

2021 Q3

(POWER, ENERGY)

In One Energy's first Science Short (11/13/2020), we learned about the difference between power and energy. Energy is the ability to do work – making something move or change. Power is the rate at which work is done – the change in work over time. Let's apply these concepts to One Energy's wind projects.

Level 1: A facility has three 1.5 MW wind turbines. They run at rated power for two hours. How many kilowatt-hours did the turbines produce?

Level 2: One Energy's meter records the total production in kilowatt-hours on a 15-minute basis. The production for a three-turbine project for one hour is shown below. How many kilowatts were produced during each time stamp?

TIME STAMP	KILOWATT-HOURS
5:00	307.63
5:15	281.25
5:30	368.72
5:45	401.64

The energy this wind turbine produces is used by the plant behind it.

