Boost Your Recognition of Hazards

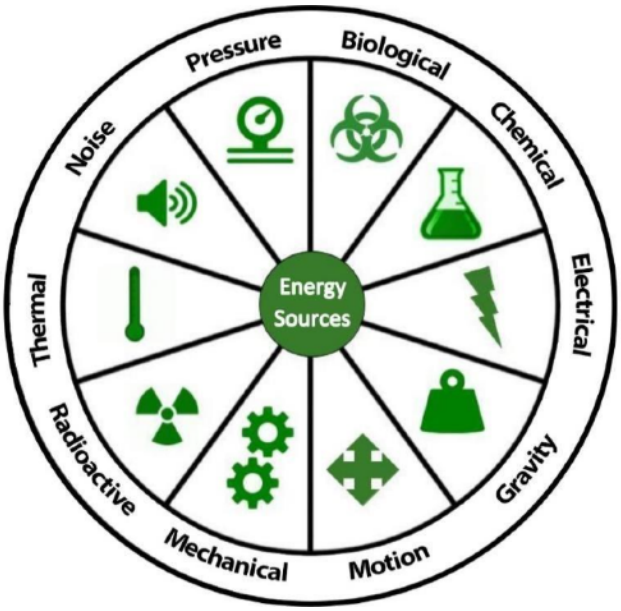
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In the construction industry, incidents that result in serious injuries or fatalities (SIFs) often stem not from unusual conditions, but from unrecognized or uncontrolled sources of energy present in routine work.

To help address this, the **Construction Safety Research Alliance** (**CSRA**) developed the Energy Wheel, to focus attention on the energy sources that may lead to harm**.**

What is the Energy Wheel?

The Energy Wheel is a practical tool you can use to strengthen your hazard recognition by identifying the energy sources that present risks of injury in your work.



The Energy Wheel, developed by the Construction Safety Research Alliance

This visual framework helps you to recognize and address the different forms of hazardous energy present in your tasks or environment. It can guide both workers and supervisors to bring greater awareness to the potential risks of hazardous energy.

Example of Major Energy Types

- Gravity – Working at heights, dropped tools
- Mechanical – Rotating shafts, pinch points
- Electrical – Energized circuits, static discharge
- Chemical – Corrosives, flammables, toxic substances
- Pressure – Compressed gas, hydraulic systems

- Temperature – Burns, hot surfaces or equipment
- Motion – Moving vehicles, equipment in motion
- Radioactive – Welding arcs, UV or ionizing radiation
- Biological – Infectious materials, mold exposure
- Noise – Loud machinery, impact tools, high-decibel environments

Why It Matters

Traditional hazard assessments sometimes overlook the underlying energy exposure that causes injuries. The Energy Wheel makes these risks more visible, especially during:

- Pre-task planning and toolbox talks
- Job Hazard Analyses (JHAs)
- Incident investigations
- Daily field-level hazard assessments (FLHAs)

Focusing on energy helps you shift from reacting to incidents to proactively predict and prevent them.

Insights from CSRA Research

Understanding energy exposure is essential to predicting and preventing SIFs.

Traditional hazard assessments identify only about 45% of actual hazards. By using the Energy Wheel, you can improve hazard detection by approximately 30%, raising recognition rates to 75%.

The Energy Wheel supports structured risk conversations and systematic scanning during toolbox talks, JHAs and FLHAs.

The Energy Wheel was developed using evidence from psychology, neuroscience and engineering disciplines to ensure real-world effectiveness. Empirical testing and validation were led by Dr. Matthew Hallowell and the CSRA team at the University of Colorado Boulder.

Next Steps

As a safety leader or front-line supervisor, incorporate the Energy Wheel into your company's hazard recognition practices.

Deepen your understanding of the principles behind critical risk management, including the Energy Wheel, by taking the SCSA's **Leadership for Safety Excellence (LSE)**. It is essential training for supervisors and equips you with strategies to lead safer teams.

Download the Hazardous Energy Wheel Tool Box Talk

To learn more, reach out to an SCSA Advisor at scsaonline.ca