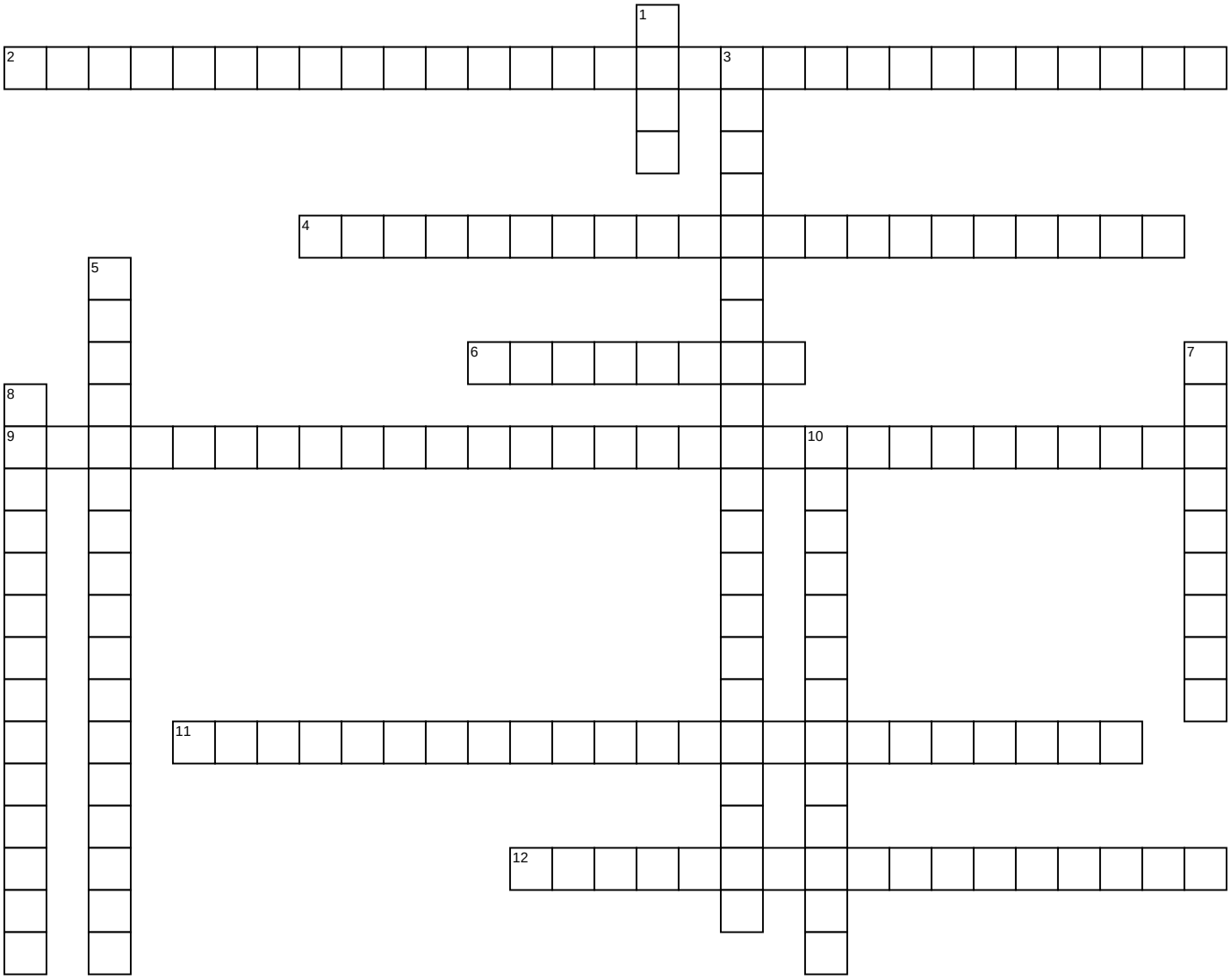
Wind Energy Generation

Chapter 9



ACROSS

2 The _____ is a water turbine evolved from the Darrieus turbine design by altering it to have helical blades/foils.
4 The _____ on a grid is the minimum level of demand on an electrical grid over 24 hours.
6 A _____ is a group of wind turbines in the same location used to produce electricity.
9 The _____ is a Washington, D.C.-based national trade association formed in 1974, representing wind power project developers, equipment suppliers, service providers, parts.
11 is a renewable energy source that is non-dispatchable due to its fluctuating nature, like wind power and solar power, as opposed to a controllable renewable energy source such as hydroelectricity, or biomass, or a relatively constant source such as geothermal power or run-of-the-river.
12 _____ is the use of wind farms constructed offshore, usually on the continental shelf, to harvest wind energy to generate electricity.

DOWN

1 _____ have the main rotor shaft and electrical generator at the top of a tower, and may be pointed into or out of the wind.
3 _____ as an alternative to burning fossil fuels, is plentiful, renewable, widely distributed, clean, produces no greenhouse gas emissions during operation, consumes no water, and uses little land.
5 _____ electrical energy is stored during times when production (especially from intermittent power plants such as renewable electricity sources such as wind power, tidal power, solar power) exceeds consumption, and returned to the grid when production falls below consumption.
7 Wind turbines convert the kinetic energy in the wind into mechanical power.
8 The net _____ of a power plant is the ratio of its actual output over a period of time, to its potential output if it were possible for it to operate at full nameplate capacity continuously over the same period of time.
10 The maximum wind speed that a turbine is designed to withstand before sustaining damage. See also Productive wind speeds.