

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.

COIF - Company Owned Interconnection Facilities

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)

Green = On Target to Meet GCOD	Yellow = At Risk of Meeting GCOD	Red = 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	Developer	Production Capacity (MW)	2022												2023												//	26-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	23-Dec														
2021-0024 Utility-Scale Projects (Stage 1 and 2)																																									
2018-0434	Milliani I Solar (Stage 1)	Clearway Energy Group LLC; Global Infrastructure Partners	39	• All permits received • Acceptance Testing Complete												New GCOD 7-31-22																									
2018-0435	Waiawa Phase 1 Solar (Stage 1)	Clearway Energy Group LLC; Global Infrastructure Partners	36	• Building Permit Outstanding • Equipment delivery ongoing												New GCOD 9-30-22												Estimated COD 11-17-22													
2019-0050	AES West O'ahu Solar (Stage 1)	AES Distributed Energy Inc.	12.5	• Q1-22: Building and Electrical Permit (DPP) • Q1-22: Noise Permit (DOH Radiological Health) • Q1-22: Grading Permit (DPP) Q1-22 Construction Anticipated to Start												GCOD 9-7-22												Estimated COD 12-16-22													
2020-0136	Kapolei Energy Storage (KES) (Stage 2)	Plus Power	185 (Storage)	Q1-22 Construction Anticipated to Start												GCOD 12-30-22																									
2020-0139	Mountain View Solar (Stage 2)	AES Distributed Energy Inc.	7	Q3-22 Construction Anticipated to Start												GCOD 5-17-23																									
2018-0431	Ho'ohana Solar 1 (Stage 1)	174 Power Global; (Hanwha Energy Corporation; Forest City Sustainable Resources)	52	Q1-22 Construction Anticipated to Start												GCOD 8-31-23																									
2020-0137	Waiawa Phase 2 Solar (Stage 2)	AES Distributed Energy Inc.	30	Q3-22 Construction Anticipated to Start												GCOD 10-30-23																									
2020-0140	Mahi Solar (Stage 2)	Longroad Energy	120	Q4-22 Construction Anticipated to Start (likely delayed)												Original GCOD 12-31-23 Will not meet GCOD												//	COD 12-31-26												
Sum Online Before 9-1-22 Based on Current GCOD			39																																						
Sum All Projects (not including storage)			356.5																																						
2019-0323 Distributed Energy Resources (DER)																																									
			50	1-26-21 TF Update: 3.97MW 2-23-22 TF Update: 4.43MW 450kW operational												Goal 15MW												Program Enrollment Ends Jun-23													
2015-0389 Community-Based Renewable Energy (CBRE) - Shared Solar																																									
	Palailai Solar 1		3													GCOD 10-29-22																									
	KHLS		1.72													GCOD 12-17-22																									
	Phase 2		105 capacity limit																																						
2007-0323 Energy Efficiency - Public Benefits Fund *																																									
			-45																																						
2018-0163 Microgrid Services Tariff*																																									
			TBD																																						
2017-0352 O'ahu Grid Services RFP *																																									
			60													COD for Proposals																									
2014-0135 Green Infrastructure Loan Program- Green Energy Market Securitization (GEMS) *																																									
			-44																																						
2007-0341 Demand Side Response - Grid Services Purchase Agreements *																																									
			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.

Powering Past Coal Task Force - Master Schedule Detailed



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)	Estimated Utility RPS Percent Contribution	Guaranteed Commercial Operations Date
2021-0024 Utility-Scale Projects (Stage 1 and 2)						
2018-0434	Milliani I Solar (Stage 1)	Clearway Energy Group LLC, Global Infrastructure Partners	<p>Permits - Complete</p> <ul style="list-style-type: none"> Building Permit for Project Substation - approved 1-28-22 <p>Land Rights - Secured</p> <p>Procurement and Delivery</p> <ul style="list-style-type: none"> PV Panels are 100% delivered and 100% installed. Energy storage components and auxiliary tracking panel, estimated arrival Q1-22. <p>Construction</p> <ul style="list-style-type: none"> 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, planned for February. 	39	12	<p>New GCOD 7-31-22</p> <p>Estimated COD 7-29-22</p>
2018-0435	Waiawa Solar (Stage 1)	Clearway Energy Group LLC, Global Infrastructure Partners	<p>Permits</p> <ul style="list-style-type: none"> DPP notified Seller that the permit was approved and ready for pickup on 2-14-22. Permit fees and contractor statements were provided same day. Clearway is currently waiting for DPP to process payments and issue the permit. <p>Land Rights Secured</p> <p>Procurement and Delivery</p> <ul style="list-style-type: none"> Mar-22: ACC/DCC cabinets in transit deliver in early March, inverters to be delivered mid-March. Battery enclosures: Sixteen (16) scheduled to arrive 3-9-22, sixty-four (64) anticipated to arrive between 3-17-22 and 5-5-22, thirty-six (36) have not yet been assigned to a vessel for transit. Delivery delays associated with the battery components related to shipping backlog at Port of Long Beach are resulting in additional four week-delay, new COD now 11-11-22. 2-28-22: Modules expected to arrive, 4% delivered, 80% in transit (Clearway) 	36	12	<p>New GCOD 9-30-22</p> <p>Estimated COD 11-17-22 (per 2-16-22 Clearway FM Notice)</p>
2019-0050	West O'ahu Solar (Stage 1)	AES West O'ahu Solar, LLC	<p>Engineering/Design</p> <ul style="list-style-type: none"> 90% design complete for Generating Facility and Substation; 100% review completed for COIF (revision and resubmission required). <p>Permits</p> <ul style="list-style-type: none"> Building/Grading/Plan Review applications under review by DPP. Permit delays are expected to delay construction start and commercial operations. AES received 3rd round of comments, incorporating the comments into 4th submittal in February, slipped from Jan-22 (AES & DPP) Q1-22: Noise Permit (DOH Radiological Health) <p>Land Rights</p> <ul style="list-style-type: none"> Landowner and HECO working on a form of agreement for COIF right of entry. 	12.5	0.4	<p>GCOD 9-7-22</p> <p>Estimated COD (Extended Due to Force Majeure) 12-16-22</p>
2020-0136	Kapolei Energy Storage (KES) (Stage 2)	Plus Power	<p>Engineering/Design</p> <ul style="list-style-type: none"> 90% design complete for Storage Facility and Substation; 90% design for COIF submitted to Hawaiian Electric. <p>Permits</p> <ul style="list-style-type: none"> 2-23-22: NPDES and Grading/Grubbing Permits anticipated, slipped from 1-28-22 (KES, DPP, DOH) 2-28-22: Building permits for BESS expected, submitted 10-15-21, slipped from 2-8-22 (KES & DPP) 5-10-22: Building permit for Substation expected, slipped from 3-22-22 and 4-11-22, submitted on 12-28-21 (KES & DPP) 5-10-22: Building Permit for gentie anticipated, submitted 1-14-22 (KES & DPP) <p>Land Rights</p> <ul style="list-style-type: none"> Executed Right of Entry for Kapolei Properties Parcels - estimated receipt 2-18-22 	185 (Storage)	0.1	<p>New GCOD 12-30-22</p> <p>Estimated COD 9-10-23</p>
2020-0139	Mountain View Solar (Stage 2)	AES Mountain View Solar, LLC	<p>Engineering/Design</p> <ul style="list-style-type: none"> AES working on 60% design complete for Generation Facility, Substation; and COIF. <p>Permits</p> <ul style="list-style-type: none"> Q1-22: Review of previously accepted Archaeological Inventory Survey with SHPD in Q1-22 Q1-Q2 22: CUP-Minor, Zoning Waiver (AES & DPP) Q2-Q3 22: Building and Grading Permit anticipated (AES & DPP). <p>Land Rights</p> <ul style="list-style-type: none"> COIF/COIF assessment required prior to COD <p>Procurement and Delivery</p> <ul style="list-style-type: none"> AES monitoring supply chain issues Estimated arrival dates between Q4-22 and Q2-23. 	7	0.3	<p>GCOD 5-17-23</p>
2018-0431	Ho'ohana Solar 1 (Stage 1)	174 Power Global, (Hanwha Energy Corporation, Forest CRI Sustainable Resources)	<p>Engineering/Design</p> <ul style="list-style-type: none"> 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 Kupehau. 3-4-22: 90% design for Generation Facility anticipated, slipped from 12-6-21. Switchyard permit delays due to removal of Kupehau. PV work pushed to June 2022, allows for 46kV line relocation to be completed mid-May 2022. <p>Permits</p> <ul style="list-style-type: none"> Feb-22: Grading Permit & NPDES Permit anticipated, slipped from Jan-22, submitted 11-15-21 (Solar-Battery, Substation) (174 PG & DPP) Apr-22: Substation Building permit, slipped from Nov-21 and Jan-22 (submitted May-21) (174 PG & DPP) Jun-22: Solar/Battery Building Permit, slipped from Mar-22, not yet submitted (174PG & DPP) Aug-22: Switchyard Building permit, not yet submitted, slipped from Mar-22 (174PG & DPP) EPC believes COD will likely be impacted by delays to DPP ministerial permits due to the DPP audit. 	52	1.4	<p>GCOD 8-31-23</p>
2020-0137	Waiawa Phase 2 Solar (Stage 2)	Waiawa Phase 2 Solar, LLC (AES)	<p>Engineering/Design</p> <ul style="list-style-type: none"> Identified risks include line extension conflicts with Waiawa Stage 1 project and need for breaker replacement (system work) at Waiawa substation. Hawaiian Electric is waiting for information to complete the overhead line application, executed amendment to files with request for line approval Feb-22. <p>Permits</p> <ul style="list-style-type: none"> Q1 to Q3-22: NPDES Permit, CUP-Minor, Zoning Waiver, Building, Grading Permits anticipated (DOH, DPP & AES) 	30	1.2	<p>GCOD 10-30-23</p>
2020-0140	Mahi Solar (Stage 2)	Longroad Energy	<p>Engineering/Design</p> <ul style="list-style-type: none"> 30% design complete for Generating Facility and Substation; 60% design review complete for COIF. <p>Permits, Procurement and Delivery</p> <ul style="list-style-type: none"> Remaining permits and procurement updates on hold pending status of PPA Amendment Approval. <p>Construction</p> <ul style="list-style-type: none"> Construction anticipated to start Q3-23, likely pushed back. 	120	3.1	<p>Original GCOD 12-31-23</p> <p>COI 12-31-26</p>
Sum Online Before Coal Plant Retirement Based on Current GCOD				39		
Sum All Projects				296.5		

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2019-0323 Distributed Energy Resources (DER)						
	Battery Bonus Program		<ul style="list-style-type: none"> 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. Work with stakeholders to develop strategy to ensure timely permitting and interconnection is ongoing. 7-19-21: Battery Bonus program officially announced by HECO 1-26-22 TF Update: 717 approved applications as of 1-21 represents a committed capacity of 3.97 MW, represents an increase of ~500KW since last month. 2-23-22 TF Update: 797 approved applications as of 2-18 represents a committed capacity of 4.43MW, represents an increase of 75 systems and 460KW. February end of month, SDP report: 908 applications, 	50	TBD	June 2023 Program Enrollment Ends
2015-0389 Community-Based Renewable Energy (CBRE) - Shared Solar						
2015-0389	Palalali Solar 1 - Phase 1		<ul style="list-style-type: none"> Will not meet GCOD Engineering 40% Engineering/ Design review completed by Hawaiian Electric, Company awaiting 90% design from Permits Building Permit anticipated Jan-22, was not received waiting on permits to begin construction (DPP). Estimated 1-2 month delay anticipated due to additional review required for remaining permits from DPP. Procurement PV Panels - 50% arrived Dec-21 Equipment anticipated to arrive Q1 to Q2-22 	3		GCOD 10-29-22
2015-0389	KHLS - Phase 1		<ul style="list-style-type: none"> Will not meet GCOD Engineering/Design 30% Design only included drawings for PV facility. Interconnection facilities 0% design complete. Engineering teams are hired. Permits All discretionary permits received. Feb-22: Estimated submittal date of building, stockpiling, and grading permits, slipped from Dec-21 and Jan-22 (KHLS). Anticipated to receive Mar to May-22. 	1.72		GCOD 12-17-22
	Phase 2		<ul style="list-style-type: none"> 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. 10-13-21: CBRE community meeting for O'ahu held, 1-11-22 Hawaiian Electric submitted Proposed Actions to address community concerns identified 2-8-22: PUC issued Decision & Order 38217 approving Phase 2 RFPs for Oahu, Hawaii Island, and Maui, subject to modifications. Community members noted the limited use of lands for projects and that "damaged lands" and state properties, building rooftops, schools, and parking lots should be considered first over agricultural lands for CERE projects. 2-23-22: Hawaiian Electric filed its final CBRE RFPs and Rule 29 tariffs. Shall be automatically approved 15 days after filing date, or by 3-10-22, unless the Commission orders otherwise. 	105 capacity limit	TBD	
2007-0923 Energy Efficiency - Public Benefits Fund						
	General Energy Efficiency Programs for Demand Side Management		<ul style="list-style-type: none"> Docket includes energy efficiency measures that serve to decrease electricity sales and defer or decrease the need for plant investment. The 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. This measure is administered through a third party, Hawaii Energy. 	Average Total Reduction of 20 to 22 MW per year	N/A - Energy Efficiency	Ongoing
	Hawa'i Energy Power Move Program		<ul style="list-style-type: none"> In preparation for the retirement of the AES coal plant on O'ahu in September 2022, Hawai'i Energy introduced the Power Move program which consists of incentives for certain measures that reduce load during the utility peak hours of 5:00 to 9:00 p.m., program will result in collective demand savings. Rebate incentives average 20% higher than standard Hawaii Energy custom rebates. Program seeks to increase the energy efficiency of eligible commercial customers with exterior lighting, large scale HVAC, transformers, industrial refrigeration , and other large scale equipment operating during the utility peak. 	2-3 MW per year	N/A - Energy Efficiency	Installation by 6-30-23
	Power Move - Commercial Battery Storage Rebate Pilot		<ul style="list-style-type: none"> New to the efficiency portfolio, commercial energy storage projects under Power Move will not only help to shift load during evening peak (5p.m.- 9 p.m.) but also help to help inform future DR readiness and grid flexibility programs in order to meet our clean energy and decarbonization goals. The goal is to offer near-term incentives to boost participation in HECO's DER programs or rate offerings, or support the rollout of emergency demand response initiatives with targeted incentives. This rebate will be available for commercial battery storage installed starting in March 2022 through August 2023. 	Reflected in Battery Bonus Count Above - estimated 4 MW March 2022 - August 2023	N/A - Energy Efficiency	Installation by 8-31-23
2018-0163 Microgrid Services Tariff*						
			<ul style="list-style-type: none"> PUC issued Decision and Order approving microgrid tariff 5-17-21. 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. 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". 	TBD	TBD	
2017-0352 O'ahu Grid Services RFP *						
			<ul style="list-style-type: none"> 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 8-3-21 - PUC approved, with modifications, the HECO proposed RFP for 60 MW of grid services on the island of Oahu. 	60	TBD	COO 9-1-22 for Proposals
2014-0135 Green Infrastructure Loan Program- Green Energy Market Securitization (GEMS) *						
			<ul style="list-style-type: none"> Leverages public-private capital to deploy clean energy infrastructure that will contribute towards Hawai'i's pursuit of its statutory 100% clean energy goals by 2045 while helping ratepayers lower their energy costs. 8-10-21: PUC establishes procedural schedule to review the Green Infrastructure Loan Program Hawai'i 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. 	TBD	TBD	
2007-0941 Demand Side Management (DSM)						
			<ul style="list-style-type: none"> 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 	TBD	TBD	

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