

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

Green = Accelerated COD or GCOD	Yellow = Original Proposed GCOD	Red = Delayed COD or 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	2021-2022												2022-2023												// 25-May												
				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	23-Dec							
2021-0024	Utility-Scale Projects (Stage 1 and 2)																																							
2018-0434	Mililani I Solar (Stage 1)	39	1.2	Construction Ongoing																																				
2019-0050	AES West O'ahu Solar (Stage 1)	12.5	0.4	<ul style="list-style-type: none"> Q4-21: Building and Electrical Permit (DPP) Q4-21: Noise Permit (DOH Radiological Health) Q4-21: Grading Permit (DPP) Q1-22 Construction Anticipated to Start												GCOD 9-7-22 At risk of meeting GCOD																								
2018-0435	Waiawa Solar (Stage 1)	36	1.2	Construction Ongoing												New GCOD 9-30-22																								
2020-0136	Kapolei Energy Storage (KES) (Stage 2)	185 (Storage)	0.1	Q1-22 Construction Anticipated to Start												COD Early delivery GCOD 12-30-22																								
2020-0139	Mountain View Solar (Stage 2)	7	0.3	9-29-21 Virtual Community Meeting												Q2-22 Construction Anticipated to Start												GCOD 5-17-23												
2020-0138	Kupehau Solar (Stage 2)	60 - Capacity May Not Be Feasible	1.3	Q1-22 Construction Anticipated to Start (likely delayed)												Original GCOD 5-31-22 New COD 7-1-23 Will Not Meet New COD																								
2018-0431	Ho'ohana Solar 1 (Stage 1)	52	1.4	Q1-22 Construction Anticipated to Start												GCOD 8-31-23																								
2020-0137	Waiawa Phase 2 Solar (Stage 2)	30	1.2	Q2-22 Construction Anticipated to Start												GCOD 10-30-23																								
2020-0140	Mahi Solar (Stage 2)	120	3.1	Q4-22 Construction Anticipated to Start (likely delayed)												Original GCOD 12-31-23 Will not meet GCOD Anticipated COD 5-31-25																								
Sum Online Before 9-1-22 Based on Current GCOD (Includes projects with advanced timeline)		75	2.4																																					
Sum All Projects (not including storage)		356.5	10.2																																					
2019-0323	Distributed Energy Resources (DER)																																							
		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												Goal 15MW Program Enrollment Ends Jun-23																								
2015-0389	Community-Based Renewable Energy (CBRE) - Shared Solar																																							
	Phase 1	5	TBD																																					
	Phase 2	105 capacity limit	TBD	Community meetings scheduled																																				
2018-0163	Microgrid Services Tariff*																																							
		TBD	TBD																																					
2007-0323	Energy Efficiency - Public Benefits Fund *																																							
		-45	TBD																																					
2017-0352	O'ahu Grid Services RFP *																																							
		60	TBD													COD for Proposals																								
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 Measures to Replace Generation and Capacity of the Coal Plant	Developer	Project or Task Updates	Milestones and Next Steps (if Applicable)	Production Capacity (MW)	Estimated Utility RPS Percent Contribution	Guaranteed Commercial Operations Date
2021-0024 Utility-Scale Projects (Stage 1 and 2)							
2018-0434	Mililani i Solar (Stage 1)	Clearway Energy Group LLC, Global Infrastructure Partners	<ul style="list-style-type: none"> • Currently on target to meet new accelerated GCOD. • Construction started; substation work, PV arrays installed and PV invertors set, PV racking is ongoing. • Suppliers have notified Clearway Energy of delivery delays, though currently these delays are not expected to impact achievement of accelerated GCOD. • Oct-21: PUC approved to accelerate PPA with tiered unit pricing, pricing ranges from \$0.08926/kWh if project achieves the GCOD later than 30 days following the GCOD, to \$0.09096/kWh if the project achieves commercial operations on or before the new GCOD. 	<ul style="list-style-type: none"> • 10-6-21: PUC approved accelerated PPA • 12-31-21: Project expects all panels to be delivered to site end of Dec., currently 34% delivered with 16% (~6MW) installed (Clearway) 	39	1.2	New GCOD 7-31-22
2019-0050	West O'ahu Solar (Stage 1)	AES West O'ahu Solar, LLC.	<ul style="list-style-type: none"> • Currently at risk of meeting original GCOD. • Building/Grading/Plan Review applications under review by DPP and Third-Party Review • Archaeological Monitoring Plan awaiting approval by DLNR SHPD. • Notice of Force Majeure consistent with terms of PPA submitted to Hawaiian Electric 10-18-21, solar panel delivery impacted by the Customs and Border Patrol Withhold Release Order. • Construction anticipated to start early 2022 subject to permit issuance and resolution of Force Majeure event. 	<ul style="list-style-type: none"> • Continue working with governmental agencies on easement(s) for Land Court recordation, (AES to DLNR - Bureau of Conveyances) • Q4-21: Building and Electrical Permit (submitted and in process) (DPP) • Q4-21: Grading Permit (submitted and in process) (DPP) • Q4-21: Noise Permit (if applicable) (DOH Radiological Health) • Before issuance of construction permits, SHPD must review and approve the Archeological Monitoring Plan submitted May 2021 (DLNR-SHPD) 	12.5	0.4	GCOD 9-7-22
2018-0435	Waiawa Solar (Stage 1)	Clearway Energy Group LLC, Global Infrastructure Partners	<ul style="list-style-type: none"> • Currently on target to meet new accelerated GCOD. • Construction started; PCS pile installation is ongoing, substation foundation completed and setting of substation equipment is ongoing, all PV invertors in place, underground cable installation ongoing. • Suppliers have notified Clearway Energy of delivery delays, though currently these delays are not expected to impact achievement of accelerated GCOD. • On 10-6-21 PUC approved to accelerate PPA with tiered unit pricing, pricing ranges from \$0.09981/kWh if project achieves the GCOD later than 30 days following the GCOD, to \$0.102545/kWh if the project achieves commercial operations on or before the new GCOD. 	<ul style="list-style-type: none"> • 10-6-21: PUC approved accelerated PPA • 12-31-21: Modules expected to arrive (Clearway) • DPP audit of third-party plan reviews is ongoing; impact to Substation Building Permit is unknown. Building permit working under courtesy inspection (DPP) 	36	1.2	New GCOD 9-30-22
2020-0136	Kapolei Energy Storage (KES) (Stage 2)	Plus Power	<ul style="list-style-type: none"> • Currently on target to meet New GCOD. • Construction anticipated to start 2-7-22, ground blessing 8-11-21. • Battery supplier cannot guarantee delivery until Aug-22, delaying initial GCOD under Force Majeure condition. • KES is looking at rolling commissioning by looking at each battery as it's installed and hooked up. 	<ul style="list-style-type: none"> • 11-15-21: KES reached the construction financing milestone, and has the ability to draw funds to construct the project. (KES) • 2-7-22: Construction anticipated to mobilize. (KES) 	185 (Storage)	0.1	Original GCOD 6-1-22 New GCOD 12-30-22
2020-0139	Mountain View Solar (Stage 2)	AES Mountain View Solar, LLC.	<ul style="list-style-type: none"> • Currently on target to meet Original GCOD. • Project layout and design and studies, and community engagement. • AES monitoring supply chain issues. • Construction anticipated to start Q3-22 (slipped from Q2-22). 	<ul style="list-style-type: none"> • 12-3-21: IRS Amendment Execution Target (slipped from 11-30-21) (AES and HECO) • 12-16-21: Virtual community meeting • Q1 22: Review of previously accepted Archaeological Inventory Survey with SHPD in early 2022 • Q1-Q2 22: CUP-Minor, Zoning Waiver, Building and Grading Permit anticipated (DPP). 	7	0.3	GCOD 5-17-23
2020-0138	Kupehau Solar (Stage 2)	174 Power Global; Hanwha Energy USA	<ul style="list-style-type: none"> • Will not achieve the New 7-1-23 GCOD. • Cultural survey identified issues with current project design. Issues related to project site identified, if resolution is not reached revisions to facility study would be required. • 174 PG and Hawaiian Electric continue to evaluate "alternative paths forward" • Construction start date Q1-22 is likely delayed. 	<ul style="list-style-type: none"> • Hawaiian Electric and 174 PG have been collaborating on alternative paths forward. If proposal agreed to, would likely require a major amendment of the PPA and an extension of 174 PG right to declare project null and void (expired 11-24-21). 	60	1.3	Original GCOD 5-31-22 New GCOD 7-1-23
2018-0431	Ho'ohana Solar 1 (Stage 1)	174 Power Global; (Hanwha Energy Corporation; Forest City Sustainable Resources)	<ul style="list-style-type: none"> • Currently on target to meet original GCOD. • 90% Switchyard Design anticipated 12-7-21, slipped from original due date of 10-6-21 and second due date of 11-29-21; delay a result of extended engineering design cycle; delay should not impact COD. • Construction anticipated to start Q1-22. 	<ul style="list-style-type: none"> • 12-7-21: 90% Switchyard Design drawings, expected (slipped from 11-29-21 and 10-6-21) (174PG) • 11-15-21: Grading Permit & NPDES Permit submitted (Solar-Battery, Substation), DPP to review (DPP) • Nov-21: Substation Building permit anticipated (submitted May-21) (DPP) • Feb-21: Submission of solar-battery Building Permit (174PG & DPP) 	52	1.4	GCOD 8-31-23
2020-0137	Waiawa Phase 2 Solar (Stage 2)	Waiawa Phase 2 Solar, LLC. (AES)	<ul style="list-style-type: none"> • Currently on target to meet original GCOD. • Identified risks include line extension conflicts with Waiawa State 1 project and need for breaker replacement (system work) at Waiawa substation. • AES monitoring supply chain issues. • Construction anticipated to start Q2-Q3 2022. 	<ul style="list-style-type: none"> • 12-15-21: IRS Amendment Execution Target (slipped from 10-15-21 and 11-15-21) (AES and HECO) • Q1-22: LUC amendment to Existing Decision & Order (LUC) • Q1 to Q2-22: CUP-Minor, Zoning Waiver, Building, Grading Permits anticipated (DPP) 	30	1.2	GCOD 10-30-23
2020-0140	Mahi Solar (Stage 2)	Longroad Energy	<ul style="list-style-type: none"> • GCOD potentially pushed back to June of 2025. • 9-21-21 Longroad Energy filed notice of Force Majeure with HECO. Longroad Energy was notified of supply chain delays which could affect COD by 12 to 18 months or more. • Proposed to HECO a new amendment to mitigate delay and maintain original schedule and GCOD, amendment would increase the Project's unit price by an undisclosed amount. Commission not inclined to consider the price increases proposed to push forward plausible COD. • Longroad and HECO have scheduled negotiation meetings in December to continue discussions on a potential PPA Amendment and Hawaiian Electric will provide further updates on the progress of such negotiations in January. • New PPA Amendment deadline to address Force Majeure extended to January 10, 2022. • Construction anticipated to start Q3-23, likely pushed back 	<ul style="list-style-type: none"> • 1-10-22 PPA Amendment to address Force Majeure, due to PUC (Longroad and HECO) 	120	3.1	Original GCOD 12-31-23 Potential New GCOD May 2025
Sum Online Before Coal Plant Retirement Based on Current GCOD					75	2.4	
Sum All Projects					356.5	10.2	

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2019-0323 Distributed Energy Resources (DER)							
			<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. 	<ul style="list-style-type: none"> 7-19-21: Battery Plus program officially announced by HECO 12-23-21: Hawaiian Electric requests Commission to issue order approving the revised Interim Residential Time-of-Use Tariff Sheets submitted 11-24-21. 12-1-21 TF Update: 499 approved applications, as of last week making up a committed 2.57 MW of capacity. 	50	TBD	June 2023 Program Enrollment Ends
2015-0389 Community-Based Renewable Energy (CBRE) - Shared Solar							
	Phase 1		<ul style="list-style-type: none"> CBRE Phase 1: All projects GCODs are on track or have been achieved to date. Three (3) O'ahu projects, totaling 4.99MW capacity. Current O'ahu Projects in planning and development: Palailai Solar, KHLS Solar (delayed start) 		4.99 (current sum)	TBD	
2015-0389	Palailai Solar 1	O'ahu	<ul style="list-style-type: none"> On target to meet GCOD 60% Engineering/ Design review completed by Company. Company requested Seller to resubmit the 60% Design Submittal due to missing COIF drawings. Seller is currently experiencing delays in receiving shop drawings from various vendors, hence the delay under SOIF engineering. Estimated 1-2 month delay anticipated due to additional review required for remaining permits from DPP. Construction anticipated to start Q1 to Q2-22. 	<ul style="list-style-type: none"> 10-31-21: PV Panels ordered Q1-22: SOIF and COIF construction scheduled to start 	3		GCOD 10-29-22
2015-0389	KHLS	O'ahu	<ul style="list-style-type: none"> At risk for achieving GCOD EPC contractor has been selected, but not been contracted for the project Developer has reported an estimated 6 month delay in the permitting process for HCDA due to Covid-19 impact, also reported a 9 month delay in permitting process for DLNR Seller has requested Company to assess alternative Point of Interconnection as the easements for the current route are not feasible. Company anticipates completion of assessment in late Nov-21 	<ul style="list-style-type: none"> 11-3-21 - Development permit and variance permit approved (HCDA) Dec-21 - Estimated submittal date of building, stockpiling, and grading permits (HCDA & DPP) 	1.72		GCOD 12-17-22
	Phase 2 (Paused for Oahu)		<ul style="list-style-type: none"> 9-3-21: PUC issued decision and order freezing docket for 45-days to "listen to [community] concerns and collaborate with stakeholders on potential solutions". Community meeting to be scheduled within 45-days, or by 10-18-21 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. 	<ul style="list-style-type: none"> 10-13-21: CBRE community meeting for O'ahu held December 2021 - CBRE RFP for O'ahu remains on hold 	105 capacity limit	TBD	
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 Hawaii, 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	
2007-0323 Energy Efficiency - Public Benefits Fund *							
			<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 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. This measure is administered through a third party, Hawaii Energy. 		-45	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. 	<ul style="list-style-type: none"> Sept-21 - Aggregator Swell Energy Inc. announced enrollment of solar and energy storage customers in its Home Battery Rewards program. 	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 Hawaii'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 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. 		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	

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