

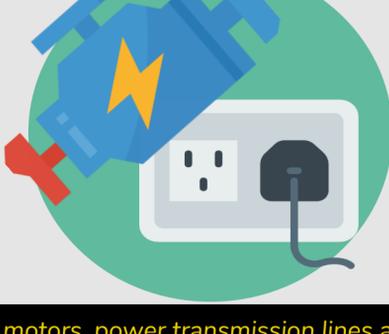
# 8 Sources of Hazardous Energy: Do you know where they are?



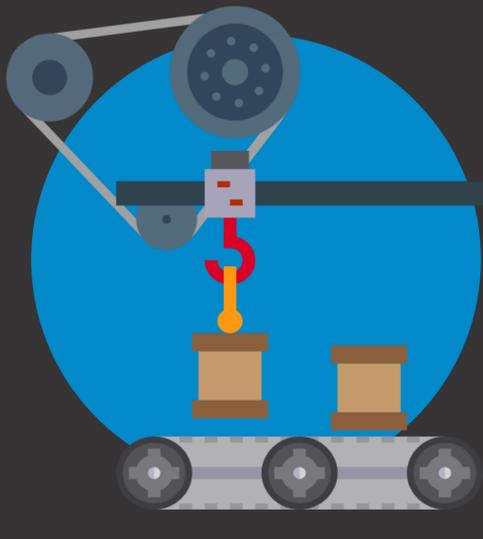
Before you begin your lockout process, you need to correctly identify sources of hazardous energy, including some often overlooked sources! Ensure you're aware of all of the hazardous energy sources in your workplace.

## Electrical Energy

The most common hazardous energy in the workplace is electrical energy. It can cause electrical shock, electrocution, burns, and other injuries.



Electrical energy sources: *motors, power transmission lines and generators*



## Mechanical Energy

Mechanical energy includes kinetic energy, which is energy in motion, and potential energy, which is energy that's stored in a certain position. Mechanical energy releases can result in workers being struck, pinched, or crushed by machinery or equipment.

Kinetic energy sources: *fan blades, conveyor belts, mixers, agitators, flywheels*

Potential energy sources: *coiled objects, elevated or suspended objects like springs, batteries, and motors*

## Pneumatic Energy

Pneumatic energy is potential energy. It's the transmission of power through pressurized air or gas. It can produce static energy, like pressure tanks, or energy in motion, like hoses. Pneumatic energy releases can cause workers to be struck or crushed by moving machinery or equipment.



Pneumatic (potential) energy sources: *compressed air engines, handheld jack hammers*



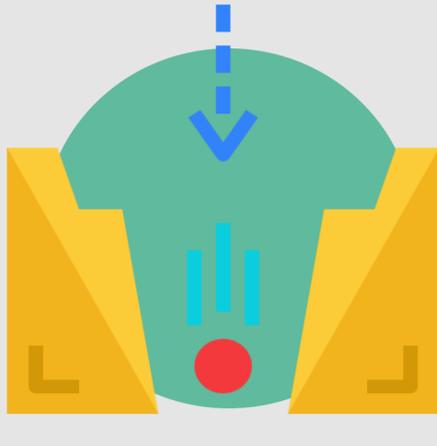
## Hydraulic Energy

Hydraulic energy is energy stored within a pressurized liquid, which is used to move equipment, machinery, or heavy objects. It can cause workers to be struck or crushed by moving machinery or equipment.

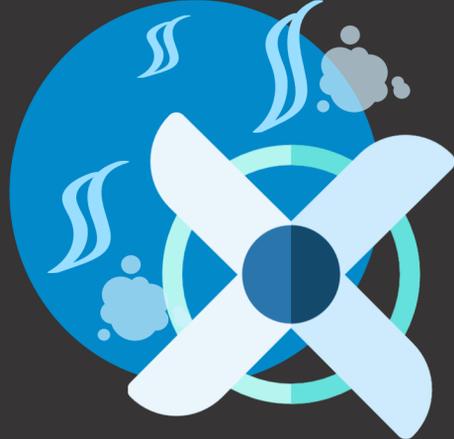
Hydraulic (potential energy) energy sources: *hydraulic presses and braking systems*

## Gravitational Energy

As objects fall, they generate kinetic energy. The more an object weighs and the higher its starting point, the greater the gravitational energy. It can cause incidents or injuries related to falling objects.



Gravitational (potential energy) energy sources: *objects falling from heights*



## Thermal Energy

Thermal energy is also known as heat energy. It can be found in fire, liquefied gases, hot water, or steam. Thermal energy can cause burns.

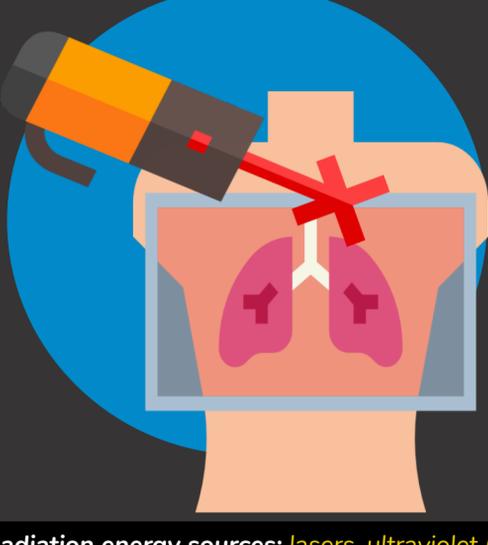
Thermal energy sources: *pressurized steam used to power a turbine*

## Chemical energy

Chemical energy is created by the reaction between substances. This can lead to fires and explosions.



Chemical energy sources: *released through reactions of combustible, flammable, or corrosive substances*



## Radiation Energy

Radiation is energy produced from electromagnetic sources. It may occur naturally, but it can also be produced artificially. Radiation can cause burns and damage to eyes and skin.

Radiation energy sources: *lasers, ultraviolet (UV) rays, infrared waves (IR), and X-rays*