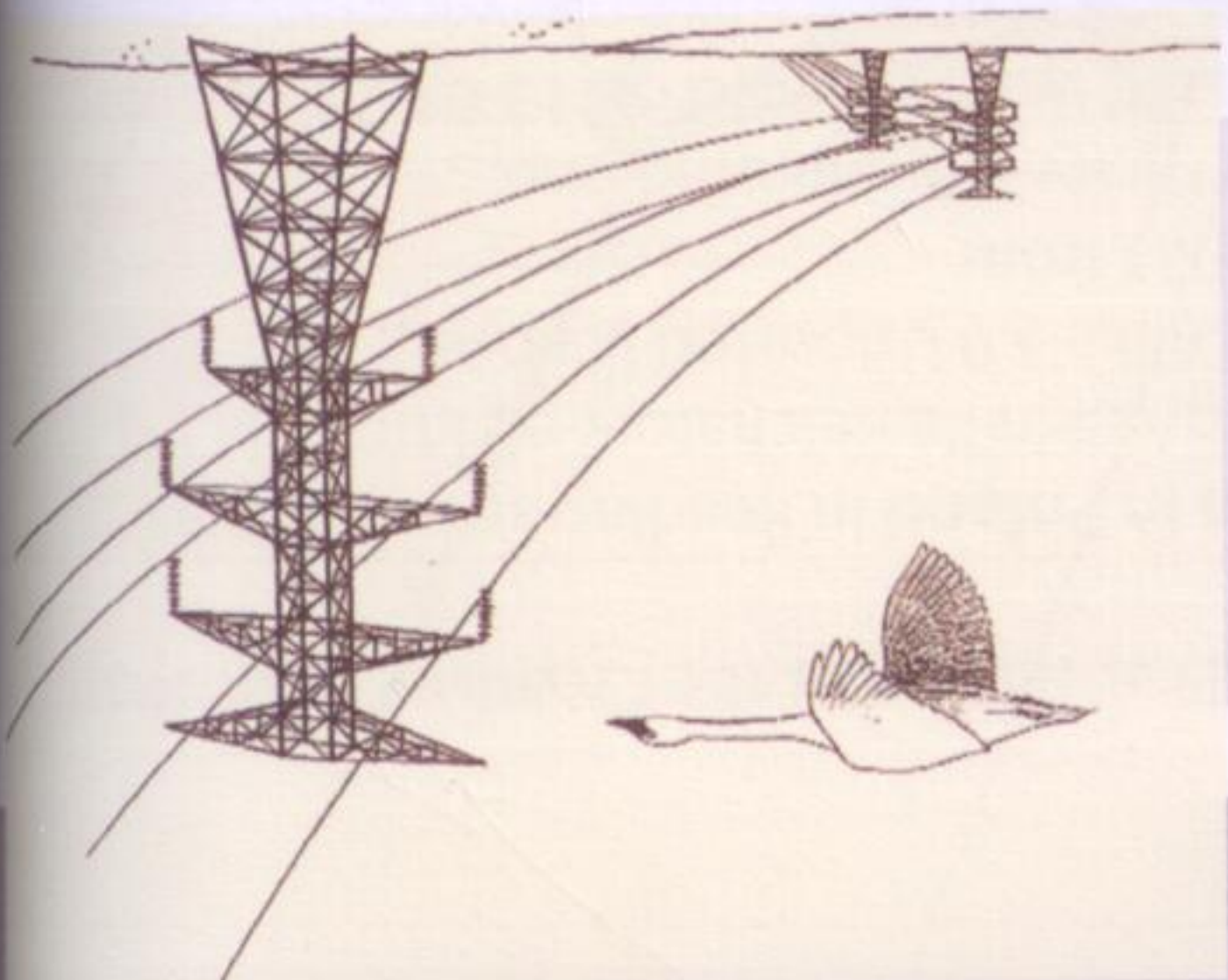


Lead in

This Unit looks into problems in the transmission and distribution of electricity with the use of conventional grids and solutions offered by smart grids. Can you guess the meaning of the word **woes** that appears in the title?

1. Look at the picture on the right and describe what it depicts. You can use some of the following words and phrases:

*high voltage transmission tower (or pylon) /
high voltage transmission lines (overhead power lines) / a stork*



2. Read extracts **a-c** and underline some causes of electricity transmission problems.

a. California's electricity system is buckling under the strains of a blistering¹ heat wave, the highest temperature ever reliably recorded. As residents cranked up air conditioning to keep cool, the state's primary grid operator ordered a series of rolling blackouts that have left millions without power in recent days. These were California's first intentional outages in nearly two decades. <https://www.technologyreview.com/2020/08/18/1007212/california-heatwave-rolling-blackouts-grid-climate-change/>.

b. When a wildfire tore through Briceburg two years ago, the tiny community lost the only power line connecting it to the electrical grid. ... The nation's largest utility decided to give Briceburg a self-reliant power system, a stand-alone grid made of solar panels, batteries and a backup generator. The ramping² up of this technology has enhanced energy resilience³ in the area. <https://apnews.com/article/california-lifestyle-power-outages-environment-and-nature-government-and-politics-80e3044da4163d6963c4035f402cdf62>.

c. Texas has long been devoted to its singular power grid, rejecting federal electricity regulation and the kinds of shared high-voltage connections with neighboring states. Warnings over decades that confidence in the grid was misplaced were ignored by top officials, and, as a result, Texas is entering its fourth day with widespread power failures after a severe cold snap and snowstorm. <https://www.washingtonpost.com/business/2021/02/18/texas-electric-grid-failure/>.

d. Speaking at the start of a two-day electricity forum hosted jointly with the Industrial Development Corporation to discuss collaborative solutions to the ongoing problem, Rodseth said load-shedding⁴ remained an area of great concern, as did inadequate investment and poor maintenance by municipal distributors. <https://www.engineeringnews.co.za/article/south-africa-electricity-woes-continue-to-place-manufacturing-at-risk>.



1. **blistering**: extremely hot

2. **ramping up**: increase in volume, amount, or rate

3. **resilience**: the ability to return to a previous good condition after problems

4. **load shedding**: interrupting the delivery of electricity on certain lines to avoid excessive load on the generating plant when the demand is too high