



# Energy Lessons and Activities for Agricultural Educators

Agriculture and energy are deeply interdependent topics. From raising livestock to growing crops for biomass energy, agricultural professionals are tasked with cultivating forms of energy useful to humans and societies. Understanding energy sources and conservation methods applicable to agriculture, as well as how to calculate energy consumption costs, will prepare students for life and work on Wisconsin's farms and within the agriculture industry. The energy activities below offer real-world application through inquiry-based explorations of topics and issues in the field.

## Grades 5-8:

- Catch That Wind (9-12): Students sequence career titles of those responsible for siting, installing, and maintaining a wind farm.
- Community Design- It's a Gas (9-12): Students identify current energy use practices and incorporate the use of energy from methane into community design.
- Community Energy Use (9-12): Students survey local residents and businesses to learn how their community uses energy.
- Don't Throw Away Energy: Students analyze the energy used to make a product and identify alternatives (reduce, reuse, recycle) to throwing away the product and its energy.
- Don't Waste Waste: Students "harvest" celery to demonstrate waste accumulation from timber practices and brainstorm uses for the waste products.
- Grasses for the Masses: Students learn that different types of grass produce varying amounts of biomass by planting varieties of grasses and measuring their growth rate and leafy content.
- Waterwheels, Windmills, and Turbines: Students construct simple turbines to investigate how the energy in wind and water can be harnessed to do work.

## Grades 9-12:

- Biofuel Beliefs (5-8): Students use research skills to investigate various viewpoints surrounding the issue of ethanol as a fuel in Wisconsin.
- Corn in Your Car (5-8): Through mapping and research, students measure the availability of ethanol-blended fuels in their community, and the environmental benefits of using these fuels.
- Energy Action Plan (6-8): Students develop an action plan that addresses an issue related to energy resource management.
- Roasted Vittles: Students investigate how much energy is stored in foods by burning a food sample and calculating how many calories of heat are released.
- Sustainable Communities (5-8): Students identify current energy use practices and incorporate renewable energy use into community planning.

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