## 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 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.

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.

## 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 =	Yellow =	Red =
On Target to Meet GCOD	At Risk of Meeting GCOD	Will Not Meet GCOD

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.

Publish Date: October 2022, Questions can be sent via email to Monique Schafer, Monique.m.schafer@hawaii.gov, at the Hawai'i State Energy Office. Url: https://energy.hawaii.gov/ppctf



Approved Measures to Replace Generation and Capacity of the Coal Plant Utility-Scale Projects (Stage 1 a	e (MW)	July Aug 2022 2022	Sept 2022	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023	June 2023	July 2023	August 2023	Sept 2023	Oct 2023	Nov 2023	Dec 2023	Jan 2024	Feb 2024	Mar 2024	April 2024	May 2024	June 2024	July 2024	Aug 2024	Sept 2024	Oct 2024	Nov 2024	Dec 2024
Milliani I Solar (Stage 1)	39	Accelerated GCOD 7-31-22 PROJECT ENERGIZED!	Retirement 9-1-2																											
Waiawa Phase 1 Solar (Stage 1)	36		Accelerated GCOD 9-30-22	1		Original Non-Acceler GCOD 12-1-22	ated		Estimated COD 3-14-23																					
Kapolei Energy Storage (KES) (Stage 2)	185 (Storage)	Building pemits - special inspection approval issued Gen-Tie Permit Outstanding				GCOD 12-30-22			•		Estimated COD 5-29-23																			
AES West O'ahu Solar (Stage 1)	12.5						New GCOD 1-20-23					Estimated COD 6-5-23																		
Mountain View Solar (Stage 2)	7										GCOD 5-17-23							COD 12-26-23												
Hoʻohana Solar 1 (Stage 1)	52													GCOD 8-31-23							Estimated COD 3-4-24									
Kūpono Solar	42																					GCOD 4-9-24 Estimated COD 4-9-24	ı							
Waiawa Phase 2 Solar (Stage 2)	30															GCOD 10-30-23						COD 4-8-24								
Barbers Point Solar	60												Jul-23: Esti Constructio	mated on Start Date				Original GCOD 12-29-23												Estimated COD 12-23-24
Distributed Energy Resources (	50	7-22-22 8-22-22 8.08MW 9.37MW 2.02MW 2.89MW operational	9-27-22 10.81MW 3.64MW operational	ı								Program E Jun-23	nrollment Ends	s																
Palailai Solar 1	3			Original GCOD 10-29-22			New Revised GCOD 1-27-23	d		COD April 2023																				
KHLS	1.72					GCOD 12-17-22								COD Estimate A 2023	ug															
Phase 2  Energy Efficiency - Public Benef	105 capacity limit																													
General Energy Efficiency Programs for Demand Side Management	~ 20 to 22 MW per year																													
Hawai'i Energy Power Move Program	~2-3 MW per year											Installation 6-30-23	ı by																	
Power Move Commercial Batter Storage Rebate Pilot	~ 4 MW see Battery Bonus Count													Installation 8-31-23	n by															



JC Docket Number d 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 Operat Date
		Clearway Energy Group	All Construction and Testing Activities Complete	39	1.2	COD 7-31-22	
	Waiawa Solar (Stage 1)	Clearway Energy Group LLC; Global Infrastructure Partners	Engineering/Design - Finalized  Permits and Land Rights - Complete and Secured  Procurement and Delivery - All items delivered  Construction - Complete	Hawaiian Telecom Circuit - Completed  Testing  Oct-22: Acceptance Testing to start  Feb-23: CSAT projected to start, delayed by push back of Acceptance Test.	36	1.2	New GCOD 9-30-22 Estimated COD 3-14-23
	Kapolei Energy Storage (KES) (Stage 2)	Plus Power	Engineering/Design  • 90% design complete for Storage Facility, Substation, and COIF complete.  Permits - Outstanding  • Building permits for BESS (40 total), approved to issue, Jul-22: Special assignment inspection approved for BESS.  • Building permit for substation, special assignment inspection approved. Awaiting permit issuance  • Building Permit for GenTie was rejected do to inadequate drawings. GenTie special assignment inspection denied.  KES to resubmit updated drawings end of Sept.  Land Rights - Secured	Procurement and Delivery  Anticipated arrival Energy Storage and Inverters 7-6-22 to 12-27-22. 99 batteries received onsite.  Construction - Ongoing  Grading, grubbing, trenching all completed.  Substation underground work commenced.  All battery pads have completed concrete pours.  Transmission line work cannot commence until permit or special inspection approval for GenTie is approved.  Testing  2-15-23 to 3-1-23: Acceptance Test anticipated.  4-21-23 to 5-29-23: CSAT anticipated.	185 (Storage)	0.1	New GCOD 12-30-22 Estimated COD 5-29-23
		AES West O'ahu Solar, LLC.	Engineering/Design - Complete  Permits  - Building Permits - outstanding  - Special assignment inspection approvals issued 6-20-22  - Review for the eight (8) permits remaining completed branch reviews. AES working to obtain necessary signatures and routing including approval by Hawaiian Electric for final submittal to DPP.  Land Rights  Easement for COIF required prior to commercial operations. Estimated filing date with Land Court - Q4-22.	Procurement and Delivery  • Aug 22: All BESS components, batteries, and circuit breakers on island  • Oct 22: Remaining PV panels anticipated to arrive.  • Dec 22 - Jan 23: Current and voltage transformers expected delivery  • Jan 23: Control building arrival  Construction - Ongoing  • Civil work and site clearing for generation and interconnection facilities commenced. Mass grading activities at 100% completion.  • Generation facilities under construction - Racking approximately 79% complete, solar panels undergoing installation.  • Remote and inter-dependent system work completed.  Testing  • Acceptance Test scheduled to start Mar 23.  • CSAT scheduled to start Apr 23.	12.5	0.4	New GCOD 1-20-23 Estimated COD 6-5-23
	Mountain View Solar (Stage 2)	AES Mountain View Solar, LLC.	Hawaiian Electric filed 46kV line extension application with the Commission on 5-19-22 and accompanying greenhouse gas analysis on 6-14-22.      Permits     4-13-22: HICRIS submittal to SHPD, awaiting HRS 6E Determination. (DLNR-SHPD)	Land Rights - Complete (updated since last month)  • COIF/SOIF easement and right of entry - completed. Blanket easement to remain in place for the life of the project.  Procurement and Delivery  • Q-4-2 to Q-2-3: Estimated arrival date of equipment. Majority arriving Mar to Apr 23.  • Oct-22: All equipment to be ordered.  Construction  • Construction anticipated to start Dec-22.  Testing (slipped since last month)  • Sept 23: Acceptance test scheduled to start.  • Dec 23: CSAT scheduled to start.	7	0.3	GCOD 5-17-23 Estimated COD 12-26-23
	Hoʻohana Solar 1 (Stage 1)	174 Power Global; (Hamwha Energy Corporation; Forest City Sustainable Resources)	Engineering/Design  • 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.  • Wai'au-Miillani 46kV line relocation project to be completed by Sept-22.  Overhead Line Approved  • Kahe-Waiau 138 kV UG/OH relocation was filed with PUC on 6-18-21 (PUC Docket 2021-0086), approved by the Commission 6-27-22.  PPA Amendment  • 174PG provided information regarding a possible amendment to the PPA, including a revised price and GCOD, among other things, on July 8, 2022. Both the Company and Seller are discussing.  Land Rights  • Sept 22: Anticipated execution date for Right of Entry from 174PG and landowner	* \$-51-2.22. Substation building permit submitted estimated receipt Sept 22. Special courtesy inspection issued by DPP. Seller can begin construction.  **Switchyard building permit, 174P6 to submit application for special courtesy inspection when 3rd party reviewer completes comments on electrical and structural drawings.  **Procurement and Delivery**  **Sep-22: Estimated arrival of racking.  **Oct-22: Estimated arrival of PV modules, control building, GSU transformer, circuit breakers, instrument transformers.  **Nov-22: Estimated arrival of invertors*  **Feb-23: Estimated arrival of energy storage.  **Construction - Ongoing**  **Site clearing and site mobilization began 3-31-22.  **Construction financing milestone met 8-1-22.  **Testing**  **Acceptance Test scheduled for 5-16-23 to 6-14-23.	52	1.4	GCOD 8-31-23 Estimated COD 3-4-24
<u>20-0143</u>	Barbers Point Solar	Innergex	PPA  Approved by the PUC 3-23-22  Innergex indicated that due to delays, price increases caused by COVID 19, the ongoing supply chain crisis, changing market conditions, and impacts to financing, it is unable to move forward with its project as planned  PPA Termination Deadline and PPA Amendment extended to October 21, 2022 via a letter agreement so Parties can continue the pricing proposal discussions.  OH Line Approval - Not Yet Submitted  OH line application to the PUC, not yet submitted. Innergex is in the process of preparing inputs requested by HECO.  Engineering and Design  Generation facility 30% design completed. Design work on revised layout that incorporates changes in equipment is underway.  SOIF step up substation, COIF, and COIF transmission line: 30% design complete. Innergex is currently working on 60% design with anticipated submittal date end of Sept 2022  Remote work: 60% design in progress.	Permits SHPD 6E Historic preservation review - In Progress: 8-10-22 SHPD completed review of Updated Draft AIS (HICRIS 2020PR33014) and draft mitigation plans (AMP, DRP, PP). Final revisions by Innergex being made to supports concurrence of the AIS and mitigation plans (AMP, DRP, PP). Final revisions by Innergex being made to supports concurrence of the AIS and mitigation plans - DOT-HWY (Transmission Line & Collector Line) use and occupancy agreement / permit to perform work - In Progress: Obtained Conditional Letter for Use and Occupancy Agreement. HDDT reviewing 30% design. DDT-HWY (Driveway) use and occupancy agreement / permit to perform work - In Progress: 30% design in progress.  **HCDA - Conditional Use Permit - Draft application submitted April; ongoing discussions between DHHL, HCDA and Innergex  **DOTH MPDES permit: Contractor to obtain prior to construction (target permit Q2 2023)  **PDP Grading, Building and Electrical permits: Contractor to obtain prior to construction (target permit Q2 23)  **Procurement and Delivery**  **PV Panels, Inverters, Racking, Modules and Energy Storage ordered and arrival dates TDB due to ongoing Force Majeure issues.  **GSU transformer est. arrival Q2-23*  **Circuit breakers, current and voltage transformers, control building - order and arrival TBD.  **Construction**	60	0.4	Original GCOD 12-29-23 COD 12-24-24
		Waiawa Phase 2 Solar, LLC. (AES)	Engineering/Design  I dentified risks include line extension conflicts with Waiawa Stage 1 project and need for breaker replacement (system work) at Wahiawa substation.  AES began 90% design for Generation facility, step up substation, and COIF. Wanted preliminary comments from DPP, but did not receive.  Overhead Line Approval - Issued 9-2-22  I Hawalian Electric submitted overhead line approval on 3-24-22.  6-17-22: Hawalian Electric notified PUC that docket ready for decision making.  9-2-22: PUC approved 46kV overhead line construction.	Permits  - 6-17-22: CUP minor submitted to DPP 7-12-22: Building and Grading permits submitted to DPP 7-25-22: NPDES permit submitted to DOH.  Procurement and Delivery - Majority of equipment arrival Jun to Jul 23 PV panels, inverters, GSU transformers - ordered Majority of equipment to be ordered Aug to Oct 22.  Construction - Construction anticipated to start Jan 23  Testing - Acceptance test scheduled to start Nov 23 - CSAT scheduled to start Apr 24	30	1.2	GCOD 10-30-23 COD 4-8-24
		Bright Canyon Energy and	PPA PPA approved by the PUC 7-22-22. Overhead Line application outstanding, HECO, Bright Canyon, and Ameresco gathering information for application. Solved design submitted 6-13-22. Interconnection requirements study (IRS) PPA amendment deadline extended to 9-30-22 to incorporate equipment selection and updated detailed project schedule.	Permits  • Project on federal land many permits not required.  • NPDES permits issues 9-15-22  Procurement  • Most equipment ordered with expected arrival dates Q1-Q2 23	42	0.85	GCOD 4-9-24



PUC Docket Number and Link 2019-0323	PUC Approved Measure to Replace Generation and Capacity of the Coal Plant Distributed Energy Reso	Developer purces (DER)	Project or Task Update		Production Capacity (MW)	Estimated Utility RPS Percent Contribution	Guaranteed Commercial Operations Date
	Battery Bonus Program		PUC issued Decision and Order on 6-8-21 for HECO to implement a Schedule Dispatch Program (SDP) for commercial generators to install battery storage for existing or added photovoltaic systems. New battery systems will discharge of *Work with stakeholders to develop strategy to ensure timely permitting and interconnection is ongoing.  7-19-21: Battery Bonus program officially announced by HECO.  August TF Update: 1,711 approved applications as of 8-24-22, represents committed capacity of 9.37MW, and increases.  Sept TF Update: 1,925 approved application as 9-27-22, represents committed capacity of 10.81MW, and an increase.	on a scheduled basis during peak hours.  ease of 202 systems and an increase of 1.29MW. 2.89MW and 495 systems confirmed in operation.	50		June 2023 Program Enrollment Ends
2015-0389 2015-0389	Community-Based Rene Palailai Solar 1 - Phase 1	wable Energy (CBRE)	Engineering  • 90% Engineering/ Design review completed by Hawaiian Electric, Hawaiian Electric provided comments on 6-20-22  Permits  • Building Permit anticipated Jan-22, was not received waiting on permits to begin construction. No estimate from seller on when permits will be received.  • Electrical review of building permits commenced 6-3-22.  • 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 Q3-22. Items delayed due to review time for remaining permits.	Construction  Construction anticipated to start Aug-22.  Testing  Acceptance test anticipated Oct to Nov-22.  CSAT anticipated Jan-23 to Mar-23.  CBRE Contract  On 4-4-22 Hawaiian Electric and Tritium (seller) agreed to extend the GCOD to 1-27-23 from the original GCOD of 10 29-22.	3		New GCOD 1-27-23 COD April 2023
<u>2015-0389</u>	KHLS - Phase 1		Engineering/Design  30% Design in progress for generation facility, step-up substation, COIF.  30% design complete for distribution line, telecom, and remote work.  Engineering teams are hired.  Permits  All discretionary permits received.  Jul-22: Estimated submittal date of building, stockpiling, and grading permits (KHLS). Anticipated to receive Nov-22	Procurement Estimated order dates from Seller: May to Aug-22, arrival dates estimated Q4-22 to Q1-23. Company to order Revenue Meter, estimated arrival Q3 2022. Construction Estimated to start Q4-22. Testing Acceptance Test Anticipated Jun-23. CSAT Test Anticipated Jul-23.	1.72		GCOD 12-17-22 COD Aug-23
2007-0323	Phase 2  Energy Efficiency - Publi	ic Renefits Fund	Capacity limit is 105 MW for Oahu. Hawaiian Electric has application capacities of 75 MW Large Projects, 15 MW Sn     2-23-22: Hawaiian Electric filed its final CBRE RFPs and Rule 29 tariffs. Shall be automatically approved 15 days afte     3-317-22 Hawaiian Electric officially announced opening of the Request for Proposals for CBRE Projects with Low-an     4-14-22: RFP for Tranche 1 and LMI is open and accepting applications.	er filing date, or by 3-10-22, unless the Commission orders otherwise.	105 capacity limit	TBD	
	General Energy Efficienc Demand Side Manageme	y Programs for	Docket includes energy efficiency measures that serve to decrease electricity sales and defer or decrease the need     The number shown in the next column indicates the estimated decrease in required production capacity that can b     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 M	ove Program	<ul> <li>In preparation for the retirement of the AES coal plant on O'ahu in September 2022, Hawai'i Energy introduced the of 5:00 to 9:00 p.m., program will result in collective demand savings. Rebate incentives average 20% higher than sta</li> <li>May TF Update: 34 projects enrolled with a total of 6:00-700kW peak demand reduction.</li> <li>June TF Update: 45 projects enrolled with a total of 7:20 kW peak demand reduction.</li> <li>Program seeks to increase the energy efficiency of eligible commercial customers with exterior lighting, large scale</li> </ul>			N/A – Energy Efficiency	Installation by 6-30-23
2018-0163	Power Move - Commerc Rebate Pilot Microgrid Services Tarif		New to the efficiency portfolio, commercial energy storage projects under Power Move will not only help to shift lo 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 This rebate will be available for commercial battery storage installed starting in March 2022 through August 2023. May TF Update: No applications yet, although there are few leads on data centers. June TF Update: Two applications submitted representing 255 kW.	bad during evening peak (5p.m 9 p.m.) but also help to help inform future DR readiness and grid flexibility programs i t the rollout of emergency demand response initiatives with targeted incentives.		N/A – Energy Efficiency	Installation by 8-31-23
			<ul> <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 d</li> <li>A microgrid is defined as a group of interconnected loads and distributed energy resources within clearly defined e and is connected to a public utility's electrical grid to operate in "grid connected mode", or can disconnect to operate</li> </ul>	lectrical boundaries that acts as a single self-governing controllable entity with respect to the utility's electrical grid	TBD	TBD	
2017-0352	O'ahu Grid Services RFP		RFP seeks customer sited grid services through a competitive bid request for proposals (RFP). The RFP seeks proposagacity 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 Oahlers (REMS).	sals that include the delivery of Capacity Reduction Grid Service, but proposals that include fast frequency response on nu.	60	TBD	COD 9-1-22 for Proposals
			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     8-10-21: PUC establishes procedural schedule to review the Green Infrastructure Loan Program	their energy costs. options and the number and value of loans to finance EVs and EV charging stations and principal repaid into the State	TBD	TBD	
2007-0341	Demand Side Managem	ent (USIVI)	Programs that incentivize residential, commercial, and industrial energy savings through rate schedules. DSM programs to encourage consumers to modify their level and pattern of electricity usage. Docket includes tariffs and prices to e	rams generally consist of the planning, implementing, and monitoring activities of electric utilities which are designed ncourage lower consumption	TBD	TBD	