BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

------ In the Matter of ------	)	
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PUBLIC UTILITIES COMMISSION	)	DOCKET NO. 2018-0088
	)	
Instituting a Proceeding	)	
To Investigate Performance-Based	)	
Regulation.	)	
	)	

DECISION AND ORDER NO. 37787

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DECISION AND ORDER

By this Decision and Order,[1] the Public Utilities Commission ("Commission") establishes a suite of performance

[1]The Parties to this proceeding are HAWAIIAN ELECTRIC COMPANY, INC. ("HECO"), HAWAII ELECTRIC LIGHT COMPANY, INC. ("HELCO"), MAUI ELECTRIC COMPANY, LTD. ("MECO")(collectively, HECO, HELCO, AND MECO are referred to as "Hawaiian Electric" or the "Companies"); and the DIVISION OF CONSUMER ADVOCACY ("Consumer Advocate"), an ex officio party, pursuant to Hawaii Revised Statutes ("HRS") § 269-51 and Hawaii Administrative Rules § 16-601-62(a). Additionally, the Commission has granted the following entities Intervenor status: CITY AND COUNTY OF HONOLULU ("C&CH"), COUNTY OF HAWAII ("COH"), BLUE PLANET FOUNDATION ("Blue Planet"), HAWAII PV COALITION ("HPVC"), HAWAII SOLAR ENERGY ASSOCIATION ("HSEA"), DER COUNCIL OF HAWAII ("DERC")(collectively, HPVC, HSEA, and DERC are referred to as the "DER Parties"), LIFE OF THE LAND ("LOL"), and ULUPONO INITIATIVE, LLC ("Ulupono"). See Order No. 35542, "Admitting Intervenors and Participant and Establishing a Schedule of Proceedings," filed June 20, 2018. The Commission has also granted Participant status to the ADVANCED ENERGY ECONOMY INSTITUTE. Id. Throughout this Decision and Order the term "Parties" refers collectively to the Parties, Intervenors and Participant listed above.

mechanisms, pursuant to Decision and Order No. 37507, filed on December 23, 2020 ("D&O 37507").[2] Specifically, the Commission sets forth the final details for the Interconnection Approval Performance Incentive Mechanism ("Interconnection Approval PIM"), Low-to-Moderate Income Energy Efficiency Performance Incentive Mechanism ("LMI Energy Efficiency PIM"), Advanced Metering Infrastructure Utilization Performance Incentive Mechanism ("AMI Utilization PIM"), and the initial portfolio of Scorecards and Reported Metrics (collectively, the "Prioritized Performance Mechanisms"). In addition, the Commission provides guidance on the next steps for the Post-D&O Working Group.

Hawaiian Electric shall submit draft tariffs to implement the above PIMs within one week of this Decision and Order for the Commission's review and approval.

I.

BACKGROUND

On December 23, 2020, the Commission issued D&O 37507, which established a PBR Framework to govern Hawaiian Electric. Briefly, the PBR Framework incorporates: (1) an annual adjustment

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The COUNTY OF MAUI was formerly an intervenor, but has since withdrawn from this proceeding. See Order No. 36252, "Granting the County of Maui's Motion to Withdraw," filed April 3, 2019.

[2]See D&O 37507 at 157-61 and 163-164.

to Hawaiian Electric's target revenues based on an Annual Revenue Adjustment formula ("ARA"); and (2) a suite of performance incentive mechanisms ("PIMs") that provide Hawaiian Electric with the opportunity to earn additional revenues based on exemplary performance in key areas.[3]

D&O 37507 also established an informal working group (the "Post-D&O Working Group") to "continuously introduce, examine, and vet new Performance Mechanism proposals, as well as explore modifications to existing PIMs."[4] Before transitioning to a Party-led phase of the working group process, D&O 37507 announced that the Post-D&O Working Group would focus on addressing "proposals the Commission prioritizes for near-term development[,]" (i.e., the Prioritized Performance Mechanisms) including:

- Resolving final details for the Interconnection Approval PIM, LMI Energy Efficiency PIM and AMI Utilization PIM; and
- Finalizing a portfolio of Scorecards and Reported Metrics.[5]

D&O 37507 established a procedural schedule to govern the initial phase of the Post-D&O Working Group, which included

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[3]See D&O 37507 at 14-17 (summarizing the PBR Framework).

[4]D&O 37507 at 162.

[5]D&O 37507 at 163-164.

three informal working group meetings,[6] followed by opportunities to submit formal briefing and issue information requests ("IRs").[7] Commission staff also attended the informal working group meetings and issued IRs on behalf of the Commission. For purposes of this Decision and Order, only certain pertinent parts of the record are referenced; however, electronic access to the entire record can be found through the Commission's Document Management System, available at https://dms.puc.hawaii.gov/dms/index.jsp, and by entering "2018-0088" in the "Docket Quick Link" function.

Pursuant to the procedural schedule for the Post-D&O Working Group to address the Prioritized Performance Mechanisms set forth in D&O 37507, all scheduled informal working group meetings and discovery and briefing opportunities for this initial phase of the Post-D&O Working Group are concluded.[8] Following this Decision and Order, the working group will transition into a Party-led process, as discussed in Section II.E.4, below.

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[6]Due to concerns and restrictions related to the COVID-19 pandemic, all informal meetings of the Post-D&O Working Group were held virtually during this period.

[7]See D&O 37507 at 165.

[8]See D&O 37507 at 165.

II.

DISCUSSION

At the outset, the Commission recognizes the efforts of those involved in the Post-D&O Working Group. The Prioritized Performance Mechanisms under consideration are novel and the Commission appreciates the working group participants' open-mindedness in addressing the challenging work of developing metrics and targets. The Commission also expresses its appreciation to Hawaii Energy, who, while not a party to this proceeding, participated in the informal working group meetings and provided valuable insights in helping to develop proposals for the LMI Energy Efficiency PIM.

Upon reviewing the record, the Commission observes that comments and proposals were filed by Hawaiian Electric, the Consumer Advocate, Ulupono, Blue Planet, the COH, and LOL.[9]

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[9]See "County of Hawaii's Refined PBR Proposals; and Certificate of Service," filed Mach 16, 2021 ("COH Refined Proposal"); "Life of the Land's Prioritized Performance Incentive Mechanisms and Reported Metrics; and Certificate of Service," filed March 16, 2021 ("LOL Refined Proposal"); "Ulupono Initiative LLC's Proposed Scorecards and Reported Metrics; and Certificate of Service," filed March 16, 2021 ("Ulupono Refined Proposal"); "Hawaiian Electric Companies' Refined Proposals Addressing Prioritized Performance Mechanisms; Exhibits 'A' Through 'E"; and Certificate of Service," filed March 16, 2021 ("Companies Refined Proposal"); Division of Consumer Advocacy's Post D&O Statement of Position on Prioritized Performance Mechanisms," filed March 16, 2021 ("CA Refined Proposal"); "Ulupono Initiative LLC's Refined Proposals; and Certificate of Service," filed April 9, 2021 ("Ulupono Updated Refined

Taking these into consideration, as well as the rest of the record developed in this proceeding, including the IRs submitted as part of the post-D&O 37507 process and the record developed leading up to D&O 37507, the Commission establishes the following initial portfolio of Performance Mechanisms as part of the PBR Framework for Hawaiian Electric. In so doing, the Commission clarifies that while it is approving this portfolio of performance mechanisms in this Decision and Order, the Commission retains discretion to investigate all aspects of the PBR Framework, and may utilize the Re-Opener provision to examine the operation of any PBR mechanism at an any time, including, inter alia, situations where a PBR mechanisms may not be operating as intended or is otherwise producing inappropriate results.[10]

Proposal"); "County of Hawaii's Refined Proposals Based on IR Responses and Party Filings; and Certificate of Service," filed April 9, 2021 ("COH Updated Refined Proposal"); "Hawaiian Electric Companies' Updated Refined Proposal and Reply Statement of Position Addressing Prioritized Performance Mechanisms; Exhibits 'A' through 'I'; and Certificate of Service," filed April 9, 2021 ("Companies Updated Refined Proposal"); "Division of Consumer Advocacy's Post D&O Supplemental Statement of Position on Refined Proposals," filed April 9, 2021 ("CA Updated Refined Proposal"); and "Blue Planet Foundation's Proposals and Comments on Prioritized Performance Mechanisms; and Certificate of Service," filed April 9, 2021 ("Blue Planet Refined Proposal") (Blue Planet did not elect to initially submit a refined proposal on March 16, 2021, but instead submitted a letter stating that it wished to reserve its right to submit a refined proposal at the time updated refined proposals were due on April 9, 2021).

[10]See D&O 37507 at 188 (clarifying that "the Commission retains discretion to examine any PBR mechanism(s) at any time.").

A.

Interconnection Approval PIM

In D&O 37507, the Commission approved the Interconnection Approval PIM intended to promote the PBR Outcome of *Interconnection Experience* by incenting the Companies to reduce the total interconnection time for Distributed Energy Resource ("DER") systems under 100 kW.[11]

The Commission adopted the following metric for this PIM:

> Metric: The metric will be the mean (average) number of business days it takes the Companies to complete all steps within the Companies' control to interconnect DER systems <100kW in size, in a calendar year. The PIM will be applied to each of the Companies' performances, respectively. The average time will be adjusted to remove outliers for interconnection times outside two standard deviations above the mean (the "adjusted average").[12]

In conceptually approving the Interconnection Approval PIM, the Commission made clear that it is "approving a PIM that utilizes a metric that measures days to complete steps within the Companies' control during the interconnection process."[13] The PIM defines "days within the Companies' control" as "those discrete

[11]D&O 37507 at 95.

[12]D&O 37507 at 95.

[13]D&O 37507 at 99.

steps in the interconnection process where the utility is required to take action and needs no further materials or information from the DER customer to take such action."[14]

D&O 37507 established three tiers of targets to earn financial rewards and three tiers of targets that will incur financial penalties.[15] Upside targets were set at or above the annual thresholds included in the table below, with corresponding financial rewards:[16]

[D&O 37507] Table 7: Interconnection Approval PIM Reward Targets

**Targets shown in average number of business days with outliers excluded*

Thresholds and Potential Reward Level	2021	2022	2023	2024	2025
TIER 1: +$1,050,000 HECO +$225,000 HELCO/MECO	21	18	15	12	9
TIER 2: +$700,000 HECO +$150,000 HELCO/MECO	24	21	18	15	12
TIER 3: +$350,000 HECO +$75,000 HELCO/MECO	27	24	21	18	15

These targets were "designed to incent incremental improvement on existing interconnection approval times,

[14]D&O 37507 at 99.

[15]See D&O 37507 at 95.

[16]D&O 37507 at 96.

working backwards from a desired end-state that reflects national exemplary performance."[17]

Regarding downside targets, D&O 37507 stated that they "should be at or below the annual thresholds included in [Table 8], based on the Companies' current performance, with corresponding financial penalties."[18]

[D&O 37507] Table 8: Proposed Interconnection Approval PIM Penalty Thresholds

**Targets shown in average number of business days with outliers excluded*

Proposed Thresholds and Potential Penalty Level	2021	2022	2023	2024	2025
TIER 1: -$315,000 HECO -$67,500[19] HELCO/MECO	42	39	36	33	30
TIER 2: -$210,000 HECO -$45,000 HELCO/MECO	39	36	33	30	27
TIER 3: -$105,000 HECO -$22,500 HELCO/MECO	36	33	30	27	24

While the Commission provided proposed penalty thresholds, the Commission allowed the Post-D&O Working Group to consider this issue and propose alternative penalty thresholds for

[17]D&O 37507 at 96.

[18]D&O 37507 at 96-97.

[19]In D&O 37057, Table 8 inadvertently stated this figure as "$67,500,000." D&O 37507 at 97. As indicated by the magnitude of surrounding figures in this table, it is evident that this figure was intended to be "$67,500."

this PIM.[20] In so doing, the Commission explained that penalty thresholds should resemble the tiered reward targets, based on fixed day thresholds, with outliers removed, and should be consistent for all three Companies to ensure timeliness of DER interconnection across service territories.[21]

The Commission also set the duration of the PIM to be three years, after which the metrics, targets, and incentives would be re-evaluated.[22]

Turning to the Post-D&O Working Group briefing, the Commission observes that few Parties have proposed adjustments for the Interconnection Approval PIM.[23] In particular, the COH is the only Party that proposed an alternative penalty threshold for this PIM. The COH is "in favor of reward and penalty threshold spacing about the adjusted average that is similar to Tier 2, and thereby recommends Commission reduce the number of days for penalty thresholds in Tier 1 and increase the number of days for

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[20]See D&O 37507 at 96-97.

[21]D&O 37507 at 97.

[22]D&O 37507 at 97.

[23]See Companies Refined Proposal at 6 (noting that "No other party to the [February 9, 2021 Post-D&O] Working Group meeting prosed an alternative penalty structure."). See also, CA Refined Proposal at 6; LOL Refined Proposal at 1; and Blue Planet Refined Proposal at 1-3. Ulupono's Refined Proposal did not address the Interconnection Approval PIM.

the penalty thresholds in Tier 3."[24] However, although the COH provides a number of histograms reflecting the proposed reward and penalty structure based on 2020 data and estimated performance in 2021, 2022, 2023, it is unclear how this supports the COH's recommendation to adjust the proposed penalty thresholds for this PIM.[25]

While not suggesting that the proposed penalty thresholds be modified from D&O 37507, the Companies offer a number of suggested revisions to clarify several other aspects of this PIM, as summarized below.

First, regarding systems that are counted towards this PIM, the Companies propose specifying that this would include systems less than 100 kW enrolled in open and available rooftop solar programs, including Customer Grid-Supply Plus ("CGS"), Smart Export, Customer Self-Supply ("CSS"), Net Energy Metering Plus ("NEM Plus"), Standard Interconnection Agreement ("SIA"), and Community Based Renewable Energy ("CBRE"); but would exclude systems in closed programs, such as Net Energy Metering ("NEM") and Customer Grid-Supply ("CGS").[26] Further, applications

[24]COH Refined Proposal at 11.

[25]See COH Refined Proposal at 11-12.

[26]See Companies' Updated Refined Proposal at 7 (the Companies represent that these recommendations were developed in collaboration with the DER Parties). Id. at 7-8.

submitted by mail and withdrawn applications would not be tracked for purposes of the PIM.[27]

Second, as part of the Post-D&O Working Group process, the Companies shared information about a new "Early Energization Pilot," which "was proposed by the DER Parties as an urgent COVID-19 relief measure, and adopted by the Companies effective May 11, 2020."[28] Briefly:

> Under the Early Energization Pilot, customers are able to energize their systems as soon as the following conditions are met: 1) conditional approval received; 2) meter replacement completed; 3) building permit/inspection completed; and 4) volt-watt inverter function activated.[29]

Thus, according to the Companies, "the applicable 'steps within the Companies' control' included in the calculation of the metric will depend on whether the customer has chosen to participate in the Companies' early energization pilots (or similar programs that may result from these pilots)."[30]

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[27]See Companies' Updated Refined Proposal at 7. See also, Blue Planet Refined Proposal at 2 (supporting the exclusion of withdrawn applications).

[28]Response to PUC-HECO-IR-58(a), filed April 14, 2021.

[29]Response to PUC-HECO-IR-58(b). In their response to PUC-HECO-IR-58 (a), the Companies also note another pilot related to improvement in the interconnection process, called the "Quick Connect" Pilot. The Commission refers to both pilots together as the "early energization pilots".

[30]Companies Refined Proposal at 6. Regarding "similar programs," the Commission observes that advanced DER programs

The Companies propose that for customers that do not participate in the early energization pilots (or ongoing programs that may result from these pilots), all steps would be counted to the point of energization. These include: 1) completeness review; 2) initial technical review; 3) supplemental review; 4) validation; 5) net energy meter replacement; and 6) execution of contract.[31]

Alternatively, for customers who choose to participate in the early energization pilots, or similar program, the steps required to enable the contractor to energize would be counted, and any steps that are subsequent to authorized early energization would not be counted.[32] The Companies state that steps that are considered within the Companies' control "can vary and are primarily dependent on when the appropriate meter is installed[,]" but describe them as "steps leading to Conditional Approval and the meter replacement steps[.]"[33]

The respective applicable steps "within the Companies' control" for the Quick Connect Pilot, Early Energization,

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are currently being investigated in Docket No. 2019-0323, the Commission's investigation into DERs.

[31]See Response to CA-HECO/IR-1, filed April 5, 2021.

[32]Companies Refined Proposal at 6-7.

[33]Response to CA-HECO/IR-1(b).

and Traditional Interconnection processes proposed by the Companies for this PIM are illustrated below:[34]

Customer Group	Step	Duration Parameter
Quick Connect Pilot	Meter Replacement *(Point of Energization)*	Start: Contractor request email received date End : Meter installation date
Early Energization	Completeness Review (CR)	Start: Last application submittal date End: CR completed date
	Initial Technical Review (ITR)	Start: Application entered ITR date End: ITR completed date
	Supplemental Review (SR) *(if applicable)* (included only if started before Meter Replacement)	Start: Application entered SR date End: SR completed date
	CONDITIONAL APPROVAL	
	Validation (included only if started before Meter Replacement)	Start: Last validation submittal date End : Validation completed date (DocuSign sent)
	Meter Replacement *(Point of Energization)*	Start: Meter notification created date End : Meter installation date
Traditional Interconnection	Completeness Review (CR)	Start: Last application submittal date End: CR completed date
	Initial Technical Review (ITR)	Start: Application entered ITR date End: ITR completed date
	Supplemental Review (SR) *(if applicable)*	Start: Application entered SR date End: SR completed date
	CONDITIONAL APPROVAL	
	Validation	Start: Last validation submittal date End: Validation completed date (DocuSign sent)
	Meter Replacement	Start: Meter notification created date End: Meter installation date
	Execution *(Point of Energization)*	Start: Later of DocuSign completed or meter installation date End: Application Executed (Permission to operate)

[34]Response to CA-HECO/IR-1(b).

In its Refined Proposal, the Consumer Advocate does not offer any revisions to the PIM structure itself, but suggests that "rather than waiting three years (as outlined on page 97 of D&O 37507), the metrics, targets, and incentives should be revisited after two years, which would allow more than a full year to collect relevant data[.]"[35] This recommendation is not opposed by the Companies.[36]

Upon review of the record, the Commission sets forth the following details to finalize the Interconnection Approval PIM.

Metric

The Commission finds the Companies' proposed clarifications and revisions to the PIM metric reasonable. In particular, the metric will include systems less than 100 kW enrolled in open and available rooftop solar programs, but will exclude systems in closed programs, as well as applications submitted by mail or that are withdrawn.

The metric will be the mean (average) number of business days it takes the Companies to complete all steps within the Companies' control to interconnect DER systems <100kW in size in a calendar year, subject to the Commission's modification

[35]CA Refined Proposal at 7.

[36]See Companies Updated Refined Proposal at 9.

discussed below. The PIM will be applied to each of the Companies' performances, respectively.

For purposes of this metric, "interconnect" will be defined as energization of a customer's system; i.e., the point at which the customer may turn on (energize) their rooftop PV system and begin to enjoy the benefits of clean renewable energy and bill savings.[37] At the February 9, 2021 working group meeting, this was determined to be "the appropriate milestone for success for this PIM," given the PIM's underlying purpose "to improve the customers' experience by allowing them to more immediately benefit from their DER investment and facilitate more efficient integration of DERs onto the Companies' systems."[38]

Further, the Commission approves the alternative processes proposed by the Companies to determine "steps within the Companies' control," based on whether a customer has elected to participate in the early energization pilots or proceed with the traditional interconnection process. The Commission notes that this alternative process was developed by the Companies in collaboration with the DER Parties. As stakeholders with

[37]See Companies Updated Refined Proposal at 6; and Blue Planet Refined Proposal at 1.

[38]Companies Updated Refined Proposal at 6.

first-hand experience interacting with DER customers, the Commission acknowledges their support for this proposal.[39]

In addition to the above, the Commission, on its own motion, will make a further modification to this PIM's metric. While not specifically raised by any of the Parties, the Commission has continued to examine the appropriate treatment of outliers for evaluating performance for this PIM to ensure the Companies are not inappropriately penalized for anomalous applications. In D&O 37507, this was addressed by adjusting the average time it takes to complete steps within the Companies' control "to remove outliers for interconnection times outside two standard deviations above the mean (the 'adjusted average')."[40] However, upon further consideration, the Commission has concerns that this could inadvertently result in a situation where the Companies might have a disincentive to expeditiously complete an interconnection request approaching the outlier threshold if it is apparent that, as an outlier, it would be excluded from the performance calculation for this PIM; i.e., if its interconnection process

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[39]See Response to PUC-DER-IR-02, filed April 14, 2021 (stating that "Hawaiian Electric's early energization pilot has the potential to be a significant game-changer in improving the overall customer experience and reducing costs[,]" and that "[g]enerally, the DER Parties support focus on early energization and believe such a PIM would encourage the utility to act with a customer-centric mindset.").

[40]D&O 37507 at 95.

extends past the number of days equal to two standard deviations above the mean.

To mitigate this concern, instead of removing outliers, the time used to characterize outliers in determining the average time within the Companies' control will be equal to the interconnection time two standard deviations above the mean ("Updated Adjusted Average"). Stated differently, the contribution of individual systems to the calculation of average interconnection time within the control of the Companies will be capped at two standard deviations above the mean, rather than removing outliers from the calculations. This results in a revision to the method of determining this PIM's metric, as previously stated in D&O 37507, as follows (additions noted in underline and deletions noted in ~~strikethrough)~~:[41]

> Metric: The metric will be the mean (average) number of business days it takes the Companies to complete all steps within the Companies' control to interconnect DER systems <100kW in size, in a calendar year. The PIM will be applied to each of the Companies' performances, respectively. The time within the Companies' control for each installation used to determine the average will be capped at ~~average time will be adjusted to remove outliers for cap interconnection times outside~~ two standard deviations above the mean (the "updated adjusted average").

[41] See D&O 37507 at 95.

This ensures that all systems are "counted," for purposes of this PIM, and eliminates undesirable incentives for systems approaching the two-standard-deviation limit. In order to assess the potential quantitative impact of this change in the treatment of outliers on statistics used to establish targets for this PIM, the Commission examined a recalculation of the adjusted averages for the interconnection data shared by the Companies in February 2021, as illustrated below:

Table 1

Table 1 Adjusted Average Method 1

"Adjusted Average" Method (method established in D&O 37507)

The average after removing all interconnection day values greater than two standard deviations above the unadjusted average:

Adj-Avg # of Days w/in Companies' Control		HECO	HELCO	MECO
	2018	24.2	37.5	55.8
	2019	21.3	37.2	43.6
	2020	29.8	34.5	37.5

Table 2

Table 2 Updated Adjusted Average Method 1

"Updated Adjusted Average" Method (method established in this Decision and Order)

The average after converting all interconnection day values greater than two standard deviations above the unadjusted average to equal two standard deviations above the unadjusted average:

Adj-Avg # of Days w/in Companies' Control		HECO	HELCO	MECO
	2018	25.6	39.0	59.5
	2019	21.9	38.3	45.7
	2020	31.0	35.6	39.4

Table 3

Difference in days between the two methods for calculating the adjusted average method

Adj-Avg # of Days w/in Companies' Control	HECO	HELCO	MECO
2018	1.4	1.5	3.7
2019	0.6	1.1	2.1
2020	1.1	1.1	1.9

As illustrated above, using the Updated Adjusted Averaged Method results in a relatively slight increase in the calculated average number of days it took the Companies to complete the steps within their control (as reflected in Table 3). However, the Commission believes that this anticipated moderate increase in average days should be offset by the adoption of the alternative methodology for counting applications participating in the early energization pilots, which should contribute to improved performance under this PIM.[42] As a result, while the Commission is approving these modifications to the PIM's metric, it does not believe any adjustments to the PIM's targets are necessary.

Review

The Commission will adopt the Consumer Advocate's suggestion to accelerate comprehensive review of this PIM after two years, rather than three. The Commission takes note of the

[42]Specific data on the early energization pilots is only available for 2021, making a calculated comparison to Tables 1-3 infeasible at this time. See Response to PUC-HECO-IR-58(b) n. 2.

new programmatic offerings and improved interconnection process currently under consideration in Docket No. 2019-0323, which are expected to be implemented in the near future. Reviewing this PIM sooner will allow the Commission and stakeholders to make more timely adjustments to the PIM, as may be appropriate. In addition, this PIM will be reviewed as part of the PBR Framework's annual review cycle, which will provide an opportunity to notify the Commission if more urgent action is warranted to address any unintended consequences of the PIM.

Implementation

Regarding implementation of this PIM, the Commission clarifies that for the first Measurement Period (calendar year 2021), applications included in the PIM will be those projects that are received and energized between January 1, 2021 and December 31, 2021. For subsequent Measurement Periods, applications included in the PIM will be those projects that are energized in the applicable calendar years.

B.

LMI Energy Efficiency PIM

In D&O 37507, the Commission approved the LMI Energy Efficiency PIM to "incent[] the Companies to collaborate with

Hawaii Energy to deliver energy savings for LMI customers."[43] D&O 37507 set forth two metrics which would support this PIM: (1) a "savings" metric, which would measure the delivery of energy savings to LMI customers beyond a specified baseline; and (2) a "participation" metric, which would measure increased participation by LMI customers in programs offered by Hawaii Energy.[44]

In addition, to further the collaborative objective of this PIM, D&O 37507 also set forth a number of proposed reporting requirements that the Companies would need to comply with in order to earn a reward under this PIM, including identification of:

1. Relevant programs directly offered by the Companies to customers;

2. Efforts taken by the Companies to promote Hawaii Energy programming to targeted customers;

3. The cost of the Companies' relevant efforts related to this PIM;

4. The number of eligible customers reached with relevant marketing and promotional materials, advanced rates, and data provision efforts as a result of the Companies' outreach efforts;

5. Descriptions of data sharing efforts between the Companies and Hawaii Energy;

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[43]D&O 37507 at 123. As described in D&O 37507, Hawaii Energy is the ratepayer-funded conservation, efficiency, and demand-side management program operated by the Public Benefits Fee Administrator under contract with the Commission. Id. n. 215.

[44]D&O 37507 at 123. See also, id. at 124.

6. Annual first year energy savings for eligible customers over baseline values; and

7. Participation in selected programs in absolute terms and as a percentage of the eligible population compared to a baseline value.[45]

In conceptually approving this PIM, the Commission stated that "this PIM will require the Companies to engage with customers to market their own and Hawaii Energy's programs and to help customers understand and manage their energy usage."[46] The Commission also emphasized that "[t]his PIM is not intended to incent the Companies to offer its own energy efficiency programs or to compete with Hawaii Energy; rather, this PIM is intended to incent the Companies to promote Hawaii Energy programming and to optimize load and customer interactions via tools . . . such as rate design and the provision of energy usage data."[47]

D&O 37507 instructed the Post-D&O Working Group to develop specific metrics consistent with this guidance, as well as targets for this PIM.[48] In so doing, D&O 37507 encouraged the Post-D&O Working Group to focus on measurable customer impacts, rather than on utility inputs.[49]

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[45]D&O 37507 at 135-136.

[46]D&O 37507 at 125.

[47]D&O 37507 at 123.

[48]See D&O 37507 at 129.

[49]See D&O 37507 at 131-133.

The Commission also set the duration of the PIM for three years, after which the metrics, targets, and incentives would be re-evaluated.[50]

Comments on the LMI Energy Efficiency PIM were provided by the Companies, Consumer Advocate, the COH, and Blue Planet.

The Consumer Advocate offers considerations for the PIM structure, including: (1) ensuring that costs of providing any financial award not be assessed on LMI customers; (2) combining the "savings" and "participation" metrics, as they are closely related, and developing a new metric based on surveys to customers and to Hawaii Energy; (3) developing targets based on *ex-ante* estimates of first-year savings as a percentage of sales to avoid complications related to normalizing data; and (4) avoiding use of zip codes to identify LMI customers, due to concerns about imprecision and the potential for "free riders."[51] The Consumer Advocate particularly opposes a "ZIP code" approach for this PIM and states that if it is adopted, it should be followed up with a "self-verification and consent form," supplemented with improved outreach efforts by the Companies and Hawaii Energy to community organizations, and utilized on an interim basis.[52]

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[50]D&O 37507 at 124.

[51]CA Refined Proposal 8-15.

[52]See CA Refined Proposal at 15-16; and CA Updated Refined Proposal at 4.

Blue Planet offers relatively few comments on this PIM, but states its general support for the PIM and, contrary to the Consumer Advocate, supports the use of a "zip code" methodology, noting that it reflects Hawaii Energy's current program structure and that a different methodology would create additional administrative burden.[53]

The COH strongly supports this PIM and offers a few suggestions to improve its design. First, the COH recommends that the "savings" metric measure "percent increase in savings per eligible household," as focusing on households, which "would encourage[] Hawaii Energy . . . and [the Companies] to focus more tightly on residential customers and impacts for those customers."[54] The COH supports targets for this metric set at a baseline of 12 kW/household and then tiered at the 25%, 50%, 75%, and 100% increase thresholds.[55]

Second, the COH suggests that the "participation" metric measure "percent increase in participation across total eligible households[,]" to increase focus on "inclusion of all LMI customers."[56] In this regard, while the COH "supports

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[53]See Blue Planet Refined Proposal at 4.

[54]COH Updated Proposal at 4.

[55]COH Refined Proposal at 5. The Commission assumes that the COH intended to refer to "12kWh" per household.

[56]COH Refined Proposal at 5.

the use by Hawaii Energy of the zip code methodology[,]" it recognizes that it "could become overly constraining," and, as a result, "as the LMI energy efficiency PIM rolls out, the Commission, stakeholders and the utility should work together to assess how the zip code methodology is performing, and how [Hawaii Energy and the Companies] can better reach those outside of its prescribed zip codes who wish to become involved."[57] To facilitate this, the COH recommends meetings with state and county agencies to discuss data sharing, reports by the Companies on how it can repurpose its budget towards improved marketing towards Hawaii Energy's programs, and the adoption of new energy efficiency programs.[58]

Third, the COH supports annual review of this PIM, and suggests reporting in the following areas: the extent to which the Companies have leveraged their resources to assist Hawaii Energy in deploying programs and reaching LMI communities; the extent to which the Companies have repurposed their marketing budget towards supporting Hawaii Energy programs; the extent to which the Companies have engaged in improved data sharing with Hawaii Energy to support program expansion to LMI customers;

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[57]COH Refined Proposal at 6.

[58]See COH Refined Proposal at 6-7.

and the extent to which the Companies have partnered with Hawaii Energy to develop new ways to reach LMI customers.[59]

The Companies provided their own LMI Energy Efficiency PIM, subsequently refined in their Updated Refined Proposal, which consists of the following:[60]

> **LMI/EE Metric 1 (all savings are first-year savings)**
>
> - Increase in total sector savings from Affordability & Accessibility ("A&A") programs and rate design programs beyond the energy savings benchmark target that Hawaii Energy sets forth in its Commission approved annual plan.
>
> - Awarded based on a dollar per kilo-watt hour savings ("$/kWh") factor that is applied to the energy savings (the kWh savings) that are realized beyond the energy savings benchmark target Hawaii Energy sets forth in its Commission approved annual plan which is presented on a consolidated basis.
>
> - Sector includes eligible households in the designated Hawaii Energy zip codes and the target market for A&A programs that the Companies propose should include a wider segment of underserved customers, and customers are able to self-identify as LMI customers outside of the Hawaii Energy designated LMI zip codes.
>
> **LMI/EE Metric 2**
>
> - Increase in sector participation in A&A programs and rate design programs beyond the participation benchmark target that

[59]See COH Refined Proposal at 8.

[60]Companies Updated Refined Proposal at 12-13.

Hawaii Energy sets forth in its Commission approved annual plan.

- Awarded based on a $/participant factor that is applied to a customer participation count realized beyond the participation benchmark targets Hawaii Energy sets forth in its Commission approved annual plan which is presented on a consolidated basis.

- Sector includes eligible households in the designated Hawaii Energy zip codes and the target market for A&A programs that the Companies propose should include a wider segment of underserved customers, and customers able to self-identify as LMI customers outside of the Hawaii Energy designated LMI zip codes.

Further:

> The Companies propose that the award for each metric not be split 50/50 and capped at $1,000,000 over three years, but rather, that the combined award of the metrics be capped at $2,000,000 over three years to provide the Companies an opportunity to achieve higher performance for one of the metrics in collaboration with Hawaii Energy.[61]

Upon review, the Commission finds the Companies' most recent proposal to contain several attractive features. In addition to being straightforward, it appears to be relatively simple to administer and understand. As discussed below, the Commission adopts the framework of the Companies' proposal, subject to modifications. In particular, the Commission will modify the calculation for the reward factors and add a

[61]Companies Updated Refined Proposal at 21.

third metric to reward peak demand reductions associated with the relevant energy efficiency programs. In order to provide specific incentives to encourage demand reductions, separate reward factors and financial awards for energy savings and demand reductions are specified.[62]

The PIM is adopted as follows (a summary table describing how the PIM is calculated is also included below, following the discussion):

Metric 1 ("Energy Savings"): Residential Hard-to-Reach ("RHTR") Energy (kWh) Savings Beyond Hawaii Energy's Target[63]

- **Metric:** Sum of Hawaii Energy RHTR program verified kWh energy savings, and any Commission-approved and verified energy savings for LMI customers resulting from advanced rate design and any future co-deployed Hawaii Energy and Hawaiian Electric energy efficiency programs.

- **Threshold:** 100% of Hawaii Energy's kWh target energy savings as set forth in its Commission-approved annual plan for RHTR programs.

- **Reward structure:** A $/kWh reward factor for energy saved above the threshold, determined based on the projected benefits, costs, and impacts for Hawaii Energy's Commission-approved annual plan for RHTR programs.

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[62]The Commission notes that Hawaii Energy is in the process of proposing modifications to the program year ("PY") PY 21 and PY 22 annual plans. The PIM metrics will be calculated in alignment with the approved version of those plans.

[63]The Commission notes that Hawaii Energy is eligible to earn a performance award at 95% achievement of each of their targets. However, the Commission sets the initial thresholds for this PIM at 100% of the savings target to ensure the Companies are striving to make Hawaii Energy as successful as possible.

- Calculated as: 50% of projected net program energy-related benefits per targeted kWh. Projected net program energy-related benefits will be equal to 85% of the targeted annual RHTR programs Total Resource Benefit[64] ("TRB") as determined in Hawaii Energy's approved annual plan, minus 85% of Hawaii Energy's total annual RHTR budget (including incentive and non-incentive costs).

- The TRB, budget, and kWh target inputs to the reward factor will be updated annually in accordance with Hawaii Energy's approved annual plan.

- **Summary:** The Companies' energy savings PIM financial award will be equal to the thus-calculated $/kWh reward factor times the amount of kWh energy verified savings, as defined herein, that exceed 100% of Hawaii Energy's annual "Residential Hard-to-Reach" kWh savings target as approved for their performance award, up to the maximum financial award for this PIM.

Metric 2 ("Peak Demand Reduction"): RHTR Peak Demand (kW) Reduction Beyond Hawaii Energy's Target

- **Metric:** Sum of Hawaii Energy RHTR program verified peak demand reductions, and any Commission-approved and verified peak demand reductions for LMI customers resulting from advanced rate design and any future co-deployed Hawaii Energy and Hawaiian Electric energy efficiency programs.

- **Threshold:** 100% of Hawaii Energy's kW target peak demand reduction as set forth in its Commission-approved annual plan for RHTR programs.

- **Reward structure:** A $/kW reward factor for peak demand reductions beyond the threshold, determined based on the projected benefits, costs, and impacts for

[64] See https://hawaiienergy.com/images/about/information-and-reports/technical-reference-manual/PY21-TRM-v1.pdf at 18 ("Total Resource Benefit is the present value of avoided utility costs over the life of the efficiency measures installed through the program. The utilities' total avoided cost of all saved energy and capacity avoided is called the Total Resource Benefit.").

Hawaii Energy's Commission-approved annual plan for RHTR programs.

  - Calculated as: 50% of projected net demand-related program benefits per targeted kW. Projected net demand-related program benefits will be equal to 15% of the targeted annual RHTR programs TRB as determined in Hawaii Energy's approved annual plan, minus 15% of Hawaii Energy's total annual RHTR budget (including incentive and non-incentive costs).

  - The TRB, budget, and kW target inputs to the reward factor will be updated annually in accordance with Hawaii Energy's approved annual plan.

- **Summary:** The Companies' peak demand savings PIM financial award will be equal to the thus-calculated $/kW reward factor times the amount of kW peak demand verified savings, as defined herein, that exceed 100% of Hawaii Energy's annual RHTR kW peak demand reduction target as approved for their performance award, up to the maximum financial award for this PIM.

Metric 3 ("Program Participation"): A&A Customers Served Beyond Hawaii Energy's Target

- **Metric:** The sum of program participants each year ("customers served") in Hawaii Energy "Residential A&A (Single & Multifamily Direct Install, Water Heating Direct Install, Bulk Appliance)" programs ("Residential A&A Programs"), and any Commission-approved and verified LMI participants in advanced rate design and any future co-deployed Hawaii Energy and Hawaiian Electric energy efficiency programs.

- **Threshold:** 100% of Hawaii Energy's annual customers served performance award target for the Residential A&A Programs.

- **Reward structure:** A reward factor equal to $/customer served above the threshold, calculated as: 50% of Hawaii Energy's targeted first-year bill savings ($) from Residential A&A Programs divided by Targeted Residential A&A Customers served in Hawaii Energy's Commission-approved annual plan for Residential A&A programs.

- All inputs to the reward factor will be updated annually in accordance with Hawaii Energy's approved annual plan.

- **Summary:** The Program Participation component of this PIM's financial award will be equal to the thus-calculated $/customer served reward factor times the verified number of customers served, as defined herein, that exceed 100% of Hawaii Energy's annual "Residential A&A Programs" customers served target as approved for their performance award, up to the maximum financial award for this PIM.

In addition to the above, the following are other salient details of this PIM:

- The total reward for the PIM is capped at $2 million, annually, across all three metrics combined.

- PIM performance will be measured during the Hawaii Energy program year.

- The PIM is consolidated across the Hawaiian Electric Companies (i.e. reported together as one company) in recognition that Hawaii Energy must already meet island equity targets.

- Reporting requirements to supplement this PIM are adopted as discussed below.

- The PIM will be comprehensively revisited after three years.

The PIM design as adopted largely aligns with the Companies' proposal, incorporates elements of other Parties' proposals, and aligns the available incentives with urgent resource needs in Hawaii. The PIM's design is discussed in further detail below.

Metric 1 ("Energy Savings Metric"). The Commission observes that this largely aligns with the Companies' proposed

savings metric. First, the Companies' proposal is attractive in that it targets an increase in energy savings above Hawaii Energy's energy savings targets (as approved by the Commission), and proposes a $/kWh award which can be set at a level that accounts for Hawaii Energy's incentive budget and performance targets.[65] Further, the "straightforward increase in savings calculation," as compared to a "percentage increase of kWh savings to kWh sold," avoids potential impacts of other State policies and programmatic initiatives, such as the promotion of Electrification of Transportation ("EoT") and adoption of electric vehicles ("EVs").[66]

Second, the Energy Savings Metric incorporates the Companies' proposal to include any Commission-approved and verified savings associated with advanced rate design and any future co-deployed Hawaii Energy and Hawaiian Electric demand-side programs. The Commission emphasizes that the Companies will bear the burden of proof in establishing verified savings associated with advanced rate design via the referenced time-of-use ("TOU") study in support of any PIM reward, which should explicitly account for any possible double counting of savings from customers participating in both TOU rates and Hawaii Energy programs.[67]

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[65]Companies Updated Refined Proposal at 13-14.

[66]Companies Updated Refined Proposal at 14.

[67]See Companies Updated Refined Proposal at 17; and Response to CA-HECO/IR-2, filed on April 5, 2021.

Third, the Energy Savings Metric mirrors the Companies' proposal by measuring total energy savings (kWh) based on the target energy savings Hawaii Energy sets forth in its Commission-approved annual plan for RHTR programs and using it as a baseline. This allows for a determination of a reward factor prior to the performance period and does not require a historical baseline, which helps avoid uncertainty and the variability in energy savings that may occur from year-to-year.[68] This addresses some of the concerns with normalizing extraneous factors that might otherwise distort the PIM's target (e.g., impacts of the COVID-19 pandemic), and simplifies the implementation of the PIM.[69] This approach also provides flexibility by allowing the Commission to reset the PIM parameters every year in accordance with Hawaii Energy's circumspectly examined goals.

To this framework, the Commission incorporates the following modifications. As summarized above, the Commission adopts a modified version of the Companies' proposed savings metric reward factor. The $/kWh saved reward factor will be determined as 50% of: Hawaii Energy's targeted RHTR TRB, net of Hawaii Energy's total RHTR budget (including incentive and non-incentive costs), per targeted kWh saved. The net benefits

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[68]Companies Refined Updated Proposal at 18.

[69]See Companies Refined Updated Proposal at 18.

will be allocated 85% to energy savings and 15% to demand savings. Stated broadly, the reward factor shares utility system benefits from RHTR energy efficiency programs beyond Hawaii Energy's target amongst customers and the Companies. The TRB, budget, and kW target inputs to this reward factor will be updated annually in accordance with Hawaii Energy's approved program year plan.

Metric 2 ("Peak Demand Reduction Metric"). The Commission has also developed the Peak Demand Reduction Metric in order to emphasize the need for the Companies and for Hawaii Energy to target energy efficiency measures that deliver peak demand savings. The Commission has, in several places, noted the urgent need to meet the expected capacity shortfall associated with the retirement of the AES coal plant on Oahu beginning in September 2022.[70] The Commission has structured the Peak Demand Reduction Metric in the same way as the Energy Savings Metric, but allocates the reward factors and financial awards between the two metrics such that a larger portion of the total reward factor goes to energy savings (i.e. 85% for energy savings and 15% for demand savings). In setting this allocation between energy and demand components, the Commission observes that realizing energy savings for low-income customers continues to be the main objective of this PIM. Additionally, the projected TRB

[70] See generally, Docket No. 2020-0024.

amount for the RHTR programs is attributed, on average, 85% from avoided energy savings and approximately 15% from avoided capacity savings. The allocation amongst the two metrics is accomplished by assuming that 85% of both costs and benefits are incurred from energy savings, while 15% are incurred from peak demand savings.

The approach taken for both the Energy Savings Metric and Peak Demand Reduction Metric aligns with the Consumer Advocate's long-standing position that PIM reward values should be rooted in customer savings, in that they are based on avoided utility system costs that will predominantly flow directly to participant customer bill reductions. Further, the PIM relies on metrics currently reported by Hawaii Energy, which should reduce the administrative burden of implementing this PIM. The PIM also accounts for Hawaii Energy's budgeted cost to achieve targeted savings by netting the budget from the expected total benefits. The PIM is also scaled appropriately to allow the Companies an opportunity to achieve a robust PIM for helping Hawaii Energy to be extraordinarily successful in serving LMI customers.

Metric 3 ("Program Participation Metric"). This metric largely adopts the Companies' participation proposal, which uses a straightforward count of increased participation based on annual Commission-approved targets. This approach is simple to administer, transparent, and avoids complications with normalizing historical data in determining appropriate baseline targets.

The Commission notes that there is a slight difference in the scope of programs included in the Energy Savings and the Peak Demand Reduction Metrics, compared to the Program Participation Metric. Programs considered under the Energy Savings and Peak Demand Reduction Metrics include all of those encompassed under the term "RHTR" programs, whereas the Program Participation Metric includes the more limited subset of Hawaii Energy Residential A&A Programs. The RHTR programs include both the Residential A&A Programs, as well as Hawaii Energy's "Clean Energy Technologies" programs focused on the RHTR sector, which include bulb exchange and energy efficiency kit programs. These programs are included in the Energy Savings and Peak Demand Reduction metric as they deliver important savings for A&A customers.

However, the Program Participation Metric only includes programs encompassed under the term "Residential A&A Programs," which does not include the Clean Energy Technologies programs, as the units of participation are much larger, but do not represent deep customer engagement like the Residential A&A programs do. This approach aligns with D&O 37507, which stated with regards to the participation metric that, "[t]he programs selected for inclusion in this PIM should have reasonably similar participation levels. For example, the PIM should not include programs that target just a few large participants alongside programs that

reach hundreds of individual participants."[71] Additionally, this approach aligns with Hawaii Energy's tracking and reporting.

The Program Participation Metric incorporates the Companies' proposal to additively include any verified participation associated with advanced rate design and any future co-deployed Hawaii Energy and Hawaiian Electric demand side management programs.[72] The Commission emphasizes that the Companies will bear the burden of proof in establishing verified participation associated with advanced rate design via the referenced TOU study.[73]

For the Program Participation Metric, the Commission adopts a modified version of the Companies' proposed participation metric reward factor. The $/customer served reward factor will be determined as 50% of Hawaii Energy's targeted first-year bill savings from Residential A&A Programs divided by Residential A&A customers served.[74] Both the numerator and denominator will be

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[71]D&O 37507 at 132.

[72]E.g., if an eligible customer participates in both a TOU rate and a Hawaii Energy program, they could be counted twice.

[73]See Companies Updated Refined Proposal at 17; Response to CA-HECO/IR-2.

[74]The Commission observes that this deviates modestly from Hawaii Energy's performance target in this area, which is stated as lifetime customer bill savings from residential A&A programs. However, Hawaii Energy also reports first-year savings and the calculation can be run easily for the purposes of this PIM as the Schedule R average cost of energy multiplied by Residential A&A

updated annually in accordance with Hawaii Energy's approved program year plan. As with the Energy Savings and Peak Demand Reduction Metrics, this approach aligns with the Consumer Advocate's long-standing position that PIM reward values should be rooted in customer savings, in that it is based on targeted customer bill savings. The Program Participation Metric also relies on metrics currently reported by Hawaii Energy, which should help avoid additional administrative burden that would otherwise result from new reporting requirements. Further, the Program Participation Metric is scaled appropriately to allow the Companies an opportunity to achieve a robust PIM for helping Hawaii Energy to be extraordinarily successful in reaching LMI customers.

Reporting Requirements. Regarding the proposed reporting requirements necessary to achieve an award under this PIM set forth in D&O 37507, the Companies do not oppose these, and state that requirements 1-5 are "feasible," and that 6 and 7 "will be informed through the metric performance itself and may not actually be required to assess the proposed LMI/EE PIM."[75]

Upon review, the Commission agrees with this assessment, and notes that these requirements should reasonably capture the

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first-year savings, or by dividing lifetime bill savings by the Residential A&A programs' weighted average measure life.

[75]Companies Updated Refined Proposal at 23.

COH's suggested reporting elements. In particular, requirement 6, annual first year energy savings, will reasonably be captured by the Energy Savings Metric of the PIM; likewise, requirement 7, participation in selected programs in absolute terms and as a percentage of the eligible population, should be reasonably discernable from the Program Participation Metric of the PIM. To the extent further information is required to evaluate either of these, the Commission will provide further guidance to the Companies following the first reporting for this PIM.

In addition to the reporting requirements above, the Commission adopts a modified version of the Consumer Advocate's proposal for surveys to assess and measure the Companies' collaborative efforts with Hawaii Energy as a reporting requirement.[76] The Commission agrees that it is important for Hawaii Energy and the Companies to have an opportunity to provide qualitative feedback on areas of improvement to better facilitate collaboration. The Commission will employ its contracted Energy Efficiency Manager as a neutral third-party to design and administer the survey, taking into account the input already provided by the Consumer Advocate and the COH in this proceeding, as well as additional input from Parties or itself, as necessary. The Commission does not, at this time, adopt the

[76]Consumer Advocate's Proposal at 9-10.

Consumer Advocate's proposal to also survey customers, based on several concerns, including the potential for confusion amongst customers as to whether Hawaii Energy or the Companies delivered certain programs or services.

Rewards. Regarding rewards under the PIM, the Companies propose a combined approach to the "savings" and "participation" categories of metrics, such that instead of each having a maximum reward amount of $1 million annually for each metric, that they be evaluated jointly for the total allowed cumulative PIM reward of $2 million annually.[77] The Companies submit that this will "provide the Companies with an opportunity to achieve higher performance for one of its metrics in collaboration with Hawaii Energy."[78]

In consideration of the novel nature of this PIM, as well as its initial duration of three years, the Commission finds this request reasonable, as applied to the modified version of this PIM approved herein. While utilizing three distinct metrics, the overarching intent of this PIM is to incent collaboration between the Companies and Hawaii Energy to better reach LMI customers and deliver energy savings. Concomitantly,

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[77]Companies Updated Refined Proposal at 21 (as noted above, the Companies' updated proposal featured only two metrics, in contrast to the three approved for this PIM by this Decision and Order).

[78]Companies Updated Refined Proposal at 21.

evaluating the three metrics on a consolidated basis for application of the maximum PIM reward appears reasonable during the initial implementation of this PIM, as the Companies and Hawaii Energy adjust their efforts accordingly. To the extent this may lead to disproportionate emphasis or results in a certain area over another, the Commission may re-visit this issue in its periodic review of this PIM.

This PIM will be evaluated and awarded on a consolidated basis across the Companies. This will facilitate administrative ease and also recognizes that Hawaii Energy is incentivized to deliver programs equitably across the service territories. In assessing this PIM, the Commission will evaluate the Companies' achievements as part of the annual Spring Revenue Report review, using Hawaii Energy's evaluated program impacts (ex-post impacts).

Practical definition of "LMI" customers. The Commission observes that this PIM relies largely on Hawaii Energy's program delivery and verification practices, meaning that the PIM will ultimately align with Hawaii Energy's approach to identifying and serving LMI customers. However, unlike Hawaii Energy's methodology, which relies largely on participants' zip codes, the Commission notes that the Companies propose using an expanded definition of "LMI customers" to include customers eligible for A&A programs, as well as those who self-identify as LMI.

The Commission adopts the Companies' more expansive definition, which, in addition to encompassing a broader class of LMI customers, remains consistent with Hawaii Energy's overall approach, which initially utilizes zip codes as basis for identifying LMI customers, but also allows for participation by customers who meet alternative criteria for "LMI."[79] In addition to allowing this PIM to serve a broader LMI audience, this helps address some of the concerns raised in the Post-D&O Working Group about relying exclusively on a zip code methodology to identify LMI customers.

Relatedly, the ability of customers to report themselves as LMI based on other organizations' criteria, such as the Aloha United Way's "Asset Limited, Income Constrained, Employed ('ALICE') program,"[80] is consistent with other Parties' recommendations for increased coordination with other community outreach organizations. The Commission encourages the Parties to work together with Hawaii Energy to further refine the methodology for identifying and reaching LMI customers, which may be incorporated into future iterations of this PIM.

Additional considerations. Notwithstanding the above, the Commission does not adopt certain other aspects of the

[79]Companies Updated Refined Proposal at 15.

[80]See Companies Updated Refined Proposal at 16.

Companies' proposal. First, the Commission is not persuaded that the PIM should utilize a calendar year, rather than the Hawaii Energy programmatic year.[81] While the Commission acknowledges the Companies' argument in support of a calendar year, the Commission likewise notes that this would impose "an additional interim reporting, planning, and verification requirement on Hawaii Energy," and would misalign the PIM evaluation period with actual period during which the programs run, requiring a subsequent true-up report at the end of the program year.[82]

As stated in D&O 37507, and during the Post-D&O Working Group meetings, this PIM should facilitate collaboration between the Companies and Hawaii Energy, while not adding undue burden to Hawaii Energy.[83] The administrative complications that would result from using a calendar year for this PIM appear to disproportionately fall on Hawaii Energy, contrary to this guidance. Accordingly, while perhaps slightly more administratively burdensome for the Companies, the Commission finds, on the whole, that utilizing a program year is reasonable under the circumstances.

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[81] See Companies Updated Refined Proposal at 22.

[82] Companies Updated Refined Proposal at 22.

[83] See D&O 37507 at 137.

Second, the Commission does not accept the Companies' proposal to include Business-Hard-to-Reach energy efficiency programs in the PIM awards at this time. While the Commission recognizes the importance of serving the business community, consistent with D&O 37507,[84] the Commission prefers to focus the Companies' initial efforts under this PIM on residential customers in order to provide benefits that are most directly calculated to reach LMI customers.

While the Commission appreciates the alternative suggestions made by the other Parties, the Commission finds the Companies' proposal to be the most developed at this stage, as well as comparatively simple to implement and administer, and thus has relied predominantly on it in developing the LMI Energy Efficiency PIM approved above.[85]

In sum, the Commission largely adopts the Companies' proposed LMI Energy Efficiency PIM, as set forth in their Updated Refined Proposal, in developing the final approved PIM, subject to the modifications discussed above. A summary of the PIM is provided in the table below:

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[84]See D&O 37507 at 129.

[85]For example, both the Consumer Advocate and the COH's proposals contemplated further development of surveys and meetings that would inhibit implementation of this PIM in alignment with the schedule set forth in D&O 37507.

Table 4
LMI Energy Efficiency PIM Summary

Description	Line #	Representative Figure/Calculation	Units
Energy Savings			
Target Residential Hard to Reach (RHTR) energy savings	L1	kWh savings	kWh
RHTR total budget (includes incentive and non-incentive costs; 85% allocated to energy savings)	L2	Dollars * 0.85	$
Target RHTR Total Resource Benefits (TRB) (85% allocated to energy savings)	L3	Dollars * 0.85	$
Net utility system benefit per kWh (TRB minus budget per target kWh savings)	L4	(L3-L2)/L1	($/kWh)
Net benefit share to the Companies (reward factor for energy savings above target)	L5	L4 * 0.5	($/kWh)
Total energy savings reward	L6	(Total verified kWh savings - L1) * L5	$
Peak Demand Reduction			
Target RHTR demand reduction	L7	kW reduction	kW
RHTR total budget (includes incentive and non-incentive costs; 15% allocated to demand reduction)	L8	Dollars * 0.15	$
Target RHTR TRB (15% allocated to demand reduction)	L9	Dollars * 0.15	$
Net utility system benefit per kW reduced (TRB minus budget per target kW reduced)	L10	(L9-L8)/L7	($/kW)
Net benefit share to the Companies (reward factor for demand reduction above target)	L11	L10 * 0.5	($/kW)
Total demand reduction reward	L12	(Total verified kW savings - L7) * L11	$
Participation			
Target Residential A&A customers served	L13	Customers served	#
Target Residential A&A first-year bill savings	L14	Dollars	$
First-year bill savings per target customer served	L15	L14/L13	$/Customer served
Net benefit share to the Companies (reward factor for customers served above target)	L16	L15 * 0.5	$/Customer served
Total participation reward	L17	(Total realized customers served - L13) * L16	$
Total Reward			
Total PIM reward	L18	L6 + L12 + L17 (capped at $2 million/year)	$

*All values are updated annually in accordance with Hawaii Energy's approved annual plan. RHTR programs include all Residential A&A programs and Clean Energy Technologies rebates targeted towards

RHTR customers. Residential A&A Includes Single & Multifamily Direct Install, Water Heating Direct Install, and Bulk Appliance Programs. TRB is defined as the present value of avoided utility costs over the life of the efficiency measures installed through the program including the utilities' total avoided cost of all saved energy and capacity avoided. L14 can be calculated by multiplying first-year residential A&A savings by the average effective rate.

C.

AMI Utilization PIM

In D&O 37507, the Commission established the foundation for a PIM that would "incent[] the Companies to accelerate utilization of AMI interval data . . . ."[86] In so doing, the Commission stated that "as the Companies continue to invest in modernizing their grid to meet evolving needs, it is critical they maximize both system and customer benefits from these significant investments."[87] In this regard, "[t]he deployment of AMI across the Companies' service territories provides a new opportunity to use granular energy consumption data to send more accurate and dynamic price signals, enable better customer understanding of energy usage, and improve program design and grid operations."[88]

The Commission directed the Post-D&O Working Group "to focus on finalizing a PIM that accelerates the number of customers

[86]D&O 37507 at 137.

[87]D&O 37507 at 137.

[88]D&O 37507 at 137-138.

with advanced meters enabled to support time-varying rates and next generation DER programs."[89] To support these efforts, the Commission provided the following guidance:[90]

- Metric: The Commission is inclined to use the percent of each Company's total customers with advanced meters enabled to support time-varying rates and next generation DER programs. The Post-D&O Working Group should consider what internal structures and processes must be in place, beyond simply meter deployment, to enable customers to benefit from AMI investments, and how these improvements can be incorporated into the PIM.

- Targets: Targets should consider the Companies' forecasted advanced meter deployment for their *Phase 1 Grid Modernization Strategy*, as reflected below.

Forecasted Meter Deployment						
	2019	2020	2021	2022	2023	Total
DR	0	0	36,871	11,747	11,876	60,494
Replacement Meters	3,566	20,031	20,031	20,031	20,031	83,690
CGS+	500	8,267	4,133	800	0	13,700
New Meter Sets	1,813	2,645	2,645	2,645	2,645	12,393
Smart Export	179	2,953	1,476	285	0	4,893
Total	6,058	33,896	65,156	35,508	34,552	175,170

  - Since filing these forecasts, the Companies have experienced a number of delays in implementing their Phase 1 strategy. As of September 30, 2020, the Companies had only deployed 4,965 meters.[91] However, the Companies maintain that they will complete installation of approximately 175,000 meters

[89]D&O 37507 at 143.

[90]D&O 37507 at 143-145.

[91]See Docket No. 2018-0141, Response to CA-IR-23(a), filed November 6, 2020.

by 2023.[92] Taking these goals into account, targets for this PIM should represent improvement over this current deployment schedule.

- Targets should be the same across the Companies to ensure customers in all service territories benefit from AMI deployment. After 2023, this PIM could be reassessed to align with the Companies' *Phase 2 Grid Modernization Strategy* and other relevant proceedings.

- Potential targets and incentives are proposed in Table 9, below, for the first three years of the (Multi-Rate Year Period ("MRP")).

- Incentives: The Commission envisions this PIM as initially being "upside" only and is considering an annual maximum reward of $2 million, calculated on a target revenue basis and allocated among the Companies using a 70/15/15 split.

[D&O 37507] Table 9 Proposed AMI Utilization PIM Targets and Incentives

**Targets defined as number of customers by company with advanced meters installed and enabled to support advanced rates and programs, divided by number of total customers, by end of year.*

Targets and Potential Rewards	2021	2022	2023
$1,400,000 HECO $300,000 HELCO/MECO	10%	25%	45%

Subsequently, during a meeting of the Post-D&O Working Group on March 9, 2021, Commission staff presented two potential

[92] See Docket No. 2018-0141, Response to PUC-IR-110, filed November 6, 2020.

metrics for the AMI Utilization PIM for deliberation with the Parties:[93]

- Metric #1: % of customers with advanced meters delivering at least two of the following Benefits:
  - Bills that are determined with AMI interval data.
  - AMI interval data collection and accessibility via customer portals.
  - Enrollment and participation in DER, DR, TOU, or other advanced programs.
- Metric #2: % of customers offered advanced meters by the Companies but who choose to opt out

Based on review of Party comments at the March 9, 2021 working group meeting, the Parties' subsequent briefing, and the responses to IRs, Commission staff re-examined these metrics, and offered the following, updated metrics and associated PIM structure for the Parties' consideration through PUC-Parties-IR-16:

- Metric: % of customers with advanced meters delivering at least two of the following Benefits:
  - Benefit A: Customer authorization for the sharing of interval data with third parties.
  - Benefit B: Provision of customer energy usage alerts.
  - Benefit C: Participation in next generation TOU and DER programs.

[93] See PUC-Parties-IR-16, filed April 21, 2021.

Whereas:

- "Customer authorization for the sharing of interval data with third parties" denotes customers with advanced meters who authorize the Companies to share their interval data with third parties through Green Button Connect My Data or an alternative mechanism.

- "Provision of customer energy usage alerts" denotes customers with advanced meters who sign up for customer energy usage alerts using the Energy Portal or by other means. Usage alerts should allow customers to choose preferred delivery means (e.g., texts, emails, phone calls, etc.).

- "Participation in next generation TOU and DER programs" denotes customers with advanced meters participating in time-varying tariffs, including Smart Export, or any new DER programs that result from the ongoing DER proceeding (Docket No. 2019-0323).

Proposed AMI Utilization PIM Targets and Incentives **Targets defined as number of customers by company with advanced meters installed and delivering at least two of the benefits listed above, divided by number of total customers, by end of year.*			
Target and Potential Rewards	**2021**	**2022**	**2023**
Maximum reward for meeting upper target: $1,400,000 HECO $300,000 HELCO $300,000 MECO	5%	15%	30%
If the Companies' performance falls between the lower and upper targets, the Companies will be eligible for a reward that corresponds to a linear line between the minimum and maximum rewards.			

Minimum reward for meeting lower target: $700,000 HECO $150,000 HELCO $150,000 MECO	2.5%	10%	20%

In response to PUC-Parties-IR-16, there was general support for this PIM structure, although a number of modifications were suggested.[94] Based on the Commission's review of the Parties' responses, as well as the record in this proceeding as a whole, the Commission establishes the following structure for the AMI Utilization PIM:

- Metric. Percentage of total customers with advanced meters delivering at least two of the following three benefits:
  - "Customer Authorization" Benefit. Customer authorization for the sharing of interval data with third parties. This refers to customers with advanced meters who authorize the Companies to share the customer's interval data with third parties through Green Button Connect My Data or an alternative mechanism.
  - "Energy Usage Alert" Benefit. Provision of customer energy usage alerts. This refers to customers with advanced meters who sign up, via the Companies' Customer Energy Portal ("Energy Portal") or by other means, for customer energy usage alerts. Usage alerts should allow customers to choose a preferred delivery method (e.g., text, email, phone call, etc.). Usage alerts do not include alerts or information delivered solely

[94] See Blue Planet and HSEA joint response to PUC-Parties-IR-16; COH response to PUC-Parties-IR-16; and Ulupono response to PUC-Parties-IR-16 (additionally, LOL filed a Joinder to Ulupono's response), all filed on April 28, 2021.

through appearance on a customer's energy portal display.

- o "Program Participation" Benefit. New enrollment in open and next generation TOU and DER programs. This refers to customers with advanced meters who newly enroll in open existing time-varying tariffs or DER programs, as well as any new time-varying tariffs or DER programs that result from the Commission's ongoing DER investigation in Docket No. 2019-0323.

- Targets and Incentives. There are multiple targets and incentives for this PIM, based on a linear interpolation between a lower target offering a minimum reward and an upper target offering a maximum reward, as illustrated in the table below.

Table 5

AMI Utilization PIM Targets and Incentives

**Targets defined as number of customers by Company with advanced meters installed and delivering at least two of the benefits listed above, divided by number of total customers, by end of year.*

Target and Potential Rewards	**2021**	**2022**	**2023**
Reward opportunities for meeting upper target: $1,400,000 HECO $300,000 HELCO $300,000 MECO	5%	15%	30%
If the Companies' performance falls between the lower and upper targets, the Companies will be eligible for a reward that corresponds to a linear interpolation between the minimum and maximum rewards.			
Reward opportunities for meeting lower target: $700,000 HECO $150,000 HELCO $150,000 MECO	2.5%	10%	20%

- The annual maximum reward of $2 million is allocated among the Companies using a 70/15/15 split, consistent with D&O 37507.[95]

In approving this PIM structure, the Commission observes that it is largely adopting the proposal shared with the Parties in PUC-Parties-IR-16. Based on the Parties' responses, it appears that there is general concurrence that this PIM directly supports the Outcomes identified in D&O 37507, including *Customer Engagement*, *DER Asset Effectiveness*, and *Grid Investment Efficiency*.[96]

Consistent with the PIM principles articulated throughout this proceeding, the Commission sought to avoid providing the Companies with an incentive for services they are already planning to automatically provide to customers (e.g., through their Phase 1 Grid Modernization program).

In this regard, the approved PIM metrics are an improvement over those proposed by Commission staff at the March 9, 2021 informal working group meeting, which included: (1) "bills that are determined with AMI interval data";

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[95] See D&O 37507 at 144-145.

[96] See CA response to PUC-Parties-IR-16(a), filed April 28, 2021; COH response to PUC-Parites-IR-16(a); Companies response to PUC-Parties-IR-16(a), filed April 28, 2021; and Ulupono response to PUC-Parties-IR-16(a). See also, Blue Planet and HSEA Joint response to PUC-Parties-16(a) (stating that with the inclusion of "DER equipment with equivalent capabilities," this PIM would incentivize the above Outcomes).

and (2) "AMI interval data collection and accessibility via customer portals." As the Companies have already indicated that they are planning to immediately bill customers using interval data once advanced meters are deployed,[97] there is no apparent need to incent the Companies to use interval data to determine bills via a PIM.

Similarly, regarding customer access to interval data via the Companies' Energy Portal, the Companies have clarified that they are already planning to provide customers with immediate access to interval data on the Energy Portal once advanced meters are installed,[98] which indicates that the Companies do not need an additional reward for this benefit.

In contrast, the revised PIM approved herein would incentivize the Companies to leverage their grid modernization investments and engage customers beyond what is already planned in the Phase 1 Grid Modernization program, as discussed below.

The "Customer Authorization" benefit component of the metric is intended to incentivize the Companies to do the necessary customer outreach and education to ensure customers are aware of the opportunities to share their interval data with third parties and to make data sharing processes as easy and fast as possible

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[97]See Response to PUC-HECO-IR-57.b, filed April 14, 2021.

[98]See Response to PUC-HECO-IR-57.e.

for customers. In response to the Companies' concerns regarding customer outreach, such as choice fatigue, IT requirements, and challenges working with third-party vendors,[99] the Commission reiterates that these PIMs are intended to reward exemplary performance, and that it is expected that the Companies will need to work towards overcoming various challenges to earn the PIM's financial reward. The Commission also emphasizes that maintaining provisions for, and making determinations regarding, the appropriate protection of customer data remains critical, and should adjust to any changes to the data sharing process that may result from this PIM.

In order to fully leverage their grid modernization investments, the Companies must ensure the process for third-party vendor recruitment, vetting, and authorization is efficient, as well as the process for securing customer authorization for third parties to utilize their AMI interval data. Thus, customer outreach plays a critical role, and this metric is designed to incent the Companies to make the data sharing process as easy and fast as possible for customers, potentially unlocking a number of services and products to help customers manage their energy use and contributing to growth of the energy services market in Hawaii.

[99]See Companies response to PUC-Parties-IR-16(c).

The "Energy Usage Alert" benefit component of the metric is intended to incentivize the Companies to provide customers with various options for energy usage alerts, including alternate ways to sign up for alerts, and choices of the types of alerts and delivery methods that are available. On this issue, the Companies have clarified that they are otherwise not intending to send customers usage alerts but will rely on customers to access the Energy Portal.[100] Absent additional and alternate means to communicate alerts to customers, the Commission is concerned that relying on a significant portion of customers to consistently visit the Energy Portal to become apprised of current information will not fully leverage the capabilities and potential of the Grid Modernization investments. Energy usage alerts, such as high bill alerts, have been shown to increase customer energy savings, and therefore this metric will help to unlock the energy efficiency benefits of AMI.[101]

The "Program Participation" benefit component of the metric is intended to incentivize the Companies to encourage customer participation in tariffs and programs that are more likely to leverage AMI investments in their design and/or implementation. In response to the Companies' request for clarity, the Commission

[100]Response to PUC-HECO-IR-59, filed April 14, 2021.

[101]See: https://www.aceee.org/research-report/u2001.

has re-worded this metric component benefit to confirm that it applies to newly enrolled customers with advanced meters, but that new participation in either existing, open programs or programs newly developed in Docket No. 2019-0323 are eligible under this PIM.[102]

Relatedly, the Commission finds this more desirable than the Companies' proposed program participation metric, which would only incent "enabled enrollment" in such programs, as tracked through the number of advanced meters using software to "handle necessary billing register reads and rates."[103] In line with the PIM's goal to better prepare the Companies to utilize the infrastructure provided by their grid modernization investments, increasing the number of customers with advanced meters enrolled in TOU and DER programs will be more valuable than merely tracking the number of customers with advanced meters who *could* enroll in such programs, which would be akin to essentially tracking advanced meter roll out.

The targets and incentives are designed to motivate exemplary performance and are informed by the Companies' Proportional Opt-Out Deployment and Phase 1 Deployment plans of 175,170 meters by 2023, and encourages year-over-year improvement.

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[102]See Companies response to PUC-Parties-IR-16(b).

[103]Response to PUC-HECO-IR-60, filed April 14, 2021.

The upper target is much less than the target proposed in earlier versions of this PIM, in recognition of the additional effort the Companies will need to make to deliver these benefits to customers. Concomitantly, the lower targets start at half the size of the upper target and remain consistently below the upper targets, providing a reasonable minimum threshold for earning an incentive.

Further, in response to the Companies' concerns with this PIM, as well as its relative novelty, the PIM structure provides for incremental incentives according to linear interpolation between upper and lower reward targets. This target and reward design ensures that incremental improvements are eligible for a greater range of rewards, and represents an alternative to a tiered structure being utilized in other PIMs (i.e., the Interconnection Approval PIM). The Commission intends to review both of these target/reward designs during the initial implementation of the Interconnection Approval PIM and AMI Utilization PIM, which will inform future PIM design.

Further, the Commission observes that this PIM is "upside only" and does not expose the Companies to a financial penalty if a target is not met. Finally, as discussed in D&O 37507, this PIM is intended to address near-term needs, and is only intended to last for the first three years of the MRP,

after which it will be comprehensively re-visited.[104] That being said, this PIM will be reviewed annually as part of the PBR Framework's annual review cycle, which will provide the Commission with notice if it should re-examine this PIM sooner.

D.

Scorecards and Reported Metrics

In D&O 37507, the Commission affirmed the importance of Scorecards and Reported Metrics to "drive further development of the PBR Framework during the MRP by facilitating the collection and reporting of relevant data . . . and evaluating the Companies' performance compared to Commission-established benchmarks or targets[.]"[105] The Post-D&O Working Group was tasked with "focus[ing] on narrowing and refining [the wide range of proposed Scorecards and Reported Metrics] in preparation for implementing an initial portfolio . . . expected June 1, 2021."[106]

The Commission appreciates the Post-D&O Working Group's time and effort in further honing their proposed Scorecards and Reported Metrics. Through the iterative process of discussion, discovery, and briefing, many of the proposed Scorecards and

[104]See D&O 37507 at 144-145 (proposing targets for the first three years of the MRP).

[105]D&O 37507 at 156-157.

[106]D&O 37507 at 157.

Reported Metrics reflect areas of overlap and congruence, which has aided in the development of this initial portfolio. Additionally, in developing this initial portfolio of Scorecards and Reported Metrics, the Commission has considered the need to keep the overall number of metrics manageable and conducive to administrative efficiency.

While not all proposals were selected for this initial portfolio, the robust discussion and thoughtful comments have helped direct focus on the pertinent issues, and these proposals may receive further attention as part of future discussions in the Post-D&O Working Group.

Further, the Commission clarifies that while D&O 37507 noted that reports or metrics provided in other dockets may be suitable for inclusion in this portfolio,[107] this portfolio of Scorecards and Reported Metrics is intended to supplement, not repeat or replace, existing metrics that are already being provided by Hawaiian Electric (the "Key Performance Metrics").[108] Concomitantly, the Commission agrees with the Consumer Advocate that "for the time being, all metrics currently reported on the

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[107]See D&O 37507 at 161.

[108]See Docket No. 2013-0141, Decision and Order No. 31908, filed February 7, 2014 and Order No. 32701, "Approving the Release of Performance Metrics, Directing that the Approved Performance Metrics Be Posted to the Website, and Directing the Parties to Develop Additional Performance Metrics," filed March 11, 2015.

Companies' website should continue to be reported until further notice and that none of the [approved] metrics are meant to replace – only supplement – existing metrics."[109] As discussed below in Section II.E.3, the Commission intends to continue examining how the Companies' reporting requirements can be streamlined, which includes addressing areas of overlap between existing reporting requirements and the Scorecards and Reported Metrics approved in this Decision and Order.

The following sections set forth the initial Scorecards and Reported Metrics that will be implemented as part of the PBR Framework. The Scorecards and Reported Metrics are organized by related Outcome, with some Outcomes being addressed by either or both Scorecards and Reported Metrics. In addition, a summary of the approved portfolio of Scorecards and Reported Metrics is attached as Appendix A to this Decision and Order.

Regarding the frequency of reporting for the Scorecards and Reported Metrics, the Commission provides its inclinations at this time. In addition to the specific inclinations provided for each Scorecard and Reported Metric, it is the Commission's overarching inclination to require all of the various data points identified below to be presented within a historical context of between 10-15 years, to the extent such information is available,

[109] CA Refined Proposal at 32.

consistent with the current reporting of the Companies' Key Performance Metrics.[110]

However, as noted above, the Commission recognizes that these Scorecards and Reported Metrics may reflect information currently reported by the Companies as part of their Key Performance Metrics. In parallel with the vetting and development of the Companies' reporting webpage (discussed in Section II.E.2 below), the Commission will continue its review of the Companies' existing reporting requirements, including potentially consolidating certain reporting requirements, as noted above. This process may inform the final determination of the frequency of reporting for the PBR Framework's Scorecards and Reported Metrics.

1.

Affordability

In D&O 37507, the Commission reiterated its interest in focusing on the development of Reported Metrics for the outcome

[110]The Companies' Key Performance Metrics report on the last eight quarters, on a rolling basis, as well as annually for the past 10-15 years, with the exception of the Companies' credit ratings (reported annually), Customer Transaction Survey Results (reported annually), and Safety metrics (reported annually; "Public Safety Incidents" reported for eight rolling quarters). See https://www.hawaiianelectric.com/about-us/key-performance-metrics/power-supply-and-generation.

of *Affordability*. In response, the Parties submitted the following proposals:

Party Affordability Reported Metrics Proposals	
	Metric
Hawaiian Electric[111]	Typical schedule R monthly bill amounts for each island
	Typical bill as a percentage of annual income for LIHEAP-eligible family of four
Consumer Advocate[112]	Average annual bill as a percentage of low-income average income
	Average annual bill as a percent of median income for each island
	Percentage of customers by payment status
	Annual number of customers disconnected for non-payment
COH[113]	Average annual bill and percent of median income for each island
	Average number of customers disconnected for non-payment
	Average monthly bill as a percent of average LMI income
Ulupono[114]	kWh weighted average price of renewables compared to the avoided cost of fossil fuels

[111]Companies Refined Proposal at 41-42.

[112]CA Refined Proposal at 31-32.

[113]COH Refined Proposal at 16.

[114]Ulupono Refined Proposal, Exhibit A at 1.

Upon review, the Commission establishes the following Reported Metrics to address this Outcome:

Affordability Reported Metrics	
	Metric
LMI Energy Burden	Schedule R typical and average annual bill as a percentage of low-income average income,[115] by island
Payment Arrangement	Percent of customers entered into payment arrangements by zip code
Disconnections	Percent of disconnections for non-payment by customer class by zip code
Commission Inclination: reported on an annual basis	

In so doing, the Commission notes that these are consistent with a number of the Parties' proposals. The LMI Energy Burden Reported Metric is based on proposals submitted by Hawaiian Electric, the Consumer Advocate, and the COH, and will provide helpful information to gauge when and if typical and average bills are exceedingly burdensome for LMI populations on each island. While Hawaiian Electric described its proposal as reflecting the "typical," rather than "average" annual bill, it does not appear that this represents a material difference for 2020 data.[116] However, the Commission believes it will be useful

[115]Defined as 150% of the Hawaii Federal Poverty Limit ("FPL").

[116]See Response to PUC-HECO-IR-65, filed April 20, 2021, at 2 and Attachment 1.

to track both typical and average bill as a percent of 150% of the Hawaii Federal Poverty Limit ("FPL") (for 2021, this value is $45,720), which represents a proxy for low-income customer income in the State. Further, this Reported Metric builds upon information that the Companies currently report, which should reduce the administrative burden with reporting this data.

A key distinction between the Consumer Advocate's and Hawaiian Electric's proposals for the LMI Energy Burden metric was the choice of denominator. Hawaiian Electric proposed the use of the income threshold for LIHEAP eligibility for a family of four (in 2020, this threshold was $44,430) because "LIHEAP provides some connection to electric utility usage and provides a good income benchmark and all data used for this metric is readily and publicly available."[117] In contrast, the Consumer Advocate proposed the use of the FPL as one representative income amount for low-income customers.[118] The Consumer Advocate noted that "most Federal and State assistance programs use the FPL, often with a factor such as 150% or 175% of the FPL, as two examples," and concluded that using the FPL would be "consistent with existing

[117]See Response to PUC-HECO-IR-65 at 2; and Companies Refined Proposal at 41-42.

[118]CA Refined Proposal at 31.

assistance programs."[119] The Commission agrees that consistency with the threshold for low-income designation used by other low-income State and federal programs is valuable, and given the income level corresponding to 150% of the Hawaii FPL is comparable to the income threshold for LIHEAP eligibility for a family of four, the Commission will utilize the FPL as the denominator for the LMI Energy Burden Reported Metric.[120]

The Payment Arrangement Reported Metric is based on proposals submitted by the Consumer Advocate and COH, with the addition of tracking by zip code. This is intended to generate more information on LMI customers at the zip-code level to inform whether programs utilizing a zip code methodology, such as Hawaii Energy's A&A program, can accurately target the location of the most burdened and vulnerable communities. In addition, data gathered from this metric can inform targeting by the Companies for customer services and other outreach efforts.

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[119]See Response to PUC-CA-IR-17, filed April 20, 2021, at 74-75.

[120]Most of the Hawaii State and Federal low-income programs utilize the FPL to determine participant eligibility, including but not limited to: the Weatherization Assistance Program administered by Hawaii Office of Community Services; the Temporary Assistance for Needy Families and Supplemental Nutrition Assistance Program both administered by the Hawaii Department of Human Services; and the Lifeline program administered by the Federal Communications Commission, among others.

The Disconnections Reported Metric also incorporates proposals offered by the Consumer Advocate and COH, with the addition of tracking by zip code. Similar to the Payment Arrangement Reported Metric, the Commission believes that tracking by zip code will help assess how accurately programs utilizing zip code-level LMI data reflect the locations of burdened and disadvantaged customers. Ultimately, this information should enable better understanding of which zip codes have high disconnection rates and can inform where, if necessary, additional programs should focus to address high disconnection rates.

Further, the Payment Arrangement Reported Metric can work in conjunction with the Disconnection Reported Metric to help identify any disproportionate discrepancy between zip codes that experience heavy disconnections and those that are offered payment arrangements.

2.

Capital Formation

In the Phase 1 Staff Proposal, Commission staff identified *Capital Formation* as a priority Outcome for development in this docket,[121] and explained how metrics that capture overall

[121] See Letter From: Commission To: Service List Re: Staff Proposal for Updated Performance-Based Regulations - Docket No. 2018-0088, In re Public Utilities Commission, Instituting a

investment in energy resources, technologies, and the grid could be valuable to track. Traditionally, this Outcome has been focused almost exclusively on the utility's ability to attract debt and equity at a reasonable cost in order to conduct its business. To capture this, the Companies currently report their Ratemaking Return on Equity ("ROE") and credit ratings and credit outlooks from Fitch, Moody's, and S&P on their Key Performance Metrics website. However, beyond the utility, capital formation also can refer to the ability of third-parties and customers to invest in new energy technologies at sufficient scale.

D&O 37507 reflected a continued interest in developing Reported Metrics for this Outcome,[122] and in response, Parties submitted the following proposals:

Party Capital Formation Reported Metrics Proposals	
	Metric
Hawaiian Electric[123]	Building permit value of rooftop PV deployed, per island
	MWs of third-party generation on system (measuring total MWs of generation provided by non-utility entities)

Proceeding to Investigate Performance-Based Regulation, filed on February 7, 2019 ("Staff Proposal"), Appendix A at 3-4.

[122] See D&O 37507 at 159.

[123] Companies Refined Proposal at 44-46.

Consumer Advocate[124]	Credit rating and annual outlook (currently in effect)
Ulupono[125]	Total market value (or book value) of IPP-owned assets and infrastructure compared to total market value of the utility-owned assets and infrastructure Alternatively, total % of average customer bills attributable to IPPs as compared to the percentage attributable to utility-owned assets
	Credit rating (including directionality) based on outlook or forecast from credit rating agencies
	MW of non-utility generation on system

Upon review, the Commission establishes the following Reported Metrics to address this Outcome:

Capital Formation Reported Metrics	
	Metric
Credit Rating	Credit rating of the Companies and annual outlook, including directionality
Third-Party Generation	Percentage of third-party generation on system (measuring total MWs of generation provided by non-utility entities as a percentage of total generation)
Commission Inclination: reported on a quarterly basis	

[124]CA Refined Proposal at 32.

[125]Ulupono Refined Proposal, Exhibit A at 1. See also, COH Updated Refined Proposal at 4 (supporting Ulupono's Capital Formation Reported Metric proposal).

In so doing, the Commission agrees with Parties that Hawaiian Electric's credit rating and annual outlook should continue to be reported.[126] This has been a traditional metric used in measuring a utility's access to capital and the Commission believes it should be retained.

Going forward, the Commission would like to consider other ways metrics for this Outcome can begin to consider broader capital investments and flows in the electricity sector. In particular, it may be useful to evaluate the utility's financial profile alongside other sources of market investment that can serve customer and societal needs. On this subject, both Hawaiian Electric and Ulupono have proposed adding Reported Metrics to represent customer and third-party investments. In particular, among other proposed metrics, both have suggested tracking MWs of third-party generation on the Companies' system.

[126]While Hawaiian Electric objected to this Reported Metric on the basis that it already reports this information, see Companies Updated Refined Proposal at 63, as noted at the beginning of Section II.D, above, this portfolio of Scorecards and Reported Metrics is intended to supplement, not replace or repeat information presented in existing reports. To the extent an approved Scorecard or Reported Metric overlaps with an existing reporting requirement, it is not the Commission's intent to require redundant reporting. As discussed in Section II.E.3, infra, the Commission will continue to examine how the Companies' reporting requirements may be streamlined and potentially consolidated.

The Commission agrees that measuring non-utility generation on the system is helpful in understanding the level of investments from third-parties (i.e., Independent Power Producers, or "IPPs") and customers (e.g., via DER systems).[127] As the Companies submit, "[t]he level and percentage of third party-financed generation is a high level indication over time of third party ability to raise capital for these investments."[128] Accordingly, the Third-Party Generation Scorecard will measure total generation (MW) from non-utility entities on the system as a percentage of total generation. The Companies should show both total non-utility generation, as well as a breakdown by resource type (e.g., utility-scale IPPs, DER, FIT, etc.).[129]

At this time, the Commission declines to adopt proposed metrics measuring the value of building permit for deployed rooftop PV and the market value (or book value) of all IPP-owned assets and infrastructure. Without further development, it is unclear what methodology would be used to quantify the value of a rooftop building permit, and whether and how such intangible factors such as administrative delays in acquiring the building permit should

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[127]See Companies Refined Proposal at 45-46; Companies Updated Refined Proposal at 63; and Ulupono Refined Proposal, Exhibit A at 1.

[128]Companies Refined Proposal at 45-46.

[129]See Companies Updated Refined Proposal at 63.

be taken into account. Additionally, as noted by the Companies, valuing IPP assets may be complicated by intricate corporate structures, which may complicate valuation efforts.[130] Moreover, regarding Ulupono's suggested alternative, information about the contribution of costs related to purchased power to customer rates can be found on the Companies' website as part of the Key Performance Metrics, which includes payments for energy, capacity and O&M to IPPs, and also includes the Purchased Power Adjustment surcharge and the portion of the Energy Cost Recovery Clause surcharge attributed to purchased power energy.

3.

Cost Control

In D&O 35707, the Commission identified *Cost Control* as an Outcome for Scorecard development, stating that it "should align with Post-D&O Working Group efforts to develop a future [shared savings mechanism] for cost control via reductions in fossil fuel consumption and purchased power."[131]

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[130]See Companies Updated Refined Proposal at 63.

[131]D&O 37507 at 157-158. See also, PUC-Parties-IR-01 thru -03, filed July 24, 2020 (the heading of this transmittal accidentally refers to another proceeding, but the substance of the letter contains the Commission's PUC-Parties-IR-01 thru -03, which introduced three conceptual shared savings mechanisms designed to address the Companies' fossil fuel costs).

In response, the Parties submitted the following Scorecard proposals:

Party Cost Control Scorecard Proposals		
	Metric	Target
Hawaiian Electric[132]	ECRC Energy Cost Recovery Factor rate charged to customers	Constant moving average value, for each island
Consumer Advocate[133]	Average levelized cost of energy ("LCOE") for recent new renewable generation PPAs	Companies' avoided cost; or Mid-point of the average LCOE reported in the annual Lazard Report
	Annual utility fuel expense	Companies' avoided cost; or Mid-point of the average LCOE for Gas Peaking resources reported in the annual Lazard Report
Blue Planet[134]	Amount of fossil fuel consumed, including fuel for purchased power, but excluding biofuels	Stated amount of year to year reduction in fuel consumption

[132]Companies Refined Proposal at 30-31; Companies Updated Refined Proposal at 38-39.

[133]CA Refined Proposal at 23-24.

[134]Blue Planet Updated Refined Proposal at 6; "Blue Planet Foundation's Phase 2 Initial Statement of Position," filed June 18, 2020, at 60-62; and "Blue Planet Foundation's Phase 2 Reply Statement of Position; and Certificate of Service," filed August 20, 2020 ("Blue Planet ISOP"), at 27-28.

COH[135]	Overall costs and O&M measured against peer utilities Alternatively, could focus more specifically on: 1. Total utility cost per residential customers ($/customer); and 2. Total utility O&M costs per residential customer ($/customer)	Suggests an additional workshop to establish an appropriate group of peer utilities for benchmarking purposes and agreed-upon definition of "O&M"

Upon review, the Commission approves the following Scorecard for this Outcome:

Cost Control Scorecard		
Cost Control for Non-ARA Components	Metric	Annual sum of Energy Cost Recovery Clause ("ECRC") costs, Purchased Power Adjustment Clause ("PPAC") costs, and Major Project Interim Recovery/Exceptional Project Recovery Mechanism ("MPIR" and EPRM") costs, on a revenue requirements basis.
	Target	Annual recorded metric compared to base year metric increased at the rate of inflation as measured by GDPPI (i.e., maintaining constant real expense)[136]
Commission Inclination: reported on an annual basis		

[135]COH Refined Proposal at 15.

[136]The Scorecard can be expressed visually as a table and chart showing the historical metric for each utility along with a GDPPI trend line increase; alternatively, it could be expressed annually as the metric percentage below or above the GDPPI trend line.

In reaching the decision, above, the Commission considered how best to track the Companies' efforts at controlling costs. There are two overall categories of costs to consider: (1) costs recovered and reconciled by specific "tracker" mechanisms (e.g., ECRC, PPAC, MPIR/ECRM); and (2) costs "funded" by the ARA-formula-determined component of the Target Revenue stream. For each of these categories, there are several metrics currently reported on the Key Performance Metrics section of the Companies' web sites.

Regarding costs funded by ARA-determined revenues, the PBR Framework provides recognized cost-control incentives to Hawaiian Electric. During the multi-year rate period, the Companies can enhance earnings by keeping costs below the ARA formula-determined revenue stream. The extent to which the Companies succeed in controlling these costs is reflected in net earnings (revenues minus expense). This metric of overall performance is already reported and monitored, and is also featured prominently in the PBR Framework's Earnings Sharing Mechanism ("ESM").

Consequently, for costs funded by ARA-determined revenue, no Scorecards are necessary for this category of utility costs at this time. This is reflected in several of the Parties' proposals, which focus on the Companies' fossil fuel and purchased power costs.

In contrast, for the portion of costs funded by revenues collected and reconciled by certain tracker mechanisms (i.e., the ECRC, PPAC, MPIR, and EPRM), there is a recognized need for further cost control incentives.[137] The ECRC mechanism contains some incentives to operate production facilities efficiently (i.e., via a heat rate adjustment mechanism) and provides only partial (98%) reconciliation for fuel price excursions outside of an established baseline. Beyond these specific mechanisms, the amount of revenue collected by the utility through these tracking mechanisms is explicitly reconciled to match recorded expenses.

While no cost control PIMs for these costs have been approved at this time, as stated in D&O 37507, the Commission continues to express interest in developing cost control incentives to address this issue. Concomitantly, pending development of any such a PIM, a Scorecard designed to track and measure the sum of this category of utility costs (i.e., ECRC, PPAC and MPIR/EPRM expenses) compared to a target of constant real (inflation adjusted) expense is adopted as a preliminary step in this direction.[138]

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[137]See CA Refined Proposal at 22-23.

[138]The Commission notes that this Scorecard measures impacts experienced by ratepayers which include fuel price impacts that are influenced by factors beyond the direct control of

The Scorecard approved above collectively measures the Companies' success at controlling the full gamut of costs recovered through these tracker mechanisms. This collective approach recognizes that effective cost control requires strategic optimization of tradeoffs between the various components of fuel expense, purchased power expense and company investment in exceptional projects. This offers a relatively simple baseline against which to measure the Companies' overall cost control efforts, and is consistent with several aspects of the Parties' proposals. For example, the Scorecard includes reporting and consideration of the ECRC metric proposed by Hawaiian Electric, the fuel expense metric proposed by the Consumer Advocate, and considers the cost impacts of new renewable generation contracts addressed by the Consumer Advocate's proposal (albeit addressed collectively, rather than individually).

In establishing this Scorecard, the Commission considered the Parties' proposals, but found that they could benefit from further development. The Companies' proposed ECRC

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the Companies. To the extent this Scorecard may serve as an example or template for a future PIM which incorporates financial incentives, some adjustment for fuel price and/or other factors may be necessary to frame the metric and target more specifically on cost control performance within the Companies' direct control. However, at this time, the Scorecard can provide value by measuring the Companies' performance from the perspective of customer experience, without any such adjustments.

metric is meaningful, but does not address the cost impacts of the resources and investments used to reduce or replace fuel and purchased energy expense (including new renewable generation resource expense recovered through the PPAC tracker).

The Consumer Advocate's proposals to evaluate the cost of new renewable generation contracts and/or annual utility fuel expense each address an important aspect of cost control, but do not provide targets that sufficiently establish and support meaningful determinations of exemplary utility cost control.[139]

The COH proposes Scorecards based on overall utility cost per customer and Operations & Maintenance ("O&M") cost per customer, but does not specify a target for its proposed O&M Scorecard, instead suggesting an additional workshop for this determination. In addition to requiring further development, the Commission notes that the Cost Control for Non-ARA Components Scorecard addresses the control of overall utility costs not otherwise incented by the ARA and MRP provisions of the PBR Framework. Further, as noted below, the COH's O&M metric is being adopted as a Reported Metric.

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[139]It is not clear, for example, by what margin, if any, the target for new renewable generation contract prices should be less than utility avoided costs, or whether and how avoided costs would be determined considering various possible contract provisions for dispatch, storage, availability, etc. It is also not clear how the proposed targets for LCOE based on annual Lazard report averages or gas peaking facilities are appropriate standards for the Hawaiian Electric utilities.

Blue Planet refers to its "Fossil Fuel Use Reduction" metric previously proposed as part of its PIM proposed during Phase 2 of this proceeding. Blue Planet's proposed PIM would incent reductions in the amount of fossil fuel consumed by the Companies, including fuel consumption attributed to purchased power, measured and financially incented based on annual year-to-year reductions in MWH fossil-fueled generation or MBTU fossil fuel consumption.[140] Although Blue Planet's previous proposal for a PIM identified a metric with a deadband and general conceptual method for determining a financial incentive, Blue Planet has not identified a conceptual or specific target for use in a Scorecard.

That being said, while Blue Planet's proposed Fossil Fuel Use Reduction PIM does not specifically or directly target cost control and does not provide a specific target for a Scorecard, it provides thoughtful enumeration and discussion of several factors that may be valuable in further developing a PIM or Shared Savings Mechanism ("SSM") addressing fuel and purchased power utilization.[141]

In sum, the Commission finds that this Scorecard will provide valuable insights into the Companies' cost control efforts

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[140] See Blue Planet ISOP at 60-66.

[141] See Blue Planet ISOP at 60-65.

over this large category of costs that are not otherwise explicitly incented by the PBR Framework. As more information is gathered, the Post-D&O Working Group may continue to explore using such information to develop and vet a more sophisticated performance mechanism, i.e., PIM or SSM, to address this Outcome.

In addition to the Scorecard proposals above, some of the Parties submitted a number of proposals for Reported Metrics for this Outcome:

Party Cost Control Reported Metrics Proposals	
	Metric
Consumer Advocate[142]	Average rate base ($) per customer
	Average non-fuel O&M ($) per customer
Ulupono[143]	Rate of annual growth for overall authorized revenues compared to inflation

Upon review, the Commission establishes the following Reported Metrics for this Outcome:

Cost Control Reported Metrics	
	Metric
Rate Base per Customer	Total rate base ($) per customer for each Company
O&M cost per Customer	Total utility Operations & Maintenance costs ($) per residential customer for each Company

[142]CA Refined Proposal at 32-33.

[143]Ulupono Refined Proposal, Exhibit A at 2.

Annual Revenue Growth	Rate of annual growth for overall authorized revenues compared to inflation, shown as historical record of revenues with GDPPI trend line and showing annual percentage change
Commission Inclination: reported on an annual basis	

In approving the Reported Metrics above, the Commission is adopting several metrics proposed by the Parties that the Commission finds will complement the Cost Control for Non-ARA Components Scorecard. The Commission further observes that much of this information is already reported in some form in the Companies' Key Performance Metrics on their website, which should reduce the administrative burden associated with this Reported Metric. The Commission finds the existing reporting of information regarding rates, expenses, and revenues on the Companies' Key Performance Metrics website to be useful, informative, and thoughtfully presented. In this regard, as noted at the beginning of this Section, the Scorecards and Reported Metrics approved herein are intended to supplement, not replace, the Companies' existing reported content. To the extent the approved portfolio of Scorecards and Reported Metrics may address information already reported by the Companies in other venues or by other means, as discussed in Section II.E.3, below, the Commission intends to continue examining areas of overlap between the PBR Framework's portfolio of reports and the Companies'

existing reporting requirements and may adjust reporting requirements, as appropriate.

4.

Customer Engagement

In D&O 37507, the Commission approved several PIMs that promote the PBR outcome of *Customer Engagement*. These include the RPS-A PIM, which will provide an "incentive to offer attractive programs to bring more customer-sited renewables on the system,"[144] and the LMI EE PIM, given that "energy efficiency and demand-side management are proven tools for customer engagement."[145] The AMI Utilization PIM similarly promotes *Customer Engagement*, which will enable customers with advanced meters to "participate in more sophisticated rate structures and DER programs."[146]

However, there is still a wide scope of impact that falls under the umbrella of *Customer Engagement* that is not fully captured by these PIMs. Accordingly, D&O 37507 identified this Outcome as an area for further development of Scorecards that, at a minimum, should address:

- Customer participation and retention in utility programs including but not limited to, TOU rates,

[144]D&O 37507 at 115.

[145]D&O 37507 at 125.

[146]D&O 37507 at 141.

[Demand Response ("DR")], and DER programs (in both absolute and percentage terms).

- Customer access to and engagement with the Energy Portal and Green Button Connect My Data.[147]

Following several informal working group meetings, the Parties submitted the following Scorecard proposals through their respective briefing:

Party Customer Engagement Scorecard Proposals		
	Metric	Target
Hawaiian Electric[148]	Monthly unique page views of Companies' Energy Portal	Percentage of the monthly unique page views against the total number of customers who have access to the Customer Portal
	1. Total number of active registrations for Green Button Connect by a third-party vendor; and 2. Total number of customers who access Green Button Connect My Data	Propose setting targets in January 2022, after nine months of Green Button Connect registration deployment and data availability
Consumer Advocate[149]	Number and percentage of customers that have used Green Button Connect (i.e., number of customers that used GBC over number of customers)	Number of customers that are consistent with the proposed AMI rollout schedule and percentage of customers with installed AMI meters

[147]D&O 37507 at 157-158.

[148]Companies Refined Proposal at 34-36.

[149]CA Refined Proposal at 24-25.

	Percentage of customers participating in time-sensitive tariffs by customer class	Percentage of customers with installed AMI meters
	Number of customers participating in an EV-TOU rate	75% of the total number of EV cars as reported by DBEDT

Upon review, the Commission establishes the following Scorecards to address this Outcome:

Customer Engagement Scorecards		
	Metric	Target
Program Participation	Number and percent of customers participating in any of the following programs: • CBRE projects • DER programs, including existing programs such as NEM, NEM+, CGS, CGS+, Smart Export, and CSS, as well as any new program developed in Docket No. 2019-0323 • DR programs, including any existing DR programs, such as Energy Scout programs, Fast DR programs, or Grid Service Purchase Agreements ("GSPAs"), as well as any new DR programs developed in Docket No. 2019-0323	30% of customers (Target may evolve with the finalization of new DER programs in Docket No. 2019-0323)

Green Button Connect My Data	Number and percent of customers that have used Green Button Connect My Data to enable sharing of information	Equal to the percent of all customers with advanced meters installed
Green Button Download My Data[150]	Number and percent of customers that have used Green Button Download My Data	Equal to the percent of all customers with advanced meters installed
TOU Participation	Number and percent of customers participating in time-varying tariffs, by customer class, including existing TOU rates and any new TOU rates developed in Docket No. 2019-0323	Equal to the percent of all customers with advanced meters installed
Commission Inclination: reported on a quarterly basis[151]		

In so doing, the Commission observes that there is a fair amount of overlap among the Parties' proposed Scorecards for this Outcome, with focus primarily on customer participation in: (1) utility programs, particularly time-varying rates; and (2) Green Button Connect My Data programs. The Commission agrees that these areas offer valuable opportunities to improve

[150]In contrast to the "Green Button Connect My Data" program, which facilitates the sharing of a customer's energy usage data with third-parties, the Green Button Download My Data program allows customers to download information about their energy usage.

[151]This is consistent with the current reporting requirements for enrollment in existing TOU tariffs. See Docket No. 2014-0192, Order No. 33923, "Instructing the Hawaiian Electric Companies to Submit Tariffs for an Interim Time-Of-Use Program," filed September 16, 2016, at 44-45.

customer engagement between the Companies and their customers, as discussed below.

First, measuring participation in the Companies' DER programs will provide helpful information on customers' experiences in these programs, including potential areas for program improvement. Notwithstanding the Companies' comments regarding the ongoing development of new DER programs in Docket No. 2019-0323, the Commission believes that there is value in measuring participation in existing programs, as this information may help inform program development in Docket No. 2019-0323. Further, the Commission observes that interest in existing DER programs continues,[152] and improved customer outreach to increase participation in existing DER programs may help pave the way for customers to transition into any new DER programs that are later approved in Docket No. 2019-0323, as well as increase awareness and understanding of DER programs by customers, in general.

Second, measuring customers' usage of Green Button Download My Data will provide an indication of the level of engagement customers have with the data, particularly AMI data,

[152]See e.g., Docket No. 2019-0323, Order No. 37714, "Expanding CGS+ for the Island of Oahu," filed on April 7, 2021 (expanding the program cap for the CGS+ program on Oahu, due to the program reaching 90% capacity).

provided by the Companies' Energy Portal. The Companies state that their Energy Portal was scheduled to launch in April 2021 and would feature the ability for customers to download their data via Green Button Download My Data; this Scorecard will help measure the Companies' success in rolling out this program and educating and empowering customers to explore this aspect of the Energy Portal. Relatedly, incenting the Companies to educate customers about the ability to download and analyze their usage data should result in customers that are more inclined to modify their consumption behavior and participate in the Companies' or Hawaii Energy's programs.

Third, measuring customers' usage of Green Button Connect My Data will provide insights into customers' sharing of data with third parties, which has the potential to unlock a number of services and products to help customers manage their energy use. Setting a target for the use of Green Button Connect My Data will provide a useful benchmark to understand the uptake of Green Button Connect My Data by Hawaiian Electric customers and encourage Hawaiian Electric to make data sharing between customers and third parties a seamless and rapid process.[153]

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[153]In this regard, Hawaiian Electric has acknowledged that third party vendors may have difficulty understanding Green Button Connect My Data, and has pledged that it will "endeavor to streamline the registration process," by "1) provid[ing] help text in the registration process area; and 2) coordinat[ing] with

Fourth, measuring participation in time-varying tariffs will provide greater insights into the level of customer awareness and interest in managing their consumption through time-varying rates. The Commission hopes to see wide levels of customer participation in such tariffs and believes this Scorecard will help better understand which customer classes are expressing interest in time-varying tariffs and what improvements can be made to increase interest and participation among other customer classes.

In addition to the Scorecard proposals above, several Parties submitted a number of proposed Reported Metrics for this Outcome:

Party Customer Engagement Reported Metrics Proposals	
	Metric
Hawaiian Electric[154]	Participation and retention in TOU rates, DR, and DER programs
Consumer Advocate[155]	Results of third-party customer satisfaction survey
	Number and percentage of customers not participating in a utility program
	Number and percentage of customers not participating in Hawaii Energy programs

third-party vendors to make available Green Button resources. Companies Updated Refined Proposal at 4-47.

[154]Companies Refined Proposal at 41.

[155]CA Refined Proposal at 33-34.

COH[156]	Web-based energy management tool that tracks: • Number of customers who have accessed the web-based energy management tool • Number of accounts that enroll in the web-based energy management tool • Number of accounts that downloaded or were sent a Usage Report via the automated web tool
	Average time spent on the web-based management tool per residential customer and business customer and number of web-based management tool log-ins
	Number of customers eligible for AMI programs/rebate/tariff
	Number of critical pricing/load management events
	Number of customers who received a DSM/DP rebate or other program rebate as a direct result of AMI program benefits
	Average utility paid customer AMI program rebate; demand and energy reduction during critical pricing event
	Number of Home Energy Reports mailed out with incremental data
	Percentage of load over time that is reduced voluntarily by customers receiving Home Energy Reports
Ulupono[157]	Number of customers participating in each type of energy program
	Acceptance rate of applicants to each of the programs

[156]COH Refined Proposal at 16-17.

[157]Ulupono Refined Proposal, Exhibit A at 2.

The Commission appreciates these additional suggestions, and, upon review, establishes the following Reported Metric to address this Outcome:

Customer Engagement Reported Metric	
	Metric
AMI Opt-Out	Percentage of customers opting out of advanced meters
Commission Inclination: reported on a biannual basis	

In so doing, the Commission notes that many of the proposed Reported Metrics are already captured in the Scorecards approved for this Outcome, as well as other Scorecards and Reported Metrics approved in this Decision and Order. For example, participation in DER programs and customer usage of the Companies' online Energy Portal will be measured through the Program Participation, Green Button Connect My Data, Green Button Download My Data, and TOU Participation Scorecards approved above. The same is true for the Consumer Advocate's proposal for a Reported Metric measuring the number and percentage of customers not participating in any utility program. Given the that Program Participation Scorecard described above captures participation in *any* utility program, the percentage of customers not participating can easily be derived. Further, the Consumer Advocate's suggestion for customer satisfaction

surveys is partially incorporated into the Scorecards approved for the *Interconnection Experience* Outcome, discussed infra.[158]

The AMI Opt-Out Reported Metric approved above is intended to complement the *Customer Engagement* Scorecards by providing additional data on the comparative number of customers who elect to opt out of advanced meters. While not suitable for development as a Scorecard at this time, this information should be useful in helping to understand the efforts by the Companies to reach customers, and hopefully improve participation and acceptance of AMI.

5.

Customer Equity

D&O 37507 identified the outcome of *Customer Equity* as ripe for development of Reported Metrics, and specifically directed the Parties to focus on:

- Number and/or percentage of customers entered into payment arrangement with the Companies.
- Number and/or percentage of disconnections by customer class[159]

[158]While the Commission appreciates the suggestion of a broader-based survey aimed at the Companies' holistic performance, it believes that a survey which accurately captures a customer's assessment of the utility, based on a variety of considerations, requires further development and vetting.

[159]D&O 37507 at 159.

In response, the Parties submitted the following proposals:

Party Customer Equity Reported Metrics Proposals	
	Metric
Hawaiian Electric[160]	Number and/or percentage of customers entered into payment arrangements (notes that this is currently captured by the Companies' monthly COVID-19 reports, which can be transitioned to this docket for purposes of reporting on this Outcome)
	Number and/or percentage of disconnections by rate class
Consumer Advocate[161]	Number and percentage of customers entered into payment arrangements
	Number and percentage of disconnections by customer class for non-payment
	Number and percentage of LMI customers participating in CBRE
	Number of LMI customers accessing customer portal
COH[162]	Number and percentage of customers entered into payment arrangements
	Number and percentage of disconnections by customer class

[160]Companies Refined Proposal at 43-44.

[161]CA Refined Proposal at 35-36.

[162]COH Refined Proposal at 16.

LOL[163]	LMI with rooftop
	Number and percentage of LMI customers participating in one or more utility programs
	Rental units with rooftop solar
Ulupono[164]	Total number and percentage of LMI participation in programs (as defined by the Customer Engagement Outcome)

Upon review, the Commission establishes the following Reported Metric to address this Outcome:

Customer Equity Reported Metric	
	Metric
LMI Program Participation	Number of LMI customers[165] participating in each of the following programs, and percentage of program participants in each of the following programs that are LMI: • CBRE projects • TOU rates, including the existing TOU-RI rate and any new TOU rates developed in Docket No. 2019-0323 • DER programs, including existing programs such as NEM, NEM+, CGS, CGS+, Smart Export, and CSS, as well as any new program developed in Docket No. 2019-0323

[163]LOL Refined Proposal at 4. While LOL did not specifically identify these as addressing the "Customer Equity" Outcome, LOL's discussion around these metrics, which focus on customers who do not have rooftop solar, appears to align with this Outcome.

[164]Ulupono Refined Proposal, Exhibit A at 2.

[165]For purposes of this Reported Metric, "LMI" should be defined broadly. This may include LIHEAP participants, customers served under Hawaii Energy's A&A programs, and customers with an income of 150% of the FPL (discussed further below).

	• DR programs, including any existing DR programs, such as Energy Scout programs, Fast DR programs, or GSPAs, as well as any new DR programs developed in Docket No. 2019-0323
Commission Inclination: reported on a quarterly basis	

In approving this Reported Metric, the Commission observes that this metric had broad support in Phase 2 of this proceeding, with the Consumer Advocate, Ulupono, Blue Planet, and the C&CH all proposing a variation of this metric.[166] The Commission agrees that increasing accessibility of these programs is critical for a number of reasons and adopts this metric to increase the transparency of data related to accessibility of such programs and to encourage efforts to increase LMI participation in the clean energy transition.

That being said, the Commission recognizes that this Reported Metric, as well as other Performance Mechanisms, may benefit from additional clarification regarding the practical definition of "LMI." The Commission acknowledges the challenges presented by the fact that customers' income is not publicly known, and understands that the Companies currently use participation in the LIHEAP program as one way to identify LMI customers, but are currently working in the CBRE docket and with an advisory council

[166]See Response to PUC-HECO-IR-30, filed September 18, 2020.

to facilitate streamlined identification and enrollment of LMI customers in utility programs.[167] In recognition of these ongoing efforts, as well as the Companies' support for the LMI Energy Efficiency PIM and the Commission's efforts to ensure broad support for LMI customers during the COVID-19 pandemic and beyond, the Commission will allow the Companies to include in this metric customers that have been identified as LMI according to any program criteria. This should include customers participating in LIHEAP, CBRE customers who have been identified as LMI through that process, customers who have participated in other financial support programs by the utility, such as grant programs or payment plans, or other ways as specified by the Companies.

To facilitate this effort, and to further support data collection related to customer equity, the Commission directs the Companies to include a voluntary disclosure of income question on applications for participation in utility programs. The Companies should count customers with an income of 150% of the FPL as LMI for this metric to align with the *Affordability* LMI Energy Burden Reported Metric.

While D&O No. 37507 indicated that the *Customer Equity* Outcome "should include, at minimum, reported metrics related to:

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[167] See Companies Refined Proposal at 15; Response to PUC-HECO-IR-66, filed April 20, 2021; and Response PUC-HECO-IR-70, filed April 21, 2021.

Number and/or percentage of customers entered into payment arrangements with the Companies[; and] Number and/or percentage of customers of disconnections by customer class,"[168] after reviewing the materials provided in the Post-D&O Working Group and assessing the complete portfolio of Reported Metrics as a whole, the Commission finds that these metrics fit better under the *Affordability* Outcome, as reflected above.

Consequently, the Reported Metric approved for the *Customer Equity* Outcome focuses on program participation for LMI customers. The Commission observes that this is consistent with the Party proposals that did not focus on customer payment arrangements and disconnections, including those from the Consumer Advocate, COH, LOL, and Ulupono. In addition, as noted in discussions around the LMI Energy Efficiency PIM in D&O 37507, the transition to a renewable energy future necessitates a focus on expanding access to DERs, which may be inaccessible to many customers due to high upfront capital costs. The LMI Program Participation Reported Metric is intended to ensure that customers are empowered to participate in the energy transition taking place in Hawaii and that the Companies' performance under the PBR Framework is creating positive impacts for all customers.

[168]D&O 37507 at 159.

The Commission emphasizes that the PBR Framework, as a whole, is intended to be customer-centric, which inherently includes all customers served by the Companies. Customer equity is critical, given the high energy burdens faced by customers in Hawaii and the need to provide exceptional service to all customers regardless of geography, income, race, or other demographic factors. The need to reduce the energy burden faced by Hawaii residents is particularly pronounced at this time, when families and businesses have been severely economically impacted by the COVID-19 pandemic.

Accordingly, notwithstanding the specific LMI Program Participation Reported Metric approved above, the Commission has considered how customer equity can be built into each Outcome across the full portfolio of Scorecards and Reported Metrics, and the sole metric approved in this Decision and Order is not reflective of its importance. In particular, the Commission has attempted to increase the granularity of how the Companies report metrics to improve transparency and to facilitate analysis of the equity of service across a variety metrics. The portfolio of Scorecards and Reported Metrics approved in this Decision and Order will require reporting of certain metrics at the zip code level, which will facilitate analysis of service quality across the

portfolio by geography, income level, and other important community characteristics.[169]

The Commission encourages stakeholders to use available data to assess the Companies' performance towards customer equity and to provide feedback on performance. Additionally, the Commission understands that assessment of *Customer Equity* metrics is ever evolving, and will continue to prioritize tracking performance over the course of the MRP.

6.

DER Asset Effectiveness

In D&O 37507, regarding the Outcome of *DER Asset Effectiveness*, the Commission stated that while it was approving a PIM to address this Outcome, "additional data is required to better understand how the Companies may be appropriately incented to effectively utilize DERs to meet system needs and/or avoid the need for acquiring less economical resources."[170] As a result, the Commission instructed the Post-D&O Working Group to work on developing Reported Metrics that addressed, at a minimum:

- Percentage and total MW of DER systems capable of providing grid services.

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[169]See e.g., the *Affordability* Reported Metrics approved in Section II.D.1, above.

[170]D&O 37507 at 160.

- Total MW of capable DER systems enrolled in grid services programs.

- Total MW of DER systems enrolled in grid services programs being utilized to provide grid services (e.g., [Fast Frequency Response ("FFR"), Load Reduction, Load Build).

- MW of energy curtailed from DERs, including partial curtailment or power reductions.[171]

In response, the Parties submitted the following proposals:

Party DER Asset Effectiveness Reported Metrics Proposals	
	Metric
Hawaiian Electric[172]	Percentage and total MW of DER systems capable of providing grid services: total MW of DER systems capable of providing grid services to customers that have a storage system installed divided by entire population (MW) of existing and new DER programs
	Total MW of capable DER systems enrolled in grid services programs, which include contracted grid services through aggregators that have an approved GSPA, as well as successor DER programs being developed in the Docket No. 2019-0323
	Total MW of DER systems enrolled in grid services being utilized to provide grid services (e.g., FFR, Load Reduction, Load Build) Can be measured by either: • Performance factor calculated monthly against the number of events performed multiplied by the total MW of enrolled DER systems; or

[171]D&O 37507 at 160.

[172]Companies Refined Proposal at 49-51.

	• Reporting the number of events for each of the grid services to showcase the utilization of the various grid services programs
	Curtailed duration and amount (MW) for DER customers with an advanced meter installed (Already intend to report on curtailment triggered as part of tariff requirement, e.g., DER programs; similarly, curtailment resulting from delivery of grid services will be reported DER grid services Reported Metric, above).
Consumer Advocate[173]	Generally supports Reported Metrics identified in D&O 37507
	Percentage of grid services utilized compared to amount procured/contracted, reported as total amount of grid services utilized in a year as compared to the total capacity that was available/contracted for that year, by island
	Percentage of estimated IPP energy curtailed and procured capacity compared to the available energy and capacity, respectively
COH[174]	Proposes metrics identified in D&O 37507 be developed into PIM for grid services
Ulupono[175]	Total value of Non-Wires Alternatives ("NWAs") contacted for/by the utility (rather than proposed) as compared to the avoided cost of conventional non-NWA solutions on an annual and cumulative basis

Upon review, the Commission establishes the following Reported Metrics to address this Outcome:

[173]CA Refined Proposal at 36-37.

[174]COH Refined Proposal at 8-9 and 20-21.

[175]Ulupono Refined Proposal, Exhibit A at 3.

DER Asset Effectiveness Reported Metrics	
	Metric
DER Grid Services Capability	Percentage and total MW of DER systems capable of providing grid services
DER Grid Services Enrollment	Percentage and total MW of capable DER systems enrolled in grid services programs
DER Grid Services Utilization	Percentage and total MW of DER systems enrolled in grid services programs that are being utilized to provide grid services
DER Curtailment	Total MW and MWh of curtailment from DERs, including partial curtailment or power reductions
Commission Inclination: reported on a biannual basis	

In approving the above Reported Metrics, the Commission notes that they are consistent with the guidance provided earlier by the Commission in D&O 37507 and incorporate many of the Parties' proposals. In general, the Consumer Advocate and COH support the Reported Metrics proposed in D&O 37507, which are reflected in the approved Reported Metrics above. The Companies also voice support for these Reported Metrics, but suggest slight modifications and clarifications, as discussed below.

Regarding the Consumer Advocate's proposal to track estimated IPP curtailed energy, it is unclear how this supports *DER Asset Effectiveness*, as it focuses solely on IPPs. Further, the Commission observes that the Companies are already required to report on commitment, dispatch, and curtailment of IPP projects in Docket No. 2011-0206.

Regarding Ulupono's proposal, tracking the total value of NWAs contracted for by the utility, the Commission observes that this is effectively captured by the Reported Metrics approved for *Grid Investment Efficiency*, discussed below in Section II.D.9.

Regarding the DER Grid Services Capability Reported Metric, the Companies propose a slight alternative to the metric set forth in D&O 37507. The Companies explain that further clarity is needed regarding what constitutes a "DER system capable of providing grid services," including, for example, whether advanced inverter settings are required and whether water heaters and EVs fall under the scope of applicable DER systems.[176] Pending resolution of these outstanding issues, the Companies propose that the metric focus on DER systems capable of providing grid services to customers that have a storage system installed.[177] This amount of storage, in MW, would be the numerator of the percentage calculation, and the denominator would be the entire population, in MW, of all existing and new DER programs.[178]

The Commission understands the Companies' concerns and believes that this is a reasonable starting point for this Reported Metric. However, the Commission expects that further

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[176]Companies Updated Refined Proposal at 71-72.

[177]Companies Updated Refined Proposal at 72.

[178]Companies Updated Refined Proposal at 72.

work will be done to determine how to define and measure how other DERs can be captured by this metric. Proposals to address this definition and methodology should be raised with the Post-D&O Working Group whenever ready, which the Commission will consider in reviewing future iterations of this Reported Metric.

Similarly, regarding the DER Grid Services Enrollment Reported Metric, the Companies propose limiting the focus of the Reported Metric to: (1) contracted grid services through aggregators that have an approved GSPA; and (2) successor DER programs currently being developed in the Program Track of Docket No. 2019-0323 that include grid services as a requirement.[179]

As with the DER Grid Services Capability Reported Metric, the Commission acknowledges the Companies' concerns and adopts the Companies' more focused metric. However, as noted above, the Commission expects additional work towards better defining "DER system capable of providing grid services," such that this, and other Reported Metrics, can be expanded to track a broader range of DER grid services.

Regarding the DER Grid Services Utilization Reported Metric, the Companies propose two different approaches to measuring utilization: (1) a performance factor calculation which is calculated every month against the number of events performed,

[179]Companies Updated Refined Proposal at 72.

multiplied by the total MW of enrolled DER systems; or (2) simply reporting the number of events for each of the grid services to showcase the utilization of the various grid services programs.[180] Alternatively, the Consumer Advocate proposes reporting the total amount of grid services utilized in the year as compared to the total capacity that was available/contracted for that year.[181]

The Companies provided more information on their first proposed approach in their response to PUC-HECO-IR 71.1 and explain that this approach would be consistent with the calculation of performance factors included in the Companies' GSPA included in the Companies' final Grid Services REP, filed on August 22, 2019, in Docket No. 2017-0352. The performance factor as defined in the GSPA is the percentage of the Delivered Capability compared to the Forecasted Capability (referred to herein as the "Operational Forecast"). The Delivered Capability represents the grid service delivered to the Companies when dispatched. The Operational Forecast is provided to the Companies in advance and represents the grid service committed to be delivered to the Companies. The performance factor is calculated on a per grid service per event basis.

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[180]Companies Updated Refined Proposal at 72.

[181]CA Refined Proposal at 37.

For the time being, the Commission finds the Companies' suggested approach reasonable, and will adopt the Companies' "performance factor" approach, based on the methodology used for GSPAs, to measure DER systems enrolled in grid services programs that are providing grid services. That being said, the Commission encourages the Companies to work with Parties to better capture the amount of grid services being utilized from DERs to inform future performance mechanism development.[182]

Regarding the DER Curtailment Reported Metric, the Companies propose to report on the curtailed duration and amount (MW) if the participating customer has an advanced meter installed. The Companies also intend to report on curtailment triggered as part of any current tariff requirement, such as is included in the current CGS Plus DER program, as well as any successor DER program that includes the same or similar curtailment requirement. Curtailment resulting from the delivery of grid services would be reported as part of the DER Grid Services Utilization Reported Metric, discussed above.

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[182]See Response to PUC-HECO-IR-71.1(b), filed April 21, 2021 (indicating that the Companies are still "fine-tuning" the GSPA performance assessment methodology, and recognizing that "as new programs are developed, . . . it is only reasonable to assume that these new capabilities would result in the consideration of new methods and measurements to assess DER performance.").

The Commission finds the Companies' clarifications reasonable and has incorporated them into the DER Curtailment Reported Metric. Consistent with the Commission's ruling on the DER Grid Services Capability Reported Metric, above, pending more sophisticated definitions and methodology for categorizing the Companies' DER customers, focusing on those DER customers with advanced meters is the most reliable source of data at this time. In addition, while the Commission does not object to the Companies' intent to report curtailment pursuant to DER program tariff requirements, the Commission clarifies that notwithstanding specific tariff language directing where such information will be filed, the Commission expects that this information will also be reported as part of the Companies' webpage.

7.

Electrification of Transportation

In D&O 37507, regarding the Outcome of *Electrification of Transportation ("EoT")*, the Commission stated that it was "elevat[ing] this outcome for Scorecard development in recognition of the importance of EoT to meeting GHG reduction goals and observing that the Parties broadly support EoT as an area of PIM development."[183] The Commission directed the Parties to focus

[183]D&O 37507 at 158.

on Scorecards that would "inform a future PIM that incents increased [EV] adoption and rapid deployment of EV charging infrastructure, while maintaining grid investment efficiency and integration of EV charging to align with system needs."[184]

In response, the Parties submitted the followingproposals:

Party EoT Scorecard Proposals		
	Metric	Target
Hawaiian Electric[185]	Energy delivered (in kWh) to charge EVs (including e-Buses) For unmeasurable or non-metered charging stations, use Ulupono's methodology of estimating kWh load based on the number of registered EVs, average miles per passenger vehicle, and average efficiency of EVs (miles/kWh)	Companies' forecast for sales from EVs; updated as forecasts change
Consumer Advocate[186]	Number of customers participating in an EV-TOU rate (also proposed for *Customer Engagement*)	75% of the total number of EV cars as reported by DBEDT

[184]D&O 37507 at 158.

[185]Companies Refined Proposal at 38-41.

[186]CA Refined Proposal at 27-29.

	Number and percentage of EV vehicle miles of the Companies' fleet	Should measure whether the Companies are migrating to an EV fleet and whether those EVs are being used to replace fossil fuel vehicles. Additional data required regarding historical data on total vehicle miles, as well as Companies' fleet conversion plans
	kWh delivered to EVs that can be measured by the Companies	Base average usage over the last 12-month period Companies could apply an acceptable inflation factor to set annual target, tied to the estimates used in the Companies' recent EoT-related applications
Blue Planet[187]	Should be coordinated with rate design proposals under consideration in Docket No. 2019-0323 and not preemptively lock in particular tariffs or practices Consider focusing not only on bulk statistics (e.g., total kWh), but metrics promoting further efficiency and equity (e.g., location of EV charging stations, timing of EV charging, types of EVs)	

[187]Blue Planet Updated Refined Proposal at 7–8.

Ulupono[188]	kWh delivered at EV charging stations that are enrolled in existing EV tariffs, and upon approval of proposed EV tariff (i.e., EV-U, EV-F, EV-Bus, EV-Maui, and EV-J/P tariffs) Should reflect sum of the kWh delivered at EV charging stations enrolled in these tariffs	Previous year's value with continual improvement expected
	Total kWh delivered to EVs based on: 1. Number of EVs and average vehicle miles travelled (averages specific to Oahu, Maui, and Hawaii islands); and 2. Average kWh/mile (expected to be approx. 0.31)	EV load as forecasted in Integrated Grid Planning ("IGP") plan for applicable year. Secondary target should be previous year's value with continual improvement expected
	Total number of registered EVs as a percentage of registered light duty passenger vehicles	Total number of EVs and/or penetration, as forecasted in the IGP plan for the applicable year
	Total number and percentage of EVs within the Companies' vehicle fleet by type (i.e., light passenger or heavy duty vehicles)	Degree of compliance with the Companies' internal targets for conversion of vehicle fleet to EVs In the absence of such internal targets, the percentage improvement over the previous year

[188]Ulupono Refined Proposal at 1-3.

Upon review, the Commission establishes the following Scorecards to address this Outcome:

EoT Scorecards		
Fleet Electrification	Metric	Total number of the Companies' light-duty EV miles as a percentage of their total light-duty vehicle ("LDV") fleet miles EVs defined as plug-in hybrid vehicle ("PHEV") or battery electric vehicle ("BEV")
	Target	10% annual increase in EV miles as a share of total LDV miles
Measured EV Load (Energy)	Metric	Measurable energy (kWh) delivered at EV charging stations in approved EV tariffs by time period, to be expanded to include enrollment in any subsequently approved EV tariffs (e.g., EV-U, EV-F, EV-Bus, EV-Maui, EV-J/P) Reported by individual tariff and on a consolidated basis (all tariffs), by island
	Target	(1) Total annual increase in energy (kWh) delivered to EV charging stations and (2) annual decrease in proportion of energy (kWh) delivered to EV charging stations during the on-peak period
Measured EV Load (Demand)	Metric	Average demand (kW) attributable to measured EV charging in approved EV tariffs by hour, to be expanded to include any subsequently approved EV tariffs
	Target	Annual decrease in proportion of average demand (kW) attributable to measurable EV charging during on-peak hours

Estimated EV Load	Metric	Estimated total EV load (kWh), measured by: • Number of registered light-duty EVs and average vehicle miles traveled (specific to Oahu, Maui, and Hawaii islands); • Average kWh/mile (expected to be approx. 0.31); and • Load (kWh) from e-Buses
	Target	EV kWh sales forecasted in the IGP proceeding for the applicable year
EV Count	Metric	Total number of registered light-duty EVs by island as reported by the Department of Business, Economic Development, and Tourism[189]
	Target	EV count as forecasted in the IGP proceeding for the applicable year
Commission Inclination: reported on an annual basis		

In approving these Scorecards for this Outcome, the Commission observes that there is a fair amount of overlap among the Parties' proposed Scorecards for this Outcome, with focus primarily on: (1) electrification of the Companies' fleet; (2) participation in EV tariffs; and (3) total estimated EV load, including e-Buses.

Regarding the electrification of the Companies' fleet, both Ulupono and the Consumer Advocate proposed a version of

[189] See https://energy.hawaii.gov/testbeds-initiatives/ev-ready-program/resources

this Scorecard. The Consumer Advocate makes a compelling argument that the Companies will generate "lessons learned" in the process of converting their own fleet that could be extrapolated to customer charging needs. The Commission agrees, and believes the Fleet Electrification Scorecard can foster increased EV adoption as Hawaiian Electric learns from first-hand experience of converting its own fleet.

In developing the target for the Fleet Electrification Scorecard, the Commission looked to the Companies' public pledge made in August 2020 to have an entirely PHEV or BEV LDV fleet by 2035 and derived annual percentage increases.[190] Further, the Commission believes that this target is consistent with the proposals offered by Ulupono and the Consumer Advocate, who suggested utilizing the Companies' internal targets for electrifying the Companies' fleet. While the Companies objected to both the Consumer Advocate's and Ulupono's proposal for this Scorecard, they nonetheless acknowledged that it was feasible, and did not elaborate on how such a Scorecard was at odds with

[190] https://www.hawaiianelectric.com/hawaiian-electric-pledges-an-all-electric-passenger-fleet-by-2035. The Commission notes that while the Companies' 2035 commitment is focused on EV fleet conversion, the Commission has chosen to adopt a target focused on EV miles to encourage not only the purchases of more EVs, but an increase in the utilization of new and existing EVs, as well.

D&O 37507.[191] Tracking the Companies' progress in electrifying their LDVs will help ensure that the Companies realize opportunities to gain valuable information regarding the needs and supporting infrastructure for the largest category of EVs in Hawaii.[192]

Regarding participation in EV tariffs, the Measured EV Load (Energy) and Estimated EV Load Scorecards largely incorporate many of the Parties' proposals and will, collectively, capture both measured and unmeasured load, in kWh, used to charge EVs. While the Companies' proposal effectively combined these two into a single Scorecard, Ulupono clarified that the Companies' use of Ulupono's methodology in their proposal would not be appropriate for measuring actual metered EV load and estimated EV load.[193]

Ultimately, the Commission agrees that there is value in reporting on the amount of load that is used to charge EVs, and that these metrics will help the Companies and stakeholders better understand EV charging needs. In terms of targets, the Measured EV Load (Energy) Scorecard, which tracks kWh load used to charge EVs, reflects an expectation of annual improvement by seeking to

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[191]Companies Updated Refined Proposal at 53-54 (the Companies made identical objections to both the Consumer Advocate's and Ulupono's proposal regarding fleet electrification).

[192]Compared to medium- or heavy-duty vehicles, which comprise a significantly smaller proportion of the EV population in Hawaii.

[193]See Ulupono Updated Refined Proposal at 3.

increase the amount of kWh sent to EV charging stations while proportionately reducing energy delivered during peak hours, which should urge the Companies to continually seek better means of reaching EVs and encouraging more efficient charging behavior. In comparison, the Estimated EV Load Scorecard, which provides an estimate of the total energy delivered to charge EVs that captures unmeasurable electricity to EVs (outside of EV programs) or charging that occurs at non-metered charging stations, is based on the Companies' forecasts (GWh), by island, out of recognition of the inherent difficulty with measuring unmetered load. While less precise than the Measured EV Load (Energy) Scorecard, the Commission believes the Estimated EV Load Scorecard will still provide valuable information regarding EV use that will contribute to greater understanding of EVs in Hawaii.

In addition to adopting Scorecards focused on tracking the amount of kWh delivered to EVs, the Commission is also interested in tracking the hourly demand impacts of EV charging, as reflected in the Measured EV Load (Demand) Scorecard. In terms of targets, the Measured EV Load (Demand) Scorecard complements the Measured EV Load (Energy) Scorecard by encouraging Hawaiian Electric to continually decrease the proportionate demand EV charging places on the system during peak hours. Going forward, as EV adoption increase in Hawaii, it will be important that EV charging does not result in additional peak period constraints.

The information from this Scorecard will help the Commission, Parties, and other stakeholders better understand the average daily load shape of EV charging and how much EV charging is being done during and outside peak demand hours, which will help inform resource and system planning, as well as the design of future EV and TOU tariffs.

In addition to the Scorecard proposals above, some of the Parties submitted a number of proposals for Reported Metrics for this Outcome:

Party EoT Reported Metrics Proposals	
	Metric
Consumer Advocate[194]	Total kWh delivered at smart charging rates at charging stations measurable by the Companies
COH[195]	Customer education on benefits and costs of ownership for EVs and electric fleets
	Value of utility demand charge offsets for public chargers (reduced over time as market becomes more competitive)
	Innovative EV TOU rates
	Managed charging programs/incentives
	Shared fueling hubs for Ride Share Only (with stored energy capabilities)
	Metered kWh produced at EV charging stations enrolled in existing EV tariffs (EV-U, EV-Maui, EV-F, EV-Bus, EV-J, and EV-P)

[194]CA Refined Proposal at 38.

[195]COH Refined Proposal at 17-18.

Ulupono[196]	Metered kWh to EVs plus total estimated kWh to EVs
	Estimated GHG avoidance from EVs based on average internal combustion engine vehicle efficiency

Upon review, the Commission establishes the following Reported Metric to address this Outcome:

EoT Reported Metric	
	Metric
Ride Share Fueling Hubs	Number of shared fueling hubs for Ride Share Only (with stored energy capabilities)
Commission Inclination: reported on an annual basis	

The Commission acknowledges that it received a number of Party proposals addressing this Outcome, both for Scorecards and Reported Metrics. While the Commission focused on proposals that were more developed and better positioned to measure the Companies' performance in key areas in selecting Scorecards, it recognizes that there were some additional proposals that the Commission deems valuable to carry forward as Reported Metrics. In selecting the Reported Metric, above, the Commission is intrigued by the COH's proposal, and believes it will help provide a broader perspective into electrified transportation by focusing on an aspect that is not otherwise captured by the approved *EoT* Scorecards. Additionally, this metric focuses on accessibility of electrified

[196]Ulupono Refined Proposal, Exhibit A at 3-4.

transportation options for all customers, regardless of vehicle ownership.

The Commission is interested in further exploring Ulupono's proposed EV Avoided GHG Reported Metric, which has the potential to yield information valuable to understanding the role of electrified transport in reducing GHG emissions, and could support the Commission and stakeholder efforts in addressing the impact of future EV programs, pilots or otherwise, in the broader context of GHG emission reductions.

However, the Commission believes that the formula proposed by Ulupono[197] requires further deliberation and refinement by the Parties. As proposed, the formula is as follows:

Emissions Avoided from not Burning Gasoline:

(Number of LDV EVs) * (Average VMT of LDV in miles) / (Average LDV fuel efficiency in miles/gallons) * (CO2 content of gallon of gas in lbs./gallons)

[-]

Emissions from Grid to Charge EVs:

(Number of LDV EVs) * (Average VMT of LDV in miles) * (0.31 kWh/mile) * (Average CO2 lbs./kWh for grid power)

While it is inevitable that estimations will need to be utilized in any formula derived for this metric, the Commission's

[197]See Ulupono Refined Proposal, Exhibit A at 3.

primary concern relates to the use of a term that measures "Average CO_2 lbs/kWh for grid power." In order to better capture the avoided emissions resulting from EVs, the Commission believes there should be a more accurate representation of CO_2 emissions resulting from the marginal increase in demand due to EV charging, rather than simply using the average CO_2 impact per kWh. As such, the Commission encourages the Post-D&O Working Group to explore refined or alternative methodologies that can better reflect CO_2 emissions from generating source that are operating on the margin aligned with EV charging profiles. An updated version of this methodology may be incorporated into future performance mechanisms proposals from the Post-D&O Working Group.

8.

Greenhouse Gas Reduction

In D&O 35707, the Commission identified *Greenhouse Gas ("GHG") Reduction* as an Outcome for Scorecard development, stating that proposal should, at a minimum, include declining targets related to: (1) Absolute emissions; and (2) Emissions intensity.[198]

In response, the Parties proposed the following Scorecards:

[198]D&O 37507 at 158.

Party GHG Reduction Scorecard Proposals		
	Metric	Target
Hawaiian Electric[199]	GHG emissions in CO_2e[200] emission per year in metric tons (excluding biogenic CO_2) from all major sources that supply electricity to Oahu, Maui, and Hawaii island grids on a consolidated basis	Reductions from a 2010 baseline; 2020 goal based on Department of Health ("DOH") rules, subsequent targets set consistent with RPS goals for 2030, 2040, and 2045 (and interpolated between milestones)
	Emissions intensity in CO_2e intensity per year in grams/kWh. Calculated as Absolute Emissions/Total kWh (as reported for RPS-A PIM)	Reductions from a 2010 baseline; 2020 goal based on DOH rules, subsequent targets set consistent with RPS goals for 2030, 2040, and 2045 (and interpolated between milestones)
Consumer Advocate[201]	Annual GHG emissions/MWh (or kWh)	Projected intensity for the given year as compared to the reported intensity
Blue Planet[202]		Straight-line decline to the carbon neutral goal in 2045
COH[203]	GHG intensity measured at unit, fleet, and grid levels.	

[199]Companies Refined Proposal at 36-38.

[200]Carbon dioxide equivalent.

[201]CA Refined Proposal at 26.

[202]Blue Planet Updated Refined Proposal at 7.

[203]COH Refined Proposal at 19-20.

	Alternatively, at a minimum, measure GHG intensity from the full electrical system (including all generation and all loads)[204]	

Upon review, the Commission establishes the following Scorecards to address this Outcome:

GHG Reduction Scorecards		
GHG Emissions	Metric	GHG emissions in CO_2e emissions per year in metric tons, reflecting emissions that both include and exclude biogenic CO_2e
	Target	A straight-line reduction from 2019 GHG emissions to the 2045 target of carbon neutrality
GHG Intensity	Metric	Emissions intensity in CO_2e per year in grams/kWh, reflecting emissions that both include and exclude biogenic CO_2e Calculated as absolute emissions/total kWh (as reported for RPS-A PIM)
	Target	A straight-line reduction from 2019 carbon intensity levels to the 2045 target of carbon neutrality
Commission Inclination: reported on an annual basis		

[204]Calculated as:

$$\text{Carbon Intensity} = \frac{\text{carbon measured from all central and distributed assets connected to the grid}}{\text{Total energy use of customers}}$$

As reflected in the summary of the Parties' proposals, the Parties responded directly to D&O 37507 by suggesting Scorecards that measure both reductions in absolute GHG emissions, generally expressed in terms of carbon dioxide equivalent ("CO_2e"), and GHG intensity, generally expressed in terms of emissions per kWh or MWh.

Regarding absolute emissions, only Hawaiian Electric proposed a Scorecard, which measures "CO_2e emission per year in metric tons (excluding biogenic CO_2) from all major sources that supply electricity to Oahu, Maui County and Hawaii island grids on a consolidated basis . . . ."[205] Hawaiian Electric proposes to measure its performance in reducing total GHG emissions against a combined target initially based on DOH mandated GHG reductions for 2020, and then based on the State's RPS goals.

The Commission is concerned that setting the targets for this Scorecard based on mandated RPS targets does not necessarily reflect "exemplary performance," which implies performance beyond what is otherwise required. Accordingly, the Commission adopts the more ambitious annual targets suggested by Blue Planet, based on a straight-line reduction in CO_2e emissions (metric tons) from

[205]Companies Updated Refined Proposal at 48.

2019 levels to the 2045 goal of carbon neutrality.[206] The table below outlines the annual targets consistent with this approach:

GHG Emissions Scorecard Annual Targets[207]

Year	Target (% reduction from 2019)	Target (Metric Tons CO2e)	Performance (Metric Tons CO2e)
2019	**N/A**	**N/A**	**6,764,430**
2020	3.8%	6,504,260	
2021	7.7%	6,244,089	
2022	11.5%	5,983,919	
2023	15.4%	5,723,748	
2024	19.2%	5,463,578	
2025	23.1%	5,203,408	
2026	26.9%	4,943,237	
2027	30.8%	4,683,067	
2028	34.6%	4,422,897	
2029	38.5%	4,162,726	
2030	42.3%	3,902,556	
2031	46.2%	3,642,385	
2032	50.0%	3,382,215	
2033	53.8%	3,122,045	
2034	57.7%	2,861,874	
2035	61.5%	2,601,704	
2036	65.4%	2,341,533	
2037	69.2%	2,081,363	
2038	73.1%	1,821,193	
2039	76.9%	1,561,022	
2040	80.8%	1,300,852	
2041	84.6%	1,040,682	
2042	88.5%	780,511	
2043	92.3%	520,341	
2044	96.2%	260,170	
2045	**100.0%**	0	

For GHG Intensity, in terms of metrics, there is a large degree of overlap among the Parties, with Hawaiian Electric, the Consumer Advocate, and COH proposing that GHG emissions intensity be measured as carbon emissions per unit of generated energy (expressed in either kWh or MWh). However, there is some

[206]Blue Planet Updated Refined Proposal at 7; see also, HRS Chapter 225P.

[207]Response to PUC-HECO-IR-69, filed April 21, 2021, Attachment 1 at 1.

ambiguity as to whether the Companies' proposed metric excludes biogenic CO_2[208]; conversely, the Consumer Advocate clarified that it believes that the metric should include data with and without biogenic CO_2e.[209] Further, the COH proposed an alternative metric intended to capture "emissions from the full electrical system, including all generation and all loads," which appears to measure carbon intensity based on customer energy usage (versus energy generation).[210]

In terms of targets, both the Companies and the Consumer Advocate suggest slightly different baselines, with the Companies utilizing the DOH's emissions requirements for 2020, followed by targets based on interpolated RPS goals,[211] whereas the Consumer Advocate suggests using a "projected intensity" which "might focus on the estimated GHG emissions based on the most recent forecasted demand multiplied by the average GHG emissions expected to be generated by the percentage of generation

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[208]For their Absolute Emissions Scorecard, the Companies explicitly propose excluding biogenic CO_2; however, for their GHG Intensity Scorecard, they merely refer to "CO_2 intensity per year in grams/kWh." Companies Updated Refined Proposal at 49-50. It is unclear if the Companies intended for their earlier suggestion to exclude biogenic CO_2 for GHG Total Emissions to be carried over to their companion proposal for Emissions Intensity.

[209]Response to PUC-CA-IR-9(a), filed April 21, 2021.

[210]COH Refined Proposal at 19-20.

[211]See Companies Updated Refined Proposal at 49-50.

anticipated to be provided from fossil-fuel resources."[212] While not offering a specific metric, Blue Planet submits that targets reflect a straight-line decline to the State's goal of carbon neutrality in 2045.[213] The COH did not offer targets for its proposed GHG Reduction Scorecards.[214]

As reflected in the GHG Intensity Scorecard approved above, the metric will report CO_2e data that reflects emissions both including and excluding biogenic CO_2, consistent with the Consumer Advocate's recommendation. Notwithstanding that biogenic emissions are considered generated from "renewable energy" for purposes of the State's RPS,[215] the Commission believes that reporting on biogenic CO_2 may also be valuable, as electricity generation from sources including biogas, biomass, and biofuel still typically involves the combustion of materials that result in carbon emissions. Data on the amount and nature of biogenic CO_2 emissions may help inform the utility and stakeholders of the consequences of utilizing such resources, as compared to other renewable resources.

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[212]See CA Refined Proposal at 26.

[213]Blue Planet Updated Refined Proposal at 7.

[214]See COH Refined Proposal at 19-20.

[215]See HRS § 269-91.

Similar to the GHG Emissions Scorecard, the GHG Intensity Scorecard will incorporate Blue Planet's proposed approach to encourage performance beyond what is mandated by existing regulations, as reflected in the targets presented below:

GHG Intensity Scorecard Targets[216]

Year	Target (% reduction from 2019)	Target (g/kWh)	Performance (g/kWh)
2019	N/A	N/A	**653**
2020	3.8%	628	
2021	7.7%	603	
2022	11.5%	578	
2023	15.4%	553	
2024	19.2%	527	
2025	23.1%	502	
2026	26.9%	477	
2027	30.8%	452	
2028	34.6%	427	
2029	38.5%	402	
2030	42.3%	377	
2031	46.2%	352	
2032	50.0%	327	
2033	53.8%	301	
2034	57.7%	276	
2035	61.5%	251	
2036	65.4%	226	
2037	69.2%	201	
2038	73.1%	176	
2039	76.9%	151	
2040	80.8%	126	
2041	84.6%	100	
2042	88.5%	75	
2043	92.3%	50	
2044	96.2%	25	
2045	**100.0%**	0	

[216]Response to PUC-HECO-IR-69, Attachment 1 at 2.

As with the GHG Emissions Scorecard, the Commission may re-visit this GHG Intensity Scorecard throughout the MRP and potentially adjust the target, as appropriate.

In addition to the Scorecard proposal above, the Parties proposed a number of Reported Metrics to address this Outcome:

Party GHG Reported Metrics Proposals	
	Metric
LOL[217]	Total kWh delivered to EVs by vehicle type by island
	Total number of EVs by vehicle type by island
	EV miles driven by vehicle type by island
	GHG reduction due to EoT
	Average upstream (production, transportation, refining) GHG emissions by fossil fuel type (metric tons of CO_2e emissions)
	Number of multi-unit buildings that switch between gas and electric
Ulupono[218]	GHG reduction due to proposed EoT metric (metered kWh to EVs plus total estimated kWh to EVs)

Upon review, the Commission declines to adopt any of the proposed Reported Metrics for *GHG Reduction* at this time. In so deciding, the Commission observes that many of these proposals are essentially captured by the suite of Scorecards and

[217]LOL Refined Proposal at 5.

[218]Ulupono Refined Proposal, Exhibit A at 4.

Reported Metrics approved for the *EoT* Outcome, discussed above, and additional reporting on this issue is not necessary at this time.

9.

Grid Investment Efficiency

In D&O 37507, the Commission identified the Outcome of *Grid Investment Efficiency* as ripe for development of Reported Metrics and offered that proposals should focus, at a minimum, on: total value ($) of deferred and/or avoided investments (e.g., Transmission & Distribution ("T&D")); and total cost ($) of NWAs procured.[219]

In response, the Parties submitted the following proposals:

Party Grid Investment Efficiency Reported Metrics Proposals	
	Metric
Hawaiian Electric[220]	Total cost ($) of NWAs deployed by the utility or acquired through a program or procurement, which are owned or operated by the utility or third-party that defers or avoids a conventional T&D infrastructure investment
	Total value ($) of deferred and/or avoided T&D capital investments due directly or indirectly to the installation or acquisition of an NWA deployed by the utility or acquired through a customer program or competitive procurement;

[219]D&O 37507 at 159-160.

[220]Companies Refined Proposal at 46-47.

	reported annually by T&D capital investment with a description of the NWA that enabled the deferral, and by service territory
Consumer Advocate[221]	Total value ($) of projects/programs where the Companies seek an NWA solution compared to a traditional project or program.
	Annual savings from NWA solutions as compared to traditional solutions
	Annual savings from NWA solutions as compared to estimated savings the NWA solutions
COH	Recommends *DER Asset Effectiveness* metrics described in D&O 37507 be reconsidered and moved within a PIM framework for grid services

Upon review, the Commission establishes the following Reported Metrics to address this Outcome:

Grid Investment Efficiency Reported Metrics	
	Metric
Avoided T&D Investment	Total value ($) of deferred and/or avoided T&D capital investments due directly to the installation or acquisition of an NWA, reported annually by T&D capital investment with a description of the NWA that enabled the deferral, by service territory.
NWA Total Cost	Total cost ($) of NWAs deployed by the utility or acquired through a program or procurement, which are owned or operated by the Companies or third-party that defers or avoids T&D capital investment, reported annually by capital investment and service territory
Commission Inclination: reported on an annual basis	

[221]CA Refined Proposal at 38-39.

In approving the above Reported Metrics, the Commission observes that the Parties again responded directly to the guidance provided in D&O 37507, and proposed Scorecards addressing NWA costs and the value of deferred/avoided T&D capital investments. Relatedly, the Commission observes that there is noticeable overlap among the Parties' proposals.

The Avoided T&D Investment Reported Metric is intended to track the value of T&D capital investments that would otherwise be made by the Companies but have been deferred or avoided due to the successful installation or acquisition of an NWA. The Companies and the Consumer Advocate have both suggested metrics to capture this, which informed the Commission's selected metric description, as set forth above.

The Commission appreciates the attempt by the Companies to incorporate greater detail into their proposed metric, but is not persuaded that the metric should include deferred or avoided T&D investment due "indirectly" to acquisition of NWAs. This may inadvertently cloud data tracked by this metric, as it is unclear what this may encompass, and may capture avoided capital investments that are based on decisions wholly unrelated to NWAs, as there need only be an "indirect" relation. As the intent of this metric is to collect data on T&D capital investments deferred or avoided by NWAs, the Commission believes that a metric focused exclusively on avoided or deferred investments directly

attributable to NWAs is appropriate for the initial version of this Reported Metric.

Regarding the NWA Total Cost Reported Metric, the Commission largely has adopted the Companies proposal, which is consistent with D&O 37507, but adds greater detail to the scope of the metric. Upon review, the Commission finds the Companies' additions reasonable, as the distinction between NWAs "deployed," versus "procured," does not seem objectionable. Likewise, the clarified scope of the metric to include both NWAs deployed by the utility and those contracted for with third-parties does not seem objectionable, and appears consistent with the Reported Metric's goal of tracking NWA costs.

In response to the Consumer Advocate's proposal to measure annual savings from NWAs, the Commission observes that this information will be reflected through the Avoided T&D Investment and NWA Total Cost Reported Metrics. That being said, as annual savings from NWAs can be derived from these metrics with relatively little additional effort, the Commission believes that it would be useful for the Companies to incorporate this data when reporting its Avoided T&D Investment and NWA Total Cost Reported Metrics on the Companies' webpage.

10.

Interconnection Experience

D&O 37057 expressed the Commission's interest in developing proposals for *Interconnection Experience* that "should[,] at a minimum[,] include Scorecards related to:

- Time and cost to connect to the network, by DER and [IPP].
- Customer satisfaction results for both DER and IPP interconnections.
- Truck roll-related/responsiveness times for both DER and non-DER customers."[222]

In response, the Parties submitted the following proposals:

Party Interconnection Experience Scorecard Proposals		
	Metric	Target
Hawaiian Electric[223]	Time for DER customers to interconnect and energize their systems (already to be tracked as part of Interconnection Approval PIM)	
	IPP time to interconnect; track time attributable to the Companies to complete tasks in the process	

[222]D&O 37507 at 157.

[223]Companies Refined Proposal at 26-29.

	flow for Stage 2, CBRE, and Stage 3 RFP	
	IPP cost to interconnect: • Cost of company-owned interconnection facilities paid for by IPP, but designed by Companies • Costs for the Interconnection Requirements Study	
	DER customer satisfaction; surveys to DER customers who have interconnected their systems	Send surveys to 100% of DER customers
	IPP satisfaction; survey sent to IPPs after projects are in service	Conduct surveys with all new IPPs within six months of commercial operations
	Truck roll-related responsiveness: average number of business days to complete work related to meter replacements that are within the Companies' control. Applicable to DER and non-DER customers	10 business days or 14 calendar days
Blue Planet[224]	Objective, third-party system for conducting customer and developer satisfaction surveys, based on best practices	

[224]Blue Planet Updated Refined Proposal at 5.

Upon review, the Commission establishes the following Scorecards to address this Outcome:

Interconnection Experience Scorecards		
Total DER Interconnection Time	Metric	The Companies' respective average (mean) total number of calendar days to interconnect DER systems <100 kW in size, in a calendar year (in determining the average number of days, the Interconnection Approval PIM's "Updated Adjusted Average" methodology shall be utilized)
	Target	2021: 115 days 2022: 100 days 2023: 85 days
IPP Experience	Metric	Percentage of IPP surveys sent within six months and results provided in full and in summary to the Commission annually
	Target	100 percent of surveys sent and completed
Truck Roll Response Time	Metric	Truck roll-related response times, related to steps within the Companies' control, for meter change-outs for DER and non-DER customers, by individual Company
	Target	10 business days or 14 calendar days
Commission Inclination: reported on an annual basis		

As the Commission has previously stated on numerous occasions, faster interconnection times for DER customers are a

critical component of the interconnection experience. While the Interconnection Approval PIM incents faster interconnection times for DER customers, it only tracks and incents improvement for those steps in the interconnection process that are within the Companies' control, which represents only a portion of the total time to interconnect. The Total DER Interconnection Time Scorecard is intended to supplement the Interconnection Approval PIM by tracking the total DER interconnection time, inclusive of all steps in the process. In taking this approach, the Commission notes that this holistic view of DER interconnection is more representative of the customer experience and may encourage the Companies to work with outside entities to improve the entire interconnection process, including steps outside of the Companies' control.

The Total DER Interconnection Time Scorecard is aligned with the Interconnection Approval PIM, as it will evaluate the average (mean) time to interconnect for DER systems <100 kW in size, in a calendar year. The Scorecard will be applied to each of the Companies' performances, respectively, but each Company will have the same targeted level of performance. Consistent with the above modifications to the Interconnection Approval PIM, for this Scorecard, the average time will utilize the "Updated Adjusted Average" method (i.e., be adjusted to cap all system interconnection times at two standard deviations above

the mean equal). The resulting targets, listed above, are informed by the "Updated Adjusted Averages" for the total time it took DER systems to be interconnected in 2018, 2019, and 2020, and improvement required to meet Tier 1 targeted performance for the Interconnection Approval PIM.

Relatedly, the IPP Experience Scorecard is intended to measure the experiences that IPPs have interacting with the Companies. Given the expectation that renewable energy will need to be brought online more expeditiously to meet the State's clean energy goals, the Commission notes that IPP interconnection has been a significant barrier to IPP project development to date[225] and that improvement is critical in this area. For this reason, the Commission intends to begin collecting data through the IPP Experience Scorecard, as well as through Reported Metrics discussed below, to determine where improvements can be made.

In addition, the Commission on prior occasions has utilized performance mechanisms to incent accelerated procurement of grid-scale utility resources,[226] and may wish to explore incentive mechanisms related improving interconnection of IPP projects. The IPP Experience Scorecard can help provide data that

[225] See generally, Docket No. 2021-0024.

[226] See Docket No. 2017-0352.

can be used to inform appropriate baselines and thresholds for a future PIM or SSM.[227]

The Commission recognizes that IPP interconnection processes and timelines may be unique depending on the specific project circumstances, but continues to emphasize the need for improvement throughout this process for systems of all types. The Commission is adopting the Companies' proposal for a Scorecard related to IPP Interconnection satisfaction,[228] as reflected above, which should accommodate for some of these project differences.[229]

The Commission has also included the Truck Roll Response Time Scorecard to track responsiveness times of the Companies where truck rolls are necessary to provide services for both DER and non-DER customers. In providing a PIM for expediting interconnection of DERs (i.e., the Interconnection Approval PIM), the Commission does not want service for customers without DERs to deteriorate. For this reason, the Truck Roll Response Time Scorecard includes a metric that will track response times for

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[227]See D&O 37507 at 151-152 (stating that the Commission will continue to consider performance mechanism to incent efficient and cost-effective procurement of renewable generation and NWAs).

[228]See Companies Updated Refined Proposal at 35-36.

[229]See Companies Updated Refined Proposal at 36 ("This Scorecard would allow the Companies to set a baseline for the IPP interconnection process which is inherently different for each project depending on the size, location, and project technology. Savings Mechanisms may be appropriate for this process.").

both DER and non-DER customers, with the same target performance times that are based on the Companies' current internal Meter Shop targets.[230] The Truck Roll Response Time Scorecard utilizes meter replacements as a metric, as the Companies have identified meter replacements as the only source of truck rolls "that occur for all DER customers that also impact non-DER customers . . . ."[231] The Commission agrees that time for meter change-outs is the most relevant service to customers without DERs to track under this Scorecard.

At this time, the Commission will not adopt a Scorecard related to cost to interconnect for DER customers. The Companies state that there is no cost to DER customers to interconnect, except on rare occasions when a customer opts to proceed with an interconnection study, rather than activating volt-watt advanced inverter settings, which incurs no direct costs to customers.[232] In light of the above, the Commission agrees that this metric is not appropriate at this time.

Additionally, the Commission does not find the proposals for a DER Interconnection Satisfaction Scorecard ready for implementation at this time, but directs the Companies to

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[230]See Companies Updated Refined Proposal at 37.

[231]Companies Refined Proposal at 28.

[232]Companies Updated Refined Proposal at 34-35.

collaborate with the DER Parties to develop a metric and target for this Outcome, given its importance. If the Scorecard relies on a survey, the Commission also directs this to be developed collaboratively. In its assessment of the proposals presented, the Commission notes that surveys the Companies have sent to DER customers in the past have provided valuable information for improvement.[233] However, as noted by the DER Parties, as well as represented in responses to the Companies' summary of DER survey results,[234] customers are largely only interacting with contractors and a survey to customers may not reflect Company performance, but rather, contractor performance. The Commission notes that a survey to contractors may be more effective in evaluating utility performance on interconnection, but that such a survey may not reflect customer satisfaction as is the desired outcome of such a Scorecard. Accordingly, the Commission will rely on the expertise of the DER Parties and the Companies to develop a Scorecard for this Outcome. This approach aligns with Blue Planet's proposal for this Outcome.

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[233]Companies Updated Refined Proposal at 35.

[234]See Response to PUC-DER-Parties-IR-03, filed April 21, 2021; and Response to PUC-HECO-IR-68, filed April 21, 2021.

In addition to the proposed Scorecards discussed above, the Parties submitted a number of proposed Reported Metrics addressing this Outcome:

Party Interconnection Experience Reported Metrics Proposals	
	Metric
LOL[235]	Number and percentage of delays caused by the following major types of causes, and average length of delay by type: • IPP opted to use different technology • IPP required by utility to use different technology • IPP sought to satisfy community concerns
	Number of projects requiring discretionary land use permits issued by the Land Use Commission or the Board of Land and Natural Resources
	Number of proceedings where the Companies overly use confidentiality to delay the proceeding
Ulupono[236]	Average length of time required for completion of 1-5 MW, 6-10 MW, and >10 MW utility scale project Interconnection Requirements Study
	Average cost of interconnection for 1-5 MW, 6-10 MW and >10 MW utility scale solar + storage projects
	Number of times the cost of interconnection has exceeded the estimated cost of interconnection for utility scale IPP projects

As stated above, the Commission recognizes that IPP interconnection processes and timelines may be unique depending on

[235]LOL Refined Proposal at 3.

[236]Ulupono Refined Proposal, Exhibit A at 4.

specific project circumstances. The Commission also acknowledges that increasing levels of intermittent renewables will likely introduce new complexities to the interconnection process that the Companies will need to overcome. On this subject, the Commission is encouraged by the Companies' remarks that they "have grown and learned over time," and that "[i]mprovements that have already been made include the development of base cases, more robust circuit information, data, and topographies, and these lessons learned have addressed some of the past bottlenecks."[237]

Given these dynamics, and recognizing the challenges associated with setting common baselines, averages, and targets for IPP projects, the Commission is adopting several Reported Metrics related to interconnection time and cost for each IPP project that achieves commercial options. These metrics are intended to provide greater transparency into the IPP interconnection process to identify additional opportunities for improvement. As such, the Commission establishes the following Reported Metrics by project to address this Outcome:

Interconnection Experience Reported Metrics	
	Metric
IPP Interconnection	For each IPP Project with a Power Purchase Agreement approved by the Commission: • Project name

[237]Response to PUC-HECO-IR-68.

	• Island
	• Technology
	• Procurement type
	• Size (MW)
	• Interconnection voltage
	• Time to interconnect by step (steps both in and out of the Companies' control, to the extent known), beginning when the PPA is executed and ending when the project achieves commercial operations
	• RFP unit cost information
	• Cost to interconnect, including:
	  ○ Original Interconnection Requirements Study ("IRS") deposit
	  ○ IRS advanced payments
	  ○ IRS actual costs (including System Impact Study and Facility Study) and other costs (including taxes)
	  ○ Company-owned interconnection facilities
	  ○ Estimated interconnection costs
	  ○ Actual interconnections costs
	  ○ Delta between estimated and actual costs
	  ○ Any other relevant interconnection costs not captured in this list, recognizing that the interconnection process is rapidly evolving

Interconnection Cost Overrun	The percentage of times the cost of interconnection has exceeded the estimated cost of interconnection for utility scale IPP projects.
Commission Inclination: reported on an annual basis IPP Interconnection additionally reported/updated as new IPP projects are brought online	

The above metrics align with the information already tracked by the Companies for IPP projects and captures information relevant to many of the proposals from Parties related to

this Outcome. Combined with the information to be reported from the IPP Experience Scorecard, as well as through other Commission proceedings (e.g., Docket No. 2021-0024), these Reported Metrics should assist in developing a broader and more transparent understanding of the issues related to bringing IPP projects online. This pool of data may then be used to identify opportunities for improvement and potential incentive mechanisms in the future.

11.

Resilience

In the Staff Proposal, Commission staff called attention to the importance of monitoring the resilience of Hawaii's electric system. The Staff Proposal defined resilience as, "the ability of a system or its components to adapt to changing conditions, as well as withstand and rapidly recover from disruptions."[238] The Staff Proposal further noted that resilience is increasing in importance for Hawaii given its geographic isolation, the increasing threat of natural disasters and climate change, as well as many other risk factors such as cybersecurity attacks and aging infrastructure. D&O 37507 continued to identify the

[238]Staff Proposal, Appendix A at 5.

Outcome of *Resilience* as ripe for development of Reported Metrics to be included in the PBR Framework's initial portfolio.

In response, the Parties submitted the following proposals:

Party Resilience Reported Metrics Proposals	
	Metric
Hawaiian Electric[239]	Number of employees completing National Incident Management System ("NIMS") Incident Command System 100, 200, and 300 certifications
	Total number of employees that have attended Emergency Response Training, annually
Consumer Advocate[240]	Percentage of circuits with intelligent reclosers
	Percentage of circuits with automation/remote control equipment, and/or remote monitoring functionality
	Total amount of time that critical loads are without power in a year
COH[241]	Cumulative customer-hours without power
	Cumulative customer-hours that critical services are without power (public services, hospitals, fire, police, military, etc.)
	Economic impact of outages
	Avoided outage cost
	Speed and extent to which outages are recovered from

[239]Companies Refined Proposal at 48.

[240]CA Refined Proposal at 39-40.

[241]COH Refined Proposal at 21.

	Ability for system to respond to rapid shocks as measured by response to disturbances and stabilization of voltage and frequency
	Number of training events and personnel trained, such as simulations and tabletop exercises with stakeholders
LOL[242]	Percentage of substations and power plants in the Sea Level Rise Exposure Area, by island
	Percentage of distribution outages on lines with deferred maintenance, by island
	Percentage of transmission and sub-transmission outages on lines with deferred maintenance, by island
	Percentage of transmission grid that can be maintained via Live Wire Maintenance, by island
Ulupono[243]	Vulnerability assessments of quantified forecasted impacts to poles, wires, generation facilities and related infrastructure, as measured by the estimated loss of load or service due to: • Downed transmission or distribution circuit poles and lines form specified ranges of wind speeds; or • Damage to coastal utility infrastructure from a specified range of storm surge

Upon review, the Commission establishes the following Reported Metrics to address this Outcome:

[242]LOL Refined Proposal at 8.

[243]Ulupono Refined Proposal, Exhibit A at 4-5.

Resilience Reported Metrics	
	Metric
Critical Load	Total amount of time that critical loads[244] are without power in a year
NIMS Certification	Total number of employees completing National Incident Management System Incident Command System 100, 200, and 300 certifications
Emergency Response Training	Total number of employees that have attended emergency response training, annually
Commission Inclination: reported on an annual basis	

Upon reviewing the Parties' proposals, the Commission observes that their suggestions fall under three general categories: employee training, planning and maintenance of the grid, and service disruptions to customers. In establishing the initial Reported Metrics for this Outcome, the Commission has attempted to include metrics from the proposals that most meaningfully measure the resilience of the system in different dimensions, those that are logistically feasible to report on, and areas where multiple Parties agreed on metrics.

Turning to the first category, the NIMS Certification and Emergency Response Training Reported Metrics will track whether the Companies are diligently ensuring that critical

[244]As defined by the IGP Resilience Working Group and adopted by the Companies. See Response to PUC-HECO-IR-71.2, filed April 21, 2021.

employees are trained in responding to unexpected emergencies to the grid. Regarding the NIMS Certification Reported Metric, the Companies state that "[t]he electric utility industry is moving toward adoption of NIMS as the standard for Emergency Response to better align with FEMA/Federal Response."[245] As for the Emergency Response Training Reported Metric, even non-NIMS certified employees "have a role to play in emergency response[,]" and "annual training for Incident Command system roles and an exercise are important to maintain proficiency."[246] This Reported Metric is also consistent with the COH's proposal.

Regarding planning and maintenance of the grid and service disruptions to customers, the Commission has elected to proceed solely with the Critical Load Reported Metric at this time. While appreciative of all the proposals submitted by the Parties, upon review, the Commission observes that metrics measuring grid maintenance and service disruption overlap to a certain degree with service reliability, as noted by the Companies,[247] which are captured by the Companies' existing Reliability PIMs (measuring

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[245]Companies Refined Proposal at 48.

[246]Companies Refined Proposal at 48.

[247]See Companies Updated Refined Proposal at 69-70.

SAIDI and SAIFI[248]). Additionally, while potentially feasible, it appears that other proposals could benefit from further development, to incorporate more specificity.

That being said, the Commission believes that the Critical Load Reported Metric is an appropriate starting point to begin tracking the resilience of the Companies' system and narrowly focuses on the system's resilience in preserving service to critical loads. As the Consumer Advocate states, this metric "will make sure that the Companies are ensuring that their outreach, communication, and coordination with the critical facilities are occurring," and will provide useful information to stakeholders and government leaders "to assess the level of Hawaii's readiness for a catastrophic event."

In this sense, the focus on critical loads supports this more specific need for information, which may not be readily apparent or accessible from broader data submitted under the SAIDI and SAIFI PIMs. Additionally, the definition of "critical loads" should be based on the Companies' current practices which are aligned with the IGP resilience working group ("RWG") framework.[249] Hawaiian Electric is a member of the RWG, and this approach will

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[248]System Average Interruption Duration Index and System Average Interruption Frequency Index, which measure, respectively, the duration and frequency of service interruptions.

[249]Response to PUC-IR-71.2.

thus track "critical loads" that are aligned with the Companies' grid planning efforts.

Further, the Companies note that they, "are in the process of developing a more detailed deployment plan for future meter deployment areas which will take into consideration critical loads," to be filed by June 30, 2021. The Commission recognizes the Companies' concerns that such a metric is "not quantifiable through reasonably available data," but "may be technically feasible in the future after broader smart meter deployment,"[250] and encourages the Companies to prioritize critical loads in their meter deployment plans. In response to the Companies' concerns that critical load outages may be attributable to events unrelated to performance, the Commission observes that this information may still be valuable, in that it may help the Companies identify areas that are more vulnerable and warrant additional grid hardening improvements.

[250] See Companies Updated Refined Proposal at 67.

E.

Next Steps

1.

Draft Tariffs

The Companies shall submit draft tariffs consistent with this Decision and Order within one week of this Decision and Order. Thereafter, the Commission will issue an order addressing the Companies' draft tariffs.

2.

Webpage Development

Pursuant to D&O 37507, the Companies are updating their website to include a webpage[251] "that will serve as a repository for the final, approved portfolio of Scorecards and Reported Metrics."[252] Further, "[t]his webpage should also include all other reporting requirements, across all Commission proceedings, to streamline this reporting process and facilitate easy access to this information by stakeholders."[253]

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[251]The Commission clarifies that the term "webpage" refers to a part of the Companies' website(s) where identified content can be found which may consist of several interlinked or nested webpages.

[252]D&O 37507 at 161-162.

[253]D&O 37507 at 162.

In its Refined Proposal, Ulupono proposes that the webpage contain a "PBR Dashboard," to allow stakeholders to view information related specifically to the various PBR mechanisms. Ulupono observes that the webpage will contain a number of reports, some of which may not be relevant to the PBR Framework, and contends that these reports should be separated from reports that are relevant to evaluating the PBR Framework.[254] In this regard, Ulupono maintains that "[r]equiring the Commission and stakeholders to review potentially dozens of disparate reports to monitor PBR outcomes would not be administratively efficient."[255]

The Commission clarifies that the Companies' webpage should ultimately serve as a repository for or provide links to all the reports the Companies currently file with the Commission, as well as any subsequent reports required under the PBR Framework and future Commission proceedings. This is consistent with the goal of administrative efficiency, by collecting information in a single, easily accessible place for the Commission, stakeholders, and the general public to access.

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[254]See Ulupono Refined Proposal at 5. See also COH Refined Proposal at 22 (recommending that the Companies be required to improve accessibility of Scorecards and Reported Metrics, through posting on the Companies' website and/or through direct contact to customers and policymakers).

[255]Ulupono Refined Proposal at 5.

The Commission appreciates the benefits of categorization and clear and efficient organization of the information on the webpage. In response to Ulupono's concerns, information relating to the PBR mechanisms should be prominently and clearly presented without undue distraction by other utility reports.[256] Pursuant to D&O 37507, the Companies will present a preliminary version of the webpage for Commission and stakeholder review by June 30, 2021.[257] This will provide an opportunity for Ulupono, as well as the other Parties, to offer feedback on the organization and presentation of information on the webpage.

The Commission looks forward to viewing the Companies' preliminary version and recognizes that the webpage development may be an iterative process. As noted in D&O 37507, following the presentation of the Companies' preliminary webpage, the Parties may submit feedback.[258] Depending on the circumstances, the Commission may solicit additional rounds of feedback and/or schedule informal working group meetings to discuss the webpage. Further details about review and development of the webpage may be provided by subsequent order.

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[256]See Ulupono Refined Proposal at 4-6.

[257]D&O 37507 at 162.

[258]D&O 37507 at 162.

To assist in the development of the webpage, the Commission clarifies that it intends to proceed with efforts to re-evaluate, and potentially reduce, the number of reports currently filed by the Companies, as discussed below, which may assist in the development of the webpage.

3.

Review and Evaluation of Existing Hawaiian Electric Reports

D&O 37507 stated that the Post-D&O Working Group "should consider whether specific reports already provided by the Companies in other dockets . . . are no longer necessary and can be replaced."[259] To this end, several of the Parties have offered suggestions for streamlining the Companies' reporting requirements, including eliminating, consolidating, and/or transferring certain reports.[260]

The Commission appreciates these efforts and confirms that it intends to review these reports to determine whether streamlining is possible to reduce the number of filed reports. However, the Commission agrees with the Consumer Advocate that it is more efficient to first determine which reporting requirements

[259]D&O 37507 at 161.

[260]See Companies Refined Proposal at 51-53 and Exhibit D; Companies Updated Refined Proposal at 73-75 and Exhibits H and I; and CA Updated Refined Proposal at 7-8 and Attachment 1.

will be required for the PBR Framework before proceeding with "eliminat[ing] or consolidate[ing] existing reporting requirements."[261]

With the resolution of the initial portfolio of Scorecards and Reported Metrics, as well as other reporting requirements for the PBR Framework, set forth in this Decision and Order, the Commission will continue its review of the streamlining proposals, which it will address in a subsequent order. The Commission may also convene further informal meetings of the Post-D&O Working Group to discuss the streamlining process, and/or solicit further briefing on the subject, as it deems appropriate.

4.

Further Post-D&O Working Group Actions

As described in D&O 37507, "[t]he Post-D&O Working Group is intended to serve as a forum during the MRP to continuously introduce, examine, and vet new Performance Mechanism proposals, as well as explore modifications to existing PIMs."[262] Accordingly,

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[261]CA Updated Refined Proposal at 7. In this regard, the Consumer Advocate states that it "is continuing to review all of the Companies' proposals and will await the determination of the metrics that will be adopted to assist in the development of a final position on the proposed consolidation and/or elimination of existing reports." Id. at 7-8.

[262]D&O 37507 at 162.

notwithstanding the decisions made herein, the Commission envisions an on-going role for the Post-D&O Working Group during the PBR Framework's MRP. In addition to the discrete steps for the working group identified above, including providing feedback on the Companies' proposed webpage, the Commission reiterates that "[t]he Post-D&O Working Group is envisioned as being a party-led process,"[263] and Parties are encouraged to continue soliciting feedback and discussion on individual performance mechanism proposals. Commission staff may also introduce and solicit feedback on specific proposals. To that end, the Commission offers the following clarifications to assist the Parties in making the best use of the Post-D&O Working Group.

At any time during the MRP, a Party may raise a proposal with the Post-D&O Working Group for consideration. The proposal may be for a new performance mechanisms (e.g., PIM, SSM, Scorecard, or Reported Metric) or to modify an existing performance mechanism.[264] Parties may schedule informal meetings to present their proposals to the Post-D&O Working Group and solicit

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[263]D&O 37507 at 163.

[264]See D&O 37507 at 150 ("The Commission finds that the continued operation of the SAIDI/SAIFI and Call Center PIMs are reasonable and will complement the portfolio of other PIMs and SSMs approved in this D&O. As PBR continues to evolve, revisions to these existing PIMs may be considered as part of the Post-D&O Working Group, or as otherwise deemed appropriate by the Commission.").

discussion; additionally, members of the Post-D&O Working Group may issue IRs regarding the proposal to each other. If multiple proposals are raised for consideration contemporaneously, the Parties and/or Commission staff may coordinate to schedule informal working group meetings to address them collectively. This process is intended to allow Parties to share and vet their proposals prior to submitting them to the Commission for formal review, with the understanding that proposals that are vetted by the working group prior to formal submittal are more likely to incorporate other perspectives, address potential concerns, and utilize more relevant data, thereby facilitating a smoother and more efficient review by the Commission.

Following an opportunity for review and discussion by the Post-D&O Working Group, a Party may submit a proposal to the Commission for consideration, in the form of a filing in this docket.[265] There is no time limit or minimum amount of "review" that a proposal must receive by the Post-D&O Working Group before it can be officially submitted to the Commission; however, the Commission strongly encourages the Parties to take advantage of the opportunity to vet any proposals with the Post-D&O Working Group prior to submission to the fullest extent possible, which,

[265]While not intended to be exclusive, the Commission envisions that a proposal may be submitted in the form of a motion seeking the Commission's consideration of a particular proposal.

as noted above, is intended to facilitate the Commission's review of any proposals. Upon receipt, the Commission will establish a review schedule for the proposal, which will include providing a reasonable opportunity for responsive briefing by the Parties. The timing and nature of the Commission's review of such a proposal may be dependent on attendant circumstances; for example, review of a PIM proposal addressing a specific Outcome may take into account developments in other PIMs, PIM proposals, or events that affect that same Outcome.[266]

Following a Commission order approving any new performance mechanism, or modification to an existing performance mechanism, the Companies shall submit updated tariffs reflecting the Commission's order, which will be subject to Commission review and approval.

While the Fall and Spring Revenue Report reviews will incorporate changes to the Companies' PBR-related tariffs in accordance with the specific language of the tariffs, they are not intended as opportunities to challenge or change the substance or nature of those tariffs.[267] Rather, any such challenges should be

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[266]For example, if multiple proposals addressing the same or related Outcomes are submitted in close sequence, the Commission may consolidate their review, for purposes of administrative efficiency.

[267]See D&O 37507 at 202 ("Stated plainly, these fall and spring reviews should be predominantly ministerial in nature,

initially raised in the Post-D&O Working Group as a proposal to modify an existing performance mechanism, followed by an official submission to the Commission. Relatedly, to the extent the Companies' Fall or Spring Revenue Report indicates review and/or modification of a performance mechanism may be warranted,[268] such concerns should be raised in the Post-D&O Working Group; alternatively, the Commission may initiate an investigation on its own motion, pursuant to the Re-Opener provision of the PBR Framework.[269]

III.

ORDERS

THE COMMISSION ORDERS:

1. The initial portfolio of Performance Mechanisms to govern Hawaiian Electric is established as set forth above.

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and primarily consist of verifying target revenue adjustments in an arithmetic fashion.").

[268]See D&O 37507 at 204-205 ("In essence, whenever the Companies seek to collect revenues they believe they have earned pursuant to a PIM or SSM, they will be required to provide a report which will serve the dual purposes of verifying their compliance with the PIM or SSM, as well as allowing the Commission to consider whether any modifications to the PIM or SSM are warranted."[footnote omitted])

[269]See D&O 37507 at 188 (clarifying that "the Commission retains discretion to examine any PBR mechanism(s) at any time.").

2. Hawaiian Electric shall file proposed draft tariffs consistent with this Decision and Order within one week of this Decision and Order for the Commission's review and approval. The Commission will address the Companies' draft tariffs by subsequent order.

3. Pursuant to D&O 37507, the Companies will present a preliminary version of the webpage for Commission and stakeholder review by June 30, 2021.

4. The Post-D&O Working Group may continue to develop, discuss, and recommend proposals for Performance Mechanisms for the Commission's review.

DONE at Honolulu, Hawaii MAY 17, 2021.

PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By _____
James P. Griffin, Chair

By _____
Jennifer M. Potter, Commissioner

By _____
Leodoloff R. Asuncion, Jr., Commissioner

APPROVED AS TO FORM:

_____
Mark Kaetsu
Commission Counsel

2018-0088.ljk

APPENDIX A

Affordability Reported Metrics	
	Metric
LMI Energy Burden	Schedule R typical and average annual bill as a percentage of low-income average income,[1] by island
Payment Arrangement	Percent of customers entered into payment arrangements by zip code
Disconnections	Percent of disconnections for non-payment by customer class by zip code
Commission Inclination: reported on an annual basis	

Capital Formation Reported Metrics	
	Metric
Credit Rating	Credit rating of the Companies and annual outlook, including directionality
Third-Party Generation	Percentage of third-party generation on system (measuring total MWs of generation provided by non-utility entities as a percentage of total generation)
Commission Inclination: reported on a quarterly basis	

[1]Defined as 150% of the Hawaii Federal Poverty Limit ("FPL").

Cost Control Scorecard		
Cost Control for Non-ARA Components	Metric	Annual sum of Energy Cost Recovery Clause costs, Purchased Power Adjustment Clause costs, and Major Project Interim Recovery/Exceptional Project Recovery Mechanism costs, on a revenue requirements basis.
	Target	Annual recorded metric compared to base year metric increased at the rate of inflation as measured by GDPPI (i.e., maintaining constant real expense)[2]
Commission Inclination: reported on an annual basis		

Cost Control Reported Metrics	
	Metric
Rate Base per Customer	Total rate base ($) per customer for each Company
O&M cost per Customer	Total utility Operations & Maintenance costs ($) per residential customer for each Company
Annual Revenue Growth	Rate of annual growth for overall authorized revenues compared to inflation, shown as historical record of revenues with GDPPI trend line and showing annual percentage change
Commission Inclination: reported on an annual basis	

[2]The Scorecard can be expressed visually as a table and chart showing the historical metric for each utility along with a GDPPI trend line increase; alternatively, it could be expressed annually as the Metric percentage below or above the GDPPI trend line.

Customer Engagement Scorecards		
	Metric	Target
Program Participation	Number and percent of customers participating in any of the following programs: • CBRE projects • DER programs, including existing programs such as NEM, NEM+, CGS, CGS+, Smart Export, and CSS, as well as any new program developed in Docket No. 2019-0323 • DR programs, including any existing DR programs, such as Energy Scout programs, Fast DR programs, or Grid Service Purchase Agreements ("GSPAs"), as well as any new DR programs developed in Docket No. 2019-0323	30% of customers (Target may evolve with the finalization of new DER programs in Docket No. 2019-0323)
Green Button Connect My Data	Number and percent of customers that have used Green Button Connect My Data to enable sharing of information	Equal to the percent of all customers with advanced meters installed
Green Button Download My Data[3]	Number and percent of customers that have used Green Button Download My Data	Equal to the percent of all customers with advanced meters installed

[3]In contrast to the "Green Button Connect My Data" program, which facilitates the sharing of a customer's energy usage data with third-parties, the Green Button Download My Data program allows customers to download information about their energy usage.

TOU Participation	Number and percent of customers participating in time-varying tariffs, by customer class, including existing TOU rates and any new TOU rates developed in Docket No. 2019-0323	Equal to the percent of all customers with advanced meters installed
Commission Inclination: reported on a quarterly basis[4]		

Customer Engagement Reported Metric	
	Metric
AMI Opt-Out	Percentage of customers opting out of advanced meters
Commission Inclination: reported on a biannual basis	

Customer Equity Reported Metric	
	Metric
LMI Program Participation	Number of LMI customers[5] participating in each of the following programs, and percentage of program participants in each of the following programs that are LMI: • CBRE projects

[4]This is consistent with the current reporting requirements for enrollment in existing TOU tariffs. See Docket No. 2014-0192, Order No. 33923, "Instructing the Hawaiian Electric Companies to Submit Tariffs for an Interim Time-Of-Use Program," filed September 16, 2016, at 44-45.

[5]For purposes of this Reported Metric, "LMI" should be defined broadly. This may include LIHEAP participants, customers served under Hawaii Energy's A&A programs, and customers with an income of 150% of the FPL (discussed further below).

	• TOU rates, including the existing TOU-RI rate and any new TOU rates developed in Docket No. 2019-0323 • DER programs, including existing programs such as NEM, NEM+, CGS, CGS+, Smart Export, and CSS, as well as any new program developed in Docket No. 2019-0323 • DR programs, including any existing DR programs, such as Energy Scout programs, Fast DR programs, or GSPAs, as well as any new DR programs developed in Docket No. 2019-0323
Commission Inclination: reported on a quarterly basis	

DER Asset Effectiveness Reported Metrics	
	Metric
DER Grid Services Capability	Percentage and total MW of DER systems capable of providing grid services
DER Grid Services Enrollment	Percentage and total MW of capable DER systems enrolled in grid services programs
DER Grid Services Utilization	Percentage and total MW of DER systems enrolled in grid services programs that are being utilized to provide grid services
DER Curtailment	Total MW and MWh of curtailment from DERs, including partial curtailment or power reductions
Commission Inclination: reported on a biannual basis	

EoT Scorecards		
Fleet Electrification	Metric	Total number of the Companies' light-duty EV miles as a percentage of their total light-duty vehicle ("LDV") fleet miles EVs defined as plug-in hybrid vehicle ("PHEV") or battery electric vehicle ("BEV")
	Target	10% annual increase in EV miles as a share of total LDV miles
Measured EV Load (Energy)	Metric	Measurable energy (kWh) delivered at EV charging stations in approved EV tariffs by time period, to be expanded to include enrollment in any subsequently approved EV tariffs (e.g., EV-U, EV-F, EV-Bus, EV-Maui, EV-J/P) Reported by individual tariff and on a consolidated basis (all tariffs), by island
	Target	(1) Total annual increase in energy (kWh) delivered to EV charging stations and (2) annual decrease in proportion of energy (kWh) delivered to EV charging stations during the on-peak period
Measured EV Load (Demand)	Metric	Average demand (kW) attributable to measured EV charging in approved EV tariffs by hour, to be expanded to include any subsequently approved EV tariffs
	Target	Annual decrease in proportion of average demand (kW) attributable to measurable EV charging during on-peak hours
Estimated EV Load	Metric	Estimated total EV load (kWh), measured by:

		• Number of registered light-duty EVs and average vehicle miles traveled (specific to Oahu, Maui, and Hawaii islands); • Average kWh/mile (expected to be approx. 0.31); and • Load (kWh) from e-Buses
	Target	EV kWh sales forecasted in the IGP proceeding for the applicable year
EV Count	Metric	Total number of registered light-duty EVs by island as reported by the Department of Business, Economic Development, and Tourism[6]
	Target	EV count as forecasted in the IGP proceeding for the applicable year
Commission Inclination: reported on an annual basis		

EoT Reported Metric	
	Metric
Ride Share Fueling Hubs	Number of shared fueling hubs for Ride Share Only (with stored energy capabilities)
Commission Inclination: reported on an annual basis	

[6]See https://energy.hawaii.gov/testbeds-initiatives/ev-ready-program/resources

GHG Reduction Scorecards		
GHG Emissions	Metric	GHG emissions in CO_2e emissions per year in metric tons, reflecting emissions that both include and exclude biogenic CO_2e
	Target	A straight-line reduction from 2019 GHG emissions to the 2045 target of carbon neutrality
GHG Intensity	Metric	Emissions intensity in CO_2e per year in grams/kWh, reflecting emissions that both include and exclude biogenic CO_2e Calculated as absolute emissions/total kWh (as reported for RPS-A PIM)
	Target	A straight-line reduction from 2019 carbon intensity levels to the 2045 target of carbon neutrality
Commission Inclination: reported on an annual basis		

Grid Investment Efficiency Reported Metrics	
	Metric
Avoided T&D Investment	Total value ($) of deferred and/or avoided T&D capital investments due directly to the installation or acquisition of an NWA, reported annually by T&D capital investment with a description of the NWA that enabled the deferral, by service territory.
NWA Total Cost	Total cost ($) of NWAs deployed by the utility or acquired through a program or procurement, which are owned or operated by the Companies or third-party that defers or avoids T&D capital investment,

	reported annually by capital investment and service territory
Commission Inclination: reported on an annual basis	

Interconnection Experience Scorecards		
Total DER Interconnection Time	Metric	The Companies' respective average (mean) total number of calendar days to interconnect DER systems <100 kW in size, in a calendar year (in determining the average number of days, the Interconnection Approval PIM's "Updated Adjusted Average" methodology shall be utilized)
	Target	2021: 115 days 2022: 100 days 2023: 85 days
IPP Experience	Metric	Percentage of IPP surveys sent within six months and results provided in full and in summary to the Commission annually
	Target	100 percent of surveys sent and completed
Truck Roll Response Time	Metric	Truck roll-related response times, related to steps within the Companies' control, for meter change-outs for DER and non-DER customers, by individual Company
	Target	10 business days or 14 calendar days
Commission Inclination: reported on an annual basis		

Interconnection Experience Reported Metrics	
	Metric

IPP Interconnection	For each IPP Project with a Power Purchase Agreement approved by the Commission:
	• Project name
	• Island
	• Technology
	• Procurement type
	• Size (MW)
	• Interconnection voltage
	• Time to interconnect by step (steps both in and out of the Companies' control, to the extent known), beginning when the PPA is executed and ending when the project achieves commercial operations
	• RFP unit cost information
	• Cost to interconnect, including:
	  ○ Original IRS deposit
	  ○ IRS advanced payments
	  ○ IRS actual(including System Impact Study, Facility Study, and other costs, including Taxes)
	  ○ Company-owned interconnection facilities
	  ○ Estimated interconnection costs
	  ○ Actual interconnections costs
	  ○ Delta between estimated and actual costs
	  ○ Any other relevant interconnection costs not captured in this list, recognizing that the interconnection process is rapidly evolving

Interconnection Cost Overrun	The percentage of times the cost of interconnection has exceeded the estimated cost of interconnection for utility scale IPP projects.
Commission Inclination: reported on an annual basis IPP Interconnection additionally reported/updated as new IPP projects are brought online	

Resilience Reported Metrics	
	Metric
Critical Load	Total amount of time that critical loads[7] are without power in a year
NIMS Certification	Total number of employees completing National Incident Management System Incident Command System 100, 200, and 300 certifications
Emergency Response Training	Total number of employees that have attended emergency response training, annually
Commission Inclination: reported on an annual basis	

[7]As defined by the IGP Resilience Working Group and adopted by the Companies. See Response to PUC-HECO-IR-71.2, filed April 21, 2021.

CERTIFICATE OF SERVICE

Pursuant to Order No. 37043, the foregoing order was served on the date it was uploaded to the Public Utilities Commission's Document Management System and served through the Document Management System's electronic Distribution List.

The foregoing document was electronically filed with the State of Hawaii Public Utilities Commission's Document Management System (DMS).