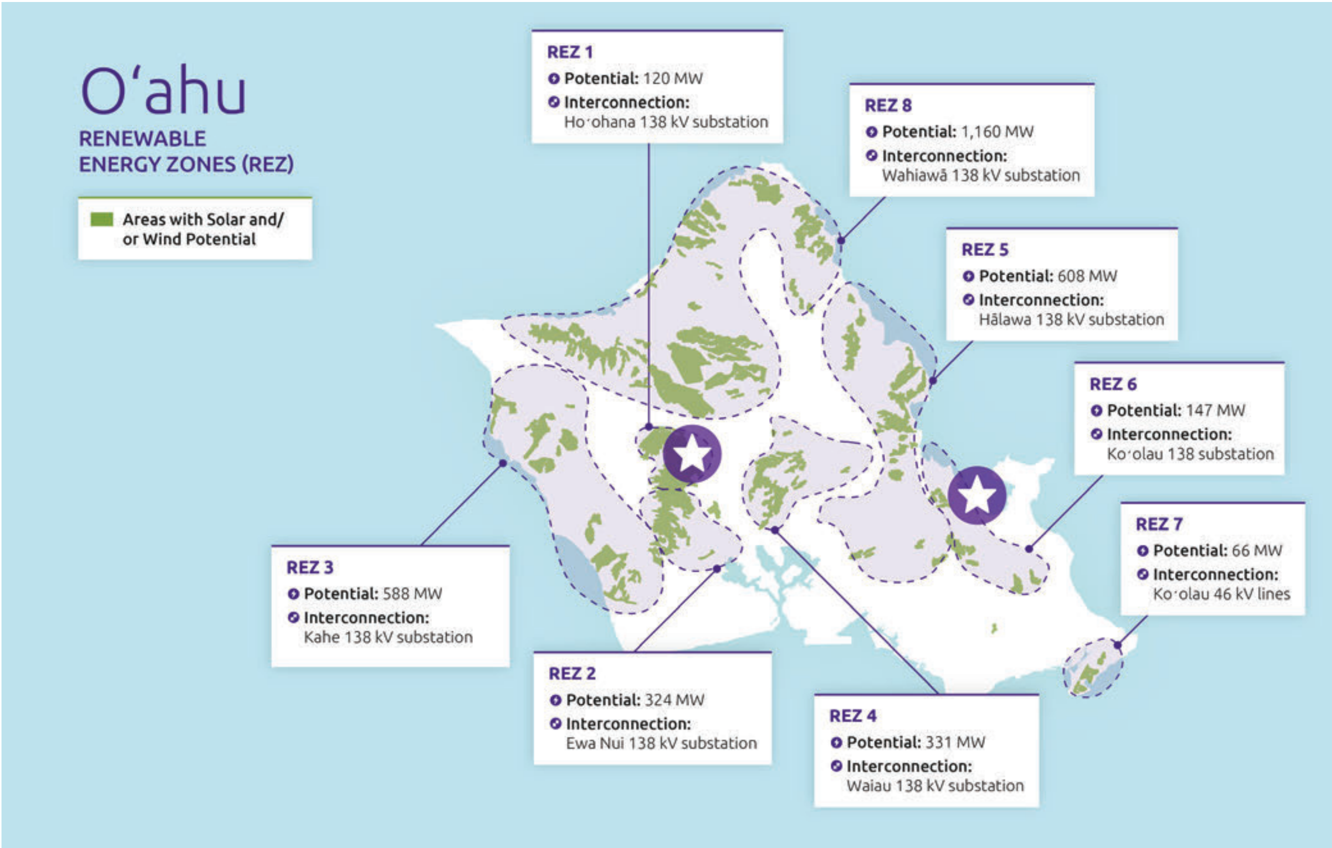
Based on the technical screening, sensitivity analyses and stakeholder engagement conducted through the REZ planning process, Hawaiian Electric recommends advancing a focused set of REZ that balance near-term execution with longer-term system planning needs.

6.2 Recommendations

Hawaiian Electric recommends moving Zones 1 and 6 into Phase 2 as REZ "pilots" due to their strong overall technical performance, relatively contained transmission scope and ability to advance material amounts of renewable capacity within a manageable cost and risk profile. These zones consistently rose to the top of the evaluation rankings, and input from partners and the public reinforced these two zones as viable near-term REZ.

These pilot zones provide the opportunity to move from planning into execution while maintaining financial discipline and responsiveness to stakeholder feedback. Figure 6-1 shows all identified REZ on O'ahu, with the two priority zones starred.

Figure 6-1. Priority REZ on O'ahu



Following Zones 1 and 6, Zones 4 and 5 would be next in line for conceptual design and procurement on O'ahu due to their additional high ratings in this criteria evaluation. REZ 4 and 5 represent greater generation potential, complexity and transmission needs than the two pilot zones and would therefore require significantly more time to build out. Moving swiftly to advance REZ with greater MW capacity is essential to deliver reliable power that meets growing energy needs.

Collectively, this portfolio approach supports an incremental transition into Phase 2. It demonstrates progress toward the state's clean energy goals, aligns with Public Utilities Commission expectations regarding execution readiness and cost control and preserves flexibility as community input, land availability and project‑level constraints continue to be refined.

6.3 Next Steps

The following next steps outline focused, actionable activities for each recommended REZ to transition into Phase 2.

Zone 1

Zone 1 will advance as a near-term, lower-impact pilot emphasizing rapid progression into development.

Immediate actions include initiating land discussions with state agencies, the Department of Defense, private landowners and potential use of parking lots where feasible. Conceptual design will proceed for the substation and the limited underground transmission line segment. In parallel, Hawaiian Electric will prepare a developer procurement package to solicit interest for renewable generation within the zone, incorporating lessons learned from prior RFIs.

Zone 6

Zone 6 will advance as a moderate-complexity pilot that incorporates both generation development and defined greenfield transmission scope. Near-term activities include initiating land acquisition discussions with state agencies, the Department of Defense and private landowners, with emphasis on areas identified through prior state land opportunity workshops. Transmission development will begin with corridor identification, environmental and permitting studies, and early community engagement to inform routing decisions. Conceptual design for the substation will be advanced and a developer procurement package will be prepared in parallel to support market readiness.

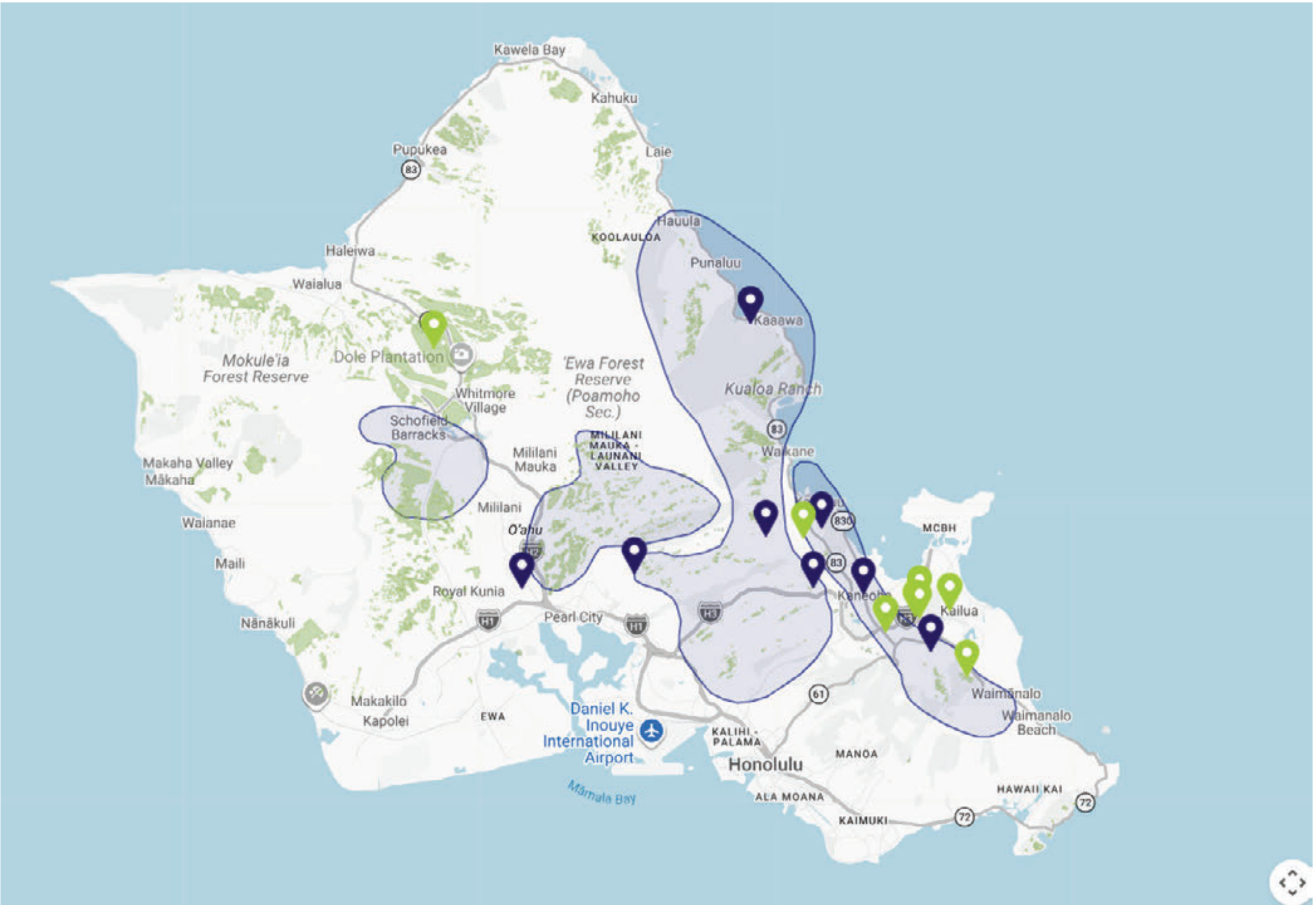
All Zones

Across all REZ, Hawaiian Electric will continue community engagement, maintain transparent communication as projects advance from zone selection to project siting and align execution sequencing with regulatory approvals and capital planning requirements. Hawaiian Electric will also continue to collaborate with the Office of Planning and Sustainable Development as the State of Hawaiʻi's Integrated Land Use Study progresses. The phased approach positions the REZ program to move forward deliberately while retaining flexibility to respond to evolving technical, community and regulatory considerations.

7. Appendices

7.1 Appendix A: Public Comments

7.1.1 Interactive map comments



Zone	Comments
1	No map comments
4	Will there be additional zones in the future?
5	I strongly object to wind turbines. They kill birds, are unsightly, and very likely will be non-functioning in just a few years.

Zone	Comments
5	I highly oppose any wind energy development (i.e. windmills) in this area and in neighboring zone 6. These areas have clusters of populated residences alongside farm lots, and the risks of wind energy to human health and the environment are too high. Additionally, there are many Hawaiian cultural sites and indigenous flora/fauna in these areas that are highly likely to be impacted, thereby negatively altering active efforts by residents & community organizations to preserve and restore these areas. I am particularly concerned about the impacts a wind energy project will have on Kaneohe Bay (pollutants from construction, runoff, etc.), portions of which have been designated as a national estuarine reserve. I think solar is a good option in this zone; however, I hope Hawaiian Electric and the state consider supporting residents with programs to install solar on homes vs constructing solar panel fields. Lastly, I am concerned with the state and Hawaiian Electric's long-term plans for mitigating aging renewable energy: what types of management plans are/will be in place for handling poisonous chemicals & pollutants that come with solar energy components; how often will renewable energy components need to be replaced? Are we going to spend more $ in the long run replacing parts frequently?; Da BIG question: is this really renewable energy or are we just continuing to contribute to waste in another way (cause my understanding is that the materials for solar and wind energy are not really recyclable, so, are we just going to end up with a huge renewable energy refuse?? Is the state or Hawaiian Electric going to build a recycling center for aging/broke renewable energy materials??
	Why is a residential community at the upper reaches of Kaahumanu St. in Pearl City within the prioritized renewable energy zone? What are your intentions in this area?
	I'm not sure why this is being marked as an area "with Solar Potential." This area gets more cloud cover than almost anywhere else on O'ahu. I would know because I have a PV system on my roof, and it doesn't give me near the amount of power that it would in a sunny area like Ewa Beach.
6	There are several houses on this street (and throughout this neighborhood) with solar arrays. It would be a shame to leave out that production capacity (including battery storage) for the REZ.
	Please do not sacrifice reliability and infrastructure resilience. Power outages are very disruptive for myslf and my neighbors. The strategy of charging a higher rate during evening hours is a negative to a community where most people commute to work in the daytime and are home in the evening. I am very concerned about the environmental impacts of Wind. The windmills kill the owls and bats, and are known to be disruptive to whales and dolphins. It may be too late to save the decimated owl and bat populations but it is worth a try. This negatively impacts the whole ecosystem. The new small nuclear reactor technology makes more sense, lowers costs, and does not hurt the fauna. Green energy equipment is not much of an improvement, if any, for climate change because the equipment contains carcinogens, won't be disposed of properly, and was produced in places where the factories dump unfiltered pollutants into the atmosphere anyway. Nuclear is safer and cleaner. We need real long-term solutions that do not harm Hawaii. Geothermal is better, as is ocean-wave-power, and nuclear.
	I am not in favor of making windmills in or close to zone 6. There are too many residences and places of cultural importance here in koolaupoko. We already have 24/7 noise from the military base, I don’t want the humming and other negative consequences to our health and to the natural habitat/wildlife. There is also no space for a solar farm and we don’t want our landscape to change. It’s already bad enough that the state built such a huge hospital. A’ole to this. If you want to build this stuff do it on the military base. Thank you. Signed, Olan Felix- a concerned resident of Kāne’ohe- Koolaupoko
	Each substation should have battery backups. Why is MCBH not on the map?

Zone	Comments
6	Additional renewable energy options need to be looked into. If 'bio diesel' counts as a renewable, why don't we build additional combustion/thermal plants and claim them as renewable. This would add to the renewable category and increase firm power production, which is needed in this transition.
	Windward side needs energy production and storage. The design of the existing transmission system leaves the windward side very vulnerable to many types of impacts (fire, high winds, tsunami, etc.) with no resilience in energy production.
	My comment kind of addresses location, access, demand, and infrastructure. Location: Due to its location away from Oahu's main power generation plants, Kailua would be ideal for developing a renewable energy zone. I am currently out of the REZ specified on the map but live across the road from Olomana so fairly close. The use of PV should be expanded as much as possible due to Kailua's sunny location. Offshore wind not so much. Concerns regarding location focus around photovoltaic panel vulnerability to high winds (hurricanes and the like). I am concerned about how high wind events could compromise PV panels so hardening panel arrays would be a priority. Access: The recent storms that knocked out power really pushed the idea of creating more independent power generation sites. When I say independent, mean off-grid or as much as possible. We have a backup battery so the power outages did not affect us much. I realize the cost of a home PV and battery back up system can be prohibitive. A thought would be to gradually fund community PV/battery projects located on public (and possibly private lands) that would feed households with limited income. The generation sites would be smaller and more local - if one site goes down it would only affect a smaller portion of the population. Poorer households would still pay for electricity which would help pay for the cost of creating all this. To speed up things, possibly consider a bond issue to help fund this. I believe that costs will come down and battery/panel technology will improve so that future systems will not cost as much as they do now.
	Continuation of previous comment: Demand: I expect demand to slightly increase then stabilize as time goes on. Appliances and devices will draw less energy as tech improves. Example: LED lighting. However, if global warming gets worse, you may have to expect more HVAC use with the added demand. Also, having more electrical vehicles will also increase demand. Having generation within our community will still be an advantage. As per the previous comment in regard to Access, all systems will not be up at any given time so having reserve capacity for emergencies or periods of high demand (heat waves) will be beneficial. Long term electrical/energy storage devices should be looked at as well for times of peak demand. Existing infrastructure: Building more independent local power generation has yet another advantage - fewer power lines to blow down in storms, fewer power poles cluttering the landscape. Possibly look at changing building codes to make on-site generation systems a requirement. Yes, it will add to the cost of building but having a hardened/storm resistant system on a property with battery back up and without any generation lines will be economical in the long run.
	Lots of schools near me. Also large kupuna housing and low-income (being built). Lots of walkers and bikers, and others who would be in favor of renewable energy. High cost of living in Kailua probably has others in favor of renewables. I know I am. I've written a book about it - Balcony Solar and Other Infant Energies. Lots of rooftops here. Solar skywalks could possibly be installed - they would help the pedestrians. Lots of area for solar on roofs. Lots of solar already on roofs. Breezes off the ocean are pretty consistent for wind power. Thanks for doing this.

Zone	Comments
6	Just a passing comment first: you can't seriously say in 2026 that this is the first time anybody has studied spatial factors in renewable energy generation, can you? If so, FAIL. I was arguing this with colleagues 20 years ago. Here is the problem: solarity. You know where it is in Oahu simply from the pattern of 20th century sugar plantation closures. Which closed first? Low solarity. Which closed last? High solarity. How do you know? Sugarcane is phototrophic. You can move water to the sunlight, but not vice versa. Asked and answered: just follow the plantation closures. And, yes, we were arguing this twenty years ago when nobody was listening except Karl Stahlkopf. Once Bob Clarke left HECO, nothing but boneheads remained. Guys like Robbie Alm, the faith-based ecopious. Fuhgeddaboutit. You should have listened to Karl. You should have listened to CTAHR.
	Our farm, located in an "Area of Solar Potential" at the Olomana Heights community, already utilizes sunlight for the natural growing of crops. The addition of renewable energy for sustainable electrification of agricultural necessities on site (irrigation pumping, power equipment, lighting, refrigeration), and of transport of goods to and from the farm (supplies and produce, respectively).

7.1.2 Surveys

7.1.2.1 CWG survey

REZ Priorities

Question	Comment	Response
Generation Potential		
Do you agree this criteria is important for capturing the Cost Effectiveness and Efficiency priority?	6 yes, 1 unsure	Most participants agree with this criterion.
This criteria uses data on project-specific generation capacity and associated transmission costs. Currently, the criteria is calculated to consider characteristics of only the first project that would be developed within each REZ to select between REZ groups. Do you	4 switch to average, 3 unsure	Most participants prefer to either switch to average or are unsure
	We may switch to the average projects within each REZ. I wonder, however, about the need for flexibility in what might be expected for future projects within each REZ. It may be prudent not to just assume wind and PV.	Our goal is to select priority REZ groups to build out transmission lines to enable future generation capacity. The technology of the generation facility is flexible and can be determined at a later time.
	Maybe switch to consider the average costs of all projects within each REZ considering 50% buildout of a REZ, since full buildout of a REZ would be unrealistic and undesired	Even in the case where only half of the generation potential is eventually built out in a REZ group, developers may still be interested in the full site potential of that REZ group.

Question	Comment	Response
agree with this approach? Alternatively, we could consider the average characteristics for all projects within a REZ to select between REZ groups. In other words, is the first project most important, or the long-term prospects for all potential projects within a zone?	How do I as a layperson know the first project should be first	This is a complex problem with a lot of factors to consider. Hawaiian Electric is seeking input from stakeholders to help inform the REZ selection process. We value your feedback.
	I think average across projects per REZ might make more sense for the purposes of ranking, though I'm not sure if I fully understand how this one works. It's unclear how the projects are broken down per REZ and how transmission costs are spread across projects. General feedback, but if REZ 7 has no assumed transmission build costs, doesn't this throw off the prioritization? If REZ 7 needs no additional transmission, should this even be considered a REZ? It would automatically score higher in several categories (gen. potential, timing, maintenance).	Thank you for your input. The costs are estimated to build out transmission to a given generation facility within a REZ area. These costs are compared to the potential generation capacity for that particular facility. Each REZ cost host one or more generation facility given the RE potential of the zone. It is true that REZ 7 scores highest for generation potential, schedule, and maintenance. However, because there are several other criteria and priority categories, REZ 7 is not necessarily rated the highest overall, particularly once weighting is considered.

Cost Effectiveness & Efficiency

Question	Comment	Response
Do you agree this criteria is important for capturing the Cost Effectiveness and Efficiency priority?	6 yes, 1 unsure	Most participants agree with this criterion.
Do you agree with how this criteria is being calculated (in years)?	6 yes, 1 unsure	Most participants agree with how this criterion is being calculated.
This criteria uses data on project-specific generation capacity and associated transmission costs. Currently, the criteria is calculated to	2 switch to average 2 continue with first project 3 unsure	No consensus

Question	Comment	Response
consider characteristics of only the first project that would be developed within each REZ to select between REZ groups. Do you agree with this approach? Alternatively, we could consider the average characteristics for all projects within a REZ to select between REZ groups. In other words, is the first project most important, or the long-term prospects for all potential projects within a zone?	Maybe switch to consider the average costs of all projects within each REZ considering 50% buildout of a REZ, since full buildout of a REZ would be unrealistic and undesired	Even in the case where only half of the generation potential is eventually built out in a REZ group, developers may still be interested in the full site potential. Without knowledge of how many projects within a REZ will be built out, our assumption is to consider only the first project.
	Maybe some % of projects built in any REZ	Without knowledge of how many projects within a REZ will be built out, our assumption is to consider only the first project.

Question	Comment	Response
Schedule/Timing		
No comments on Schedule/Timing		

Question	Comment	Response
Maintenance Costs		
Do you agree this criteria is important for capturing the Cost Effectiveness and Efficiency priority?	7 yes	All participants agree with this criterion.
Do you agree with how this criteria is being calculated (low, medium, high)?	6 yes, 1 unsure Comment: Isn't this Low-Medium-High?	Most participants agree with how this criterion is being calculated. Correct, the criteria is being measured in terms of low-medium-high not in terms of "years" as is indicated in the survey. This was a typo.
This criteria uses data on project-specific	3 switch to average 4 unsure	Participants are divided between switching to the average or uncertain.

Question	Comment	Response
generation capacity and associated transmission costs. Currently, the criteria is calculated to consider characteristics of only the first project that would be developed within each REZ to select between REZ groups. Do you agree with this approach? Alternatively, we could consider the average characteristics for all projects within a REZ to select between REZ groups. In other words, is the first project most important, or the long-term prospects for all potential projects within a zone?	It seems to assume that we have an absolute understanding of the generation capacity for future projects. If so, we can proceed with the first project approach. Does maintenance cover replacement costs over the system's expected life?	The values used here for generation capacity of future projects are high-level estimates. The transmission maintenance costs are estimated by subject matter experts (SME) in terms of low, medium, and high costs. These are intended for relative comparison of projects rather than providing an exact estimate of maintenance costs. These estimates are intended to cover regular maintenance work rather than replacement or major rehabilitation costs.
	Maybe switch to consider the average costs of all projects within each REZ considering 50% buildout of a REZ, since full buildout of a REZ would be unrealistic and undesired.	Even in the case where only half of the generation potential is eventually built out in a REZ group, developers may still be interested in the full site potential. Without knowledge of how many projects within a REZ will be built out, our assumption is to consider only the first project.
	Same. Maybe assume only a % of projects will be actually built	Without knowledge of how many projects within a REZ will be built out, our assumption is to consider only the first project.

Question	Comment	Response
Known Developer Interest		
Do you agree this criteria is important for capturing the Cost Effectiveness and Efficiency priority?	3 yes, 4 unsure.	Some participants agree with this criterion while others are uncertain.
	Yes to an extent. But some developers sought interest in an area without weighing any other impacts. Just being vigilant of that	Agreed, we do not have enough information to know if developers will change their area of interest after further investigation and research.
	My recollection is that developers were reluctant to share as part of the RFI. Additionally, if transmission is built, it could generate developer interest different from what the RFI showed	Agreed, building out transmission lines should help to spur developer interest. However, if we can also target areas of interest to developers, this should help ensure developer interest.
	[Additional comment by email] I think the Land RFI and the State interest in developing renewable energy projects should be considered in the context of project selection, but not be considered in the actual criteria	Incorporating this information into the criteria for selecting priority REZ helps us to understand where there is a higher likelihood of early success. However, we will also

Question	Comment	Response
	because both of these sources are based on a limited, narrow dataset that don't necessarily reflect actual interest.	consider this information for future project location selection factors.
	Depends how many developers responded to RFI and how their interests have evolved over the last few years. Does this overlap at all with landowner interest? This also has potential to conflict with community interest and/or perpetuate inequities.	Information provided from developers on the RFI is confidential so unfortunately we cannot disclose the number of respondents or details on their responses. This was the only RFI asking about developer interest so it is difficult to know how opinions may have changed over time. Data on landowner interest also came from the same RFI. In some cases the parcels of interest overlap, but this would not indicate double-counting for the criteria. These two data sets tell us about developer interest in pursuing projects as well as landowner interest in providing land for RE development. This is just one indicator used to prioritize REZ. Future transmission line locations within prioritized REZ will be planned collaboratively with communities and agencies through a multi-step process that will provides several opportunities for gathering input and review.
Do you agree with how this criteria is being calculated (in acres of yes/no interest)?	3 yes, 4 unsure	Some participants agree with how this criterion is calculated while others are uncertain.
	Maybe potential size is better. It totally depends on acres	Unfortunately we do not have information on the total potential area of interest. For a given parcel selected by the developer, we assume all acres of the parcel will be of interest.
	What is the community sentiment towards energy development in the region?	Unfortunately we do not have a good measure of community sentiment by REZ group at this time. Once the priority REZ are selected we will start outreach to the public to gather more feedback and inputs to help us select specific project locations.
	In general, there should be a way to pursue smaller projects that support local communities and are not vulnerable to an extreme weather disaster that could take out	While this study focuses on building out transmission to support large utility-scale generation, this does not preclude smaller

Question	Comment	Response
	half the island. This comment comes from many sessions with communities that we have had, especially on the Wai'anae Coast where people often deal with blackouts. Their mana'o has been on a more "distributed" kind of generation system, i.e smaller multiple projects vs. massive centralized projects.	distributed projects as well to complement grid power.
	Not sure if % or just total acres is a better metric.	Acres of land with developer interest is divided by total REZ area to help us to compare relative area of interest with other REZ of different sizes.

Question	Comment	Response
State Land Opportunity		
Do you agree this criteria is important for capturing the Cost Effectiveness and Efficiency priority?	4 yes, 3 unsure	Most participants agree with this criterion while some are uncertain.
	As long as all locations have been agreed upon for certain and if community concerns are addressed	Once the priority REZ are selected we will start outreach to the public to gather more feedback and inputs to help us select specific project locations.
	Perhaps include county lands within this bucket	Only state agencies were represented at this workshop so we do not have data on possible county-identified opportunity areas. However, counties can also be approached during the next phase, once priority REZ have been selected and specific project locations are being identified.
	Land use / ag land is an important sentiment in the LEP.	Thank you, we will consider locations zoned for agriculture as a factor when selecting specific project locations.
	Which state agencies were included and how exactly did they qualify opportunities for RE development? Based on approved plans, documented agency priorities, etc?	12 organizations were invited to participate in the workshop: • Hawaiian Homes Commission • Department of Business, Economic Development, and Tourism • Hawaii Housing, Finance, and Development Corporation • Department of Land and Natural Resources • Hawaii Department of Transportation • Hawaii Department of Agriculture • Hawaii State Energy Office

Question	Comment	Response
		• United States Army • United States Navy • Department of Hawaiian Home Lands • Office of Hawaiian Affairs • Agribusiness Development Corporation The methods agencies used to identify opportunities for RE development were not shared. However agencies were asked in advance to come to the workshop with an understanding of what lands they currently own and the future plans for that land.
Do you agree with how this criteria is being calculated?	4 yes, 3 unsure	Most participants agree with how this criterion is being calculated while some are uncertain.
	It sounds like there was just one meeting with a limited number of state agencies and no county agencies in attendance	Correct there was one meeting with state agencies and no counties were represented. The REZ effort is part of a state objective and therefore state agencies were targeted for this workshop. However, once the priority REZ are selected we will start outreach to the targeted zones and gather additional feedback, including the county agencies within those zones.
	I think it would help to look at state land use districts to help determine potential compatibility	During the project selection phase we will consider land use designations (e.g., agricultural, rural, urban) to help identify compatible areas for projects.
	Not sure if there should be some spectrum of responses to this based on more nuanced land use opportunities.	Since agencies only identified areas of opportunity (yes/no) we do not have more nuanced information from the responses.

Question	Comment	Response
Land Availability		
Do you agree this criteria is important for capturing the Cost Effectiveness and Efficiency priority?	6 yes, 1 unsure.	Almost all participants agree with this criterion.
	I would hope that priority ag lands and/or land suited for housing would be disqualified or more heavily considered so we don't have competing interests and/or land use tensions.	We will consider locations zoned as agricultural and residential as a factor when selecting specific project locations within a prioritized REZ group.
Do you agree with how this criteria is being	4 yes, 3 unsure	Most participants agree with how this criterion is being calculated.

Question	Comment	Response
calculated [in acres of state-owned land (% total of REZ), acres of land with buildings (% total of REZ), and acres of land with landowner interest (% total of REZ)]?	It would be helpful to include county lands	County lands are being included in this dataset. However, only state-owned land is being used to indicate opportunity for RE development. This is due to the Governor's Executive Order and PUC directives to expand RE generation.
	I think we should also look at city and county land	Both city and county lands are being included in this dataset. However, only state-owned land is being used to indicate opportunity for RE development. This is due to the Governor's Executive Order and PUC directives to expand RE generation.
	What type of state land it is is an important consideration, just "state land" may be too broad.	The purpose of this criteria is to capture land ownership with the assumption that state land would be easier for developers to access given the Governor's executive order on RE. Other land features are considered under different criteria. This includes land with buildings, and land where owners expressed interest in RE development.
	Is state-owned land considering state/county zoning of parcels? Landowner interest depends on how interest has changed since 2023 RFI. This sub-criteria seems fairly important.	The dataset does distinguish between state vs. county/city owned land. Categories included: • City Owned • Department of Defense Land • Federal Owned • Other • Private • State Owned • City Leased The "state owned" category was considered for the land availability criterion. Agreed landowner interest could have changed since the 2023 RFI. Unfortunately we do not have more recent data at this time.

Question	Comment	Response
Equity		
Do you agree this criteria is important for capturing	6 yes, 1 unsure	Almost all participants agree with this criterion.

Question	Comment	Response
the Community and Environment priority?	Yrs as part of this. But I think it needs to be better described or a new criteria be developed around equity in accessing power through microgrids	Since this study focuses on attracting large scale generation facilities, the equity metric focuses on distributing these facilities to avoid overburdening one community.
Do you agree with how this criteria is being calculated (in acres of generation footprint of existing solar and wind facilities and MW of total nameplate capacity of existing fossil fuel/biofuel generation facilities)?	5 yes, 2 unsure	Almost all participants agree with how this criterion is being calculated.
	These should be ok. It can also include the distance between the site and residential areas.	After the priority REZ are selected we will consider proximity to residential areas when identifying specific project locations.
	Community sentiment- generational- historic connections to Aina- what will be the resistance to the project despite it looking good on paper	Once the priority REZ are selected we will start outreach to the public in the targeted zone to gather more feedback and inputs from the community.
	I understand the intent of this criteria, but it could also run contrary to some of the other cost-effectiveness and efficiency criteria. I'm also not sure that this criteria alone is sufficient for what people want to see as "equity" or "community" considerations, though it does touch on a very important topic in the equitable distribution of projects. The stretching of REZ boundaries might also skew some results, such as REZ 5 which now includes a lot more of Honolulu.	We agree that the equity metric may run counter to cost effectiveness/efficiency. Gathering feedback to weight these criteria will help to determine the relative importance of both metrics. Noted that additional equity metrics could be beneficial, and we welcome suggestions. This may be best captured during the next phase when public outreach is conducted within the selected REZ areas. Our intention with expanding boundaries was to consider any and all generation facilities that might pose a burden to residents of a nearby REZ. However facilities close to multiple REZ are counted for each area they might pose a burden. For instance REZ 5 includes several facilities in Honolulu, but so does REZ 6.

Question	Comment	Response
Environmental Impacts		
Do you agree this criteria is important for capturing the Community and Environment priority?	3 yes, 3 unsure, 1 no	Some participants agree with this criterion while others are unsure and one participant does not agree.
	Admitted bias here, but I feel like environmental impacts could have a broader	Without more specific information on the land it would be difficult to compare impacts of

Question	Comment	Response
	consideration than just permitting. Perhaps a consideration of the longterm environmental impact of project, i.e after decommissioning. Will the local resources and land be able to go back to original condition or will there be permanent alterations to the landscape and resource availability. I could be interpreting incorrectly, but wanted to offer that because we must always consider our future generations and what will be available to them or not based on development we pursue today.	tree removal between locations. This may be something to factor in during phase 2 when specific projects are being selected within priority REZ.
	I agree (yes). However, I want to note that treating the permitting burden as an analog for environmental impact assumes that our current permitting requirements accurately reflect environmental risk. This also assumes the deployment of known technology. The positive is that future solutions, e.g., geothermal, would potentially have a smaller footprint.	Agreed, we are assuming that the permitting requirements do reflect environmental risk for this criteria. Unfortunately we have not been able to identify other data that could be used to represent environmental impact. If you have suggested data for this please let us know. The transmission lines constructed will support various current and future generation technologies.
	A separate criterion for ag land footprint should be added in addition to community and environment criteria	We will consider locations zoned for agriculture as a factor when selecting specific project locations within a prioritized REZ.
	I think permits is a good potential metric but think there could be "values" that guide this as well…minimizing environmental impacts.	Our goal will be to minimize environmental impacts for any location selected.
	Are these all of the relevant permits that any project might encounter? I think that permits could be a somewhat appropriate proxy for environmental impacts, but I imagine that environmental orgs and community members would see this as insufficient.	15 different data sources were combined to identify relevant permits. Only data that tied required permits to specific geographies were included, since the purpose of this criteria is to compare permits required in one REZ versus another. Permits were also excluded if they were not relevant to RE projects, or if the permits required more detailed project information than is currently available. This resulted in 12 federal, state and local permits for this criteria. Without more direct data on environmental impacts, the use of permits was used as a

Question	Comment	Response
		proxy. During the next phase when specific project locations are identified, there will be more opportunities for public input and feedback which could also help us avoid environmentally sensitive areas.

Question	Comment	Response
Climate Risk – Fire		
Do you agree this criteria is important for capturing the Resiliency and Climate priority?	7 yes	All participants agree with this criterion.
Do you agree with how this criteria is being calculated (in relative risk of fire within each REZ by average risk level weighted by acres)?	5 yes, 2 unsure	Almost all participants agree with how this criterion is being calculated.
	Yes, but other, more in depth understanding of an area outside of just the average is important. For example, is this parcel, in vicinity to another, outside of the typical wind line, or in a pocket of a little more humidity. Many places have a lowered higher fire risk just a plot over given the many different variable. I think important to consider.	After the priority REZ are selected we will be able to consider other localized factors when identifying a specific project location
	Should this be overlaid with areas of land that are actually developable? Rather than the entire REZ.	These criteria are intended to rank entire REZ areas. For this we are considering high-level features (such as % of land more prone to fires and % of land without buildings). Once priority REZ are selected, specific project locations will be identified, and more details on those locations can be considered.

Question	Comment	Response
Climate Risk – Flood		
Do you agree this criteria is important for capturing the Resiliency and Climate priority?	7 yes	All participants agree with this criterion.
Do you agree with how this criteria is being	4 yes, 2 unsure, 1 blank	Most participants agree with how this criterion is calculated.

Question	Comment	Response
calculated (in relative risk of floods within each REZ by average risk level weighted by acres)?	Same as above. Every location is different just feet away from another. So yes average is important but important to see if your location is potentially a bit different	Agreed. After the priority REZ are selected we will be able to consider other factors when identifying a specific project location
	Should this be overlaid with areas of land that are actually developable? Rather than the entire REZ.	Same as response above, these criteria are intended to rank entire REZ areas. For this we are considering high-level features (such as % of land more prone to fires and % of land without buildings). Once priority REZ are selected, specific project locations will be identified, and more details on those locations can be considered.

Question	Comment	Response
Climate Risk – Tsunami		
Do you agree this criteria is important for capturing the Resiliency and Climate priority?	6 yes	All participants agree with this criterion.

Project Locations

Question	Comment
What factors should be considered when selecting project locations?	- Proximity to residential areas, including locations that are planned for residential. - Consider visual/aesthetic, noise pollution, and health impacts. Regarding ag-dev, consider pushing for projects that maximize co-benefits. Agro-Solar projects are an example.
	• Avoidance of agricultural lands with high current or future potential for food production, food security, or export agriculture. • Avoidance of areas with known or potential cultural resources, including burial sites and traditional cultural landscapes. • Consideration of emergency access and evacuation routes to ensure projects do not constrain or interfere with evacuation, disaster response, or public safety infrastructure. • Proximity to existing transmission infrastructure to minimize new disturbance, reduce costs, and limit additional land impacts. • Appropriate buffers from residences and sensitive community uses to reduce land-use conflicts and community impacts. • Consideration of wildfire risk, topography, and access for maintenance and emergency response
	Look at any relevant community plans for community priorities. Consider proximity residences. Consider priority ag lands to the extent not incorporated as a separate criterion.

<table>
<tr><th>Question</th><th>Comment</th></tr>
<tr><td rowspan="4"></td><td>I agree with all three examples.

Also if “reliable power” is part of the goal then potential for microgrids might be important for communities.</td></tr>
<tr><td>Ag land
Historic use
Cultural concerns
Likelihood of disturbing cultural artifacts/iwi
Proximity to schools and daycare
Proximity to residential neighborhoods depending upon project</td></tr>
<tr><td>I agree with the examples included! And will offer:
- select locations that are closer to where energy demand is highest.
- prioritize impervious covers
- select locations that have undergone community engagement and have some level of support (if that is possible)
- select locations that can serve big and small projects that support local residents.</td></tr>
<tr><td>Examples above are good.
Community identified parcels (positive or negative)
Potential co-location with other land-use (agrivoltaics, already developed sites)</td></tr>
<tr><td rowspan="3">Please identify any data and their sources to help quantify these factors.</td><td>There are several sources which I assume we already have, e.g.,
• https://planning.hawaii.gov/erp/ or
• https://ceq.doe.gov/docs/laws-regulations/NEPA-Implementing-Regulations-Desk-Reference-2024.pdf
https://www.who.int/europe/publications/i/item/9789289053563</td></tr>
<tr><td>• State of Hawai‘i Land Use Commission district maps and County zoning and agricultural land classification data (including Important Agricultural Lands where applicable).
• SHPD (State Historic Preservation Division) inventories, burial treatment plans, and cultural resource assessments, along with ʻike kūpuna and community-based cultural knowledge where available.
• County and State emergency management evacuation route maps, roadway classifications, and disaster response planning documents.
• HECO transmission and substation location data and grid planning documents.
• County wildfire hazard maps, slope/topography data, and access road inventories.
• County parcel data, land ownership records, and residential density mapping.</td></tr>
<tr><td>-Proximity to highest energy demand: Circuit-, feeder-, and substation-level load and peak demand data
-Prioritization of impervious surfaces: GIS-based impervious surface and land use maps (e.i., rooftops, parking lots)
-Community engagement and support: Documentation of prior community engagement, community or neighborhood plans, and formal expressions of support through county planning
departments, neighborhood boards, community-based organizations.</td></tr>
</table>

Question	Comment
Please identify any data and their sources to help quantify these factors.	There are several sources which I assume we already have, e.g., • https://planning.hawaii.gov/erp/ or • https://ceq.doe.gov/docs/laws-regulations/NEPA-Implementing-Regulations-Desk-Reference-2024.pdf https://www.who.int/europe/publications/i/item/9789289053563
	• State of Hawaiʻi Land Use Commission district maps and County zoning and agricultural land classification data (including Important Agricultural Lands where applicable). • SHPD (State Historic Preservation Division) inventories, burial treatment plans, and cultural resource assessments, along with ʻike kūpuna and community-based cultural knowledge where available. • County and State emergency management evacuation route maps, roadway classifications, and disaster response planning documents. • HECO transmission and substation location data and grid planning documents. • County wildfire hazard maps, slope/topography data, and access road inventories. • County parcel data, land ownership records, and residential density mapping.
	-Proximity to highest energy demand: Circuit-, feeder-, and substation-level load and peak demand data -Prioritization of impervious surfaces: GIS-based impervious surface and land use maps (e.i., rooftops, parking lots) -Community engagement and support: Documentation of prior community engagement, community or neighborhood plans, and formal expressions of support through county planning departments, neighborhood boards, community-based organizations.
	Previous community meetings.

Global response: Thank you for your feedback, we will take these factors and data into consideration when selecting specific project locations.

7.1.2.2 STWG survey

Question	Comment	Response
Do you agree with the way generation potential is being captured (in $/MW)? You selected no, how and why would you change this data? Do you have	Target a varied resource portfolio. Need to consider energy production profile and load correlation	At this point we are not selecting between RE generation technologies. We are first trying to select the best REZ groups to build out transmission lines in support of future generation development. Suggest no change is needed in response to this comment.

Question	Comment	Response
other suggestions or data to support a change?	The transmission requirements should be a result of the planning. Is this a circular argument? Why not simply in terms of potential MWs that can be accommodated?	This is part of the REZ concept – to build transmission lines to areas with potential for RE development identified in the NREL study in 2021. The transmission cost estimates are based on assumed locations of potential generation projects to try and estimate generation capacity per dollar spent on transmission. We are considering both capacity and cost to get a value-for-money estimate. These costs are high-level estimates used to select REZ groups. More detailed transmission requirements will be evaluated once the RE project sites are selected. Suggest no change is needed in response to this comment.
Do you agree with the way known developer interest is being captured (in acres of land of interest)? You selected no, how and why would you change this data? Do you have other suggestions or data to support a change?	May be more helpful	This comment seems to be cut-off and incomplete. **Suggest no change is needed in response to this comment.**
	Technologies have different footprints, so weighting by area is not a useful measure	As you point out, the area required will vary by generation technology. However, weighting by area is intended to help distinguish the potential amount of land of interest to developers for comparing different REZ groups. This metric tries to capture the total available space for potential development, regardless of technology. **Suggest no change is needed in response to this comment.**
Do you agree with the way land availability is being captured? Specifically, 1) having a higher percentage of acres of state-owned land is considered beneficial for REZ development, 2) having a lower	Technologies have different footprints and land use needs	Same as the above response, the area required will vary by generation technology, but this criteria is trying to capture the total available space for potential development, regardless of technology. Weighting by area is intended to help distinguish the potential amount of land available for comparing different REZ groups.

Question	Comment	Response
percentage of acres with building development is considered beneficial for REZ development, and 3) having a higher percentage of land with landowner interest is considered beneficial for REZ development? You selected no, how and why would you change this data? Do you have other suggestions of data to support a change?		**Suggest no change is needed in response to this comment.**
Do you agree with the way equity is being captured [in both generation footprint (acres) for fossil fuel/biofuel and in generation capacity (MW) for solar/wind]? You selected no, how and why would you change this data? Do you have other suggestions or data to support a change?	This does not seem related to equity	Based on public feedback received in the past as well as public protests, we understand that there may be a disproportionate impact of generation facilities in certain areas. To consider equity of distribution of facilities, this metric considers where existing generation infrastructure was placed to try and avoid selecting the same locations for additional development. This is an effort to make the process fair to the public. **Suggest no change is needed in response to this comment.**
	Feels a little oversimplified	Without suggestions for specific changes, we are unsure how the metric should be adjusted to respond to this comment. **Suggest no change is needed in response to this comment.**
	I see no value in this equity metric. Let the market decide	During the weighting workshop with the Community Working Group (CWG), we will be able to collect feedback on the relative importance of this criterion relative to others. **Suggest no change is needed in response to this comment at this time.**

Question	Comment	Response
Do you agree with the way environmental impacts are being captured (in percentage of land requiring permits of high, medium or low difficulty per a subject matter expert estimate)? You selected no, how and why would you change this data? Do you have other suggestions or data to support a change?	Permit difficulty does not represent environmental impacts	The level of environmental permit difficulty is intended to represent the relative level of environmental concerns with building in one REZ versus another. This is an indirect measure of environmental impacts, assuming permitting difficulty represents the level of environmental sensitivity. Without data on a direct measure, this data is used to represent environmental impacts. Without specific suggestions for changes or other metrics to consider, unclear what could be changed about this metric. **Suggest no change is needed in response to this comment at this time.**
	Also feels a little over simplified	Without suggestions for specific changes, we are unsure how the metric should be adjusted to respond to this comment. **Suggest no change is needed in response to this comment.**
	Permitting difficulty is a poor proxy for impact	Without specific suggestions for changes or other metrics to consider, unclear what could be changed about this metric. **Suggest no change is needed in response to this comment at this time.**
Do you agree with the way limited climate risk exposure is being captured (in acres of land with low, medium and high risk of wildfire, floods and tsunamis)? You selected no, how and why would you change this data? Do you have other suggestions or data to support a change?	Over simplified, particularly fire risk. Certain projects can actually reduce fire risk.	The purpose of this criterion is to estimate the existing fire hazards by location, and select the more sustainable location to include new infrastructure. This will help to safeguard the investment. **Suggest no change is needed in response to this comment at this time.**
	Sea-level rise and coastal erosion should be accounted for, if not already	Looking at some datasets for predicting sea level rise and coastal erosion, they are predicting scenarios for 0.5 to 5 feet off the coastline. This area is already covered by the 100-year flood zone areas used in the flood data.

Question	Comment	Response
		Suggest no change is needed in response to this comment at this time.
What data may help Hawaiian Electric determine which REZ are top priority for development and implementation?	REZ 8 has the highest renewable potential but lacks transmission. This is a huge barrier for renewable development in Oahu.	Yes agreed, REZ 8 will provide great potential for RE development. Unfortunately it will be costly to build out transmission infrastructure to this location. Both these benefits and costs will need to be considered when prioritizing which REZ to pursue first. **Suggest no change is needed in response to this comment at this time.**
	The areas with potential for the type of resources desired in the resource portfolio. Need to target a diverse mix (geographic / electrical/ resource type) for resilient reliable operation.	Agreed a diverse mix of RE technologies will help with resiliency and reliability. This initial phase of the study is focused on selecting priority REZ areas for building out transmission lines to encourage RE development. However, later on it will be important to consider the RE technologies. **Suggest no change is needed in response to this comment at this time.**
	I think at some point we have to realize on Oahu only one REZ makes sense, and it will require Dole to build on their pineapple plantation… that's probably not very practical.	In the case where REZ 8 is prioritized as an initial location to build out transmission lines this location may be considered if available to developers. **Suggest no change is needed in response to this comment at this time.**
	Community Acceptance	We are attempting to capture this with the Equity metrics through the consideration of equitable distribution of generation facilities among REZ locations on Oahu. **Suggest no change is needed in response to this comment at this time.**
	Closeness to existing transmission infrastructure.	We agree this will help to reduce costs. This is something that will be considered in the next phase of this work. More precise locations for the transmission infrastructure will be identified after the priority REZ are selected.

Question	Comment	Response
		Suggest no change is needed in response to this comment at this time.
	The availability of private land for sale since developers will be attracted there first and then state and federal lands.	Currently we are considering higher proportions of state-owned land to be attractive to developers as this may be easier to purchase. However, this is an assumption and it could be that a higher proportion of privately-owned land would be more attractive to developer. This is currently unknown. **Suggest no change is needed in response to this comment at this time.**
Is there anything not being considered that you feel should be part of the criteria?	Support potential for Mix of resources to support reliable and resilient grid with adequate energy under range of weather and climate conditions	We agree that having a mix of RE technologies will help with sustainable energy. Currently this phase of work is aiming to select the REZ locations to prioritize for future RE development, regardless of the technology type. **Suggest no change is needed in response to this comment at this time.**
	Some of this feels a little over simplified, a yes/no response is not the most helpful.	Thank you for your comment. We have tried to include room for additional comments within each question but other recommendations for improvement are welcome. **Suggest no change is needed in response to this comment at this time.**
	You might want to also consider the percentage of agricultural lands by ag rating for each zone, with REZ being less favorable if they have a high proportion of prime ag lands.	Thank you for this suggestion. We have added this as an example for metrics to consider for the next phase of work when selecting more precise locations within the prioritized REZ for transmission line construction. **Added suggestion for next phase of work.**
	Developers who have purchased land in REZones such as REZ 8. Develop the substation that allows the most access to the greatest # of MW potential at private lands and then public lands.	We have data on landownership but this does not specify if the owner is a developer. Currently there is one criterion that captures the MW potential per dollar spent, but this is one of several criteria considered.

Question	Comment	Response
		Suggest no change is needed in response to this comment at this time.

7.2 Appendix B: Presentations and Meeting Notes

Note that some numbers and terminology have changed over time as the study evolved and new information became available and therefore may differ from what was previously presented to stakeholders. However, the overall results and findings of this analysis have not changed. Some slides were reused and updated across meetings; content reflects iterative updates.

7.2.1 State Agency Kickoff – November 24, 2025

Hawai'i Powered

Renewable Energy Zones (REZ)

State Agency Meeting

Hawaiian Electric

November 2025

1

Welcome

Opening remarks from Hawaii State Energy Office

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Welcome

Opening remarks from Governor's Energy Policy Advisor

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Introductions

Please share your name, organization, and role.

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Today's agenda

- Integrated Grid Planning and Renewable Energy Zones
- What is a Renewable Energy Zone?
- REZ criteria and considerations
- Regulatory direction and near-term goals
- Hawaiian Electric's approach to REZ
- Breakout group exercises
- Wrap up
- Lunch

Integrated Grid Planning

Integrated Grid Planning (IGP) is our approach to long-term planning for our power needs.

Hawaiian Electric wrapped up our first Integrated Grid Planning in 2023, and we're embarking on our next cycle of long-term planning.

IGP considers generation, transmission and distribution, and addresses topics including:

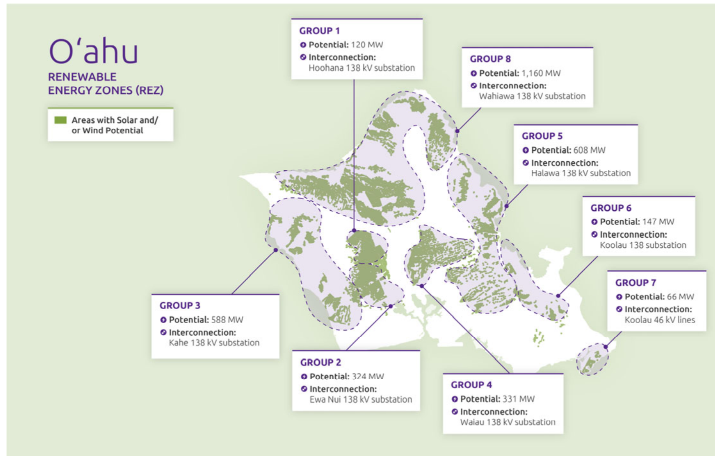
- Distributed energy resources (DER)
- Storage
- Resource diversity

Ultimately, IGP is our path to a **safe**, **reliable**, and **resilient** grid.

IGP and Renewable Energy Zones

Renewable energy zones are part of our long-term plan for the grid. REZ:

- Are designated **areas with high potential for clean energy generation**—such as solar or wind—and **that can be easily connected to the grid**
- Help focus development **where renewable projects will be most efficient, cost-effective and impactful**
- Are a **cornerstone** of Hawaiian Electric's work **to build a safer and more sustainable, reliable and resilient grid**



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Our energy vision

Reduce carbon emissions by **70%** by 2030

Reach **net zero emissions** and **generate 100% renewable energy** by 2045

Provide customers **more choices**, **reliable power** and **stable rates**

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DW1

REZ criteria and considerations

Resource and site suitability
How physically and environmentally suitable an area is for renewable development

Community and equity considerations
How development aligns with community priorities, local support and existing activity

System performance and resilience
How well the zone can sustain reliable, long-term operation and grid benefits

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REZ and Hawai'i State climate goals

- Supports Hawai'i's net-zero carbon mandate by 2045
- Aligned with Governor's Executive Orders and PUC directives
- Integral to our Integrated Grid Planning (IGP)

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Why do we need to identify REZ now?

- The PUC has directed Hawaiian Electric to identify at least **two REZ on O'ahu by June 2026**

- This is a **key step in helping Hawai'i reach its carbon goals** and create a more sustainable, reliable and resilient energy system

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Hawaiian Electric's approach to REZ

- **Data analysis** to identify optimal zones for clean energy
- **Community engagement** to ensure alignment with local values and priorities
- **Environmental review and development of scoring criteria** to rank zones
- Phased implementation including **planning, permitting and construction** of transmission and generation infrastructure

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Implementation timeline

- **2022 –** Hawaiian Electric first introduces REZ concept to the public and gathers public comments
- **2025 –** Criteria development and initial scoring with stakeholders
- **Early 2026 –** REZ stakeholder engagement on O'ahu
- **Spring 2026 –** Hawaiian Electric presents two REZ zones on O'ahu to the PUC

Breakout group exercises

On the maps of O'ahu at your tables, help us identify the following:

- Available land
- Co-location possibilities
- Cultural sensitivities
- New or planned construction

Use the numbered dots to locate a consideration on the map, then share details with your group facilitator to record in the corresponding information sheet.

Wrap up

- Breakout group report out: what were your findings?
- Next steps:
  - Criteria validation and weighting
  - Selection of 4 REZ for further analysis
  - Community engagement
  - Down selection of 2-3 REZ for further advancement

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Mahalo for your time.

Please join us for lunch.

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7.2.2 STWG – December 18, 2025

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Renewable Energy Zones

Integrated Grid Plan

Stakeholder Technical Working Group

Hawaiian Electric

December 2025

1

Agenda

1. Hawai'i's Energy Vision
2. REZ Overview
3. REZ Criteria
4. REZ Criteria Feedback
5. Next Steps
6. Q&A

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Hawai‘i climate goals

- Supports Hawai‘i’s net-zero carbon mandate by 2045
- Aligned with Governor’s Executive Orders and PUC directives
- Integral to our Integrated Grid Planning (IGP)

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Our energy vision

Together, we can:

Commit to **partnering** with the state to focus on **decarbonizing solutions**

Reach **net zero emissions** and **generate 100% renewable energy** by 2045

Provide customers **more choices**, **reliable power** and **stable rates**

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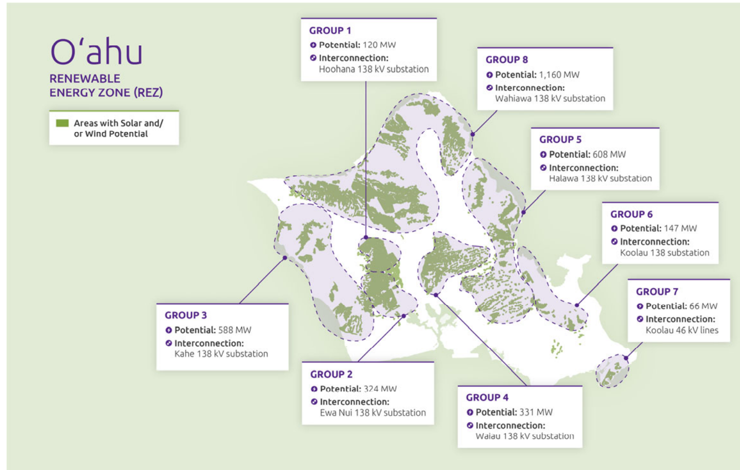
6/8/2026

What are REZ?

- REZ are designated **areas with high potential for clean energy generation**—such as solar or wind—and **that can be easily connected to the grid**
- They help focus development **where renewable projects will be most efficient, cost-effective and impactful**
- They're a **cornerstone** of Hawaiian Electric's work **to build a safer and more sustainable, reliable and resilient grid**



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Reliability, resilience and rate benefits for customers

REZ help:

- **Expand grid capacity** and **modernize infrastructure**
- **Enhance reliability** and **improve system resilience**
- Reduce dependence on imported fossil fuels = **greater energy security** and **more stable rates** over the long-term

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Why do we need to identify REZ now?

- The PUC has directed Hawaiian Electric to identify at least **two REZ on O'ahu by June 2026**
- The Governor's Executive Order directed Hawaiian Electric to work with state agencies **to develop REZ in order to achieve renewable energy targets**

- These are **key steps in helping Hawai'i reach its carbon goals** and create a more sustainable, reliable and resilient energy system

7

What does the REZ process involve?

- **Data analysis** to identify optimal zones for clean energy
- **Community engagement** to align with local values and priorities
- **Environmental review and development of scoring criteria** to rank zones
- Phased implementation including **planning, permitting and construction** of transmission and renewable generation infrastructure

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REZ criteria categories

Cost Effectiveness and Efficiency	Community and Environment	Resiliency and Climate
Generation potential	Equity	Limited climate risk exposure
Schedule / timing	Environmental impacts	
Maintenance costs		
Known developer interest		
Land availability		

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Cost effectiveness and efficiency

Criteria	Description	Measure
Generation potential	Cost of transmission construction per MW of generation capacity enabled	$/MW
Schedule / timing	Duration of transmission construction to support MW capacity	Years - SME estimate
Maintenance costs	Estimated transmission infrastructure maintenance costs by location	Ranking (low / med / high) - SME estimate
Known developer interest	Locations developers have expressed interest in the past	Acres of areas of interest
Land availability	Availability of parcels and landowner interest. Assumption that state-owned land and undeveloped land will be the most readily available	• Acres of state-owned land • Acres of building development • Acres of land with landowner interest

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Community and environment

Criteria	Description	Measure
Equity	Equity of development among zones. Consider existing generation locations	• Generation footprint (acres) for fossil fuel / biofuel • Generation capacity (MW) for solar / wind
Environmental impacts	Relative difficulty of permitting by REZ	Percentage of land requiring permits of high, medium, or low difficulty - SME estimate

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Resiliency and climate

Criteria	Description	Measure
Limited climate risk exposure	Potential impacts from climate risk	Acres of land with low/med/high risk of Wildfire, Flood, and Tsunamis

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Community and stakeholder engagement

- Engagement in 2022 informed our REZ selection process
  - Assisted in identifying risks, challenges and concerns
- 2026 engagement will be a transparent process with public input
- Ensures alignment with state goals around land usage
- Ensures equitable development and local benefits
- Builds trust and long-term support

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Implementation timeline

- **2022 –** Hawaiian Electric first introduces REZ concept to the public and gathers public comments
- **2025 –** Criteria development and initial scoring with stakeholders
- **Early 2026 –** REZ stakeholder engagement on O'ahu
- **Spring 2026 –** Hawaiian Electric presents two REZ on O'ahu to the PUC

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Mahalo for your time

Questions?

Learn More

hawaiianelectric.com/clean-energy-Hawaii/integrated-grid-planning

igp@hawaiianelectric.com

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7.2.3 CWG Kickoff – January 13, 2026

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Integrated Grid Plan Community Working Group

Kickoff Meeting

Jan. 13, 2026

Hawaiian Electric

January 2026

1

Welcome!

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Introductions

Let's get to know everyone.

Please share the following information with your camera on (as available)

- Preferred name
- Organization (as applicable)
- Island you represent

Agenda

1. **Introducing the Community Working Group**
   What to expect, and why your participation matters
2. **Overview of Integrated Grid Planning (IGP)**
   Orienting us to where we are today
3. **Overview of Renewable Energy Zones (REZ)**
   What are REZ, and how you can help shape them
4. **Next steps**
   Upcoming meetings and topics
5. **Q&A**

Community Working Group (CWG)

- Made of community partners working towards a better energy future for Hawai'i
  - **Community delegates:** members of the Community Working Group who will provide feedback and participate in meetings and discussions
  - **Observers:** energy industry stakeholders who are listening to the Community Working Group to better understand energy needs and wants
- Monthly virtual one-to-two-hour meetings with in-person, island-specific meetings as needed
  - Anticipated to meet through IGP development in 2029-2030

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Why your participation matters

- Ensure **transparency and inclusivity** through diverse representation of community perspectives
- **Advise and inform** Hawaiian Electric on community priorities related to reliability, sustainability and resilience
- **Gain collective understanding** of Hawaiian Electric's grid modernization and long-term planning efforts

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Expectations for engagement

Meetings may include:
- Presentation
- Guest speakers
- Group discussion
- Q&A
- Surveys and other input activities

This group agrees to:
- Respect every voice
- Listen actively
- Hold constructive dialogue
- Work towards a shared goal of a Hawai'i ready to power the future

Our charter

Purpose

An advisory committee that will help ensure community perspectives shape grid planning decisions

Objectives

- Engage community voices
- Inform planning decisions
- Promote transparency
- Support equity goals

Responsibilities

- Review and give feedback on assumptions, scenarios and solutions
- Advise on outreach strategies
- Identify social, economic and environmental impacts
- Communicate community priorities

Questions?

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Our energy vision

Together, we can:

Commit to **partnering** with the state to focus on **decarbonizing solutions**

Reach **net zero emissions** and **generate 100% renewable energy** by 2045

Provide customers **more choices**, **reliable power** and **stable rates**

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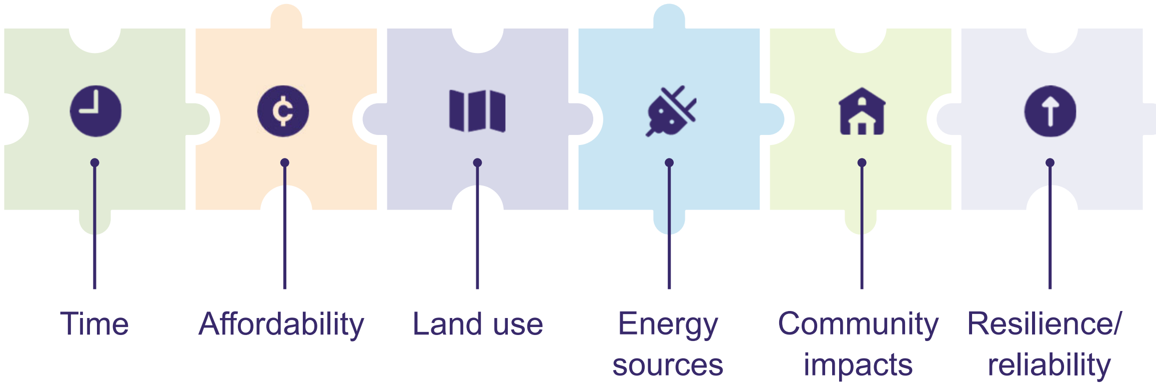
Planning challenges



Integrated Grid Planning (IGP)

- IGP is Hawaiian Electric's long-term planning approach to build a **safe, resilient and reliable grid** from **local, renewable energy sources** with various technologies and scales
- A resilient grid can **better withstand severe events,** including extreme weather fueled by climate change, and **enable faster recovery**
- The IGP **proposes actionable steps to decarbonize the electric grid** on the State of Hawaiʻi's timeline, with a **flexible framework that can adapt to future technologies**

Second cycle

- The IGP process is a **multi-year, multi-cycle process**
- It is designed to be **iterative and collaborative**, with ongoing engagement with partners and the public
- This means that **planning and implementation is not a one-time event**, but an ongoing process to achieve the state's goal of 100% renewable energy by 2045

First cycle: Began in 2018 and concluded with the acceptance of the IGP by the Public Utilities Commission (PUC) in March 2024

Second cycle: Began in 2025 and docket opened Jan 2026. This second cycle will occur over 3-4 years followed by review by the PUC. Our vision for the second cycle is to carry forward and build on the collaborative spirit of the first cycle, which represented more than five years of partnership with stakeholders and community members across the islands.

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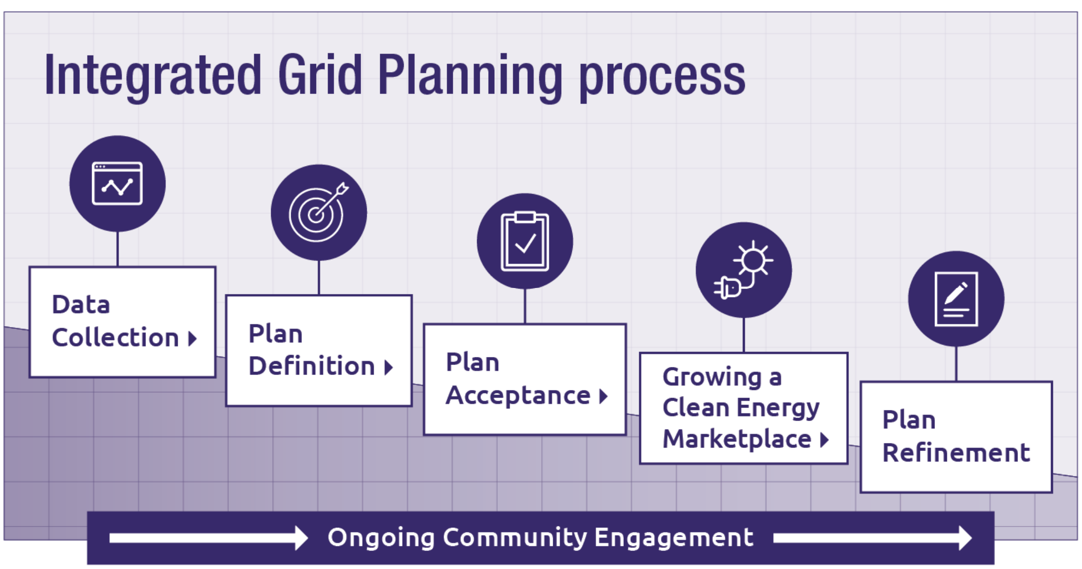

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IGP Engagement

Community Working Group (CWG)	+	Stakeholder Technical Working Group (STWG)	+	Technical Advisory Panel (TAP)	+	Broad public engagement
• Representatives of the community • Provide feedback on community impacts as outcomes of the IGP • Meet monthly		• Representatives of the energy industry and planning experts • Provide feedback on assumptions, modeling, methodology • Meet bi-monthly		• Representatives from peer organizations • Provide independent review of IGP development, methodologies, tools and results • Meet as needed		• Engaged at local events, through web communications, newsletters, etc. • Will have opportunities to provide feedback and input on draft plans

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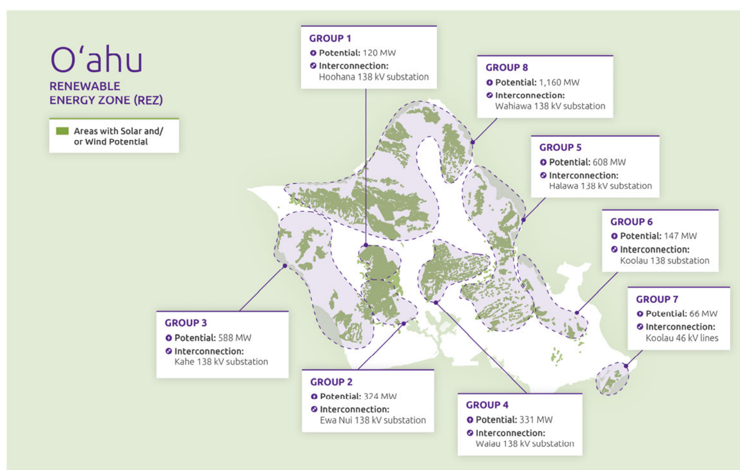
What are REZ?

- REZ = **Renewable Energy Zones**
- REZ are designated **areas with high potential for clean energy generation**—such as solar or wind—and **that can be easily connected to the grid**
- They help focus development **where renewable projects will be most efficient, cost-effective and impactful**
- They're a **cornerstone** of Hawaiian Electric's work **to build a safer and more sustainable, reliable and resilient grid**



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Why do we need to identify REZ now?

- The PUC has directed Hawaiian Electric to identify at least **two REZ on Oʻahu by June 2026**
- The Governor's Executive Order directed Hawaiian Electric to work with state agencies **to develop REZ in order to achieve renewable energy targets**

- These are **key steps in helping Hawaiʻi reach its carbon goals** and create a more sustainable, reliable and resilient energy system

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What does the REZ process involve?

Data analysis to identify optimal zones for clean energy

Community engagement to align with local values and priorities

Environmental review and development of scoring criteria to rank zones

Phased implementation including **planning, permitting and construction** of transmission and renewable generation infrastructure

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How you can shape REZ

- Help Hawaiian Electric identify locations or opportunities for renewable energy development
- Share data to help inform the process
- Provide your input on evaluation criteria (at our meeting on January 27)
- Stay plugged in through this working group and via hawaiipowered.com

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Our next meeting

Next meeting: Renewable Energy Zones Criteria

Jan. 27, 2026

9-11 a.m.

Potential future meeting topics:

- Grid modernization goals and priorities
- Community energy needs and meeting future demand
- Regulatory processes and requirements
- Distributed Energy Resources (DER)
- Resilience and emergency preparedness
- New and emerging technologies

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Please provide your input

Let us know your thoughts on:

- Meeting days and times
- Meeting platforms
- Potential meeting topics

Visit https://hdr.jotform.com/260114122846852
or scan the QR code:

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Mahalo for your time

Questions?

Learn More

hawaiianelectric.com/clean-energy-Hawaii/integrated-grid-planning

igp@hawaiianelectric.com

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7.2.4 CWG REZ Criteria Workshop – January 27, 2026

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Renewable Energy Zones

Integrated Grid Plan

Community Working Group

Hawaiian Electric

January 2026

1

Agenda

1. Feedback from CWG kickoff
2. Today's survey
3. Hawai'i's energy vision
4. REZ Priorities
5. REZ Criteria
6. Feedback
7. Next Steps
8. General Q&A and Feedback

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Miss the kickoff meeting? Introduce yourself!

Name

Organization

Island you represent

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Summary of kickoff meeting feedback

Top meeting times:

- Monday, Tuesday, or Wednesday mornings between 8-11 am

Preferred meeting format:

- Virtual

Meetings should include:

- Guest speakers
- Formal presentation
- Open discussion
- Speaker panels

Potential future meeting topics:

- Community engagement approaches for underserved communities
- Climate adaptation strategies and sea level rise impacts
- Energy wheeling
- Geothermal energy advocacy
- Distributed Energy Resources (DER)
- Microgrid capabilities
- Power Purchase Agreements (PPA) for community-scale projects

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Community projects

- Potential projects for collaboration
- If applicable, please respond to this survey to:
  - Describe the project scope
  - Project schedule
  - Your contact information to discuss project further
- Future meetings may include designated time for community project discussion

Scan the QR code at the right or visit:

https://hdr.jotform.com/260197962742870

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Survey tool

Who should take the survey?

- Participants: Yes!
- Observers: Optional

Scan the QR code at the right or visit:

https://hdr.jotform.com/260204604333848

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Questions?

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Our energy vision

Together, we can:

Commit to **partnering** with the state to focus on **decarbonizing solutions**	Reach **net zero emissions** and **generate 100% renewable energy** by 2045	Provide customers **more choices**, **reliable power** and **stable rates**

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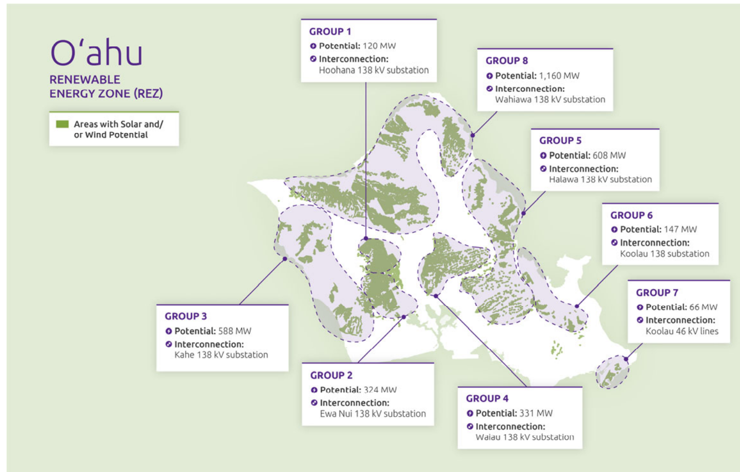
What are REZ?

- REZ are designated **areas with high potential for clean energy generation**—such as solar or wind—and **that can be easily connected to the grid**
- They help focus development **where renewable projects will be most efficient, cost-effective and impactful**
- They're a **cornerstone** of Hawaiian Electric's work **to build a safer and more sustainable, reliable and resilient grid**



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What does the REZ process involve?

- **Data analysis** to identify optimal zones for clean energy
- **Community engagement** to align with local values and priorities
- **Environmental review and development of scoring criteria** to rank zones
- Phased implementation including **planning, permitting and construction** of transmission and renewable generation infrastructure

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Implementation timeline

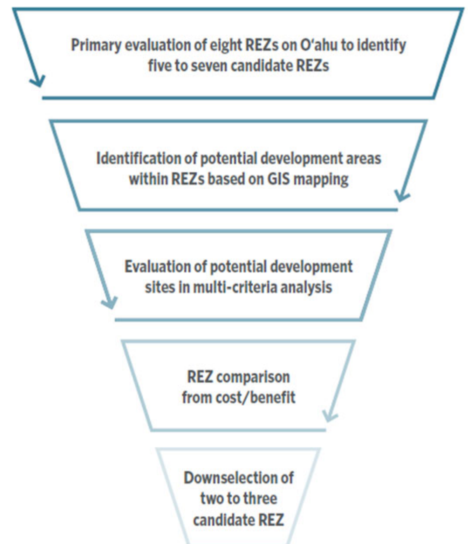
- **2022 –** Hawaiian Electric first introduces REZ concept to the public and gathers public comments
- **2025 –** Criteria development and initial scoring with stakeholders
- **Early 2026 –** REZ stakeholder engagement on O‘ahu
- **Spring 2026 –** Hawaiian Electric presents two REZ on O‘ahu to the PUC

Questions?

Goals of prioritization

- Purpose:
  - Prioritize 2-3 REZ sites for initial development
  - Build out transmission lines to priority REZ sites to attract private developers
- This phase **does not:**
  - Select specific locations for renewable energy development within REZ
  - Determine renewable energy technologies to be used

Figure 02. Candidate Development Screening Approach



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Prioritization process

- Identify priorities for selecting REZ
- Develop criteria (metrics) that capture priorities
  - Gather data
  - Score REZ for each criteria
- Create weights to distinguish criteria
  - Relative importance
- Goals for today:
  - Gather feedback on priorities and criteria
  - Develop weights

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REZ selection priorities

Cost Effectiveness and Efficiency	Community and Environment	Resiliency and Climate
Which locations provide the best value for money? (i.e., lowest cost per MW output, quickest build, available land)	Which locations are most equitable for the community? Do any locations pose challenges due to the environment?	Which locations are likely to have low climate impacts / high resiliency? Where can we built to mitigate risks to infrastructure?

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Cost effectiveness and efficiency

Criteria	Description
Generation potential	Cost of transmission construction per MW of generation capacity enabled.
Schedule / timing	Duration of transmission construction to support MW capacity.
Maintenance costs	Estimated transmission infrastructure maintenance costs by location.
Known developer interest	Locations developers have expressed interest in in the past.
State land opportunity	Locations identified by state agencies as opportunities for renewable energy development during a workshop in November 2025.
Land availability	Indicator of land availability based on amount of: • State-owned land • Land with building development • Land with landowner interest

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Community and environment

Criteria	Description
Equity	Spreading development among zones. Consider existing generation locations.
Environmental impacts	Relative difficulty of permitting within each REZ

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Resiliency and climate

Criteria	Description
Limited climate risk exposure	Relative risk for i) Wildfires, ii) Flooding, and iii) Tsunamis

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Questions?

Scoring Process

- 1) Data
  - Gather quantitative data to measure criterion, or
  - Qualitative assessment of low, medium, high
- 2) Define criteria measures
  - Use data to calculate relative benefit of each REZ
- 3) Score REZ
  - Define scoring framework: (worst) 0, 3, 5, 7, 10 (best)
  - Allocate criteria to scoring framework through percentiles
  - Assign score to each REZ

Scoring Process

- 1) Data
  - Gather quantitative data to measure criterion, or
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  - Define scoring framework: (worst) 0, 3, 5, 7, 10 (best)
  - Allocate criteria to scoring framework through percentiles
  - Assign score to each REZ

Step 1) example:
- Gather GIS data showing acres of land by flood risk level for each REZ

Name	zone	SUM_Acres
Zone 1	Undetermined Risk	9049.83
Zone 2	100-year floodplain	173.68
Zone 2	500-year floodplain	24.02
Zone 2	AREA OF MINIMAL FLOOD I	290.80
Zone 2	Undetermined Risk	10459.75
Zone 3	100-year floodplain	2182.39
Zone 3	500-year floodplain	228.69
Zone 3	AREA OF MINIMAL FLOOD I	5241.77
Zone 3	Undetermined Risk	45750.14
Zone 4	100-year floodplain	19.73
Zone 4	AREA OF MINIMAL FLOOD I	82.45
Zone 4	Undetermined Risk	14683.52
Zone 5	100-year floodplain	1311.40
Zone 5	500-year floodplain	301.37
Zone 5	AREA OF MINIMAL FLOOD I	4680.23
Zone 5	Undetermined Risk	39488.65
Zone 6	100-year floodplain	689.25
Zone 6	500-year floodplain	113.91
Zone 6	AREA OF MINIMAL FLOOD I	3276.01
Zone 6	Undetermined Risk	8744.69
Zone 7	100-year floodplain	442.78
Zone 7	AREA OF MINIMAL FLOOD I	56.00
Zone 7	Undetermined Risk	3776.32
Zone 8	100-year floodplain	5597.54
Zone 8	500-year floodplain	498.63
Zone 8	AREA OF MINIMAL FLOOD I	6153.67
Zone 8	Undetermined Risk	54166.79

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Scoring Process

- 1) Data
  - Gather quantitative data to measure criterion, or
  - Qualitative assessment of low, medium, high
- 2) Define criteria measures
  - Use data to calculate relative benefit of each REZ
- 3) Score REZ
  - Define scoring framework: (worst) 0, 3, 5, 7, 10 (best)
  - Allocate criteria to scoring framework through percentiles
  - Assign score to each REZ

Step 2) example:
- Quantify different risk levels (0, 5, 10)
- Assign quantified risk levels to the data

Flood Risk	Data Category	Metric	
Low	AREA OF MINIMAL FLOOD	10	*best*
Medium	500-year floodplain	5	
High	100-year floodplain	0	*worst*
n/a	Undetermined Risk	n/a	

Name	zone	SUM_Acres	Metric
Zone 1	Undetermined Risk	9049.83	n/a
Zone 2	100-year floodplain	173.68	0
Zone 2	500-year floodplain	24.02	5
Zone 2	AREA OF MINIMAL FLOOD I	290.80	10
Zone 2	Undetermined Risk	10459.75	n/a
Zone 3	100-year floodplain	2182.39	0
Zone 3	500-year floodplain	228.69	5
Zone 3	AREA OF MINIMAL FLOOD I	5241.77	10
Zone 3	Undetermined Risk	45750.14	n/a
Zone 4	100-year floodplain	19.73	0
Zone 4	AREA OF MINIMAL FLOOD I	82.45	10
Zone 4	Undetermined Risk	14683.52	n/a
Zone 5	100-year floodplain	1311.40	0
Zone 5	500-year floodplain	301.37	5
Zone 5	AREA OF MINIMAL FLOOD I	4680.23	10
Zone 5	Undetermined Risk	39488.65	n/a
Zone 6	100-year floodplain	689.25	0
Zone 6	500-year floodplain	113.91	5
Zone 6	AREA OF MINIMAL FLOOD I	3276.01	10
Zone 6	Undetermined Risk	8744.69	n/a
Zone 7	100-year floodplain	442.78	0
Zone 7	AREA OF MINIMAL FLOOD I	56.00	10

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Scoring Process

- 1) Data
  - Gather quantitative data to measure criterion, or
  - Qualitative assessment of low, medium, high
- 2) Define criteria measures
  - Use data to calculate relative benefit of each REZ
- 3) Score REZ
  - Define scoring framework: (worst) 0, 3, 5, 7, 10 (best)
  - Allocate criteria to scoring framework through percentiles
  - Assign score to each REZ

Step 3) example:
- Calculate average risk metric per REZ
- Distribute average risk metrics by percentile to translate to scoring framework
- Assign score to each REZ

Zones	Weighted Average Metric	score
Zone 1	n/a	n/a
Zone 2	6.20	3
Zone 3	7.00	5
Zone 4	8.07	10
Zone 5	7.68	7
Zone 6	8.17	10
Zone 7	1.12	0
Zone 8	5.23	0

percentile	low	high	score	
20%	0.00	5.42	0	*worst*
40%	5.42	6.52	3	
60%	6.52	7.41	5	
80%	7.41	7.99	7	
100%	7.99	8.17	10	*best*

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Questions?

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Generation Potential

- Cost of transmission construction per MW of generation capacity enabled ($/MW)
- Data:
  - Generation potential (MW) by project by REZ
  - Transmission cost by project by REZ
- Highest score = lowest cost per MW (first project within each REZ)
- Best scoring REZ:
  - REZ 7 (score 10)
  - REZ 1 and 2 (score 7)

Project / Step	REZ	Cumulative MW	Total Cost (includes Network Expansion)	Incremental MW	$/MW	Cumulative $/MW	Individual Project Rank (low = best)
1	REZ 1	120MW	$24,600,000	120	$205,000	$205,000	3
1	REZ 2	135MW	$22,600,000	135	$167,407	$167,407	2
2	REZ 2	270MW	$24,500,000	135	$181,481	$348,889	4
3	REZ 2	324MW	$40,500,000	189	$214,286	$563,175	6
1	REZ 3	135MW	$113,800,000	135	$842,963	$842,963	9
2	REZ 3	270MW	$71,500,000	135	$529,630	$1,372,593	11
3	REZ 3	405MW	$337,000,000	270	$1,248,148	$2,620,741	14
4	REZ 3	588MW	$251,600,000	318	$791,195	$3,411,936	16
1	REZ 4	135MW	$58,200,000	135	$431,111	$431,111	5
2	REZ 4	270MW	$69,400,000	135	$514,074	$945,185	10
3	REZ 4	331MW	$144,600,000	196	$737,755	$1,682,940	12
1	REZ 5	135MW	$109,400,000	135	$810,370	$810,370	8
2	REZ 5	171MW	$49,400,000	36	$1,372,222	$2,182,593	13
3	REZ 5	306MW	$170,400,000	270	$631,111	$2,813,704	15
4	REZ 5	441MW	$171,300,000	171	$1,001,754	$3,815,458	17
5	REZ 5	608MW	$416,200,000	437	$952,403	$4,767,861	18
1	REZ 6	147MW	$91,200,000	147	$620,408	$620,408	7
1	REZ 7	66MW	$0	66	$0	$0	1
1	REZ 8	135MW	$1,420,300,000	135	$10,520,741	$10,520,741	19
2	REZ 8	270MW	$111,800,000	135	$828,148	$11,348,889	20
3	REZ 8	405MW	$130,100,000	270	$481,852	$11,830,741	21
4	REZ 8	540MW	$145,300,000	270	$538,148	$12,368,889	22
5	REZ 8	680MW	$900,000	410	$2,195	$12,371,084	23
6	REZ 8	815MW	$202,800,000	405	$500,741	$12,871,825	24
7	REZ 8	950MW	$235,400,000	545	$431,927	$13,303,751	25
8	REZ 8	1160MW	$495,600,000	615	$805,854	$14,109,605	26

Group- first project

Zones	Avg $/MW	**Score**
REZ 1	$205,000	7
REZ 2	$167,407	7
REZ 3	$842,963	0
REZ 4	$431,111	5
REZ 5	$810,370	3
REZ 6	$620,408	5
REZ 7	$0	10
REZ 8	$10,520,741	0

Percentile	low	high	Score	
	$0	$0	10	*best*
25%	$1	$318,056	7	
50%	$318,056	$620,408	5	
75%	$620,408	$826,667	3	
100%	$826,667	$10,520,741	0	*worst*

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Schedule/Timing

- Duration of transmission construction to support MW capacity (years).
- Data:
  - SME estimate of construction duration by project.
  - Based on transmission line length, terrain accessibility, underground work.
- Highest score = quickest build (first project within each REZ).
- Best scoring REZ:
  - REZ 7 (score 10)
  - REZ 1 (score 7)

Step	Row Labels	Cumulative MW	Transmission Length-total, mi	OH Accessible (mi)	OH Inaccessible (mi)	Overbuild (mi)	UG (mi)	Construction Schedule (years)	Notes
1	Group 1	120MW	0.3	0.1	0.0	0.0	0.1	5	Cutover of T-lines. Some UG work.
1	Group 2	135MW	1.3	0.5	0.0	0.8	0.0	7	Substation work inside fence. ~1 mile of T-line.
2	Group 2	270MW	1.6	1.4	0.0	0.0	0.2	3	Substation work inside fence. ~2 miles of T-line and some UG work.
3	Group 2	324MW	2.2	2.0	0.0	0.0	0.1	3	Substation work inside fence. ~2 miles of T-line and some UG work.
1	Group 3	135MW	3.9	0.0	3.8	0.0	0.1	9	Existing and greenfield substation work. ~4 miles of inaccessible greenfield T-line work.
2	Group 3	270MW	3.3	0.3	2.6	0.4	0.1	3	Substation work inside fence. ~3 miles of T-line and some UG work.
3	Group 3	405MW	25.3	10.5	6.9	7.6	0.3	5	Greenfield T-line at ~25 miles, some inaccessible and UG work.
4	Group 3	588MW	21.7	7.0	1.8	12.9	0.1	5	Greenfield T-line at ~22 miles, some inaccessible and UG work.
1	Group 4	135MW	4.0	0.7	0.0	3.2	0.1	9	Expand substation. ~4 miles of T-line through challenging area to route and permit.
2	Group 4	270MW	4.2	2.4	0.0	0.0	1.8	4	Substation work inside fence. ~4 mile of T-line. ~2 miles of UG T-line.
3	Group 4	331MW	8.2	1.2	5.1	1.0	0.9	4	Substation work inside fence. ~8 mile of T-line.

	OPT D- first project	
Zones	years	Score
Group 1	5	7
Group 2	7	5
Group 3	9	0
Group 4	9	0
Group 5	9	0
Group 6	8	3
Group 7	0	10
Group 8	9	0

Percentile	low	high	Score
20%	0	0	10
40%	1.00	6.20	7
60%	6.20	7.40	5
80%	7.40	8.20	3
100%	8.20	9.00	0

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Maintenance Costs

- Cost to maintain added transmission infrastructure (years).
- Data:
  - SME estimate of low, medium, high maintenance costs by project by REZ.
  - Based on transmission line length, terrain accessibility, underground lines.
- Highest score = lowest O&M cost score (first project within each REZ)
- Best scoring REZ:
  - REZ 1 and 7 (score 10)

Step	Row Labels	Cumulative MW	Transmission Length-total, mi	OH Accessible (mi)	OH Inaccessible (mi)	Overbuild (mi)	UG (mi)	O&M (low, med, high)	Notes	O&M score
1	Group 1	120MW	0.3	0.1	0.0	0.0	0.1	Very Low	Minimal additional O&M costs.	10
1	Group 2	135MW	1.3	0.5	0.0	0.8	0.0	Low	Some additional O&M costs.	7
2	Group 2	270MW	1.6	1.4	0.0	0.0	0.2	Low	Some additional O&M costs.	7
3	Group 2	324MW	2.2	2.0	0.0	0.0	0.1	Low	Some additional O&M costs.	7
1	Group 3	135MW	3.9	0.0	3.8	0.0	0.1	Medium	Additional O&M costs for greenfield sub, veg clearing, accessibility to T-line.	5
2	Group 3	270MW	3.3	0.3	2.6	0.4	0.1	Medium	Additional O&M costs for greenfield sub, veg clearing, accessibility to T-line.	5
3	Group 3	405MW	25.3	10.5	6.9	7.6	0.3	High	Additional O&M costs for greenfield sub, veg clearing, accessibility to T-line. High for line length.	0
4	Group 3	588MW	21.7	7.0	1.8	12.9	0.1	High	Additional O&M costs for greenfield sub, veg clearing, accessibility to T-line. High for line length.	0
1	Group 4	135MW	4.0	0.7	0.0	3.2	0.1	Low	Some additional O&M costs.	7
2	Group 4	270MW	4.2	2.4	0.0	0.0	1.8	Low	Some additional O&M costs.	7
3	Group 4	331MW	8.2	1.2	5.1	1.0	0.9	Medium	Some additional O&M costs. Medium for inaccessible 5 miles including veg clearing.	5

	OPT D- first project	
Zones	first project	Final score
Group 1	10	10
Group 2	7	7
Group 3	5	5
Group 4	7	7
Group 5	5	5
Group 6	7	7
Group 7	10	10
Group 8	5	5

O&M Costs	Score	
High	0	high costs = lowest score
Medium	5	
Low	7	
Very Low	10	low costs= highest score

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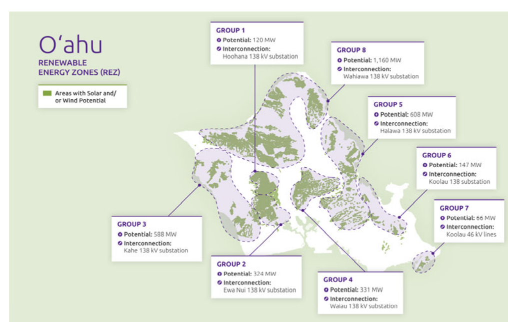
Known Developer Interest

- Locations where developers have expressed interest (acres yes/no).
- Data:
  - Developer responses to past RFI.
  - For a parcel with developer interest, full acres included.
  - Data only for REZ 3, 6, 8
- Highest score = Most acres (% of REZ) with developer interest
- Best scoring REZ:
  - REZ 3 and 8 (score 10)



percentile	low	high	score	
20%	0.00%	0.00%	0	*lowest score*
40%	0.00%	0.00%	3	
60%	0.00%	0.01%	5	
80%	0.01%	4.10%	7	
100%	4.10%	10.63%	10	*best score*

Zones	% of LandAcres	Score
1	-	0
2	-	0
3	6.81%	10
4	-	0
5	-	0
6	0.03%	7
7	-	0
8	10.63%	10

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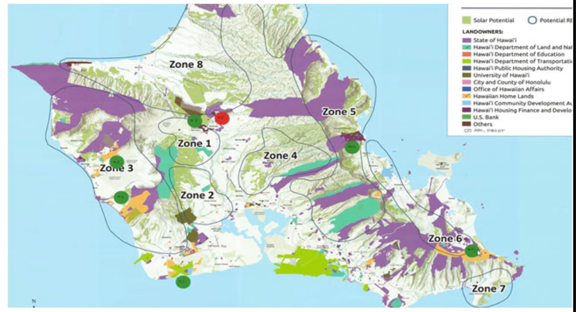
State Land Opportunity

- Locations identified by state agencies as opportunities for renewable energy development (yes/no per REZ)
- Data:
  - Workshop held in November 2025 with state agencies (9 total represented agencies).
  - Agencies identified two REZ that include a total of three locations of RE opportunity.
- Scores:
  - Both REZ identified received highest score of 10
- Best scoring REZ:
  - REZ 3 and 6 (score 10)



Zone	Land Offered by State Entities	Score
Zone 1	no	0
Zone 2	no	0
Zone 3	yes	10
Zone 4	no	0
Zone 5	no	0
Zone 6	yes	10
Zone 7	no	0
Zone 8	no	0

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Land Availability- 1 of 3

- Locations likely to have available parcels. Measured by three components:
  - **1) Acres of state-owned land (% of REZ total)**
    - Assumption: higher % state-owned land = easier for RE development
- Data:
  - Acres of land zoned as state-owned.
  - Source: Honolulu City & County GIS Open Data.
- Scores:
  - Max score of 7. Score of 10 only for REZ with state-identified opportunity
  - Percentile adjusted to every 25th given only 4 scores
- Best scoring REZ:
  - REZ 3 and 5 (score 7)

Name	LandAcres	LandType	SUM_Acres_GIS
Zone 1	9,049.8	City Owned	13.5
Zone 1	9,049.8	Department of Defense Land	4,186.5
Zone 1	9,049.8	Federal Owned	719.6
Zone 1	9,049.8	Other	142.9
Zone 1	9,049.8	Private	2,755.4
Zone 1	9,049.8	State Owned	1,244.1
Zone 2	10,912.9	City Owned	217.1
Zone 2	10,912.9	Federal Owned	127.5
Zone 2	10,912.9	Other	514.2
Zone 2	10,912.9	Private	9,050.7
Zone 2	10,912.9	State Owned	1,007.0
Zone 3	52,155.3	City Leased	198.6
Zone 3	52,155.3	City Owned	4,938.8
Zone 3	52,155.3	Department of Defense Land	8,969.7
Zone 3	52,155.3	Federal Owned	112.0
Zone 3	52,155.3	Other	878.0
Zone 3	52,155.3	Private	18,045.8
Zone 3	52,155.3	State Owned	19,179.9

Zone	Percent State Land	Score
Zone 1	13.7%	5
Zone 2	9.2%	3
Zone 3	36.7%	7
Zone 4	12.4%	3
Zone 5	40.9%	7
Zone 6	31.3%	5
Zone 7	1.2%	0
Zone 8	8.0%	0

percentile	low	high	Score	
25%	0%	9%	0	low % state land = low score
50%	9%	13%	3	
75%	13%	33%	5	
100%	33%	41%	7	high % state land = high score

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Land Availability- 2 of 3

- Locations likely to have available parcels. Measured by three components:
  - **2) Acres of land with buildings (% of REZ total)**
    - Assumption: higher % land with buildings = harder for RE development
- Data:
  - Acres of land with building development.
  - Source: FEMA USA Structures.
- Scores:
  - Max score of 7. Score of 10 only for REZ with state-identified opportunity
  - Percentile adjusted to every 25th given only 4 scores
- Best scoring REZ:
  - REZ 4 and 8 (score 7)

REZ	Zoning	Acres- Total	Acres-Building	Acres- Other
Zone 6	Other	862	10	852
Zone 6	Private	7,009	648	6,362
Zone 6	Public	4,942	84	4,858
Zone 7	Other	395	43	352
Zone 7	Private	2,239	390	1,848
Zone 7	Public	1,401	16	1,385
Zone 4	Other	222	2	220
Zone 4	Private	11,385	96	11,289
Zone 4	Public	3,179	8	3,171
Zone 5	Other	505	6	499
Zone 5	Private	21,981	338	21,643
Zone 5	Public	23,279	93	23,186
Zone 3	Other	878	25	853
Zone 3	Private	18,045	886	17,159
Zone 3	Public	33,188	220	32,968
Zone 2	Other	514	4	510
Zone 2	Private	9,047	402	8,645

Zone	Percent Developed Land (Buildings)	Score
Zone 1	4.3%	3
Zone 2	3.9%	3
Zone 3	2.2%	5
Zone 4	0.7%	7
Zone 5	1.0%	5
Zone 6	5.8%	0
Zone 7	11.2%	0
Zone 8	0.8%	7

percentile	low	high	Score	
25%	0%	1%	7	low % buildings = high score
50%	1%	3%	5	
75%	3%	5%	3	
100%	5%	11%	0	high % buildings = low score

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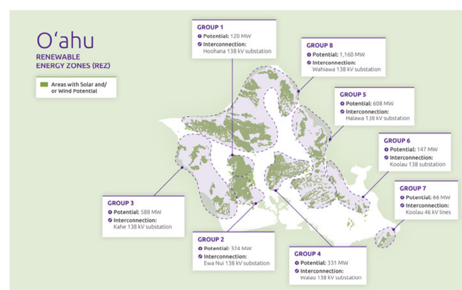
Land Availability- 3 of 3

- Locations likely to have available parcels. Measured by three components:
  - **3) Acres of land with landowner interest (% of REZ total)**
    - Assumption: higher % land with landowner interest= easier for RE development
- Data:
  - Landowner responses to past RFI.
  - For a parcel with landowner interest, full acres included.
- Scores:
  - Max score of 7. Score of 10 only for REZ with state-identified opportunity
  - Percentile adjusted to every 25th given only 4 scores
- Best scoring REZ:
  - REZ 4 and 5 (score 7)



Zone	Percent of Land with Landowner Interest	Score
Zone 1	0.00%	0
Zone 2	0.00%	0
Zone 3	0.14%	3
Zone 4	13.45%	7
Zone 5	9.20%	7
Zone 6	2.14%	5
Zone 7	0.00%	0
Zone 8	3.04%	5

percentile	low	high	Score	
25%	0%	0%	0	low interest = low score
50%	0%	1%	3	
75%	1%	5%	5	
100%	5%	13%	7	high interest = high score

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Questions?

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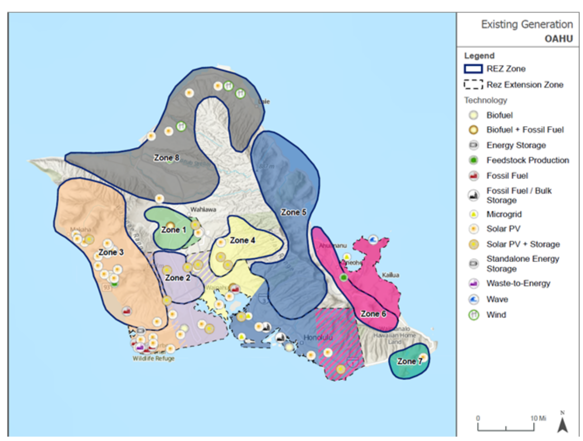
Equity- Overview (1 of 3)

- Consider locations of existing generation facilities before selecting locations new development.
- Data:
  - Hawaii Statewide Energy Project Directory.
  - Extended REZ boundaries to include all 86 identified facilities.
  - Filtered down to 74 projects:
    - >=1 acre project footprint; or
    - >=5MW nameplate capacity
- Grouped generation technologies into one of two measures:
  - Acre footprint (solar, wind, food stock production, wave energy conversion)
  - MW nameplate capacity (fossil fuel, biofuel, energy storage, waste to energy, microgrid)



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Equity- Footprint (2 of 3)

- Generation footprint of existing solar/wind facilities (acres)
- Scores:
  - Summed acres of land with existing solar/wind generation facilities, by REZ
  - Calculated as % of REZ area
  - Applied percentile distribution to match with score framework
  - Assigned scores by REZ
- Highest score = REZ with lowest % acres with existing facilities
- Best scoring REZ:
  - REZ 6 and 7 (score 10)

Zone	acres	% of Land Area
Zone 1	21.9	0.24%
Zone 2	1300.3	11.92%
Zone 3	528.5	1.01%
Zone 4	1202.1	8.13%
Zone 5	122.3	0.27%
Zone 6	20.9	0.16%
Zone 7	1.0	0.02%
Zone 8	1271.2	1.91%

percentile	low	high	Score	
20%	0.00%	0.19%	10	*low existing footprint = high score*
40%	0.19%	0.26%	7	
60%	0.26%	1.19%	5	
80%	1.19%	5.64%	3	
100%	5.64%	11.92%	0	

Zones	Score- % footprint of total land
Zone 1	7
Zone 2	0
Zone 3	5
Zone 4	0
Zone 5	5
Zone 6	10
Zone 7	10
Zone 8	3

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Equity- Capacity (3 of 3)

- Total nameplate capacity of existing fossil fuel/ biofuel generation facilities (MW)
- Scores:
  - Summed total MW of nameplate capacity for existing fossil fuel / biofuel generation facilities, by REZ
  - Applied percentile distribution to match with score framework
  - Assigned scores by REZ
- Highest score = REZ with lowest total MW of existing generation
- Best scoring REZ:
  - REZ 2, 5, 6, 7, 8 (score 10)

Zone	Total MW
Zone 1	50.0
Zone 2	0.0
Zone 3	1677.1
Zone 4	753.0
Zone 5	11.0
Zone 6	0.0
Zone 7	0.0
Zone 8	0.0

percentile	low	high	Score	
20%	0.00	34.40	10	*low existing MW = high score*
40%	35.40	190.60	7	
60%	190.60	612.40	5	
80%	612.40	1122.64	3	
100%	1122.64	1677.11	0	

Zones	Score- total MW
Zone 1	7
Zone 2	10
Zone 3	0
Zone 4	3
Zone 5	10
Zone 6	10
Zone 7	10
Zone 8	10

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Environmental Impacts- Overview (1 of 2)

- Consider relative difficulty of obtaining environmental permits within each REZ.
- Data:
  - Combined 15 sources of permitting data in GIS.
  - Identified 12 relevant federal, state, and local permits
  - SME estimated level of difficulty by permit. Classified low to high:
    - **Low (0)**: Low effort. quick turnaround, relatively straight forward. No public outreach required. No public hearings
    - **Medium (5)**: Medium level of effort. Includes required public outreach and up to one public hearing.
    - **High (10):** Complex. Challenging and long process with up to two public hearings.

Permit	Difficulty Rating
Federal Permits:	
National Environmental Policy Act (NEPA)	High (10)
Section 6(f) Land and Water Conservation Fund (LWCF) Act	High (10)
Federal Aviation Administration (FAA) Form 7460-1 (Notice of Proposed Construction or Alteration in Airspace)	Low (0)
State Permits:	
Coastal Zone Management Federal Consistency Certification	Low (0)
Conservation District Use Permit	High (10)
Lease, Easement, or Right-of-Entry	Medium-High (7.5)
Hawaii Community Development Authority (HCDA) - Heeia Development Permit	Medium-High (7.5)
Local Permits:	
State Special Use Permit (Oahu)	High (10)
Certified Shoreline Setback Variance	High (10)
Flood Determination Approval + Flood Hazard District Variance (Oahu)	High (10)
Special District Permit (Major and Minor) (Oahu)	Medium-High (7.5)
Special Management Area Assessment (Oahu)	High (10)

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Environmental Impacts- Score (2 of 2)

- Score:
  - Calculated acres of land where each permit applies, by REZ
  - Calculated average permit difficulty score by REZ, weighted by acres of land where permit applies
  - Applied percentile distribution to match with score framework
  - Assigned scores by REZ
- Highest score = REZ with lowest average permit difficulty score
- Best scoring REZ:
  - REZ 1, 3 (score 10)

Zone	Avg. Difficulty Score
Zone 1	5.43
Zone 2	9.00
Zone 3	6.90
Zone 4	8.12
Zone 5	8.03
Zone 6	8.73
Zone 7	9.94
Zone 8	8.68

Weighted Permit Score by Land Area

percentile	low	high	Score
20%	-	7.35	10
40%	7.35	8.10	7
60%	8.10	8.64	5
80%	8.64	8.87	3
100%	8.87	9.94	0

most difficult = lowest permit score

Zone	Permit Score
Zone 1	10
Zone 2	0
Zone 3	10
Zone 4	5
Zone 5	7
Zone 6	3
Zone 7	0
Zone 8	5

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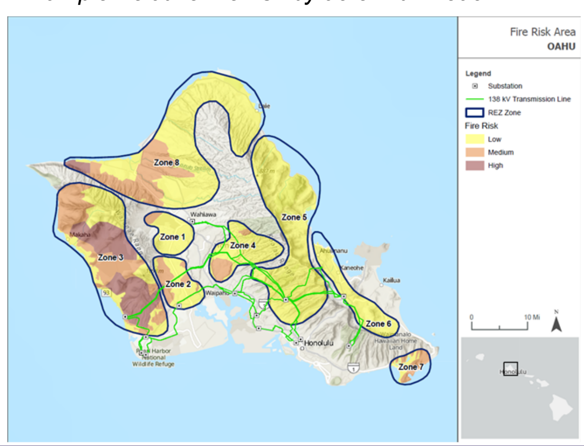
Limited Climate Risk Exposure- Overview (1 of 4)

- Relative levels of climate risk for each REZ. Considered risk of:
  - Fire
  - Floods
  - Tsunamis
- Data:
  - GIS data from Honolulu City and County
  - GIS data from HECO.

Example: relative fire risk by acre within each REZ



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Limited Climate Risk Exposure- Fire (2 of 4)

- Relative risk of fire within each REZ (Average risk level weighted by acres):
- Score:
  - Classified acres of land within each REZ as:
    - low risk (score = 10)
    - medium risk (score= 5)
    - high risk (score = 0)
  - Calculated weighted average risk score by REZ
  - Applied percentile distribution to match with score framework
  - Assigned scores by REZ
- Highest score = REZ with lowest average fire risk
- Best scoring REZ:
  - REZ 5, 6 (score 10)

OBJECTID	Name	Tier	FireRisk	SUM_Acres	Percent_REZZone	score
1	Zone 1	1	Low	8205.58	90.67	10
2	Zone 1	2	Medium	844.25	9.33	5
3	Zone 2	1	Low	7274.14	66.64	10
4	Zone 2	2	Medium	3522.02	32.27	5
5	Zone 2	3	High	118.64	1.09	0
6	Zone 3	1	Low	15395.79	29.53	10
7	Zone 3	2	Medium	17218.21	33.03	5
8	Zone 3	3	High	19521.02	37.44	0
9	Zone 4	1	Low	12100.67	81.84	10
10	Zone 4	2	Medium	2685.03	18.16	5
11	Zone 5	1	Low	45767.51	100.00	10
12	Zone 6	1	Low	12804.21	100.00	10
13	Zone 7	1	Low	1389.25	34.36	10
14	Zone 7	2	Medium	2653.73	65.64	5

Fire Risk

Zones	weighted avg.	score
1	9.534	7
2	8.278	3
3	4.604	0
4	9.092	5
5	10.000	10
6	10.000	10
7	6.718	0
8	8.570	5

percentile	low	high	score
20%	0.00	7.34	0
40%	7.34	8.51	3
60%	8.51	9.18	5
80%	9.18	9.81	7
100%	9.81	10.00	10

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Limited Climate Risk Exposure- Flood (3 of 4)

- Relative risk of floods within each REZ (Average risk level weighted by acres):
- Score:
  - Classified acres of land within each REZ as low/ medium/ high risk:
    - Areas of minimal flooding = low risk (score = 10)
    - 500-year floodplain = medium risk (score = 5)
    - 100-year floodplain = high risk (score = 0)
  - Calculated weighted average risk score by REZ
  - Applied percentile distribution to match with score framework
  - Assigned scores by REZ
- Highest score = REZ with lowest average flood risk
- Best scoring REZ:
  - REZ 4, 6 (score 10)

Name	zone	SUM_Acres	Risk Score
Zone 1	Undetermined Risk	9049.83	n/a
Zone 2	100-year floodplain	173.68	0
Zone 2	500-year floodplain	24.02	5
Zone 2	AREA OF MINIMAL FLOOD I	290.80	10
Zone 2	Undetermined Risk	10459.75	n/a
Zone 3	100-year floodplain	2182.39	0
Zone 3	500-year floodplain	228.69	5
Zone 3	AREA OF MINIMAL FLOOD I	5241.77	10
Zone 3	Undetermined Risk	45750.14	n/a
Zone 4	100-year floodplain	19.73	0
Zone 4	AREA OF MINIMAL FLOOD I	82.45	10
Zone 4	Undetermined Risk	14683.52	n/a

Zones	Weighted Average Metric	score
Zone 1	n/a	n/a
Zone 2	6.20	3
Zone 3	7.00	5
Zone 4	8.07	10
Zone 5	7.68	7
Zone 6	8.17	10
Zone 7	1.12	0
Zone 8	5.23	0

percentile	low	high	score	
20%	0.00	5.42	0	*worst*
40%	5.42	6.52	3	
60%	6.52	7.41	5	
80%	7.41	7.99	7	
100%	7.99	8.17	10	*best*

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Limited Climate Risk Exposure- Tsunami (4 of 4)

- Relative risk of tsunamis within each REZ (Average risk level weighted by acres):
- Score:
  - Classified acres of land within each REZ as low/ medium/ high risk:
    - Safe zone = low risk (score = 10)
    - Tsunami evacuation zone = medium risk (score = 5)
    - Extreme tsunami evacuation zone = high risk (score = 0)
  - Calculated weighted average risk score by REZ
  - Applied percentile distribution to match with score framework
  - Assigned scores by REZ
- Highest score = REZ with lowest average tsunami risk
- Best scoring REZ:
  - REZ 1, 4 (score 10)

Name	zone	SUM_Acres_GIS	Risk score
Zone 1	Safe Zone	9049.863543	10
Zone 2	Tsunami Evacuation Zone	21.20511109	5
Zone 2	Extreme Tsunami Evacuation Zc	33.25467058	0
Zone 2	Safe Zone	10858.47551	10
Zone 3	Tsunami Evacuation Zone	2309.256222	5
Zone 3	Extreme Tsunami Evacuation Zc	3430.05486	0
Zone 3	Safe Zone	46378.85319	10
Zone 4	Safe Zone	14785.75487	10
Zone 5	Tsunami Evacuation Zone	1616.107753	5
Zone 5	Extreme Tsunami Evacuation Zc	1446.281554	0
Zone 5	Safe Zone	42681.95144	10
Zone 6	Tsunami Evacuation Zone	176.4915132	5
Zone 6	Extreme Tsunami Evacuation Zc	1208.514532	0
Zone 6	Safe Zone	11424.84949	10

percentile	low	high	score	
20%	0.00	8.79	0	worst
40%	8.79	9.09	3	
60%	9.09	9.60	5	
80%	9.60	9.98	7	
100%	9.98	10.00	10	best

Tsunami Risk

Zones	weighted avg. score	score
Zone 1	10.00	10
Zone 2	9.96	7
Zone 3	9.12	5
Zone 4	10.00	10
Zone 5	9.51	5
Zone 6	8.99	3
Zone 7	6.41	0
Zone 8	8.66	0

All Criteria Scores

- Next steps:
  - Gather feedback on REZ priorities and determine relative importance (weights)
  - Gather feedback on criteria and determine relative importance (weights) within priority category

Priority Weights

Criteria Weights

	33%								33%			33%			100%	vote
	6%	6%	6%	6%	6%	6%			17%		17%	33%			100%	vote
	6%	6%	6%	6%	6%	2%	2%	2%	8%	8%	17%	11%	11%	11%		calculated
	Cost Effectiveness								Community and Environment			Resiliency and Climate				
Zone	Generation Potential Score	Schedule Score	Maintenance Cost Score	Known Developer Interest Score	State Land Opportunity	Land Availability Score			Equity Score		Environmental Impacts Score	Climate Score				
						Zoning	Developed Land	Landowners	Existing Generation Footprint	Existing Generation Capacity		Fire	Flood	Tsunami		
Zone 1	7	7	10	0	0	5	3	0	7	7	10	7	n/a	10		
Zone 2	7	5	7	0	0	3	3	0	0	10	0	3	3	7		
Zone 3	0	0	5	10	10	7	5	3	5	0	10	0	5	5		
Zone 4	5	0	7	0	0	3	7	7	0	3	5	5	10	10		
Zone 5	3	0	5	0	0	7	5	7	5	10	7	10	7	5		
Zone 6	5	3	7	7	10	5	0	5	10	10	3	10	10	3		
Zone 7	10	10	10	0	0	0	0	0	10	10	0	0	0	0		
Zone 8 (138kv)	0	0	5	10	0	0	7	5	3	10	5	5	0	0		
	first project	*first project*	*first project*													


Questions?
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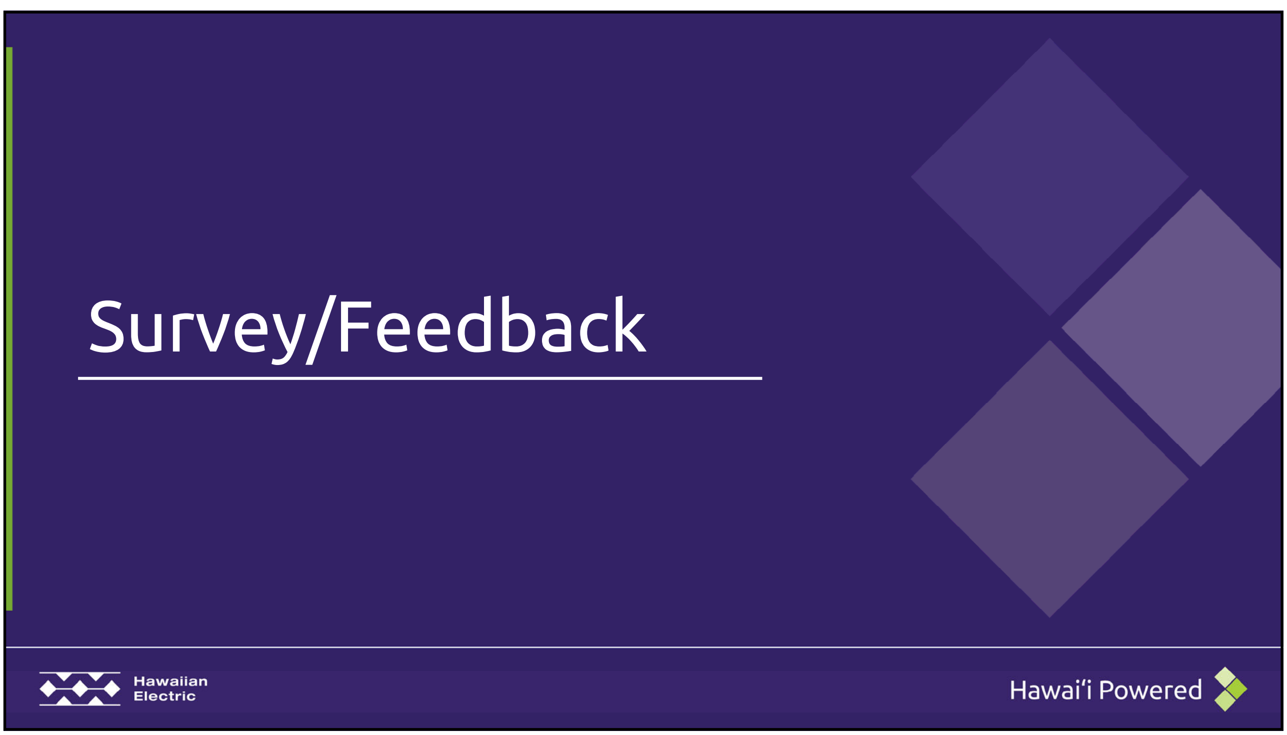
Survey/Feedback
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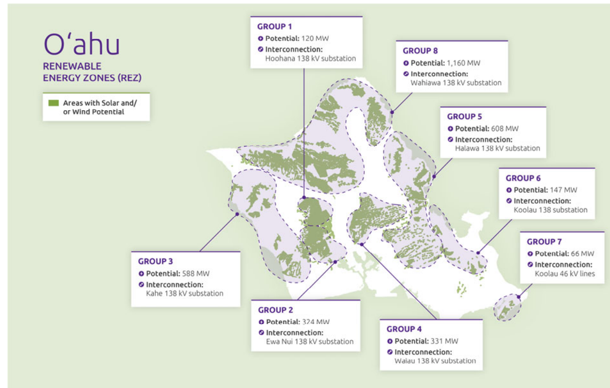
Project Locations

- Next phase: project locations
- Future transmission line locations will be planned collaboratively with communities and agencies with multiple opportunities for engagement
- Ideas / Feedback
  - Factors to select locations for transmission lines
- Examples:
  - Avoid parcels designated as high-priority for agricultural development
  - Select locations close to existing transmission infrastructure for lower costs
  - Consider proximity of residences



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Next Steps

- Review data, incorporate feedback from today, prioritize REZ groups
- Engage community leaders for additional feedback
- Report back to CWG with results
- File two selected REZ groups with PUC in June 2026

COMING SOON:
A schedule of 2026 meetings and topics

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Mahalo for your time

Questions?

Learn More

hawaiianelectric.com/clean-energy-Hawaii/integrated-grid-planning

igp@hawaiianelectric.com

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7.2.5 Elected Officials Briefing – March 3, 2026

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Renewable Energy Zones (REZ)

Ken Aramaki, PE
Director, Integrated Grid Planning

March 3, 2026

Hawaiian Electric

November 2025

1

REZ and Hawai'i State climate goals

Hawaiian Electric is working to implement Renewable Energy Zones to continue our integration of renewable resources to keep energy affordable for communities, improve grid reliability, and reduce emissions. We're balancing priorities and commitments, including:

- Supporting Hawai'i's net-zero carbon mandate by 2045
- Aligning with Governor's Executive Orders and PUC directives
- Long-term planning through our Integrated Grid Planning (IGP)

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Integrated Grid Planning

Integrated Grid Planning (IGP) is our approach to long-term planning for our power needs.

Hawaiian Electric wrapped up our first Integrated Grid Planning in 2023, and we're embarking on our next cycle of long-term planning.

IGP considers generation, transmission and distribution, and addresses topics including:

- Stabilizing utility rates and advancing energy equity
- Growing the marketplace for customer-scale and large-scale renewables
- Creating a modern and resilient grid
- Securing reliability through diverse energy sources and technologies

Ultimately, IGP is our path to a **safe**, **reliable**, and **resilient** grid.

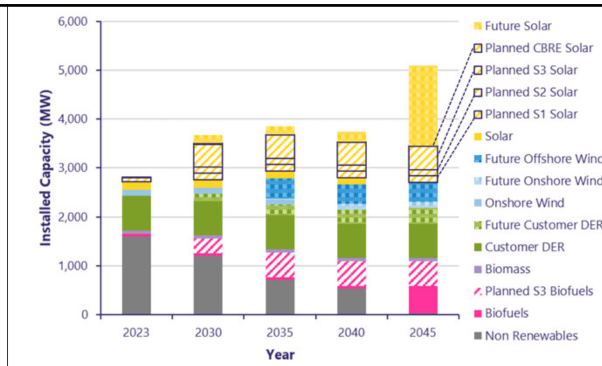

Figure 2-14. O'ahu: Preferred Plan installed capacity by resource type (2023–2045)

Reaching Hawai'i's renewable energy and decarbonization goals will require over 1 GW of new large-scale renewable projects in addition to approximately 200 MW of new customer-scale distributed energy systems (i.e., residential PV systems) by the 2035 timeframe.

Renewable Energy Zones (REZ) were identified as a solution to enable new areas for renewable development and efficiently interconnect large renewable capacities onto the system.

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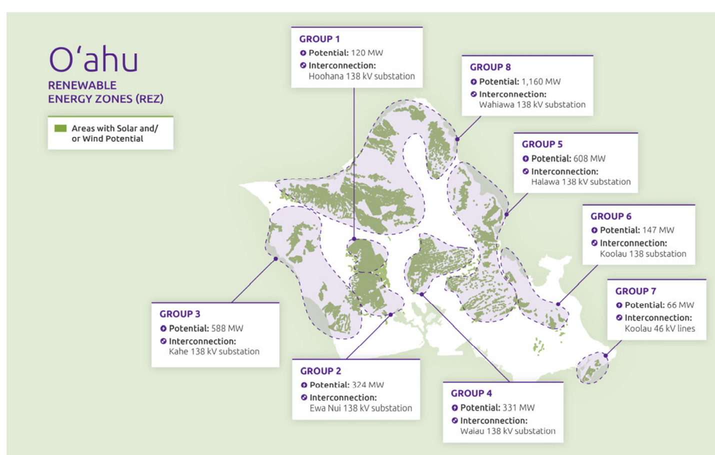
IGP and Renewable Energy Zones

Renewable energy zones are part of our long-term plan for the grid. REZ:

- Are designated **areas with high potential for clean energy generation**—such as solar or wind—and **that can be easily connected to the grid**
- Help focus development **where renewable projects will be most efficient, cost-effective and impactful**
- Are a **cornerstone** of Hawaiian Electric's work **to build a safer and more sustainable, reliable and resilient grid**



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Why do we need to identify REZ now?

- The PUC has directed Hawaiian Electric to identify at least **two REZ on O'ahu by June 2026**

- This is a **key step in helping Hawai'i reach its carbon goals** and create a more sustainable, reliable and resilient energy system
- The scale of transmission development will depend on the **location and size** of the REZ AK1

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Hawaiian Electric's approach to REZ

Data analysis to identify optimal zones for clean energy

Community engagement to ensure alignment with local values and priorities

Environmental review and development of scoring criteria to rank zones

Phased implementation including **planning, permitting and construction** of transmission and generation infrastructure

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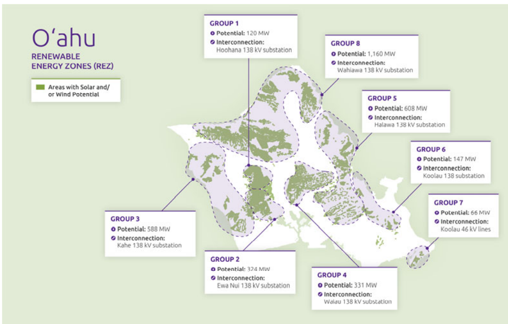
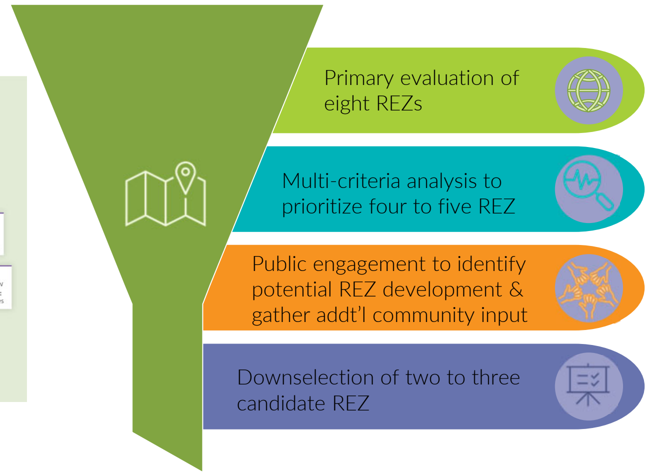
Prioritization Process





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Survey Results: Priority Weighting

29%	38%	33%
Cost Effectiveness and Efficiency	**Equity and Environment**	**Resiliency and Climate**
Which locations provide the best value for money? (i.e., lowest cost per MW output, quickest build, available land)	Which locations are most equitable for the community? Do any locations pose challenges due to the environment?	Which locations are likely to have low climate impacts / high resiliency? Where can we build to mitigate risks to infrastructure?

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Results – Top 4 REZ

Rank	Weights, First Project
#1	REZ 6
#2	REZ 1
#3	REZ 5
#4	REZ 4

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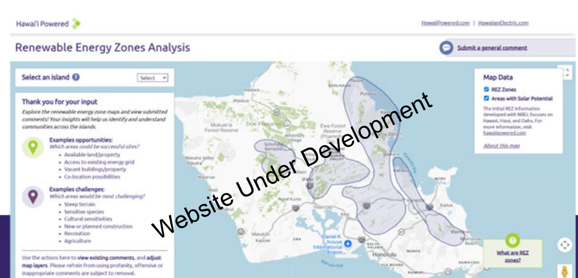
Near-Term Engagement

Mar 2-6 → Mar 9-13 → Mar 16-20 → Mar 23-27 → Mar 20-Apr 3

- State Agency Meeting
- (6) C&C of Honolulu Neighborhood Board
- IGP Community Working Group
- (2) General Public Meetings



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Questions?

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Mahalo for your time.

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Quotes from Governor's Executive Order

- "In the face of federal uncertainty regarding renewable energy and concerns over grid stability across the state, the Governor is committed to expanding and accelerating Hawai‘i's renewable resource development, and has outlined priorities to reduce energy costs, prevent blackouts, and slash emissions for Hawai‘i residents and businesses"
- "It shall be the policy of the state to accelerate Hawai‘i's energy transition to achieve 100% renewable electricity production in the counties of Hawai‘i, Kaua‘i, and Maui by 2035, and achieve 70% reduction of O‘ahu's greenhouse gas emissions reductions from the electricity sector by 2035, using 2005 as a baseline. To provide the lowest cost to ratepayers, this requires collective action and shared accountability to maximize end-use efficiency, demand response, and fuel switching to balance new renewable energy projects with affordability, reliability, land use, and resilience"

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Quotes from the 2024 PUC Inclinations

- "Expedited replacement of old, inflexible fossil fuel generation with more efficient and reliable technologies that fully support the transition to 100 percent renewable energy"
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- "Notwithstanding past progress, the Commission favors ongoing, substantial reform of the utility scale interconnection process. One approach could involve Hawaiian Electric pre-building interconnection facilities connected to the REZs prior to IPP project development and/or advance REZ site control."

Implementation timeline

- **2022 –** Hawaiian Electric first introduces REZ concept to the public and gathers public comments
- **2025 –** Criteria development and initial scoring with stakeholders
- **Early 2026 –** REZ stakeholder engagement on Oʻahu
- **Spring 2026 –** Hawaiian Electric presents two REZ zones on Oʻahu to the PUC

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How REZ fits into our energy vision

Committed to **partnering** with the state to focus on **decarbonizing solutions**

Reach **net zero emissions** and **generate 100% renewable energy** by 2045

Provide customers **more choices**, **reliable power** and **stable rates**

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Cost effectiveness and efficiency

Criteria	Description	Weight
Generation potential	Cost of transmission construction per MW of generation capacity enabled.	6.4%
Schedule / timing	Duration of transmission construction to support MW capacity.	3.9%
Maintenance costs	Estimated transmission infrastructure maintenance costs by location.	5.2%
Known developer interest	Locations developers have expressed interest in in the past.	2.5%
State land opportunity	Locations identified by state agencies as opportunities for renewable energy development during a workshop in November 2025.	2.3%
Land availability	Indicator of land availability based on amount of: • State-owned land • Land with building development • Land with landowner interest	 3.1% 2.3% 3.5%
Total		***29%***

Values shown may not add to totals due to rounding

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Equity and environment

Criteria	Description	Weight
Equity	Spreading development among zones. Consider existing generation locations.	17.2%
Environmental impacts	Relative difficulty of permitting within each REZ	20.4%
Total		***38%***

Values shown may not add to totals due to rounding

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Resiliency and climate

Criteria	Description	Weights
Limited climate risk exposure	Relative risk for: i) Wildfires, ii) Flooding, and iii) Tsunamis	 14.0% 11.6% 7.8%
Total		***33%***

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7.2.6 State Agency REZ Update – March 6, 2026

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Renewable Energy Zones

State Agency Meeting #2

March 6, 2026

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Welcome!

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Current Oahu Projects (Planned and In-Progress)

Type	Project	Capacity (MWs)	Land Size (acres)	Ratio (Land/Capacity)
PV+BESS (PV with 4-hour Battery Energy Storage System)	Hoohana Solar	52	352	6.8
	Mahi Solar	120	617	5.1
	Kupono Solar	42	131	3.1
	Puuloa Solar	6	20	3.3
	Mountain View Solar	7	93	13.3
	Waiawa Phase 2	30	387	12.9
Synchronous	Puuloa Energy	99	10	0.1

Hypothetical (followup): Highway PV canopies with 4 lanes in each direction ~15 MW per mile of highway

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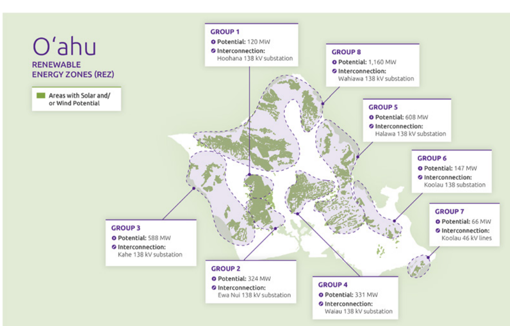
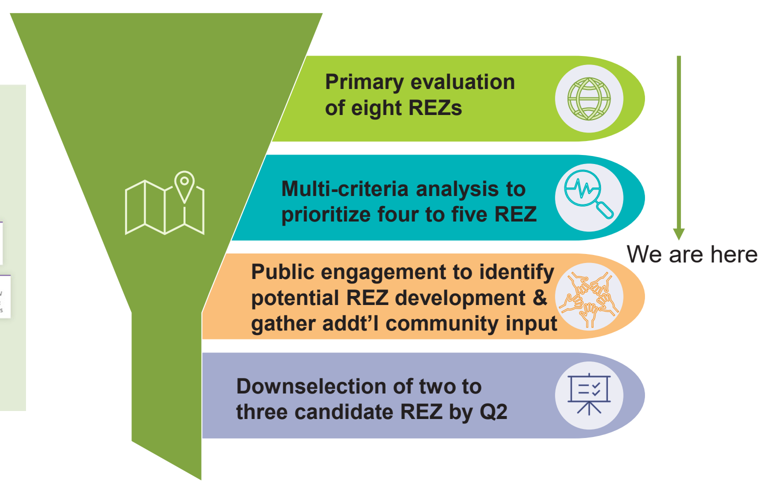
Prioritization Process





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Survey Results: Priority Weighting

29%	38%	33%
Cost Effectiveness and Efficiency	**Equity and Environment**	**Resiliency and Climate**
Which locations provide the best value for money? (i.e., lowest cost per MW output, quickest build, available land)	Which locations are most equitable for the community? Do any locations pose challenges due to the environment?	Which locations are likely to have low climate impacts / high resiliency? Where can we built to mitigate risks to infrastructure?

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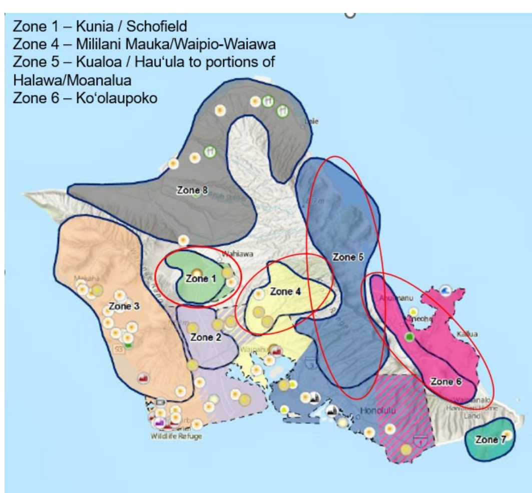
Total		***33%***

Results – Top 4 REZ

Rank	Weights, First Project	Weights, Avg. Group	100% Cost Efficiency and Effectiveness, First Project	100% Equity and Environment, First Project	100% Resiliency and Climate, First Project
#1	REZ 6	REZ 6	REZ 7	REZ 1	REZ 6
#2	REZ 1	REZ 5	REZ 6	REZ 5	REZ 4
#3	REZ 5	REZ 1	REZ 1	REZ 3	REZ 5
#4	REZ 4	REZ 4	REZ 4	REZ 6	REZ 1

Top 4 REZ



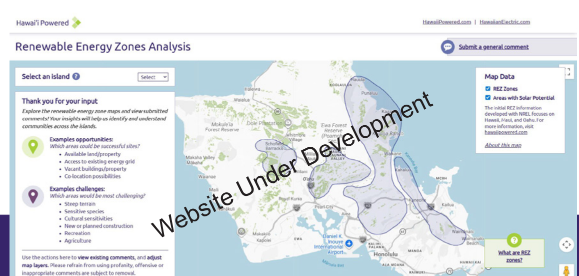
IGP CWG Survey: Considerations for Project Location Selection

- Proximity to existing and planned residences and schools (potential noise pollution)
- Aesthetics
- Solar/agriculture co-benefits (agrivoltaics)
- Avoid current and planned agriculture lands
- Avoid sites of cultural / historical significance (burials)
- Avoid emergency / evacuation routes
- Prioritize proximity to existing transmission infrastructure
- Prioritize access for maintenance
- Risk of fires
- Prioritize locations where energy demand is highest
- Community-identified parcels

Upcoming Engagement

Mar 2-6	Mar 9-13	Mar 16-20	Mar 23-27	Mar 20-Apr 3

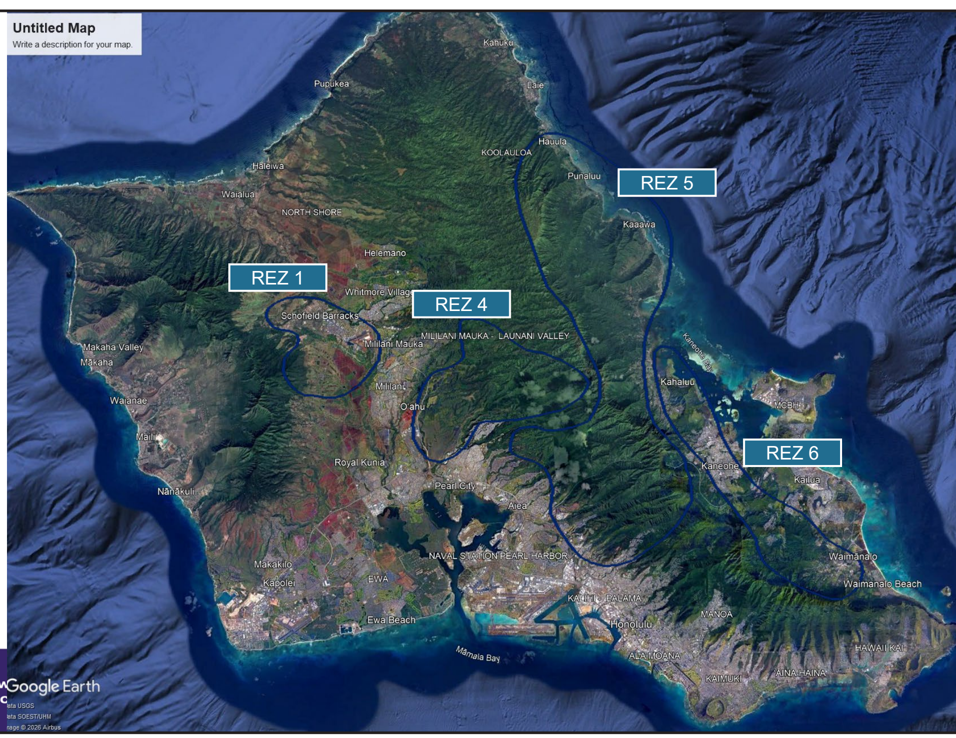
- Legislature Open House
- (6) C&C of Honolulu Neighborhood Board
- IGP Community Working Group
- (2) General Public Meetings

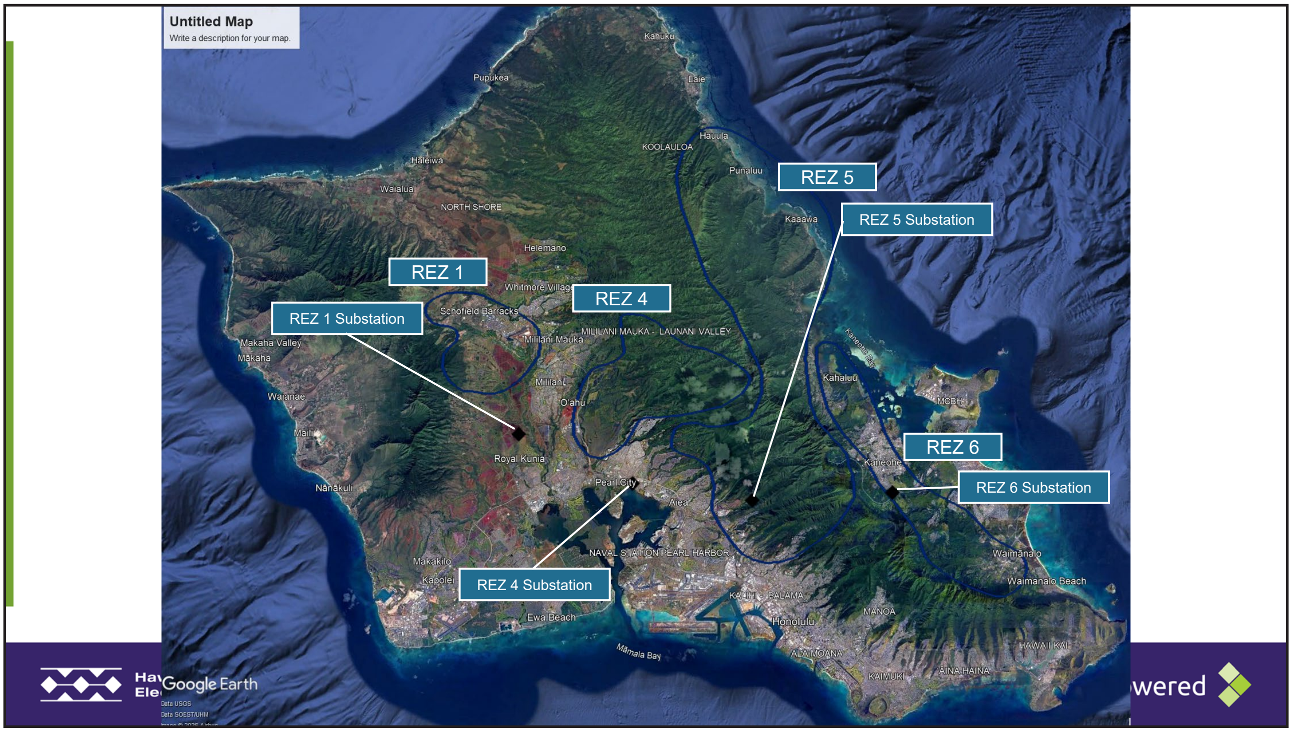


Data to be provided

- 8200 Row Excel Spreadsheet
- KMZ File with 4 REZs

PARCEL_UID	TMK	Shape_Area	taxbillown
417783	11072029	3421.848146	S OF H DOT AIRPORTS DIV
475493	31042026	88.54552854	STATE OF HAWAII
417843	11072081	2124.342667	S OF H DOT AIRPORTS DIV
417831	11072053	1900.993457	S OF H DOT AIRPORTS DIV
417761	11072043	2648.886075	S OF H DOT AIRPORTS DIV
418503	13036015	4460.996886	STATE OF HAWAII
314648	21059024	1162.843405	CITY AND COUNTY OF HONOLULU
427496	47009045	21.77690132	S OF H DLNR LAND DIV
160835	85036011	674.6255078	HAWAIIAN HOME LANDS
160845	85036019	629.6369913	HAWAIIAN HOME LANDS
443993	42103036	796.5890756	STATE OF HAWAII
549289	22013004	1040.000691	STATE OF HAWAII
6336	66018029	5087.569865	STATE OF HAWAII
29556	86002002	5872.652193	STATE OF HAWAII
493503	11014105	1446.912866	S OF H DOT AIRPORTS DIV
131	58001007	355946.1134	STATE OF HAWAII
493498	41026023	402.7410721	STATE OF HAWAII
503988	97019035	18801.43395	HAWAII HOUSING FINANCE AND DEV. CORP.
551099	17011002	314.4996567	STATE OF HAWAII
85697	13022004	3504.398904	STATE OF HAWAII
615328	97092001	445.3276217	STATE OF HAWAII
316724	15039017	1438.236564	S OF H DOT HARBORS DIV
292153	99010028	4443.999211	STATE OF HAWAII
590692	15038078	6585.74129	S OF H DOT HARBORS DIV

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REZ 1
REZ 1 Substation
REZ 4
REZ 4 Substation
REZ 5
REZ 5 Substation
REZ 6
REZ 6 Substation
Google Earth
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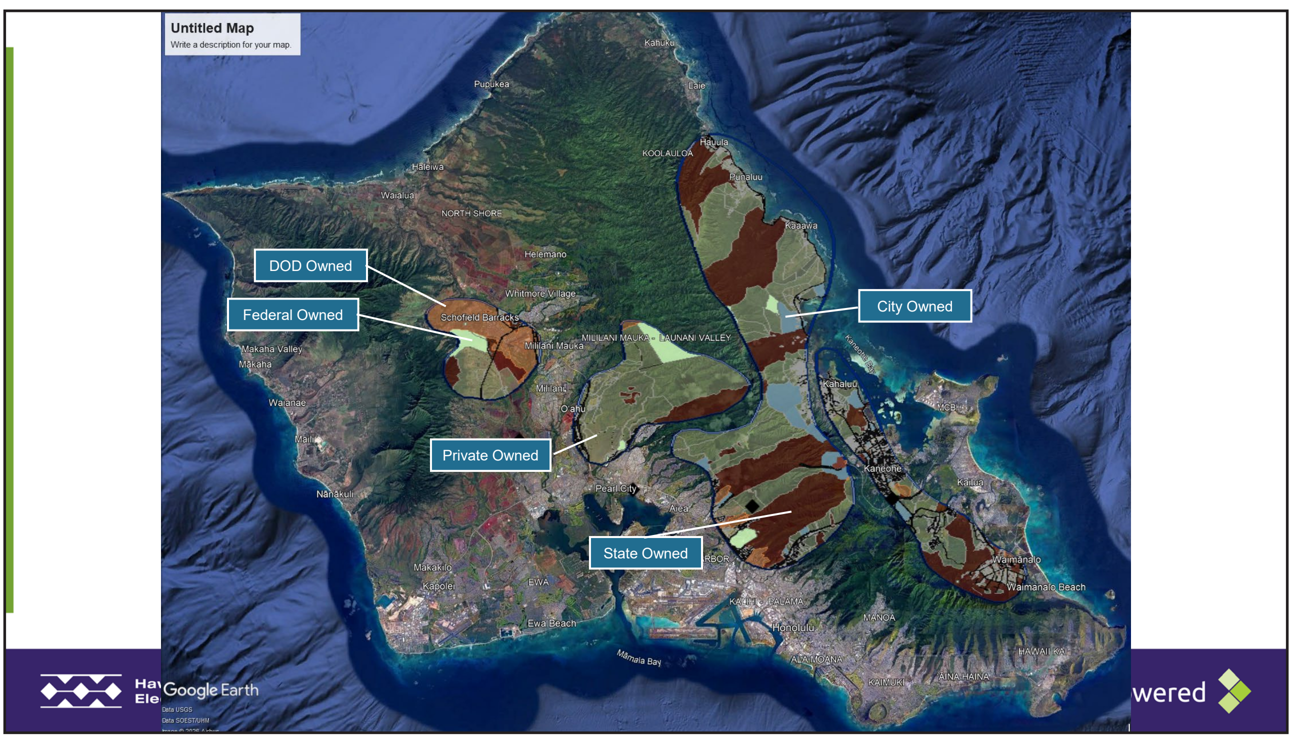
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DOD Owned
Federal Owned
City Owned
Private Owned
State Owned
Google Earth
wered

Request – By March 20

- Categorize land your agency oversees by:
  - Not able to be used – Land occupied or plans to occupy
  - May be able to be used
  - Good opportunity
- Prioritize large areas (ex. >10 acres) in or near Zones 1, 4, 5, and 6.
- Will accept maps (need specific TMKs) or lists, or other suggestions

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Mahalo for your time

Questions?

Learn More

hawaiianelectric.com/clean-energy-Hawaii/integrated-grid-planning

igp@hawaiianelectric.com

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7.2.7 Neighborhood Board Meetings – March 9-26, 2026

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Renewable Energy Zones (REZ)

Ken Aramaki, PE
Director, Integrated Grid Planning

March 2026

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REZ and Hawaiʻi State climate goals

- Stabilizing costs for communities
- Improving grid reliability
- Supporting Hawaiʻi's net-zero carbon mandate by 2045
- Aligning with Governor's Executive Orders and PUC directives – **two (2) REZ on Oʻahu by June 2026**
- Long-term planning through Integrated Grid Planning (IGP)

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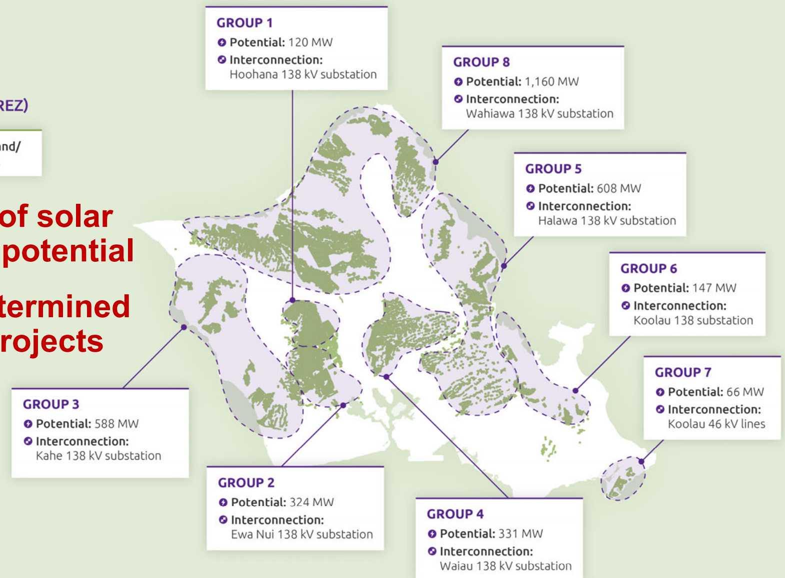
O'ahu

RENEWABLE ENERGY ZONES (REZ)

Areas with Solar and/or Wind Potential

- ➢ **Analysis of solar resource potential**
- ➢ **No predetermined sites or projects**



REZ Opportunities

- ✓ Lower Costs
- ✓ Faster Renewable Deployment
- ✓ Stronger Grid Reliability
- ✓ Economic Growth & Job Creation
- ✓ Reduced Emissions
- ✓ Better Land-Use Planning
- ✓ Investment Certainty

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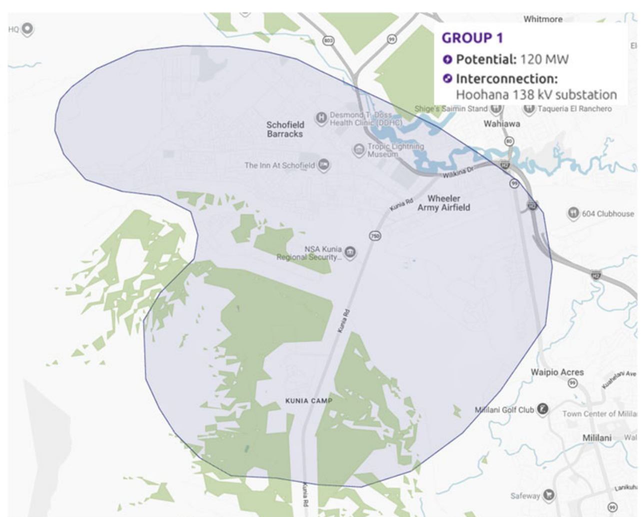
Balancing Planning Considerations

- Generation Potential
- Schedule / Cost
- Transmission Maintenance Cost
- Known Developer Interest
- State Land Opportunity
- Land Availability
- Equity (Footprint & Capacity)
- Environmental Impacts
- Limited Climate Risk Exposure



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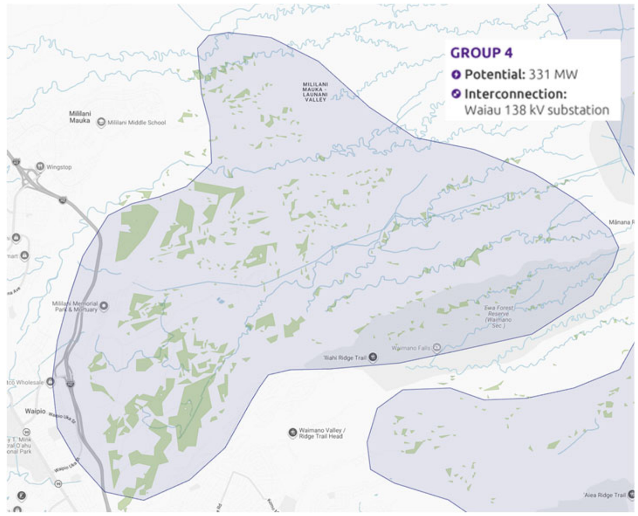

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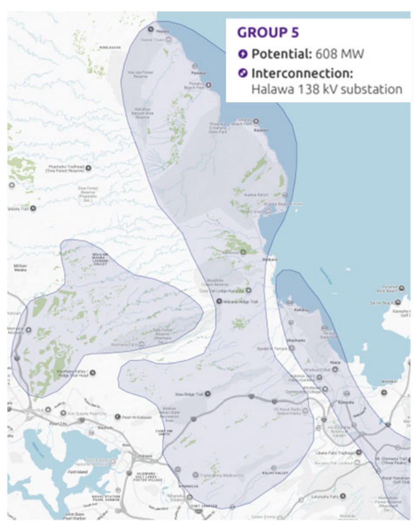

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Balancing Planning Considerations

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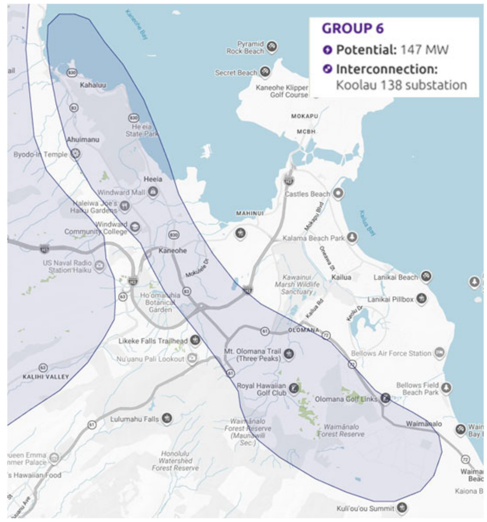

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REZ Benefits

Feature	Renewable Energy Zones (REZ)	Project-by-Project
Planning	Centralized	Decentralized
Grid Upgrades	Proactive	Reactive
Cost	Lower overall	Often higher
Speed	Faster at scale	Slower, uncertain
Risk	Lower	Higher

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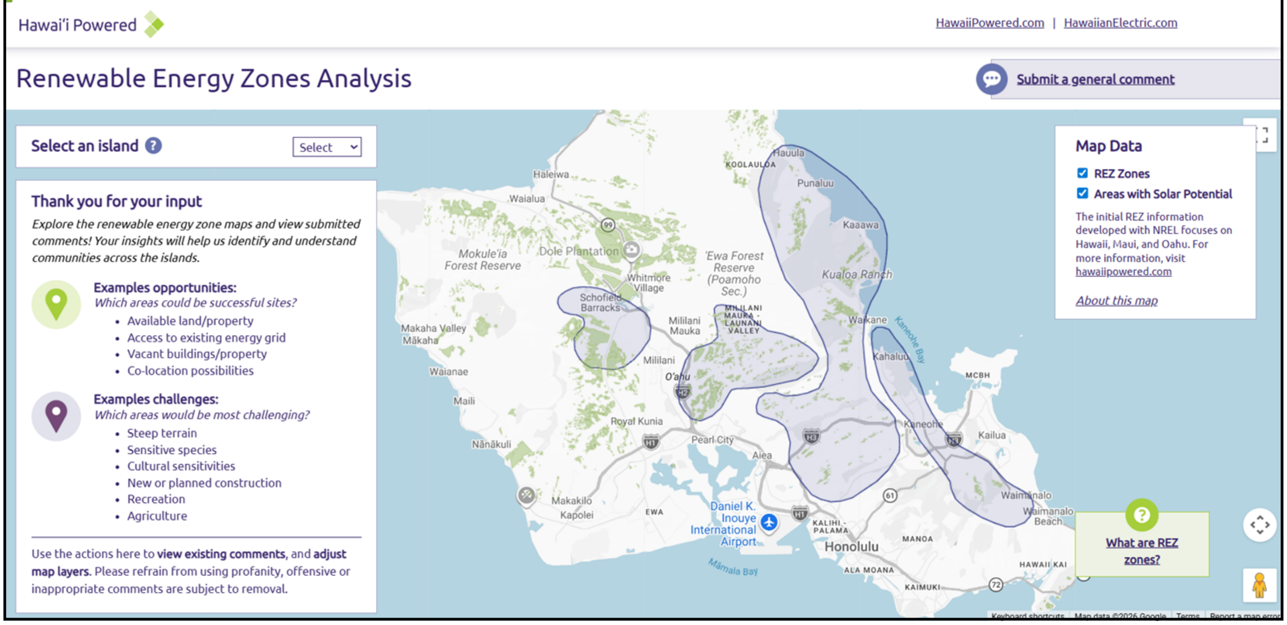
Community Feedback



Come Join Us!

Hawaiian Electric will be hosting an open house presentation and Q&A to discuss Renewable Energy Zones

- April 9
  - Windward Community College (Hale Akoakoa Room 113)
  - 6:00pm – 8:30pm
- April (date TBD)
  - Leeward Community College
  - 6:00pm – 8:30pm

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Questions?

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Mahalo for your time.

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Hawaiian Electric's approach to REZ

- **Data analysis** to identify optimal zones for clean energy
- **Community engagement** to ensure alignment with local values and priorities
- **Environmental review and development of scoring criteria** to rank zones
- Phased implementation including **planning, permitting and construction** of transmission and generation infrastructure

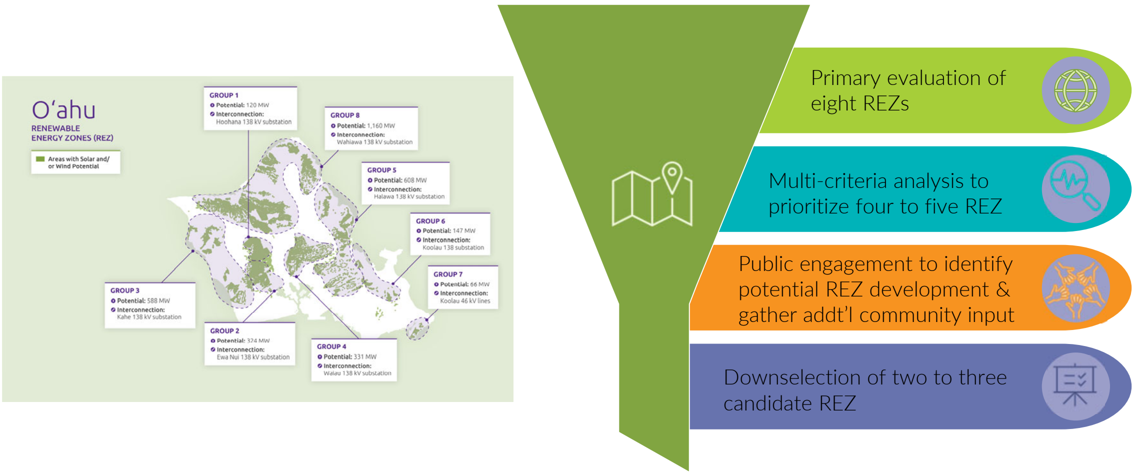
Why do we need to identify REZ now?

- The PUC has directed Hawaiian Electric to identify at least **two REZ on O'ahu by June 2026**

- This is a **key step in helping Hawai'i reach its carbon goals** and create a more sustainable, reliable and resilient energy system
- The scale of transmission development will depend on the **location and size** of the REZ

AK1

Prioritization Process



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Integrated Grid Planning

Integrated Grid Planning (IGP) is our approach to long-term planning for our power needs.

Hawaiian Electric wrapped up our first Integrated Grid Planning in 2023, and we're embarking on our next cycle of long-term planning.

IGP considers generation, transmission and distribution, and addresses topics including:

- Stabilizing utility rates and advancing energy equity
- Growing the marketplace for customer-scale and large-scale renewables
- Creating a modern and resilient grid
- Securing reliability through diverse energy sources and technologies

Ultimately, IGP is our path to a **safe**, **reliable**, and **resilient** grid.

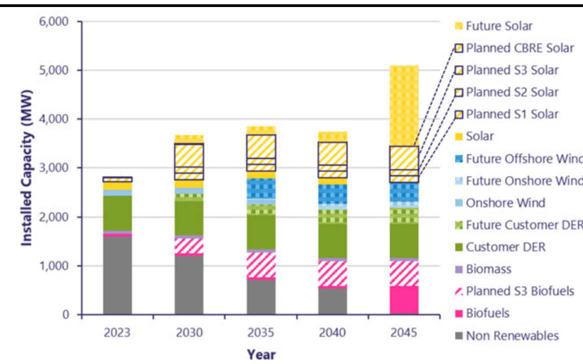

Figure 2-14. O'ahu: Preferred Plan installed capacity by resource type (2023–2045)

Reaching Hawai'i's renewable energy and decarbonization goals will require over 1 GW of new large-scale renewable projects in addition to approximately 200 MW of new customer-scale distributed energy systems (i.e., residential PV systems) by the 2035 timeframe.

Renewable Energy Zones (REZ) were identified as a solution to enable new areas for renewable development and efficiently interconnect large renewable capacities onto the system.

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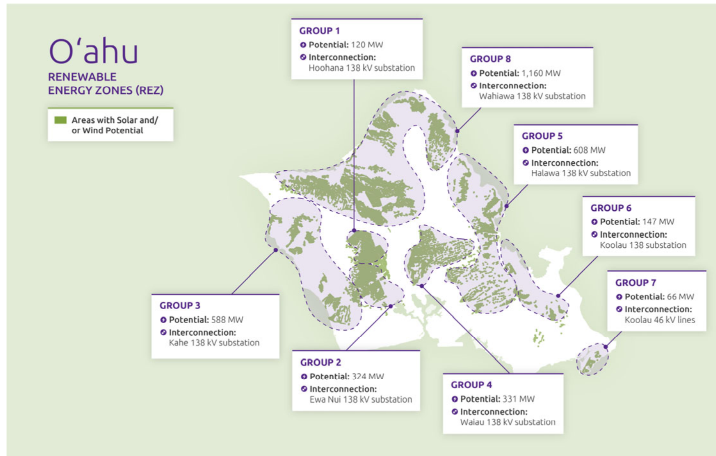
IGP and Renewable Energy Zones

Renewable energy zones are part of our long-term plan for the grid. REZ:

- Are designated **areas with high potential for clean energy generation**—such as solar or wind—and **that can be easily connected to the grid**
- Help focus development **where renewable projects will be most efficient, cost-effective and impactful**
- Are a **cornerstone** of Hawaiian Electric's work **to build a safer and more sustainable, reliable and resilient grid**



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Survey Results: Priority Weighting

29%	38%	33%
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Results – Top 4 REZ

Rank	Weights, First Project
#1	REZ 6
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#3	REZ 5
#4	REZ 4

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Near-Term Engagement

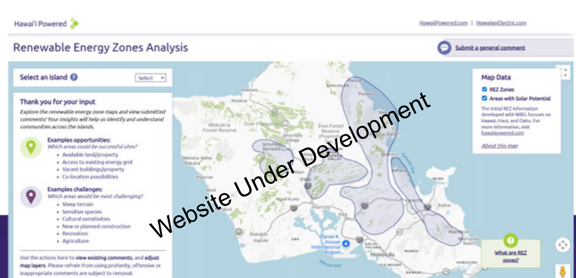
Mar 2-6	Mar 9-13	Mar 16-20	Mar 23-27	Mar 20-Apr 3

State Agency Meeting

(6) C&C of Honolulu Neighborhood Board

IGP Community Working Group

(2) General Public Meetings



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Implementation timeline

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How REZ fits into our energy vision

Committed to **partnering** with the state to focus on **decarbonizing solutions**

Reach **net zero emissions** and **generate 100% renewable energy** by 2045

Provide customers **more choices**, **reliable power** and **stable rates**

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Land availability	Indicator of land availability based on amount of: • State-owned land • Land with building development • Land with landowner interest	 3.1% 2.3% 3.5%
Total		***29%***

Values shown may not add to totals due to rounding

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27

Equity and environment

Criteria	Description	Weight
Equity	Spreading development among zones. Consider existing generation locations.	17.2%
Environmental impacts	Relative difficulty of permitting within each REZ	20.4%
Total		***38%***

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28

Resiliency and climate

Criteria	Description	Weights
Limited climate risk exposure	Relative risk for: i) Wildfires, ii) Flooding, and iii) Tsunamis	 14.0% 11.6% 7.8%
Total		***33%***

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7.2.8 CWG REZ Update – March 10, 2026

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Renewable Energy Zones

Integrated Grid Plan

Community Working Group

Hawaiian Electric

March 2026

Agenda

1. Hui O Hau'ula
2. REZ status update
3. Plans for this working group
4. Community engagement planning for REZ
5. Q&A

Hui O Hauʻula

Dotty Kelly-Paddock

Hawaiian Electric

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REZ status update

Hawaiian Electric

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Survey Responses

- Total responses:
  - 7 participants
  - 2 observers
- Participant results used for criteria weighting
- Observer and participant comments reviewed
  - Responses will be provided to all comments as part of the recommendation filing with the PUC
  - Note organization names will not be included

Survey Key Takeaways: Considerations for Project Location Selection

- Proximity to existing and planned residences and schools (potential noise pollution)
- Aesthetics
- Solar/agriculture co-benefits (agrivoltaics)
- Avoid current and planned agriculture lands
- Avoid sites of cultural / historical significance (burials)
- Avoid emergency / evacuation routes
- Prioritize proximity to existing transmission infrastructure
- Prioritize access for maintenance
- Risk of fires
- Prioritize locations where energy demand is highest
- Community-identified parcels

Survey Results: Priority Weighting

29%	38%	33%
Cost Effectiveness and Efficiency	**Equity and Environment**	**Resiliency and Climate**
Which locations provide the best value for money? (i.e., lowest cost per MW output, quickest build, available land)	Which locations are most equitable for the community? Do any locations pose challenges due to the environment?	Which locations are likely to have low climate impacts / high resiliency? Where can we built to mitigate risks to infrastructure?

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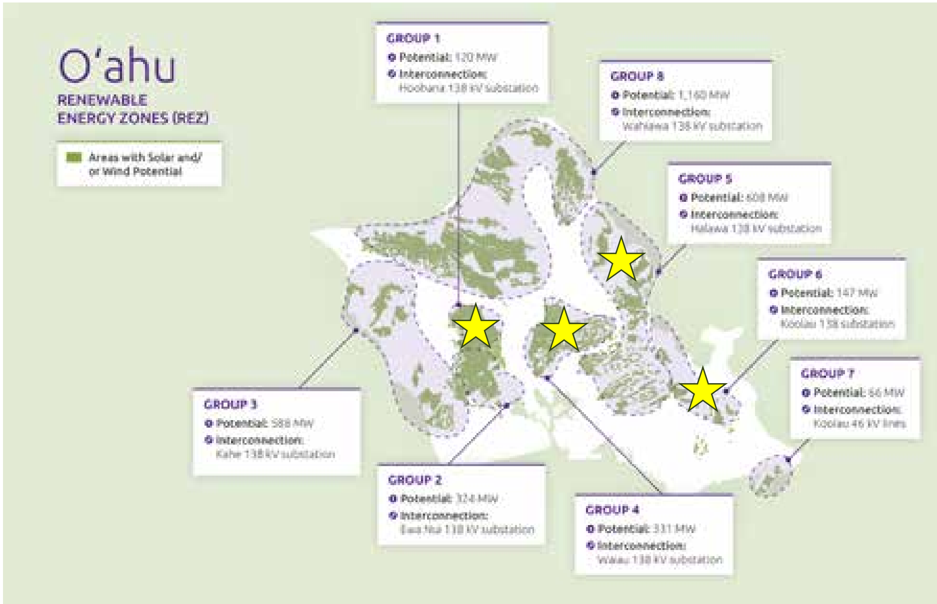

Results – Top 4 REZ

Rank	Weights, First Project	Weights, Avg. Group	100% Cost Efficiency and Effectiveness, First Project	100% Equity and Environment, First Project	100% Resiliency and Climate, First Project
#1	REZ 6	REZ 6	REZ 7	REZ 1	REZ 6
#2	REZ 1	REZ 5	REZ 6	REZ 5	REZ 4
#3	REZ 5	REZ 1	REZ 1	REZ 3	REZ 5
#4	REZ 4	REZ 4	REZ 4	REZ 6	REZ 1

Upcoming Engagement

Mar 2-6	Mar 9-13	Mar 16-20	Mar 23-27	Mar 20-Apr 3
Legislature Open House	(6) C&C of Honolulu Neighborhood Board			
	IGP Community Working Group		(2) General Public Meetings	

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Working Group Plans

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Tentative CWG Meeting Schedule 2026

March	April	June	July	August
• Hui O Hau'ula • REZ criteria selection results • Community Engagement Planning	• Sust'āinable Molokai • Planning Process • Forecasts • PPAs	• Lāhainā Strong • IGP RFP 1 update • Types of Renewable Resources	• Sustainable Energy Hawaii • Final forecasts • Distributed Energy Resources	• Vibrant Hawaii • IGP Grid Needs Methodology • Modeling Process

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Tentative CWG Meeting Schedule 2026

September	October	November	December
• LEI Foundation • IGP Update • Microgrid Capabilities & Energy Wheeling	• Hawaii's Carbon Capture Storage and Utilization Consortium • IGP Update • TBD	• Ho'āhu Energy Cooperative Molokai • IGP Update • TBD	• Hui Ulu Mea 'Ai • IGP Update • TBD

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REZ community engagement planning

Audiences

IGP Stakeholder Technical Working Group
Includes city and county representatives, industry experts, and state agency members that provide feedback to Hawaiian Electric to ensure outcomes align with customer and stakeholder interests

IGP Community Working Group
Community advocacy and resource representatives that communicate with the public about IGP outcomes, including REZ

Legislative Representatives
Engaged in prioritized REZ to inform them about the program and potential impacts in their districts

Neighborhood Boards
Engaged in prioritized REZ to inform them about the program and encourage attendance at upcoming public meetings

General Public
Including customers and community members in the prioritized zones

Outreach and messaging

- Webpage and handout
- Newsletter
- News releases
- Social media
- Email outreach

Engagement to date

Engagement	Date	Purpose	Audience
State agency meeting	November 2025	Have conversations with state agencies to identify opportunities on state owned land	State of Hawaii departments and agencies
Meeting with IGP Stakeholder Technical Working Group	December 2025	Discuss how REZ fits into IGP planning, forecasts, and scenarios Gather feedback on priorities and criteria definitions and measurements	IGP Stakeholder Technical Working Group
Meeting with IGP Community Working Group	January 2025	Introduce REZ program and gather feedback on priorities and criteria definitions, measurements, and weighting	IGP Community Working Group
State legislator briefings	March 2026	Introduce REZ at a high-level and prioritized zones	Local elected officials that represent the 4 prioritized zones
Follow up with state agencies	March 2026	Have more targeted discussions about opportunities on state-owned land in the prioritized zones	State of Hawaii departments and agencies

Upcoming in-person engagement

Engagement	Date	Purpose	Audience
Neighborhood board meetings	March 2026	Introduce REZ at a high-level and promote upcoming public meetings	Community leaders in the 4 prioritized zones
Two public meetings in prioritized zones: • Zone 1 and 4 • Zone 5 and 6	Early April 2026	Introduce REZ at a high-level and gather feedback on opportunities and challenges in prioritized zones	General public in the 4 prioritized zones

Feedback Incorporation

- Potential location opportunities within top 4 REZ
- Specific areas to avoid?
  - Environmental concerns
  - Areas of historical significance
  - Areas prone to fires
- Gather more input on project location factors to consider:
  - Proximity to existing and planned residences and schools
  - Aesthetics
  - Agricultural zones
  - …

Questions?

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Mahalo for joining.

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IGP CWG Survey Key Takeaways & Responses:

- **Inconsistent support to switch from "first project" to "group average"**
  - Explored using the average score for each REZ instead of the score from the first project
  - This change did not change which four REZ ranked highest, only changed their order
  - Additional feedback can be gathered on this during future public engagement

- **Disagreement about how environmental impact is measured**
  - This criterion assumes that permitting requirements reflect environmental risk, so permitting acts as a stand-in for actual environmental impact
    - Other reliable data has not been identified that would directly measure environmental impact
  - During the next phase when specific project locations are identified, the public will have more opportunities to provide input related to environmental impact
    - This feedback can help us avoid areas that are environmentally sensitive

- **Suggestions to measure equity by access to power (like microgrids), not just impacts from existing facilities**
  - This study is focused on supporting large-scale energy generation and does not cover expanding microgrids or measuring access to local power systems

- **Suggestion to change priority title from "Community and Environment" to "Equity and Environment"**
  - Changing title to "Equity and Environment" to more accurately describe this category of criteria

- **Suggestions to avoid agricultural-zoned land**
  - The goal of this phase is to identify which REZ should be prioritized for building new transmission lines
  - After these priority groups are confirmed, the next phase will focus on developing specific project locations (both for transmission and generation)

Future work

- When it is time to choose specific locations, the planning will be done in collaboration with communities and government agencies
- The goal of this phase is to identify which REZ should be prioritized for building new transmission lines
- After these priority groups are confirmed, the next phase will focus on developing specific project locations (both for transmission and generation)

7.2.9 Public Meetings – April 6-9, 2026

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Renewable Energy Zones (REZ)

Accelerating Hawai'i's clean energy future

Hawaiian Electric

April 2026

Presentation roadmap and objectives

- Our energy vision and where we are today
- What are REZ
- State climate goals
- Reliability and resilience benefits
- What this means for customers and why now
- Community and stakeholder engagement
- Implementation timeline

Objectives for our conversation today:

- Introduce prioritized renewable energy zones (REZ) and Hawaiian Electric's decision-making process
- Gather input on opportunities and challenges in prioritized zones

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Our energy vision

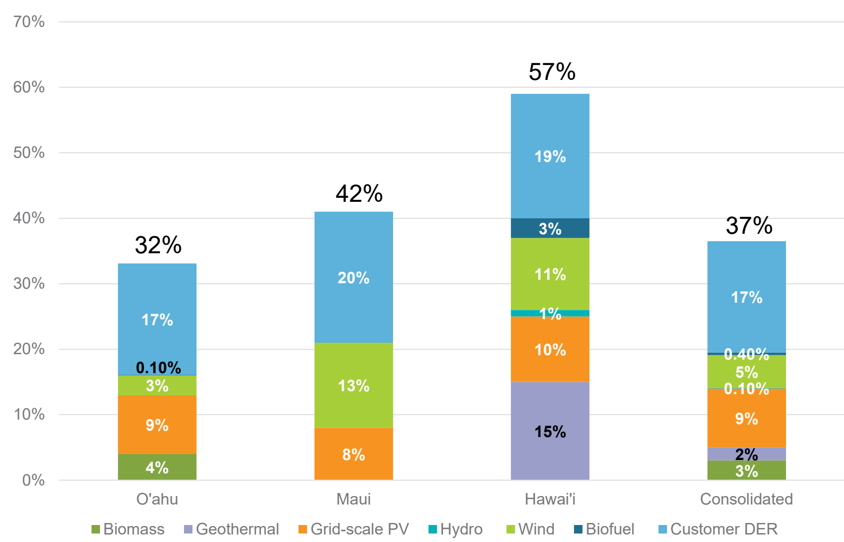
Together, we can:

Commit to **partnering** with the state to focus on **decarbonizing solutions**

Reach **net zero emissions** and **generate 100% renewable energy** by 2045

Provide customers **more choices**, **reliable power** and **stable rates**

Percentage of generation from renewable energy



What are REZ?

- REZ are designated **areas with high potential for clean energy generation**
- They help focus development **where renewable projects will be most efficient, cost-effective and impactful**
- REZ are **essential building blocks** of Hawai'i's clean energy future

Reliability and resilience for customers

REZ help:

- **Expand grid capacity** and **modernize infrastructure**
- **Enhance reliability** and **improve system resilience**
- Reduce dependence on imported fossil fuels = **greater energy security** and **more stable rates** over the long-term
- **Generate economic development** and **create jobs**

Hawai‘i climate goals

- Supports Hawai‘i’s net-zero carbon mandate by 2045
- Aligned with Governor’s Executive Orders and PUC directives
- Integral to our Integrated Grid Planning (IGP)

Why do we need to identify REZ now?

- The PUC has directed Hawaiian Electric to identify at least **two REZ on O‘ahu by June 2026**
- The Governor's Executive Order directed Hawaiian Electric to work with state agencies **to develop REZ in order to achieve renewable energy targets**

These are **key steps in helping Hawai‘i reach its carbon goals** and create a more sustainable, reliable and resilient energy system

What does the REZ process involve?

- **Data analysis** to identify optimal zones for clean energy
- **Community engagement** to ensure alignment with local values and priorities
- **Environmental review and development of scoring criteria** to rank zones
- Phased implementation including **planning, permitting and construction** of transmission and generation infrastructure

Work to date: 2022 study

The National Renewable Energy Lab completed a study to **identify areas with solar energy generation potential**, which was then **categorized into eight potential renewable energy zones**.

These zones **focused on generation potential** and have **not determined any project sites.**

Renewable energy zones provide opportunities to:

- Lower costs
- Deploy renewable energy faster
- Better plan land-use

Feature	Renewable energy zone approach	Project-by-project approach
Planning	Centralized	Decentralized
Grid upgrades	Proactive	Reactive
Cost	Lower overall	Often higher
Speed	Faster at scale	Slower, uncertain
Risk	Lower	Higher

Prioritization Process

- Primary evaluation of eight REZs
- Multi-criteria analysis to prioritize four to five REZ
- Public engagement to identify potential REZ development & gather addt'l community input — We are here
- Downselection of two to three candidate REZ by Q2

Survey Results: Priority Weighting

29%	38%	33%
Cost Effectiveness and Efficiency	**Equity and Environment**	**Resiliency and Climate**
Which locations provide the best value for money? (i.e., lowest cost per MW output, quickest build, available land)	Which locations are most equitable for the community? Do any locations pose challenges due to the environment?	Which locations are likely to have low climate impacts / high resiliency? Where can we built to mitigate risks to infrastructure?

Balancing planning considerations: Cost effectiveness and efficiency

Criteria	Description	Weight
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Working group and stakeholder feedback

Hawaiian Electric has held workshops and discussions with several groups to gather feedback on the criteria and weighting, leading to the four prioritized zones:

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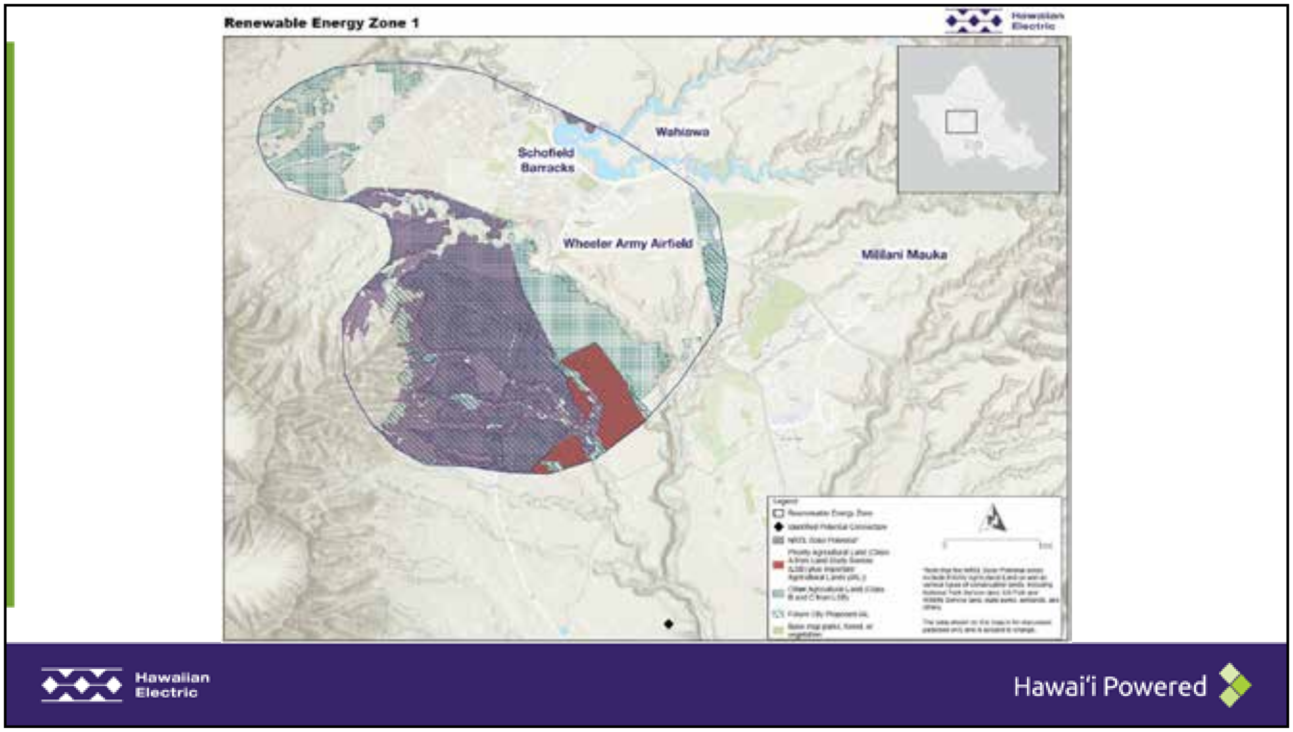
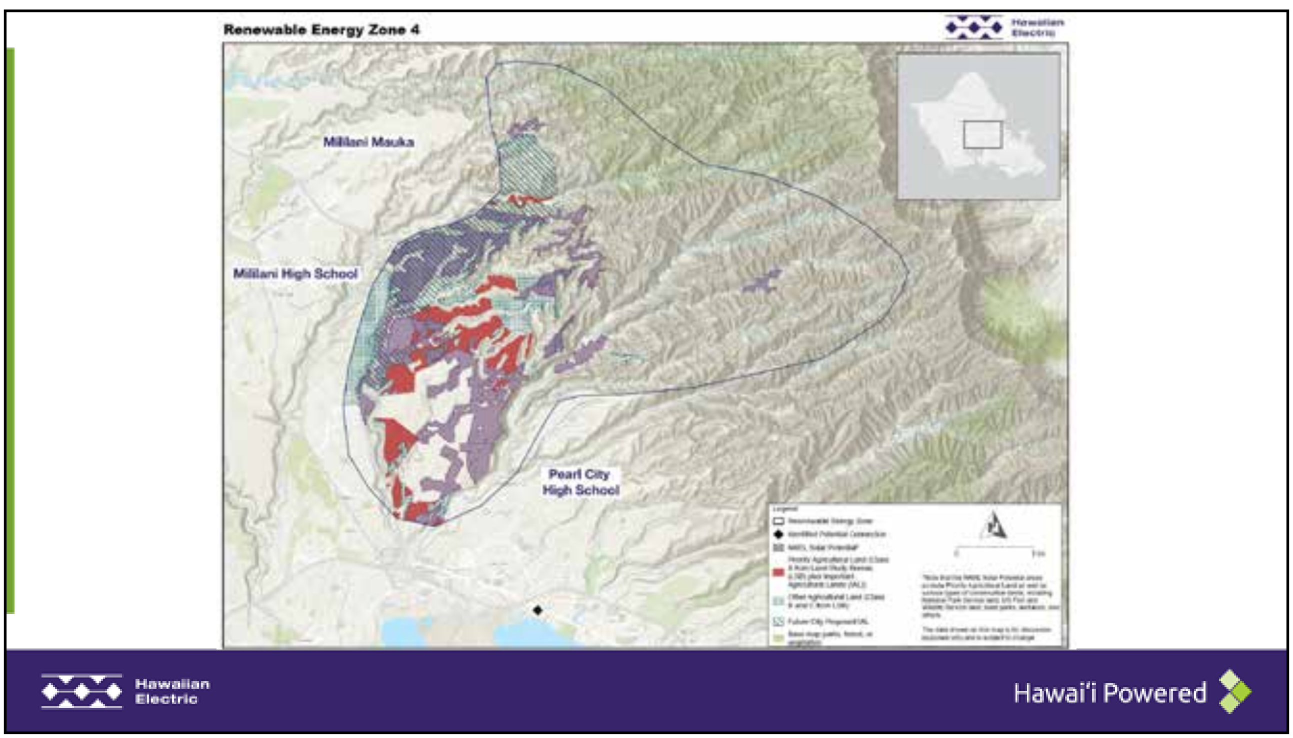
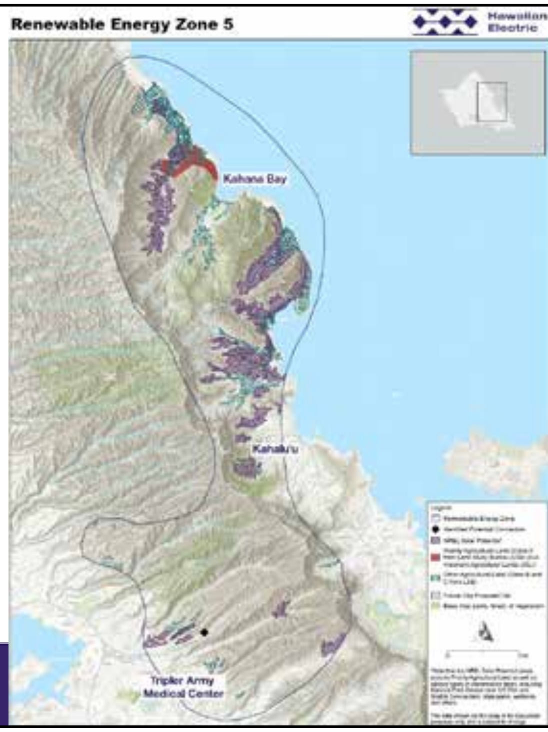

Renewable Energy Zone 1
Hawaiian Electric
Wahiawa
Schofield Barracks
Wheeler Army Airfield
Mililani Mauka
Hawaiian Electric
Hawai'i Powered


Renewable Energy Zone 4
Hawaiian Electric
Mililani Mauka
Mililani High School
Pearl City High School
Hawaiian Electric
Hawai'i Powered



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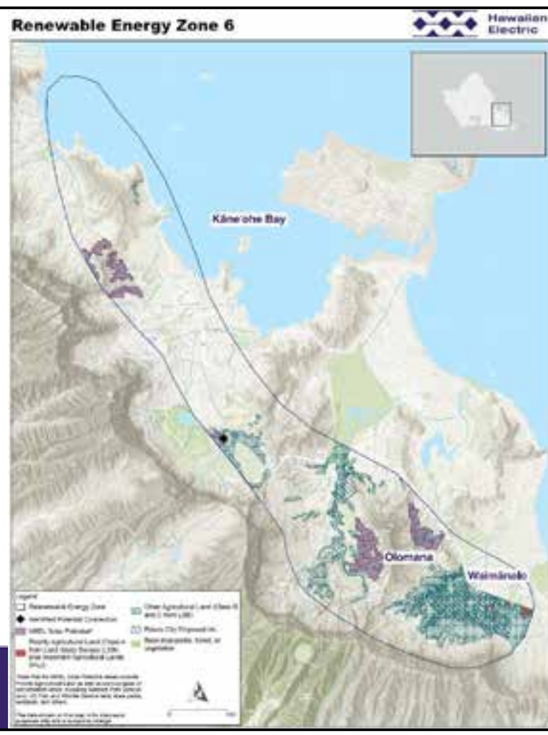

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Community and stakeholder engagement

- Engagement in 2022 informed our REZ selection process
  - Assisted in identifying risks, challenges and concerns
- 2026 engagement will be a transparent process with public input
- Ensures alignment with state goals around land usage
- Ensures equitable development and local benefits
- Builds trust and long-term support

Next steps & input

Ways to provide your input:

- **Online comment map**
- **Poster boards at today's meeting**
- **Contact our team**

In the 4 prioritized zones, consider:

- **Location:** proximity to residences, schools, agricultural lands, cultural and historical resources
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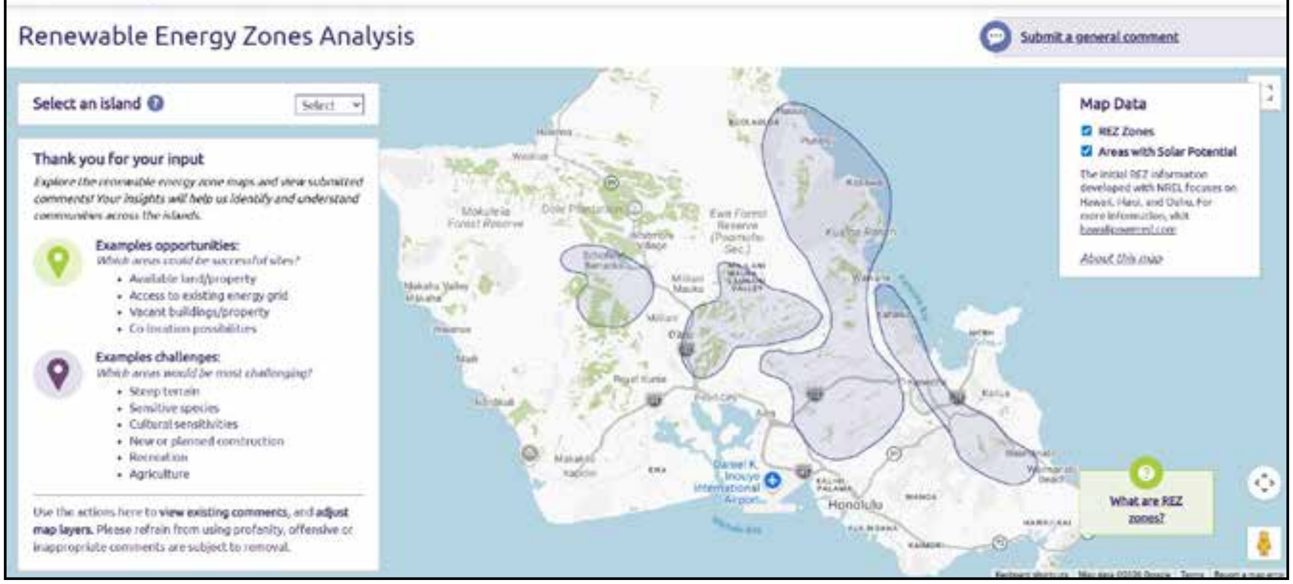
Community Feedback

https://hawaiipowered.com/rez/cycle2/



We invite you to stay involved

Visit our online participation site and sign up for email updates:
hawaiipowered.com

Contact us:
IGP@hawaiianelectric.com

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Mahalo for your time

Questions?

Learn More

hawaiipowered.com

igp@hawaiianelectric.com

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Implementation timeline

- **2022** – Hawaiian Electric first introduces REZ concept to the public and gathers public comments
- **2025** – Criteria development and initial scoring with stakeholders
- **Early 2026** – REZ stakeholder engagement on O'ahu
- **Spring 2026** – Hawaiian Electric presents two REZ on O'ahu to the PUC

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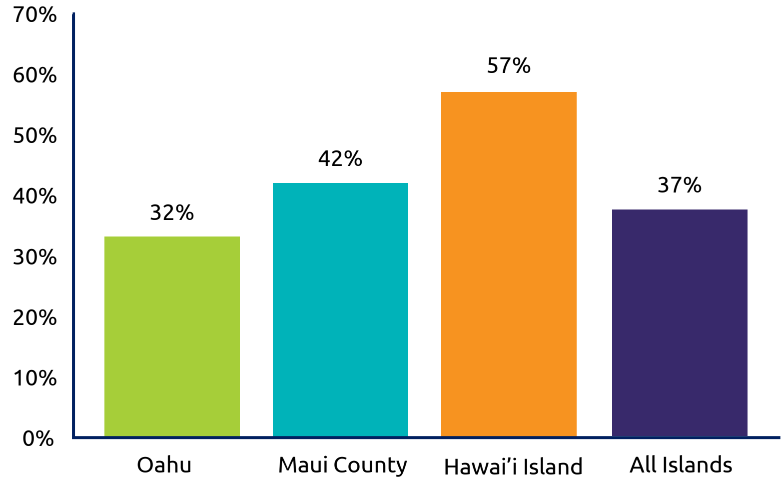
Percentage of generation from renewable energy



Zone prioritization

Primary evaluation of 8 zones

Criteria analysis to prioritize 4 zones

We are here

Public engagement to identify potential development and gather additional community input

Down selection of 2-3 candidate zones for next phases

Current Oahu Projects (Planned and In-Progress)

Type	Project	Capacity (MWs)	Land Size (acres)	Ratio (Land/Capacity)
PV+BESS (PV with 4-hour Battery Energy Storage System)	Hoohana Solar	52	352	6.8
	Mahi Solar	120	617	5.1
	Kupono Solar	42	131	3.1
	Puuloa Solar	6	20	3.3
	Mountain View Solar	7	93	13.3
	Waiawa Phase 2	30	387	12.9
Synchronous	Puuloa Energy	99	10	0.1

Hypothetical (followup): Highway PV canopies with 4 lanes in each direction ~15 MW per mile of highway

Hoohana Solar

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Hawaiian Electric

April 2026

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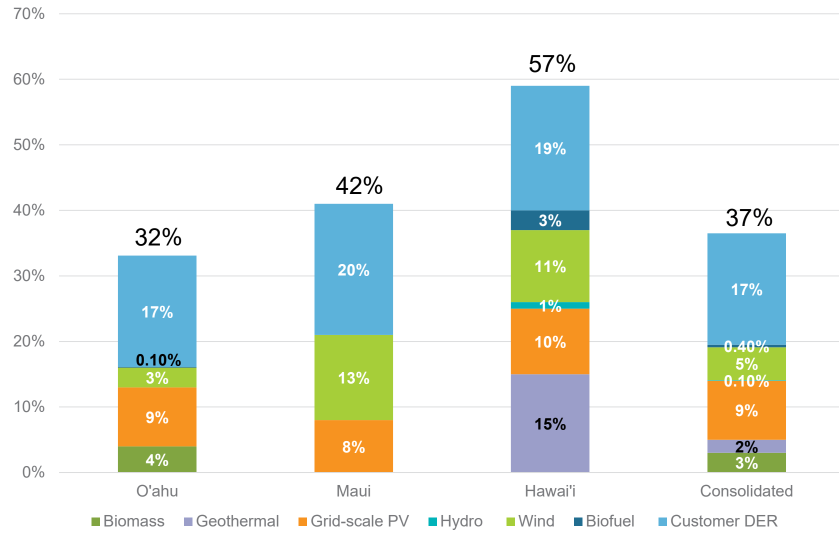

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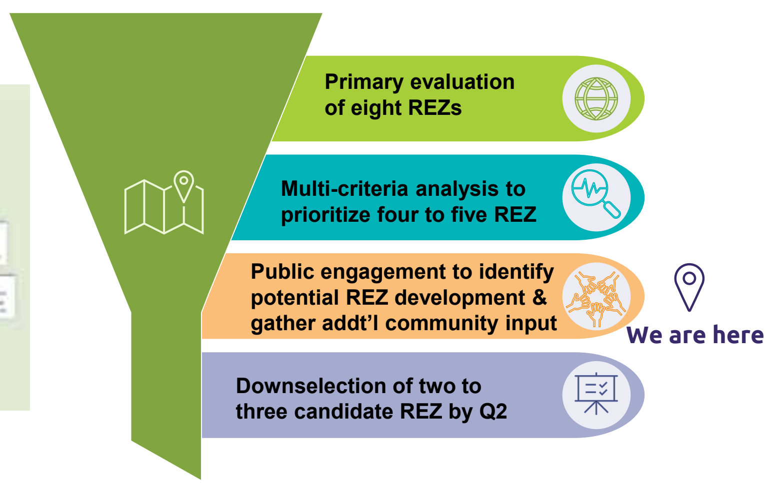

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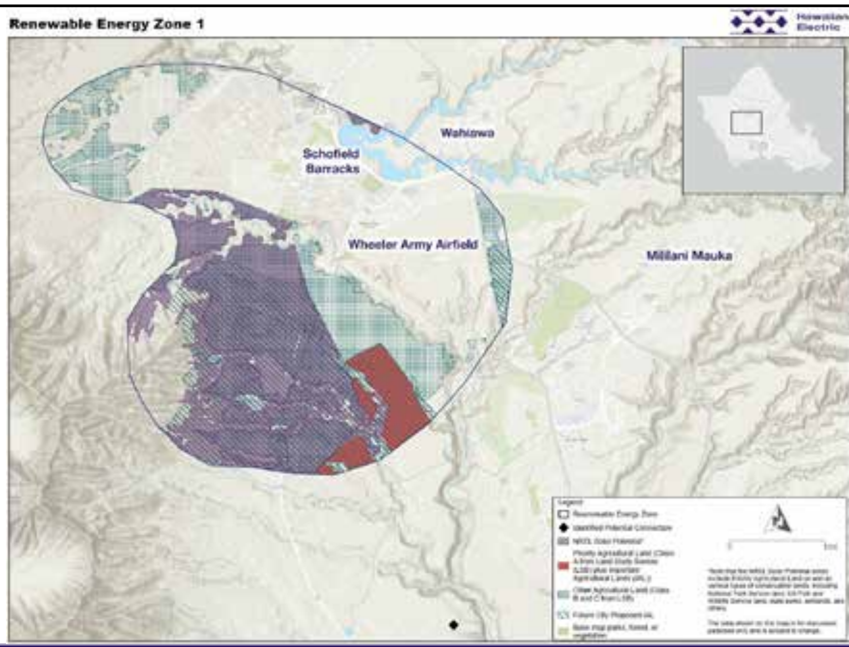

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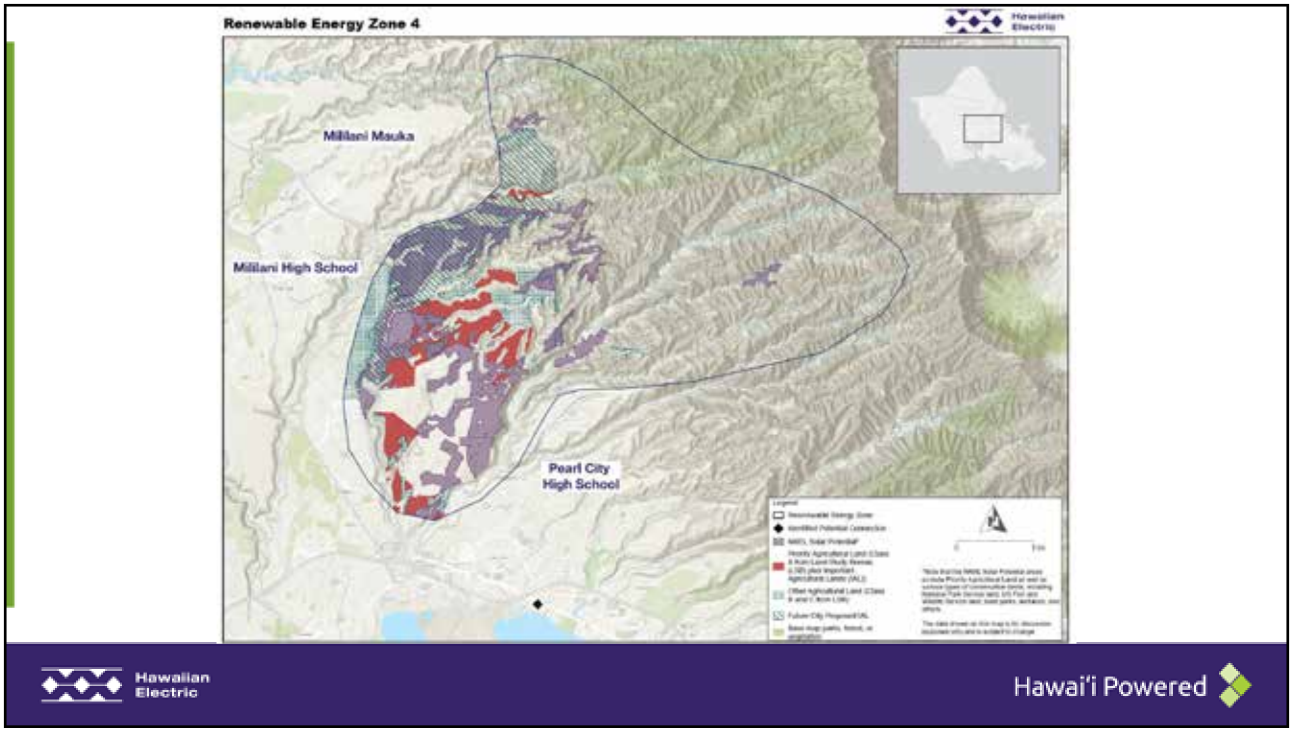
Renewable Energy Zone 4
Hawaiian Electric
Mililani Mauka
Mililani High School
Pearl City
High School
Hawaiian Electric
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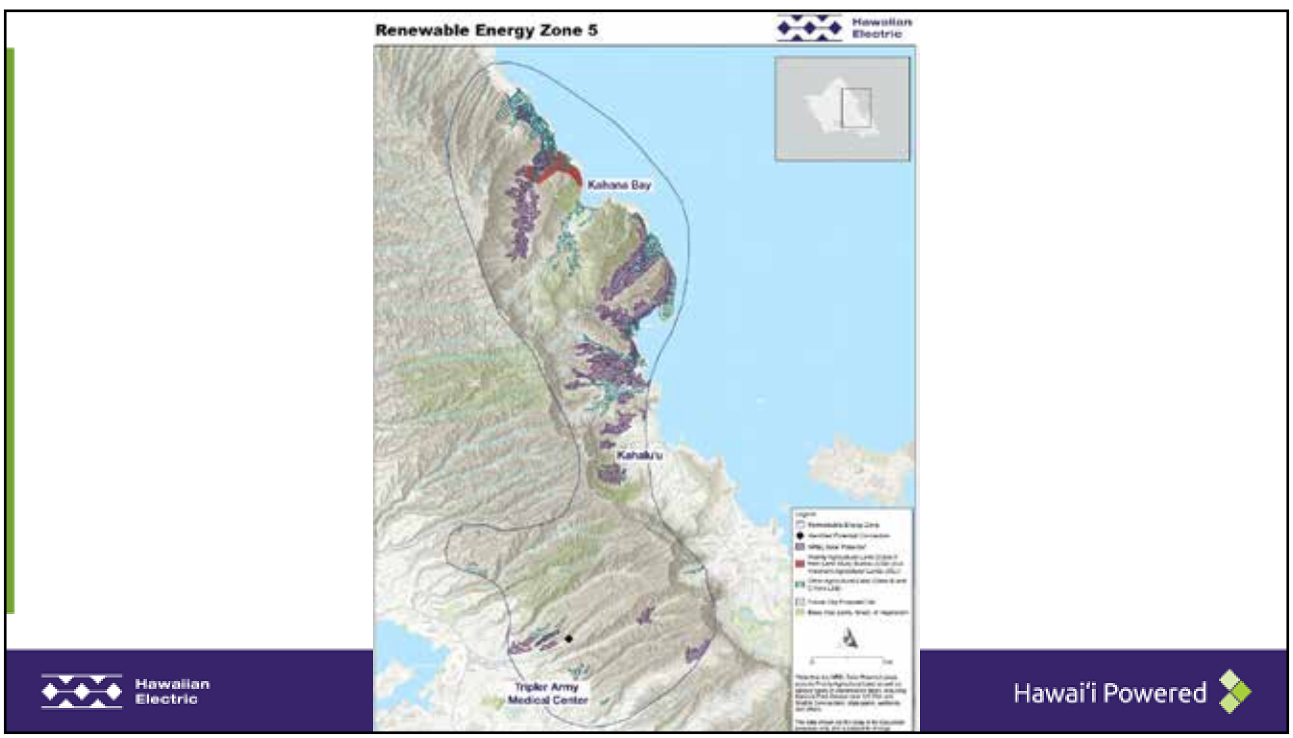
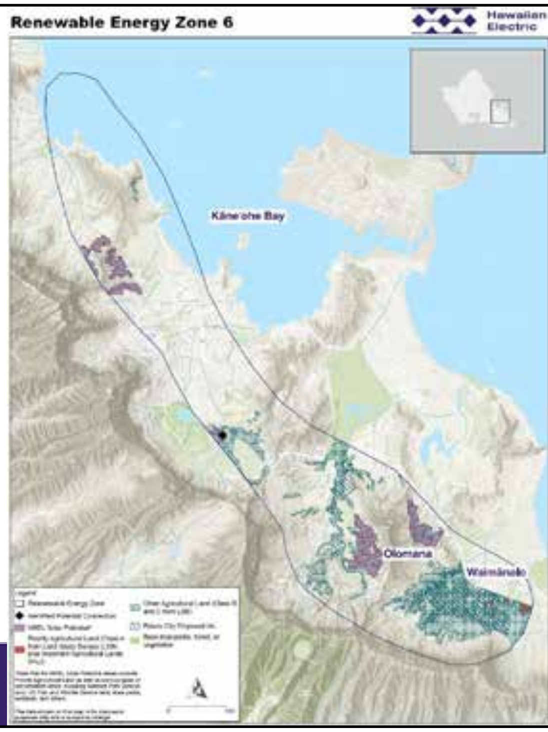

Renewable Energy Zone 5
Hawaiian Electric
Kahana Bay
Kahalu'u
Tripler Army
Medical Center
Hawaiian Electric
Hawai'i Powered



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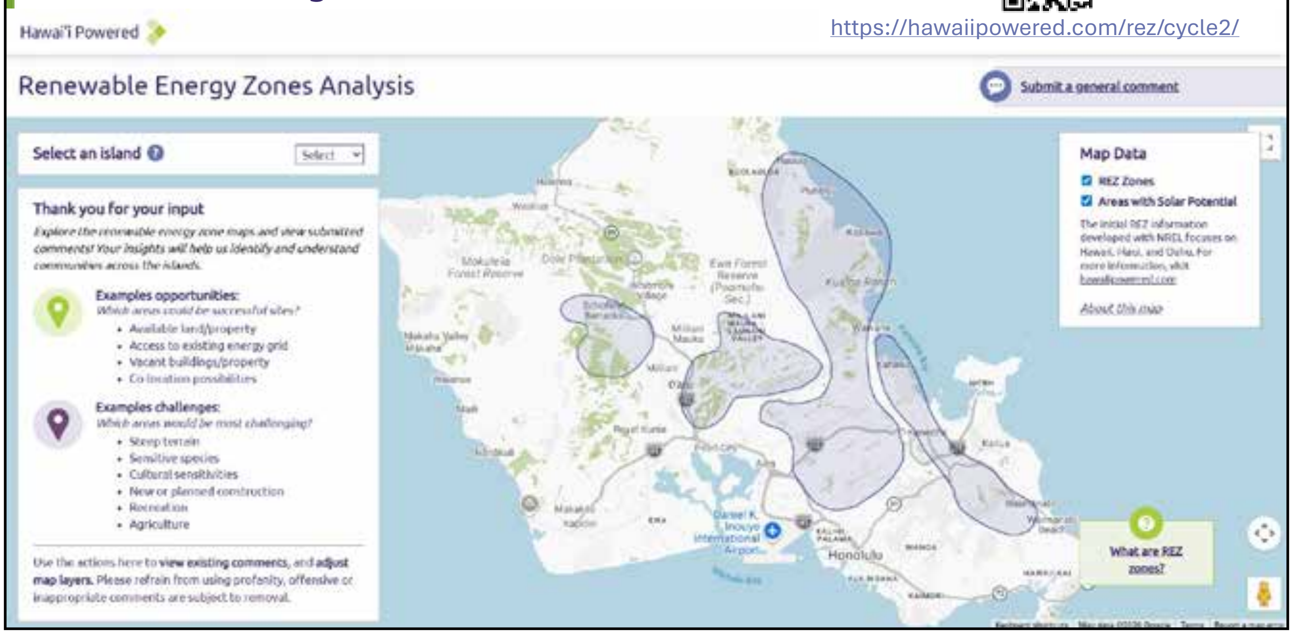
Community Feedback

https://hawaiipowered.com/rez/cycle2/



We invite you to stay involved

Visit our online participation site and sign up for email updates:
hawaiipowered.com

Contact us:
IGP@hawaiianelectric.com

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Mahalo for your time

Questions?

Learn More
- hawaiipowered.com
- igp@hawaiianelectric.com

Hawaiian Electric

Implementation timeline

- **2022** – Hawaiian Electric first introduces REZ concept to the public and gathers public comments
- **2025** – Criteria development and initial scoring with stakeholders
- **Early 2026** – REZ stakeholder engagement on O‘ahu
- **Spring 2026** – Hawaiian Electric presents two REZ on O‘ahu to the PUC

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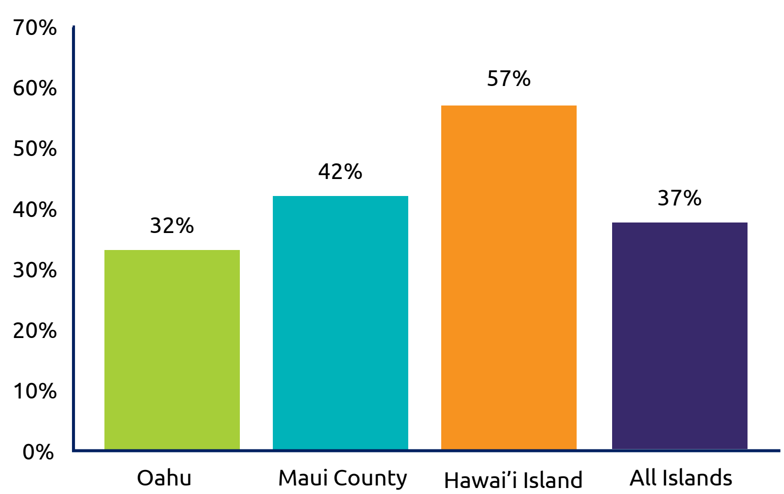
Percentage of generation from renewable energy



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Zone prioritization

Primary evaluation of 8 zones

Criteria analysis to prioritize 4 zones

We are here — Public engagement to identify potential development and gather additional community input

Down selection of 2-3 candidate zones for next phases

Current Oahu Projects (Planned and In-Progress)

Type	Project	Capacity (MWs)	Land Size (acres)	Ratio (Land/Capacity)
PV+BESS (PV with 4-hour Battery Energy Storage System)	Hoohana Solar	52	352	6.8
	Mahi Solar	120	617	5.1
	Kupono Solar	42	131	3.1
	Puuloa Solar	6	20	3.3
	Mountain View Solar	7	93	13.3
	Waiawa Phase 2	30	387	12.9
Synchronous	Puuloa Energy	99	10	0.1

Hypothetical (followup): Highway PV canopies with 4 lanes in each direction ~15 MW per mile of highway


Hoohana Solar

Hawaiian Electric

Zone 4

Renewable Energy Zone Poster Board Comments

Activity Purpose

Gather insights into locations where there may be potential land or facilities for renewable energy generation or associated infrastructure.

Input Instructions

Step 1: Review map of the renewable energy zone, including areas of agricultural land and existing infrastructure.

Step 2: Consider the following:

- **Location:** proximity to residences, schools, agricultural lands, cultural and historical resources
- **Access**: proximity to emergency evacuation routes and maintenance access
- **Demand:** areas of high energy demand or areas that already host generation infrastructure
- **Existing infrastructure:** proximity to today's power delivery grid infrastructure

Step 3: Add a numbered sticky dot to the map where you would like to provide input. Write your comment in the corresponding table row below.

Comment Number	*Comment*
1	Can new PV + power lines open up land for housing by bringing power there?
2	
3	
4	
5	

APRIL 13 - Kaneohe Legislative Town Hall

Hawaiian Electric

Zone 6

Renewable Energy Zone Poster Board Comments

Activity Purpose

Gather insights into locations where there may be potential land or facilities for renewable energy generation or associated infrastructure.

Input Instructions

Step 1: Review map of the renewable energy zone, including areas of agricultural land and existing infrastructure.

Step 2: Consider the following:

- **Location:** proximity to residences, schools, agricultural lands, cultural and historical resources
- **Access**: proximity to emergency evacuation routes and maintenance access
- **Demand:** areas of high energy demand or areas that already host generation infrastructure
- **Existing infrastructure:** proximity to today's power delivery grid infrastructure

Step 3: Add a numbered sticky dot to the map where you would like to provide input. Write your comment in the corresponding table row below.

Comment Number	Comment
1 Zone 6 comment	Use parking lots, Do actual with malls. Don't cover ag land.
2	Kaalaea - Part of Hydro project (Rick Cronn) switching data for the project.
3	
4	
5	

Hawaiian Electric

Zone 6

Renewable Energy Zone Poster Board Comments

Activity Purpose

Gather insights into locations where there may be potential land or facilities for renewable energy generation or associated infrastructure.

Input Instructions

Step 1: Review map of the renewable energy zone, including areas of agricultural land and existing infrastructure.

Step 2: Consider the following:

- **Location:** proximity to residences, schools, agricultural lands, cultural and historical resources
- **Access:** proximity to emergency evacuation routes and maintenance access
- **Demand:** areas of high energy demand or areas that already host generation infrastructure
- **Existing infrastructure:** proximity to today's power delivery grid infrastructure

Step 3: Add a numbered sticky dot to the map where you would like to provide input. Write your comment in the corresponding table row below.

Comment Number	*Comment*
1	Having "potential" in an area that seems extremely not possible (e.g. Temple Valley graves) is misleading and confusing.
2	
3	
4	
5	

zone 6

REZ Public Workshop - Zones 5 and 6
Question & Comment Card

Your name: RICK CRUM

Organization (if any):

Contact number or email address: rickcrum@gmail.com 808 782 5540

Please provide your questions or comments below:

(1) DEFINE A RESILIENCE HUB (I.E. WAIAHOLE SCHOOL) TO ACT AS ENERGY STORAGE (I.E. BATTERIES) PER EACH AHUPUA'A. (2) INSTALL REMOTE ACCESS ISOLATION SWITCHING FOR ISLANDING. DEFINE VARIABLE RADIUS ISOLATION IF ENERGY ALTERNATIVE WARRANTS (IE HYDRO / PV) (3) OFFER RESILIENCY PARTNERSHIPS - HECO PROVIDE DISTRIBUTION & TRANSMISSION; OTHERS PROVIDE GENERATION.

Hawaiian Electric

Hawaiian Electric

REZ Meeting Zone 1 & 4 @ LCC
April 6, 2026

Note	Comment or Question	Name, Affiliation	SME	Hawaiian Electric response
	We could use a logo plaque for lecturn	SAMN		
1	I am pro renewable energy. How will Hawaiian Electric stabilize the grid when we have so much renewable energy? What about power quality?	Marina Thiry (Mililani Resident)		Ken: As we bring in new systems we look at PQ. We proactively upgrade systems to include PQ. Many ways to solve PQ with high RE high penetration. We upgrade conducors, regulate voltage. We add resources at the tansmission level to make it robust and enhance power quality for whole system.
			Hawaiian Electric - Kurt Tsue	Explained transmission and distribution using the freeway to neighborhood street analgy. REZ is the fast freeway level, substations are the offramp, then goes down to highway speed, then neighborhood speed to the homes.
2	Has 28 solar panels. Heco and trades people don't know how to fix/address the ongoing issues in my home. HECO should train trademen on the new technology.	Marina Thiry (Mililani Resident)	Hawaiian Electric - Kurt Tsue	Will talk seperately with her about her pq at neighborhood level.
	When HECO makes improvements to the grid, what preparations are we implementing to be sure we don't have outages like we have just experienced (Kona Low storms). What is HECO doing to make improvements?	Blane Tsugawa		Ken: Hardening our systesm. Pole replacement, replacing overhead and underground power lines. Significant upgrades in transformers and substations. Making it as saf as it can be. One of our biggest investmentis is vegetation management that causes much of the outages like trimming and hazard tree removeal. We are repowering Waiau to make it more resilient and dependable.
3	How much has beeen done to meet the PUC deadline of identifying the 2 zones by June 2026?	Blane Tsugawa	Hawaiian Electric - Kurt Tsue	Hawaiian Electric has been working on this REZ program for years (since 2020). After having discussions with industry experts and conducting multiple community meetings, we have narrowed down the REZ zone selection from 8 to 4. We are in cycle 2 of meetings with the public to decide on 2 zones from the 4. The one zone selected will be a pilot to discover the processes.
				Ken: We worked with consultants and overlayed layers of data. We are at the end of the process by selecting the last 2 REZ areas.
4	Are we using ag land? Who pays for this and how will it changes hawaiis landscape	Makanani Reviera (On Facebook)		Ken: Used NREL to determine the best locations. There are Classes of B&C ag that we can use. There are other areas of ag land called ????? that cannot be considered or used. (This is indicated in our maps.)
			Hawaiian Electric - Kurt Tsue	Our RFPs include community outreach component. Discussions on things that are 5, 10, 15 years from now are important. Projects will be proposed by developers and landowners.
5	I have a concern about reliability. Hawaiian Electric RE maps have a lot of solar. Will there be other options for REZ using wind or battery?	Ethan Weldert (Mililani Resident)		Ken: We did focus on solar and wind. Any solar farm above 5 MW is required to have battery.
			Hawaiian Electric - Kurt Tsue	RE is intermitent enrgy. It can't always be relyed on. We need backup resources during the peak 5-9pm.
6	What type of infrastructure do you have to keep the enurtia, then with RE the tech changes. Need to have things maintained . Include info on performance metrics regarding pq including new renewbles. What criteria will you use, not just voltage rates. Add a pq component in the report.	Marina Thiry (Mililani Resident)		Ken: We will take your comment back with us. On large projects, we have PQ montitors. If we see issues regarading pq, we work with contracor to adjust.
7	Overhead transmission lines degrade property value. And I don't want them in my neighborhood of Mililani. Is it safer to be in central Oahu vs coastal zones?	Marina Thiry (Mililani Resident)	Hawaiian Electric - Kurt Tsue	We don't have predertimend sites, just options at this time. We do consider costal issues. For instance we partnered with Schofield in the middle of the island. The power plant is like a microgrid for the military, hospitals. One of the 4 zones selected is Koolaupoko which has no (alternative?) generation and is a focus forus. They have 3 lines, and need to create a hub for critical services in case somthing happens to those lines coming across the mountain range.
				Ken: We don't consider buidling in coastal flood zones.

8	Does Hawaiian Electric have thoughts on nuclear energy. Have you studied aircraft carriers? Has Hawaiian Electricconsidered neclear energy on smaller scale capacity?	Blane Tsugawa		Kurt: Needs approval from legislature. Colton: I am a neclear enginer. In 1950 & 60's Hawaii looked at nuclear. Due to 3 mile island, public sfety is a concern. Hi State leg passed legislature that prohibits nulear energy in the islands . Requires 2/3 majority to change that. Last year state energy office formed working group to discuss merits of nuclear power and reported back saying no to development but is interested to keep on top of. There is not commercial opportunity. We don't want Hi to be a test ground. .As a state, Colton wants to keep as many options available. Nuclear doesn't emit carbon emissions, greenhouse gasses which is a draw.
9	In our engagement with our state agencies in these 2 zones, was there any discussion of opportunitie for a win-win between housing and RE development?	Todd Taniguchi (Resident)		Ken: There is a taskforce that has been built to look at exacey that... Agriculture, housing and RE. The study is not complete.
			Hawaiian Electric - Kurt Tsue	We consider renewable energy as well as potential ag. Agrovoltaic. It's hard to find farmers who want to have RE on their land. Oahu has land space challenges which limits RE, homes, farms, ag land.
10	Is Hawaiian Electric reaching out to other countries, states that are working towards RE?	Marina Thiry (Mililani Resident)	Hawaiian Electric - Kurt Tsue	We rely on studies and speak to utilities with other island grids about RE including disaster planning. In Hawaii, we are all independent island grids. Underwater cable was proposed many years ago but the communities (all islands) were not in favor.
				Ken: Our utility has the highest percentage of RE. We engage in discussions with CA, Australia, Japan, Korea, all around the world.
11	Does Hawaiian Electric want to reach out to Zukerberg? He hs the finances and motivation to help.	Marina Thiry (Mililani Resident)		no response.
12	Believes vast commuinty supports Hawaiian Electric but reliablility and affordabilty (and pq) are issues.	Ethan Weldert (Mililani Resident)		Mahalo.

Hawaiian Electric

Renewable Energy Zones Meeting
Leeward Community College
April 6, 2026

#	Comment or Question	Name, Affiliation	SME	Hawaiian Electric response
1	System and power quality, how that is built into the planning for these REZ?	Marina Thiry - Mililani resident		**Kurt/Ken:** When we do plan these systems, we do think of power quality. An example is when we do add a lot of DER on the circuit, we do look at those aspects of the system and we proactively upgrade the system so they shouldn't have power quality issues. We upgrade conductors, adding equipment to regulate voltage, those things are taken into account at these lower levels. Power quality at a higher level are also being done. Our transmission level, this is what REZ is looking at. Adding resources at the transmission levels, that have that robust to enhance power quality for the entire system. There is a handout that explains system related issues. Transmission - 138kv, transmission system connects to transmission substation 46kv, then there's the distribution level (neighborhood level) 12kv and below. 3 componets of the system. neighborhood level helps with rooftop solar, sub transmission and transmission levels, backbone of moving to provide power to the entire island. REZ is connecting to the higher level.
2	Power quality, frequency and harmonics at the neighborhood level. What's being done to make sure that people who provide services to neighborhoods, whether it's an employees, contractors, and the utility, that we are aware and know how to respond to the evolving issues that that come along with more renewables on the grid?	Marina Thiry - Mililani resident	Hawaiian Electric - Kurt Tsue	We will make a note and would like to talk seperately to Marina. As we move towards more renewables on the system, at the higest level, making sure as it trickles down to the niehgborhood level that we are incorporating and communicating this in our planning.
3	With the current system, what is being done to the improve reliability with the current grid infastructure that's in place?	Blaine Tsugawa - Waipahu resident	Hawaiian Electric - Kurt Tsue	Hardening our grid is our highest priorty. We're preparing for high wind speed, wildfire mitigation, and the current flooding situation. We know a lot of invemest is to make our grid more resilient. A lot of this is through power line replacements and pole replacements specifcally in Central Oahu. We have a combination of overhead and underground lines so we're currently making big investments replacing exisiting underground lines with new lines, protected in coduients, protecting it from corrosion so that we can pull them out and replace more easily. We are making upgrades to transformers at electrical substations. Making sure the grid is safe and to make it more resilient, hardening the system, doing work in the mountains. One of our biggest investment is in vegetation management. We're removing alibizza trees, in mountain areas, not just trimming but hazard tree removal is being done. We're doing a combination of these things now, paired with this long range planning as we have a lot of generation planned to go offline. We're planning to repower Waiau. We're making it more resilient from a generation standpoint, delivery system, but planning for these new resoruces in the form of renewable energy and other resources. We welcome input from the community, where things should go and what else you would like to see to respect to the energy system.
4	How much work has been done to get to where the PUC has directed the selection of two renewable energy zones by June of this year and how we're going to make it?	Blaine Tsugawa - Waipahu resident		**Kurt:** The work that was done a few years back when we first conversed the concept of REZ. This was an island wide initiative, we tried to reach as much people through our newsletter. All of those results are still posted on our website. We have all the comments from the previous cycle, that data was then used to get to where we are now in selecting 4 zones from 8 zones. Now we're having disuccions to go from 4 zones to 2 zones. Yes, there has been conversations with area elected officials, and this is the community portion. This is a pilot that the PUC is putting into place so that we can learn what processes do we use for other zones. By no means these will not be the only two zones. We have to apply similiar processes in the neighbor island as well. **Ken:** Over the year, we have been working with our consultant that developed these criteria and these layers of data to inform this next step, 4 zones. We need input from our state agency, what specific parcels can be used between the certain zones. we want the community feedback as well.
5	Are we using ag land to bring solar and windmill fields? Who benefits from this? Who pays for the use of the land? How will it affect Hawaii's landscape?	Makanani Rivera (FaceBook)		**Ken:** We did a study with National Laboratory of the Rockies, they looked at land based on different types of criteria to figure out the best land for this development.We worked with our IGP stakeholder working group, looking at what land is available. In the initial pass, the important Ag land (IAL) was excluded, which is shown on the map. Class B & C Ag land were included as potential, not all be used for renewable development. **Kurt:** In relation to the cost component question, it involves an investment from developers and land owners working together in our current procurement (RFP). It has a significant community component, we're trying to get better each time we put a procurement out. We want community input throughout the entire process, we need to have discussion for these things to come in 5-10+ years. If we select these areas, we would like to do more analysis with land owners, potential building projects in a more efficient way. Hawaiian Electric is responsible for the energy system to interconnect those projects to the system.

6	The current zones appears to focus on solar technology, will there be an analysis for other technology, such as wind or battery storage?	Ethan Weldert - Mililani resident		**Ken:** The maps focus on solar, based on solar irradiance attributes. When you look at solar, wind, battery, when you overlay the solar and wind, the solar potential mass the wind potential. The purpose of this is to build the transmission to these certain areas for development. The transmisson itself to connect to these system can be wind, firm, solar,solar + battery resources, put megawatts into the system. it's a function of how much mw can be put into the system. For our large scale procurements, right now any solar farm that is put in, above 5 megawatts. Anything connected to our transmission system is required to have batteries with it. All the solar farms have battery storage, it has an ability to shift. **Kurt:** One of our challenges with renewable energy/solar is what's called intermittent energy. when it's only available during the day, but how do we meet the peak demand in the evenings. When we look at our energy use curve, we see less demand on the system at night. Our challenge is having enough resources and backup generation during the 5-9pm peak to meet demand. We're having to account and plan from an operation and an engineering standpoint to maintain the system with more renewable energy that's integrated.
7	Would we consider building into our performance metrics, making it transparent, measuring our power quality for renewable energy.	Marina Thiry - Mililani resident		**Ken:** We will take your comment back on how to report that. For large projects, we now require power quality monitors so we can measure what's going on in the system/grid connection point. If we do see power quality issues or other issues, it would usually be something against the contract, we would immediately turn them down and we will work with them to resolve the issue before we bring them back online. We try to resolve the issue before managing the risk to the system.
8	More coastal areas for zone considerations. Is it safest to be in central oahu?	Marina Thiry - Mililani resident		**Kurt:** It's a big element that we're looking at in the planning. Regarding the resilience issue, it's great that we have generation in Central Oahu (Schofield) since it's inland, it's a microgrid that can provide emergency power to hospitals, etc. One of the 4 zones that was selected was Koolaupoko that has no generation. That's an area that has been a resilience area of focus for Hawaiian Electric. They are serviced by three transmission lines and the challenges are long duration of outages. We're currently working on critical communtiy hubs. We're looking at generation inland as much as possible. Coastal communities are vulnerables. We're looking at community hubs, harding the system. We're trying to make these areas more resilient, trying to look at generation more inland as much as possible. **Ken:** Regarding sighting issues - looking at flood zones: Our RFP does not allow new development in those areas. That is one of the criteria within the metrics that we're looking at.
9	Proprety value due installation of new infracstruure, specically transmission lines in your neighborhood.	Marina Thiry - Mililani resident	Hawaiian Electric - Kurt Tsue	We take that very seriously, we know there are community concerns with aesthetics of overhead especially when lines are currently underground at the distribution level. There are state laws and policies that we have to follow with installation of new lines. The intent wouldn't be to install them within the neighborhood. This would be in relation where the project would go, making sure it would connect to the transmission substation to connect to higher voltage, not within the neighbod circut but it may be visible.
10	Has Hawaiian Electric considered nuclear energy? Perhaps in a smaller scale capacity for energy planning. Have we done studies on nuclear energy?	Blaine Tsugawa - Waipahu resident		**Kurt:** We would require approval from the legislature to pursue any type of nuclear energy as a form of energy. **Colton**: The state of HI back then, nuclear energy was thought of. Over time, given the small physical size of the island, nuclear power fell out of favor. High development costs, risk, public safety concerns. The state legsislature passed a law to prohibit the use of nuclear energy for commercial electricty production, that's in place as law today. It requires two-thirds vote of the legislature to change that. Last year at leg session, there was a resolution, there was a nuclear working group that was created to talk about and explore nuclear power. It concluded and reported back to the legislature, lot of new development in nuclear power, big to small to modular designs (SMR). There is a lot of interest and investment in these technology, however it's still a new technology, there is no small modular reactor today, we don't want hawaii to be the testing ground for this technology. We should keep monitoring it. As a state, we need to keep as many options open as possible, having secure reliable, resilient energy is hard and it will get harder to meet along with the state policies. There's a lot of concerns about nuclear power over the last couple decades however nuclear power emits no green house gases.
11	Small Modular Reactors (SMR)	Blaine Tsugawa - Waipahu resident	Hawaiian Electric - Colton Ching	There are a lot of companies that are trying to develop the technology to make a commercial product. There are many competing companies with different technology to do that but there is no SMR in commercial operations today. There's some testing being done, lab testing, small. It's usually small megawatts, 20 megawatts up to 100 megawatts, not commercial size.
12	In our engagement with the state agencies, in these particular two zones, was there any identifications of opportunities win-win between housing and renewable energy development?	Todd Taniguchi		**Ken:** In these state agency meetings, they were directed to work with us to develop these REZ. We never got to a project location. Out of that discussion, there is a task force that was created to do a study to look at conflicts between specific ag housing renewable development. The study has commenced, we don't think it's at complete, it's being looked at, at the broader level. **Kurt:** There were suggestions on concepts, like agrovoltaics using parcels to have both RE and ag, some of the department of ag feedback, challengings to find farmers that are willing to go grow crops that are feasible in a solar panel settings. The intent is there and wanting to have multi prioities for land use. With this study, Oahu faces some challenges ahead due to land. Unlike the Big Island, they have more land to build on. We have a lot of conservation land, there is also housing and ag go... how do we sustain that. Having diaglog with comm and land owners, where are the opportunities to build more renewable energy. we would like to find more multiuse land.

13	Is Hawaiian Electric reaching out to different countries, states or other utilities that are facing the same issues regarding Renewable energy solutions.	Marina Thiry - Mililani resident		**Kurt:** We rely on a lot of studies and have had conversations with other utilities. Not having other grids or systems to rely on, our islands are unique. We are all independent grids, and not connected. A cable was proposed,but the comm did not want it. **Ken** - Yes, our ulitity with the high penetration of renewables, we do a lot of engagement with other utilities such as California, Australia, Japan, Korea. We have a lot of dicussions from around the world.
14	Comment: Maybe Hawaii can reach out to Zukerburg and ask for help for this situation, he has the finances, motivation to help.	Marina Thiry - Mililani resident		
14	Comment: The vast majority agrees with you and supports Hawaiian Electric. The main concern is the form of reliability and quality of power. If your electric bill is getting higher but the power keeps going out, we don't care where the energy is coming from. Whatever method works, we support.	Ethan Weldert - Mililani resident		

Windward Public Meeting on Hawaiian Electric Renewable Energy Zones Initiative
April 14, 2026

Comment or Question	Name, Affiliation	SME	Hawaiian Electric response
Wondering if the Ppt will be available online	Male audiencemember	Hawaiian Electric - Ken Aramaki	Yes. We'll put it online. Believe it will be available on youtube.
What zone are we?	Female audience member	Hawaiian Electric - Kurt Tsue	You are zone 5 and 6. We can show this manually and the website will show specific areas on the map. Zone 6 is the Koolaupoko area (includes portions of Olomana) and has solar resource potential. The other area is a funny shape because it shows where our substations are. Ken's team looked at how that energy potential could tie into the system. Zone 5 includes a portion of the Moanalua area and a portion of Koolauloa to Hauula. A few years back we did presentations to the NHB on the study results but we are still early in the engagement process. We are interested in hearing from the community.
Does solar mean rooftop solar or like the solar field in Kapolei? My understand with solar, if you got solar years back and you want a battery, you need new panels to connect to the battery.	Female audience member	Hawaiian Electric - Kurt Tsue	There was a study done to show how much rooftop would be required and it determined it wouldn't be enough to meet demand. We'd need to supplement with utility scale solar and battery technology is useful. My understanding is if you have existing panels, you can connect it to a battery.
Can you access the map from the main site?	Male audience member	Hawaiian Electric - Kurt Tsue	Yes. Can do it through the QR code or main website.
Is a teacher here at WCC. We have solar on top of the parking lots and Johnson Controls built it and they get some of the money back and have to pay Johnson Controls back. Not sure why they have to pay JC. When you talk about rooftop solar, it can go on homes but how can condos benefit from the solar revolution?	Male audience member	Hawaiian Electric - Kurt Tsue	In response to the first question: it sounds like a lease agreement. In response to the second question: an option is a Community Based Renewable Energy program called Shared Solar where those in condos can access solar through those projects and get credits.
You showed 118K customers with rooftop solar with 5.9 kW on average. Checking the math. Assuming 260K residential families in single family homes. If everyone home has rooftop solar (at least 12 kW) you'd meet 60% of the required generationt and then you need 20GW of battery. What are your plans to achieve that? Why don't you just have programs where each home can have 12 kW and then you can have 60% of your daily usage? Civil Beat shared a story that Molokai had community solar but they weren't saving money (maybe 4% on the bill). Through that program you charge more for the cost of transmission. Seems like it would be better to promote residential solar. Energy equity should be reducing a bill by 80% in order to achieve 100% clean energy. You need to have maybe 40 GW of of battery. He is doing a study on the economics of CBRE vs. microgrid. Wants time-of-use back.	John	Hawaiian Electric - Colton Ching	John is interested in how we can make the most use of smaller distributed solar. We aren't going to get to 100% with only large solar farms (we'll run out of land). We aren't going to get to 100% with individual distributed solar. We need a combination and need long-term plans. Our state has a statute that requires the entire state to have 0 net carbon emissions. There is a limit on how much we emit. We have to significantly reduce carbon emissions and so many industries are going to reduce their emissions by switching from gas to electricity. We anticipate that electricity usage will grow significantly (Kauai study came to the same conclusion). Therefore, we are going to need more clean renewable generation to meet that carbon neutral demand. When we factor that in, it stresses the point that we can't do it with just one type. About 50% of single-family homes owned have solar. But we don't have as much with single-family home rentals. One way to make it efficient and cost-effective is to plan it all together instead of doing one-offs, and purposefully develop the infrastructure together with that renewable energy generation.
Shared the reduction of oil imported into the state isn't going to save money.	Male audience member.		John replied saying it will lower bills for low-income families.

Remind fellow citizens that we live on a 600 square mile island. I've already given HECO a 28 page document that we've procured at our expense on what this means for us. My wife is in her 70s and I'm 91. My cognitive function still works. We are taro farmers in Koolualoa. We don't need a passport to go to Koolaupoko. They've separated us into "zones." Two questions that came to my mind: 1. We're on the planning trajectory when Gov. Ige made the shift to clean energy by 2025. What is the per kW hour going to be in 2045 after we've made the transition from fossil fuel to clean energy? There is no disclosure about the cost. I'm looking at this from the standpoint of intergenerational equity. We know that when it comes to determination from Hawaiian Electric on what the rate should be, it will have to go to the PUC. Ex: If you read Civil Beat on the Waiau Power Plant. When that matter went to the PUC, HECO wanted $1.15B. The PUC said no and approved $847M. Is that what will happen in 2045? 2. The study was done by Piere ? who is connected to private companies (Kirsten Turner (community member) shared that NREL is a gov agency not a private company). What we need to do is figure out a process that is smaller where we can engage in discussions with each other and we can reason and talk together. Don't think we can reason and understand each other thorugh this process. Recommend you think about that and take proactive steps. One step is to make representations to the CEO of Hawaiian Electric. We need a different type of format in a way that will lead to more disclosure than what we are getting now. The only way we can own the discussion is if we are able to pull the information in a way we can deal with. I appreciate that you have been open to discussions with me.	Dr. Jim Anthony	Hawaiian Electric - Kurt Tsue	You have our commitment that we will file your report as a public comment. We are happy to engage with the community at a smaller level and are engaging with the NHBs. Recommend review the Hawaii Powered website to review the technical information that Dr. Anthony is talking about. All the comments will be documented and filed.
Joke: noticed Diamond Head has all the money but they don't have a zone. I know we need to move toward this and know it won't be equitable in the future. Know there are fail points when the residential solar panels expire in 20 years and fail. Suggest we proof out whatever we plan to do before we do it. Ex: Northshore windmill blades sends a percussion sound - can't imagine living out there. In the past, we got all our electricity from HECO (from one source). Now you are introducing all these sources from individual customers. Got a quote for PV and it would be $60K and my monthly bills are $300/month. The price needs to come down so normal people can afford it. Problem is everyone wants a piece of the pie. Solar contractors are trying to make money and HECO is trying to make money. Just want to make sure a maintenance schedule is considered.	Mike from Kaneohe		
Are there data centers coming that will be eating a lot of energy as we've heard on the continent?		Hawaiian Electric - Ken Aramaki	There are data centers on the island (think he said for cable companies?). Data centers like what is on the continent doesn't exist but if it comes we will talk through ways to ensure it doesn't affect ratepayers negatively.
Wind veins might be a good source for smaller DG locations, or small scale nuclear batteries. Do we have those kind of discussions and can we bring it to consideration. A lot of the locations on the map are shady areas that won't be good for solar. What other RE options are available? Can we have discussions on that so the communities can build their own power systems? We were told that we only have 2 power lines here and if we are cut off, we are done. Can we have generation here so we can sustain ourselves during a storm?	Male audience member	Hawaiian Electric - Colton Ching	Rooftop solar system program is not limited to solar technology but solar has been the dominant type. Any one of our customers can request to interconnect a small wind turbine (wind vein). Generally, people chose solar because it is easier to fit within an existing structure and PV panels have been cost efficient. Small wind hasn't advanced as quickly so is not as competitive in terms of price but it's an option. Hydro-electric takes water flowing from a river. We do have a number of hydro-power plants on Hawaii Island when the water is flowing. We've done studies here and looked at BWS for natural as well as man-made options. The challenge is cost. Hydro has not been ask competitive as solar but doesn't mean it doesn't have a role. I studied nuclear and it can be done safely but it has challenges associate with it. One of the challenges is to do a nuclear plant, you have to do it really big. Small, modular nuclear reactors is a new technology. There is no commercially operational small nuclear reactor. Holds promise but is not there yet. The state discussed looking at nuclear again as potential option but because of the many risks associated with nuclear, we want to let other test it first and assume those risks. There is also a prohibition in the state on nuclear transmission. If someone were to develop it, the State Leg would need to overturn that law. Batteries store the electricity and you can control it's discharge. Sand is a form of thermal storage. The conversion of electricity to heat and the extraction of that heat back into electricity is not efficient. A lot of research is being done on that.

Question about the 2025 wheeling law and how you foresee that impacting your REZ planning and affecting kW pricing. Understand that the law has to go into effect in 2027. Is that taken into account because many neighbors may want to wheel to their neighbors? Are you taking into account those smaller facilities? It may have a positive effect on pricing or will it have a negative affect due to distribution costs?	Kirsten Turner from Kailua	Hawaiian Electric - Ken Aramaki	That is a new program that is in the process of being conceived and developed. Allows entities to generate energy and then transfer it to an entity associated with it. It was put into law to start this process. The rate payer impact is in the conversation and something we want to protect. Leg focused on the development of a wheeling program generally on smaller systems. They would typically be connected at a lower voltage line. This doesn't eliminate the need for larger systems as we work toward our state goals. There is nothing that prevents in the future, a RE zone from giving back to another part of the island so it can be a benefit.
Question about who bears the price of the RE systems.	Dr. Jim Anthony	Hawaiian Electric - Colton Ching	The RE plants are owned by a third party and we have a contract with them. Developers bear the risk in terms of the project working or not working. They are responsible for providing the energy and are also responsible for removing the project at the end of the project. It is not something HE bears the risk on. There is no simple answer for technology aboslescence. We can't predict if there will be more efficient technologies in the future. We need to balance that unknown with our current needs. Do we wait for technology to get better? We have to balance the tradeoffs. We still need to fulfill our obligation to serve our customers. Part of Gov Ige's Hawaii Clean Energy Initiative includes milestones. We are obligated by statute to meet those RE percentages.
Thanked HECO for the meeting. Believe we need to have open discussions (agreed with Dr. Anthony's comments). There are a lot of people who should be here but aren't. Agree with the comment that Hawaii Kai is not on the map. What are the real affects of the solar farms and wind farms? If those toxins leak into the land, that land becomes dead and can't be farmed. Land is pressing for food and homes. A lot of these things are going to factor into other aspects of our life. He had the priveledge to put up the wind turbines on the North Shore and all the equipment to put it up was diesel fueled. Also, these are all flood areas. If it is detrimental to the land, why would we want to sacrifice that land? We have solar and wind and my electric bill has gone up. Where is the pros and we need to see the cons. We need full disclosure because this is a permanent thing. I'd like there to be more engagement with the community. Once that land is gone, you can't get it back. This is going to impact a lot of things, not just price.	Art - from Hauula	Hawaiian Electric - Kurt Tsue	You bring up a good point about land use. That is something the state is studying. Oahu has unique circumstances because of the population density and the demand for energy here being high. EV use might go up and the energy use might be higher. Another scenario shows energy use scaling back. In terms of pros/cons, we are hoping to replace generation that is aging out and the use of PPAs, involved buying power at a cost that doesn't change. That means it would stabilize cost. But you are right that there is no silver bullet or perfect solution. Every technology has pros and cons and we need to start thinking about what we want for our communities, ourselves, and future generation. Resilience is a big part of that. We are seeing more Kona lows and want to build that into our plans. Both Koolauloa and Koolaupoko are susceptible to that. We've been in discussions on resiliency hubs. Looking at if we can island off certain parts of the system that can serve as a bridge during emergencies. This is the beginning of more discussions to come. If you'd like us to attend NHB presentations, we'd be happy to do that.
Has 48 panels and has NEM and TESLA battery. Noticed my panels are producing 40%. Every 3 years I have to clean the panels. Found out that cleaning increased production by 50%. Are you going to provide contractors discounts for cleaning services so customers can get their production efficiency back?	Male audience members (Ricky exchanged contact info with him)	Hawaiian Electric - Kurt Tsue	We'll take that back. We don't have a program like that for rooftop solar. Maintenance is typically the homeowner's responsibility.
Even now, we can't keep up with generation needs -- have already have generation short falls leading to outages (we need to keep the backup generators). Not interested in nuclear (think of Fukushima). How are you going to prevent rolling blackouts. All these houses have lithium batteries… are you are going to get rid of those? How many of the Lahaina fires were due to the batteries? And what is the contamination to the soil and ocean? When they are telling us this is the future, think there is a lot of fail points to work out.	Male audience member		

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Zone 5 - 6 REZ Meeting
April 14, 2026

Comment or Question	Name, Affiliation	SME	Hawaiian Electric response
Is the Powerpoint available online?	**Resident 1**	Hawaiian Electric - Ken Aramaki	Yes. Handouts are available online and streamed on youtube and facebook.
What zone are we?	**Resident 2**	Hawaiian Electric - Kurt Tsue	5 and 6 - 6 is Koolaupoko area. 5 is Koolau through Haaula. (Determined by study that looked at potential and mapped connections to existing infrastructure. Substations etc.)
What is the definition of solar ? (rooftop solar or large plots of land?)	**Resident 3**	Hawaiian Electric - Kurt Tsue	Larger projects. Study shows scale of rooftop capacity but it does not meet required demand.
If you have old solar systems, in order to use batteries, you need new pannels?	**Resident 3**	Hawaiian Electric - Kurt Tsue	Not to our understanding. You can connect batteries to existing pannels.
Solar on parking lot. Jonson control gets a cut of the energy produced. (comment) Would like rooftop solar but lives in condo. How can we benefit from the solar revolution?	**Resident 4 (teacher at WCC)**	Hawaiian Electric - Kurt Tsue	System may be owned by Johnson Controls and may be leased. CBRE - program such as shared solar, customers can subscribe to the project and receive bill credits. Trying to expand the programs.
Slide claims 15.4 KW per home. 260,000 residental homes. 12 kw per home, if everyhome has solar, 60% of need can be met. California is at 60% batteries used overnight. Why cant each home generate 12kw and batteries. Wants time of use back. Cost of transmission is high. Why not just localize and allow everyone everyone to generate their own? How can we achieve that today?	**Resident 5 (John)**	Hawaiian Electric - Colton Ching	How can we make the most use of solar. We are not getting to 100% just from solar. Not going to get just on distributed systems alone. Needs to be figured out now. Economy needs to be at a net 0. need to absorb carbon made and offset. Everything needs to be addressed including transprtation, things we do at home etc. Vehicles and all. Electrical use will RISE and grow significantly. state study and internal study both say the infrastructure, the grid will need to be increased. We need to address the future use. single family homes at 50% but not rentals. condos, townhomes, we need to address all usage. cost effective way to address needs to be planned. cost effective and purpously design the grid for that future. REZ supports the system but other avenues need to be addressed.
Who are you (Colton)	**DR. Anthony**	Hawaiian Electric - Colton Ching	SR VP of planning and distribution
Wanted to address the room. Remind everyone 600sq mile island. Provided a doc regarding what this means to us. Wife and He are farmers. 2015 announced shift to renewable in 2045 - Q1 what is the per KWH going to be in 2045 after we make the transition to a net zero society? (reson he asks is intergenerational impact) no answer from HECO. Rates are determined by the PUC. Waiau powerplant - 1.2 Billion dollars. PUC says no 98X million from rate payers. Q2 Is this technology in the report how much is it going to be in existance? will it be obsolete in 2045? (Wants discussion and a different format)	**DR. Anthony**	Hawaiian Electric - Kurt Tsue	Commited to file report provided and documented as his feedback. Working within NHB and smaller groups. Engaging the community. Website has a lot of information regarding the technology and other information.
Diamondhead doesn't get its share (of REZ) (joke) lots of failpoints. Maintinence of private ownership. Wants things proofed out before we do anything. North Shore windmills are impactful to nearby residents. In the past we used single sources and now we are doing all these smaller things, Solar is expensive. No EV. in 25 years you need to replace them. Cost needs to come down or we all cant do it.	**Mike**		
Are data centers coming? Lots of energy consumption. Are they here?	**Resident 6**		We do have some on island. No hyperscalers yet. Discussion on if they will be able to come here. Still studying impacts.
likes distributed. Improving and technology is improving. Windveins, hydro power. Can we do that on smaller scale levels? Small scale nuclear reactors. Are we having those discussions and weighing those options? HECO is the authority. Can we provide guidance? can we have something on the windward side? storage on the windward side?	**Adrial**	Hawaiian Electric - Colton Ching	Rooftop program is not limited to solar. Can utilize other forms of generation. Can request interconnection from any form of generation. Solar has just become the standard due to its cost. 2) hydroelectric generation - BI has powerplants that utilize hydropower due to the constant flow of water. studies have been done and work with BoWS and the tech is there but challenge is cost. cost per KW is not competitive with solar. Nuclear power (Colton studdied) can be done safely, but there are challenges. SMR is new tech. no scale testing yet but is promising. monitoring the tech but we are waiting and observing others as they are being introduced. Batteries only store energy. termal storage being studdied. if efficient it can be low cost option, but conversion currently is not efficient. lots of studies being done. (Nuclier is currently restricted in Hawaii)
2025 wheeling law and its impact on planning.	**Kirsten from Kailua**		Wheeling in its infancy - no rules or guidelines yet. Generators being allowed to utilize our infrastructure to transmit energy. Meetings with working groups currently. Worry of equity of costs.

Tech obsolecense. Who bears the price?	**DR. Anthony**		Vast majority of the cost is owned by IPP and residential customers. Long term contract so risk is held by producers. They are obligated to provide energy along with removal and disposal of generation. HECO customers do not bear any risk. OVERALL obsolecense of equipment needs to be balanced. trade offs need to be weighed in a mindful equitable way. we try to anticipate, but need to seve our customers. We have to be at 75% renewables by 2045.
Wheeling follow up. Is wheeling being taken into account with our REZ plans? How are we taking that into account and will this impact pricing? (What is required to accommodate this wheeling)	**Kirsten from Kailua**	Hawaiian Electric - Colton Ching	Wheeling restricted to smaller systems. Typically be connected to different voltage levels and hopefully it can help us balance with smaller systems. Transmission being developed
Open discussion is necessary. These are permanent things. Comments are why not in HK and what are the real effects of the solar farms? Natural Disasters and chemical leaks into land, it causes lasting effects. Land is valuable. Will factor into other aspects of our lives. Kahuku maintinence all utilize fossil fiuels. if detremental to land, why should we sacrifice ag land. long lasting effects. Cost keeps going up. What are the cons? We want more disclosure and discussion. EV cant make it with flooding . is it practical? Hope we are looking at impacts and not just price.	**Garth Haaula**	Hawaiian Electric - Kurt Tsue	State is pursuing studies. Oahu is unique. Looking at scenarios and usage in all cases. There are trade offs. Hope is to stabalize costs. Long term cost has to be met contractually. There is no silver bullet. Each tech is being studdied. What do we want things to look like and it is big decissions. Resillience is a large part of that and it has to be built into our solutions. Critical Central Hubs to try and address vulnerabilities. This is the beginning of conversations. Many more to come.
Every 3 years pannels need to be cleaned. Is pannel cleaning discount an option? Maintinance is expensive. Are we or can we incentivise things like cleaning to ensure efficiency.	**Warren**		We will consider the comment. Efficiency helps us and we will review comment.
Directions are given but we cannot give up on firm generation. (not for nuke) Japan is a cautionary tale. How are we going to prevent blackouts? HAZMAT - batteries on residentail homes. How are we going to manage disposal? Solar fires contaminated the land. Maui is testing water and chemicals are being found in water.	**Mike**		

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REZ Meetings - Online Questions / Comments

Date / Meeting	Comment or Question
REZ 1,4 (April 4)	Are we using Ag land to build solar and windmill fields? Who pays for the use of the land? How will it affect Hawaii's landscape?
REZ 5, 6 (April 14)	Both wind farms feeding into Wahiawa substation will be decommissioned in 2031 (at the end of their 20-yrs) so it makes no sense to build a transmission line way out there. It takes years to build a transmission line. Now that we know the health impacts to humans up to 6 miles away, there won't be another wind farm on Oahu. And the bigger ocean turbines will need to be even farther - 15 miles away from residents to be able to stay long term. Please stop wasting time and ratepayer money - focus on durable solutions

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Integrated Grid Plan Community Working Group

June 16, 2026

Hawaiian Electric

Agenda

1. Customer Energy Resources
2. Hawaii Energy Update
3. REZ Update
4. IGP Inputs & Assumptions Engagement Opportunity
5. CWG Schedule
6. Q&A

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Customer Energy Resources Discussion
IGP Community Working Group Meeting

Bryant Komo, Director
Kaiulani Shinsato, Director
Customer Energy Resources

Discussion Topics

- Customer Energy Resources (CER) Overview & Evolution
- Community Based Renewable Energy (CBRE) Phase 3: Utility-Resourced Model

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CER Overview & Evolution

Customer Energy Resources

A customer energy resource is any resource located at a customer site that can be used as a resource by either the customer or the utility, but ideally both.

CER's Mission & Vision

Mission

Provide exceptional service in helping every customer participate in Customer Energy Resources (CER) in a way that is safe and sustainable for all customers

Vision

Every customer is a CER customer

What is an interconnection?

Official definition: The physical connection of any Distributed Generating Facility to the Distribution System, including the facilities required to provide electric distribution service to a Customer, using electric wires, switches, and related equipment located on either side of the point of common coupling as appropriate to their purpose and design to allow the physical connection of the Distributed Generating Facility to the Distribution System.

In layman's terms: All of the physical components needed to connect a DER system to the grid.

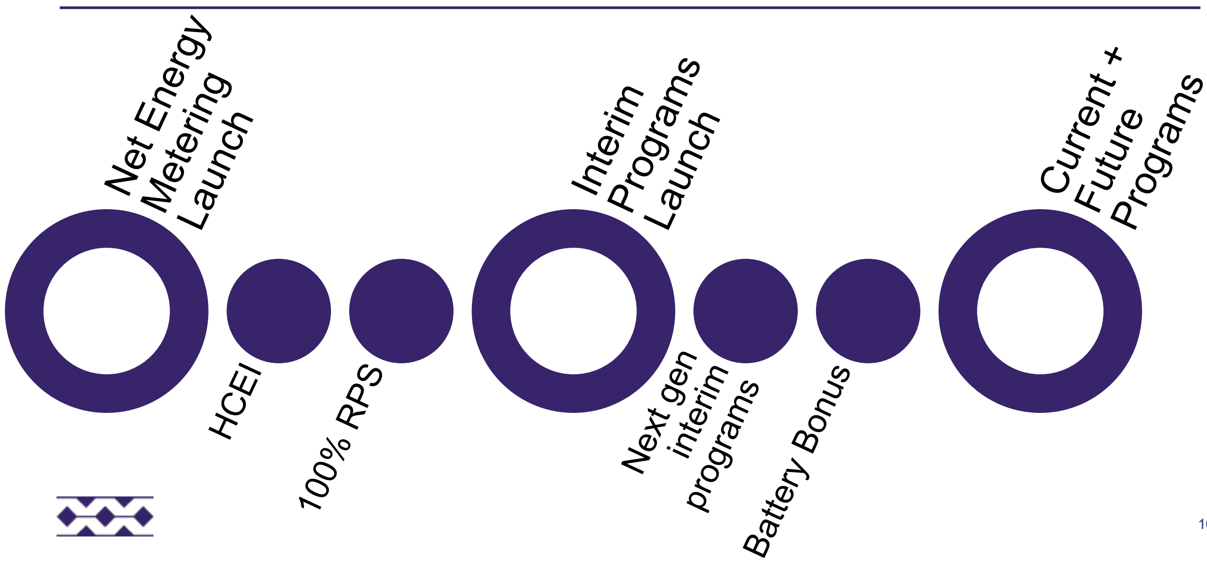
The need for interconnection standards

Interconnections to the grid must be made maintaining safety and reliability.

Standards for interconnections enable consistent application of best practices.

Hawaiian Electric's interconnection standard is tariff Rule 14H.

A brief history of interconnections



A brief history of Hawaiian Electric processing interconnections

Pre-2005

- Legacy processes and databases

2014

- Massive overhaul – integration challenges, transparency, application backlog

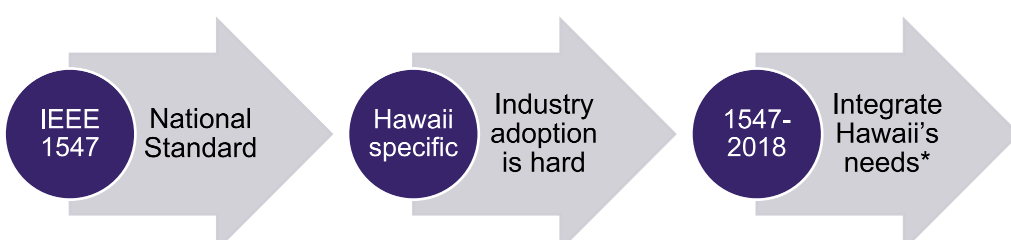
2017

- Online processing via Customer Interconnection Tool
- Consolidate processing across all service territories

The Future

- Database consolidation
- Backend system integration

Key technical policy evolution



The future

- How do we streamline interconnection and grid services?
- How do we make grid service enrollment as easy as possible?
- How do we bolster telecommunication to CER?
- How much cost-effective CER is left out there?
- How quickly can we acquire that CER?
- How do we enable equitable access to CER?
- How do we overcome new technical challenges?
- How do community solar and wheeling fit into CER?

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CBRE Phase 3: Utility-Resourced Model

Introduction and History

- Community Based Renewable Energy: Third Party builds and subscribes customers.
- Legislation passed in 2015
- Started procurement for CBRE Phase 1 in 2018
- Phase 2 procurement started in 2020
- Phase 1 has 6 projects
- Phase 2 has 3 projects
- Only 4.3 MW of 235 program cap filled

Why Did We File CBRE Phase 3?

- CER already completed extensive lessons learned from CBRE Phases 1 & 2
- Commission's "2024 Inclinations on the Future of Energy in Hawaii"

Commission's Inclinations

Community Based Renewable Energy (CBRE) is a program that has not lived up to its core objective of saving money for ratepayers who don't control their own rooftops. The current Phase 2 has attracted only a fraction of the 235 MW program cap, and nearly all the developers working on projects have struggled mightily to meet the program's complex requirements and schedules. The Commission intends to study whether CBRE should be restructured to replace Subscriber Organizations with utility managed, on-bill customer enrollment; simplify developer engagement subject to standard interconnection review/tariffs; establish a flat rate for exported power at the time of generation and a modestly higher flat rate for exported power from dispatchable BESS controlled by Hawaiian Electric; focus on lower income communities and allow ratepayers who qualify for the federal Low Income Home Energy Assistance Program (LIHEAP) to automatically qualify for the new CBRE; and seek to guarantee a bill discount of at least 10 percent for CBRE participation.[4]

Key Benefits – Utility-Resourced CBRE

- Expanded access for LMI customers
- Simplified enrollment, billing, and grid integration
- Faster execution with fewer external dependencies
- Enhanced customer satisfaction and retention
- In later phases, opportunity to increase RPS

Pilot Proposal Framework

Utility will own, produce, meter and bill customers for use of renewable energy created

Project Sources

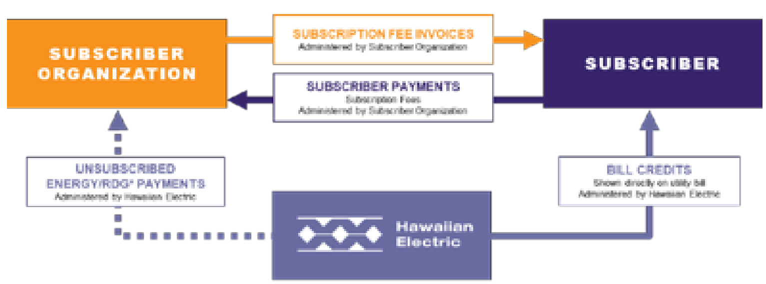
- Phase 3.1: Current solar available (Program size: 1-2MW)
- Phase 3.2: Currently installed but needs equipment replacement (Program size: 1MW)
- Phase 3.3: Partner with government agencies and non-profits for new, cost-effective projects

Targeting meaningful bill savings >10%

Preliminary financial analysis shows minimal impact to non-participating customers

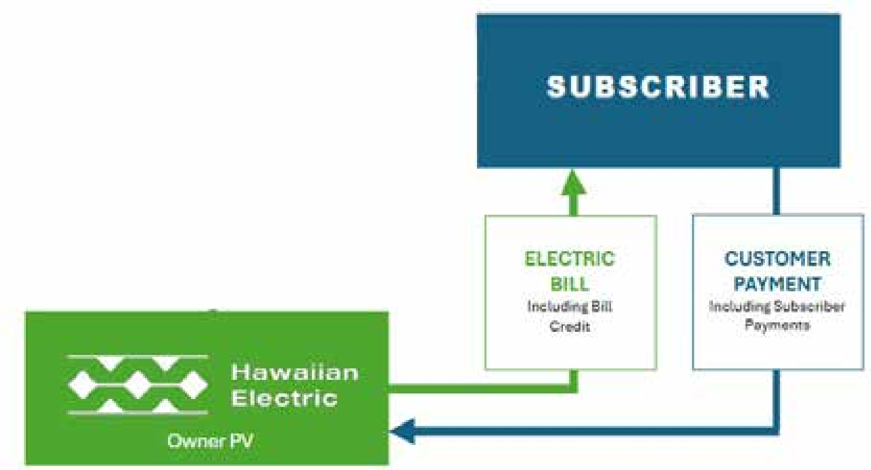
Phases 1 & 2: Dual Billing

- Utility applies bill credits
- Subscriber Organization (SO) sends a separate invoice for subscription fee
- Pros: Market emphasis
- Cons: Confusing and complicated for subscribers and SOs



*Unsubscribed Energy – All energy delivered by Subscriber Organization to Company that is not associated with or accounted for by Subscriptions to Subscribers.
*Unsubscribed RDG – CBRE Phase 2 Facility Contract Capacity availability that is not associated with any Subscriber subscription.

Phase 3: One Bill



Dismissal Order Overview

- May 21, 2026 – Order 42566
- Dismisses, without prejudice, the Companies' proposed Phase 3 Framework
- Includes multiple questions about the proposal
- Finds Phase 3 Framework is undeveloped and not ripe for Commission analysis
- Prefers to address a developed and robust proposal that is supported by the Company's prior eight years administering CBRE Phases 1 and 2

What's Next?

- Hawaiian Electric Phase 3 Application
- Requirements gathering
- Implementation
  - CBRE Portal Updates
  - Updates to billing system
  - Process development

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Mahalo!

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Mireya Norman
Deputy Director, Hawaii Energy

REZ Update

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REZ Overview

- Governor EO and PUC Inclinations – 100% Renewable by 2045
- PUC requires selection of 2 REZ to begin execution by Q2 2026
- Technical evaluation and community feedback

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REZ Update

- Filing a full report with the PUC by end of June 2026
- Prioritized zones: 1 & 6
- Next steps:
  - Ongoing coordination with state agencies and private landowners on land availability
  - Advancing conceptual design, preparing developer procurement packages, coordinating project timing with environmental review, regulatory approvals, and capital planning requirements
  - Continuing to engage and communicate with communities

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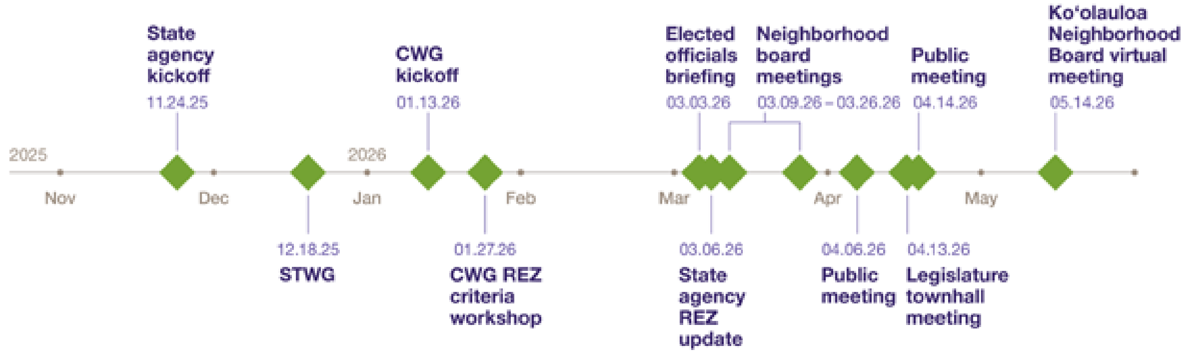
Stakeholder Engagement Timeline



Key Takeaways

State Agencies / Legislators
- Limited available state lands identified
- Limited actionable feedback received on REZ
- Focus on limiting impacts to agricultural lands

Stakeholder Technical Working Group (STWG)
- Provided input on the data used in the technical evaluation
- Wide range of feedback based on competing interests

Community Working Group (CWG)
- Provided input on weighing criteria
- Focused on environmental impacts, equity, and climate resiliency

Public meetings
- Expressed concerns on impacts in REZ 5
- Needed to understand why Hawaiian Electric is pursuing REZ
- Affordability, reliability, land use were focus areas

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Prioritization Process

Primary evaluation of eight REZ

Multi-criteria analysis to prioritize four REZ

Public engagement to identify potential REZ development & gather additional community input

We are here

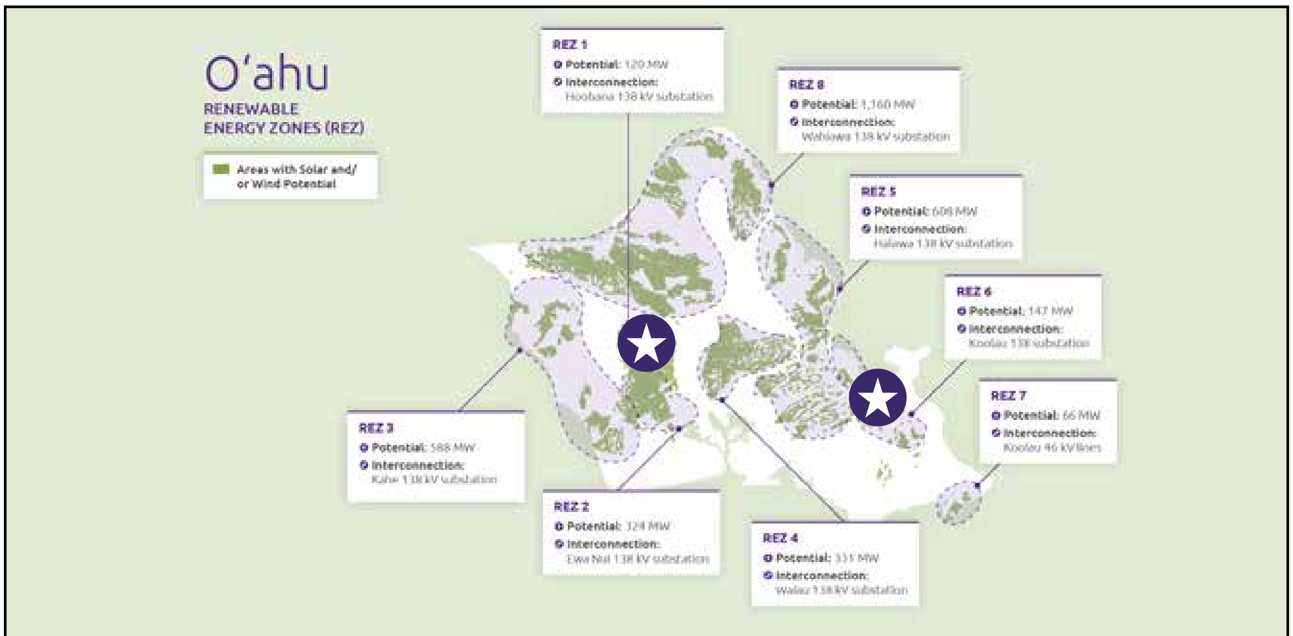
Down-selection of two candidate REZ by Q2

CWG Survey Results: Priority Weighting

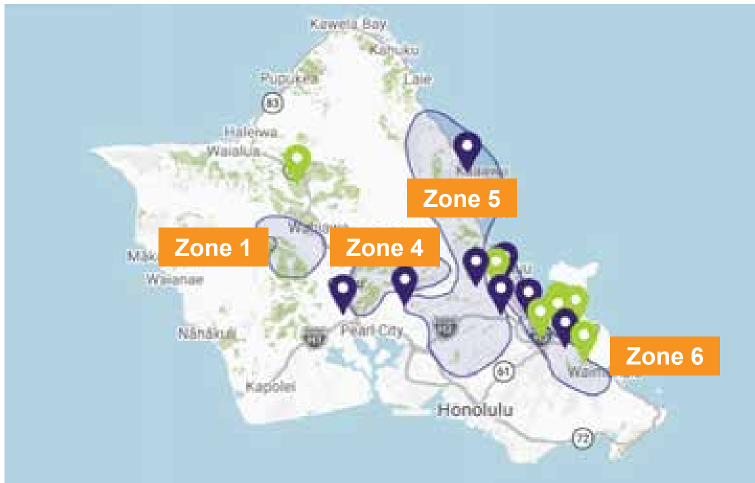
29%	38%	33%
Cost Effectiveness and Efficiency	**Equity and Environment**	**Resiliency and Climate**
Which locations provide the best value for money? (i.e., lowest cost per MW output, quickest build, available land)	Which locations are most equitable for the community? Do any locations pose challenges due to the environment?	Which locations are likely to have low climate impacts / high resiliency? Where can we built to mitigate risks to infrastructure?

Results – Top 4 REZ

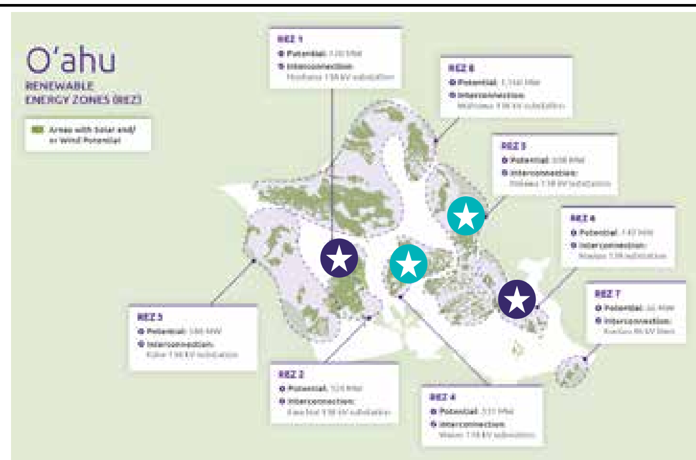
Rank	Weights, First Project	Weights, Avg. Group	100% Cost Efficiency and Effectiveness, First Project	100% Equity and Environment, First Project	100% Resiliency and Climate, First Project
#1	REZ 6	REZ 6	REZ 7	REZ 1	REZ 6
#2	REZ 1	REZ 1	REZ 6	REZ 6	REZ 4
#3	REZ 5	REZ 5	REZ 1	REZ 3	REZ 5
#4	REZ 4	REZ 4	REZ 4	REZ 5	REZ 1



Online REZ Map as of June 9



Recommended REZ



- Prioritize
  - REZ 1 (120 MW)
  - REZ 6 (147 MW)
- Deferred
  - REZ 4 (331 MW)
  - REZ 5 (608 MW)
- Outcome
  - Focus on near-term execution and proof of concept (lower cost/risk)
  - Begin planning to scale for future routing/siting needs
    - Consider beginning REZ 8 or REZ 3 due to MW potential and schedule


Questions?
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Inputs & Assumptions Engagement and CWG Schedule
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Community Input on Inputs & Assumptions

Look out for an **email** from the IGP team, and forward it to others

We're asking community members to take a brief, **5-question survey** about their energy habits to help us plan for our energy future.

This input will be used to **validate or adjust** the inputs and assumptions we're using in our **data modeling process** for IGP.

Help us spread the word!

The more responses we get, the more representative our plan can be. Help us spread the word by:

Look out for an **email** from the IGP team, and forward it to others

Share the opportunity through **your organization's communication channels**

Post the opportunity on **social media** or **community boards**

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Tentative CWG Meeting Schedule 2026

March 10	April 14	June 16	August 4	September 8
• Hui O Hau'ula • REZ criteria selection results • Community Engagement Planning	• Sust'āinable Molokai • Planning Process • Forecasts • PPAs	• REZ Update • Distributed Energy Resources • Hawaii Energy	• Vibrant Hawaii • Sustainable Energy Hawaii • Lāhainā Strong • IGP Grid Needs Methodology, Inputs & Assumptions	• LEI Foundation • IGP Update • Types of Renewable Resources

Tentative CWG Meeting Schedule 2026

October 13	November 10	December 8
• Hawaii's Carbon Capture Storage and Utilization Consortium • IGP Update • Microgrid Capabilities & Energy Wheeling	• Ho'āhu Energy Cooperative Molokai • IGP Update	• Hui Ulu Mea 'Ai • IGP Update • Modeling Process

Questions?

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Mahalo for your time today!

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Integrated Grid Planning
Second Cycle
Stakeholder Technical Working Group

June 25, 2026

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Chatham House Rule

We recognize that AI-generated meeting transcripts can be a helpful tool. At the same time, creating word-for-word records can have unintended consequences, including inhibiting the free flow of ideas or discouraging participants from speaking openly about sensitive topics.

To support productive, candid dialogue in the IGP Working Group meetings, we ask that no recordings or automated transcripts be made.

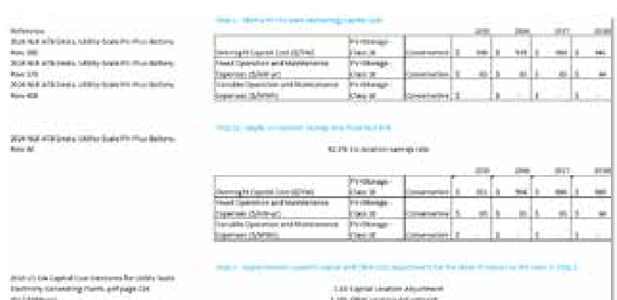
Mahalo for your kōkua.

Agenda

- Interim Updates
  - Resource Costs, GHG Emission Factors
  - Website Updates
- DER Forecast Assumptions Update
- Reassessing Scenarios
- Upcoming Communications
  - 2026 Action Plan
  - REZ Selection Filing
  - Public I&A Survey

Interim Updates

- New Resource Cost Workbook
  - Include calculations from NLR ATB to final resource costs
  - To be posted online this week
- Revised Emission Factors Workbook
  - Will include designation for modeling inputs vs. post-processed reporting
  - Separating combustion-related, lifecycle emissions (biogenic, non-biogenic)
  - Will be submitted with Final I&A



Interim Updates – Websites

HawaiiPowered.com and HawaiianElectric.com IGP Website

- Updating the websites to reflect the Second Cycle
  - Streamlining content to improve accessible
  - Launched updated REZ website with Feedback Map
  - Updating Inputs and Assumptions Dashboard

DER Forecast Assumptions Update

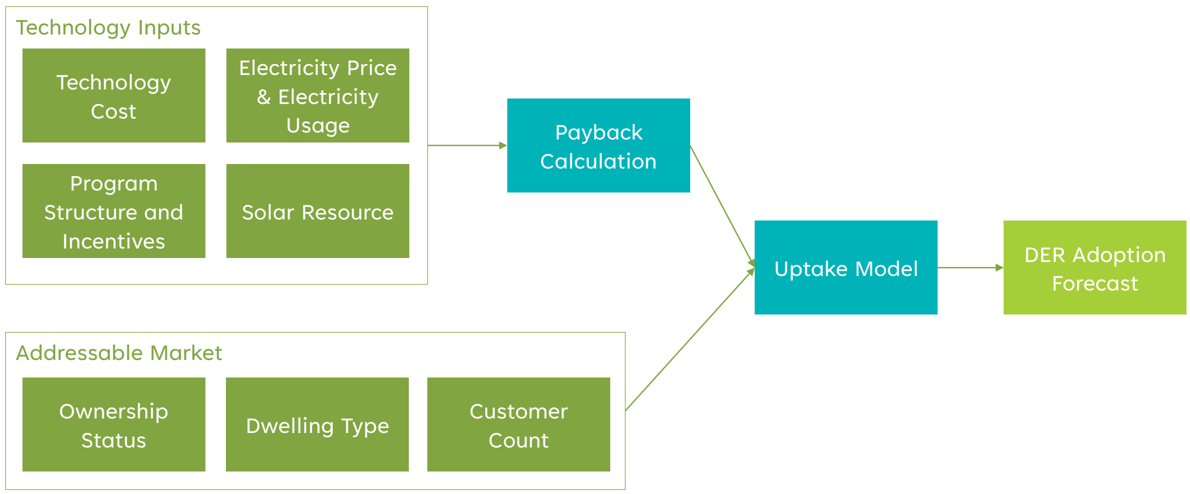
DER Forecast

- Primarily Behind-the-Meter PV and Battery Storage
- Monthly Installed Capacity by Island, Customer Class, and Program
- Energy Generation and BESS Dispatch

DER Forecast Methods

Near-term	Long-term
• Recent pace of installations and incoming applications • Input from program administrators and account managers	• Economic Choice Model

Economic choice model



DER Landscape

April 2024	Launch of SDN and SDE
May 2025	Launch of BYOD+
July 2025	OBBBA Passes
May 2026	Act 24 Signed
June 2026	EO 26-02 Issued
Ongoing	Tariff Impacts, Wheeling, VPP

DER Forecast Assumptions

Update from 1st IGP
Update from Oct 2025 STWG

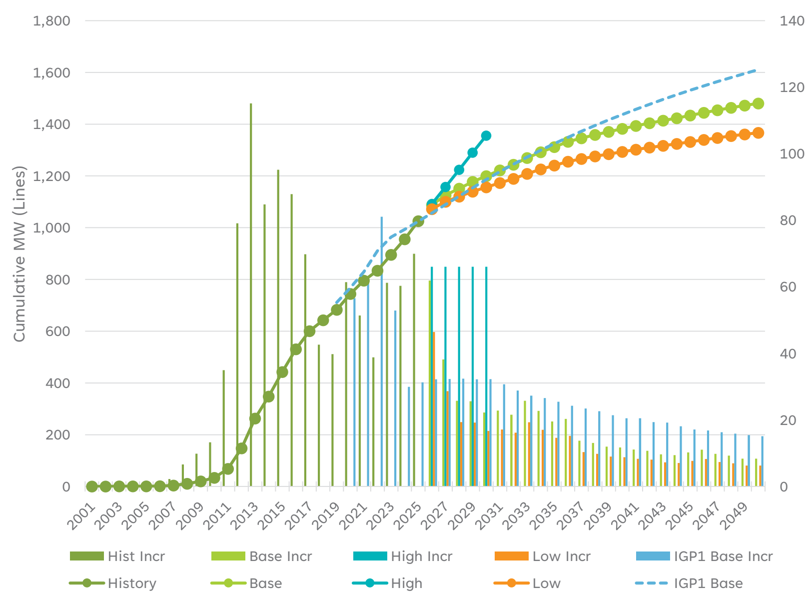
Input	Low Lower uptake scenario 75% of Base	Base Uptake based on Smart DER Tariff with inclusion of certain BYOD riders	High Policy-driven: 400+ MW by 2030 Economic model 2031-forward
Cost Projections		NREL ATB 2024 - Conservative Cost	2031-forward: NREL ATB 2024 Advanced Cost
Federal Tax Credits		None	2031-forward: None
State Tax Credits		Cap and phase out of State ITC based on Act 24 and EO	2031-forward: 35% (Reinstate State ITC)
Program Export Compensation		Smart DER Tariff	2031-forward: Retail
System Size		Based on recent historical	PV based on recent historical, one BESS (due to retail compensation)

DER Forecast Assumptions

Update from 1st IGP
Update from Oct 2025 STWG

Input	Low Lower uptake scenario 75% of Base	Base Uptake based on Smart DER Tariff with inclusion of certain BYOD riders	High Policy-driven: 400+ MW by 2030 Economic model growth in later years
BYOD		BYOD+: Based on current trend. Ends in 2035. BYOD Dispatch→ VPP	BYOD+: Participation similar to Battery Bonus BYOD Dispatch→ VPP
Addressable Residential Market		Single Family/2-4 Unit Multi-Family/Owner Occupied/Consumption Threshold. R market reduced due to Act 24	Base + 25%
Addressable Commercial Market		Public or Private Owned/<6 stories/Consumption Thresholds	Base + 25%
Add-Ons Market Pool		NMP adoption continues at 50% of historical pace through 2029. No NMP starting in 2030	Sch-R NEM with usage sufficient for 3 kW NMP
BESS Minimum Reserve Capacity		Seek Feedback from Stakeholders	Same as Base
New Technology		None	Balcony Solar: 25% condos & rentals by 2050

Preliminary Forecast Comparison



Reassessing Scenario Framework

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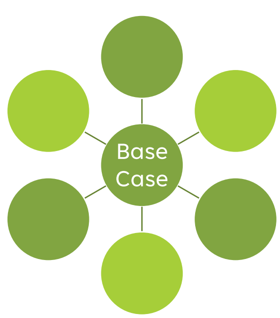
Reassessing Scenario Framework

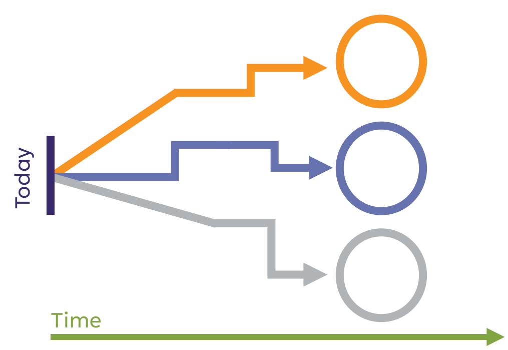
- We acknowledge concerns raised at the last STWG meeting regarding some of the assumptions
- We re-evaluated how scenarios and sensitivities could inform the development of the Preferred Plan
- Similar to other IRPs, such as AEMO and Duke Energy

Proposal: Move toward developing a Preferred Plan that is **robust across multiple possible futures** rather than a precise plan for an uncertain future

Reassessing Scenario Framework



Current Framework
Revolves around a Base Case driven by load sensitivities with supplemental scenarios



Distinct Futures
Transition to distinct & plausible future scenarios that capture a wide range of uncertainties

Reassessing Scenario Framework

Illustrative Example

Scenarios

Scenario 1

Scenario 2

Scenario 3

Scenarios are **distinct, plausible, and internally consistent futures** that capture a broad range of outcomes, based on assumptions outside the Company's control.

Assumptions could include:

- Policy Targets
- Resource and Fuel Costs
- Resource Potential
- Load Forecasts

Strategies

Strategy 1

Strategy 2

Strategy 3

Strategies are possible technology pathways to meet the grid needs.

Possible strategies assumptions:

- Candidate resources include:
  - All available options
  - DER focused
  - No New Combustion

Portfolios & Plans

Within each scenario, all strategies are evaluated to generate portfolios that inform the Preferred Plan

Input from Stakeholders and Next Steps

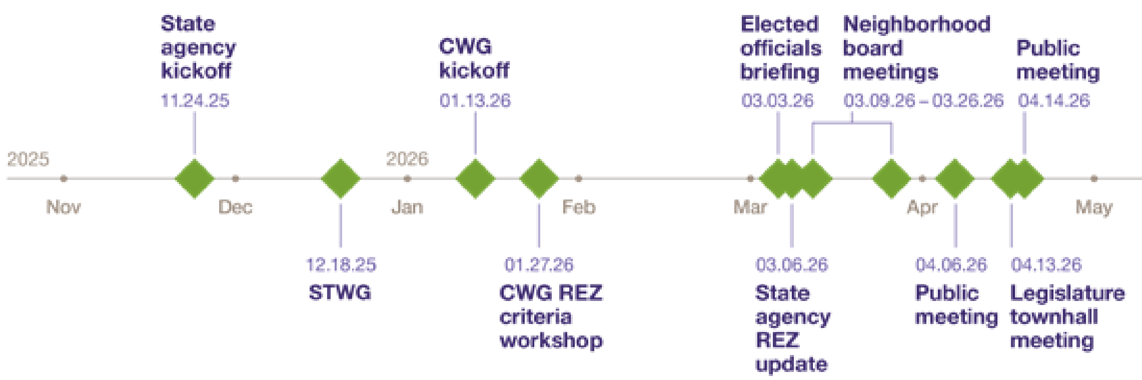
- We are committed to a transparent evaluation framework to arrive at a Preferred Plan
  - Framework is under development; seeking stakeholder input
  - Additional STWG meetings to further discuss and refine options
- Survey to gather feedback:
  - Possible Scenario assumptions
  - Priorities for consideration for determining the Preferred Plan

Upcoming Communications and Filings

Upcoming Communications and Filings

- Immediately following this meeting, there will be an I&A Engagement Survey email
  - Open to the public
  - 5-question survey
  - Please share with families and friends
- 2026 Action Plan Update will be filed on June 30th
  - Included will be the REZ Prioritization Report

REZ Stakeholder Engagement Timeline



Key Takeaways from Stakeholder Engagement

State Agencies / Legislators
- Limited state lands identified
- Limited actionable feedback received on REZ
- Focus on limiting impacts to Ag lands

Stakeholder Technical Working Group (STWG)
- Provided input on the data used in the technical evaluation
- Wide range of feedback based on competing interests

Community Working Group (CWG)
- Provided input on weighing criteria
- Focused on environmental impacts, equity, and climate resiliency

Public meetings
- Expressed concerns on impacts in REZ 5
- Needed to understand why REZ – Affordability, Reliability, Land Use were focus areas

REZ Update

- Filing a full report with the PUC by end of June 2026
- Prioritized zones: 1 & 6
- Next steps:
  - Ongoing coordination with state agencies and private landowners on land availability
  - Advancing conceptual design, preparing developer procurement packages, coordinating project timing with environmental review, regulatory approvals, and capital planning requirements
  - Continuing to engage and communicate with communities

Mahalo

7.3 Appendix C: Sensitivity Analysis

7.3.1 Modified REZ 8 Area

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Renewable Energy Zones

Analysis of Modified Zone 8 Area

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March 2026

Context

- In response to stakeholder comments, re-ran prioritization analysis assuming modified area for REZ 8
- Key assumptions:
  - Costs of full transmission network expansion still included for REZ 8
    - Option 1 138 kV line between Kahe and Wahiawa substations
  - For criteria with data by "step"/ "project", two iterations were run:
    - Incorporate only first 5 steps (out of 8), to reflect ~2/3 area of REZ 8 taken
    - Incorporate all 8 steps

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Criteria by Step: Generation Potential

Project / Step	REZ	Cumulative MW	Total Transmission Cost (Includes Network Expansion)	Incremental MW	$/MW
1	REZ 1	120MW	$24,600,000	120	$205,000
1	REZ 2	105MW	$22,600,000	105	[illegible]
2	REZ 2	270MW	$24,500,000	105	[illegible]
3	REZ 2	324MW	$40,500,000	54	$750,000
1	REZ 3	105MW	[illegible]	105	[illegible]
2	REZ 3	270MW	$71,500,000	105	[illegible]
3	REZ 3	405MW	$337,200,000	105	$2,498,296
4	REZ 3	588MW	$251,600,000	183	$1,374,863
1	REZ 4	105MW	[illegible]	105	[illegible]
2	REZ 4	270MW	$65,400,000	105	[illegible]
3	REZ 4	331MW	$144,600,000	61	$2,372,492
1	REZ 5	105MW	$109,400,000	105	[illegible]
2	REZ 5	171MW	$49,400,000	36	$1,372,222
3	REZ 5	306MW	$170,400,000	105	$1,262,222
4	REZ 5	441MW	$171,300,000	105	$1,268,889
5	REZ 5	608MW	[illegible]	167	[illegible]
1	REZ 6	147MW	[illegible]	147	[illegible]
1	REZ 7	[illegible]	$0	[illegible]	$0
1	REZ 8	105MW	[illegible]	105	[illegible]
2	REZ 8	270MW	[illegible]	105	[illegible]
3	REZ 8	405MW	$150,100,000	105	[illegible]
4	REZ 8	540MW	[illegible]	105	[illegible]
5	REZ 8	600MW	$800,000	[illegible]	[illegible]
6	REZ 8	815MW	$202,800,000	105	[illegible]
7	REZ 8	950MW	$235,400,000	105	[illegible]
8	REZ 8	[illegible]	[illegible]	[illegible]	$2,360,000

- Cost of transmission construction per MW of generation capacity enabled ($/MW)
- Results for "first step" (main analysis)
  - **No change in score**
- Results for "group average" of all 8 steps
  - **No change in score**
- Results for "group average" of first 5 steps (vs. previous 8-step average)
  - **No change in score**
    - Higher average cost $/MW for REZ 8
    - REZ 8 still falls within lowest score bucket

Before

Group- weighted avg $/MW (REZ 8: 8-Step)

Zones	Avg $/MW	Score
REZ 1	$205,000	7
REZ 2	$270,370	7
REZ 3	$1,316,156	3
REZ 4	$822,356	5
REZ 5	$1,507,730	0
REZ 6	$620,408	5
REZ 7	$0	10
REZ 8	$2,363,966	0

<- All 8 Steps

Group score

Percentile	low	high	Score	
	$0	$0	10	*best*
25%	$1	$445,389	7	
50%	$445,389	$822,356	5	
75%	$822,356	$1,411,943	3	
100%	$1,411,943	$2,363,966	0	*worst*

After

Group- weighted avg $/MW (REZ 8: 5-Step)

Zones	Avg $/MW	Score
REZ 1	$205,000	7
REZ 2	$270,370	7
REZ 3	$1,316,156	3
REZ 4	$822,356	5
REZ 5	$1,507,730	0
REZ 6	$620,408	5
REZ 7	$0	10
REZ 8	$2,659,412	0

<- First 5 Steps

Group score

Percentile	low	high	Score	
	$0	$0	10	*best*
25%	$1	$445,389	7	
50%	$445,389	$822,356	5	
75%	$822,356	$1,411,943	3	
100%	$1,411,943	$2,659,412	0	*worst*

Criteria by Step: Schedule/Timing

Step	Bus Labels	Cumulative MW	Transmission Length-total, mi	OH Accessible + (mi)	OH Inaccessible (mi)	Overbuild (mi)	UG (mi)	Construction Schedule (years)	Issues	CUP/Level	Notes
1	Group 8	105MW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Medium	[illegible]
2	Group 8	270MW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Medium	[illegible]
3	Group 8	405MW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Medium	[illegible]
4	Group 8	540MW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	High	[illegible]
5	Group 8	600MW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	Group 8	815MW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	High	[illegible]
7	Group 8	950MW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	High	[illegible]
8	Group 8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	High	[illegible]

- Duration of transmission construction to support MW capacity (years)
- Results for "first step" (main analysis)
  - **No change in score**
- Results for "group average" of all 8 steps
  - **No change in score**
- Results for "group average" of first 5 steps (vs. previous 8-step average)
  - **No change in score**
    - Slightly shorter average schedule (years) for REZ 8
    - Minor change in score thresholds
    - REZ 8 still scores 7

Before

	OPT A- avg	**8 Step**
	Average	Score
Group 1	5.00	5
Group 2	4.33	7
Group 3	5.50	3
Group 4	5.67	0
Group 5	4.80	5
Group 6	8.00	0
Group 7	0.00	10
Group 8	**4.63**	**7**

OPT A- avg - 8-Step

Percentile	low	high	Score	
	0	0.00	10	*short schedule = high score*
25%	1.00	4.71	7	
50%	4.71	5.00	5	
75%	5.00	5.58	3	
100%	5.58	8.00	0	*long schedule = low score*

After

	OPT A- avg	**5 Step**
Zones	Average	Score
Group 1	5.00	5
Group 2	4.33	7
Group 3	5.50	3
Group 4	5.67	0
Group 5	4.80	5
Group 6	8.00	0
Group 7	0.00	10
Group 8	**4.60**	**7**

OPT A- avg 5 step

Percentile	low	high	Score	
	0	0.00	10	short schedule = high score
25%	1.00	4.70	7	
50%	4.70	5.00	5	
75%	5.00	5.58	3	
100%	5.58	8.00	0	long schedule = low score

Criteria by Step: Maintenance Cost

- Cost to maintain added transmission infrastructure (low, med, high)
- Results for "first step" (main analysis)
  - **No change in score**
- Results for "group average" of all 8 steps
  - **No change in score**
- Results for "group average" of first 5 steps (vs. previous 8-step average)
  - **New REZ 8 score**
    - Slightly lower average maintenance costs led to higher score for REZ 8
    - No other REZ affected

O&M Costs	Score	
High	0	high costs = lowest score
Medium	5	
Low	7	
Very Low	10	low costs= highest score

Before

	OPT A- avg	8-Step
	Average	Score
Group 1	10.0	10
Group 2	7.0	7
Group 3	2.5	3
Group 4	6.3	7
Group 5	2.0	3
Group 6	7.0	7
Group 7	10.0	10
Group 8	**3.1**	**3**

Blue = rounded to closest score

After

	OPT A- avg	5-Step
Zones	Average	Score
Group 1	10.0	10
Group 2	7.0	7
Group 3	2.5	3
Group 4	6.3	7
Group 5	2.0	3
Group 6	7.0	7
Group 7	10.0	10
Group 8	**5.0**	**5**

Blue = rounded to closest score

Known Developer Interest, and State Land Opportunity

- Known Developer Interest
  - Locations where developers have expressed interest (acres yes/no)
  - Results: **No change in score**
    - REZ 8 acres decreased, but percentage of REZ 8 land with interest increased
    - REZ 8 still has highest percentage, still score 10
- State Land Opportunity
  - Locations identified by state agencies as opportunities for renewable energy development (yes/no per REZ)
  - Results: **No change in score**
    - Only REZ 3 and REZ 6 identified as opportunities
    - Does not affect REZ 8

Before

	Zones	Total Acres
Zone 1	1	0.0
Zone 2	2	0.0
Zone 3	3	3,552.0
Zone 4	4	0.0
Zone 5	5	0.0
Zone 6	6	4.37
Zone 7	7	0.0
Zone 8	8	7,062.9

	Zones	% of LandAcres	Score
Zone 1	1	-	0
Zone 2	2	-	0
Zone 3	3	6.81%	10
Zone 4	4	-	0
Zone 5	5	-	0
Zone 6	6	0.03%	7
Zone 7	7	-	0
Zone 8	8	10.63%	10

After

	Zones	Total Acres
Zone 1	1	0.0
Zone 2	2	0.0
Zone 3	3	3,552.0
Zone 4	4	0.0
Zone 5	5	0.0
Zone 6	6	4.37
Zone 7	7	0.0
Zone 8	8	6,632.2

	Zones	% of LandAcres	Score
Zone 1	1	-	0
Zone 2	2	-	0
Zone 3	3	6.81%	10
Zone 4	4	-	0
Zone 5	5	-	0
Zone 6	6	0.03%	7
Zone 7	7	-	0
Zone 8	8	17.10%	10

Zone	Land Offered by State Entities	Score
Zone 1	no	0
Zone 2	no	0
Zone 3	yes	10
Zone 4	no	0
Zone 5	no	0
Zone 6	yes	10
Zone 7	no	0
Zone 8	no	0

Land Availability

- 1) Zoning
  - Acres of state-owned land (% of REZ total)
  - Results: **No change in score**
    - % state-owned land in REZ 8 decreased
    - REZ 8 still lowest score of 0 (low % state-owned land)
- 2) Buildings
  - Acres of land with buildings (% of REZ total)
  - Results: **No change in score**
    - % land with buildings in REZ 8 decreased
    - REZ 8 still highest (capped) score of 7 (low % buildings)
- 3) Landowner Interest
  - Acres of land with landowner interest (% of REZ total)
  - Results: **No change in score**
    - % land with interest in REZ 8 increased, changed thresholds
    - REZ 8 still score of 5

Before

state-owned land

Zone	Percent State Land	Score
Zone 1	13.7%	5
Zone 2	9.2%	3
Zone 3	36.7%	7
Zone 4	12.4%	3
Zone 5	40.9%	7
Zone 6	31.3%	5
Zone 7	1.2%	0
Zone 8	8.0%	0

building development

Zone	Percent Developed Land (Buildings)	Score
Zone 1	4.1%	[illegible]
Zone 2	3.8%	[illegible]
Zone 3	2.2%	[illegible]
Zone 4	5.7%	7
Zone 5	1.3%	5
Zone 6	5.8%	[illegible]
Zone 7	11.2%	[illegible]
Zone 8	[illegible]	7

landowner interest

Zone	Percent of Land with Landowner Interest	Score
Zone 1	0.00%	0
Zone 2	0.00%	0
Zone 3	0.14%	3
Zone 4	13.45%	7
Zone 5	[illegible]	7
Zone 6	2.14%	5
Zone 7	[illegible]	0
Zone 8	[illegible]	5

percentile	low	high	Score
25%	0.00%	0.00%	0
50%	0.10%	1.14%	3
75%	1.14%	4.58%	5
100%	4.58%	13.45%	7

After

state-owned land

Zone	Percent State Land	Score
Zone 1	13.7%	5
Zone 2	9.2%	3
Zone 3	36.7%	7
Zone 4	12.4%	3
Zone 5	40.9%	7
Zone 6	31.3%	5
Zone 7	1.2%	0
Zone 8	5.9%	0

building development

Zone	Percent Developed Land (Buildings)	Score
Zone 1	[illegible]	[illegible]
Zone 2	3.8%	[illegible]
Zone 3	[illegible]	5
Zone 4	2.7%	7
Zone 5	[illegible]	[illegible]
Zone 6	5.8%	[illegible]
Zone 7	11.2%	[illegible]
Zone 8	[illegible]	7

landowner interest

Zone	Percent of Land with Landowner Interest	Score
Zone 1	[illegible]	[illegible]
Zone 2	[illegible]	3
Zone 3	0.14%	[illegible]
Zone 4	13.45%	7
Zone 5	[illegible]	7
Zone 6	2.14%	5
Zone 7	[illegible]	[illegible]
Zone 8	[illegible]	5

percentile	low	high	Score
25%	0.0%	0.0%	0
50%	0.1%	1.1%	3
75%	1.1%	5.9%	5
100%	5.9%	13.5%	7

Equity- Existing Generation

- Existing Generation Footprint (% acres)
  - Footprint of existing solar/wind facilities
  - Results: **Changes to REZ 8 and REZ 3 scores**
    - REZ 8 % acres decreased, changed score thresholds
    - REZ 8 score changed from 3 to 5 (improved)
    - REZ 3 score changed from 5 to 3 (worsened)
- Existing Generation Nameplate Capacity (MW)
  - Footprint of existing fossil fuel / biofuel facilities
  - Results: **No change in score**
    - REZ 8 has no land with existing fossil fuel / biofuel generation facilities, still score 10

Before

Solar/PV/etc. Zone	Acre acres	% of Land Area	Score- % footprint of total land
Zone 1	21.0	0.24%	7
Zone 2	1300.3	11.92%	0
Zone 3	528.5	1.01%	5
Zone 4	1202.1	8.13%	0
Zone 5	122.3	0.27%	5
Zone 6	20.8	[illegible]	10
Zone 7	1.0	0.02%	10
Zone 8	1271.2	[illegible]	3

percentile	low	high	Score
20%	0.00%	0.19%	10
40%	0.19%	0.25%	7
60%	0.25%	1.19%	5
80%	1.19%	3.54%	3
100%	3.54%	11.92%	0

After

Solar/PV/etc. Zone	Acre acres	% of Land Area	Score- % footprint of total land
Zone 1	21.0	0.24%	7
Zone 2	1300.3	11.92%	0
Zone 3	528.5	1.01%	3
Zone 4	1202.1	8.13%	0
Zone 5	122.3	0.27%	5
Zone 6	20.8	[illegible]	10
Zone 7	1.0	0.02%	10
Zone 8	237.0	0.61%	5

percentile	low	high	Score
20%	0.00%	0.19%	10
40%	0.19%	0.26%	7
60%	0.26%	[illegible]	5
80%	[illegible]	5.29%	3
100%	5.29%	11.92%	0

Fossil Fuel & Biofuel

Zone	Total MW	Score
Zone 1	50.0	5
Zone 2	0.0	10
Zone 3	1677.1	0
Zone 4	753.0	3
Zone 5	11.0	7
Zone 6	0.0	10
Zone 7	0.0	10
Zone 8	0.0	10

percentile	low	high	Score	
	0.00	0.00	10	low existing MW = high score
25%	1.00	40.25	7	
50%	40.25	401.50	5	
75%	401.50	984.03	3	
100%	984.03	1677.11	0	

Equity- Environmental Impact

- Relative complexity of obtaining environmental permits (low, medium, high)
- Calculated as average permit complexity score by REZ, weighted by acres of land where permit applies
- Lower complexity = higher score
- Results: **Change to REZ 8 and REZ 6 scores**
  - REZ 8 weighted average permit complexity score decreased, changed score thresholds
  - REZ 8 score changed from 3 to 5 (improved)
  - REZ 6 score changed from 5 to 3 (worsened)

Before

Zone	Avg. Complexity Score	Score
Zone 1	5.43	10
Zone 2	9.00	0
Zone 3	6.90	10
Zone 4	8.12	5
Zone 5	8.03	7
Zone 6	8.63	5
Zone 7	9.94	0
Zone 8	8.68	3

Weighted Permit Score by Land Area

percentile	low	high	Score
20%	-	7.35	10
40%	7.35	8.10	7
60%	8.10	8.64	5
80%	8.64	8.87	3
100%	8.87	9.94	0

After

Avg. Complexity Score	Zone	Permit Score
5.43	Zone 1	10
9.00	Zone 2	0
6.90	Zone 3	10
8.12	Zone 4	5
8.03	Zone 5	7
8.63	Zone 6	3
9.94	Zone 7	0
8.59	Zone 8	5

Weighted Permit Score by Land Area

percentile	low	high	Score
20%	-	7.35	10
40%	7.35	8.10	7
60%	8.10	8.60	5
80%	8.60	8.85	3
100%	8.85	9.94	0

Climate Risk- Fire

- Relative level of fire risk, for each REZ
- GIS data from HECO
- Classified lower fire risk with higher score (low=10, medium = 5, high = 0). Calculated weighted average score per REZ.
- Percentiles used to allocate average score to five-score framework
- Results: **Change to REZ 8 and REZ 2 scores**
  - REZ 8 weighted average fire risk increased (more medium-risk land, less low-risk land)
  - Led to change in score thresholds
  - REZ 8 score changed from 5 to 3 (worsened)
  - REZ 2 score changed from 3 to 5 (improved)

Before

Zones	weighted avg. score	score
Zone 1	9.5	7
Zone 2	8.3	3
Zone 3	4.6	0
Zone 4	9.1	5
Zone 5	10.0	10
Zone 6	10.0	10
Zone 7	6.7	0
Zone 8	8.6	5

percentile	low	high	score
20%	0.00	7.34	0
40%	7.34	8.51	3
60%	8.51	9.18	5
80%	9.18	9.81	7
100%	9.81	10.00	10

After

Zones	weighted avg. score	score
Zone 1	9.5	7
Zone 2	8.3	5
Zone 3	4.6	0
Zone 4	9.1	5
Zone 5	10.0	10
Zone 6	10.0	10
Zone 7	6.7	0
Zone 8	7.6	3

percentile	low	high	score
20%	0.00	7.08	0
40%	7.08	8.15	3
60%	8.15	9.18	5
80%	9.18	9.81	7
100%	9.81	10.00	10

Climate Risk- Flood

- Relative level of flood risk, for each REZ
- Flood Zone GIS data from Honolulu City and County
- Classified lower flood risk with higher score:
  - Areas of minimal flooding = low risk (score = 10)
  - 500-year floodplain = medium risk (score = 5)
  - 100-year floodplain = high risk (score = 0)
- Calculated weighted average risk score by REZ
- Percentiles used to allocate average score to five-score framework
- Results: **no change in scores**
  - REZ8 area changed weighted average, and changed thresholds, but not significant enough to change score

Before

Zones	Weighted Average Metric	score
Zone 1	n/a	n/a
Zone 2	6.20	3
Zone 3	7.00	5
Zone 4	8.07	10
Zone 5	7.68	7
Zone 6	8.17	10
Zone 7	1.12	0
Zone 8	5.23	0

percentile	low	high	score
20%	0.00	5.42	0
40%	5.42	6.52	3
60%	6.52	7.41	5
80%	7.41	7.99	7
100%	7.99	8.17	10

After

Zones	Weighted Average Metric	score
Zone 1	n/a	n/a
Zone 2	6.20	3
Zone 3	7.00	5
Zone 4	8.07	10
Zone 5	7.68	7
Zone 6	8.17	10
Zone 7	1.12	0
Zone 8	5.52	0

percentile	low	high	score	
20%	0.00	5.66	0	*worst*
40%	5.66	6.52	3	
60%	6.52	7.41	5	
80%	7.41	7.99	7	
100%	7.99	8.17	10	*best*

Climate Risk- Tsunami

- Relative level of tsunami risk, for each REZ
- Tsunami evacuation zones GIS data from Honolulu City and County
- Classified lower flood risk with higher score:
  - Safe zone = low risk (10)
  - Tsunami evacuation zone = medium risk (5)
  - Extreme tsunami evacuation zone = high risk (0)
- Calculated weighted average risk score by REZ
- Percentiles used to allocate average score to five-score framework
- Results: **no change in scores**
  - REZ8 area changed weighted average, and changed thresholds, but not significant enough to change score

Before

Zones	weighted avg. score	score
Zone 1	10.00	10
Zone 2	9.96	7
Zone 3	9.12	5
Zone 4	10.00	10
Zone 5	9.51	5
Zone 6	8.99	3
Zone 7	6.41	0
Zone 8	8.66	0

percentile	low	high	score
20%	0.00	8.79	0
40%	8.79	9.09	3
60%	9.09	9.60	5
80%	9.60	9.98	7
100%	9.98	10.00	10

After

Zones	weighted avg. score	score
Zone 1	10.00	10
Zone 2	9.96	7
Zone 3	9.12	5
Zone 4	10.00	10
Zone 5	9.51	5
Zone 6	8.99	3
Zone 7	6.41	0
Zone 8	8.85	0

percentile	low	high	score	
20%	0.00	8.90	0	worst
40%	8.90	9.09	3	
60%	9.09	9.60	5	
80%	9.60	9.98	7	
100%	9.98	10.00	10	best

Results – Top 4 REZ

- **Main Results (weights, first project):**
  - Original Results: REZ 6, 1, 5, 4
  - Updated Results: No change
- **Sensitivity Scenario 1 (even split, first project):**
  - Original Results: REZ 6, 1, 5, 3
  - Updated Results: REZ 6, 1, 5, 4
- **Sensitivity Scenario 2 (weights, average group):**
  - Original Results: REZ 6, 1, 5, 4
  - Updated Results (all 8 steps): No change
  - Updated Results (first 5 steps): No change
- **Sensitivity Scenario 3 (100% cost effectiveness and efficiency):**
  - Original Results: REZ 7, 6, 1, 4
  - Updated Results: No Change
- **Sensitivity Scenario 4 (100% equity and environment):**
  - Original Results: REZ 1, 6, 3, 5
  - Updated Results: REZ 1, 5, 6, 8
- **Sensitivity Scenario 5 (100% resiliency and climate):**
  - Original Results: REZ 6, 4, 5, 1
  - Updated Results: No Change

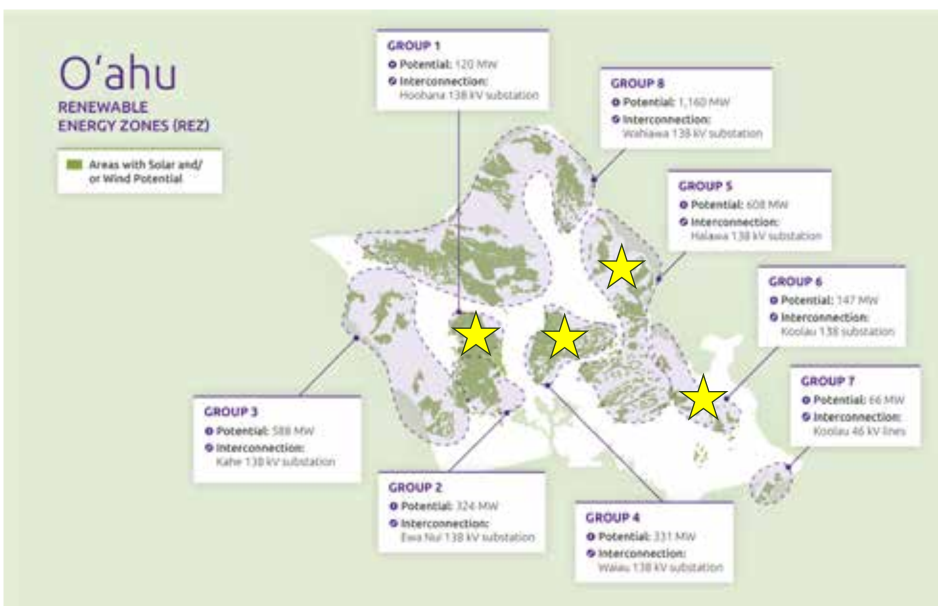
Note: only top 4 results reported here, but in some cases ranking order of bottom 4 REZ changed between original and updated results.

Findings

- Adjusting the area of REZ 8 does not change top 4 REZ under main analysis assumptions (weights, first project)
- REZ 8 still scores low due to:
  - Not being identified by state agencies as an area of opportunity
  - Relatively low % state-owned land
  - Relatively high risk of flood, tsunamis, and fires
  - Relatively high costs and time to build transmission in REZ 8
- REZ 8 only makes top 4 if Equity and Environment are only criteria considered

Results – Top 4 REZ with New REZ 8 Area

Rank	Weights, First Project	Even Split, First Project	Weights, Avg. Group (5 step)	100% Cost Efficiency and Effectiveness, First Project	100% Equity and Environment, First Project	100% Resiliency and Climate, First Project
#1	**REZ 6**	REZ 6	REZ 6	REZ 7	REZ 1	REZ 6
#2	**REZ 1**	REZ 1	REZ 1	REZ 6	REZ 5	REZ 4
#3	**REZ 5**	REZ 5	REZ 5	REZ 1	REZ 6	REZ 5
#4	**REZ 4**	REZ 4	REZ 4	REZ 4	REZ 8	REZ 1



7.3.2 Modified Land Availability Data

Hawai'i Powered

Renewable Energy Zones

Modified Land Availability Data

Hawaiian Electric

January 2026

Alternative Land Availability Data

- Stakeholder concern raised
  - NREL study may be out of date (Rev. July 2021)
  - Disagreement on underlying assumptions (PV Alt-1):
    - Slope percent up to 15% included
    - Slope percent > 15%: cost addr
    - Slope percent > 30%: excluded
- Alternative land availability data
  - Slope percent <10% included
  - Parcel size 50+ acres
  - Road accessibility

This data indicates that two of the top 4 REZ (REZ 1, REZ 4) don't have available land

REZ Group	Buildable Area (Acres)
1	0
2	88
3	465
4	0
5	511
6	122
7	0
8	10,739
Not Within REZ Group	469
Total	12,394

Hawaiian Electric

Hawai'i Powered

Modified Land Availability Criterion

- Alternative land availability data used to create a new “Land Availability” criterion
  - Previous land availability criterion based on:
    - % state-owned land
    - % land with buildings
    - % land with landowner interest
  - Previously max score capped at 7 to prioritize state land opportunity criterion
- Applied percentiles to the dataset to allocate REZ to five-score framework
  - REZ 8 highest score 10
  - REZ with no available acres assigned score 0

REZ Group	Buildable Area (Acres)	Score
1	0	0
2	88	3
3	465	5
4	0	0
5	511	7
6	122	3
7	0	0
8	10,739	10
Not Within REZ	469	
Total	12,394	

Percentile	low	high	Score	
	0	0	0	*worst*
25%	1	122	3	
50%	122	465	5	
75%	465	511	7	
100%	511	10,739	10	*best*

Top 4 REZ Results

- Allocated previous “Land Availability” criterion weight to new criterion (8.8%)
- Top 4 REZ:
  - REZ 6, REZ 5, REZ 1, REZ 3
  - (Previous results: REZ 6, REZ 1, REZ 5, REZ 4)

	6%	4%	5%	2.5%	2%	8.8%			8.6%	8.6%	20.4%	14%	12%	8%	100%	
	Cost Effectiveness and Efficiency								Equity and Environment			Resiliency and Climate				
Zone	Generation Potential Score	Schedule Score	Maintenance Cost Score	Known Developer Interest Score	State Land Opportunity	Land Availability Score Alt			Equity Score: Existing Generation Footprint	Equity Score: Existing Generation Capacity	Environmental Impacts Score	Climate Score: Fire	Climate Score: Flood	Climate Score: Tsunami	Average Score (high = best)	Rank (low = best)
Zone 1	7	7	10	0	0	0			7	5	10	7	n/a	10	6.1	3
Zone 2	7	5	7	0	0	3			0	10	0	3	3	7	3.4	7
Zone 3	0	0	5	10	10	5			5	0	10	0	5	5	4.6	4
Zone 4	5	0	7	0	0	0			0	3	5	5	10	10	4.6	5
Zone 5	3	0	5	0	0	7			5	7	7	10	7	5	6.1	2
Zone 6	5	3	7	7	10	3			10	10	5	10	10	3	7.0	1
Zone 7	10	10	10	0	0	0			10	10	0	0	0	0	3.3	8
Zone 8 (138kv)	0	0	5	10	0	10			3	10	3	5	0	0	3.8	6

Assumptions

- Analysis Assumptions
  - REZ with zero available land are still considered viable options (i.e. still considered in analysis, can be scored on other criteria)
  - New land availability criterion has same weight as previous
  - New land availability criterion is not capped at a max score of 7 as with previous criterion
- Can land availability data be modified to consider:
  - Greater slope percentage (with added cost)
  - Smaller parcel sizes
  - Removing road accessibility (can be constructed)

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