

WELCOME TO

THE SCIENCE OF ENERGY featuring UNPLUGGED

THE SCIENCE OF ENERGY explores energy and our relationship to it. Visitors will actively examine their own human energy and understand what it means to be unplugged. Through interactive discovery, they'll earn a better understanding of where our energy comes from, with an emphasis on renewable sources like wind and solar. They'll learn foundational basics in a dynamic format and explore the past and future of humankind's impact on energy resources. They'll also gain a global perspective that provides valuable insight into the world's relationship with energy, now and in the future.

THE STORY BEHIND THE EXHIBITION

America is built on ingenuity and inspiration, supported by creativity and critical thinking. To maintain this tradition, investing in STEM (science, technology, engineering and mathematics) education is crucial. That's why the Burns & McDonnell Foundation partnered with Science City in 2011 to create the Battle of the Brains, an academic competition in which local schools could earn grant money by designing the next great exhibit for Science City.

The Battle of the Brains drew 560 entries, representing 2,500 students from 128 schools in 35 greater Kansas City area districts. Students at **Richardson Elementary** in Lee's Summit earned the top prize in the elementary division. Students from **Olathe North High School** earned the top prize in the secondary division with their idea "Unplugged," and the ultimate reward of seeing their exhibit concept constructed in Science City. These students worked with Burns & McDonnell to develop what has become The Science of Energy exhibit.

Did THE SCIENCE OF ENERGY spark your imagination?

We want to hear about your ideas and experiments! Tell us at unplugged@unionstation.org.



THE COMPONENTS

The **Power Wheel** lets visitors harness their human energy to generate electricity. They can step onto the giant wheel and walk to light up an "Unplugged" sign, while a digital display tracks speed, distance, calories burned and watts of energy generated.

The **Bicycle Generators** demonstrate how the body is an energy-generating machine. Visitors can jump on a stationary bicycle and pedal away, transferring the energy from food into motion. That motion, in turn, generates electricity that powers small electronics relevant to a visitor's life.

The **Electric Hand Crank Generator** offers insight into the machines that turn energy into electricity. Visitors turn the crank to power lights and a fan, getting an inside look at a generator that uses conductive wires spinning through a magnetic field.

At the **Wind and Solar Impact Table**, visitors learn more about wind and solar power and its role in our energy mix. By cranking up the wind to activate turbines, adjusting sunlight levels and changing the angle of solar panels, visitors can impact the energy generation of a model city.

The **Turbine Display** tells more about wind as an energy source, from its use by our ancestors to its practical applications today. A digital display offers interesting content while a massive wind turbine blade display offers a real-world perspective.

The **Solar Panel Display** highlights the panel like those used to help meet our energy needs. Visitors will get an up-close view of a solar panel like those used all over the world to harness the sun's energy on homes, businesses and even street signs.

At the **Energy Spectrum Wall**, visitors get a straightforward yet comprehensive look at where we get our energy, from non-renewable fossil fuels like coal, oil and gas to renewable sources like wind, solar, hydro and biomass.

The **Imagine Energy Digital Wall** is a giant, interactive touch screen that offers a world of information about energy — history, science, global perspectives and the future. Visitors can easily navigate tabs that offer information, images and video within a dynamic and vibrant framework.

- The **Timeline** offers a historical perspective of humankind's relationship with energy, beginning with the control of fire and continuing through today's exploration of renewable energy sources.
- The **Science** is a foundational presence for the entire exhibition, offering information on core terminology and landmark discoveries.
- **Global View** uses an interactive map to offer a comprehensive perspective on energy, instantly identifying countries that are power players in energy production and consumption.
- The **Future** offers a glimpse at technologies that may shape tomorrow's energy world and a fuller understanding of why this research is so vital.

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UNPLUGGED
THE EXPERIENCE

THE SCIENCE OF ENERGY

