



Act 164 - Hawai'i Multi-Unit Dwelling EV
Charging Working Group Meeting
November 16, 2015



Hawaiian Electric
Maui Electric
Hawai'i Electric Light

Allow Utilities to Recover for Costs to make Existing Buildings “EV Ready”

It is the policy of the state and the intent of the legislature to encourage transportation electrification. The Public Utilities Commission, in cooperation with the State Department of Transportation, electric utilities, the motor vehicle industry, and the electric vehicle charging industry, shall evaluate and implement policies to promote the development of equipment and infrastructure needed to facilitate the use of electricity to power alternatively fueled vehicles.

The Public Utilities Commission shall authorize, if requested, electric utilities to install, operate, maintain, own, and rate-base electric vehicle charging infrastructure up to but not including the electric vehicle service equipment. This will include electrical infrastructure that is required in order to interconnect and provide electric service to electric vehicle service equipment, including transformers, utility services and meters, panels, interconnection equipment, including conduits and wiring, and associated infrastructure.

The Commission’s policies authorizing utilities to develop charging infrastructure shall ensure that the costs and expenses of those programs are in the ratepayers’ interest, and ensure that utilities do not unfairly compete with nonutility enterprises.



Example of How Language Could be Implemented

MFD wants to locate a shared resource-EV charging station at a common parking area. A buildout of EV charging infrastructure that would be recovered in rate base could include the following:

EV charging equipment, materials, design and installation labor, third party networking services, revenue metering, and ancillary equipment and services that may include, energy storage and/or demand response equipment or services that provide a system benefit to all ratepayers.

All operational, repair, and maintenance costs would also be recovered through rate base.



Proposed Recommendation Language – For Discussion Purposes Only

Language is based on the following Principles

1. Advanced clean vehicles and fuels are needed to reduce petroleum use and reduce dependency on foreign oil, provide grid stability, improve public health, and achieve greenhouse gas emission reduction goals.
2. Substantial opportunities exist to expand the purchase and use of electric vehicles in Hawaii and thereby reduce the State's reliance on conventional vehicles that use petroleum as their sole source of fuel.
3. Increased adoption of electric vehicles will improve the State's air quality by reducing greenhouse gas emissions and other environmental pollutants, including fine particulates, which cause breathing problems and worsen cardiovascular disease. All citizens of the State, including low-income households, will realize these benefits.
4. Widespread transportation electrification should stimulate innovation and competition, enable consumer options in charging equipment and services, attract private capital investments, and create high-quality jobs in Hawaii.
5. Transportation electrification will promote Hawaii as a technology leader.
6. Deploying electric vehicles should assist in grid management, integrating generation from eligible renewable energy resources, and reducing fuel costs for vehicle drivers who charge in a manner consistent with electrical grid conditions.



Proposed Recommendation Language Ctd. – For Discussion Purposes Only

7. Deploying electric vehicle charging infrastructure should facilitate increased sales of electric vehicles by making charging easily available in public and private locations and should provide the opportunity to access electricity as a fuel that is cleaner and less costly than gasoline or other fossil fuels.
8. Widespread transportation electrification requires electric utilities to increase access to the use of electricity as a transportation fuel.
9. Programs proposed by electric utilities shall seek to minimize overall costs and maximize overall benefits.
10. The use of utility submetering may help alleviate some of the cost concerns associated with building EV infrastructure, and should be evaluated and implemented by the electric utilities as part of a comprehensive EV program.
11. The Hawaii Public Utilities Commission shall approve, or modify and approve, programs and investments in transportation electrification, including those that deploy charging infrastructure, via a reasonable cost recovery mechanism.
12. Programs proposed by utilities must demonstrate that they are in the long-term interests of ratepayers.



Mahalo

Backup slides

Hawaiian Electric DC Fast Charging Update

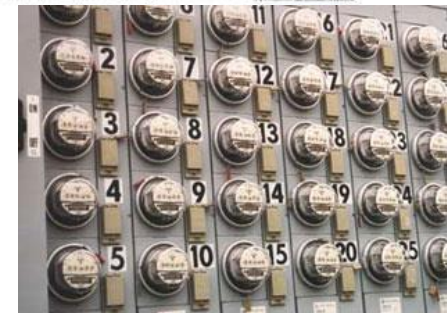
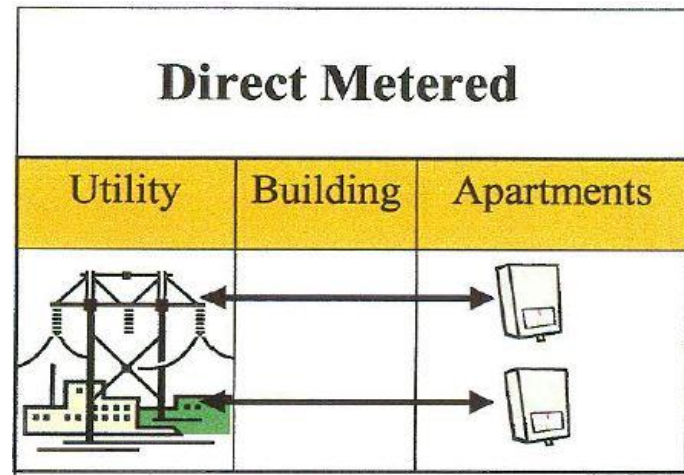
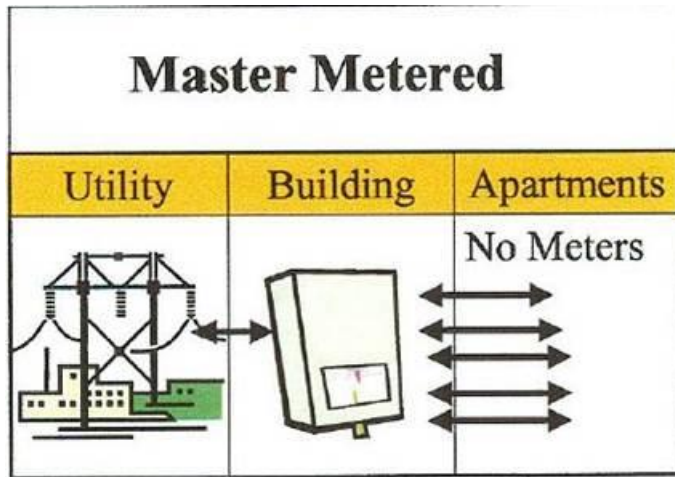


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Information from EV Stations Hawaii (DBEDT)

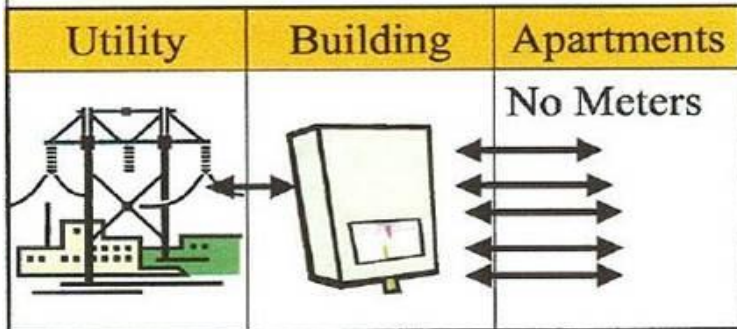
Sub-metering Overview

Currently, residents in non-sub-metered multi-unit buildings (rental apartments, condominiums or cooperatives) pay for electricity through one of two ways- through master meter or direct meter service.



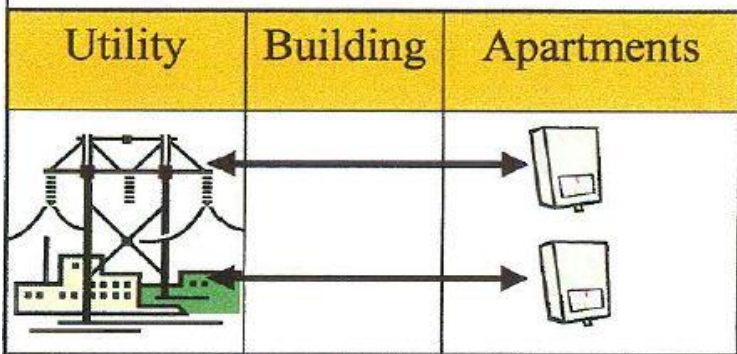
Sub-metering Overview

Master Metered



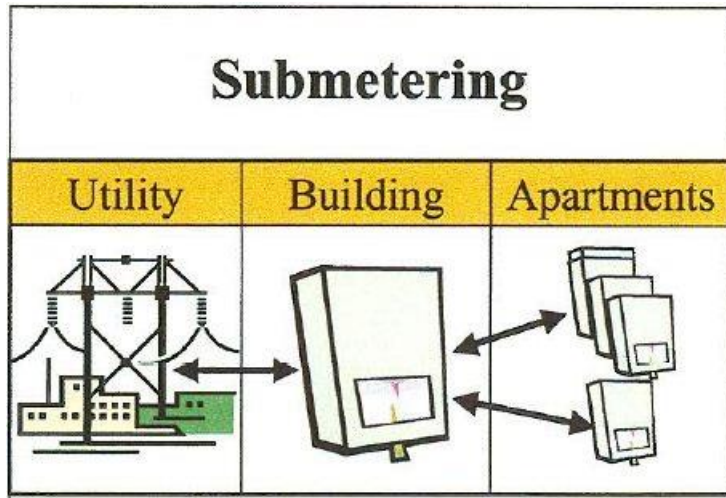
Residents pay the building owner for electricity as part of a monthly bill, but the bill is not itemized. The Utility bills the owner of the building, but living area electricity costs are estimated and distributed to residents based on shares owned or square-footage of the living space, not actual usage.

Direct Metered



Residents pay directly to the Utility for electricity at an individual residential customer rate. Residents can monitor and control their electricity usage but the infrastructure to implement this option costs more than master metering.

Sub-metering Overview



Typically, sub-metering is performed by a third party. Sub-metered buildings are billed through a utility master meter and living units are individually sub-metered to better reconcile electricity use between the building and residents. If AOA require EVs to be metered, sub-metering may help lower infrastructure costs by bringing the EVSE metered connection point downstream of the master meter.

However, sub-metering does not address the cost to build infrastructure to the point of the customer. These costs would traditionally be borne by the customer. While adding a few EV drivers may not trigger infrastructure upgrades, there will be a saturation point for EV drivers that would require upgrades at the customer's expense.

