

# Powering Past Coal Task Force - Master Schedule

## Summary

This document is a master schedule to provide a common operating picture of the overall progress to replace the electricity currently provided by the coal plant. On the next page, the grey line items are PUC approved measures. Lines beneath these may be projects or initiatives that fall under each PUC docket. Colored boxes indicate key milestones or project commercial operation dates.

## Purpose

On March 30, 2021, by [Executive Order 21-01](#), Governor David Ige established the Powering Past Coal Task Force to convene stakeholders to increase transparency, coordination, collaboration, and urgency to timely facilitate, coordinate, and align the reviews and approvals needed for the measures and projects that the PUC approved to replace the electricity and grid stability currently provided by Hawai'i's last coal-fired power plant, located on O'ahu.

To achieve the Task Force objectives, a primary activity of the Task Force is to develop and maintain a [Master Schedule](#), as shown on next page, which provides a timeline and status summary of the measures and projects needed to replace the coal plant with renewable energy.

These measures and projects will collectively support O'ahu's transition away from fossil fuels.

The coal plant's generation capacity is **180 MW** and in 2020 it provided **16% of O'ahu's electrical energy**; notably, providing more energy during peak and non-daylight hours. It has been operating since 1992.

The Task Force is chaired by the Chief Energy Officer of the Hawai'i State Energy Office and includes members from State and City and County of Honolulu government, the Hawai'i State Legislature, Hawaiian Electric, renewable energy development companies, and energy-related public interest groups.

The Task Force is not a policy-making or decision-making body and does not pursue statutory or administrative rule changes.

The coal plant is planned for retirement on **SEPTEMBER 1, 2022**, as indicated by the vertical **black line** in the Master Schedule. State law prohibits the use of coal for power generation in Hawai'i after December 31, 2022.

## Terms and Abbreviations Used

**COD** - Commercial Operations Date - Target date for a project to begin commercial operations.

**Force Majeure** - Contract clause that removes liability to parties for unavoidable and unexpected events that prevent parties from fulfilling contractual obligations (e.g., unforeseen supply shortages or natural disasters).

**GCOD** - Guaranteed Commercial Operations Date - Contractually binding date for a project to begin commercial operations.

**HECO** - Hawaiian Electric Company - The only electric utility servicing the island of O'ahu, part of Hawaiian Electric.

**IRS** - Interconnection Requirements Study - A study to establish the requirements for interconnection of a Generating Facility with the HECO's Distribution System

**MW** - Megawatt - Measurement of power, capacity, or demand. Represented below as *generating capacity* of a project.

**PPA** - Power Purchase Agreement - A contract for an electric utility to purchase energy and or capacity from a commercial source (e.g., utility scale solar project) at a predetermined price or based on pre-determined pricing formulas.

**PUC** - Hawai'i Public Utilities Commission

**RPS** - [Renewable Portfolio Standard](#) - A goal for the percentage of **electricity sales** in Hawai'i to be derived from renewable energy sources.

Hawai'i RPS = 100% renewable energy for electricity consumption by 2045

**Utility RPS** - The percentage of a utility's electricity sales that comes from renewable energy. In the case of Hawaiian Electric, its Utility RPS is a combination of the three electric utilities servicing O'ahu, Maui County (Maui, Moloka'i, Lāna'i), and Hawai'i island: respectively, Hawaiian Electric Company (HECO), Maui Electric Company (MECO), and Hawai'i Electric Light Company (HELCO).

## Schedule Legend (Updated January 2022)

<b>Green =</b> On Target to Meet GCOD	<b>Yellow =</b> At Risk of Meeting GCOD	<b>Red =</b> Will Not Meet GCOD
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**Disclaimer:** *The information represented below is public and can be found within the PUC dockets. The project schedule is evolving—what is represented on the next page is subject to future additions and changes. For the most up-to-date information on the status of each project, HSEO recommends referencing the PUC dockets and/or appropriate agencies regarding the status of their approvals. Additional information can be found in the individual PUC dockets and on the project webpages, all of which are linked within the schedule on the next page.*

PUC Docket Number and Link	PUC Approved Measures to Replace Generation and Capacity of the Coal Plant	Production Capacity (MW)	Estimated Utility RPS Percent Contribution	Coal Plant												Coal Plant															
				21-Aug	21-Sep	21-Oct	21-Nov	21-Dec	22-Jan	22-Feb	22-Mar	22-Apr	22-May	22-Jun	22-Jul	22-Aug	22-Sep	22-Oct	22-Nov	22-Dec	23-Jan	23-Feb	23-Mar	23-Apr	23-May	23-Jun	23-Jul	23-Aug	23-Sep	23-Oct	23-Nov
<b>2021-0024 Utility-Scale Projects (Stage 1 and 2)</b>																															
<a href="#">2018-0434</a>	Mililani I Solar (Stage 1)	39	1.2	Construction Ongoing												New GCOD 7-31-22															
<a href="#">2018-0435</a>	Waiawa Phase 1 Solar (Stage 1)	36	1.2	Construction Ongoing												New GCOD 9-30-22 Estimated COD 10-17-22															
<a href="#">2019-0050</a>	AES West O'ahu Solar (Stage 1)	12.5	0.4	<ul style="list-style-type: none"> <li>Q1-22: Building and Electrical Permit (DPP)</li> <li>Q1-22: Noise Permit (DOH Radiological Health)</li> <li>Q1-22: Grading Permit (DPP)</li> </ul>												Q1-22 Construction Anticipated to Start GCOD 9-7-22 Estimated COD 12-16-22															
<a href="#">2020-0136</a>	Kapolei Energy Storage (KES) (Stage 2)	185 (Storage)	0.1	Q1-22 Construction Anticipated to Start												GCOD 12-30-22															
<a href="#">2020-0139</a>	Mountain View Solar (Stage 2)	7	0.3	Q3-22 Construction Anticipated to Start												GCOD 5-17-23															
<a href="#">2018-0431</a>	Ho'ohana Solar 1 (Stage 1)	52	1.4	Q1-22 Construction Anticipated to Start												GCOD 8-31-23															
<a href="#">2020-0137</a>	Waiawa Phase 2 Solar (Stage 2)	30	1.2	Q3-22 Construction Anticipated to Start												GCOD 10-30-23															
<a href="#">2020-0140</a>	Mahi Solar (Stage 2)	120	3.1	Q4-22 Construction Anticipated to Start (likely delayed)												Original GCOD 12-31-23 Will not meet GCOD // Expected COD 5-31-25															
<b>Sum Online Before 9-1-22 Based on Current GCOD (Includes projects with advanced timeline)</b>		<b>39</b>	<b>2.4</b>																												
<b>Sum All Projects (not including storage)</b>		<b>356.5</b>	<b>8.9</b>																												
<b>2019-0323 Distributed Energy Resources (DER)</b>																															
		50	TBD	9-15-21: Aug Update: 0.16MW 9-29-21 TF Update: 0.46MW 10-29-21 TF Update: 1.32 MW 12-1-21 TF Update: 2.57MW 01-06-22 TF Update: 3.47MW 1-26-21 TF Update: 3.97												Goal 15MW												Program Enrollment Ends Jun-23			
<b>2015-0389 Community-Based Renewable Energy (CBRE) - Shared Solar</b>																															
	Palailai Solar 1	3														GCOD 10-29-22															
	KHLS	1.72														GCOD 12-17-22															
	Phase 2	105 capacity limit	TBD																												
<a href="#">2018-0163</a>	Microgrid Services Tariff*	TBD	TBD																												
<a href="#">2007-0323</a>	Energy Efficiency - Public Benefits Fund *	-45	TBD																												
<a href="#">2017-0352</a>	O'ahu Grid Services RFP *	60	TBD													COD for Proposals															
<a href="#">2014-0135</a>	Green Infrastructure Loan Program- Green Energy Market Securitized (GEMS) *	-44	TBD																												
<a href="#">2007-0341</a>	Demand Side Response - Grid Services Purchase Agreements *	TBD	TBD																												

\* These measures are not currently items that are Task Force priority; however, they play an important role in ensuring O'ahu meets the production capacity requirements necessary to retire the coal plant and meet renewable energy goals. Measures may be brought to the Task Force should the need arise.

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PUC Docket Number and Link	PUC Approved Measures to Replace Generation and Capacity of the Coal Plant	Developer	Project or Task Updates	Production Capacity (MW)	Guaranteed Commercial Operations Date
<b>2021-0024 Utility-Scale Projects (Stage 1 and 2)</b>					
<a href="#">2018-0434</a>	Milliani I Solar (Stage 1)	Clearway Energy Group LLC; Global Infrastructure Partners	<p><b>Permits - Complete</b></p> <ul style="list-style-type: none"> <li>Building Permit for Project Substation - approved 1-28-22</li> </ul> <p><b>Land Rights - Secured</b></p> <p><b>Procurement and Delivery</b></p> <ul style="list-style-type: none"> <li>All panels arrived by end of Dec-21 and are all installed.</li> <li>Energy storage components and auxiliary tracking panel, estimated arrival Q1-22.</li> </ul> <p><b>Construction</b></p> <ul style="list-style-type: none"> <li>Construction started; substation work, PV arrays installed and PV inverters set, PV racking is complete. Installation of BESS equipment started and ongoing. Energization is expected mid-February and is dependent on Hawaiian Electric's revenue meter installation.</li> </ul>	39	<p>New GCOD 7-31-22</p> <p>Estimated COD 7-29-22</p>
<a href="#">2018-0435</a>	Waiawa Solar (Stage 1)	Clearway Energy Group LLC; Global Infrastructure Partners	<p><b>Permits</b></p> <ul style="list-style-type: none"> <li>Building Permit for project substation pending approval and internal audit of third party reviewed plans; operating under courtesy inspection (DPP &amp; Clearway)</li> <li>Third party reviewer to completed the final permit package submittal 1-31-22 (Clearway)</li> </ul> <p><b>Land Rights Secured</b></p> <p><b>Procurement and Delivery</b></p> <ul style="list-style-type: none"> <li>Suppliers have notified Clearway Energy of delivery delays, though currently these delays are not expected to impact achievement of accelerated GCOD.</li> <li>2-28-22: Modules expected to arrive; 4% delivered, 80% in transit (slipped from 12-31-21) (Clearway)</li> </ul>	36	<p>New GCOD 9-30-22</p> <p>Estimated COD 10-17-22</p>
<a href="#">2019-0050</a>	West O'ahu Solar (Stage 1)	AES West O'ahu Solar, LLC.	<p><b>Permits</b></p> <ul style="list-style-type: none"> <li>Building/Grading/Plan Review applications under review by DPP. Permit delays are expected to delay construction start and commercial operations. AES re-submitted Plan Review application for 3rd review 1-12-22.</li> <li>Q1-22 (slipped from Q4-21): Grading Permit (submitted 8-30-21 and in process) (AES &amp; DPP)</li> <li>Q1-22 (slipped from Q4-21): Building and Electrical Permit (submitted 9-8-21 and in process) (AES &amp; DPP)</li> <li>Q1-21: Noise Permit (DOH Radiological Health)</li> </ul> <p><b>Land Rights</b></p> <ul style="list-style-type: none"> <li>Landowner and HECO working on a form of agreement for COIF right of entry.</li> </ul>	12.5	<p>GCOD 9-7-22</p> <p>Estimated COD (Extended Due to Force Majeure) 12-16-22</p>
<a href="#">2020-0136</a>	Kapolei Energy Storage (KES) (Stage 2)	Plus Power	<p><b>Permits</b></p> <ul style="list-style-type: none"> <li>1-28-22: NPDES and Grading/Grubbing Permits anticipated (KES)</li> <li>2-8-22: Building permits for BESS expected, submitted 10-15-21 (KES &amp; DPP)</li> <li>4-11-22: Building permit for Substation expected, slipped from 3-22-22, submitted on 12-28-21 (KES &amp; DPP)</li> <li>5-12-22: Building Permit for gentie anticipated, submitted 1-14-22 (KES)</li> </ul> <p><b>Land Rights - Secured</b></p>	185 (Storage)	<p>New GCOD 12-30-22</p> <p>Estimated COD 3-10-23</p>
<a href="#">2020-0139</a>	Mountain View Solar (Stage 2)	AES Mountain View Solar, LLC.	<p><b>Permits</b></p> <ul style="list-style-type: none"> <li>Q1-22: Review of previously accepted Archaeological Inventory Survey with SHPD in early 2022</li> <li>Q1-Q2 22: CUP-Minor, Zoning Waiver (AES &amp; DPP)</li> <li>Q2-Q3 22: Building and Grading Permit anticipated (AES &amp; DPP).</li> </ul> <p><b>Land Rights</b></p> <p><b>Procurement and Delivery</b></p> <ul style="list-style-type: none"> <li>AES monitoring supply chain issues</li> </ul>	7	<p>GCOD 5-17-23</p>
<a href="#">2018-0431</a>	Ho'ohana Solar 1 (Stage 1)	174 Power Global; (Hanwha Energy Corporation; Forest City Sustainable Resources)	<p><b>Engineering/Design</b></p> <ul style="list-style-type: none"> <li>90% Switchyard Design anticipated 3-2-22, slipped four times (slipped from 1-28-22, 12-7-21, 11-29-21, and 10-6-21) delay a result of extended engineering design cycle; delay should not impact COD. Design to reflect the omission of Kuepahu.</li> <li>Switchyard permit delays due to removal of Kuepahu</li> <li>PV work pushed to June 2022, allows for 46kV line relocation to be completed mid-May 2022.</li> <li>90% design for Generation Facility anticipated.</li> </ul> <p><b>Permits</b></p> <ul style="list-style-type: none"> <li>Jan-22: Grading Permit &amp; NPDES Permit anticipated, submitted 11-15-21 (Solar-Battery, Substation) (174 PG &amp; DPP)</li> <li>Apr-22: Substation Building permit, slipped from Nov-21 and Jan-22 (submitted May-21) (174 PG &amp; DPP)</li> <li>Jun-22: Solar/Battery Building Permit, slipped from Mar-22, not yet submitted, anticipate submitting Jan-22 (174PG &amp; DPP)</li> <li>Aug-22: Switchyard Building permit, not yet submitted, slipped from Mar-22 (174PG &amp; DPP)</li> </ul>	52	<p>GCOD 8-31-23</p>
<a href="#">2020-0137</a>	Waiawa Phase 2 Solar (Stage 2)	Waiawa Phase 2 Solar, LLC. (AES)	<p><b>Engineering</b></p> <ul style="list-style-type: none"> <li>Identified risks include line extension conflicts with Waiawa Stage 1 project and need for breaker replacement (system work) at Waiawa substation.</li> <li>Hawaiian Electric is waiting for information to complete the overhead line application, executed amendment to be files with request for line approval Feb-22.</li> </ul> <p><b>Permits</b></p> <ul style="list-style-type: none"> <li>Q1 to Q3-22: NPDES Permit, CUP-Minor, Zoning Waiver, Building, Grading Permits anticipated (DOH, DPP &amp; AES)</li> </ul>	30	<p>GCOD 10-30-23</p>
<a href="#">2020-0140</a>	Mahi Solar (Stage 2)	Longroad Energy	<p><b>Permits, Procurement and Delivery</b></p> <p>Remaining permits and procurement updates on hold pending status of PPA Amendment Approval.</p> <p><b>Construction</b></p> <ul style="list-style-type: none"> <li>Construction anticipated to start Q3-23, likely pushed back</li> </ul>	120	<p>Original GCOD 12-31-23</p>
Sum Online Before Coal Plant Retirement Based on Current GCOD				39	
Sum All Projects				296.5	

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PUC Docket Number and Link	PUC Approved Measures to Replace Generation and Capacity of the Coal Plant	Developer	Project or Task Updates	Production Capacity (MW)	Guaranteed Commercial Operations Date
<b>2019-0323 Distributed Energy Resources (DER)</b>					
	Battery Bonus Program		<ul style="list-style-type: none"> <li>PUC issued Decision and Order on 6-8-21 for HECO to implement a Schedule Dispatch Program (SDP) for commercial and residential rooftop photovoltaic systems. The program incentivizes new and existing DER tariff customer generators to install battery storage for existing or added photovoltaic systems. New battery systems will discharge on a scheduled basis during peak hours.</li> <li>Work with stakeholders to develop strategy to ensure timely permitting and interconnection is ongoing.</li> <li>7-19-21: Battery Bonus program officially announced by HECO</li> <li>1-6-22 Tf Update: 638 approved applications, as of last week making up a committed 3.47 MW of capacity. Represents an increase of ~900 kW from 139 added systems.</li> <li>1-26-22 Tf Update: 717 approved applications, as of 01-21. Making up committed capacity of 3.97 MW, represents an increase of ~500kW since last month.</li> </ul>	50	June 2023 Program Enrollment Ends
<b>2015-0389 Community-Based Renewable Energy (CBRE) - Shared Solar</b>					
2015-0389	Palailai Solar 1 - Phase 1		<ul style="list-style-type: none"> <li><b>On target to meet GCOD</b></li> <li><b>Engineering</b> <ul style="list-style-type: none"> <li>60% Engineering/ Design review completed by Hawaiian Electric, Company awaiting 90% design from</li> </ul> </li> <li><b>Permits</b> <ul style="list-style-type: none"> <li>Building Permit anticipated Jan-22 (DPP).</li> <li>Estimated 1-2 month delay anticipated due to additional review required for remaining permits from DPP.</li> </ul> </li> <li><b>Procurement</b> <ul style="list-style-type: none"> <li>PV Panels - 50% arrived Dec-21</li> <li>Equipment anticipated to arrive Q1 to Q2-22</li> </ul> </li> </ul>	3	GCOD 10-29-22
2015-0389	KHLS - Phase 1		<ul style="list-style-type: none"> <li><b>Will not meet GCOD</b></li> <li><b>Engineering/Design</b> <ul style="list-style-type: none"> <li>30% Design only included drawings for PV facility.</li> <li>Interconnection facilities 0% design complete.</li> <li>Engineering teams are hired.</li> </ul> </li> <li><b>Permits</b> <ul style="list-style-type: none"> <li>All discretionary permits received.</li> <li>Jan-21: Estimated submittal date of building, stockpiling, and grading permits, <b>slipped from Dec-21</b> (KHLS). Anticipated to receive Mar to May-22.</li> </ul> </li> <li><b>Procurement</b> <ul style="list-style-type: none"> <li>Estimated order date Q1 -22, arrival date estimated Q2 to Q3-22</li> </ul> </li> <li><b>Construction</b> <ul style="list-style-type: none"> <li>Estimated to start Q2-22</li> </ul> </li> <li><b>Testing</b> <ul style="list-style-type: none"> <li>Acceptance Test Anticipated Nov-22</li> <li>CSAT Test Anticipated Dec-22</li> </ul> </li> </ul>	1.72	GCOD 12-17-22
	Phase 2 (Paused for Oahu)		<ul style="list-style-type: none"> <li>Capacity limit is 105 MW for Oahu. Hawaiian Electric has application capacities of 75 MW Large Projects, 15 MW Small Projects, with one (1) minimum 1 uncapped Project.</li> <li>10-13-21: CBRE community meeting for O'ahu held</li> <li>Jan-22: CBRE RFP for O'ahu remains paused</li> <li>1-11-22 Hawaiian Electric submitted Proposed Actions to Address Community Concerns</li> </ul>	105 capacity limit	
<b>2018-0163 Microgrid Services Tariff*</b>					
			<ul style="list-style-type: none"> <li>PUC issued Decision and Order approving microgrid tariff 5-17-21.</li> <li>HECO submitted microgrid tariff 5-27-21; the Microgrid Services Tariff is intended to encourage and facilitate the development and use of new microgrids throughout Hawai'i, with the exception of Kaua'i.</li> <li>A microgrid is defined as a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single self-governing controllable entity with respect to the utility's electrical grid and is connected to a public utility's electrical grid to operate in "grid connected mode", or can disconnect to operate in "island mode".</li> </ul>	TBD	
<b>2007-0323 Energy Efficiency - Public Benefits Fund *</b>					
			<ul style="list-style-type: none"> <li>Docket includes energy efficiency measures that serve to decrease electricity sales and defer or decrease the need for plant investment.</li> <li>The negative number shown in the next column indicates the estimated decrease in required production capacity that can be achieved through energy efficiency programs and demand side management.</li> <li>This measure is administered through a third party, Hawaii Energy.</li> </ul>	-45	
<b>2017-0352 O'ahu Grid Services RFP *</b>					
			<ul style="list-style-type: none"> <li>RFP seeks customer sited grid services through a competitive bid request for proposals (RFP). The RFP seeks proposals that include the delivery of Capacity Reduction Grid Service, but proposals that include fast frequency response or capacity build bundled in their proposal will also be considered</li> <li>8-3-21 - PUC approved, with modifications, the HECO proposed RFP for 60 MW of grid services on the island of Oahu.</li> </ul>	60	COD 9-1-22 for Proposals
<b>2014-0135 Green Infrastructure Loan Program- Green Energy Market Securitization (GEMS) *</b>					
			<ul style="list-style-type: none"> <li>Leverages public-private capital to deploy clean energy infrastructure that will contribute towards Hawaii's pursuit of its statutory 100% clean energy goals by 2045 while helping ratepayers lower their energy costs.</li> <li>8-10-21: PUC establishes procedural schedule to review the Green Infrastructure Loan Program</li> <li>Hawaii Green Infrastructure Authority agrees to include the number and value of loans made to finance purchase options and the number and value of loans to finance EVs and EV charging stations and principal repaid into the State Revolving Fund in the quarterly report.</li> </ul>	TBD	
<b>2007-0341 Demand Side Management (DSM)</b>					
			<ul style="list-style-type: none"> <li>Programs that incentivize residential, commercial, and industrial energy savings through rate schedules. DSM programs generally consist of the planning, implementing, and monitoring activities of electric utilities which are designed to encourage consumers to modify their level and pattern of electricity usage. Docket includes tariffs and prices to encourage lower consumption</li> </ul>	TBD	

\* These measures are not currently items that are Task Force priority; however, they play an important role in ensuring O'ahu meets the production capacity requirements necessary to replace the coal plant and meet renewable energy goals. Measures may be brought to the Task Force should the need arise.

Publish Date - February 18, 2022. Questions can be sent via email to Monique Schafer, Monique.m.schafer@hawaii.gov, at the Hawaii State Energy Office.