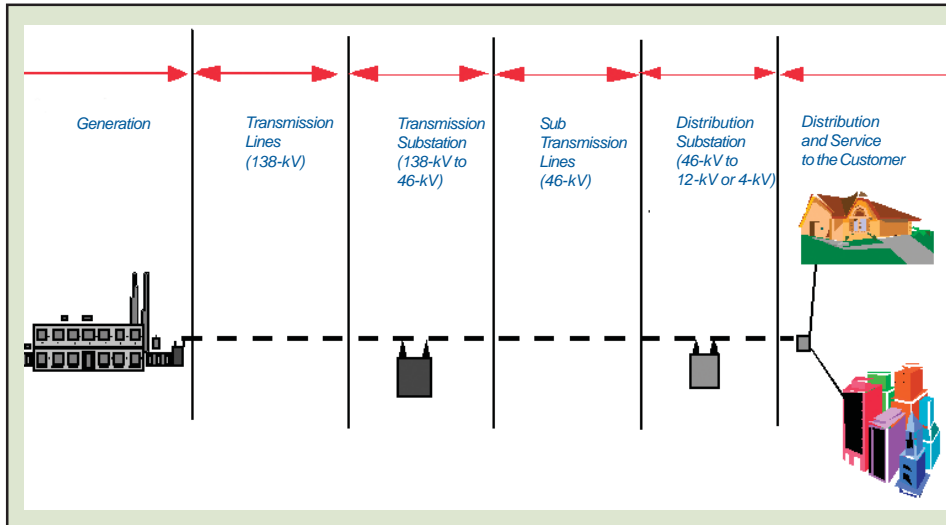


# Power delivery



## How electricity gets to you

Hawaiian Electric's 138,000-volt (138-kV) transmission lines transport bulk electricity to transmission substations. These substations reduce the power to 46-kV. Then 46-kV lines go to local area distribution substations, which further step down the voltage to 12-kV or 4-kV. These lower-voltage distribution lines are further stepped down to 240 volts or 120 volts and connect to businesses and homes.

Other Hawaii islands use different voltages for their transmission and distribution systems.

## Electricity travels through corridors, like highways, from power plants to customers

Electricity travels through a network or grid of transmission and distribution lines from power plants and substations to customers.

On Oahu, most of the power is generated by plants located on the west side of the island. Electricity is delivered throughout the island through two primary transmission corridors—one in the north and the other in the south.

The northern and southern corridors function like highways. If an emergency occurs in one, electricity can still reach customers through the other highway.

## Transmission system "redundancy" provides more reliability

In addition, major subtransmission systems are also built for "redundancy." More than one circuit usually serves larger areas so if one line goes out of service for maintenance or emergencies, the electricity path can be switched to an alternate route to serve customers.



*HECO recently upgraded its Energy Management System, the "brain" that controls the electric system.*



*Crews work 24 hours a day to keep the lights on.*

## Investments in electric infrastructure improve customer service

HECO, HELCO, and MECO make substantial investments in transmission and distribution systems, including upgrading substations, overhead lines, and underground cables, to improve customer service.

A state-of-the-art Energy Management System (EMS) installed at HECO is being integrated with a new outage management system (OMS) and future customer information system (CIS). The goal is to provide faster and more accurate information and speed up restoration efforts when there are power outages.

## 24-hour trouble crews keep the lights on for customers

HECO, HELCO, and MECO field crews work 24 hours a day, seven days a week to make sure service is restored rapidly and efficiently for all customers.

