

# Sustainable Energy

Apply safety principles, practice, philosophy, and guidelines to the work environment. [STS.HS.31.1](#)

- a** Complete applicable safety assessment with 100% accuracy. [STS.HS.31.1.A](#)

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- b** Employ appropriate Personal Protective Equipment (PPE) while in the lab setting. [STS.HS.31.1.B](#)

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- c** Employ eye protection in compliance with Neb. Rev. Statute 79–715. [STS.HS.31.1.C](#)

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- d** Employ the safe application of tools and machines. [STS.HS.31.1.D](#)

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- e** Explain the main hazards that are possible in the lab setting. [STS.HS.31.1.E](#)

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- f** Demonstrate proper handling and storing of materials. [STS.HS.31.1.F](#)

Identify career opportunities in the sustainable energy field. [STS.HS.31.2](#)

- a** Identify the responsibilities of professionals in the sustainable energy industry. [STS.HS.31.2.A](#)

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- b** Identify opportunities and employment trends in various sustainable energy sectors. [STS.HS.31.2.B](#)

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- c** Identify the training, education, certification, and licensing requirements for occupation choices within sustainable energy. [STS.HS.31.2.C](#)

Explain societal topics concerning sustainable energy. [STS.HS.31.3](#)

- a** Summarize energy systems' relation to the conservation and interaction of energy and matter. [STS.HS.31.3.A](#)

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- b** Explain the responsibilities and considerations involved in making decisions in the energy industry. [STS.HS.31.3.B](#)

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- c** Explain the economic and political ramifications of the energy industry. [STS.HS.31.3.C](#)

Identify the various types of energy and their uses. [STS.HS.31.4](#)

- a** Explain the characteristics of wind as an energy source. [STS.HS.31.4.A](#)

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- b** Explain how solar energy may be used as an alternative energy source. [STS.HS.31.4.B](#)

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- c** Explain how geothermal energy can be used as a form of energy. [STS.HS.31.4.C](#)

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- d** Explain how biomass is used as an alternative form of energy. [STS.HS.31.4.D](#)

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**e Explain how water may be used in energy production.** STS.HS.31.4.E

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**Determine the materials, tools, and equipment needed to manufacture a sustainable energy product.** STS.HS.31.5

**a Determine types of materials, fasteners, adhesives, and finishes needed to produce a specific product related to sustainable energy.** STS.HS.31.5.A

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**b Determine the correct tools and equipment needed to produce a specific product related to sustainable energy.** STS.HS.31.5.B

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**c Identify the components of an effective sustainable energy product construction plan.** STS.HS.31.5.C

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**Explain current trends and information related to sustainable energy production and distribution.** STS.HS.31.6

**a Identify pros and cons of sustainable energy.** STS.HS.31.6.A

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**b Locate, organize, and reference reliable information from various sources to communicate trends in sustainable energy.** STS.HS.31.6.B

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**Execute accurate measurements using math and measurement tools pertaining to sustainable energy.** STS.HS.31.7

**a Identify types of measurement tools used in sustainable energy.** STS.HS.31.7.A

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**b Demonstrate the accurate use of measurement and layout tools to 1/16" precision.** STS.HS.31.7.B

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**c Solve math functions and formulas to complete tasks within the sustainable energy field.** STS.HS.31.7.C

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**Construct a sustainable energy related product or structure.** STS.HS.31.8

**a Create sketches and plans for a sustainable energy related product or structure.** STS.HS.31.8.A

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**b Determine structural requirements, specifications, and estimate costs of structures.** STS.HS.31.8.B

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**c Interpret plans to construct, maintain, or repair sustainable energy-related products or structures.** STS.HS.31.8.C

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**d Properly plan, build, and maintain the product or structure.** STS.HS.31.8.D

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