

PART TWO

ELECTRICITY



Photolibrary.com/Science Photo Library

Electricity is a form of energy that is transported along a conductor such as metal wire. Although it cannot be stored economically, it is readily converted to other forms of energy, such as heat and light, and can be used to power electrical machines. These characteristics make it a convenient and versatile source of energy that has become essential to modern life.

ELECTRICITY

The supply of electricity begins with generation in power stations. Electricity generators are located usually near fuel sources such as coal mines, natural gas pipelines and hydroelectric water reservoirs. Most electricity customers, however, are located a long distance from electricity generators, in cities, towns and regional communities. The supply chain, therefore, requires networks to transport power from generators to customers. There are two types of network:

- > high voltage transmission lines transport electricity from generators to distribution networks in metropolitan and regional areas
- > low voltage distribution networks transport electricity from points along the transmission lines to customers in cities, towns and regional communities.

The supply chain is completed by retailers, which buy wholesale electricity and package it with transmission and distribution services for sale to residential, commercial and industrial customers.

Part two of this report provides a chapter-by-chapter survey of each link in the supply chain. Chapter 1 considers electricity generation in the National Electricity Market (NEM)—the wholesale market in which most electricity is traded in eastern and southern Australia. Chapter 2 considers activity in the wholesale market, and chapter 3 surveys the electricity derivatives markets that complement the wholesale market. Chapter 4 provides a survey of electricity markets in the non-NEM jurisdictions of Western Australia and the Northern Territory. Chapters 5 and 6 provide data on the electricity transmission and distribution sectors, and chapter 7 considers electricity retailing.

Electricity supply chain

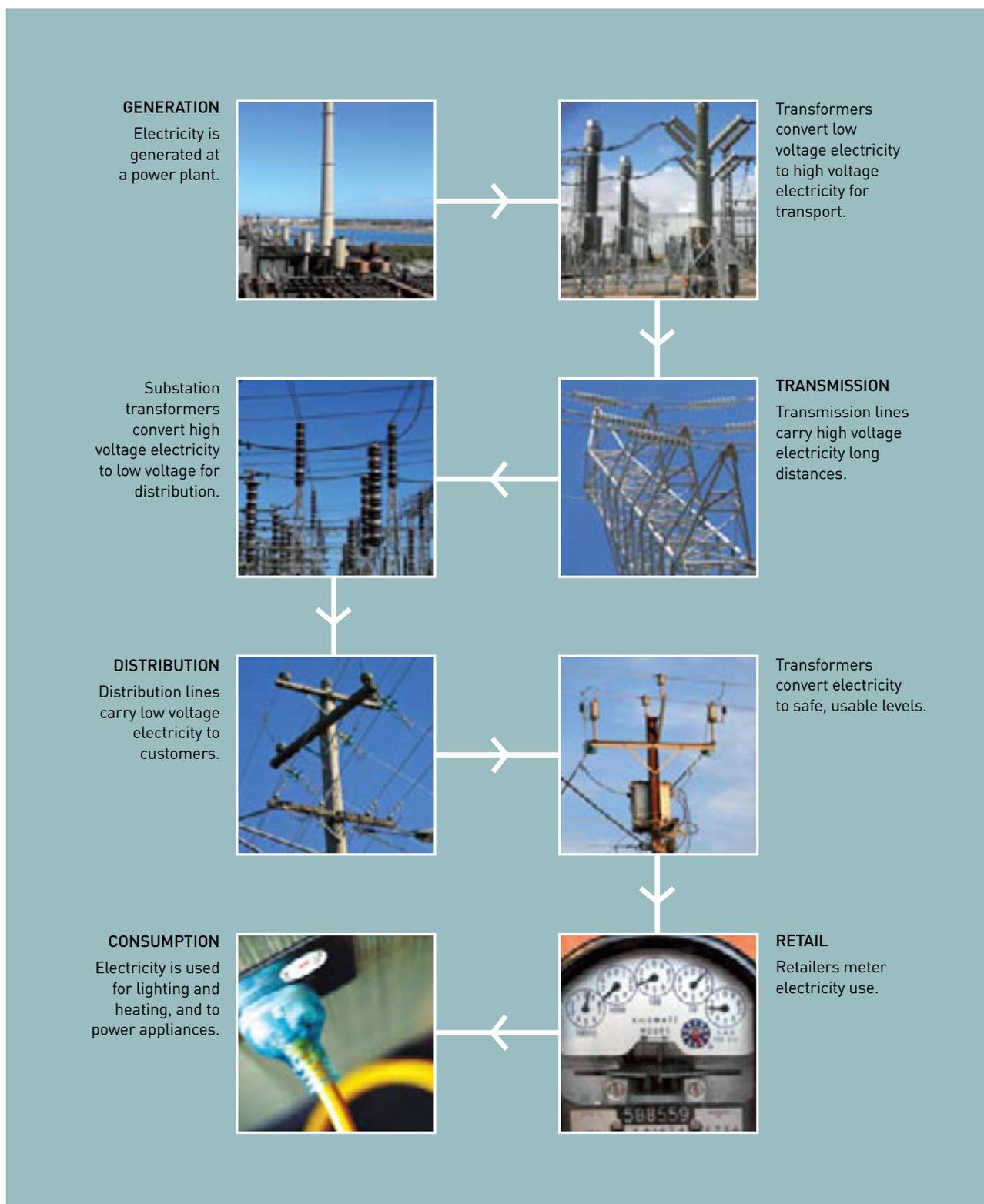


Image sources: Consumption, Jessica Shapiro (Fairfaxphotos); Other, Mark Wilson.