Energy is a fundamental crosscutting concept in science and is a social and environmental concern as demand for energy increases globally. In the 4-H Energy Management project, members may work on a variety of topics, including:

- Explore types of energy, including thermal (heat), chemical, magnetic, elastic, electrical, sound, radiant, mechanical, nuclear, and luminous, and how they may be transformed.
- Practice and promote wise use of energy, taking into consideration social, economic, environmental, and political considerations.
- Develop an understanding of energy production and the social, political, and economic costs between petroleum (oil), natural gas, coal, nuclear, and renewable sources.

### 4-H THRIVE

#### Help Youth:

**Light Their Spark**

A spark is something youth are passionate about; it really fires them up and gives them joy and energy. Help youth find how this project excites them.

**Flex Their Brain**

The brain grows stronger when we try new things and master new skills. Encourage youth effort and persistence to help them reach higher levels of success.

**Reach Their Goals**

Help youth use the GPS system to achieve their goals.

- **Goal Selection:** Choose one meaningful, realistic and demanding goal.
- **Pursue Strategies:** Create a step-by-step plan to make daily choices that support your goal.
- **Shift Gears:** Change strategies if you’re having difficulties reaching your goal. Seek help from others. What are youth going to do when things get in their way?

**Reflect**

Ask project members how they can use their passion for this project to be more confident, competent and caring. Discuss ways they can use their skills to make a contribution in the community, improve their character or establish connections.

The activities above are ideas to inspire further project development. This is not a complete list.
Expand Your Experiences!

Science, Technology, Engineering, and Mathematics

- Build an object that converts one form of energy to another; assess its efficiency.
- Conduct an experiment with light bulbs to see how much energy each consumes.
- Learn the history of energy generation technologies.
- Go on a field trip of an electrical generation plant.

Healthy Living

- Learn how your body uses and transforms energy—how many steps would it take to power a light bulb? How efficient is your body at transforming energy?
- Explore the calorie unit of energy, what it means, and its relation to your body and health.
- Conduct an assessment of the impact of energy production on the environment.

Citizenship

- Conduct an energy assessment of your community and present your findings to the city council; encourage them to explore more renewable sources of energy production.
- Start a recycling campaign for old sources of energy, like batteries.
- Inform the public about ways to reduce energy consumption.

Leadership

- Become a Junior or Teen Leader for the 4-H Energy Project.
- Be a role model in reducing your electricity usage at home, school, and 4-H meetings.
- Learn about the complex roles of social, economic, political, and environmental factors involved in energy generation.

Resources

- Renewable Energy Scavenger Hunt
  www.4-h.org/WorkArea/DownloadAsset.aspx?id=4242
- Energy Literacy: Essential Principles and Fundamental Concepts for Energy Education
  energy.gov/eere/education/energy-literacy-essential-principles-and-fundamental-concepts-energy-education
- U.S.D.E.—Energy Education
  http://www1.eere.energy.gov/education/lessonplans/
- National Academies—Energy
  needtoknow.nas.edu/energy/
- U.S. Energy Information
  http://www.eia.gov/state/

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