

Hawaii's Energy Storage Overview

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Energy Storage Technologies by Discharge Time, Size, and Use

(Source: Electric Power Research Institute)



Hawaii – Energy Storage Policies, Regulations & Market



	Type	IVIV	A OF SALCS
Active In Use			
KIUC, Koloa	Solar	12.0	3.9
KIUC, Anahola	Solar	12.0	4.1
Green Energy Team	Biomass	6.7	10.9
McBryde, Port Allen	Solar	6.0	2.3
McBryde, Wainiha/Kalaheo	Hydro	6.0	4.4
KIUC, Walahi	Hydro	1.5	1.0
Gay & Robinson, Olokele	Hydro	7.3	6.4
KAA, Waimea/Kekaha	Hydro	1.5	0.3
Pioneer, Waimea	Solar	0.3	0.1
Kapa'a Solar	Solar	1.0	0.3
Tesla Solar Storage	Solar	13.0	4.2
AES Lawa'i Solar Storage	Solar	20.0	8,9
MP2, 'Oma'o	Solar	0.3	0.1
Customer Solar	Solar	31.3	11.0
Under Construction/Permit	ting		
AES PMRF Solar plus Storage	Solar	14.0	7.8
Under Development			
West Kaua'i Energy Project	Hydro	25.0	16.6

Total Renewable Energy in Service 2019 118.9 MW/57.9% Potential Renewable

Energy in Service 2025 157.9 MW/82.3%

Kauai Island Utility Cooperative (KIUC) Current

& Under Development Generation & BESS

Energy Storage Costs





Oahu Near-Term Resource Plan (Source: Hawaiian Electric Company)

Year	Oʻahu Resource Plan
2017	72.3 MW DG-PV
2018	41.2 MW DG-PV 6 x 8.14 MW Schofield Plants 24 MW Na Pua Makani Wind 109.6 MW Grid-Scale PV 10 MW Grid-Scale Wind (CBRE) 15 MW Grid-Scale PV (CBRE)
2019	45.5 MW DG-PV 70 MW Contingency FFR I 20 MW West Loch PV
2020	40.5 MW DG-PV 30 MW Grid-Scale Wind 180 MW Grid-Scale PV 100 MW 1-hour Regulation <mark>BESS</mark>
2021	55.6 MW DG-PV Convert H8 & H9 to synchronous condenser



HECO Solar + BESS projects approved by the Hawaii PUC

(Source: HECO website)

APPROVED BY REGULATORS								
Name	Island	Developer	Tech	Size	Estimated Completion	RPS % Points Contribution		
Molokai Island Energy Project	Moloka'i (Kaunakakai)	Molokai New Energy Partners LLC	Solar + BESS	2.6 MW 15 MWh (BESS)	2020	0.1		
AES Kuihelani	Maui (Central Maui)	AES Kuihelani Solar, LLC	Solar + BESS	60 MW 240 MWh (BESS)	2021	1.9		
AES Waikoloa Solar, LLC	Hawaiʻi Island (Waikoloa)	AES Waikoloa Solar, LLC	Solar + BESS	30 MW 120 MWh (BESS)	2021	0.8		
AES West Oahu Solar, LLC	Oʻahu (West Oʻahu)	AES West Oahu Solar, LLC	Solar + BESS	12.5 MW 50 MWh (BESS)	2021	0.4		
Hoʻohana Solar 1, LLC	0ʻahu (Kunia)	Hanwha Energy USA Holdings Corp (174 Power Global)	Solar + BESS	52 MW 208 MWh (BESS)	2021	1.4		
Mililani I Solar, LLC	Oʻahu (Mililani)	Mililani I Solar, LLC (Clearway)	Solar + BESS	39 MW 156 MWh (BESS)	2021	1.2		
Waiawa Solar Power LLC	Oʻahu (Waiawa)	Waiawa Solar Power LLC (Clearway)	Solar + BESS	36 MW 144 MWh (BESS)	2021	1.2		
Hale Kuawehi Solar LLC	Hawai'i Island (Waimea)	Hale Kuawehi Solar LLC (Innergex)	Solar + BESS	30 MW 120 MWh (BESS)	2022	0.8		

Two Distinctive Policy Approaches









Thank you!



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