

The image features a dark green background with a faint, light green grid pattern. The grid consists of concentric circles and radial lines, resembling a technical drawing or a coordinate system. A small, 3D-rendered bolt or screw is positioned near the top center of the grid. The word "Energy" is written in a bold, white, sans-serif font, centered horizontally and slightly below the bolt.

Energy

What is Energy?

- ◆ **Defined as the capacity to do work**
- ◆ **Law of Conservation: energy can neither be created or destroyed, only transferred from one form to another**
- ◆ **Most common form of energy is heat**
- ◆ **Kinetic Energy: energy of motion**
- ◆ **Potential Energy: stored energy**


Common Types of Energy

- ◆ **Heat**
- ◆ **Sound**
- ◆ **Electromagnetic**
- ◆ **Chemical**
- ◆ **Electrical**
- ◆ **Mechanical**
- ◆ **Nuclear**

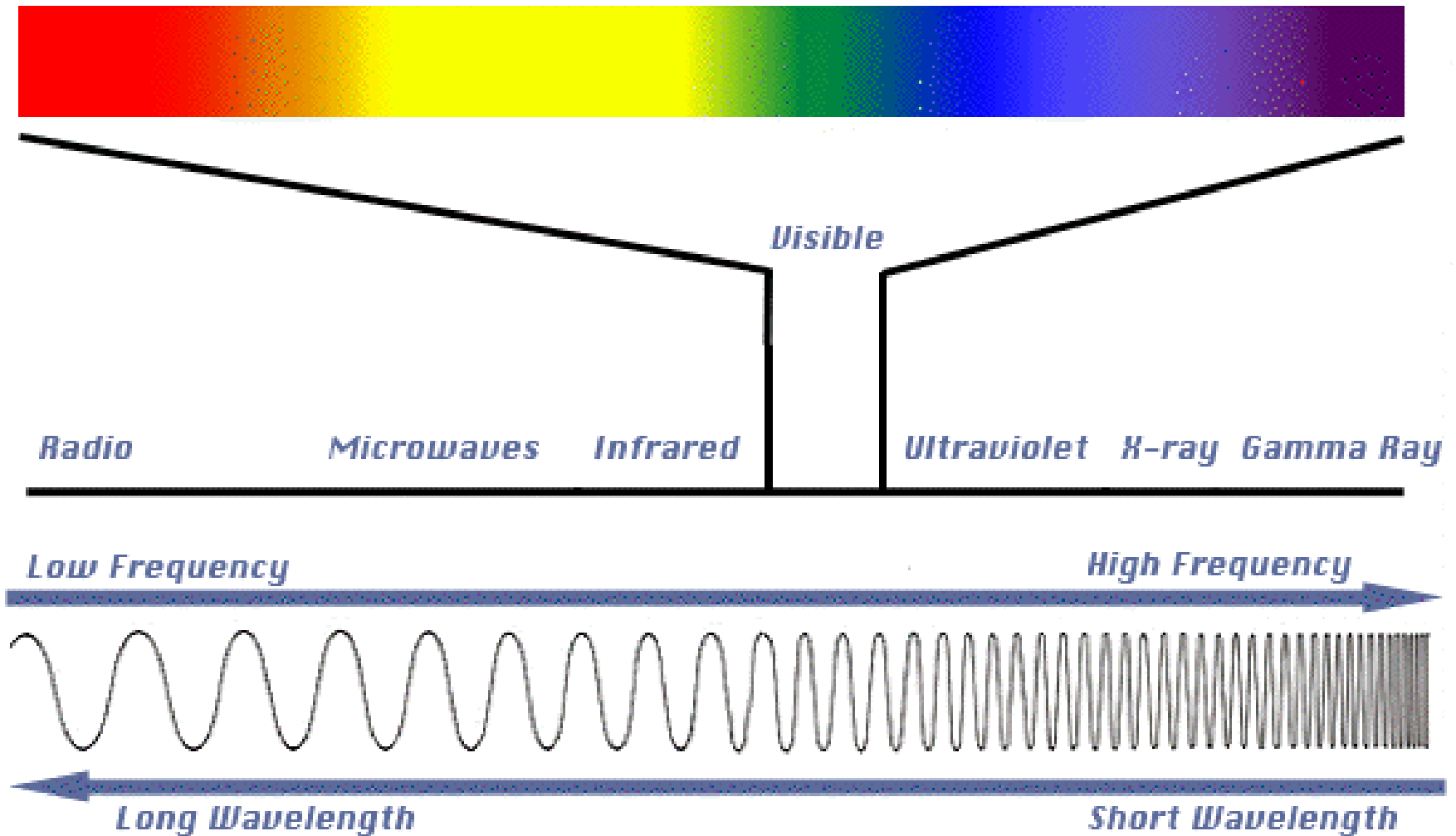
Heat

- ◆ **Due to differences in temperature**
- ◆ **Majority of energy is eventually transferred to heat**
- ◆ **Fire**
- ◆ **Friction**

Sound

- ◆ **Due to vibrations of atoms that can be detected by the ear**
 - ◆ **Thunder**
 - ◆ **Voices**
 - ◆ **Music**
 - ◆ **Doorbell**
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- A glowing green sound wave graphic on a black background. The wave is composed of several overlapping, slightly offset lines, creating a sense of depth and movement. The peaks and troughs of the wave are highlighted with a bright green glow, making it stand out against the dark background. The overall effect is that of a vibrating energy field or a sound wave being captured in a digital or scientific style.

EMS



Electromagnetic

- ◆ **Anything on the electromagnetic spectrum**
- ◆ **As frequency increases the wavelength decreases**
- ◆ **Higher the frequency the more energy it contains**
- ◆ **Radio waves**
- ◆ **Microwaves**
- ◆ **Visible light**
- ◆ **UV light**
- ◆ **X-rays**

Mechanical

A row of offshore wind turbines in the ocean. The turbines are white with three blades each, and they are mounted on tall, slender towers. The ocean is a deep blue, and the sky is a clear, light blue. The turbines are arranged in a line that recedes into the distance, creating a sense of depth.

- ◆ **Due to the forces of motion on an object**
- ◆ **Gasoline Motor**
- ◆ **Windmill**
- ◆ **Simple Machines**
 - **Pulley**
 - **Inclined Plane**
 - **Screw**
 - **Lever**

Chemical

- ◆ Due to the arrangements of atoms, and their combinations
- ◆ Battery
- ◆ Match
- ◆ Charcoal
- ◆ Gasoline



Electrical



- ◆ **Due to the rearrangement of electrons**
- ◆ **Lightning**
- ◆ **Generators**
- ◆ **Power Stations**

Nuclear Energy

A photograph of a nuclear power plant with two large, grey, conical cooling towers emitting white steam. The plant is situated in a valley with green hills and mountains in the background under a clear blue sky.

- ◆ Due to fusion & fission
- ◆ Fusion: combining of similar atoms to form heavier elements
- ◆ Fission: splitting of atoms into its parts
- ◆ Radioactive elements
- ◆ Sun
- ◆ Stars
- ◆ Nuclear Power Plants
- ◆ Nuclear weapons