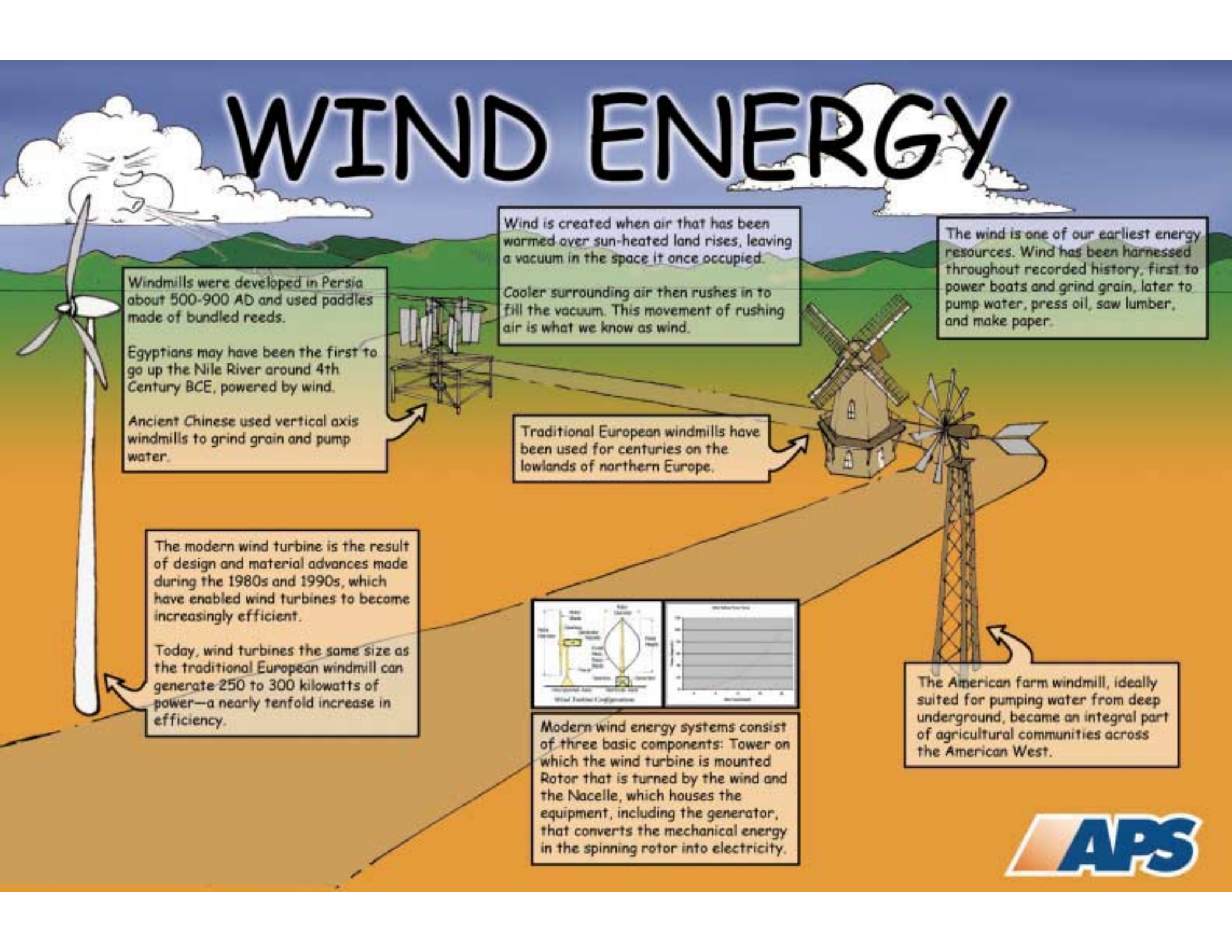


WIND ENERGY



Windmills were developed in Persia about 500-900 AD and used paddles made of bundled reeds.

Egyptians may have been the first to go up the Nile River around 4th Century BCE, powered by wind.

Ancient Chinese used vertical axis windmills to grind grain and pump water.

Wind is created when air that has been warmed over sun-heated land rises, leaving a vacuum in the space it once occupied.

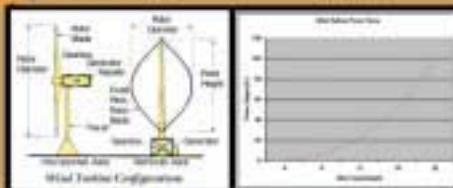
Cooler surrounding air then rushes in to fill the vacuum. This movement of rushing air is what we know as wind.

The wind is one of our earliest energy resources. Wind has been harnessed throughout recorded history, first to power boats and grind grain, later to pump water, press oil, saw lumber, and make paper.

Traditional European windmills have been used for centuries on the lowlands of northern Europe.

The modern wind turbine is the result of design and material advances made during the 1980s and 1990s, which have enabled wind turbines to become increasingly efficient.

Today, wind turbines the same size as the traditional European windmill can generate 250 to 300 kilowatts of power—a nearly tenfold increase in efficiency.



Modern wind energy systems consist of three basic components: Tower on which the wind turbine is mounted Rotor that is turned by the wind and the Nacelle, which houses the equipment, including the generator, that converts the mechanical energy in the spinning rotor into electricity.

The American farm windmill, ideally suited for pumping water from deep underground, became an integral part of agricultural communities across the American West.