

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)	Estimated Utility RPS Percent Contribution	21-Jul	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	23-Dec	// 24-Mar				
2021-0024 Utility-Scale Projects (Stage 1 and 2)																																						
2018-0434	Mililani 1 Solar (Stage 1)	Clearway Energy Group LLC; Global Infrastructure Partners	39	1.2	<ul style="list-style-type: none"> All permits received Acceptance Testing complete 													CSAT Testing 6-14-22 to 7-28-22		New GCOD 7-31-22																		
2018-0435	Waiawa Phase 1 Solar (Stage 1)	Clearway Energy Group LLC; Global Infrastructure Partners	36	1.2	<ul style="list-style-type: none"> All permits received Equipment delivery ongoing 													<ul style="list-style-type: none"> Shanghai shutdown impacting delivery of BESS components GenTie permit outstanding 		Accelerated GCOD 9-30-22		Estimated COD** 11-22-22		Original Non-Accelerated GCOD 12-1-22														
2019-0050	AES West O'ahu Solar (Stage 1)	AES Distributed Energy Inc.	12.5	0.4	<ul style="list-style-type: none"> Mar-22: Noise Permit Received Apr-22: Grading Permit approved May-22: Building and Electrical Permit (DPP & AES) May-22: Construction anticipated to start 													Previous GCOD 9-7-22 (old PPA)		New COD 1-20-23		Estimated COD 2-8-23																
2020-0136	Kapolei Energy Storage (KES) (Stage 2)	Plus Power	185 (Storage)	0.1	<ul style="list-style-type: none"> Mar-22: Grading permits received Site mobilization started May-22 Building permits expected (DPP & AES) - Delayed 													GCOD 12-30-22		Estimated COD 3-23-23																		
2020-0139	Mountain View Solar (Stage 2)	AES Distributed Energy Inc.	7	0.3														Sep-22 Construction Anticipated to Start		GCOD 5-17-23		COD 6-15-23																
2020-0137	Waiawa Phase 2 Solar (Stage 2)	AES Distributed Energy Inc.	30	1.2														Sep-22 Construction anticipated to start		GCOD 10-30-23		11/13/2023																
2018-0431	Ho'ohana Solar 1 (Stage 1)	174 Power Global; (Hanwha Energy Corporation; Forest City Sustainable Resources)	52	1.4	<ul style="list-style-type: none"> 3-15-22: Grading Permit & NPDES permit issued, Site Clearing began 													GCOD 8-31-23																				
2020-0140	Mahi Solar (Stage 2)	Longroad Energy	120	3.3	<ul style="list-style-type: none"> Project Declared Null and Void 													Q4-22 Construction anticipated to start (likely delayed)		Original GCOD 12-31-23		TBD																
Sum Online Before 9-1-22 Based on Current GCOD			39	2.4																																		
Sum All Projects (not including storage)			236.5	8.9																																		
2019-0323 Distributed Energy Resources (DER)																																						
			50	TBD	Battery Plus Program Started 07-19-21 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: 3.97MW 2-18-22 4.43MW operational 3-25-22 4.92MW operational 4-22-22 5.44MW operational 5-24-22 6.2MW operational Goal 15MW Anticipate 5-7MW													Program Enrollment Ends Jun-23																				
2015-0389 Community-Based Renewable Energy (CBRE) - Shared Solar																																						
	Palalal Solar 1		3															Original GCOD 10-29-22		New Revised GCOD 1-27-23		COD March 2023																
	KHLS		1.72															GCOD 12-17-22		COD Estimate Aug 2023																		
	Phase 2		105 capacity limit	TBD	PUC Approved O'ahu RFP Mar-22													Hawaiian Electric issued RFP Apr-22																				
2007-0323 Energy Efficiency - Public Benefits Fund *																																						
	General Energy Efficiency Programs for Demand Side Management	Hawai'i Energy	~ 20 to 22 MW per year	N/A - Energy Efficiency	Ongoing																																	
	Hawai'i Energy Power Move Program	Hawai'i Energy	~2-3 MW per year	N/A - Energy Efficiency														Installation by 6-30-23																				
	Power Move Commercial Battery Storage Rebate Pilot	Hawai'i Energy	~ 4 MW see Battery Bonus Count	N/A - Energy Efficiency														Installation by 8-31-23																				
2018-0163 Microgrid Services Tariff*																																						
			TBD	TBD																																		
2017-0352 O'ahu Grid Services RFP *																																						
			60	TBD																																		
2014-0135 Green Infrastructure Loan Program: Green Energy Market Securitization (GEMS) *																																						
			-44	TBD																																		
2007-0341 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.

Powering Past Coal Task Force - Master Schedule Detailed



PUC Docket Number and Link	PUC Approved Measure to Replace Generation and Capacity of the Coal Plant	Developer	Project or Task Update	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, All Expected to be Closed by 6-30-22</p> <p>Land Rights - Secured</p> <p>Procurement and Delivery - Complete</p> <p>Construction - Ongoing</p> <ul style="list-style-type: none"> Mechanical Completion of the facility occurred 3-14-22. Installation of BESS equipment was completed in March. Energization of the facility occurred in March and hot commissioning has commenced. Energization of substation completed 3-9-22. Generation facility testing began 3-29-22. 	39	1.2	New GCOD 7-31-22 Estimated COD 7-29-22
2018-0435	Waialua Solar (Stage 1)	Clearway Energy Group LLC, Global Infrastructure Partners	<p>Engineering/Design - Finalized</p> <p>Permits</p> <ul style="list-style-type: none"> Hawaiian Telecom utility Poles in progress. DPP rejected plans 4-20-22. Clearway to submit revised plans to DPP. Permit approval anticipated 6-3-22. <p>Land Rights</p> <ul style="list-style-type: none"> COIF easement anticipated by Q2-22. <p>Procurement and Delivery</p> <ul style="list-style-type: none"> PV panels 100% delivered to HNL port; 60% delivered to site, 55% installed. Battery enclosures: Anticipated delivery for all units anticipated 7-27-22 (delayed - see below). The shut down in Shanghai resulted in a approximate four week delay for the shipment of battery enclosures. On 4-30-22, the BESS supplier has stated the replacement units are being manufactured and have been assigned a ship. However, on 5-13-22, Clearway notified Hawaiian Electric that the shipment of battery cargo is on hold due to fire hazard concerns being investigated by the Chinese Maritime Safety Administration at the terminal in Shanghai. Shipment of battery components out of Shanghai delayed until further notice. 	36	1.2	New GCOD 9-30-22 Estimated COD 11-22-22
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 and COIF Transmission Line, Revision and resubmission required due to drawings not meeting design requirements, AES submitted revisions 3-25-22, Hawaiian Electric returned comments 4-18-22. AES to provide corrections. <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. Grading Permit - Approved 4-5-22, issued 4-29-22. Building Permits- AES received comments from Honolulu Fire Department and Zoning Branch and Third-Party Review, comments being addressed and incorporating potential alternative solar panel. Revised Plans were submitted to DPP in early-April. <p>Land Rights</p> <ul style="list-style-type: none"> Easement for COIF required prior to commercial operations 	12.5	0.4	New GCOD 1-20-23 Estimated COD 2-8-23
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, Substation, and COIF complete. <p>Permits</p> <ul style="list-style-type: none"> 5-31-22: Building permits for BESS expected, submitted 10-15-21, slipped from Feb, Apr, early May-22 (KES & DPP) 6-17-22: Building permit for Substation expected, slipped from Mar, Apr, May, submitted on 12-28-21 (KES & DPP) 6-24-22: Building Permit for GenTie expected, slipped from May-22, submitted 1-14-22 (KES & DPP) <p>Land Rights - Secured</p> <ul style="list-style-type: none"> Executed Right of Entry for Kapolei Properties Parcels 	185 (Storage)	0.1	New GCOD 12-30-22 Estimated COD 3-23-23
2020-0139	Mountain View Solar (Stage 2)	AES Mountain View Solar, LLC	<p>Engineering/Design</p> <ul style="list-style-type: none"> AES completed 80% design for Generation Facility and Substation 60%. Delay in design deliverables may delay procurement of certain equipment and potential execution of construction contract. COIF 60% design package submitted 3-18-22, company completed review 4-13-22 <p>Overhead Line Approval / Interconnection and Design</p> <ul style="list-style-type: none"> Project layout and design studies and community engagement is ongoing. AES requested that Hawaiian Electric delay overhead line approval to allow for further community engagement and incorporation of feedback. Hawaiian Electric to file 46KV line extension to Commission in May. 	7	0.3	GCOD 5-17-23 Estimated COD 6-15-23
2020-0137	Waialua Phase 2 Solar (Stage 2)	Waialua Phase 2 Solar, LLC (AES)	<p>Engineering/Design</p> <ul style="list-style-type: none"> Identified risks include line extension conflicts with Waialua Stage 1 project and need for breaker replacement (system work) at Waialua substation. AES submitted 60% design for generation facility, step-up substation, and COIF. Hawaiian Electric reviewing 60% design. Design complete for generation and step-up substation. Delay in submission is resulting in a two-week impact to COD. <p>Overhead Line Approval - Awaiting PUC COIF</p> <ul style="list-style-type: none"> Hawaiian Electric submitted overhead line approval on 3-24-22. <p>Permits</p> <ul style="list-style-type: none"> Hawaiian Electric submitted greenhouse gas analysis for the Overhead and Underground lines 5-23-22 Update to the existing archeological inventory study, if applicable, will be prepared and filed Jun-22. (AES & SHPO) LLC hearing on 3-23-22 and 4-14-22, continued to 5-25-22. Impacts of approval delay are under evaluation. (AES & LLC) May/June: NPDES, Conditional Use Permit, Zoning Waiver, Building and Grading permits to be submitted. (AES, DPP, DOH) 	30	1.2	GCOD 10-30-23 COD 11-13-23
2018-0431	Ho'ohana Solar 1 (Stage 1)	174 Power Global, (Hawaii Energy Corporation, Forest City Sustainable Resources)	<p>Engineering/Design</p> <ul style="list-style-type: none"> Project seeing habitual slippage in engineering 60-90% design packages for generation facility, switchyard, step up substation, and company owned interconnection facilities. 90% design for generation facility expected by 6-15-22 100% design for COIF sent 5-9-22, under Hawaiian Electric review BESS inverter manufacturer will change, working with Hawaiian Electric to submit redesign. Waialua-Milliani 46kV line relocation project to be completed by Sept-22. <p>Overhead Line Approval / Interconnection and Design</p> <ul style="list-style-type: none"> Kahe-Waialua 138 kV UG/OH relocation was filed with PUC on 6-18-21 (PUC Docket 2021-0086). <p>Permits</p> <ul style="list-style-type: none"> Sept-22: Substation Building permit, slipped from Aug, Apr, Jan-22, and Nov-21, submitted May-21. Oct-22: Solar/Battery Building Permit, slipped from Jun-22 and Mar-22 (174PG & DPP). Nov-22: Switchyard Building permit, not yet submitted, slipped from Aug-22 and Mar-22 (174PG). COD will likely be impacted by delays to DPP ministerial permits due to the 3rd party review audit. 	52	1.4	GCOD 8-31-23 Estimated COD 3-4-24
2020-0140	Mahi Solar (Stage 2)	Longroad Energy	Project Declared Null and Void May 6, 2022 - Will be removed from schedule next month.	120	3.1	Original GCOD 12-31-23
Sum Online Before Coal Plant Retirement Based on Current GCOD				39		
Sum All Projects				176.5		

Powering Past Coal Task Force - Master Schedule Detailed



PUC Docket Number and Link	PUC Approved Measure to Replace Generation and Capacity of the Coal Plant	Developer	Project or Task Update	Production Capacity (MW)	Estimated Utility RPS Percent Contribution	Guaranteed Commercial Operations Date
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 April TF Update: 957 approved applications as of 4-22, represents a committed capacity of 5.44 MW, represents an increase of 94 systems and an increase of 530kW. May TF Update: 1196 approved applications as of 5-24, represents a committed capacity of 6.2MW, represents an increase of 240 systems and an increase of 840kW. 1,377MW and 263 systems in operation. 	50	TBD	June 2023 Program Enrollment Ends
2015-0389 Community-Based Renewable Energy (CBRE) - Shared Solar						
2015-0389	Palalal Solar 1 - Phase 1		<p>Engineering</p> <ul style="list-style-type: none"> 60% Engineering/ Design review completed by Hawaiian Electric, Company awaiting 90% design from Seller. <p>Permits</p> <ul style="list-style-type: none"> Building Permit anticipated Jan-22, was not received waiting on permits to begin construction. No estimate from seller on when permits will be received. Estimated 1-2 month delay anticipated due to additional review required for remaining permits from DPP. <p>Procurement</p> <ul style="list-style-type: none"> PV Panels - 50% arrived Dec-21. Equipment anticipated to arrive Q1 to Q3-22. Items delayed due to review time for remaining permits. 	3		New GCOD 1-27-23 COD March 2023
2015-0389	KHLS - Phase 1		<p>Engineering/Design</p> <ul style="list-style-type: none"> 30% Design in progress for generation facility, step-up substation, COIF. 0% design complete for distribution line, telecom, and remote work. Engineering teams are hired. <p>Permits</p> <ul style="list-style-type: none"> All discretionary permits received. Apr-22: Estimated submittal date of building, stockpiling, and grading permits, slipped from Dec-21 and Jan-22 (HECS). Anticipated to receive Aug-22. 	1.72		GCOD 12-17-22 COD Aug-23
	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. 2-23-22: Hawaiian Electric filed its final CBRE RFPs and Rule 29 filings. Shall be automatically approved 15 days after filing date, or by 3-10-22, unless the Commission orders otherwise. 3-17-22 Hawaiian Electric officially announced opening of the Request for Proposals for CBRE Projects with Low- and Moderate-income subscribers for Oahu. 4-14-22: RFP for Tranche 1 is open and accepting applications. 	105 capacity limit	TBD	
2007-0323 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
	Hawai'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 Hawai'i Energy custom rebates. 5-17-22 Update: 34 projects enrolled with a total of 600-700kW peak demand reduction. 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. 5-2-22 Update: No applications yet, although there are few leads on data centers. 	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 Kauai. 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	COD 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	
2007-0341 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	

* 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 - June 15, 2022 (updated June 1, 2022). Questions can be sent via email to Monique Schafer, Monique.m.schafer@hawaii.gov, at the Hawaii State Energy Office.