

A rural landscape featuring a green tractor with yellow wheels in a field. In the background, there are utility poles with power lines stretching across the sky. The sky is a clear, pale blue. The foreground is a lush green field.

The Path of *electricity*

How electric power
reaches you

Compliments of :
Washington EMC

The *Business* of
ELECTRIC COOPERATIVES

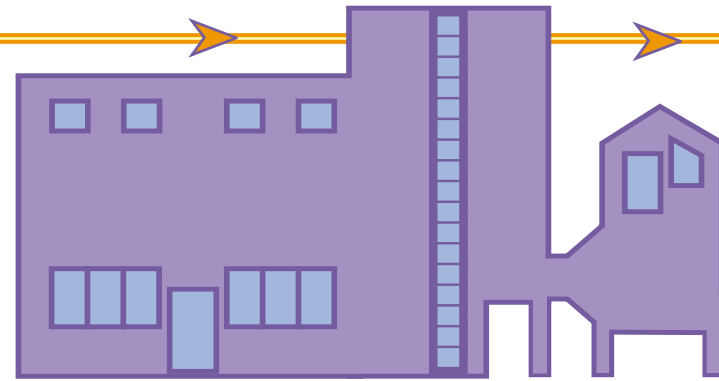
The Path of electricity

Electricity often travels long distances before reaching your home or business. Your electric cooperative buys wholesale power produced at generating facilities and distributes it through substations and power lines to consumer-members in its system.

Illustration by Katherine Fowler

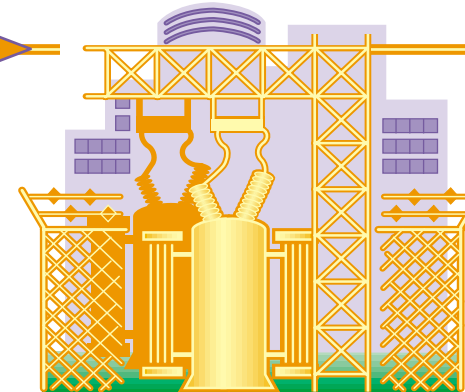
Power Plant

Inside a generating plant, water is heated to steam by nuclear reaction or fuels such as natural gas, oil and coal. Steam turns turbines and magnets to produce electric energy. Water at hydroelectric dams also can turn turbines.



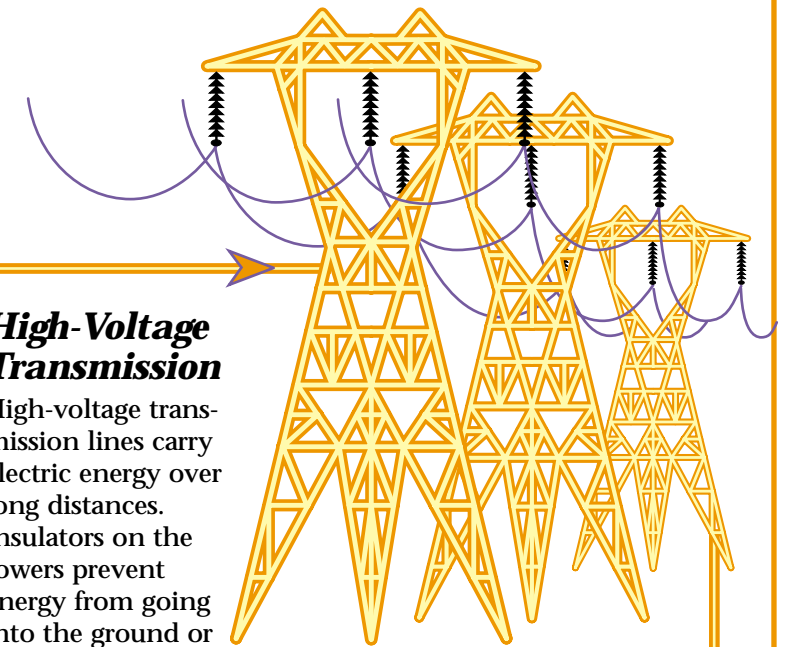
Step-Up Substation

Substation transformers at generating plants increase electric energy's pressure (voltage) so it can move long distances over power lines that transmit up to 500,000 volts.



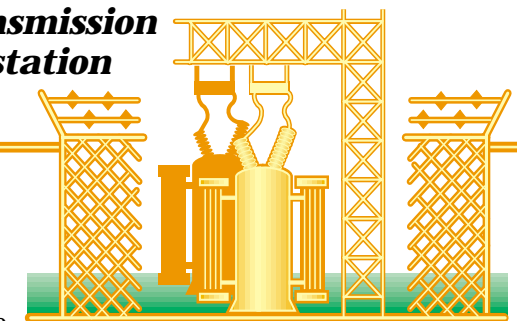
High-Voltage Transmission

High-voltage transmission lines carry electric energy over long distances. Insulators on the towers prevent energy from going into the ground or on the structure.



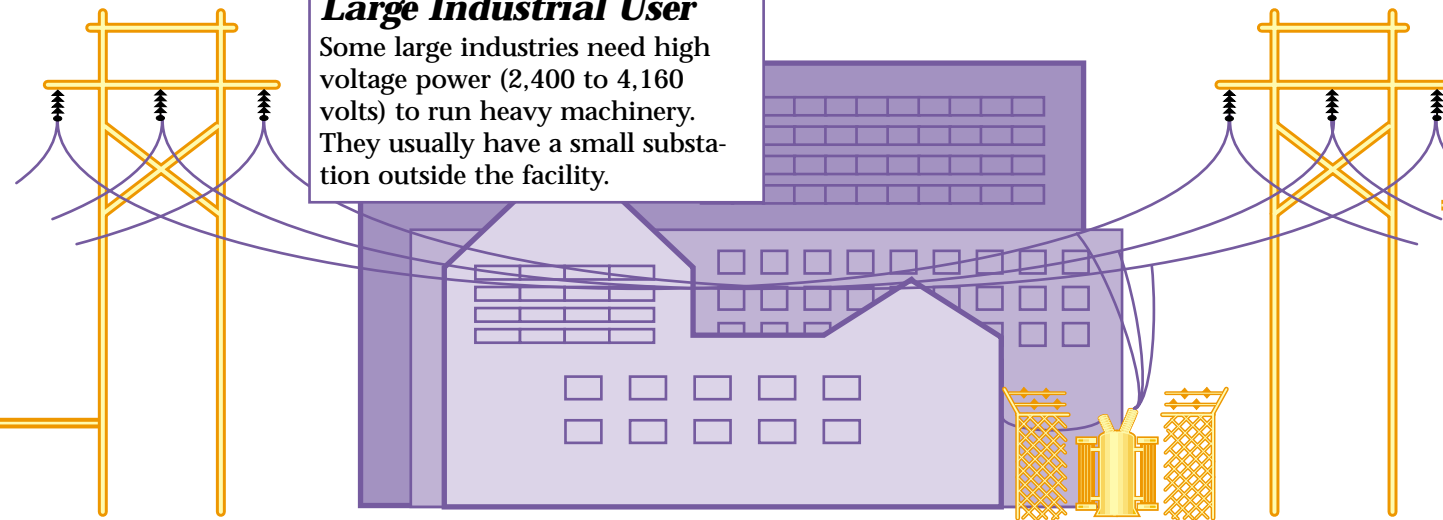
Transmission Substation

Transformers at high-voltage substations reduce voltage to a lower level (46,000 to 115,000 volts) suitable for local use.



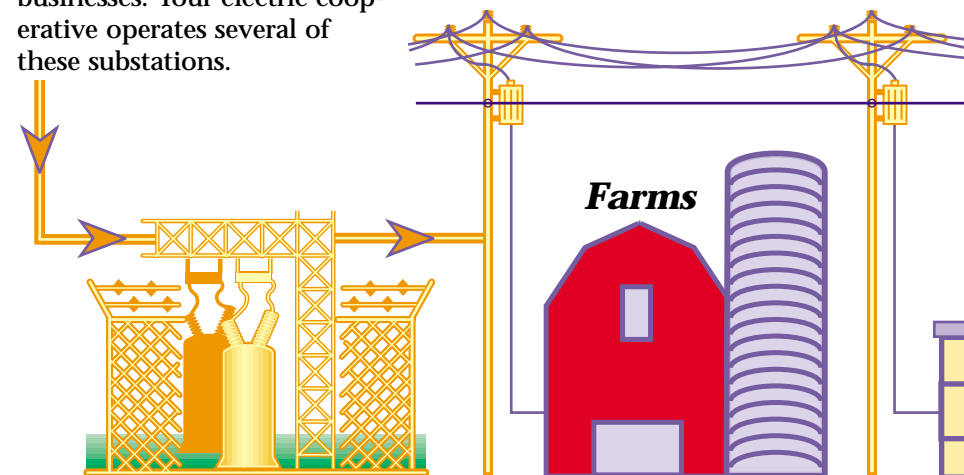
Large Industrial User

Some large industries need high voltage power (2,400 to 4,160 volts) to run heavy machinery. They usually have a small substation outside the facility.



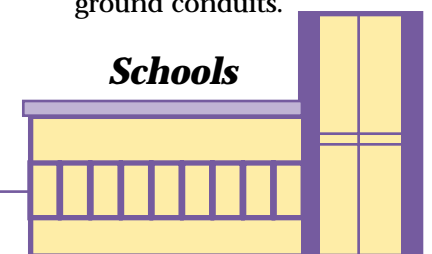
Local Substation

Transformers in medium-voltage neighborhood substations reduce the voltage even more to be distributed to homes and businesses. Your electric cooperative operates several of these substations.



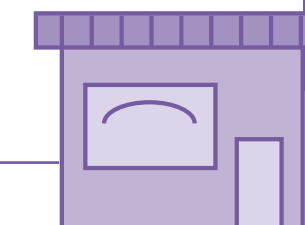
Distribution Lines

Your cooperative's distribution lines carry 7,200 to 14,400 volts of power. These poles may also hold telephone and cable TV lines. In some areas, distribution lines are in underground conduits.

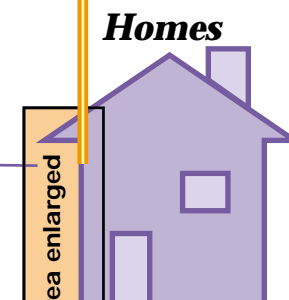


Electric power passes through transformers on poles to reduce voltage to levels for use inside farms, schools, small businesses and homes (120/240 volts).

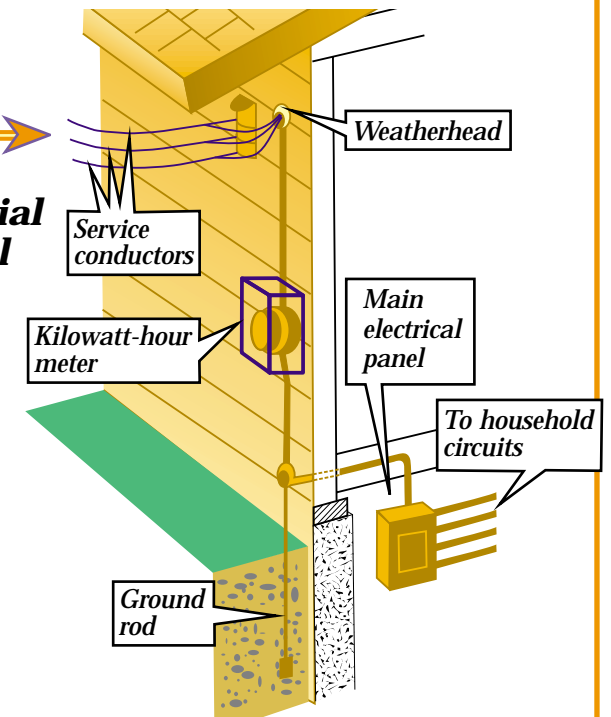
Small Businesses



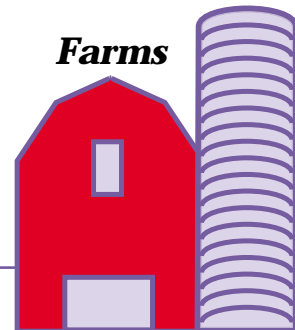
Homes



Residential Electrical Delivery



Farms



Schools

