Hawaiian Electric

Distribution DER Hosting Capacity Grid Needs

October 2021 Update

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1 Introduction

On August 3, 2021, the Companies submitted their updated and revised Integrated Grid Planning ("IGP") Inputs & Assumptions and Distribution DER Hosting Capacity Grid Needs documents under Docket No. 2018-0165.[1] This document is an update to the Distribution DER Hosting Capacity Grid Needs document.

The distributed energy resources ("DER") hosting capacity grid needs identified in the August 3, 2021 filing were driven by the forecasted DER growth on distribution circuits based on the market DER forecast provided in the 2020 Integrated Grid Planning Inputs and Assumptions March 2021 Update.[2] This DER hosting capacity grid needs update is being filed to reflect the updated DER forecast sensitivities provided in the Hawaiian Electric Revision to Updated and Revised Inputs and Assumptions ("August Update") filed on August 19, 2021.[3] The update provides low, base, and high DER forecast sensitivities to identify hosting capacity grid needs for the next five years.[4] These three sensitivities correspond to low, base, and high scenarios to provide a bookend approach around a reference, or base, forecast. Note that the base (or reference) scenario[5] has also been updated since the August 3 filing.

The DER hosting capacity grid needs analysis is part of the Distribution Planning Process employed by the Company to plan the future of the distribution system. The Distribution Planning Process as described in the *Distribution Planning Methodology*[6] was developed in collaboration with stakeholder and customer engagement through the Distribution Planning Working Group ("DPWG"). The document was developed to identify the steps and tools used by the Company to analyze the distribution system and determine grid needs required to serve

[1] *See* Hawaiian Electric Updated and Revised Inputs and Assumptions & Distribution DER Hosting Capacity Grid Needs filed on August 3, 2021 in Docket No. 2018-0165, Instituting a Proceeding to Investigate Integrated Grid Planning.

[2] *See* https://www.hawaiianelectric.com/documents/clean_energy_hawaii/integrated_grid_planning/stakeholder_engagement/working_groups/forecast_assumptions/20210330_wg_fa_deliverable_draft.pdf

[3] *See* Hawaiian Electric Revision to Updated and Revised Inputs and Assumptions filed on August 19, 2021 in Docket No 2018-0165.

[4] This draft includes grid needs identified using the high DER forecast only. Results using the base and low DER forecasts will be provided in the Grid Needs Assumptions ("GNA") Review Point that is anticipated to be submitted during the first week of November 2021.

[5] The August 3, 2021 filing was based on the market DER forecast provided in the 2020 Integrated Grid Planning Inputs and Assumptions March 2021 Update. Since then, the IGP DER forecasts were updated and filed on August 3, 2021. The low, base, and high scenarios in this analysis utilize the August 3 updates.

[6] *See* https://www.hawaiianelectric.com/documents/clean_energy_hawaii/integrated_grid_planning/stakeholder_engagement/working_groups/distribution_planning/20200602_dpwg_distribution_planning_methodology.pdf

load growth and safely interconnect DER while maintaining power quality and reliability for all customers.

The Process is comprised of four stages: forecast, analysis, solution options, and evaluation.

1. **Forecast Stage**: Develop circuit-level forecasts based on the corporate demand forecast.
2. **Analysis Stage**: Determine the adequacy of the distribution system.
3. **Solution Options Stage**: Identify the grid needs requirements.
4. **Evaluation Stage**: Evaluation of solutions.

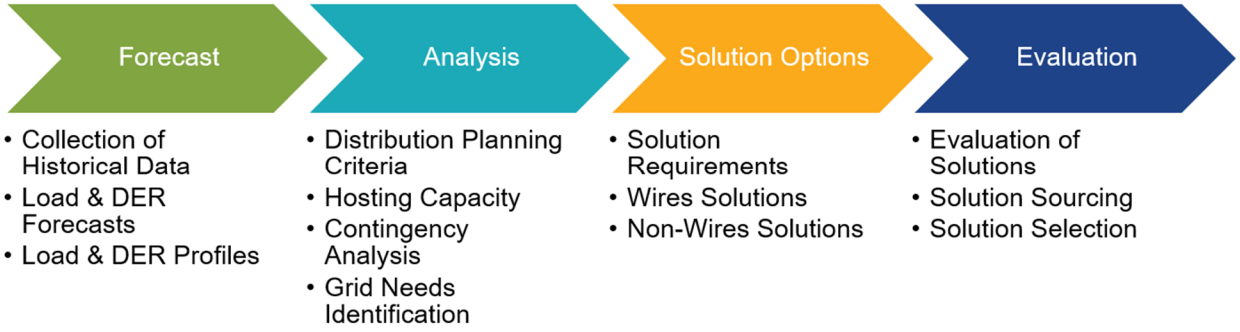

Figure 1: Stages of the Distribution Planning Process

This Distribution Planning Process is incorporated into the IGP process as it uses the corporate forecasts that include planned electrical demand and DER developed through IGP as an input to the distribution planning analyses to identify distribution grid needs. These distribution grid needs are then used as an input into the IGP process which will select portfolios of solutions to address resource, transmission, and distribution needs. The figure below shows how the Distribution Planning Process (see orange box) is performed in parallel which then converges with other identified steps in the IGP Process.

Figure 2: Distribution Planning Process and IGP Process[7]

This document focuses on hosting capacity grid needs identified for the next five years (year 2021 through 2025) driven by the forecasted DER growth on distribution circuits based on forecast sensitivities provided in the August Update.

As discussed in the August Update, various forecast sensitivities and scenarios were developed to address forecasting uncertainty. As such, three of the scenarios were selected to provide a bookend approach to demonstrate the range of possible DER adoption. Three scenarios were selected from the August Update to provide a bookend approach and are summarized in the following table.[8]

[7] Hawaiian Electric, Presentation to IGP Stakeholder Technical Working Group, June 17, 2021.

[8] *See* Hawaiian Electric Revision to Updated and Revised Inputs and Assumptions filed on August 19, 2021 in Docket No 2018-0165. Table 6-3.

Table 1. DER Scenarios from August 2021 Update

No.	*Modeling Case*	*DER Forecast*
1	*Base*	*Base Forecast*
2	*High Load Customer Technology Adoption Bookend*	*Low Forecast*
3	*Low Load Customer Technology Adoption Bookend*	*High Forecast*

Hosting Capacity Grid Needs

The overall process and methodology, using modeling tools such as LoadSEER and Synergi,[9] to develop the grid needs driven by hosting capacity is provided herein. Since this report addresses the hosting capacity grid needs specifically, the distribution planning process figure discussed at the recent Stakeholder Technical Working Group meeting in June 2021[10] was streamlined to show details related only to this analysis and is shown in Figure 3. Potential wires and non-wires alternative ("NWA") solutions opportunities using the Non-Wires Opportunity Evaluation Methodology Report[11] will be evaluated later as part of the IGP process.

[9] *See* Hawaiian Electric, *Distribution Planning Methodology*, June 2020 for an overview of the LoadSEER and Synergi models.

[10] *See* https://www.hawaiianelectric.com/documents/clean_energy_hawaii/integrated_grid_planning/20210617_presentation_slides_igp_stakeholder.pdf at slide 20.

[11] *See* https://www.hawaiianelectric.com/documents/clean_energy_hawaii/integrated_grid_planning/stakeholder_engagement/working_groups/distribution_planning/20200602_dpwg_non_wires_opportunity_evaluation_methodology.pdf

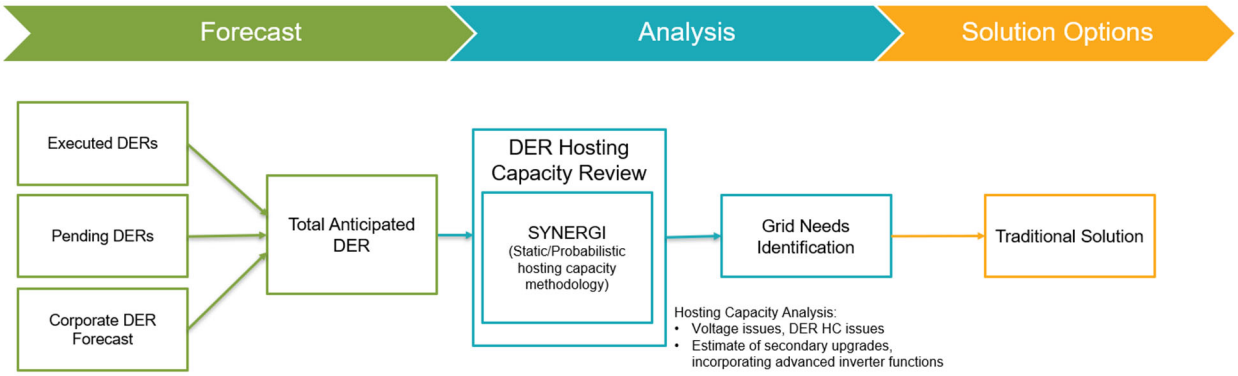

Figure 3: Hosting Capacity Grid Needs Identification Stages

The distribution planning criteria is used to establish circuit-level hosting capacity which is a circuit's ability to accommodate or host DERs to an identified kilowatt (kW) amount based on steady state load flow analyses. The methodology used to develop these hosting capacity numbers is geared towards analyzing DER growth due to small systems distributed on a circuit. Single large DER interconnections are typically evaluated on a case-by-case basis because their impact on the circuit largely depends on its generating capacity and location. In other words, circuit-level hosting capacity is the maximum aggregate kW amount of small scale DERs a circuit can host before any thermal or voltage violations occur.[12] This hosting capacity kW is utilized to identify the circuits with a grid need when the forecasted DER reaches this identified amount.

The following steps are used to identify circuits with hosting capacity violations in the next five years based on the current market DER forecast:

1. Determine the annual anticipated DER (kW) by circuit.
2. Screen circuits for analysis.
3. Perform substation transformer and circuit-level hosting capacity analysis.
4. Identify grid needs and solution options.

Throughout the year, Hawaiian Electric reviews and processes DER applications. In accordance with the Initial Technical Review ("ITR") process outlined in Rule 14H, the hosting capacity screen is one step in the overall interconnection technical review and addresses several screens outlined in Rule 14H.

[12] Hawaiian Electric, *Distribution Planning Methodology* June 2020, at 12.

2 Total Anticipated DER By Circuit

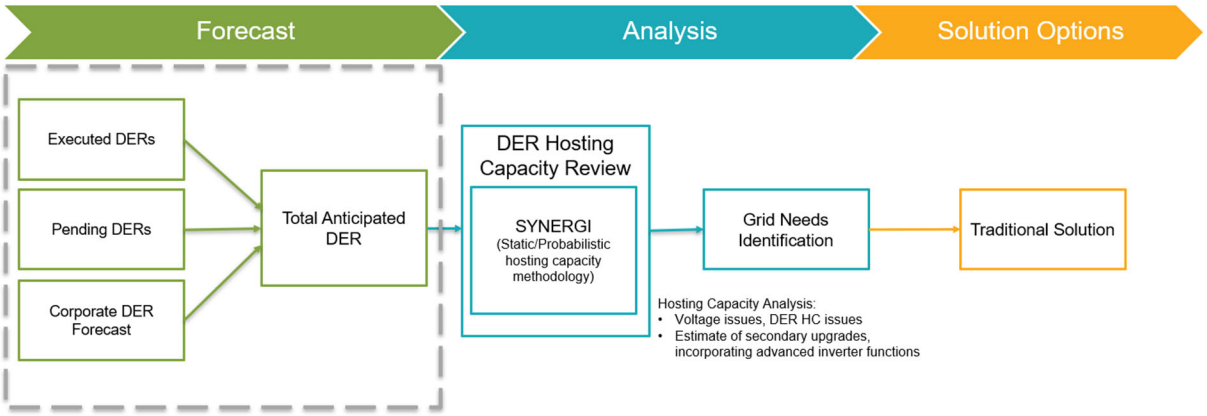

Figure 4: Forecast Stage of the Distribution Planning Process

This section describes the first step used to identify hosting capacity driven distribution grid needs:

1. **Determine the total anticipated DER (kW) by circuit.**
2. Screen circuits for analysis.
3. Perform substation transformer and circuit-level hosting capacity analysis.
4. Identify grid needs and solution options.

The total anticipated DER for a circuit is calculated by adding together the aggregate executed DER on that circuit and the forecasted DER growth for that circuit. The two components of this calculation are explained in the following sections.

$$Total\ Anticipated\ DER = Aggregated\ Executed\ DER + Adjusted\ DER\ Growth$$

The steps described in this section to determine the total anticipated DER by circuit were repeated for each of the DER forecasts: base, low, and high forecast.

2.1 AGGREGATE EXECUTED DER

The first step is to identify the existing DER on the circuits. Executed DER at the beginning of the study period is aggregated by total program size (kW) by circuit.[13] The programs included are:

- Net Energy Metering ("NEM")
- Feed-In Tariff ("FIT")
- Customer Grid Supply ("CGS")
- Customer Self-Supply ("CSS")
- Customer Grid Supply Plus ("GSP")
- Smart Export ("ISE")
- Net Energy Metering Plus ("NEM Plus" or "NMP")
- Standard Interconnection Agreement ("SIA")
- Community-Based Renewable Energy ("CBRE") Phase 1
- Power Purchase Agreement ("PPA")

For purposes of this hosting capacity analysis, battery energy storage capacity is not included in the aggregated DER values as it is assumed that energy storage systems will not export during the day.

2.2 ADJUSTED DER GROWTH BY CIRCUIT

The corporate demand forecast is provided at the system level, meaning there is one forecast for each island, and is built with separate layers such as underlying load, DER, energy efficiency ("EE"), and electric vehicles ("EV"). To perform the distribution planning hosting capacity analyses that typically occur at the circuit-level, the forecasted DER growth by feeder is determined based on the corporate DER forecast. Adjustments to the forecasted DER growth are made to account for any DER not captured, such as CBRE Phase 2 small projects, and explained in the following sections as well as in Appendix A:. The adjusted DER growth is then added to the aggregated executed DER to get the total anticipated DER by circuit used during the hosting capacity assessment in the Analysis stage.

The forecasted DER growth by feeder is derived from the corporate DER forecasts shown in Appendix A: using LoadSEER when available. Currently, LoadSEER models are available only for O'ahu with plans for implementation in the middle of 2022 on the islands of Maui and

[13] Executed programs as of December 31, 2020 are included.

Hawai'i Island[14]. Since LoadSEER was recently adopted by the Company to create circuit-level forecasts, models for all islands are not fully built or complete to implement LoadSEER for this process. For all other islands, the forecasted DER growth is developed by allocating an island's corporate DER forecast proportional to the amount of executed DER on each circuit as a percentage of total executed DER on that island. In summary, the forecasted DER growth by year by circuit is determined using one of the following methods:

1. DER forecast allocation in LoadSEER.
2. DER forecast allocation based on existing DER.

Adjustments are also made to the forecasted DER growth by feeder to account for pending known large projects such as CBRE Phase 1, FIT, and large SIA (>250kW) projects. Because size and location of these projects are already known, they are added to the respective circuits in the estimated year of execution to get the adjusted DER growth by feeder shown in Appendix B.

$$Forecasted\ DER\ Growth = Corporate\ DER\ Forecast + Adjustments^{15}$$

$$Adjusted\ DER\ Growth = Forecasted\ DER\ Growth + Large\ Project\ Adjustments^{16}$$

2.2.1 DER Forecast Allocation in LoadSEER

LoadSEER is an electric load forecasting software that creates circuit-level forecasts by combining historical SCADA and weather data along with forecasted new load, DER, EV, and EE spatially allocated throughout the system. LoadSEER spatially allocates these layers at the distribution level through an agent-based simulation that determines the likelihood (i.e., propensity score) that each of these types will be adopted at each service point. This process refines the system level forecast and provides location information such as customer consumption, historical DER adoption, census tract data, among others, with circuit-level forecasts. LoadSEER constrains the total amount that gets allocated for each of these layers by an incremental system level limit for each layer. The system level constraint is based on the corporate DER forecast. The resulting DER forecast allocation provides the feeder-level forecasted DER growth that is needed to calculate the adjusted DER forecast and thus the total anticipated DER by feeder.

The corporate DER forecast includes NEM, CGS, CSS, GSP, ISE, NMP, SIA, and a future program. Adjustments are made to the corporate DER forecast to account for the CBRE Phase 2 small projects program as well as pending CBRE Phase 1 and large (>250kW) SIA projects. For

[14] The implementation of LoadSEER for the neighbor islands is targeted for middle of 2022 as reported in Exhibit 2 of Hawaiian Electric Companies' Quarterly DER Technical Report filed on September 30, 2021 in Docket No. 2019-0323.

[15] Adjustment for CBRE Phase 2 small projects.

[16] Large project adjustments include CBRE Phase 1, FIT, and large SIA (> 250 kW).

this update, the amount of CBRE Phase 2 small projects was revised to 30 MW[17] to be consistent with the 30 MW small project capacity described in the latest Order.[18] This 30MW of CBRE Phase 2 small projects were included by adding 6 MW per year to the corporate DER forecast. This was done for each scenario: Base, Low, and High. This amount is divided into residential and commercial customer types and is used as the system level DER limit for the spatial allocation in LoadSEER. LoadSEER can consider separate residential and commercial DER profiles when building feeder-level forecasts which will be important for the location-based forecasts provided in the Location-Based Forecasts for Distribution Grid Needs included with this filing. However, the residential/commercial split was not necessary for this hosting capacity grid needs analysis.

The resulting DER forecast allocation is then adjusted by adding pending CBRE Phase 1 and large SIA projects. Because the project size and location of these pending projects are already known, these adjustments were added to the individual feeder forecasted DER growth to produce the adjusted DER by feeder in Appendix B. The adjusted DER forecast is added to the aggregate executed DER to produce the total anticipated DER, shown in Appendix D:, that is used in the Analysis stage.

In summary, the steps to determine the total anticipated DER by circuit by year are:

1. Starting with the corporate DER forecast, add 30 MW for CBRE Phase 2 small projects. (See A and B in Appendix A).
2. Run spatial allocation in LoadSEER to derive the forecasted DER growth by year by circuit.
3. Add pending large projects to construct adjusted DER by year by circuit. (See C in Appendix A).
4. Add aggregate executed DER to get the total anticipated DER.

2.2.2 DER Forecast Allocation Based on Existing DER

Since LoadSEER models are unavailable for Hawai‘i Island and Maui County, a different method for the DER forecast allocation was required. This method involves allocating a system level amount proportional to the amount of executed DER in selected programs[19] on each circuit.

Similar to O‘ahu, the corporate DER forecasts for Hawai‘i Island and Maui County need to be adjusted for CBRE Phase 2 small projects and pending CBRE Phase 1 and FIT projects to get the system level amounts to allocate. The different CBRE Phase 2 small projects program cap

[17] The August 3, 2021 filing assumed 40 MW of CBRE Phase 2 small projects.

[18] *See* Order No. 37879 issued on July 27, 2021 in Docket No. 2015-0389, Approving the March 30 CBRE Filings, with Modifications.

[19] Selected programs include NEM, CGS, CSS, GSP, ISE, NMP, and SIA.

for each island is considered in the calculation of the adjusted DER forecast as shown in Appendix A:. The CBRE Phase 2 small projects added are consistent with the capacities described in the latest Order.[20]

The proportional amount that determines the allocation is calculated as the executed DER in selected programs on a feeder as a percentage of the total system executed DER in those same selected programs. The executed FIT and PPA projects are removed from the aggregate executed DER for each feeder as determined above in Section 2.1 to get the amount of executed DER in the selected programs for each feeder. Including only these smaller type programs in this calculation focuses the forecasted DER growth on increasing residential DER systems. The executed FIT and PPA projects were removed because these are typically larger projects that would slant the results of this calculation toward these circuits where small DER may not be as likely to be adopted.

Next, the amount of executed DER in the selected programs on that circuit is expressed as a percentage of the total executed DER in those selected programs on the respective island. The incremental system level DER limit based on the corporate forecast and CBRE Phase 2 small projects is then allocated to the circuit based on this percentage. For example, if the executed DER in the selected programs on a circuit is 5% of the total executed DER on that island, 5% of the adjusted DER forecast will be allocated to that circuit. Pending CBRE Phase 1 and FIT projects are added to the resulting feeder-level forecasted DER growth to get the adjusted DER growth which is shown in Appendix B:. The adjusted DER growth is added to the aggregate executed DER to produce the total anticipated DER, shown in Appendix D:, that is used in the Analysis stage.

In summary, the steps to get the total anticipated DER by circuit by year are:

1. Starting with the corporate DER forecast, add CBRE Phase 2 small projects. (See A and B in Appendix A).

2. Determine forecasted DER growth by year by circuit.
    a. Remove the executed FIT and PPA projects from the aggregate executed DER for each feeder to get the amount of executed DER in the selected programs on each feeder.

    b. Calculate the executed DER in the selected programs on each circuit as a percentage of total executed DER in those selected programs on that island.

$$\%\ Circuit\ Allocation_{DER} = \frac{Executed\ DER\ in\ selected\ programs\ on\ Circuit}{Total\ Executed\ DER\ in\ selected\ programs}$$

[20] *See* Order No. 37879 issued on July 27, 2021 in Docket No. 2015-0389, Approving the March 30 CBRE Filings, with Modifications at page 33.

c. Allocate the incremental system level DER limit for each year (year 2021 through 2025) among circuits based on the percentage calculated in the previous step.

3. Add pending large projects to construct adjusted DER by year by circuit. (See C in Appendix A).

$$\text{DER Forecast Allocation} = (\%\ Circuit\ Allocation_{DER}) \times (Incremental\ system\ level\ DER\ limit)$$

4. Add aggregate executed DER to get the total anticipated DER.

3 Analysis

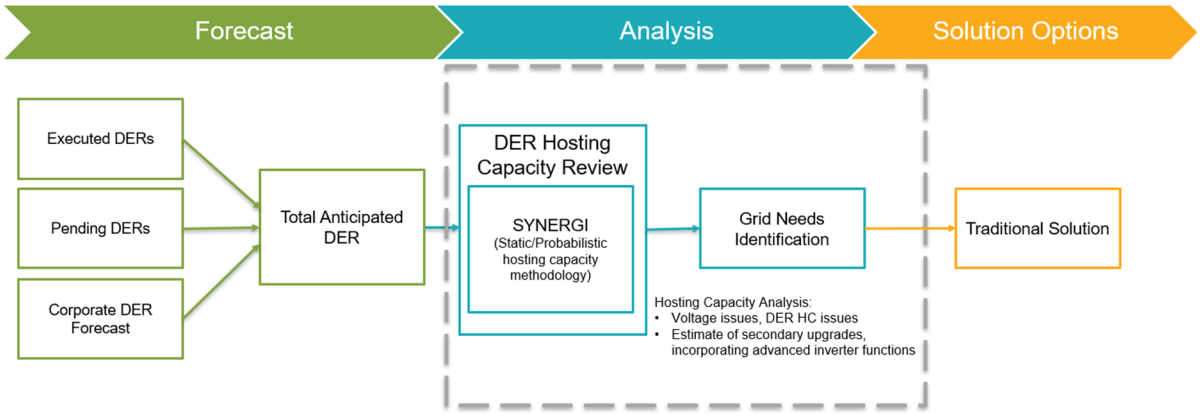

Figure 5. Analysis Stage of the Distribution Planning Process

This section describes steps 2 and 3 used to identify hosting capacity driven distribution grid needs:

1. Determine the annual anticipated DER (kW) by circuit.
2. **Screen circuits for analysis.**
3. **Perform substation transformer and circuit-level hosting capacity analysis.**
4. Identify grid needs and solution options.

A circuit-level hosting capacity assessment is used to determine if a circuit can accommodate the anticipated DER in the study period. A summary of the circuit selection and hosting capacity analysis process is shown in the figure below.

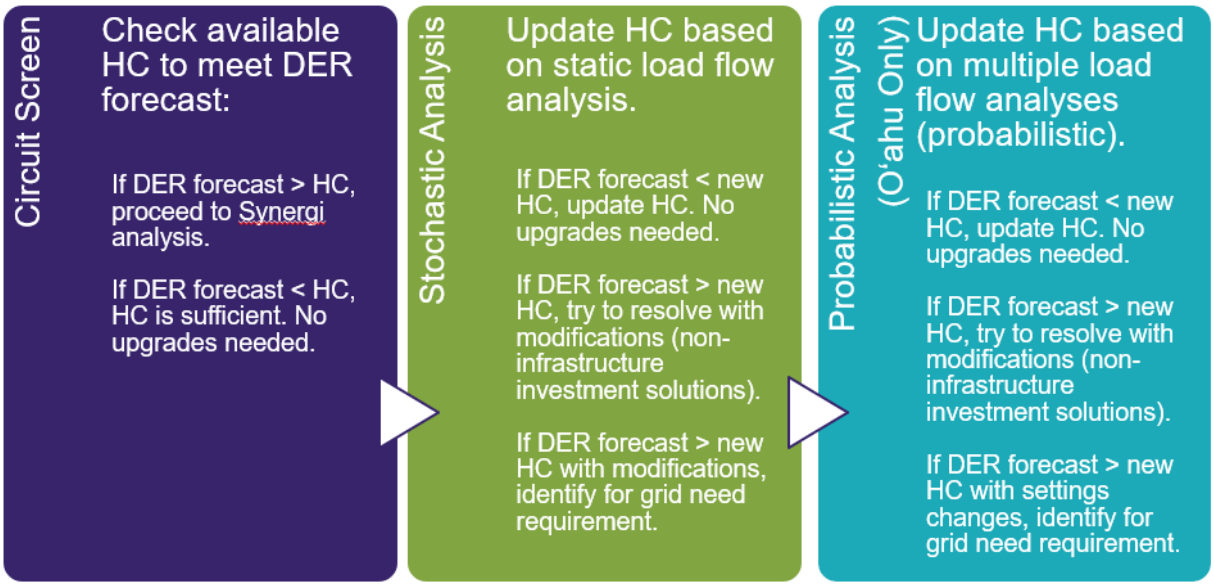

Figure 6. Summary of Hosting Capacity Analysis

3.1 SCREEN CIRCUITS FOR ANALYSIS

The Company utilizes a multi-step screening process, which increases in complexity (i.e., time and resources) to further assess the circuit's ability to host the forecasted DER. Circuits are screened and selected by comparing the anticipated DER by circuit described in Section 2 with the current hosting capacity to determine if the current circuit hosting capacity can accommodate the level of total anticipated DER in the last year of the study period (year 2025). If a circuit is unable to accommodate the anticipated DER in year 2025 with its current hosting capacity, the circuit is selected for further analysis where the hosting capacity is reassessed.

In summary, circuits are selected for further analysis if:

- Total anticipated DER in the year 2025 is greater than the current hosting capacity.

If the total anticipated DER in year 2025 is less than the current hosting capacity, then there are no grid needs and no further analysis is required.

Using this selection screening criteria, a total of 185 circuits using the high DER forecast are selected for further analysis. A summary of the circuits selected by island and forecast is shown

in the table below.[21] Company-owned radial distribution circuits are included in the hosting capacity analysis. Dedicated and network (non-radial) circuits are not included in the tables.

Table 2: Summary of Circuit Selection Screening

Island	Total Circuits	Existing Hosting Capacity Satisfies Need (Analysis Not Required)			Total Anticipated DER in 2025 > Hosting Capacity (Analysis Required)		
		Low	Base	High	Low	Base	High
O'ahu	384			303			81
Hawai'i Island	137			76			61
Maui Island	88			52			36
Lana'i	3			1			2
Moloka'i	8			3			5
Total (All Islands)	620			435			185

3.2 HOSTING CAPACITY ASSESSMENT

If a circuit is selected for further analysis, the circuit-level hosting capacity is reassessed and updated using one or both of the following methods:

1. Stochastic hosting capacity methodology.
2. Probabilistic hosting capacity methodology.

Both methods use the Synergi load flow software to simulate DER growth to determine the circuit hosting capacity for DER.

A stochastic hosting capacity analysis is done first. This method analyzes specific points in time that envelope the circuit's characteristics. This method is a much quicker analysis compared to the probabilistic method which is computationally intensive performing the analysis over a variation of DER growth scenarios utilizing time series data. The updated hosting capacity is then compared to the amount of anticipated DER in year 2025. If the revised hosting capacity

[21] Circuit selection screening results using the base and low DER forecasts will be provided in the GNA Review Point that is anticipated to be submitted during the first week of November 2021.

is greater than the amount of anticipated DER in year 2025, there are no grid needs and no further analysis is required.

If the updated hosting capacity is less than the anticipated DER in year 2025, a subsequent hosting capacity evaluation may be performed using the probabilistic hosting capacity for circuits with available models. If the probabilistic hosting capacity is higher than the anticipated DER in year 2025, the probabilistic hosting capacity will become the updated hosting capacity.

If the stochastic hosting capacity or probabilistic hosting capacity result is less than the anticipated DER in year 2025, the circuit is identified as requiring solution options and further described in Section 3.5.

3.3 STOCHASTIC HOSTING CAPACITY METHODOLOGY (PV GROW)

Initially, the hosting capacity is reassessed using Synergi's built-in PV Grow function. PV Grow stochastically adds PV generators to the selected feeders in proportion to customer load. Generators are added to the feeders until an exception, such as a voltage or thermal violation, occurs. Once an exception is hit, the amount of PV (kW) added plus existing becomes the feeder hosting capacity.

In this analysis, the hosting capacity is determined for a snapshot in time, specifically, the hour representing the daytime minimum load ("DML") and does not account for the capacity available at other hours which may vary due to load variations throughout the day. To perform this analysis, the following circuit data is input into Synergi:

- Minimum gross demand (kVA and kW) and date and time of occurrence.
- Peak demand (kVA and kW) and date and time of occurrence.

A load flow is simulated in conjunction with the PV Grow analysis to assess daytime minimum load conditions and hosting capacity for the base case. If there are base case violations, such as high and low voltages or thermal overloads, or the hosting capacity is lower than the anticipated DER, then simple mitigation solutions such as modifications to existing equipment (i.e. modifications that do not require infrastructure investments) will be applied and simulated again. These modifications may include substation LTC setting changes, switching, or phase balancing. If a solution option involves substation LTC setting changes then a load flow is also simulated using the peak demand case to verify no violations will occur with the new settings. This process is repeated until a solution option is found that results in no violations in both the DML and peak cases, and hosting capacity accommodates the anticipated DER. The results from the PV Grow analysis is the updated hosting capacity.

If no solution can be found using the PV Grow analysis, then additional analysis may be performed using the probabilistic hosting capacity methodology described below or the circuit is identified as requiring a grid need. Results of the PV Grow analysis are shown in Table 2.

3.4 PROBABILISTIC HOSTING CAPACITY METHODOLOGY

The probabilistic hosting capacity is an updated methodology developed in collaboration with the Electric Power Research Institute ("EPRI") that resulted from discussions with stakeholders to improve the hosting capacity methodology.[22] In contrast to the initial hosting capacity analysis, using the Synergi PV Grow function, that models a single DER growth scenario for a single hour, this updated method models 576 hourly profiles. Probabilistic modeling techniques are applied to calculate hosting capacity under multiple DER growth scenarios to provide a more robust hosting capacity and is described in further detail in the *Distribution Planning Methodology*. [23]

The hosting capacity is determined by creating a base case of the circuit model and utilizing circuit-level forecasts generated from LoadSEER, solar irradiance profiles and the scripts developed by EPRI in Synergi to execute the probabilistic hosting capacity analysis. The analysis produces a feeder hosting capacity profile by statistically analyzing feeder exceptions found at different DER penetration levels across multiple DER growth scenarios. Therefore, these results are expected to be a more precise representation of feeder hosting capacity thresholds than results from the PV Grow analysis.

Similar to the stochastic hosting capacity analysis, the probabilistic hosting capacity results are compared to the total anticipated DER in year 2025. If the probabilistic hosting capacity is higher than the anticipated DER, the results become the updated hosting capacity. If the probabilistic hosting capacity is lower than the anticipated DER, simple non-infrastructure investment solutions may be considered and reanalyzed. If the probabilistic hosting capacity is still lower than the anticipated DER, the circuit is identified as requiring a grid need. Results of the probabilistic hosting capacity analysis for O'ahu are combined with the results from Section 3.3 and are shown in Table 2.

[22] *See* Hawaiian Electric Companies' Initial Statement of Position on Deferred Issues and Technical Track Issues issued on August 14, 2017 in Docket No. 2014-0192.

[23] Hawaiian Electric, *Distribution Planning Methodology,* June 2020 at 13-17.

3.5 HOSTING CAPACITY RESULTS

The hosting capacity analysis results are grouped into the following categories by circuit:

- **Existing Hosting Capacity Satisfies Need**: Existing hosting capacity can accommodate the total anticipated DER in year 2025. No grid needs are required.
- **Updated Hosting Capacity (Without Modifications) Satisfies Need:** Updated hosting capacity can accommodate the total anticipated DER in year 2025. No grid needs are required.
- **Updated Hosting Capacity (With Modifications) Satisfies Need:** Updated hosting capacity along with modifications that do not require infrastructure investments can accommodate the total anticipated DER in year 2025.
- **Solution Option Required:** Updated hosting capacity is unable to accommodate the total anticipated DER in year 2025. Grid need identified.

A summary of the hosting capacity assessment by island is shown below using each forecast.[24] The results for O'ahu include results from both the stochastic and probabilistic analyses. For all other islands, the results are from the PV Grow analysis. Hosting capacity results by circuit by island are detailed in Appendix C:. Hosting capacity results by circuit by island are detailed in Appendix C:.

[24] This report includes results using the high DER forecast only. Results using the Base and Low DER Forecasts will be provided in the GNA Review Point that is anticipated to be submitted during the first week of November 2021.

Table 3: Summary of Hosting Capacity Results

Island	Forecast	Grid Needs Not Required		Grid Needs Required		Total Circuits
		Existing Hosting Capacity Satisfies Need	Updated HC (w/o modifications) Satisfies Need	Updated HC (w/ modifications) Satisfies Need	Solution Option Required	
Oʻahu	High	303	49	15	17	384
	Base					
	Low					
Hawaiʻi Island	High	76	25	34	2	137
	Base					
	Low					
Maui Island[25]	High	52	16	12	6	88
	Base					
	Low					
Lanaʻi	High	1	0	0	2	3
	Base					
	Low					
Molokaʻi	High	3	0	0	5	8
	Base					
	Low					
Total (All Islands)	High	435	90	61	32	620
	Base					
	Low					

[25] Grid needs required and grid needs not required totals do not match total circuits count for Maui Island. There are two circuits (Huelo 74A/Huelo and Kauhikoa 98/1295) that have a Total 2025 DER forecast higher than Existing Hosting Capacity. These circuits are unable to be analyzed further at this time because circuit models do not exist. Models for these circuits are being developed.

3.5.1 High DER Forecast

Of the 620 circuits assessed, 435 circuits are able to accommodate the total anticipated DER in 2025 with the existing hosting capacity using the high DER forecast. In addition, 90 circuits are able to accommodate the anticipated DER through an updated hosting capacity without grid needs. The remaining 93 circuits are identified as requiring grid needs and are discussed in the Section 4. Two circuits need models to complete the analysis.

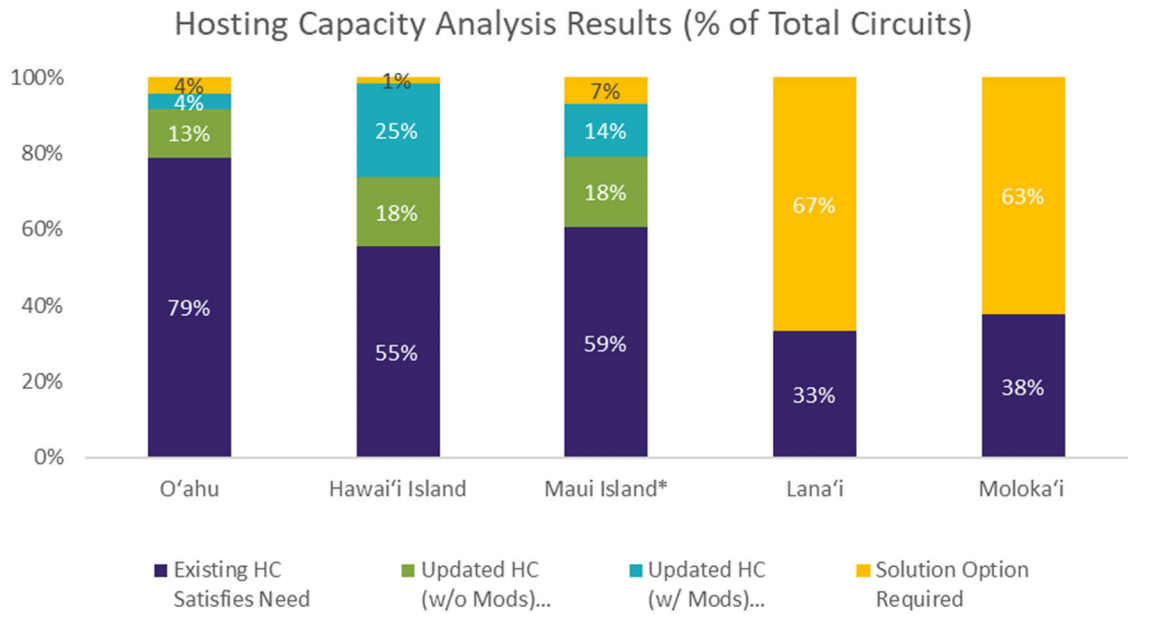

Figure 7: Summary of Hosting Capacity Results (% of Total Circuits) Using the High DER Forecast[26]

[26] Total percentage for Maui Island does not equal to 100 % because two circuits do not have models to perform an analysis.

4 Grid Needs

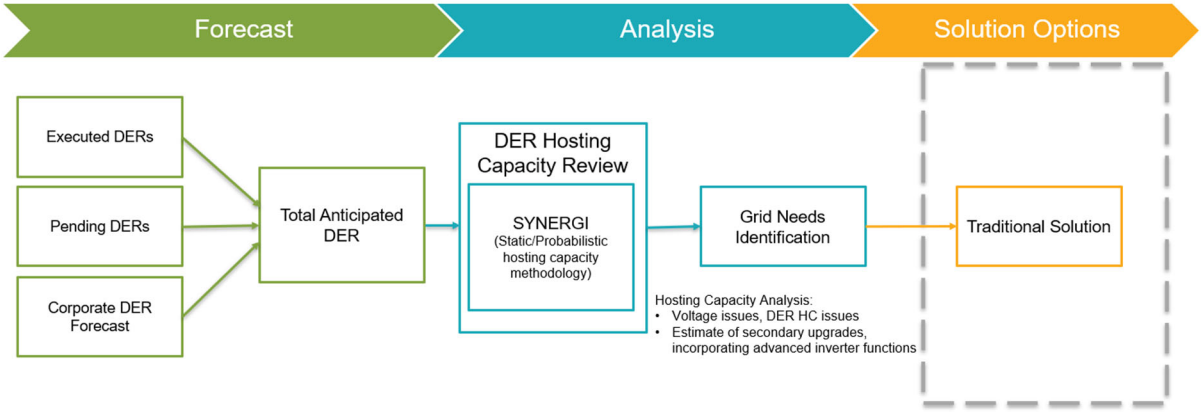

Figure 8: Solution Options Stage of the Distribution Planning Process

This section describes the last step to identify distribution grid needs:

1. Determine the annual anticipated DER (kW) by circuit.
2. Screen circuits for analysis.
3. Perform substation transformer and circuit-level hosting capacity analysis.
4. **Identify grid needs and solution options.**

Grid needs are identified for circuits requiring mitigation resulting from the hosting capacity analysis described in Section 3. A circuit is flagged as requiring mitigation if the hosting capacity is unable to accommodate the anticipated DER in 2025. For these circuits, the annual anticipated DER for each year for the study period (year 2021 through 2025) is compared to the hosting capacity. The earliest year that the anticipated DER is greater than the hosting capacity is identified as the year in which mitigation is required (i.e. operating date). A comparison of the annual anticipated DER to updated hosting capacity by circuit for each island is detailed in Appendix D:.

As described in the *Distribution Planning Methodology*, a traditional solution will be defined for each grid need identified and include:[27]

- **Substation**: Transformer asset identification
- **Circuit**: Feeder asset identification
- **Distribution Service Required**: Hosting Capacity, Distribution Capacity or Distribution Reliability (Back-Tie) Service

[27] Hawaiian Electric, *Distribution Planning Methodology*, June 2020 at 20.

- **Primary Driver of Grid Need**: Defines whether the identified grid need is primarily driven by DER growth, demand growth, other factor(s), or a combination of factors
- **Violation Type**: Thermal and/or voltage violation that triggers the grid need
- **Operating Date**: The date at which traditional infrastructure must be constructed and energized, in advance of the forecasted grid need to maintain safety and reliability
- **Traditional Solution**: Traditional solution identified for mitigation (Solution Options)
- **Cost Estimate**: Estimated cost to provide traditional solution identified.

The following hosting capacity grid needs assessment tables are simplified and do not include all the fields defined above as some are not applicable for the hosting capacity grid needs or the fields are consistent for all islands for all years. The following fields are applicable to all islands and are not replicated in the following tables:

- Distribution Service Required: Increase circuit hosting capacity
- Primary Driver of Grid Need: DER growth

4.1 HIGH DER FORECAST

Using the high DER forecast, of the 93 circuits identified as requiring grid needs in Section 3.5.1, 61 circuits have solution options which can be addressed through modifications to existing equipment. Since these solutions do not require infrastructure investments, the cost to implement is minimal and therefore not shown in the following tables. These modifications include:

- LTC Settings Change: Adjusting the load tap changer ("LTC") on an existing transformer or regulator

The remaining 32 circuits have solutions requiring infrastructure investments such as:

- Circuit phase balancing
- Dynamic LTC
- Line regulator installed
- New tie switch
- Reconductoring
- Step-down transformer upgrade

Table 4: Grid Needs Assessment Summary Using the High DER Forecast

Island	Total Circuits	Violation Type[28]		Solution Option	
		Voltage	Conductor Overload	LTC Settings Change	Infrastructure Investments
O‘ahu	32	31	5	20	17
Hawai‘i Island	36	36	–	36	2
Maui Island	20	17	2	13	6
Lana‘i	2	2	–	–	2
Moloka‘i	5	5	–	–	5
Total (All Islands)	95	91	7	69	32

The grid needs assessment by island by circuit are detailed in the following tables.

O‘ahu

Table 5: O‘ahu Grid Needs Assessment Using the High DER Forecast

Substation	Circuit	Violation Type	Operating Date	Traditional Solution	Cost Estimate
AIEA 2	AIEA	Voltage	2022	LTC setting change	–
WAILUPE	AINA KOA	Voltage	2022	Circuit phase balancing	$14,400
KAMILOIKI	ANUU	Voltage	2023	LTC setting change	–
KAPAHULU 4	DIAMOND HEAD	Voltage	2022	LTC setting change	–
EWA BEACH 2	EWA BEACH 3	Voltage	2023	LTC setting change	–
EWA BEACH 2	EWA BEACH 4	Voltage	2023	LTC setting change	–
KAHALA 2 4KV	FARMERS RD	Voltage, conductor overloading	2023	Circuit phase balancing, Install two 3ph line regulators, Reconductoring	$605,191
WAIALUA 2	KAENA PT	Voltage	2023	LTC setting change	–

[28] Circuit totals by violation type do not match the total circuits column as one circuit on O‘ahu has both voltage and conductor overload violations and is counted in both columns.

Substation	Circuit	Violation Type	Operating Date	Traditional Solution	Cost Estimate
KAHALA 1 4KV	KAHALA	Voltage, conductor overloading	2022	LTC setting change, Install 3ph line regulator, Reconductoring, new tie switch	$1,206,917
KEOLU 2	KAILUA HTS	Voltage	2025	LTC setting change	-
KALAMA 1 4KV	KAINALU	Voltage, conductor overloading	2021	Dynamic LTC, Install two 1ph line regulators, Reconductoring	$439,727
AIKAHI 1	KALAHEO	Voltage	2025	LTC setting change	-
WAIALUA 3	KAWAILOA	Voltage	2021	LTC setting change	-
KAHALA 2 4KV	KILAUEA 4KV	Voltage	2022	Circuit phase balancing and Install 3ph line regulator	$213,600
KAHALA 2 4KV	KOLOA	Voltage, conductor overloading	2024	Circuit phase balancing, Install 3ph line regulator, Reconductoring	$470,854
KUILIMA 2	KUILIMA 1	Voltage	2025	LTC setting change	-
WOODLAWN 2	LOWREY	Voltage	2023	LTC setting change and Install two 1ph line regulators	$140,000
MAKAKILO 2	MAKAKILO 2	Voltage	2022	LTC setting change	-
PIIKOI 3	MANOA-PIIKOI	Voltage	2024	Circuit phase balancing and LTC setting change	$3,600
MAKAHA 2	MAUKA	Voltage	2023	Circuit phase balancing	$3,600
MIKILUA 2	MIKILUA 3	Voltage	2023	Circuit phase balancing and LTC setting change	$3,600
MIKILUA 2	MIKILUA 4	Voltage, transformer overloading	2021	LTC setting change and step-down transformer upgrade	$68,000
MIKILUA 3	MIKILUA 5	Voltage	2023	Dynamic LTC	$154,000

Substation	Circuit	Violation Type	Operating Date	Traditional Solution	Cost Estimate
KALAMA 1 4KV	ONEAWA	Voltage	2022	LTC setting change	-
PAUOA 1	PAUOA 2	Voltage	2023	Circuit phase balancing and partial 4kV-12kV conversion	$610,200
PIIKOI 4	PIIKOI 8	Conductor overloading	2022	Reconductoring	$270,000
AHI 2	PORTLOCK	Voltage	2024	LTC setting change	-
WAIALUA 3	WAIALUA	Voltage	2022	LTC setting change	-
WAILUPE	WAILUPE	Voltage	2023	Circuit phase balancing	$7,200
WAIMANALO BCH 1	WAIMANALO	Voltage	2025	Dynamic LTC	$154,000
WAIMEA 1	WAIMEA 2	Voltage	2024	LTC setting change	-
WAIALAE 1 4KV	WAI-WILHELMINA	Voltage	2025	Install two 1ph line regulators	$140,000

Hawai'i Island

Table 6: Hawaii Island Grid Needs Assessment Using the High DER Forecast

Substation	Circuit	Violation Type	Operating Date	Traditional Solution	Cost Estimate
Captain Cook	Captain Cook 12	Voltage	2025	LTC setting change	-
Halaula	Halaula 1	Voltage	2022	LTC setting change and Install two 3ph line regulator	$420,000
Hawaiian Paradise Park 2	Hawaiian Paradise Park 13	Voltage	2021	LTC setting change	-
Hawaiian Paradise Park 2	Hawaiian Paradise Park 14	Voltage	2021	LTC setting change	-
Honokaa 2	Honokaa 12	Voltage	2021	LTC setting change	-
Honomu	Honomu 1	Voltage	2022	LTC setting change	-
Huehue	Huehue 11	Voltage	2024	LTC setting change	-
Kahaluu 1	Kahaluu 11	Voltage	2025	LTC setting change	-

Substation	Circuit	Violation Type	Operating Date	Traditional Solution	Cost Estimate
Kaloko 2	Kaloko 13	Voltage	2025	LTC setting change	-
Kapua 1	Kapua 11	Voltage	2021	LTC setting change	-
Kauhale	Kauhale 11	Voltage	2021	LTC setting change	-
Kauhale	Kauhale 12	Voltage	2021	LTC setting change	-
Kaumana	Kaumana 11	Voltage	2025	LTC setting change	-
Kawaihae	Kawaihae 11	Voltage	2024	LTC setting change	-
Kawaihae	Kawaihae 12	Voltage	2025	LTC setting change	-
Keahole Airport	Keahole Airport 11	Voltage	2022	LTC setting change	-
Keahole Airport	Keahole Airport 12	Voltage	2025	LTC setting change	-
Keahole Airport	Keahole Airport 13	Voltage	2024	LTC setting change	-
Komohana 1	Komohana 12	Voltage	2021	LTC setting change	-
Kuakini 1	Kuakini 11	Voltage	2023	LTC setting change	-
Kurtistown	Kurtistown 12	Voltage	2021	LTC setting change	-
Laupahoehoe	Laupahoehoe 2	Voltage	2022	LTC setting change	-
Mauna Lani 2	Mauna Lani 14	Voltage	2021	LTC setting change	-
Namakani Paio	Namakani Paio	Voltage	2021	LTC setting change	-
Ookala	Ookala	Voltage	2021	LTC setting change	-
Orchid Isle	Orchid Isle 11	Voltage	2021	LTC setting change	-
Orchid Isle	Orchid Isle 12	Voltage	2021	LTC setting change	-
Paauilo	Paauilo 1	Voltage	2021	LTC setting change	-
Palani 2	Palani 14	Voltage	2021	LTC setting change	-
Panaewa	Panaewa 12	Voltage	2021	LTC setting change	-
Puueo 2	Puueo 11	Voltage	2021	LTC setting change	-
Puueo 2	Puueo 12	Voltage	2021	LTC setting change	-
Puuwaawaa	Puuwaawaa 11	Voltage	2021	LTC setting change and Install 3ph line regulator	$210,000

Substation	Circuit	Violation Type	Operating Date	Traditional Solution	Cost Estimate
Waikii	Waikii 12	Voltage	2021	LTC setting change	-
Waikoloa	Waikoloa 12	Voltage	2022	LTC setting change	-
Waipunahina	Waipunahina 11	Voltage	2022	LTC setting change	-

Maui

Table 7: Maui Island Grid Needs Assessment Using the High DER Forecast

Substation	Circuit	Violation Type	Operating Date	Traditional Solution	Cost Estimate
Huelo[29]	Huelo 74A/Huelo	TBD	2024	TBD	TBD
Kahului 4	Kahului 8/4048	Voltage	2024	LTC setting change	-
Kahului 5	Kahului 8/4049	Voltage	2021	LTC setting change	-
Kauhikoa[30]	Kauhikoa 98/1295	TBD	2025	TBD	TBD
Kihei 4	Kihei 35/1515	Voltage	2023	Install 3ph line regulator	$210,000
Kuau	Kuau 73/4066	Voltage	2021	LTC setting change	-
Kuihelani	Kuihelani 209/1653	Voltage	2021	LTC setting change	-
Kuihelani	Kuihelani 209/1708	Voltage	2021	LTC setting change	-
Kula	Kula 13/1237	Voltage, conductor overloading	2021	Reconductor and Install two 3ph line regulator	$2,235,909
Kula	Kula 13/1238	Voltage	2023	LTC setting change	-
Lahaina 5	Lahaina 34/1398	Voltage	2021	Install 3ph line regulator	$210,000

[29] Grid needs assessment not yet complete.

[30] Grid needs assessment not yet complete.

Substation	Circuit	Violation Type	Operating Date	Traditional Solution	Cost Estimate
Makawao	Makawao 12/1236	Voltage	2023	LTC setting change	-
Onehee	Onehee 40/4055	Conductor overloading	2025	Reconductor	$560,000
Paia Mauka	Paia Mauka 93/4042	Voltage	2021	Circuit phase balancing	$14,400
Peahi	Peahi 94/1294	Voltage	2021	LTC setting change	-
Pukalani 1	Pukalani 17/1282	Voltage	2022	LTC setting change	-
Spreckelsville	Spreckelsville 92/4043	Voltage	2021	LTC setting change	-
Waiinu 3	Waiinu 36/1493	Voltage	2022	LTC setting change	-
Wailea 4	Wailea 25/1517	Voltage	2022	Circuit phase balancing and LTC setting change	$14,400
Wailea 4	Wailea 25/1518	Voltage	2022	LTC setting change	-

Lana'i

Table 8: Lanai Grid Needs Assessment Using the High DER Forecast

Substation	Circuit	Violation Type	Operating Date	Traditional Solution	Cost Estimate
Miki Basin	Miki Basin PP 302/1208	Voltage	2023	Install 3ph line regulator	$252,000
Miki Basin	Miki Basin PP 302/1210	Voltage	2022	Install 3ph line regulator	$252,000

Moloka'i

Table 9: Molokai Grid Needs Assessment Using the High DER Forecast

Substation	Circuit	Violation Type	Operating Date	Traditional Solution	Cost Estimate
Palaau	Palaau PP 81/105A	Voltage	2022	Install 3ph line regulator	$252,000
Palaau	Palaau PP 81/106B	Voltage	2023	Install 3ph line regulator	$252,000
Palaau	Palaau PP 81/109B	Voltage	2021	Install 3ph line regulator	$252,000
Palaau	Palaau PP 81/110B	Voltage	2021	Install 3ph line regulator	$252,000
Palaau	Palaau PP 81/111A	Voltage	2021	Install three 3ph line regulator	$756,000

5 Summary and Next Steps

With the use of advanced tools and analysis (e.g., LoadSEER and Synergi), the Company has been able to do a wide-scale update of the available hosting capacity on all primary distribution circuits, as well as determine which circuits require further analysis to accommodate the total anticipated DER in year 2025.

Using the high DER forecast, the analysis finds:

- 525 circuits do not require grid needs:
  - 435 circuits can accommodate the 5-year DER forecast with existing hosting capacity.
  - 90 circuits can accommodate the 5-year DER forecast through updated hosting capacity without modifications.
- 93 circuits require grid needs at the primary distribution circuit-level:
  - 61 circuits can accommodate through minimal investment (e.g., LTC setting changes).
  - 32 circuits require solutions/mitigations, which will serve as an input to the Grid Needs Assessment stage of the IGP process. Total estimated costs for traditional solutions on all islands is $10.6 M.
- 2 circuits need models to complete analysis.[31]

Updated hosting capacities and implementation of the above mitigations and solutions will provide an increase of hosting capacity of 64 MW on Oʻahu, 37 MW on Hawaiʻi Island, 64 MW on Maui Island, 0.17 MW on Lanaʻi, and 1.4 MW on Molokaʻi.

As mentioned previously, results using the base and low DER Forecasts will be provided in the GNA Review Point that is anticipated to be submitted during the first week of November 2021.

Consistent with the *Non-Wires Opportunity Evaluation Methodology*,[32] cost estimates are developed for solutions that require significant upgrades. These estimates will be used as inputs to the Grid Needs Assessment stage of the IGP process to evaluate if they qualify as an NWA opportunity, and if so, be procured as part of the overarching IGP process where a portfolio of solutions will be selected to address the identified grid needs.

[31] Huelo 74A/Huelo and Kauhikoa 98/1295 on Maui Island.

[32] Hawaiian Electric, Non-Wires Opportunity Evaluation Methodology June 2020, https://www.hawaiianelectric.com/documents/clean_energy_hawaii/integrated_grid_planning/stakeholder_engagement/working_groups/distribution_planning/20200602_dpwg_non_wires_opportunity_evaluation_methodology.pdf

Appendix A: Adjusted DER Growth by Island (2021–2025)

1. CORPORATE DER FORECAST

The corporate DER forecast is a key assumption for the grid needs analysis since it is the source to derive the circuit-level DER forecast. This forecast, in combination with the hosting capacity, determines whether a circuit can accommodate the anticipated circuit-level DER growth. The current DER market forecast provided in the 2020 Integrated Grid Planning Inputs and Assumptions March 2021 Update served as the basis to compile the total anticipated DER for the study period shown in Appendix D:.

2. ADJUSTMENTS

As described in Section 2.2, the August Update corporate DER forecast does not consider projects such as CBRE Phase 2 small projects or pending known large projects[33], so adjustments to the 5-year DER forecast are included to create the forecasted DER growth and adjusted DER growth, respectively. These adjustments are shown in the following tables.

High DER Forecast

Oʻahu

Table 10: Oʻahu Annual DER Forecast (kW)

Year	Adjusted DER Growth[34]			
	Forecasted DER Growth[35]		Adjustment for Large Projects (Cumulative kW)	Adjusted DER Growth (Incremental kW)
	Corporate DER Forecast (Cumulative kW)	Adjustment for CBRE Phase 2 Small Projects (Cumulative kW)		

[33] Large projects include CBRE Phase 1, FIT, and large SIA (> 250 kW).

[34] Adjusted DER Growth = Forecasted Growth + Adjustment for Large Projects

[35] Forecasted DER Growth = Corporate DER Forecast + Adjustment for CBRE Phase 2 Small Projects

kW	A	B	C	D = $(A+B+C)_1 - (A+B+C)_0$
2020	534,704	0	0	n/a
2021	599,748	6,000	29,822	100,866
2022	702,500	12,000	35,025	113,955
2023	767,994	18,000	35,025	71,494
2024	817,264	24,000	39,694	59,939
2025	865,746	30,000	39,694	54,482

Hawai‘i Island

Table 11: Hawai‘i Island Annual DER Forecast (kW)

Year	Adjusted DER Growth[34]			Adjusted DER Forecast (Incremental kW)
	Forecasted DER Growth[35]		Adjustment for Large Projects (Cumulative kW)	
	Corporate DER Forecast (Cumulative kW)	Adjustment for CBRE Phase 2 Small Projects (Cumulative kW)		
kW	A	B	C	D = $(A+B+C)_1 - (A+B+C)_0$
2020	110,108	0	0	n/a
2021	123,313	1,500	850	15,556
2022	137,923	3,000	850	16,110
2023	151,291	4,500	850	14,868
2024	164,334	6,000	850	14,543
2025	177,645	7,500	850	14,811

Maui Island

Table 12: Maui Island Annual DER Forecast (kW)

	Adjusted DER Growth[34]	

Year	Forecasted DER Growth[35]		Adjustment for Large Projects (Cumulative kW)	Adjusted DER Forecast (Incremental kW)
	Corporate DER Forecast (Cumulative kW)	Adjustment for CBRE Phase 2 Small Projects (Cumulative kW)		
kW	A	B	C	$D = (A+B+C)_1 - (A+B+C)_0$
2020	119,232	0	0	n/a
2021	132,370	1,695	1,750	16,582
2022	147,483	3,390	1,750	16,808
2023	162,215	5,085	1,750	16,427
2024	176,170	6,780	1,750	15,650
2025	189,797	8,475	1,750	15,322

Lanaʻi

Table 13: Lanaʻi Annual DER Forecast (kW)

Year	Adjusted DER Growth[34]			Adjusted DER Forecast (Incremental kW)
	Forecasted DER Growth[35]		Adjustment for Large Projects (Cumulative kW)	
	Corporate DER Forecast (Cumulative kW)	Adjustment for CBRE Phase 2 Small Projects (Cumulative kW)		
kW	A	B	C	$D = (A+B+C)_1 - (A+B+C)_0$
2020	833	0	0	n/a
2021	888	0	0	55
2022	949	0	0	61
2023	1,087	0	0	138
2024	1,152	0	0	65
2025	1,294	0	0	142

Moloka‘i

Table 14: Moloka‘i Annual DER Forecast (kW)

	Adjusted DER Growth[34]			
	Forecasted DER Growth[35]		Adjustment for Large Projects (Cumulative kW)	Adjusted DER Forecast (Incremental kW)
Year	Corporate DER Forecast (Cumulative kW)	Adjustment for CBRE Phase 2 Small Projects (Cumulative kW)		
kW	A	B	C	$D = (A+B+C)_1 - (A+B+C)_0$
2020	2,678	0	0	n/a
2021	3,015	0	250	587
2022	3,360	0	250	345
2023	3,642	0	250	282
2024	3,962	0	250	320
2025	4,212	0	250	250

Appendix B: Adjusted DER Growth by Circuit (2021 – 2025)

O‘ahu

Table 15: O‘ahu Adjusted DER Growth by Circuit (kW)

Circuit	2021	2022	2023	2024	2025
AALA	127.6	219.3	141.8	135.6	120.3
AALAPAPA	197.5	450.0	240.1	192.6	203.3
AHUA	235.5	318.7	115.0	242.1	101.9
AHUI	0.0	0.0	0.0	0.0	0.0
AIEA	293.6	434.1	243.2	299.3	397.7
AIEA 2	40.8	67.9	35.0	22.2	43.0
AIEA 3	48.6	68.0	128.0	112.0	66.9
AINA KOA	592.7	709.4	593.7	253.7	591.2
AINONI	76.1	87.9	95.2	76.5	69.8
AIRPORT	300.0	300.0	107.6	200.0	7.6
AIRPORT 1	100.0	0.0	0.0	0.0	0.0
AIRPORT 2	100.0	0.0	0.0	0.0	0.0
ALA MOANA	0.0	100.0	100.0	0.6	0.0
ALEWA	28.7	56.5	48.0	18.8	30.5
ALIAMANU	474.9	372.1	397.4	320.8	268.3
ANOI	282.0	258.5	246.7	159.1	146.3
ANUU	325.3	462.7	455.9	436.8	284.6
ARCHER 1	200.0	0.0	0.0	100.0	100.0

Circuit	2021	2022	2023	2024	2025
ARCHER 2	200.0	0.0	0.0	106.0	0.0
ARCHER 3	514.0	414.5	101.9	101.9	123.8
ARCHER 4	0.0	0.0	0.0	100.0	0.0
AUDITORIUM	132.8	468.8	33.7	32.3	226.7
BARBERS PT	405.0	236.5	109.3	93.3	206.1
BAY DR	80.2	93.9	86.8	34.7	50.1
BEACH LOTS	434.4	424.3	446.6	347.9	247.4
BECKLEY	22.5	22.3	25.2	10.7	8.0
BLACK PT	40.5	15.2	26.2	10.0	25.5
BWS	151.4	265.8	150.7	129.3	236.2
CARLOS LONG	301.7	264.7	285.5	197.6	171.0
CASTNER	277.0	234.3	204.7	121.7	232.4
CEIP 3	999.6	322.7	0.0	0.0	100.0
CEIP 4	98.5	183.9	133.3	116.2	82.3
CKT 10	0.0	100.0	0.0	0.0	0.0
CKT 12	0.0	0.0	0.0	200.0	0.0
CKT 16	4074.6	1000.0	300.0	301.4	101.4
CKT 18	258.9	402.4	165.5	140.1	136.6
CKT 6	0.0	0.0	0.0	0.0	0.0
CKT 7	369.6	184.9	269.2	147.2	153.0
CKT 8	0.0	100.0	0.0	0.0	0.0
COCONUT GROVE	83.6	214.8	107.0	61.3	55.4
DAIRYMENS	100.6	73.8	65.4	71.0	75.8
DE RUSSY	100.0	100.0	0.0	0.0	0.0

Circuit	2021	2022	2023	2024	2025
DEPOT RD	198.0	238.6	226.4	141.2	129.2
DIAMOND HEAD	356.2	983.7	524.5	59.8	494.6
DOLE 1	4.4	251.4	6.7	0.0	2.3
EKEKELA	52.3	100.6	65.0	49.6	58.1
ENA 1	28.6	147.5	54.8	38.2	133.9
ENA 2	0.0	0.0	0.0	0.0	0.0
ENCHANTED LAKES	315.6	436.2	221.6	266.0	216.9
EWA BEACH 1	675.7	815.0	744.1	462.5	402.4
EWA BEACH 2	451.6	542.6	401.3	349.2	346.3
EWA BEACH 3	355.6	838.1	610.5	347.1	229.1
EWA BEACH 4	572.3	1038.8	1027.7	671.4	505.0
EWA NUI 1	692.2	585.0	438.1	344.6	321.7
EWA NUI 2	652.1	1515.0	1344.5	513.4	523.5
FARMERS RD	174.1	130.0	269.9	53.2	171.8
FORT ST	11.6	16.7	13.4	106.6	11.7
FORT ST 1	200.0	100.0	0.0	0.0	0.0
FORT ST 2	17.1	137.8	28.3	11.6	21.5
FORT ST 3	14.3	40.2	112.1	6.8	3.7
FORT ST 4	123.6	275.0	217.3	68.1	84.0
FORT WEAVER 1	378.1	720.3	591.2	489.5	326.1
FORT WEAVER 2	773.9	756.7	699.6	494.3	440.9
FORT WEAVER 3	470.3	901.8	483.1	571.1	481.4
FORT WEAVER 4	360.4	432.7	353.0	268.0	236.0
HAHAIONE	137.0	571.9	273.8	263.2	163.3

Circuit	2021	2022	2023	2024	2025
HALA 1	575.7	254.1	106.1	98.4	90.4
HALA 2	219.5	300.0	171.4	139.5	96.8
HALA 3	495.8	501.0	329.0	207.1	187.5
HALA 4	198.9	123.9	218.5	90.9	69.2
HALAWA	225.9	477.4	168.6	309.4	209.5
HALEKOU	298.0	359.2	271.7	250.5	197.0
HANUA 1	0.0	0.0	0.0	0.0	0.0
HANUA 2	0.0	0.0	0.0	0.0	0.0
HAUULA	5008.8	217.4	164.4	111.8	105.6
HAWN PINE	666.0	300.0	100.0	0.0	114.3
HAWN VILLAGE 1	0.0	103.2	2.1	1.1	100.0
HAWN VILLAGE 2	73.9	146.5	131.8	66.0	42.3
HEEIA	382.7	505.9	305.0	239.2	291.4
HEIGHTS	63.8	94.1	81.8	57.9	73.3
HELEMANO	624.4	208.3	172.4	157.1	118.9
HIGHLANDS	457.1	635.6	541.7	408.9	310.1
HIKINA	9.4	68.2	11.4	16.3	13.5
HILA 1	103.8	218.5	522.8	114.7	14.1
HILA 2	164.3	223.8	117.7	60.6	72.3
HILA 3	408.3	225.9	200.0	8.1	102.7
HILA 4	0.0	0.0	0.0	0.0	0.0
HILA 5	439.4	212.9	146.7	300.8	402.8
HILA 6	0.0	0.0	0.0	0.0	0.0
HOAEAE 1	668.8	1042.9	763.1	575.1	606.0

Circuit	2021	2022	2023	2024	2025
HOAEAE 2	10.2	169.2	154.7	316.3	13.2
HOAEAE 3	955.6	418.1	391.4	751.0	386.7
HOUGHTAILING	63.8	93.8	138.2	438.5	131.9
HUNAKAI	40.5	167.8	59.0	30.9	33.2
ILANIWAI	204.1	100.0	0.0	0.0	2.1
ILIAINA	118.9	212.7	57.6	64.2	170.1
ILIKAI	67.4	103.9	67.9	79.9	73.0
INDUSTRIAL	707.4	864.1	0.0	0.0	0.0
IWILEI 1 11KV	128.4	617.2	210.2	300.0	267.0
IWILEI 13	0.0	0.0	0.0	0.0	0.0
IWILEI 9	0.0	0.0	0.0	0.0	0.0
KAALAKEI	221.5	310.4	376.6	203.4	202.3
KAENA PT	329.1	581.1	351.2	245.2	253.2
KAHAI	1211.5	415.7	256.0	41.9	15.2
KAHALA	287.9	447.6	143.1	306.3	72.4
KAHALA 3	4219.2	552.3	616.7	383.7	386.5
KAHALA MALL	223.1	290.8	413.7	70.8	211.4
KAHALOA	80.0	136.0	128.5	67.7	57.4
KAHE	499.5	507.5	311.2	188.4	172.9
KAHUKU	489.9	637.0	269.8	300.6	212.4
KAI-HARDING	13.8	22.4	44.9	30.2	23.4
KAI-KAIMUKI	39.8	67.0	51.8	29.0	40.2
KAILUA 1	552.8	421.1	495.1	120.7	395.6
KAILUA 2	671.8	1018.0	951.6	555.8	427.1

Circuit	2021	2022	2023	2024	2025
KAILUA HTS	360.6	741.2	499.9	346.5	253.4
KAINALU	312.3	441.2	186.9	128.9	75.8
KAI-WAIALAE	67.7	125.2	53.5	56.3	72.7
KAI-WILHELMINA	128.7	76.0	40.3	28.9	19.5
KAKAAKO 5	20.8	26.8	35.1	21.8	29.7
KAKAAKO 6	0.0	100.0	0.0	100.0	0.0
KAKAAKO 8	720.0	0.0	200.0	0.0	0.0
KAKAAKO 9	147.2	236.0	15.4	206.1	103.8
KALAHEO	90.2	74.3	99.2	129.1	271.5
KALAHEO 1	0.0	100.0	0.0	100.0	0.0
KALAHEO 2	0.0	0.0	0.0	0.0	0.0
KALAKAUA	325.9	121.4	25.3	18.4	11.7
KALAMA	22.3	65.8	267.9	39.5	21.8
KALIA	0.0	0.0	0.0	0.0	0.0
KALIHI	7.9	106.6	5.3	105.3	11.9
KALIHI KAI	57.9	274.4	122.1	19.2	50.7
KALIHI ST	32.0	133.9	131.7	51.6	72.4
KALIHI UKA	21.7	84.5	46.1	39.7	30.2
KALIHI VALLEY	69.3	114.7	101.0	61.0	63.5
KALOI 1	100.0	0.0	300.0	0.0	200.0
KAM HWY	103.8	149.5	80.7	143.2	111.8
KAM IV	90.9	165.1	101.5	55.5	132.9
KAM TERRACE	129.9	276.3	115.2	400.0	189.0
KAMAKEE	5.4	8.1	1.2	2.3	4.3

Circuit	2021	2022	2023	2024	2025
KAMANI	125.4	0.0	5.1	0.0	100.0
KAMOKILA 1	276.3	200.0	127.9	0.0	100.0
KAMOKILA 2	205.0	457.3	213.0	120.2	288.1
KAMOKILA 3	916.0	300.0	0.0	0.0	149.3
KAMOKILA 4	245.6	359.1	328.3	223.8	195.7
KAMOKILA 5	0.0	700.0	215.7	222.8	0.0
KAMOKILA 6	116.0	196.2	181.0	121.1	111.0
KAMOKU 10	0.0	0.0	0.0	0.0	0.0
KAMOKU 9	0.0	0.0	0.0	0.0	0.0
KANAINA	430.8	609.2	361.5	269.4	384.6
KANEKAPOLEI	161.8	284.0	159.1	47.9	256.7
KANEOHE 5	139.1	207.5	167.1	150.0	169.9
KANEOHE 6	355.9	175.1	302.5	83.7	37.0
KAONOHI 1	343.4	473.2	149.2	142.8	258.6
KAONOHI 2	225.7	646.5	332.5	219.9	182.7
KAONOHI 3	50.7	80.1	60.0	58.5	58.5
KAONOHI 4	176.1	194.5	93.9	69.1	70.1
KAPAHULU 1	124.2	29.6	22.5	13.5	15.3
KAPAHULU 2	0.0	0.0	0.0	0.0	0.0
KAPAHULU 3	0.0	200.0	0.0	11.7	0.0
KAPAHULU 4	12.5	65.2	32.7	15.1	20.5
KAPALAMA	34.0	48.8	35.2	25.6	14.3
KAP-HARDING	66.6	88.2	71.5	71.9	43.6
KAPIOLANI 1	436.8	397.9	202.0	98.1	321.9

Circuit	2021	2022	2023	2024	2025
KAPIOLANI 2	349.5	306.6	322.6	113.0	107.2
KAPIOLANI 3	447.3	427.0	379.0	412.0	104.5
KAP-KAIMUKI	6.1	23.1	23.4	108.7	115.4
KAPOLEI 1	100.0	0.0	0.0	0.0	0.0
KAPOLEI 2	284.9	346.1	263.6	239.6	223.9
KAPOLEI 3	522.2	144.3	124.1	222.2	115.2
KAPOLEI 4	5153.2	198.8	141.9	86.9	100.5
KAP-WAIALAE	33.8	446.8	39.2	140.3	23.2
KAUHALE	608.7	146.8	264.7	68.4	44.7
KAWAILOA	114.3	389.6	122.8	85.1	98.7
KAWELA	264.5	207.3	168.0	63.6	464.5
KEALAOLU	34.9	43.5	22.3	37.1	27.4
KEAWE	17.7	128.5	329.4	15.4	26.7
KEEHI 1	0.0	217.1	0.0	39.2	0.0
KEEHI 5	100.0	300.0	200.0	0.0	300.0
KEEHI 6	0.0	336.8	5.6	200.0	105.5
KEEHI 7	263.0	200.0	100.0	0.0	0.0
KEEHI 8	100.0	100.0	100.0	100.0	0.0
KEOLU DR	334.3	279.1	223.8	173.1	322.8
KEWALO	237.5	327.8	266.1	4849.2	198.9
KEWALO 1	26.3	126.6	14.4	16.9	113.9
KEWALO 2	30.3	129.2	31.7	18.6	27.2
KEWALO 3	0.0	0.0	0.0	0.0	0.0
KEWALO 4	122.7	134.3	40.0	118.8	21.6

Circuit	2021	2022	2023	2024	2025
KEWALO 5	0.0	0.0	0.0	0.0	0.0
KEWALO 6	0.0	0.0	0.0	0.0	0.0
KEWALO 7	0.0	0.0	0.0	0.0	0.0
KILAUEA 12KV	214.9	125.3	97.7	119.2	110.1
KILAUEA 4KV	73.5	84.8	63.6	61.7	78.1
KIPAPA	374.8	166.0	61.7	250.8	143.2
KO OLINA 1	171.5	89.2	60.0	42.6	43.2
KO OLINA 2	0.0	0.0	0.0	0.0	0.0
KO OLINA 3	200.0	200.0	0.0	0.0	100.0
KOKOHEAD	163.2	219.9	207.7	131.2	145.9
KOLOA	160.1	187.8	266.8	175.2	150.6
KONA ST	0.0	0.0	0.0	0.0	0.0
KUAHELANI 1	163.7	428.7	244.5	141.5	166.1
KUAHELANI 2	102.0	248.7	153.2	75.5	98.4
KUAHELANI 3	196.2	317.4	270.7	176.7	193.8
KUAHELANI 4	334.6	503.9	497.0	293.4	321.1
KUAKINI	19.5	16.4	27.0	12.1	10.6
KUAPA 1	207.8	278.5	230.8	197.2	219.6
KUAPA 2	335.3	322.6	360.8	258.0	102.6
KUAPA 3	180.6	258.8	202.3	130.4	149.7
KUAPA 4	253.4	341.2	227.7	148.0	244.3
KUHIO	13.0	17.4	10.1	10.5	6.6
KUHIO 1	19.1	125.5	21.4	11.2	8.9
KUHIO 2	0.0	200.0	300.0	0.0	100.0

Circuit	2021	2022	2023	2024	2025
KUHIO 3	0.0	102.4	4.9	0.0	0.0
KUHIO 4	57.4	379.6	70.8	39.5	57.1
KUILIMA 1	121.4	185.4	261.2	142.3	118.1
KUNIA	9.4	219.6	30.2	12.8	19.7
KUNIA MAKAI 1	160.3	212.8	195.1	134.7	122.1
KUNIA MAKAI 2	766.8	997.3	479.6	626.6	353.7
KUNIA MAKAI 3	378.6	582.4	268.2	296.5	301.5
KUNIA MAKAI 4	103.0	146.6	125.5	103.1	108.2
LAGOON	304.0	208.1	0.0	200.0	404.0
LAKESIDE 1	309.9	502.2	435.5	630.2	383.4
LAKESIDE 2	111.6	144.0	121.4	98.0	91.9
LAKESIDE 3	193.8	344.0	203.4	245.6	179.8
LAKESIDE 4	283.7	256.4	109.9	89.0	173.9
LANIKAI	3.9	0.0	0.0	0.0	0.0
LAULIMA	169.6	333.1	190.4	134.3	119.5
LEAHI	307.7	430.6	522.5	230.9	286.5
LEOMELE	204.8	330.1	264.8	192.1	165.7
LEOOLE	113.2	825.3	380.4	211.7	213.2
LIBERTY HOUSE	0.0	0.0	0.0	19.9	0.0
LIGHTHOUSE	300.0	300.0	8.2	0.0	201.0
LIKELIKE	43.9	81.6	72.3	44.7	44.9
LILIHA MAKAI	2.9	29.2	10.9	13.9	6.5
LOWREY	72.0	103.1	117.8	115.7	81.1
LUAWAI	492.6	572.6	266.7	171.9	326.3

Circuit	2021	2022	2023	2024	2025
LUMIAUAU	245.1	401.8	140.9	117.4	199.2
MACHADO ST	45.7	91.6	69.3	51.0	53.8
MAHUKONA	119.7	131.1	18.4	120.5	66.3
MAKAHA	775.5	561.5	508.6	364.5	270.5
MAKAHA VALLEY	174.9	390.4	200.3	62.8	159.1
MAKAKILO 1	434.3	507.4	490.9	314.0	320.0
MAKAKILO 2	696.0	3603.5	718.4	432.8	462.1
MAKAKILO 3	231.5	415.9	283.8	264.7	259.2
MAKAKILO 4	62.0	120.9	108.6	63.2	54.8
MAKALAPA-MOANALUA	179.7	356.4	306.7	166.7	153.9
MAKALOA	124.6	259.8	60.7	34.1	132.9
MALAKOLE	0.0	0.0	0.0	0.0	0.0
MALAKOLE 4	516.6	2703.2	200.0	0.0	204.1
MANAGERS	93.5	180.3	128.2	67.1	81.4
MANOA 1	95.6	173.4	142.5	103.3	138.8
MANOA 2	79.3	153.3	89.1	108.4	74.3
MANOA 3	235.6	200.3	148.0	217.7	212.3
MANOA 4	0.0	0.0	0.0	0.0	0.0
MANOA-MCCULLY	28.7	41.0	27.9	23.2	22.1
MANOA-PIIKOI	147.0	210.7	199.7	222.7	219.1
MAPUNAPUNA	225.0	324.5	100.0	200.0	0.0
MAPUNAPUNA-MOANALUA	264.8	182.9	241.3	146.6	149.3
MAUKA	815.8	1213.6	767.5	543.3	911.4
MAUNALANI	82.6	255.8	151.4	119.6	87.7

Circuit	2021	2022	2023	2024	2025
MAUNAWILI	0.0	0.0	0.0	0.0	0.0
MCCULLY 1	203.3	463.5	193.5	198.6	189.5
MCCULLY 3	307.2	347.5	10.3	607.2	220.3
MCCULLY 5	105.3	167.1	175.7	83.7	79.7
MIKILUA 1	142.2	399.6	159.7	203.8	152.6
MIKILUA 3	252.9	436.6	477.1	207.0	288.1
MIKILUA 4	423.0	752.0	790.8	482.8	187.6
MIKILUA 5	510.5	761.0	659.6	556.9	548.7
MILILANI 1	200.5	296.7	238.7	148.2	176.9
MILILANI 2	222.1	321.2	207.4	177.6	210.7
MILILANI 3	77.3	216.8	92.7	70.3	188.4
MILILANI 4	370.5	402.1	311.3	242.4	221.9
MOILIILI 1	292.7	271.2	248.2	178.0	298.2
MOILIILI 2	163.6	243.1	186.6	179.7	154.4
MOKAUEA	14.6	19.0	26.5	17.7	9.6
MOKUOLA	508.1	833.7	164.8	269.4	334.9
MOKUONE 1	0.0	0.0	0.0	0.0	0.0
MOKUONE 2	0.0	209.1	100.0	100.0	0.0
NIU	232.8	427.3	375.4	162.0	177.1
NUMANA	50.9	56.7	62.9	34.7	34.0
NUUANU	168.0	93.6	184.3	143.2	51.5
NUUANU 2	285.3	802.3	95.2	105.2	219.0
NUUANU 3	328.9	381.5	208.4	245.4	334.2
OCEAN POINTE 1	324.9	789.5	398.4	418.5	321.2

Circuit	2021	2022	2023	2024	2025
OCEAN POINTE 2	422.9	546.2	408.3	354.3	310.0
OCEAN POINTE 3	442.2	464.7	403.0	246.0	275.3
OCEAN POINTE 4	112.1	154.1	137.0	103.1	111.8
OLOMANA	934.0	77.8	70.8	26.7	43.8
ONEAWA	72.6	79.2	108.7	64.7	48.3
PAHIA	406.4	266.1	200.5	117.8	245.3
PAIWA	161.8	237.5	181.0	128.0	152.2
PALEKA	115.3	216.7	124.0	76.3	105.4
PALI	174.8	314.3	207.5	161.4	179.5
PAOAKALANI	413.0	630.0	321.7	219.0	115.8
PAUOA 1	117.3	193.2	180.0	116.1	146.0
PAUOA 2	604.5	778.9	460.5	380.0	335.6
PAWAA KAI	123.7	426.7	212.5	12.2	112.8
PAWAINA	78.4	163.7	105.9	82.3	83.6
PEARL CITY 1	197.0	651.8	184.5	98.7	569.6
PEARL CITY 2	395.0	780.0	424.9	287.7	230.0
PENINSULA	186.9	707.8	379.5	148.6	71.7
PENSACOLA	255.8	278.5	184.3	159.5	151.8
PIIKOI	151.9	212.6	198.5	135.3	132.9
PIIKOI 7	112.9	337.7	25.8	26.8	23.4
PIIKOI 8	222.6	367.8	261.4	273.0	136.8
POAMOHO	0.0	0.0	0.0	0.0	0.0
POHAKUPU 4	192.5	498.1	231.0	298.8	376.8
PORTLOCK	456.2	1563.6	609.1	914.7	670.6

Circuit	2021	2022	2023	2024	2025
PUNALUU	188.2	511.4	283.9	494.1	206.6
PUNCHBOWL	107.7	149.8	95.2	56.5	49.4
PUOHALA 1	107.8	263.8	145.7	137.4	89.0
PUOHALA 2	479.1	531.5	447.4	343.8	404.4
PUUHALE	141.6	70.2	51.5	119.1	109.9
PUUNUI	53.5	106.8	81.3	100.1	62.2
QUEEN ST	200.0	8.1	0.0	0.0	0.0
QUEENS 1	184.1	233.4	220.1	111.2	135.9
QUEENS 2	190.7	97.6	80.4	77.9	53.9
RUGER	37.2	55.2	29.9	34.6	27.9
SAND ISLAND	209.1	58.2	25.6	209.7	52.5
SAND ISLAND 1	0.0	0.0	0.0	0.0	0.0
SAND ISLAND 2	363.0	100.0	0.0	0.0	0.0
SCHOOL ST	241.2	430.2	202.4	171.4	122.2
SCHOOL ST 3	269.3	396.2	206.1	66.1	60.3
SHAFTER	0.3	400.0	0.0	0.0	0.0
SHERATON 1	18.4	46.1	38.3	19.5	29.5
SHERATON 2	2.8	3.3	5.5	1.8	3.5
SHOPPING CTR	0.0	29.0	0.0	0.0	0.0
SOUTH RAMP 1	625.0	400.0	100.0	400.0	400.0
ST LOUIS	99.7	181.2	114.7	125.4	148.5
ST LOUIS HTS	13.6	13.9	8.6	11.2	17.0
THURSTON	157.1	261.3	222.4	225.6	246.3
TOWN	3.2	1.6	1.6	0.0	2.4

Circuit	2021	2022	2023	2024	2025
UALENA	14.7	21.6	6.9	0.0	100.0
UPLANDS	148.1	103.6	90.5	64.3	63.0
UWAPO 1	350.7	409.8	329.9	223.3	198.1
UWAPO 2	73.7	132.9	112.6	79.6	77.5
UWAPO 3	273.3	412.3	309.0	200.0	276.0
UWAPO 4	0.0	3.0	0.0	0.0	3.4
WAHIAWA HTS	281.2	533.2	354.1	325.5	250.1
WAHIAWA PROPER	94.1	326.8	108.6	74.5	81.6
WAIAKAMILO 1	103.1	115.2	29.3	23.3	21.5
WAIAKAMILO 2	109.3	133.3	31.2	112.4	20.2
WAIAKAMILO 3	182.0	233.1	383.5	60.5	163.4
WAIAKAMILO 4	166.3	176.5	239.0	48.3	41.8
WAIAKAMILO-IWILEI	49.6	294.4	77.1	48.4	48.3
WAIAKAMILO-KAPALAMA	231.6	131.5	12.4	120.3	339.7
WAIALAE NUI	167.0	212.1	180.2	149.2	170.5
WAIALAE SC	0.0	0.0	0.0	0.0	0.0
WAIALUA	141.9	308.8	446.5	161.8	247.7
WAIAWA 1	1023.8	260.5	412.3	164.7	122.9
WAIAWA 2	1009.9	200.0	0.0	100.0	116.3
WAIAWA 3	90.8	111.1	94.2	51.2	53.4
WAIAWA 4	248.1	448.1	185.4	235.0	153.2
WAIHEE 1	228.4	329.3	319.0	406.1	270.3
WAIHEE 2	244.1	310.8	278.0	154.7	153.0
WAIHEE 3	55.2	236.4	67.3	89.6	44.0

Circuit	2021	2022	2023	2024	2025
WAIHEE 4	406.3	451.4	410.2	275.7	280.9
WAIKELE CTR	200.0	0.0	336.5	300.0	200.0
WAIKIKI 1	115.8	132.0	24.4	23.3	22.5
WAIKIKI 2	100.0	0.0	0.0	100.0	0.0
WAIKIKI 3	1.6	108.5	331.9	3.1	25.6
WAIKIKI 4	214.3	19.2	16.1	119.0	13.3
WAIKIKI 5	160.2	381.0	172.5	145.6	265.1
WAIKIKI 6	100.0	100.0	100.0	100.0	200.0
WAILANI	135.5	205.3	130.8	36.5	130.0
WAILUPE	753.6	1207.8	1135.9	444.8	322.8
WAIMALU 1	1989.9	287.2	160.7	89.2	86.5
WAIMALU 2	283.7	500.7	276.9	236.8	281.8
WAIMALU 3	444.6	640.5	502.4	356.0	344.0
WAIMALU 4	188.5	355.8	124.7	107.2	99.8
WAIMANALO	272.2	554.4	187.1	154.8	251.2
WAIMANO 5	126.6	245.0	183.1	148.1	147.9
WAIMANO 6	186.5	503.5	222.7	157.4	151.9
WAIMANO HOME RD	438.5	800.8	471.6	410.8	354.9
WAIMEA 1	32.6	58.7	75.0	39.9	46.8
WAIMEA 2	160.5	588.8	361.9	187.2	225.7
WAIOMAO	565.1	504.8	312.2	334.6	460.2
WAIPAHU	1056.9	1645.6	1280.4	1001.5	875.8
WAIPIO 1	133.5	220.1	102.4	150.7	93.7
WAIPIO 2	167.4	216.1	61.0	55.9	74.8

Circuit	2021	2022	2023	2024	2025
WAIWAI	200.0	100.0	0.0	0.0	0.0
WAI-WILHELMINA	63.5	106.5	110.4	53.9	87.9
WHITMORE	9.2	8.3	11.5	10.6	5.0
WILIWILI	136.4	213.2	156.0	98.4	129.7
WILIWILI 2	137.2	156.5	123.9	80.2	117.4
WOODLAWN	76.4	94.7	74.9	59.6	70.5

Hawai‘i Island

Table 16: Hawai‘i Island Adjusted DER Growth by Circuit (kW)

Circuit	2021	2022	2023	2024	2025
Ainaloa 11	91.9	100.7	92.9	90.9	92.6
Ainaloa 12	64.7	70.9	65.4	64.0	65.1
Anaehoomalu 11	23.1	25.3	23.4	22.9	23.3
Anaehoomalu 12	39.4	43.2	39.9	39.0	39.7
Anaehoomalu 13	28.1	30.8	28.4	27.8	28.3
Captain Cook 11	193.6	212.1	195.8	191.5	195.0
Captain Cook 12	148.0	162.1	149.6	146.3	149.0
Hakalau 1	21.3	23.4	21.6	21.1	21.5
Halaula 1	77.4	84.8	78.3	76.6	78.0
Halaula 2	0.0	0.0	0.0	0.0	0.0
Hale Pohaku 11	30.8	33.7	31.1	30.4	31.0
Hale Pohaku 12	13.0	14.2	13.1	12.8	13.1
Haleaha 11	62.6	68.5	63.3	61.9	63.0

Circuit	2021	2022	2023	2024	2025
Haleaha 12	194.1	212.6	196.2	191.9	195.4
Hawaiian Beaches 11	98.7	108.1	99.8	97.6	99.4
Hawaiian Beaches 12	0.7	0.8	0.7	0.7	0.7
Hawaiian Paradise Park 11	92.7	101.5	93.7	91.6	93.3
Hawaiian Paradise Park 12	179.7	196.9	181.7	177.8	181.0
Hawaiian Paradise Park 13	473.8	519.0	479.0	468.5	477.1
Hawaiian Paradise Park 14	80.5	88.2	81.4	79.6	81.1
Hawi 11	63.3	69.3	64.0	62.6	63.7
Hawi 12	49.1	53.8	49.6	48.6	49.5
Honokaa 12	73.5	80.5	74.3	72.7	74.0
Honokaa 14	98.4	107.7	99.4	97.3	99.1
Honomu 1	28.8	31.5	29.1	28.4	29.0
Host Park 11	124.8	136.7	126.2	123.4	125.7
Host Park 12	0.0	0.0	0.0	0.0	0.0
Host Park 13	10.5	11.5	10.6	10.4	10.6
Host Park 14	66.2	72.5	66.9	65.4	66.6
Huehue 11	727.3	796.8	735.4	719.3	732.5
Kahaluu 11	243.2	266.4	245.9	240.5	244.9
Kahaluu 12	137.3	150.4	138.8	135.8	138.3
Kahaluu 14	34.1	37.3	34.4	33.7	34.3
Kahaluu 15	221.8	242.9	224.2	219.3	223.4
Kailua 11	290.9	318.6	294.1	287.6	292.9
Kailua 12	4.1	4.5	4.1	4.1	4.1
Kailua 15	389.4	426.5	393.7	385.1	392.2

Circuit	2021	2022	2023	2024	2025
Kaloko 11	198.8	217.8	201.0	196.6	200.2
Kaloko 12	38.4	42.0	38.8	37.9	38.6
Kaloko 13	129.8	142.2	131.3	128.4	130.8
Kaloko 14	5.6	6.1	5.6	5.5	5.6
Kamuela 11	4.6	5.0	4.6	4.5	4.6
Kamuela 12	147.4	161.5	149.0	145.8	148.5
Kanoelehua 11	88.8	97.2	89.7	87.8	89.4
Kanoelehua 1101	95.6	104.7	96.6	94.5	96.3
Kanoelehua 12	74.7	81.8	75.5	73.9	75.2
Kanoelehua 13	12.6	13.8	12.7	12.4	12.7
Kanoelehua 14	143.0	156.7	144.6	141.4	144.0
Kanoelehua 1401	132.4	145.0	133.9	130.9	133.3
Kanoelehua 15	168.9	185.0	170.7	167.0	170.1
Kanoelehua 17	56.6	62.0	57.2	55.9	57.0
Kapua 11	32.6	35.7	32.9	32.2	32.8
Kapua 12	87.4	95.7	88.4	86.4	88.0
Kauhale 11	111.9	122.6	113.1	110.6	112.7
Kauhale 12	19.4	21.2	19.6	19.1	19.5
Kaumana 11	285.0	312.2	288.2	281.9	287.1
Kaumana 12	82.5	90.3	83.4	81.5	83.0
Kawaihae 11	26.5	29.0	26.8	26.2	26.7
Kawaihae 12	46.4	50.8	46.9	45.9	46.7
Kawaihae 13	2.2	2.5	2.3	2.2	2.3
Kawailani 11	245.3	268.7	248.0	242.5	247.0

Circuit	2021	2022	2023	2024	2025
Kawailani 12	234.3	256.7	236.9	231.8	236.0
Keahole Airport 11	131.3	143.8	132.7	129.8	132.2
Keahole Airport 12	36.6	40.1	37.0	36.2	36.9
Keahole Airport 13	83.4	91.4	84.3	82.5	84.0
Keahuolu 11	25.4	27.8	25.7	25.1	25.6
Keahuolu 12	67.8	74.3	68.6	67.1	68.3
Kealakehe 11	79.1	86.7	80.0	78.2	79.7
Kealia 11	35.1	38.5	35.5	34.7	35.4
Kealia 12	58.8	64.5	59.5	58.2	59.3
Keauhou 11	129.1	141.4	130.5	127.7	130.0
Keauhou 13	143.6	157.3	145.2	142.0	144.6
Komohana 12	382.4	418.9	386.6	378.2	385.2
Komohana 13	347.7	380.9	351.5	343.8	350.2
Komohana 14	26.7	29.3	27.0	26.4	26.9
Kuakini 11	459.7	503.6	464.8	454.6	463.0
Kuakini 13	109.3	119.8	110.5	108.1	110.1
Kuakini 14	454.4	497.7	459.4	449.3	457.6
Kulani 12	3.8	4.1	3.8	3.7	3.8
Kurtistown 12	110.3	120.9	111.6	109.1	111.1
Lalamilo 11	85.7	93.9	86.7	84.8	86.4
Lalamilo 12	31.7	34.7	32.1	31.4	31.9
Laupahoehoe 1	10.5	11.5	10.6	10.4	10.6
Laupahoehoe 2	22.2	24.3	22.4	21.9	22.3
Maliu Ridge 11	40.4	44.3	40.9	40.0	40.7

Circuit	2021	2022	2023	2024	2025
Maliu Ridge 12	50.5	55.3	51.0	49.9	50.8
Mauna Lani 11	287.3	314.7	290.4	284.1	289.3
Mauna Lani 13	100.1	109.7	101.2	99.0	100.8
Mauna Lani 14	436.6	478.3	441.5	431.8	439.8
Mountain View 11	116.7	127.8	118.0	115.4	117.5
Mountain View 12	22.3	24.5	22.6	22.1	22.5
Namakani Paio	22.2	24.3	22.4	21.9	22.3
Ookala	19.8	21.7	20.0	19.6	20.0
Orchid Isle 11	7.1	7.8	7.2	7.1	7.2
Orchid Isle 12	40.5	44.4	41.0	40.1	40.8
Ouli 11	62.0	67.9	62.7	61.3	62.5
Ouli 12	116.6	127.7	117.9	115.3	117.5
Paauilo 1	28.8	31.6	29.2	28.5	29.0
Pahala 11	41.4	45.4	41.9	40.9	41.7
Pahala 12	8.3	9.1	8.4	8.2	8.3
Palani 11	11.3	12.4	11.4	11.2	11.4
Palani 12	239.4	262.3	242.0	236.8	241.1
Palani 13	0.0	0.0	0.0	0.0	0.0
Palani 14	81.6	89.4	82.5	80.7	82.2
Panaewa 11	129.0	141.3	130.4	127.6	129.9
Panaewa 12	228.9	250.8	231.4	226.4	230.6
Papaaloa 1	19.7	21.6	20.0	19.5	19.9
Papaaloa 2	12.9	14.1	13.0	12.7	13.0
Poopoomino 11	182.7	200.1	184.7	180.6	184.0

Circuit	2021	2022	2023	2024	2025
Poopoomino 12	93.5	102.4	94.5	92.4	94.1
Poopoomino 13	71.8	78.7	72.6	71.0	72.3
Poopoomino 14	174.7	191.4	176.6	172.8	176.0
Punaluu 11	1.7	1.9	1.7	1.7	1.7
Punaluu 12	18.7	20.5	18.9	18.5	18.8
Puueo 11	149.3	163.6	151.0	147.7	150.4
Puueo 12	153.4	168.1	155.1	151.7	154.5
Puueo 1402	109.7	120.2	110.9	108.5	110.5
Puuhuluhulu 11	70.6	77.3	71.3	69.8	71.1
Puuhuluhulu 12	70.6	77.3	71.3	69.8	71.1
Puukapu 11	147.1	161.1	148.7	145.4	148.1
Puuwaawaa 11	100.0	0.0	0.0	0.0	0.0
Puuwaawaa 12	28.6	31.3	28.9	28.3	28.8
Royal Hawaiian	31.9	35.0	32.3	31.6	32.1
Shipman 11	40.1	43.9	40.5	39.6	40.3
Shipman 12	145.8	159.7	147.4	144.2	146.8
South Point 11	830.6	88.3	81.4	79.7	81.1
South Point 12	5.6	6.1	5.7	5.5	5.6
Umauma 11	7.9	8.7	8.0	7.9	8.0
Umauma 12	13.7	15.1	13.9	13.6	13.8
Waika 11	11.8	13.0	12.0	11.7	11.9
Waika 12	211.0	231.1	213.3	208.6	212.5
Waikii 11	44.7	49.0	45.2	44.2	45.0
Waikii 12	21.1	23.1	21.3	20.9	21.2

Circuit	2021	2022	2023	2024	2025
Waikoloa 11	186.1	203.9	188.2	184.1	187.4
Waikoloa 12	466.7	511.3	471.9	461.6	470.1
Waipunahina 11	35.0	38.4	35.4	34.6	35.3
Wright Road 11	99.7	109.3	100.8	98.6	100.4

Maui Island

Table 17: Maui Island Adjusted DER Growth by Circuit (kW)

Circuit	2021	2022	2023	2024	2025
Haiku 16/1358	227.5	257.8	251.9	240.0	235.0
Haiku 16/1361	66.0	74.8	73.1	69.7	68.2
Hana 41/10277	8.0	9.0	8.8	8.4	8.2
Hana 41/537	12.8	14.5	14.2	13.5	13.3
Hana 41/6528	4.0	4.6	4.4	4.2	4.2
Huelo 74A/Huelo	16.5	18.7	18.3	17.4	17.1
Kahului 8/1264	90.5	102.6	100.3	95.5	93.5
Kahului 8/1265	263.2	298.3	291.6	277.8	271.9
Kahului 8/4048	117.8	133.5	130.5	124.3	121.7
Kahului 8/4049	100.2	113.5	110.9	105.7	103.5
Kahului 8/4050	43.4	49.2	48.1	45.8	44.9
Kailua 9/Kailua	1.4	1.6	1.5	1.5	1.4
Kanaha 2/1244	163.9	185.7	181.5	172.9	169.3
Kanaha 2/1245	110.9	125.7	122.9	117.0	114.6
Kanaha 2/1304	175.5	198.9	194.4	185.2	181.3
Kanaha 2/1305	213.0	241.4	235.9	224.8	220.1

Circuit	2021	2022	2023	2024	2025
Kanaha 2/1347	197.9	224.2	219.1	208.8	204.4
Kanaha 2/1348	62.1	70.3	68.7	65.5	64.1
Kaonoulu/1590	406.7	460.9	450.4	429.1	420.1
Kaonoulu/1591	110.0	124.7	121.9	116.1	113.7
Kauhikoa 98/1295	86.1	97.6	95.4	90.9	89.0
Keanae 42/Keanae	3.0	3.4	3.3	3.2	3.1
Kihei 35/1253	159.0	180.2	176.1	167.8	164.3
Kihei 35/1254	350.6	397.3	388.3	370.0	362.2
Kihei 35/1384	461.9	523.4	511.5	487.3	477.1
Kihei 35/1385	133.1	150.8	147.4	140.4	137.5
Kihei 35/1473	327.9	371.5	363.1	345.9	338.7
Kihei 35/1515	669.7	758.9	741.7	706.6	691.8
Kuau 73/4066	75.7	85.8	83.8	79.9	78.2
Kuihelani 209/1653	450.6	510.6	499.1	475.5	465.5
Kuihelani 209/1708	214.4	242.9	237.4	226.2	221.5
Kula 13/1237	287.5	325.8	318.4	303.3	297.0
Kula 13/1238	289.8	328.4	320.9	305.8	299.3
Kula Ag Park 55/1322	53.4	60.5	59.2	56.4	55.2
Lahaina 34/1221	210.9	238.9	233.5	222.5	217.8
Lahaina 34/1223	295.1	334.4	326.8	311.3	304.8
Lahaina 34/1225	59.5	67.4	65.9	62.8	61.4
Lahaina 34/1226	33.3	37.7	36.9	35.1	34.4
Lahaina 34/1390	264.9	300.2	293.4	279.5	273.7
Lahaina 34/1397	20.8	23.6	23.0	21.9	21.5

Circuit	2021	2022	2023	2024	2025
Lahaina 34/1398	378.0	428.3	418.6	398.8	390.4
Maalaea 39/1285	84.7	96.0	93.8	89.4	87.5
Maalaea 39/1286	112.8	127.9	125.0	119.1	116.6
Mahinahina 50/1219	214.8	243.5	237.9	226.7	221.9
Mahinahina 50/1380	50.8	57.6	56.3	53.6	52.5
Mahinahina 50/1381	1224.8	254.8	249.0	237.2	232.2
Makawao 12/1234	83.5	94.6	92.5	88.1	86.3
Makawao 12/1235	128.6	145.7	142.4	135.7	132.9
Makawao 12/1236	114.6	129.9	126.9	120.9	118.4
Maui Hardwoods 75/522	20.6	23.3	22.8	21.7	21.2
Napili 29/1232	52.1	59.0	57.7	54.9	53.8
Napili 29/1420	917.7	190.0	185.7	176.9	173.2
Napili 29/1421	98.0	111.0	108.5	103.4	101.2
Onehee 40/4055	129.2	146.4	143.1	136.3	133.5
Onehee 40/4056	53.0	60.1	58.7	55.9	54.7
Paia Mauka 93/4042	128.0	145.1	141.8	135.1	132.2
Peahi 94/1294	115.5	130.9	128.0	121.9	119.4
Pukalani 17/1282	306.8	347.6	339.7	323.7	316.9
Pukalani 17/1283	0.7	0.8	0.8	0.7	0.7
Pukalani 17/1308	430.3	487.6	476.6	454.0	444.5
Pukalani 17/1309	45.7	51.8	50.6	48.2	47.2
Puukolii 23/1270	558.4	632.8	618.5	589.2	576.9
Puukolii 23/1271	115.9	131.3	128.3	122.3	119.7
Puukolii 23/1272	312.9	354.6	346.6	330.2	323.3

Circuit	2021	2022	2023	2024	2025
Puukolii 23/1273	10.8	12.2	11.9	11.4	11.1
Spreckelsville 92/4043	104.9	118.8	116.1	110.7	108.3
Waiehu 43/1378	199.2	225.7	220.6	210.1	205.7
Waiehu 43/1379	367.7	416.6	407.2	387.9	379.8
Waiinu 36/1266	110.2	124.9	122.0	116.3	113.8
Waiinu 36/1267	59.1	67.0	65.5	62.4	61.1
Waiinu 36/1492	100.3	113.7	111.1	105.8	103.6
Waiinu 36/1493	821.2	930.5	909.4	866.4	848.3
Waiinu 36/2030	31.6	35.8	35.0	33.3	32.6
Waikapu 77/524	0.0	0.0	0.0	0.0	0.0
Wailea 25/1280	280.6	318.0	310.8	296.1	289.9
Wailea 25/1281	69.1	78.3	76.5	72.9	71.4
Wailea 25/1320	244.9	277.5	271.2	258.4	253.0
Wailea 25/1321	3.1	3.6	3.5	3.3	3.2
Wailea 25/1395	48.1	54.6	53.3	50.8	49.7
Wailea 25/1396	88.9	100.7	98.4	93.8	91.8
Wailea 25/1517	273.9	310.3	303.3	288.9	282.9
Wailea 25/1518	165.8	187.9	183.6	174.9	171.3
Wailuku 3/1290	442.2	501.1	489.7	466.5	456.8
Wailuku 3/1447	294.9	334.1	326.6	311.1	304.6
Wailuku 3/4031	56.7	64.2	62.8	59.8	58.6
Wailuku 3/4037	88.7	100.5	98.2	93.6	91.6
Wailuku Heights 18/493	87.1	98.7	96.5	91.9	90.0
Wailuku Heights 18/529	55.9	63.4	61.9	59.0	57.8

Lanaʻi

Table 18: Lanaʻi Adjusted DER Growth by Circuit (kW)

Circuit	2021	2022	2023	2024	2025
Miki Basin PP 302/1208	22.0	24.4	55.2	26.0	56.8
Miki Basin PP 302/1210	7.6	8.4	19.0	8.9	19.6
Miki Basin PP 302/1212	25.4	28.2	63.8	30.1	65.7

Molokaʻi

Table 19: Molokaʻi Adjusted DER Growth by Circuit (kW)

Circuit	2021	2022	2023	2024	2025
Palaau PP 81/105A	113.1	115.8	94.6	107.4	83.9
Palaau PP 81/106B	30.0	30.7	25.1	28.5	22.3
Palaau PP 81/109B	15.3	15.7	12.8	14.6	11.4
Palaau PP 81/110B	29.6	30.3	24.8	28.1	22.0
Palaau PP 81/111A	370.2	123.1	100.6	114.1	89.2
Puunana 80/1466	4.7	4.8	3.9	4.4	3.5
Puunana 80/1467	22.7	23.3	19.0	21.6	16.9
Puunana 80/1468	1.3	1.4	1.1	1.3	1.0

Appendix C: Hosting Capacity Analysis Results

1. SUMMARY

Hosting capacity results in the following tables contain:

- **Circuit Name**
- **Total 2025 DER (kW)**: Total anticipated DER in year 2025.
- **Existing Hosting Capacity (kW)**: Current circuit hosting capacity (HC).
- **Existing Hosting Capacity Satisfies Need**: Circuits with existing hosting capacity able to accommodate the Total 2025 DER are marked with an "X".
- **Updated Hosting Capacity (kW)**: Updated circuit hosting capacity resulting from the analysis described in Section 3.
- **Updated Hosting Capacity (without Modifications) Satisfies Need**: Circuits with updated hosting capacity able to accommodate the Total 2025 DER without any modifications are marked with an "X".
- **Updated Hosting Capacity (with Modifications) Satisfies Need**: Circuits with updated hosting capacity and modifications (non-infrastructure investment solutions) able to accommodate the Total 2025 DER are marked with an "X".
- **Solution Option Required**: Circuits with an identified grid needs are marked with an "X".

Oʻahu

Table 20: Oʻahu Hosting Capacity Analysis Results by Circuit

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
AALA	1,990	6,044	x				
AALAPAPA	4,266	4,786	x				
AHUA	1,973	1,561		6,080	x		

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
AHUI	0	361	x				
AIEA	4,563	3,601		5,700		x	
AIEA 2	636	2,986	x				
AIEA 3	571	1,008	x				
AINA KOA	4,628	2,951		4,926			x
AINONI	1,477	1,500	x				
AIRPORT	3,076	5,669	x				
AIRPORT 1	100	2,724	x				
AIRPORT 2	100	1,716	x				
ALA MOANA	354	6,272	x				
ALEWA	562	580	x				
ALIAMANU	5,190	6,346	x				
ANOI	4,854	3,794		6,360	x		
ANUU	4,993	4,073		5,321		x	
ARCHER 1	400	2,402	x				
ARCHER 2	306	3,003	x				
ARCHER 3	2,158	7,277	x				
ARCHER 4	278	5,293	x				
AUDITORIUM	894	4,589	x				
BARBERS PT	1,931	7,170	x				
BAY DR	1,274	1,424	x				
BEACH LOTS	4,980	4,712		6,500	x		

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
BECKLEY	299	304	x				
BLACK PT	734	1,007	x				
BWS	1,376	4,190	x				
CARLOS LONG	3,816	3,984	x				
CASTNER	2,170	6,569	x				
CEIP 3	3,138	6,243	x				
CEIP 4	927	1,478	x				
CKT 10	431	2,068	x				
CKT 12	200	3,107	x				
CKT 16	7,992	6,611		10,012	x		
CKT 18	1,492	4,151	x				
CKT 6	828	2,806	x				
CKT 7	1,426	4,397	x				
CKT 8	100	1,403	x				
COCONUT GROVE	1,450	1,457	x				
DAIRYMENS	654	2,649	x				
DE RUSSY	200	3,126	x				
DEPOT RD	1,673	2,327	x				
DIAMOND HEAD	2,709	1,452		3,280		x	
DOLE 1	2,713	5,673	x				
EKEKELA	1,096	1,070		1,312	x		

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
ENA 1	403	3,559	x				
ENA 2	0	4,529	x				
ENCHANTED LAKES	4,724	5,155	x				
EWA BEACH 1	5,792	6,550	x				
EWA BEACH 2	4,251	4,257	x				
EWA BEACH 3	4,999	4,029		4,999		x	
EWA BEACH 4	8,046	5,966		8,046		x	
EWA NUI 1	4,689	6,430	x				
EWA NUI 2	8,088	6,024		8,089	x		
FARMERS RD	1,746	1,411		1,746			x
FORT ST	728	4,340	x				
FORT ST 1	304	3,014	x				
FORT ST 2	463	3,672	x				
FORT ST 3	487	3,667	x				
FORT ST 4	1,090	2,895	x				
FORT WEAVER 1	5,279	5,458	x				
FORT WEAVER 2	7,051	6,321		7,052	x		
FORT WEAVER 3	6,589	5,950		6,590	x		
FORT WEAVER 4	3,181	4,293	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
HAHAIONE	3,454	3,366		3,965	x		
HALA 1	2,959	4,003	x				
HALA 2	2,366	4,308	x				
HALA 3	3,618	4,824	x				
HALA 4	2,048	4,351	x				
HALAWA	3,728	6,775	x				
HALEKOU	4,525	5,289	x				
HANUA 1	0	0	x				
HANUA 2	0	0	x				
HAUULA	7,142	2,802		8,630	x		
HAWN PINE	1,618	5,841	x				
HAWN VILLAGE 1	206	3,528	x				
HAWN VILLAGE 2	546	2,673	x				
HEEIA	5,006	5,140	x				
HEIGHTS	1,397	1,145		1,398	x		
HELEMANO	3,299	4,406	x				
HIGHLANDS	5,523	6,162	x				
HIKINA	254	220		492	x		
HILA 1	1,647	1,968	x				
HILA 2	2,638	3,688	x				
HILA 3	2,090	5,288	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
HILA 4	400	0		2,323	x		
HILA 5	2,347	6,597	x				
HILA 6	0	0	x				
HOAEAE 1	6,505	5,113		8,445	x		
HOAEAE 2	1,379	2,163	x				
HOAEAE 3	4,037	2,488		4,038	x		
HOUGHTAILING	1,415	5,510	x				
HUNAKAI	1,012	1,508	x				
ILANIWAI	396	3,605	x				
ILIAINA	2,122	2,541	x				
ILIKAI	398	4,283	x				
INDUSTRIAL	4,120	7,546	x				
IWILEI 1 11KV	2,137	7,190	x				
IWILEI 13	370	3,979	x				
IWILEI 9	0	4,164	x				
KAALAKEI	4,522	5,132	x				
KAENA PT	3,329	2,739		3,329		x	
KAHAI	3,504	6,866	x				
KAHALA	2,591	1,976		2,591			x
KAHALA 3	7,172	1,609		7,269	x		
KAHALA MALL	2,730	2,970	x				
KAHALOA	1,503	1,407		1,630	x		

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
KAHE	3,782	5,684	x				
KAHUKU	3,363	2,422		4,240	x		
KAI-HARDING	482	471		483	x		
KAI-KAIMUKI	876	1,162	x				
KAILUA 1	4,009	3,746		5,341	x		
KAILUA 2	6,362	7,039	x				
KAILUA HTS	5,947	5,755		6,120		x	
KAINALU	2,598	1,047		2,625			x
KAI-WAIALAE	1,265	1,646	x				
KAI-WILHELMINA	697	930	x				
KAKAAKO 5	155	430	x				
KAKAAKO 6	200	1,646	x				
KAKAAKO 8	1,250	3,781	x				
KAKAAKO 9	1,165	7,502	x				
KALAHEO	1,637	1,462		1,800		x	
KALAHEO 1	441	2,344	x				
KALAHEO 2	0	0	x				
KALAKAUA	503	4,831	x				
KALAMA	1,087	1,277	x				
KALIA	0	5,654	x				
KALIHI	337	5,187	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
KALIHI KAI	891	1,604	x				
KALIHI ST	1,098	1,021		1,620	x		
KALIHI UKA	561	1,278	x				
KALIHI VALLEY	947	1,701	x				
KALOI 1	1,315	612		2,979	x		
KAM HWY	1,432	5,123	x				
KAM IV	1,300	1,322	x				
KAM TERRACE	1,935	1,323		3,800	x		
KAMAKEE	371	2,456	x				
KAMANI	266	1,505	x				
KAMOKILA 1	2,563	4,660	x				
KAMOKILA 2	3,233	4,541	x				
KAMOKILA 3	2,821	2,937	x				
KAMOKILA 4	3,913	3,966	x				
KAMOKILA 5	2,482	6,548	x				
KAMOKILA 6	1,936	3,259	x				
KAMOKU 10	507	8,363	x				
KAMOKU 9	241	6,223	x				
KANAINA	4,370	6,528	x				
KANEKAPOLEI	1,064	3,308	x				
KANEOHE 5	2,604	2,804	x				
KANEOHE 6	2,178	5,977	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
KAONOHI 1	1,642	3,482	x				
KAONOHI 2	4,382	5,066	x				
KAONOHI 3	1,018	4,965	x				
KAONOHI 4	827	4,030	x				
KAPAHULU 1	205	1,355	x				
KAPAHULU 2	0	5,774	x				
KAPAHULU 3	212	4,879	x				
KAPAHULU 4	170	3,629	x				
KAPALAMA	402	587	x				
KAP-HARDING	1,025	1,157	x				
KAPIOLANI 1	1,896	4,867	x				
KAPIOLANI 2	2,237	5,354	x				
KAPIOLANI 3	2,090	4,056	x				
KAP-KAIMUKI	390	1,911	x				
KAPOLEI 1	106	644	x				
KAPOLEI 2	2,923	4,169	x				
KAPOLEI 3	1,361	3,780	x				
KAPOLEI 4	6,970	2,966		6,971	x		
KAP-WAIALAE	1,015	1,032	x				
KAUHALE	1,698	6,157	x				
KAWAILOA	1,920	1,133		2,468		x	
KAWELA	3,546	4,800	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
KEALAOLU	506	1,120	x				
KEAWE	1,022	4,502	x				
KEEHI 1	618	2,912	x				
KEEHI 5	1,882	3,166	x				
KEEHI 6	1,358	4,074	x				
KEEHI 7	930	2,866	x				
KEEHI 8	400	1,766	x				
KEOLU DR	3,013	4,497	x				
KEWALO	7,888	7,024		11,692	x		
KEWALO 1	372	3,591	x				
KEWALO 2	320	4,809	x				
KEWALO 3	0	73	x				
KEWALO 4	579	2,953	x				
KEWALO 5	500	11,185	x				
KEWALO 6	370	5,907	x				
KEWALO 7	0	0	x				
KILAUEA 12KV	2,406	6,299	x				
KILAUEA 4KV	1,231	962		1,330			x
KIPAPA	1,325	3,487	x				
KO OLINA 1	716	8,395	x				
KO OLINA 2	0	84	x				
KO OLINA 3	500	4,546	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
KOKOHEAD	2,984	3,252	x				
KOLOA	1,595	1,281		1,595			x
KONA ST	0	893	x				
KUAHELANI 1	3,207	4,897	x				
KUAHELANI 2	2,206	4,138	x				
KUAHELANI 3	4,304	7,671	x				
KUAHELANI 4	6,685	10,634	x				
KUAKINI	196	952	x				
KUAPA 1	2,709	4,410	x				
KUAPA 2	2,364	1,891		6,740	x		
KUAPA 3	3,528	4,110	x				
KUAPA 4	2,851	3,136	x				
KUHIO	208	505	x				
KUHIO 1	225	5,370	x				
KUHIO 2	600	983	x				
KUHIO 3	107	3,562	x				
KUHIO 4	697	3,627	x				
KUILIMA 1	1,605	1,524		1,605		x	
KUNIA	834	1,711	x				
KUNIA MAKAI 1	2,674	3,433	x				
KUNIA MAKAI 2	6,695	7,394	x				
KUNIA MAKAI 3	4,828	5,979	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
KUNIA MAKAI 4	1,855	2,007	x				
LAGOON	1,400	8,176	x				
LAKESIDE 1	3,983	4,373	x				
LAKESIDE 2	1,173	2,008	x				
LAKESIDE 3	2,090	5,447	x				
LAKESIDE 4	2,540	3,541	x				
LANIKAI	4	179	x				
LAULIMA	3,162	4,187	x				
LEAHI	3,586	5,460	x				
LEOMELE	2,853	2,938	x				
LEOOLE	2,885	3,527	x				
LIBERTY HOUSE	195	2,502	x				
LIGHTHOUSE	1,638	7,972	x				
LIKELIKE	603	680	x				
LILIHA MAKAI	98	190	x				
LOWREY	1,360	1,129		1,380			x
LUAWAI	4,166	7,351	x				
LUMIAUAU	2,332	4,579	x				
MACHADO ST	855	736		1,500	x		
MAHUKONA	1,421	4,899	x				
MAKAHA	4,960	5,685	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
MAKAHA VALLEY	1,830	1,725		1,830	x		
MAKAKILO 1	4,337	3,988		4,539	x		
MAKAKILO 2	10,570	8,472		10,570		x	
MAKAKILO 3	4,437	5,277	x				
MAKAKILO 4	1,516	1,813	x				
MAKALAPA-MOANALUA	3,262	4,285	x				
MAKALOA	615	4,602	x				
MALAKOLE	0	0	x				
MALAKOLE 4	5,916	6,087	x				
MANAGERS	969	1,478	x				
MANOA 1	2,389	2,732	x				
MANOA 2	1,229	1,089		2,180	x		
MANOA 3	3,162	4,168	x				
MANOA 4	0	266	x				
MANOA-MCCULLY	480	4,259	x				
MANOA-PIIKOI	1,963	1,553		2,090			x
MAPUNAPUNA	1,078	371		3,835	x		
MAPUNAPUNA-MOANALUA	2,226	2,345	x				
MAUKA	10,282	8,350		10,283			x

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
MAUNALANI	2,122	2,057		2,159	x		
MAUNAWILI	0	108	x				
MCCULLY 1	1,796	7,195	x				
MCCULLY 3	2,027	5,548	x				
MCCULLY 5	1,075	3,836	x				
MIKILUA 1	2,637	6,431	x				
MIKILUA 3	5,439	4,761		5,440			x
MIKILUA 4	7,653	3,514		7,653			x
MIKILUA 5	8,544	7,382		8,545			x
MILILANI 1	3,274	4,605	x				
MILILANI 2	2,316	5,475	x				
MILILANI 3	2,401	3,763	x				
MILILANI 4	6,662	7,449	x				
MOILIILI 1	2,007	4,596	x				
MOILIILI 2	1,197	3,937	x				
MOKAUEA	488	2,933	x				
MOKUOLA	3,848	6,033	x				
MOKUONE 1	0	4,641	x				
MOKUONE 2	1,371	4,421	x				
NIU	3,617	4,171	x				
NUMANA	524	1,154	x				
NUUANU	978	719		2,160	x		

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
NUUANU 2	2,734	5,155	x				
NUUANU 3	4,341	6,965	x				
OCEAN POINTE 1	6,063	5,876		6,064	x		
OCEAN POINTE 2	5,453	5,280		5,454	x		
OCEAN POINTE 3	4,384	5,444	x				
OCEAN POINTE 4	1,713	1,362		1,713	x		
OLOMANA	2,030	2,936	x				
ONEAWA	1,178	908		2,160		x	
PAHIA	2,309	1,505		4,310	x		
PAIWA	1,986	3,378	x				
PALEKA	2,363	2,584	x				
PALI	3,909	4,764	x				
PAOAKALANI	1,768	5,271	x				
PAUOA 1	2,198	2,333	x				
PAUOA 2	5,392	4,522		7,130			x
PAWAA KAI	1,061	2,667	x				
PAWAINA	1,771	1,824	x				
PEARL CITY 1	2,723	5,934	x				
PEARL CITY 2	3,162	5,588	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
PENINSULA	2,770	6,106	x				
PENSACOLA	1,664	3,860	x				
PIIKOI	990	4,017	x				
PIIKOI 7	939	2,773	x				
PIIKOI 8	2,720	1,993		3,469			x
POAMOHO	0	0	x				
POHAKUPU 4	4,013	4,054	x				
PORTLOCK	5,120	4,113		5,580		x	
PUNALUU	3,449	3,552	x				
PUNCHBOWL	884	656		1,240	x		
PUOHALA 1	2,636	4,019	x				
PUOHALA 2	6,572	7,179	x				
PUUHALE	1,729	2,526	x				
PUUNUI	1,348	1,354	x				
QUEEN ST	375	2,128	x				
QUEENS 1	3,260	3,735	x				
QUEENS 2	1,733	1,722		1,733	x		
RUGER	588	1,010	x				
SAND ISLAND	1,059	6,808	x				
SAND ISLAND 1	460	6,285	x				
SAND ISLAND 2	463	3,034	x				
SCHOOL ST	2,529	3,452	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
SCHOOL ST 3	2,048	5,183	x				
SHAFTER	1,022	3,086	x				
SHERATON 1	284	1,536	x				
SHERATON 2	48	4,551	x				
SHOPPING CTR	1,406	4,165	x				
SOUTH RAMP 1	2,274	3,765	x				
ST LOUIS	2,539	2,853	x				
ST LOUIS HTS	161	337	x				
THURSTON	1,750	4,669	x				
TOWN	9	144	x				
UALENA	1,758	5,228	x				
UPLANDS	1,377	1,379	x				
UWAPO 1	5,029	5,433	x				
UWAPO 2	1,618	1,637	x				
UWAPO 3	5,098	5,881	x				
UWAPO 4	38	924	x				
WAHIAWA HTS	4,428	4,206		4,428	x		
WAHIAWA PROPER	1,630	5,964	x				
WAIAKAMILO 1	698	2,530	x				
WAIAKAMILO 2	1,069	5,490	x				
WAIAKAMILO 3	2,867	5,827	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
WAIAKAMILO 4	1,715	3,697	x				
WAIAKAMILO-IWILEI	853	959	x				
WAIAKAMILO-KAPALAMA	2,892	9,020	x				
WAIALAE NUI	2,437	3,646	x				
WAIALAE SC	0	746	x				
WAIALUA	2,642	1,711		3,302		x	
WAIAWA 1	4,683	6,447	x				
WAIAWA 2	3,295	9,144	x				
WAIAWA 3	3,493	7,605	x				
WAIAWA 4	2,819	4,257	x				
WAIHEE 1	3,705	3,804	x				
WAIHEE 2	2,419	2,101		2,419	x		
WAIHEE 3	888	660		888	x		
WAIHEE 4	4,280	4,189		4,280	x		
WAIKELE CTR	1,037	3,133	x				
WAIKIKI 1	362	1,844	x				
WAIKIKI 2	200	6,144	x				
WAIKIKI 3	495	6,602	x				
WAIKIKI 4	494	6,104	x				
WAIKIKI 5	1,170	3,888	x				
WAIKIKI 6	600	4,256	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
WAILANI	1,725	2,982	x				
WAILUPE	8,165	6,579		8,653			x
WAIMALU 1	3,938	6,268	x				
WAIMALU 2	3,431	4,994	x				
WAIMALU 3	6,431	5,984		6,431	x		
WAIMALU 4	2,648	3,523	x				
WAIMANALO	2,320	2,248		2,480			x
WAIMANO 5	2,180	2,078		2,180	x		
WAIMANO 6	2,645	4,506	x				
WAIMANO HOME RD	5,555	5,099		5,555	x		
WAIMEA 1	701	788	x				
WAIMEA 2	3,396	3,168		3,495		x	
WAIOMAO	5,061	5,743	x				
WAIPAHU	10,233	8,874		10,233	x		
WAIPIO 1	1,783	4,249	x				
WAIPIO 2	1,239	4,040	x				
WAIWAI	1,147	2,823	x				
WAI-WILHELMINA	1,456	1,376		1,480			x
WHITMORE	79	308	x				
WILIWILI	2,427	2,293		4,090	x		
WILIWILI 2	2,563	2,126		2,566	x		

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
WOODLAWN	1,207	1,242	x				

Hawai‘i Island

Table 21: Hawai‘i Island Hosting Capacity Analysis Results by Circuit

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
Ainaloa 11	1,164	1,722	x				
Ainaloa 12	819	1,319	x				
Anaehoomalu 11	293	1,411	x				
Anaehoomalu 12	499	2,083	x				
Anaehoomalu 13	356	4,099	x				
Captain Cook 11	2,452	3,876	x				
Captain Cook 12	1,874	1,795		7,000		x	
Hakalau 1	270	319	x				
Halaula 1	980	743		1,375			x
Halaula 2	0	0	x				
Hale Pohaku 11	390	85		3,730	x		
Hale Pohaku 12	164	83		2,370	x		
Haleaha 11	792	2,625	x				
Haleaha 12	2,457	4,433	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
Hawaiian Beaches 11	1,250	2,129	x				
Hawaiian Beaches 12	9	127	x				
Hawaiian Paradise Park 11	1,173	3,346	x				
Hawaiian Paradise Park 12	2,276	2,819	x				
Hawaiian Paradise Park 13	5,998	0		6,156		x	
Hawaiian Paradise Park 14	1,019	0		1,200		x	
Hawi 11	801	1,302	x				
Hawi 12	622	1,594	x				
Honokaa 12	930	624		1,300		x	
Honokaa 14	1,245	1,597	x				
Honomu 1	364	272		900		x	
Host Park 11	1,580	943		3,020	x		
Host Park 12	0	0	x				
Host Park 13	133	568	x				
Host Park 14	838	750		1,100	x		
Huehue 11	9,208	7,997		10,200		x	
Kahaluu 11	3,229	3,221		4,000		x	
Kahaluu 12	1,738	3,138	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
Kahaluu 14	431	1,183	x				
Kahaluu 15	2,808	1,857		5,000	x		
Kailua 11	3,682	6,629	x				
Kailua 12	244	5,558	x				
Kailua 15	5,065	8,618	x				
Kaloko 11	2,517	2,756	x				
Kaloko 12	486	215		759	x		
Kaloko 13	1,894	1,818		10,100		x	
Kaloko 14	71	243	x				
Kamuela 11	58	1,936	x				
Kamuela 12	1,866	2,107	x				
Kanoelehua 11	1,124	1,223	x				
Kanoelehua 1101	1,210	3,607	x				
Kanoelehua 12	966	424		2,600	x		
Kanoelehua 13	159	81		1,200	x		
Kanoelehua 14	1,811	2,676	x				
Kanoelehua 1401	1,676	764		3,000	x		
Kanoelehua 15	2,138	599		5,000	x		
Kanoelehua 17	716	3,892	x				
Kapua 11	1,653	985		2,170		x	
Kapua 12	1,106	3,515	x				
Kauhale 11	1,436	864		2,380		x	

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
Kauhale 12	245	0		2,010		x	
Kaumana 11	3,609	3,406		4,600		x	
Kaumana 12	1,044	1,425	x				
Kawaihae 11	335	299		1,900		x	
Kawaihae 12	587	548		3,800		x	
Kawaihae 13	28	62	x				
Kawailani 11	3,105	2,699		3,400	x		
Kawailani 12	2,967	2,913		2,967	x		
Keahole Airport 11	1,662	1,252		1,800		x	
Keahole Airport 12	463	427		464		x	
Keahole Airport 13	1,056	940		2,000		x	
Keahuolu 11	322	1,354	x				
Keahuolu 12	859	2,414	x				
Kealakehe 11	1,251	1,579	x				
Kealia 11	444	899	x				
Kealia 12	745	804	x				
Keauhou 11	1,634	1,674	x				
Keauhou 13	1,818	2,154	x				
Komohana 12	4,842	1,355		6,395		x	
Komohana 13	4,402	6,695	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
Komohana 14	338	851	x				
Kuakini 11	5,820	4,854		6,100		x	
Kuakini 13	1,384	1,020		2,038	x		
Kuakini 14	5,753	4,496		5,753	x		
Kulani 12	48	120	x				
Kurtistown 12	1,397	480		1,800		x	
Lalamilo 11	1,085	1,136	x				
Lalamilo 12	401	340		402	x		
Laupahoehoe 1	133	133	x				
Laupahoehoe 2	281	190		281		x	
Maliu Ridge 11	512	471		700	x		
Maliu Ridge 12	639	816	x				
Mauna Lani 11	3,637	4,848	x				
Mauna Lani 13	1,268	1,701	x				
Mauna Lani 14	5,528	2,805		7,910		x	
Mountain View 11	1,477	2,429	x				
Mountain View 12	365	406	x				
Namakani Paio	281	128		1,810		x	
Ookala	251	117		2,440		x	
Orchid Isle 11	90	43		2,590		x	
Orchid Isle 12	513	219		2,530		x	

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
Ouli 11	785	3,381	x				
Ouli 12	1,476	4,202	x				
Paauilo 1	365	172		450		x	
Pahala 11	524	851	x				
Pahala 12	105	310	x				
Palani 11	143	707	x				
Palani 12	3,031	4,171	x				
Palani 13	0	0	x				
Palani 14	1,034	0		3,970		x	
Panaewa 11	1,633	2,107	x				
Panaewa 12	2,993	1,483		5,465		x	
Papaaloa 1	250	401	x				
Papaaloa 2	163	460	x				
Poopoomino 11	2,312	2,055		2,313	x		
Poopoomino 12	1,183	4,700	x				
Poopoomino 13	909	2,117	x				
Poopoomino 14	2,212	2,830	x				
Punaluu 11	21	1,118	x				
Punaluu 12	237	678	x				
Puueo 11	1,890	836		2,180		x	
Puueo 12	1,942	1,070		9,080		x	
Puueo 1402	1,389	4,399	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o Mods) Satisfies Need	Updated HC (w/ Mods) Satisfies Need	Solution Option Required
Puuhuluhulu 11	893	124		974	x		
Puuhuluhulu 12	893	648		893	x		
Puukapu 11	1,862	2,037	x				
Puuwaawaa 11	100	0		180			x
Puuwaawaa 12	362	670	x				
Royal Hawaiian	404	802	x				
Shipman 11	507	16		550	x		
Shipman 12	1,846	1,008		4,000	x		
South Point 11	1,770	1,582		2,260	x		
South Point 12	71	174	x				
Umauma 11	101	146	x				
Umauma 12	174	126		250	x		
Waika 11	150	137		150	x		
Waika 12	2,671	2,446		2,671	x		
Waikii 11	566	601	x				
Waikii 12	267	0		3,650		x	
Waikoloa 11	2,356	3,315	x				
Waikoloa 12	5,909	4,055		5,913		x	
Waipunahina 11	444	320		450		x	
Wright Road 11	1,263	1,606	x				

Maui Island

Table 22: Maui Island Hosting Capacity Analysis Results by Circuit

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o mods) Satisfies Need	Updated HC (w/ mods) Satisfies Need	Solution Option Required
Haiku 16/1358	3,089	3,378	x				
Haiku 16/1361	997	1,261	x				
Hana 41/10277	108	0		181	x		
Hana 41/537	174	0		229	x		
Hana 41/6528	55	0		116	x		
Huelo 74A/Huelo[36]	224	192		0			
Kahului 8/1264	1,229	3,266	x				
Kahului 8/1265	3,575	3,685	x				
Kahului 8/4048	1,600	1,420		2,390		x	
Kahului 8/4049	1,360	338		2,200		x	
Kahului 8/4050	590	955	x				
Kailua 9/Kailua	19	67	x				
Kanaha 2/1244	2,225	5,049	x				
Kanaha 2/1245	1,506	1,862	x				
Kanaha 2/1304	2,431	4,448	x				
Kanaha 2/1305	2,953	3,973	x				
Kanaha 2/1347	2,937	6,172	x				
Kanaha 2/1348	1,043	8,362	x				
Kaonoulu/1590	5,523	0		6,000	x		

[36] Model not available for analysis. Model is being developed.

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o mods) Satisfies Need	Updated HC (w/ mods) Satisfies Need	Solution Option Required
Kaonoulu/1591	1,494	0		3,000	x		
Kauhikoa 98/1295	1,170	1,143		0			
Keanae 42/Keanae	41	173	x				
Kihei 35/1253	2,167	5,087	x				
Kihei 35/1254	4,761	6,100	x				
Kihei 35/1384	9,890	1,159		9,900	x		
Kihei 35/1385	1,807	1,847	x				
Kihei 35/1473	4,452	0		5,657	x		
Kihei 35/1515	9,094	7,610		9,300			x
Kuau 73/4066	1,028	552		1,940		x	
Kuihelani 209/1653	6,119	0		7,019		x	
Kuihelani 209/1708	3,411	0		4,260		x	
Kula 13/1237	3,904	2,659		4,500			x
Kula 13/1238	3,964	3,227		5,500		x	
Kula Ag Park 55/1322	925	449		1,252	x		
Lahaina 34/1221	2,883	4,090	x				
Lahaina 34/1223	6,877	3,078		6,877	x		
Lahaina 34/1225	808	2,139	x				
Lahaina 34/1226	452	1,485	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o mods) Satisfies Need	Updated HC (w/ mods) Satisfies Need	Solution Option Required
Lahaina 34/1390	3,615	0		4,000	x		
Lahaina 34/1397	282	1,797	x				
Lahaina 34/1398	5,882	972		7,000			x
Maalaea 39/1285	1,151	4,212	x				
Maalaea 39/1286	1,551	2,420	x				
Mahinahina 50/1219	3,167	12,478	x				
Mahinahina 50/1380	940	1,283	x				
Mahinahina 50/1381	4,303	5,289	x				
Makawao 12/1234	1,154	1,385	x				
Makawao 12/1235	1,896	1,537		2,474	x		
Makawao 12/1236	1,556	1,316		2,500		x	
Maui Hardwoods 75/522	529	1,504	x				
Napili 29/1232	707	4,998	x				
Napili 29/1420	3,527	2,454		4,252	x		
Napili 29/1421	1,330	1,593	x				
Onehee 40/4055	1,755	1,700		2,000			x
Onehee 40/4056	720	743	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o mods) Satisfies Need	Updated HC (w/ mods) Satisfies Need	Solution Option Required
Paia Mauka 93/4042	1,738	522		2,000			x
Peahi 94/1294	2,044	1,457		2,430		x	
Pukalani 17/1282	4,186	2,927		5,983		x	
Pukalani 17/1283	9	1,060	x				
Pukalani 17/1308	5,847	5,156		9,000	x		
Pukalani 17/1309	620	1,315	x				
Puukolii 23/1270	7,583	14,133	x				
Puukolii 23/1271	1,574	4,446	x				
Puukolii 23/1272	4,249	5,865	x				
Puukolii 23/1273	146	731	x				
Spreckelsville 92/4043	1,434	0		1,450		x	
Waiehu 43/1378	2,974	3,261	x				
Waiehu 43/1379	4,993	3,923		5,000	x		
Waiinu 36/1266	1,496	3,822	x				
Waiinu 36/1267	803	1,760	x				
Waiinu 36/1492	1,362	3,485	x				
Waiinu 36/1493	11,151	8,022		12,000		x	
Waiinu 36/2030	429	849	x				

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o mods) Satisfies Need	Updated HC (w/ mods) Satisfies Need	Solution Option Required
Waikapu 77/524	0	827	x				
Wailea 25/1280	3,811	4,155	x				
Wailea 25/1281	938	3,060	x				
Wailea 25/1320	3,325	6,017	x				
Wailea 25/1321	43	3,997	x				
Wailea 25/1395	654	4,019	x				
Wailea 25/1396	1,207	3,574	x				
Wailea 25/1517	3,719	2,705		4,389			x
Wailea 25/1518	2,251	1,633		4,000		x	
Wailuku 3/1290	6,004	3,242		6,004	x		
Wailuku 3/1447	4,046	5,574	x				
Wailuku 3/4031	770	1,079	x				
Wailuku 3/4037	1,204	573		1,300	x		
Wailuku Heights 18/493	1,183	1,300	x				
Wailuku Heights 18/529	769	1,400	x				

Lanaʻi

Table 23: Lanaʻi Hosting Capacity Analysis Results by Circuit

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o mods) Satisfies Need	Updated HC (w/ mods) Satisfies Need	Solution Option Required
Miki Basin PP 302/1208	506	386		2,700			x
Miki Basin PP 302/1210	2,204	2,154		3,900			x
Miki Basin PP 302/1212	585	2,664	x				

Molokaʻi

Table 24: Molokaʻi Hosting Capacity Analysis Results by Circuit

Circuit Name	Total 2025 DER (kW)	Existing HC (kW)	Existing HC Satisfies Need	Updated HC (kW)	Updated HC (w/o mods) Satisfies Need	Updated HC (w/ mods) Satisfies Need	Solution Option Required
Palaau PP 81/105A	1,333	1,026		1,350			x
Palaau PP 81/106B	354	282		550			x
Palaau PP 81/109B	181	125		800			x
Palaau PP 81/110B	357	212		1,000			x
Palaau PP 81/111A	1,670	823		2,000			x
Puunana 80/1466	55	1,061	x				
Puunana 80/1467	268	613	x				
Puunana 80/1468	16	532	x				

Appendix D:Total DER and Hosting Capacity by Circuit

O‘ahu

Table 25: O‘ahu Total Anticipated DER and Hosting Capacity by Circuit (kW)

Circuit	Executed DER	Total Anticipated DER by Year					Hosting Capacity	
		2021	2022	2023	2024	2025	Existing HC	Updated HC
AHUA	960	1,195	1,514	1,629	1,871	1,973	1,561	6,080
AIEA	2,895	3,189	3,623	3,866	4,165	4,563	3,601	5,700
AINA KOA	1,888	2,480	3,190	3,784	4,037	4,628	2,951	4,926
ANOI	3,761	4,043	4,302	4,549	4,708	4,854	3,794	6,360
ANUU	3,028	3,353	3,816	4,272	4,709	4,993	4,073	5,321
BEACH LOTS	3,079	3,514	3,938	4,384	4,732	4,980	4,712	6,500
CKT 16	2,215	6,289	7,289	7,589	7,891	7,992	6,611	10,012
DIAMOND HEAD	291	647	1,631	2,155	2,215	2,709	1,452	3,280
EKEKELA	770	823	923	988	1,038	1,096	1,070	1,312
EWA BEACH 3	2,618	2,974	3,812	4,423	4,770	4,999	4,029	4,999
EWA BEACH 4	4,231	4,803	5,842	6,870	7,541	8,046	5,966	8,046
EWA NUI 2	3,540	4,192	5,707	7,051	7,565	8,088	6,024	8,089
FARMERS RD	947	1,121	1,251	1,521	1,574	1,746	1,411	1,746
FORT WEAVER 2	3,886	4,660	5,417	6,116	6,610	7,051	6,321	7,052
FORT WEAVER 3	3,681	4,152	5,054	5,537	6,108	6,589	5,950	6,590
HAHAIONE	2,045	2,182	2,754	3,027	3,291	3,454	3,366	3,965
HAUULA	1,534	6,543	6,760	6,925	7,037	7,142	2,802	8,630

Circuit	Executed DER	Total Anticipated DER by Year					Hosting Capacity	
		2021	2022	2023	2024	2025	Existing HC	Updated HC
HEIGHTS	1,027	1,090	1,184	1,266	1,324	1,397	1,145	1,398
HIKINA	135	144	213	224	240	254	220	492
HILA 4	400	400	400	400	400	400	0	2,323
HOAEAE 1	2,849	3,518	4,561	5,324	5,899	6,505	5,113	8,445
HOAEAE 3	1,134	2,090	2,508	2,899	3,650	4,037	2,488	4,038
KAENA PT	1,569	1,898	2,479	2,830	3,076	3,329	2,739	3,329
KAHALA	1,334	1,622	2,069	2,212	2,519	2,591	1,976	2,591
KAHALA 3	1,013	5,232	5,785	6,401	6,785	7,172	1,609	7,269
KAHALOA	1,033	1,113	1,249	1,378	1,445	1,503	1,407	1,630
KAHUKU	1,454	1,943	2,580	2,850	3,151	3,363	2,422	4,240
KAI-HARDING	347	361	384	428	459	482	471	483
KAILUA 1	2,023	2,576	2,997	3,493	3,613	4,009	3,746	5,341
KAILUA HTS	3,745	4,106	4,847	5,347	5,693	5,947	5,755	6,120
KAINALU	1,453	1,765	2,206	2,393	2,522	2,598	1,047	2,625
KALAHEO	973	1,063	1,138	1,237	1,366	1,637	1,462	1,800
KALIHI ST	676	708	842	974	1,025	1,098	1,021	1,620
KALOI 1	715	815	815	1,115	1,115	1,315	612	2,979
KAM TERRACE	824	954	1,230	1,346	1,746	1,935	1,323	3,800
KAPOLEI 4	1,289	6,442	6,641	6,783	6,870	6,970	2,966	6,971
KAWAILOA	1,110	1,224	1,614	1,737	1,822	1,920	1,133	2,468
KEWALO	2,009	2,246	2,574	2,840	7,689	7,888	7,024	11,692
KILAUEA 4KV	869	943	1,028	1,091	1,153	1,231	962	1,330
KOLOA	654	815	1,002	1,269	1,444	1,595	1,281	1,595

Circuit	Executed DER	Total Anticipated DER by Year					Hosting Capacity	
		2021	2022	2023	2024	2025	Existing HC	Updated HC
KUAPA 2	985	1,320	1,643	2,004	2,262	2,364	1,891	6,740
KUILIMA 1	777	898	1,083	1,345	1,487	1,605	1,524	1,605
LOWREY	870	942	1,045	1,163	1,278	1,360	1,129	1,380
MACHADO ST	543	589	681	750	801	855	736	1,500
MAKAHA VALLEY	842	1,017	1,407	1,608	1,671	1,830	1,725	1,830
MAKAKILO 1	2,270	2,704	3,212	3,703	4,017	4,337	3,988	4,539
MAKAKILO 2	4,657	5,353	8,956	9,675	10,107	10,570	8,472	10,570
MANOA 2	724	803	957	1,046	1,154	1,229	1,089	2,180
MANOA-PIIKOI	964	1,111	1,321	1,521	1,744	1,963	1,553	2,090
MAPUNAPUNA	228	453	778	878	1,078	1,078	371	3,835
MAUKA	6,031	6,846	8,060	8,828	9,371	10,282	8,350	10,283
MAUNALANI	1,425	1,507	1,763	1,915	2,034	2,122	2,057	2,159
MIKILUA 3	3,778	4,030	4,467	4,944	5,151	5,439	4,761	5,440
MIKILUA 4	5,017	5,440	6,192	6,982	7,465	7,653	3,514	7,653
MIKILUA 5	5,508	6,018	6,779	7,439	7,995	8,544	7,382	8,545
NUUANU	338	506	599	784	927	978	719	2,160
OCEAN POINTE 1	3,811	4,135	4,925	5,323	5,742	6,063	5,876	6,064
OCEAN POINTE 2	3,412	3,834	4,381	4,789	5,143	5,453	5,280	5,454
OCEAN POINTE 4	1,095	1,207	1,361	1,498	1,601	1,713	1,362	1,713
ONEAWA	805	877	957	1,065	1,130	1,178	908	2,160
PAHIA	1,073	1,480	1,746	1,946	2,064	2,309	1,505	4,310
PAUOA 2	2,832	3,437	4,216	4,676	5,056	5,392	4,522	7,130
PIIKOI 8	1,458	1,681	2,048	2,310	2,583	2,720	1,993	3,469

Circuit	Executed DER	Total Anticipated DER by Year					Hosting Capacity	
		2021	2022	2023	2024	2025	Existing HC	Updated HC
PORTLOCK	906	1,362	2,926	3,535	4,449	5,120	4,113	5,580
PUNCHBOWL	425	533	683	778	834	884	656	1,240
QUEENS 2	1,232	1,423	1,521	1,601	1,679	1,733	1,722	1,733
WAHIAWA HTS	2,684	2,965	3,499	3,853	4,178	4,428	4,206	4,428
WAIALUA	1,335	1,477	1,786	2,232	2,394	2,642	1,711	3,302
WAIHEE 2	1,279	1,523	1,833	2,111	2,266	2,419	2,101	2,419
WAIHEE 3	395	450	687	754	844	888	660	888
WAIHEE 4	2,455	2,862	3,313	3,723	3,999	4,280	4,189	4,280
WAILUPE	4,300	5,054	6,262	7,398	7,842	8,165	6,579	8,653
WAIMALU 3	4,143	4,588	5,228	5,731	6,087	6,431	5,984	6,431
WAIMANALO	901	1,173	1,727	1,914	2,069	2,320	2,248	2,480
WAIMANO 5	1,330	1,456	1,701	1,884	2,032	2,180	2,078	2,180
WAIMANO HOME RD	3,078	3,517	4,318	4,789	5,200	5,555	5,099	5,555
WAIMEA 2	1,872	2,033	2,621	2,983	3,171	3,396	3,168	3,495
WAIPAHU	4,373	5,430	7,076	8,356	9,358	10,233	8,874	10,233
WAI-WILHELMINA	1,034	1,098	1,204	1,315	1,368	1,456	1,376	1,480
WILIWILI 1	1,693	1,829	2,043	2,199	2,297	2,427	2,293	4,090
WILIWILI 2	1,948	2,085	2,242	2,365	2,446	2,563	2,126	2,566

Hawai‘i Island

Table 26: Hawai‘i Island Total Anticipated DER and Hosting Capacity by Circuit (kW)

Circuit	Executed DER	Total Anticipated DER by Year					Hosting Capacity	
		2021	2022	2023	2024	2025	Existing HC	Updated HC
Captain Cook 12	1,118	1,266	1,429	1,578	1,724	1,874	1,795	7,000
Halaula 1	585	663	748	826	902	980	743	1,375
Hale Pohaku 11	233	263	297	328	359	390	85	3,730
Hale Pohaku 12	98	111	125	138	151	164	83	2,370
Hawaiian Paradise Park 13	0	4,054	4,573	5,052	5,521	5,998	0	6,156
Hawaiian Paradise Park 14	0	689	777	858	938	1,019	0	1,200
Honokaa 12	555	629	709	784	856	930	624	1,300
Honomu 1	217	246	278	307	335	364	272	900
Host Park 11	943	1,068	1,205	1,331	1,455	1,580	943	3,020
Host Park 14	500	566	639	706	771	838	750	1,100
Huehue 11	5,497	6,224	7,021	7,756	8,476	9,208	7,997	10,200
Kahaluu 11	1,988	2,231	2,498	2,743	2,984	3,229	3,221	4,000
Kahaluu 15	1,676	1,898	2,141	2,365	2,584	2,808	1,857	5,000
Kaloko 12	290	328	370	409	447	486	215	759
Kaloko 13	1,231	1,361	1,503	1,634	1,763	1,894	1,818	10,100
Kanoelehua 12	585	659	741	817	891	966	424	2,600
Kanoelehua 13	95	108	121	134	146	159	81	1,200
Kanoelehua 1401	1,001	1,133	1,278	1,412	1,543	1,676	764	3,000
Kanoelehua 15	1,276	1,445	1,630	1,801	1,968	2,138	599	5,000

Circuit	Executed DER	Total Anticipated DER by Year					Hosting Capacity	
		2021	2022	2023	2024	2025	Existing HC	Updated HC
Kapua 11	1,486	1,519	1,555	1,588	1,620	1,653	985	2,170
Kauhale 11	866	977	1,100	1,213	1,324	1,436	864	2,380
Kauhale 12	146	166	187	206	226	245	0	2,010
Kaumana 11	2,154	2,439	2,751	3,040	3,321	3,609	3,406	4,600
Kawaihae 11	200	227	256	282	309	335	299	1,900
Kawaihae 12	350	397	448	494	540	587	548	3,800
Kawailani 11	1,854	2,099	2,368	2,616	2,858	3,105	2,699	3,400
Kawailani 12	1,771	2,005	2,262	2,499	2,731	2,967	2,913	2,967
Keahole Airport 11	992	1,123	1,267	1,400	1,530	1,662	1,252	1,800
Keahole Airport 12	277	313	353	390	426	463	427	464
Keahole Airport 13	631	714	805	890	972	1,056	940	2,000
Komohana 12	2,890	3,273	3,692	4,078	4,456	4,842	1,355	6,395
Kuakini 11	3,474	3,934	4,438	4,902	5,357	5,820	4,854	6,100
Kuakini 13	826	935	1,055	1,166	1,274	1,384	1,020	2,038
Kuakini 14	3,434	3,888	4,386	4,846	5,295	5,753	4,496	5,753
Kurtistown 12	834	944	1,065	1,177	1,286	1,397	480	1,800
Lalamilo 12	240	271	306	338	370	401	340	402
Laupahoehoe 2	168	190	214	237	258	281	190	281
Maliu Ridge 11	306	346	390	431	471	512	471	700
Mauna Lani 14	3,300	3,737	4,215	4,656	5,088	5,528	2,805	7,910
Namakani Paio	168	190	214	237	259	281	128	1,810
Ookala	150	170	191	211	231	251	117	2,440

Circuit	Executed DER	Total Anticipated DER by Year					Hosting Capacity	
		2021	2022	2023	2024	2025	Existing HC	Updated HC
Orchid Isle 11	54	61	69	76	83	90	43	2,590
Orchid Isle 12	306	347	391	432	472	513	219	2,530
Paauilo 1	218	247	278	308	336	365	172	450
Palani 14	0	699	788	871	951	1,034	0	3,970
Panaewa 12	1,825	2,054	2,304	2,536	2,762	2,993	1,483	5,465
Poopoomino 11	1,380	1,563	1,763	1,948	2,128	2,312	2,055	2,313
Puueo 11	1,129	1,278	1,441	1,592	1,740	1,890	836	2,180
Puueo 12	1,160	1,313	1,481	1,636	1,788	1,942	1,070	9,080
Puuhuluhulu 11	533	604	681	753	822	893	124	974
Puuhuluhulu 12	533	604	681	753	822	893	648	893
Puuwaawaa 11	0	100	100	100	100	100	0	180
Shipman 11	303	343	387	427	467	507	16	550
Shipman 12	1,102	1,248	1,407	1,555	1,699	1,846	1,008	4,000
South Point 11	609	1,439	1,528	1,609	1,689	1,770	1,582	2,260
Umauma 12	104	118	133	147	160	174	126	250
Waika 11	89	101	114	126	138	150	137	150
Waika 12	1,594	1,805	2,037	2,250	2,458	2,671	2,446	2,671
Waikii 12	159	181	204	225	246	267	0	3,650
Waikoloa 12	3,527	3,994	4,505	4,977	5,439	5,909	4,055	5,913
Waipunahina 11	265	300	338	374	408	444	320	450

Maui Island

Table 27: Maui Island Total Anticipated DER and Hosting Capacity by Circuit (kW)

Circuit	Executed DER	Total Anticipated DER by Year					Hosting Capacity	
		2021	2022	2023	2024	2025	Existing HC	Updated HC
Hana 41/10277	66	74	83	92	100	108	0	181
Hana 41/537	106	119	133	147	161	174	0	229
Hana 41/6528	33	37	42	46	50	55	0	116
Huelo 74A/Huelo[37]	136	153	172	190	207	224	192	0
Kahului 8/4048	972	1,090	1,224	1,354	1,479	1,600	1,420	2,390
Kahului 8/4049	826	927	1,040	1,151	1,257	1,360	338	2,200
Kaonoulu/1590	0	3,762	4,223	4,674	5,103	5,523	0	6,000
Kaonoulu/1591	0	1,018	1,143	1,264	1,381	1,494	0	3,000
Kauhikoa 98/1295[38]	711	797	894	990	1,081	1,170	1,143	0
Kihei 35/1384	7,429	7,891	8,414	8,925	9,413	9,890	1,159	9,900
Kihei 35/1473	900	3,033	3,404	3,767	4,113	4,452	0	5,657
Kihei 35/1515	5,525	6,195	6,954	7,696	8,402	9,094	7,610	9,300
Kuau 73/4066	625	700	786	870	950	1,028	552	1,940
Kuihelani 209/1653	3,718	4,168	4,679	5,178	5,654	6,119	0	7,019
Kuihelani 209/1708	2,269	2,483	2,726	2,964	3,190	3,411	0	4,260
Kula 13/1237	2,372	2,659	2,985	3,304	3,607	3,904	2,659	4,500
Kula 13/1238	2,420	2,710	3,038	3,359	3,665	3,964	3,227	5,500
Kula Ag Park 55/1322	641	694	755	814	870	925	449	1,252

[37] No circuit model available for analysis. Model is being developed.

[38] No circuit model available for analysis. Model is being developed.

Circuit	Executed DER	Total Anticipated DER by Year					Hosting Capacity	
		2021	2022	2023	2024	2025	Existing HC	Updated HC
Lahaina 34/1223	5,304	5,599	5,934	6,260	6,572	6,877	3,078	6,877
Lahaina 34/1390	2,204	2,469	2,769	3,062	3,342	3,615	0	4,000
Lahaina 34/1398	3,868	4,246	4,675	5,093	5,492	5,882	972	7,000
Makawao 12/1235	1,211	1,340	1,485	1,628	1,764	1,896	1,537	2,474
Makawao 12/1236	946	1,060	1,190	1,317	1,438	1,556	1,316	2,500
Napili 29/1420	1,884	2,801	2,991	3,177	3,354	3,527	2,454	4,252
Onehee 40/4055	1,066	1,195	1,342	1,485	1,621	1,755	1,700	2,000
Paia Mauka 93/4042	1,056	1,184	1,329	1,471	1,606	1,738	522	2,000
Peahi 94/1294	1,428	1,544	1,675	1,803	1,925	2,044	1,457	2,430
Pukalani 17/1282	2,551	2,858	3,205	3,545	3,869	4,186	2,927	5,983
Pukalani 17/1308	3,554	3,984	4,472	4,948	5,402	5,847	5,156	9,000
Spreckelsville 92/4043	875	980	1,099	1,215	1,326	1,434	0	1,450
Waiehu 43/1379	3,033	3,401	3,818	4,225	4,613	4,993	3,923	5,000
Waiinu 36/1493	6,775	7,596	8,527	9,436	10,302	11,151	8,022	12,000
Wailea 25/1517	2,259	2,533	2,844	3,147	3,436	3,719	2,705	4,389
Wailea 25/1518	1,368	1,534	1,721	1,905	2,080	2,251	1,633	4,000
Wailuku 3/1290	3,648	4,090	4,591	5,081	5,547	6,004	3,242	6,004
Wailuku 3/4037	732	820	921	1,019	1,113	1,204	573	1,300

Lana‘i

Table 28: Lana‘i Total Anticipated DER and Hosting Capacity by Circuit (kW)

Circuit	Executed DER	Total Anticipated DER by Year					Hosting Capacity	
		2021	2022	2023	2024	2025	Existing HC	Updated HC
Miki Basin PP 302/1208	321	343	368	423	449	506	386	2,700
Miki Basin PP 302/1210	2,141	2,148	2,157	2,176	2,185	2,204	2,154	3,900

Moloka‘i

Table 29: Moloka‘i Total Anticipated DER and Hosting Capacity by Circuit (kW)

Circuit	Executed DER	Total Anticipated DER by Year					Hosting Capacity	
		2021	2022	2023	2024	2025	Existing HC	Updated HC
Palaau PP 81/105A	818	931	1047	1141	1249	1333	1026	1350
Palaau PP 81/106B	217	247	278	303	332	354	282	550
Palaau PP 81/109B	111	126	142	155	169	181	125	800
Palaau PP 81/110B	222	251	282	307	335	357	212	1000
Palaau PP 81/111A	872	1243	1366	1466	1580	1670	823	2000