Hawaiian Telcom

Climate Action Plan

Net Zero by 2040

June 1, 2026

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About Us

Today, **Hawaiian Telcom** offers 1 Gig and faster broadband service via Hawaii's largest next-generation fiberoptic telecommunications network. In the beginning, our mission was to provide telephone service to the people of Hawai'i. In the decades that followed — despite the passage of time — Hawaiian Telcom remained true to our founder, King Kalākaua's, legacy of innovation.

In an ambitious push toward a connected future, **Hawaiian Telcom**, in collaboration with federal, state, and county leaders, has positioned Hawai'i as the first fully fiber-enabled state in the U.S. by 2026. This monumental investment not only places Hawai'i at the forefront of broadband innovation but also ensures access to state-of-the-art fiber connectivity for homes and businesses statewide, including underserved rural communities. With this historic initiative, **Hawaiian Telcom** aims to enhance the quality of life, strengthen infrastructure, and build a resilient local economy while connecting Hawaii to the mainland, Asia and the world.

Hawaiian Telcom is a subsidiary of parent company **altafiber**[1] that provides enabled internet, entertainment and phone solutions that keep consumer and business customers connected with each other and with the world. **altafiber** and its family of companies, which includes **Hawaiian Telcom**, was acquired by Macquarie Asset Management, a global asset management company. The acquisition enables **altafiber** and **Hawaiian Telcom** to accelerate fiber expansion plans in our respective markets to help bridge the digital divide.

Our environmental vision is "to connect people, free from waste or pollution, enhancing environmental quality and health in our communities." Building upon a long legacy of environmental responsibility and stewardship, we embarked on a path to net-zero greenhouse has (GHG) emissions by 2040. This climate action plan details **Hawaiian Telcom's** actions and milestones spanning our operations in our network service area in Hawaii. Note, **altafiber's** unique climate action plan is available separately on their website. The purpose of this plan is to provide **Hawaiian Telcom's** roadmap to reach our net-zero goals, focused on our emissions reduction pathway to 2030.

We serve Hawai'i, our home.

[1] Hawaiian Telcom's parent company, Cincinnati Bell Inc., began doing business as (dba) altafiber in 2022

Executive Summary

Hawaiian Telcom is a technology company that delivers integrated communications solutions over our copper and fiber optic networks, including high-speed Internet, video, voice, and data. We serve Hawai'i, our home.

Building upon a long legacy of environmental responsibility and stewardship, **Hawaiian Telcom** made a commitment to be a net-zero carbon emitter by 2040 and embarked on a path to reduce greenhouse gas (GHG) emissions. In 2022 we announced our interim goal of reducing our carbon emissions 40% from our 2021 baseline by 2030. Our targets align with those recommended by the Science Based Targets Initiative's (SBTi) guidance for Information and Communications Technology companies and contribute to the global effort to limit warming to 1.5-degrees Celsius.

The key elements of the plan are as follows:

Element	Summary
 **Baseline Emissions**	• 2021 baseline year: 32,824 mt CO2e for Hawaiian Telcom • Scope 1 made up 8% of emissions for Hawaiian Telcom • Scope 2 made up 92% of emissions for Hawaiian Telcom
 **Reduction Targets**	• Near-term: 40% reduction in Scope 1 and 2 by 2030 • Long-term: Net Zero (90% reduction) by 2040
 **Abatement Measures**	• Aggressively implement network transformation by migrating customers from our legacy copper wireline network to our new fiberoptic network, and shut down energy-intensive elements of the copper network; in particular, legacy voice switches and related network equipment such as Optically Remote Modules (ORM) and Digital Loop Carrier (DLC) equipment • Consolidate & divest of network equipment, fleet, and real estate, where feasible • Increase the pace of efficiency projects in network, facilities & fleet • Integrate available electric vehicle (EV) models into our fleet as we replace vehicles at end-of-life • Add on-site solar photovoltaic systems where feasible

Table 1: Key elements of climate action plan

Specific carbon emission abatement measures are presented in this climate action plan including their relative cost, effort to implement, timeframe, potential carbon reduction, and status. The abatement measures, or climate actions, for **Hawaiian Telcom** through 2030 are presented in the table below.

Project Name	Project Category	Energy Source Impact	Timing	Amount of MT CO2 e Reduction by 2030
Fleet efficiency	Electrification	Gasoline, diesel	2023-2030	508
Fleet electrification	Electrification	Gasoline, diesel	2028-2030	-116
Legacy voice, access, and other network equipment	Operational efficiency	Purchased electricity	2023-2030	2,808
Alakea annex sale and net-zero	Operational efficiency	Purchased electricity	2027-2030	1,535
Rectifier Replacements	Operational efficiency	Purchased electricity	2026-2030	653
On-site solar	On-site renewables	Purchased electricity	2021-2030	379
Total				**5,767**

Table 2: Hawaiian Telcom carbon abatement measures.

1 Climate Action Plan Introduction

Hawaiian Telcom is the incumbent local exchange carrier (ILEC) company[2] operating legacy, copper-wire-based telephone and high-speed internet communications infrastructure. **Hawaiian Telcom** has steadily over-built the entire state with superior fiber optic broadband infrastructure, aiming to serve all of Hawaii with fiber broadband by the end of 2026. This climate action plan (CAP) identifies carbon abatement measures for **Hawaiian Telcom**, building upon our network transformation from copper- to fiber-based services, and offers a template for other ILECs undergoing similar modernization.

In 2021, Hawaiian Telcom announced the completion of its take-private acquisition by Macquarie Asset Management (MAM), which accelerated the fiber build across its operating footprints in Hawai'i and parent company **altafiber's** Midwest service area.

Macquarie has set ambitious net zero emissions targets and announced plans to operate its portfolio aligned with net zero emissions by 2040 and have net zero business plans in place for assets where it exercises control or significant influence (Addressing climate change and accelerating the low carbon transition | Macquarie Group). MAM's managed companies must track, verify, and report greenhouse gas emissions; set science-based targets for GHG reductions; and create and implement a net zero plan. This Climate Action Plan provides **Hawaiian Telcom's** science-based targets and our net zero plan and was approved by our Macquarie Board of Directors in October of 2023. It formulates emission abatement projects, business cases, project assumptions, and our net zero roadmap needed to achieve our sustainability goals. The following topics are covered:

- Section 1: Climate Action Plan Introduction
- Section 2: Business-As-Usual Emissions
- Section 3: Planned emissions abatement measures
- Section 4: Summary

This Climate Action Plan represents the 2026 update to the original plan developed in 2023. Since its inception, we have achieved a 5.7% reduction in total greenhouse gas emissions as of the end of 2025, reflecting steady progress toward our commitments. We remain focused on our targets of a 40% absolute reduction in greenhouse gas emissions from our 2021 baseline by 2030 and achieving net-zero emissions by 2040.

1.1 GHG Emissions Inventory Summary

GHG emissions can be categorized as either Scope 1, 2, or 3, as defined by GHG Protocol:

- **Scope 1:** Direct GHG Emissions – emissions that occur from sources owned and controlled by the company; for example, **Hawaiian Telcom's** owned or controlled vehicles, generators, and any refrigerant releases.
- **Scope 2**: Electricity Indirect GHG Emissions – GHG emissions from the generation of purchased electricity brought into the organizational boundary of the company and consumed. It is based on site electricity use and does not include transmission and distribution losses.

[2] An ILEC is a local telephone company which held the regional monopoly on landline service before its service area was deregulated and opened to competitive local exchange carriers (CLEC)

- **Scope 3**: Other Indirect Emissions – an optional reporting category that allows for the treatment of all other indirect emissions. Scope 3 emissions are a consequence of the activities of the company but occur from sources not owned or controlled by the company, such as emissions from the commuting of our employees to work and home; business-related travel whether by vehicle or commercial air; emissions related to the materials (copper and fiber lines, customer premise equipment, paper, ink, etc.) consumed by **Hawaiian Telcom**; emissions related to our material reuse and recycling, waste disposal and transport; emissions from our extensive supply chain of subcontractors including construction contractors; and emissions from the use of our products and services.

Hawaiian Telcom's GHG inventory, described in this report, covers Scope 1 and 2 only. **Hawaiian Telcom's** Scope 1 and 2 were first collected in 2021 and has since been collected annually. These inventories are independently verified by a third-party auditor, Cameron-Cole, LLC. Cameron-Cole provided a limited level of assurance that our 2021-2025 GHG emissions assertions are free of material errors, omissions, or misstatements.

Hawaiian Telcom's yearly Greenhouse Gas Reports use the operational control boundary approach. To access the full GHG accounting report, please view the report on our website.

- Scope 1 emissions sources consisted of:
  - Stationary Combustion – Generators & Equipment (Diesel Fuel) - emissions, resulting from onsite combustion of diesel fuel to operate back-up generators during utility outages or during periodic tests and to operate any ground equipment.
  - Mobile Combustion-Fleet (Gas and Diesel) - emissions resulting from the operation of fleet vehicles.
  - Fugitive Emission (Refrigerants) - refrigerants leak from heating, ventilation, and air conditioning (HVAC) equipment in our facilities.
- Scope 2 emissions consisted of purchased electricity.

Below is a display of our 2021 Scope 1 and 2 emissions broken down by type measured mt CO_2.

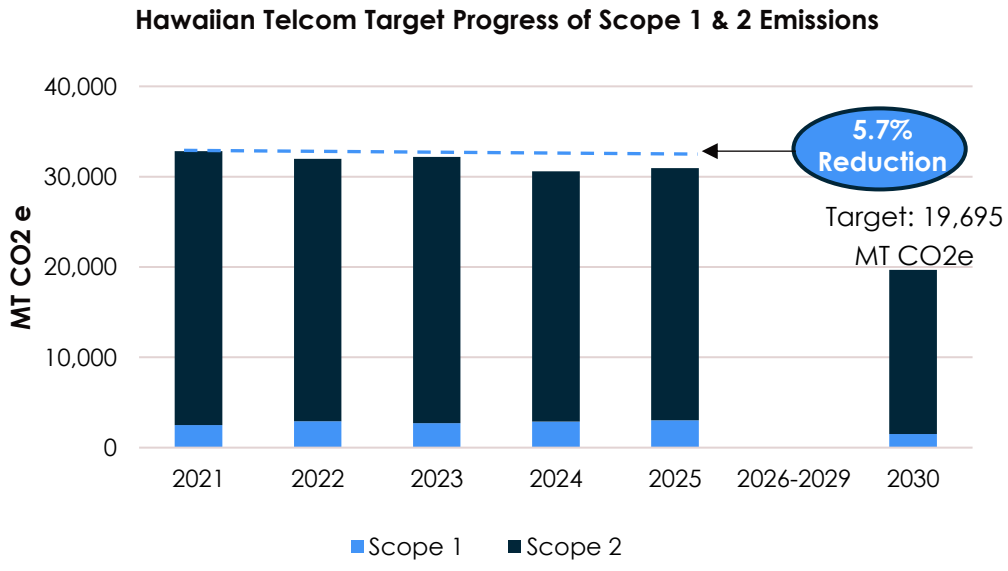

Figure 1: 2021 to 2025 GHG emissions and energy use for Hawaiian Telcom.

Understanding the GHG emissions sources within our business, and particularly our electricity use, helped us develop our climate action strategy and prioritize abatement measures. The network equipment that forms the very core of our value proposition – providing network connection in its various forms to residential, business and wholesale customers – uses electricity responsible for approximately 47% of our GHG emissions. Cooling and lighting our central offices (COs), buildings which house and protect our network equipment, are responsible for 38% of our GHGs. All our remaining "non-network" GHGs together account for 15% of our emissions. In this group are emissions from our 500+ fleet vehicles, administrative offices, retail stores, garages, refrigerant losses, and generators.

Below is a display of our 2025 GHG emissions broken down by network equipment, cooling and lighting our central offices, and our non-network related GHG emissions measured in mt CO_2e:

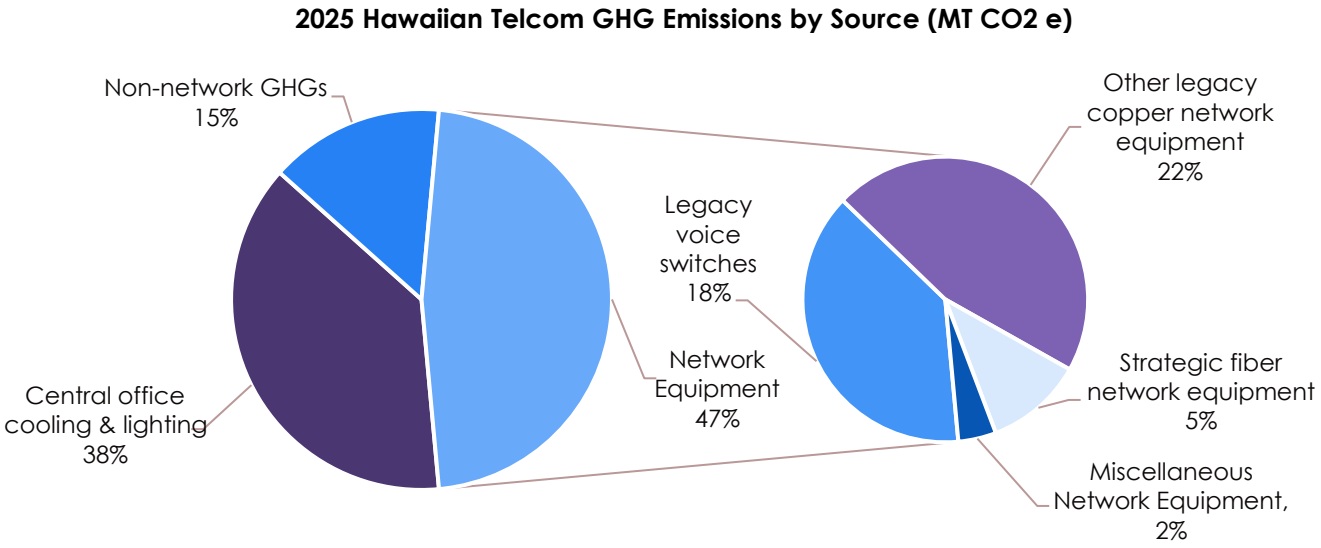

Figure 2: 2025 GHG emissions by source for Hawaiian Telcom.

At **Hawaiian Telcom** we use the term "legacy" in reference to our copper network, in contrast to our "strategic" fiber optic network, the network upon which we are building the future of our company. As shown in Figure 2, our network equipment is a mix of legacy copper network equipment, strategic fiber network equipment and other, miscellaneous equipment not fitting in either of those two categories. Powering the legacy network equipment – legacy voice switches and other legacy network equipment - causes 40% of our emissions, plus causing additional emissions to cool it. By contrast our strategic fiber network equipment (5%) and its cooling are responsible for far less of our carbon footprint because it is so much more efficient. Our action plan includes abatement measures targeting almost every emissions category, but it prioritizes action in the parts of our business most ripe for network transformation, divestment, and efficiency gains.

To provide further context for the actions described in this plan Figure 3 shows the breakdown of our emissions attributed to various parts of our business that are addressed in the abatement measure in section 3 of this plan.

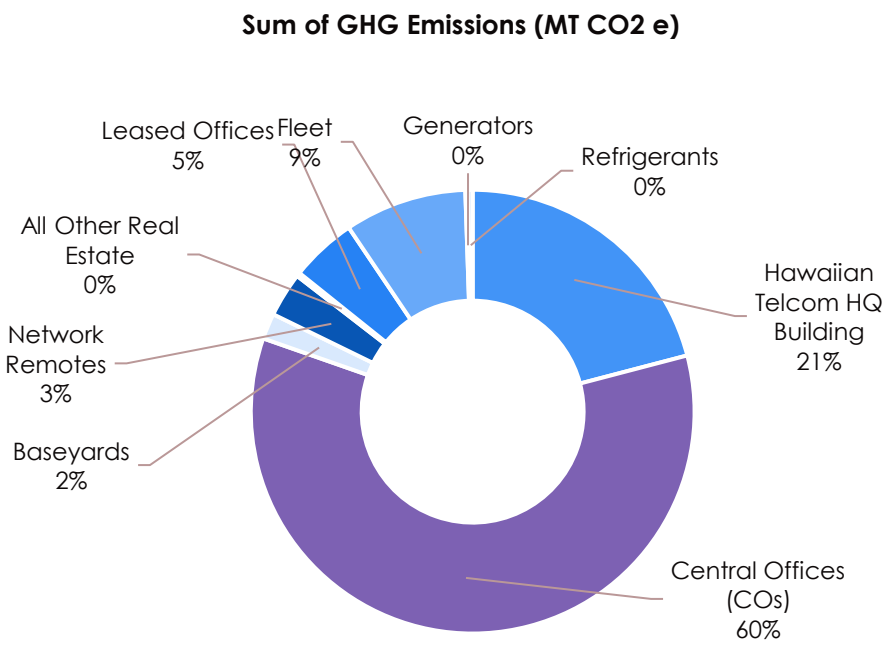

Figure 3: The 2025 GHG emissions by source for Hawaiian Telcom.

2 Business-As-Usual Emissions from Fiber Network Growth

As part of our climate action plan, we developed a business-as-usual (BAU) scenario to have a clear picture of our current state and to understand what future emission reductions will be necessary to meet our goals. This BAU scenario represents the emissions that would result from **Hawaiian Telcom's** operations in 2030 if no abatement measures were implemented. The BAU considers the effects on our emissions profile of **Hawaiian Telcom's** planned growth and divestment, as well as the decarbonization of the utility grids that provide energy to our operations.

As part of **Hawaiian Telcom's** strategic fiber network buildout, we will continue to overbuild areas currently served by legacy copper infrastructure with superior fiber optic service and products. We anticipate serving the entire state of Hawaii with our fiberoptic network by the end of 2026. As we deploy highly energy-efficient fiber infrastructure and move customers to fiber service, we will decommission legacy network systems. The BAU case in this plan assumes only minimal consolidation and decommissioning of copper network equipment, commensurate with current maintenance activities, even as copper customer's atrophy. In net, although fiber growth adds some energy it is offset by some retirement of legacy systems. Although not exact, this business transformation to fiber will allow our fiber network to grow without adding to our emissions footprint. Therefore, we estimate that emissions associated with powering the expansion of our fiber communications network across the state of Hawaii will not increase emission (0% growth) through 2030.

2.1 Grid Greening

The decarbonization of the electricity grid is a core step in building a lower-carbon economy. Hawaii's state government enacted a mandate for all electric utilities – the Hawaiian Electric companies and the Kauai Island Utility Cooperative – to supply 100% of net electricity generation from renewable sources by the end of 2045, with interim benchmarks of 40% by 2030 and 70% by 2040. The Public Utilities Commission monitors compliance and can impose penalties for non-compliance. **Hawaiian Telcom** purchases electricity from Hawaii's electricity utilities, and as they become less carbon intensive, our scope 2 emissions will reduce. In our business-as-usual scenario, we reviewed grid greening reductions from multiple sources to forecast the emissions intensity of power in Hawaii's grid by 2030:

- Electricity supplied by the grid in Hawai'i has gotten almost 13% "greener," in terms of lower carbon emissions per kWh, from 2021-2025. In 2025 approximately 37% of Hawaii's electric generation was supplied by renewable energy. Based on our model, we assume Hawaiian Electric Inc. will have an additional 6.7% increase in grid greening by 2030.

Figure 4 below shows **Hawaiian Telcom's** projected BAU emissions from 2021 to 2030. There is considerable uncertainty regarding whether public utilities can achieve Hawaii's ambitious projected grid greening. However, because Hawaiian Electric Inc. has increased grid greening more than our model originally assumed, we recognize that the model is conservative and that Hawaii's grid greening may exceed current expectations.

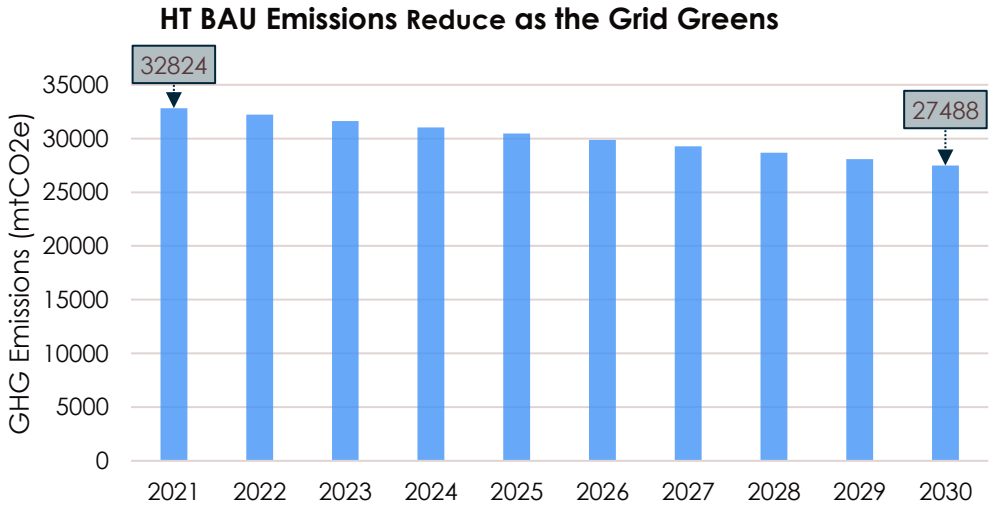

Figure 4: Hawaiian Telcom business-as-usual emissions decrease as each year the grid supplies cleaner power

The BAU case therefore considers the effects of **Hawaiian Telcom's** planned growth and divestment, as well as the decarbonization of the utility grids that provide energy to our operations on our emissions profile.

2.2 Emissions Reduction Targets

One of the requirements set by MAM for its portfolio companies, including **Hawaiian Telcom**, is the development of a science-based net zero target. Science-based targets provide companies with information on how much and how quickly they need to reduce their emissions to prevent the worst effects of climate change.

There are several organizations that provide guidance and validation of science-based targets; one of the most prominent is the Science Based Targets initiative (SBTi). SBTi provides scenarios for emissions reductions and net-zero targets in line with climate science.

Hawaiian Telcom set a net zero science-based target that covers Scope 1 and 2 emissions for 2030 (near-term) and 2040 (long-term), aligned with a 1.5C warming scenario. Our targets are listed in the following table:

Base Year	Target Year	Emission Reduction Target	Annual Reduction Target
2021	2030	40% reduction in Scope 1 and 2 between 2021-2030	4.4%
2021	2040	90% reduction in Scope 1 and 2 between 2021-2040	6.0%

Table 3: Summary of interim and final net zero target.

For companies whose scope 3 emissions represent more than 40% of their combined scopes 1, 2 and 3 emissions, SBTi targets must address scope 3 emissions reduction. In 2024, **Hawaiian Telcom** conducted a materiality assessment of indirect, scope 3 emissions. **Hawaiian Telcom's** scope 3 emissions are those created or caused by the upstream and downstream activities of our business, not under our direct control but caused or influenced by our business activities. In 2024, **Hawaiian Telcom's** total scope 3 emissions were 79,296 MT CO2e, making up 70% of our total emissions inventory.

With the completion of the assessment, we expanded our understanding of our emissions footprint and obtained relevant insight into our scope 3 emissions in order to make meaningful change. We will periodically update our scope 3 materiality assessment to stay aware of the type and significance of our scope 3 impact. For more details and information on **Hawaiian Telcom's** scope 3 emissions and our materiality assessment, refer to our Greenhouse Gas Report which is publicly available.[3]

While our scope 1 and 2 targets are consistent with the SBTi requirements, we have not set a scope 3 reduction target. Therefore, our targets have not been formally submitted to the SBTi. The proposed emission target reductions are shown along with the projected BAU emissions on the graph below.

[3] Available at https://info.hawaiiantel.com/about-us/social-impact/environmental-sustainability

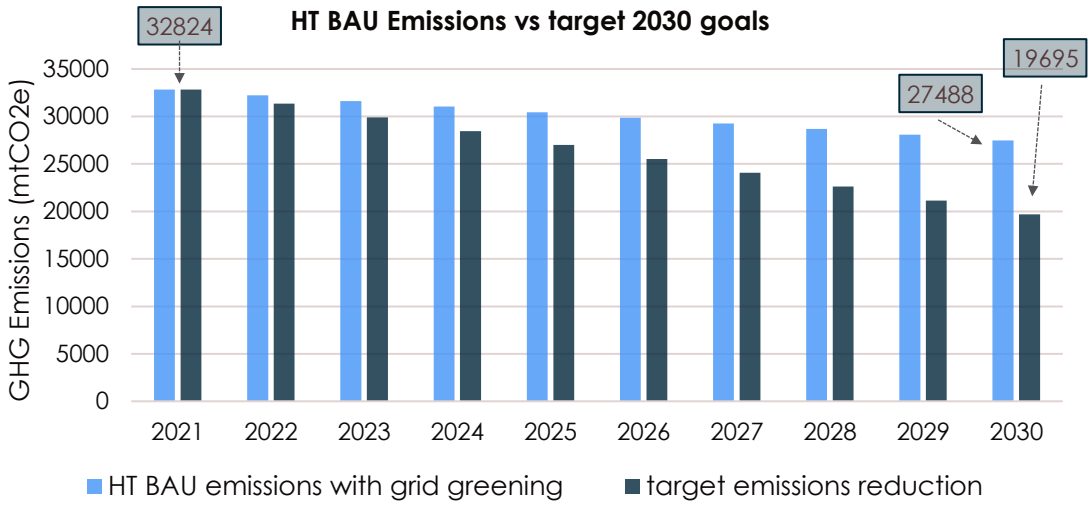

Figure 5: Hawaiian Telcom Business-as-usual and target emissions projections

3 Planned Abatement Measures

In 2022, **Hawaiian Telcom** convened experts throughout the organization for a multi-day workshop in Honolulu, HI. During the workshop we identified a strategy to achieve our emission reduction goals that were further developed in the following months. Our collective effort resulted in the following strategy:

1) Bring superior fiber optic service to our customers.
2) Aggressively implement voice network transformation by migrating customers from copper to fiber, and shutting down energy-intensive elements of the copper network; in particular:
   a) Class 5 voice switches
   b) Related legacy network equipment, primarily digital loop carrier (DLC) equipment
3) Consolidate & divest of network equipment, fleet, and real estate, where feasible
4) Increase the pace of efficiency projects in network, facilities & fleet
5) Add available electric vehicle (EV) models into our fleet as we replace vehicles at end-of-life
6) Add on-site solar photovoltaic systems where feasible

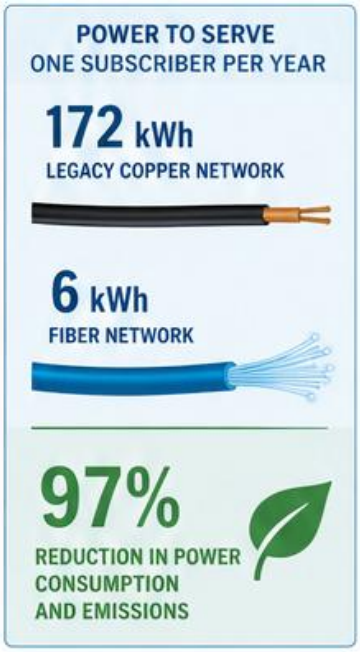

Figure 6: Copper vs. Fiber power comparison

As 47% of our total greenhouse gas emissions stem from the use of network equipment (see Figure 2), transitioning this equipment represents a significant opportunity for emissions reduction. A substantial portion of our abatement strategy focuses on moving from legacy copper infrastructure to a more energy efficient fiber network, along with capturing the broader benefits this transition enables. This shift not only reduces the energy required to operate network equipment but also drives improvements in fleet efficiency and lowers HVAC demand. As a result, powering down legacy voice switches creates a

cascading effect that amplifies other abatement measures outlined in this Climate Action Plan. Ultimately, transitioning customers from legacy copper systems to fiber network can allow for a 97% reduction in both energy consumption and greenhouse gas emissions required to serve the same number of subscribers (see Figure 6).

Specific Abatement Measures and Targets

As indicated in Table 4 below and the waterfall chart which follows, **Hawaiian Telcom** identified abatement measures available to them in the near-term including voice network transformation, energy efficiency projects, switching to locally sourced biodiesel, fleet electrification, divestment of property, and investments in on-site solar.

	Abatement Measure	Energy Source	% GHG Emission Reduction, Cumulative	Projected Start Date	Business Function
	Fleet efficiency	Fuel	1.5%	2023	Fleet
	Fleet electrification	Fuel	-0.4%	2028	Fleet
	Legacy voice and access	Electricity	8.6%	2023	Network
	Hawaiian Telcom HQ Annex sale	Electricity	5%	2027	Real Estate
	On-site solar	Electricity	1.2%	2021	Real Estate
	Replace rectifiers	Electricity	2%	2026	Network

Table 4: Abatement measures 2021-2030 for Hawaiian Telcom.

The **Hawaiian Telcom** 2021 – 2030 waterfall figure below depicts the 2021 GHG inventory baseline emissions broken down by emission source, shown in the gray bar at the far left labeled, "2021 Baseline Year Emissions". The chart shows no growth in emissions associated with completing the fiber over-build of the state and the reduction expected between 2021-2030 from grid greening, which provides the BAU condition labeled on the graph. The following bars in the graph are displayed as a waterfall chart, with emission increases displayed in red, and decreases in emissions shown in blue. The chart details each abatement measure and its estimated emission reduction from the baseline year to 2030.

Hawaiian Telcom's 2030 Goal Achievement Roadmap

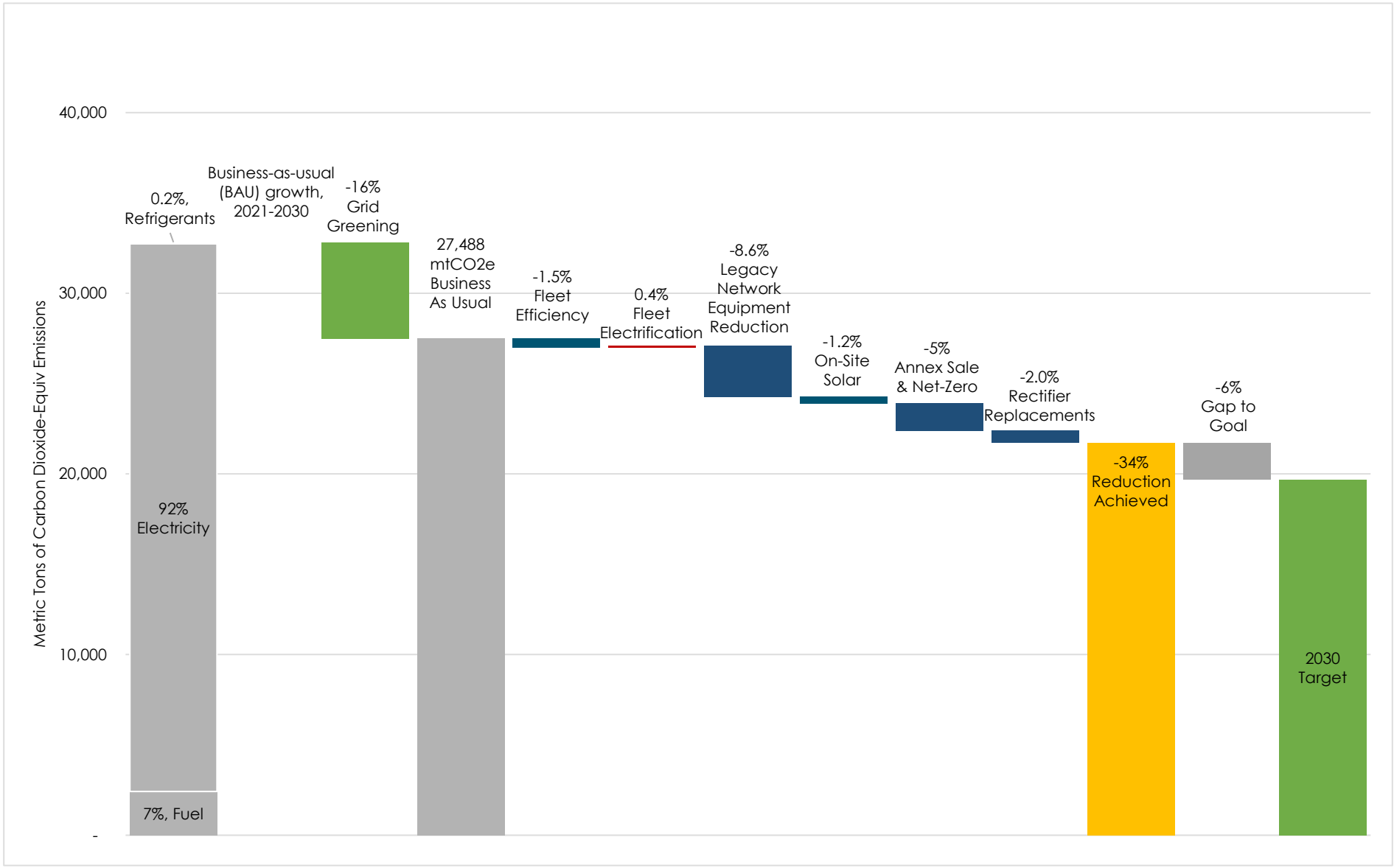

Figure 7: Waterfall chart of planned abatement measures

Description of Planned Abatement Measures

The following sections provide a summary of each planned abatement measure shown in Figure 7, including the type of measure, what scope emissions it will reduce, and a net zero scorecard providing a summary view of the measure's cost, ease of implementation, timeframe, potential impact on achieving **Hawaiian Telcom's** targets, and the status. The qualitative scores on the net zero scorecards correspond to the following general range:

	Metric	Low	Moderate	High
	Capital cost	$0-$5M	$5M-$10M	$10M+
	Net OpEx	$0-$2M	$2M-$5M	$5M+
	Level of effort	No to limited impact to current operations, or no to limited technical challenges with implementation	Limited to moderate impact to current operations, or limited to moderate technical challenges with implementation	Significant impact on current operations, or significant technical challenges with implementation
	Timeframe	0-2 years	2-5 years	5+ years
	Potential Carbon Redcuction	<5% emission reduction from baseline	5-10% emission reduction from baseline	>10% reduction from baseline

Table 5: Net zero scorecard legend

3.1 Legacy Voice, Access, and Associated Equipment

Our emission reduction plan dovetails with our strategic direction to reduce **Hawaiian Telcom's** legacy footprint and move customers to our fiber optic network. **Hawaiian Telcom's** legacy network represents a significant portion of the company's energy use and emissions due to its reliance on high-power, lower-efficiency copper-based infrastructure (see Figure 2). Reducing this legacy footprint and transitioning to a fiber-optic network requires coordinated action across network, facilities, and operations teams and will deliver substantial reductions in both energy consumption and greenhouse gas emissions. **Hawaiian Telcom's** legacy networks are comprised of legacy access and legacy voice equipment and associated field network equipment.

Legacy Network Scorecard

Metric	Score
Cost	High
Net OpEx	High
Effort	High
Timeframe	Mid-term
Potential carbon reduction	High
Status	Began in 2025

The legacy voice network includes the infrastructure required to deliver time-division multiplexing (TDM) services such as plain old telephone service (POTS) over copper lines. As evolving customer preferences shift toward mobile and digital communication solutions, **Hawaiian Telcom** has already experienced and anticipates a continued reduction in legacy voice subscribers. However, despite reduced usage, legacy switches often remain fully operational due to the technical and economic challenges of partial consolidation. As a result, the company's strategy prioritizes complete switch shutdowns rather than incremental reductions.

% of Total Energy Use in Hawaiian Telcom Central Office's

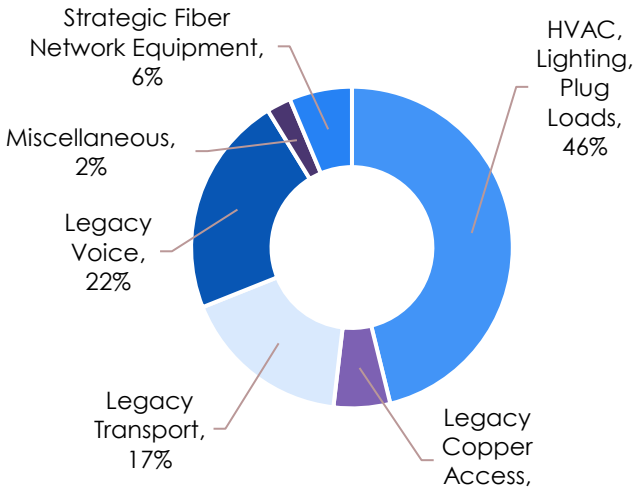

Figure 8: Energy consumption percentages in Hawaiian Telcom central offices.

The devices routing calls and data in our network have been in operation since the early 80s. Our legacy TDM switches, which include 5ESS, GTD5s, and DMS100 models, and other related transport and equipment, are located in 79 central offices (CO) across Hawaii and have connected callers for more than 70 years across our service areas. The average breakdown of energy uses inside of our central offices (COs), is shown in Figure 8. Note, legacy voice switches are on average 22% of the electricity use of our network offices, while other legacy transport is 17%. When copper access

equipment is added to those, legacy network equipment uses approximately 45% of the power consumed at our central offices (see Figure 8). Clearly the energy savings of turning down legacy equipment is substantial.

Operationally, maintaining legacy systems is increasingly difficult due to limited technical expertise, aging equipment, and diminishing OEM support. At the same time, prior internal and industry studies have demonstrated strong financial and operational benefits from network transformation. In alignment with this climate action plan, **Hawaiian Telcom** is advancing a comprehensive strategy to accelerate the retirement of legacy infrastructure and migrate customers to fiber-based services.

Hawaiian Telcom will eliminate the majority of our legacy voice switches between 2024 and 2030, focusing initially on higher-energy systems such as GTD-5 switches. It takes a large, diverse team and months of work to turn down a switch or wire center. By the end of 2025, **Hawaiian Telcom** had successfully shut down four voice switches, demonstrating early progress toward this goal. This effort is expected to impact over 100,000 voice lines and significantly reduce operations across multiple islands.

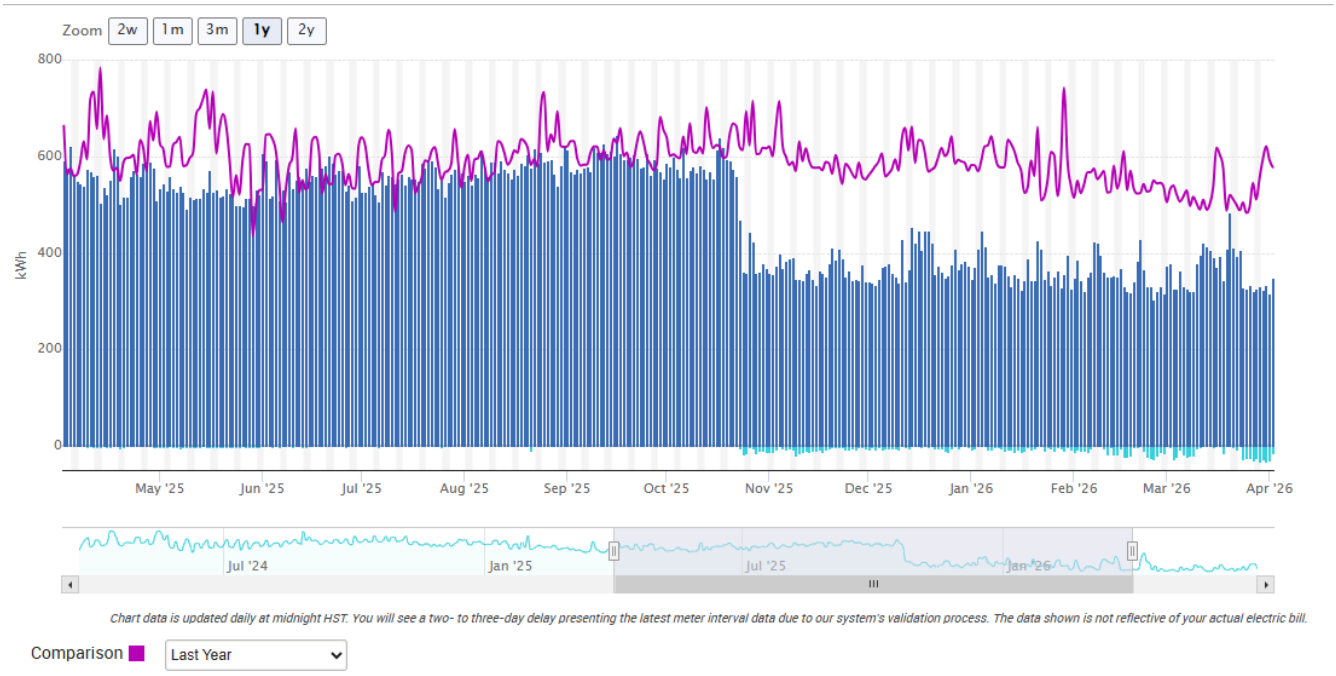

Figure 9. Electricity use (kWh) before and after the legacy voice switch shutdown in mid-October 2025 at the Aina Haina central office (CO). The purple line shows the usage the year prior for comparison. The CO's electricity consumption decreased 34% without the switch.

Our legacy copper system also includes field network equipment, such as Digital Loop Carrier (DLC) equipment, housed outside of a central office in the communities we serve. Our field network equipment operates in a cabinet, a vault or possibly mounted on a pole, with its own energy meter. DLC systems are used to extend voice services to remote areas but require constant power to maintain signal quality. **Hawaiian Telcom** has decommissioned 43 meters powering field network equipment as of the end of 2025 and will continue working toward additional reductions as fiber deployment renders this equipment unnecessary.

In parallel, reductions in legacy network equipment will directly lower facility-level energy demand, particularly in heating, ventilation, and air conditioning (HVAC) systems, which constitute on average 46% of energy use in central offices. On the whole, HVAC and other regulated systems are estimated to account for approximately 38% of **Hawaiian Telcom's** total scope 1 & 2 carbon emissions (Figure 2). As legacy equipment is decommissioned, cooling requirements will decrease proportionally, enabling additional efficiency gains alongside on-going initiatives such as chiller replacements, LED lighting upgrades, and system optimization.

Collectively, these coordinated efforts - legacy switch retirements, DLC decommissioning, and HVAC optimization - are conservatively expected to deliver cumulative greenhouse gas emissions reductions of 2,808 metric tons of CO_2e, representing an 8.6% contribution toward **Hawaiian Telcom's** overall decarbonization goals.

To improve accuracy and guide decision-making, **Hawaiian Telcom** is also advancing efforts to map all network equipment to specific electric meters using Common Language Location Identifier (CLLI) codes. This initiative will enhance visibility into energy consumption across legacy switches, DLCs, and other field equipment, enabling more precise tracking of savings and more strategic prioritization of decommissioning activities.

Overall, the transition away from legacy voice and access infrastructure, supported by DLC retirement and HVAC optimization, represents a significant opportunity for **Hawaiian Telcom** to reduce emissions, lower operating costs, and modernize its network. These coordinated actions form a foundational component of the company's pathway to achieving its 2030 decarbonization goals.

Year	# of Switches Powered Down	Estimated Annual kWh Reduction	Annual Metric Tons GHG Emissions Avoided
2026	4	197,868	97
2027	21	1,896,796	934
2028	7	2,104,704	1,024
2029	5	686,489	330
2030	10	1,080,222	514
Totals	**47**	**5,966,079**	**2,808**

Table 6: Predicted legacy voice switch power downs year over year.

Assumptions:

- Initial focus is on offices with GTD5 switches, due to their higher power consumption, no spares, and lack of in-house and OEM support
- Deploy island-specific tandem switches first, collapsing the class 4 function
- As the fiber build completes, use access gateways (years 1-3) to serve copper-only customers
- As fiber is available, dedicated resources to migrate voice service customers
- This effort would affect over 100k lines (60% of HT's voice lines) and would eliminate these switches, and the associated maintenance burden and outages, on the islands of Maui, Lanai, Molokai, and Kauai.
- The energy and carbon savings shown in Table 6: Predicted legacy voice switch power downs year over year. Table 6 estimate savings from the switch elimination and cooling/HVAC savings. Savings from ancillary DLC elimination will be additional, making these figures conservative.

3.2 Fleet Efficiency & Electrification

Hawaiian Telcom's fleet consists of internal combustion engine (ICE) vehicles fueled by gasoline or diesel, which represent most the company's Scope 1 emissions. To address this, **Hawaiian Telcom** is pursuing a combined strategy of operational efficiency, fleet modernization, downsizing, and gradual electrification.

Over the past three years (2023–2026), **Hawaiian Telcom** has reduced its total fleet size by 26%, with a target reduction of 35% by 2030. At the same time, the company has significantly modernized its fleet: the average vehicle age has decreased from approximately 15 years to 8 years, and average mileage per vehicle has dropped by nearly 50%. These improvements contribute to better fuel efficiency, reduced maintenance needs, and lower emissions intensity. Together, these efforts reflect a broader strategy to right-size and modernize the fleet in line with operational needs.

Fleet Electrification Scorecard

Metric	Score
Cost	Moderate
Net OpEx	Moderate
Effort	High
Timeframe	Mid-term
Potential carbon reduction	Low
Status	Plan to begin in 2027

Operational improvements driven by network transformation should reduce fleet demand. As copper infrastructure is replaced with more reliable fiber technology, service needs will decline, ultimately resulting in over 3,000 avoided dispatches annually. This reduction in field activity, which will only manifest once statewide fiber service is available, directly lowers fuel consumption and emissions while enabling a smaller, more efficient fleet.

In addition to these efficiency gains, **Hawaiian Telcom** is positioning fleet electrification as a long-term decarbonization strategy. While no electric vehicles have been deployed to date, the company is developing a phased approach to begin integrating EVs starting in 2028. The plan focuses on replacing internal combustion engine (ICE) vehicles at the end of their service life, beginning with SUVs and later

expanding to installer vans as suitable electric models become commercially viable. By targeting the introduction of electric SUVs and installer vans between 2028 and 2030, **Hawaiian Telcom** aims to support a broader transition toward a lower-emissions fleet. This forward-looking approach will be critical to position the company to achieve its long-term net-zero objectives, given the extended service life of fleet vehicles.

Based on current projections, fleet upgrades and electrification are expected to reduce gasoline consumption by more than 47,000 gallons annually by 2030, resulting in a reduction of approximately 392 metric tons of CO_2 e or a 1.1% reduction in total GHG emissions. Combined with ongoing efficiency, downsizing, and modernization efforts, these actions represent meaningful progress toward lowering **Hawaiian Telcom's** Scope 1 emissions and achieving its broader climate goals. We will also research programs available in our markets and take advantage of any grant programs. For instance, Hawaii has financial assistance available through a diesel vehicle replacement program as well as rebates for installing EV Chargers through Hawai'i Energy.

Assumptions:

- Fleet efficiency measures (e.g., driving behavior modification; route planning; eliminating under-utilized vehicles; purchasing more efficient models) will increase fleet average mileage by 2 miles per gallon.
- Vehicles are replaced at the end of their functional life.
- Electrification can begin in 2028.
- EV installer vans will not be immediately available at the levels needed, so will be gradually increased over time.
- We will procure lighter EV vehicles first before moving to heavier class vehicles.
- Electric replacements for our heavier vehicle types are not now and will not be commercially available in the short term; therefore, any electrification of those vehicles will happen when/if such replacements enter the market and are price competitive.
- We will develop a methodology to reimburse for home charging based on vehicle telematics
- All installer vans will charge at a garage or base yard
- 40% of the EV sedans, SUVs and pickups will home garage and charge at an employee's home
- 60% of the EV sedans, SUVs and pickups charge at a garage/base yard or CO.

3.3 Biodiesel

Biodiesel is a renewable alternative to conventional diesel that can be used in compatible diesel engines as a drop-in fuel, requiring no vehicle modifications. It offers several environmental advantages, including lower lifecycle greenhouse gas (GHG) emissions and cleaner combustion, contributing to improved air quality. In Hawaii, biodiesel is refined on the big island out of waste grease and locally grown agricultural feedstock. The B99 (99% biodiesel) produced is island-made and low carbon.

Replacing diesel fuel with biodiesel is an opportunity for emissions reduction, even though it represents a relatively small share of our overall GHG inventory. To explore this opportunity, we initiated a pilot program at our Kahului, Maui baseyard, where biodiesel is currently being used in our diesel heavy vehicles. This program enables construction techs to refuel with high-blend biodiesel (B99).

Biodiesel Scorecard

Metric	Score
Cost	Low
Net OpEx	Low
Effort	Low
Timeframe	Near-term
Potential carbon reduction	Low
Status	Ongoing

As the fleet is gradually modernized, an increasing number of diesel vehicles are expected to be biodiesel-compatible, whereas some older vehicles are not able to use these blends. Building on the results of the Maui pilot, the company anticipates incrementally expanding biodiesel use over time, with a goal of transitioning approximately 20% of total diesel consumption to biodiesel by 2030. This approach supports ongoing efforts to reduce emissions while aligning with fleet replacement cycles and operational feasibility.

Assumptions

- 20% of current diesel use in fleet will gradually transition to B99 biodiesel by 2030.
- Cost of biodiesel remains cheaper than conventional diesel.

3.4 On-site Solar PV

Solar photovoltaic (PV) systems convert sunlight into energy, which is used as electricity. There are many types of solar PV systems including rooftop, canopy, and floating. These systems are built to generate electricity and deliver benefits by reducing scope 2 emissions and stabilize and potentially reduce the cost of power. **Hawaiian Telcom** benefits from significant cost savings and price stability from its on-site rooftop and canopy PV systems at 64 locations throughout Hawai'i.

For our climate action roadmap, we assume new solar projects would be installed over a 5-year period, starting in 2026. The size and cost of each solar project vary based upon location, size, and installment type.

On-site Solar PV Scorecard

Metric	Score
Cost	High
Net OpEx	Moderate
Effort	Low
Timeframe	Mid-term
Potential carbon reduction	Low
Status	Ongoing

In 2026, **Hawaiian Telcom** expects to add roughly 150 kW of new, behind-the-meter solar installations, with an additional 380 kW anticipated to be installed in 2027. In 2030, the new PV projects are expected to generate an additional estimated 800 MWh of production/year and result in a cumulative GHG emissions reduction of 379 mt CO_2e by 2030.

Installation Year	Total Size of Systems Being Installed (kW-dc)
2026	147.4
2027	386.6

Table 7: Anticipated installation years and production for Hawaiian Telcom solar

The business case for PV in Hawaii is generally positive due to the rapidly rising and volatile cost of utility power. We hope to identify locations for more solar projects between 2028 to 2030, but currently none are reflected in the plan. We are also evaluating our existing PV systems, which were installed in 2016-2018, for repaneling if life cycle cost effective.

Figure 10: Hawaiian Telcom Parking Canopy

Figure 11: Hawaiian Telcom ground-mounted solar

Assumptions

- Systems produce according to their forecasted generation capacity with 0.5% system degradation per year

3.5 Rectifier Replacement

Rectifiers are a critical component of the power systems that support reliable and resilient operations in our central offices. As continuous energy consumers, they contribute to overall electricity use and associated Scope 2 greenhouse gas (GHG) emissions. To improve energy efficiency and reduce emissions, **Hawaiian Telcom** plans to invest in upgrading older, less efficient rectifiers with newer, higher-efficiency models.

Hawaiian Telcom plans to replace rectifiers over a four-year period, beginning in 2026 and concluding in 2029. The expected efficiency improvements reflected in this Climate Action Plan are based on analysis of existing equipment, including systems at the Kahili central office, though actual results may vary depending on equipment type and operational load. These upgrades are projected to deliver measurable energy savings and associated emissions reductions over time.

Rectifier Replacement Scorecard

Metric	Score
Cost	Low
Net OpEx	Low
Effort	Moderate
Timeframe	Mid-term
Potential carbon reduction	Low
Status	Planned to start in 2026

The estimated annual GHG emissions reduction from this initiative is approximately 130 metric tons of CO_2e, with slight year-over-year variation based on projected emissions factors. By 2030, the cumulative emissions reduction is estimated at 653 metric tons of CO_2e, representing approximately 2% of total emissions reductions under the plan.

Assumptions

- Rectifiers are replaced within the year range of 2026 to 2029.
- A specific rectifier replacement program and associated business case is under development.

3.6 Real Estate Sales and Exits

Real Estate Sale and Exit Scorecard

Metric	Score
Cost	Low
Net OpEx	Low
Effort	Moderate
Timeframe	Near-term
Potential carbon reduction	Low
Status	Planned for 2027

Hawaiian Telcom's central offices (COs) represents one of the largest shares of our total emissions due to their significant power requirements. As part of our network modernization strategy, selectively exiting and divesting certain COs will not only support our transition to a fiber-based network but also reduce overall energy consumption and associated emissions. As the fiber network buildout progresses and more customers transition to fiber service, the need for some legacy COs will be eliminated. Currently the plan includes the phased exit of 11 COs (also referred to as network properties) between 2027 and 2030. In the year each property is divested, the estimated annual energy savings are approximately 4,300 MWh.

Another opportunity for real estate rightsizing is the planned sublet of a portion of our downtown Honolulu headquarters building, the Alakea Annex, targeted for 2027. In preparation, we have been actively transitioning equipment out of the Annex Building. Power consumption in the Annex has already declined 28% due to our efforts. The Annex has gone from 3.8% of the Alakea HQ facility's total usage in 2022 to 2.8% by the end of 2025. If we can empty and sublet the Annex, the estimated annual energy savings are approximately 420 MWh. This Climate Action Plan assumes that energy consumption associated with the Annex will be fully eliminated or otherwise neutralized by 2027.

Together, these actions represent a significant opportunity to align our infrastructure footprint with future network needs while advancing our emissions reduction goals, resulting in an estimated cumulative GHG emissions reduction of 1,535 metric tons of CO_2e by 2030.

Assumptions

- We exit our operations from the Alakea annex so it can be sublet by 2027.
- When customers are served by new fiber optic infrastructure, **Hawaiian Telcom** will divest of excess COs to achieve a similar power reduction.

3.7 Refrigerants

Refrigerant leaks from HVAC systems within our facilities contribute to fugitive emissions. While these emissions represent a relatively small portion of **Hawaiian Telcom's** overall footprint, they remain an important area of focus for operational efficiency and environmental stewardship. Based on internal estimates, refrigerant losses are believed to account for approximately 2% or less of total greenhouse gas (GHG) emissions.

Historically, certain refrigerants such as R-22 (Freon) were not fully reflected in GHG inventories due to accounting conventions under the GHG Protocol. However, R-22 is a high-impact substance with significant global warming potential, making the prevention of leaks and transition away from its use a key priority.

To address this, **Hawaiian Telcom** is accelerating efforts to retire remaining HVAC equipment that relies on R-22 and replace it with newer, more efficient systems that use modern refrigerants. This transition will not only reduce the risk of high-impact refrigerant leakage but also improve system performance and reliability. In addition, phasing out R-22 helps avoid the rising costs associated with maintaining legacy systems, as the refrigerant is no longer in production.

Overall, this initiative reflects a proactive approach to minimizing fugitive emissions, even where they represent a relatively small share of total emissions, by prioritizing high-impact reduction opportunities within our operations.

Assumptions

- Replacement of R-22 HVAC equipment does not impact our reportable GHGs as they are governed under the Montreal Protocol and not included in our inventory under the Corporate GHG Protocol. No emissions reductions are accounted for, although retiring R-22 will prevent harmful leaks to the atmosphere.

4 Summary

Hawaiian Telcom's climate actions through 2030 are presented in the table below, which includes the following information:

- Project name
- Project category type (electrification, operational efficiency, on-site renewable energy, or renewable fuel)
- The energy source impacted by the abatement measure (natural gas, gasoline, diesel, or purchased electricity)
- The approximate timing for the implementation of the measure

Project Name	Energy Source Impact	Timing	Cost	Net OpEx	Effort	MT CO2 e Avoided in 2030	% Reduction Towards Target
Fleet efficiency and electrification	Gasoline	2023-2030	Moderate	Moderate	High	392	1.1%
Legacy voice, access, and other network equipment	Purchased electricity	2025-2030	High	High	High	2,808	8.6%
Alakea annex sale and CO exits	Purchased electricity	2027	Low	Low	Moderate	1,535	5%
Rectifier replacements	Purchased electricity	2026-2030	Low	Low	Moderate	653	2%
On-site solar	Purchased electricity	2021-2030	High	Moderate	Low	379	1.2%
					Totals	**5,767**	**17.9%**

Table 8: Hawaiian Telcom Business Case Assessment.

5 Climate Action Plan Update and Conclusions

This Climate Action Plan outlines a clear and actionable pathway for **Hawaiian Telcom** to achieve its emissions reduction goals and represents an update to the original 2023 document. As our business continues to evolve, so too must our approach to sustainability. This Plan reflects both the progress made to date and the adjustments needed to ensure continued alignment with our long-term climate commitments.

Since its initial release, **Hawaiian Telcom** has completed key foundational efforts to move into full implementation, including strengthening internal alignment and building organization-wide awareness. We have already turned down four legacy voice switches with 60+ more planned. We have eliminated network equipment, allowing for the removal of 43 electric meters which will avoid over 52,000 pounds of CO2-equivalent emissions and realizing the network simplification and cost benefits for our business. Moving forward, implementation remains a complex, cross-functional effort requiring sustained collaboration, dedicated resources, and accountability across the organization.

The Sustainability Department has established tools and processes to track progress against emissions targets and support informed decision-making. Executive leadership continues to prioritize climate action and integrate it into overall business planning.

As we advance, this plan will continue to evolve alongside our business. **Hawaiian Telcom** intends to revisit and expand its strategy beyond the current 2030 targets, with future planning focused on establishing longer-term goals for 2035 and ultimately 2040, with the ambition of achieving net-zero emissions. This forward-looking approach will help ensure continued alignment with emerging standards and industry's best practices.

In addition, certain focus areas will require increased attention to meet our targets. In particular, more aggressive strategies for fleet reduction and optimization will be critical, given the significant contribution of fleet operations to our overall emissions profile.

Together, these efforts reflect **Hawaiian Telcom's** commitment to continuous improvement and adaptability in its climate strategy, positioning the company to meet its targets and progress toward its long-term net-zero ambition.

Acronyms and Abbreviations

BAU	Business as usual
CLLI	Common Language Location Identifier
CO	Central Office
DLC	Digital Loop Carrier
GHG	Greenhouse gas
HT	Hawaiian Telcom Holding Inc.
kW	Kilowatt
kWh	Kilowatt hour
LED	Light-emitting diode
MT CO_2e	Metric ton of carbon dioxide equivalent
MWh	Megawatt hour
ORM	Optically Remote Module
POTS	Plain old telephone service
PV	Photovoltaic
REC	Renewable energy certificate
SBTi	Science Based Targets Initiative
TDM	Time-division multiplexing

Business Case Abatement Measures Assumptions

- Network transformation was modeled through 2030, while solar used a lifetime of 30 years, and HVAC which used a lifetime of 25 years.
- Electricity costs for Hawaiian Telcom were set to increase based on the average commercial projection over 5 years for Hawaii/Alaska (Source: EIA Retail Price of Electricity by Sector and Geography – 2019-2023)
- For fleet electrification, diesel engines, EV engines, and gasoline engine efficiency were incorporated.
- A typical fleet vehicle drives 50 miles/day. 40% of cars, trucks, and SUVs will be charged at employee homes and 60% at fleet garage/baseyard. 100% of installer vans will be charged at the fleet garage/baseyard.
- For the capital cost of fleet charging infrastructure, home charging was assumed to cost $1,500 per home; charging at a garage/baseyard was assumed to cost $30,000 per level 2, dual port charger. Level 2 chargers are provided for 50% of EVs in fleet, assuming vehicles charge every other day. Maintenance cost of EV charging infrastructures is included.
- Solar cost range is based on solar costs ranges from $4-5/watt for **Hawaiian Telcom**.
- Future gasoline cost increases were set to the EIA, Fuel Prices by Sector and Fuel - 2019-2023 Projected Average Annual % Change for the high-end estimate; the low-end cost increases were set to 50% of the high-end value.
- Future biodiesel costs increases were based on the Clean Cities Alternative Fuel Price Reports.
- Fleet costs represent the incremental cost above purchasing an ICE model. Fleet OpEx costs include maintenance savings of EVs over ICE.
- Estimated fleet emission reductions were based on a 50-mile range and average mileage rates.
- Alakea Annex sublet already has an approved business case.