

Conservation Station

Get your student's thinking about how they can make a difference

STUDENT CONNECTION

Students are connected to the energy-water nexus in many ways. Did you know...

- it would take just over five Earths to support the human population if everyone's consumption patterns were similar to the average American?
- that each year, around 40% of food is wasted in the United States? That is almost 119 billion pounds of food and additional billions of gallons of water it takes to produce the food!
- only 21.5% of the energy consumed in the United States comes from renewable sources?

Itron would like to invite students to dive into the energy-water nexus with *Conservation Station: Creating a More Resourceful World*. This innovative and standards-aligned program encourages middle school students to explore the relationship between water and energy through the lens of conservation. Students will discover how new technologies are empowering consumers, making cities smarter, and moving our world toward a more energy-efficient future.

WHAT IS THE ENERGY-WATER NEXUS?

Water and energy depend completely upon each other, coming together in the energy-water nexus. We use water to grow our food, manufacture our goods, and produce electricity. Energy is required to make water available for human use and consumption through pumping, treating, and delivering water. Managing water is a growing concern as we face challenges regarding water supply and a need to update aging water infrastructure. Energy and water are inherently related to every significant challenge of the 21st century, from climate change and national security to food production and transportation. The first step in facing these challenges is to improve our understanding of how these resources are linked and depend on each other.

KEY QUESTIONS

1. How can we avoid wasting water and energy by using technology?
2. How can we live more sustainably and minimize our impact on the environment?
3. How can we improve quality of life by effectively managing electricity, gas, and water resources?

USING THE RESOURCES

Virtual Field Trips—Inspire your students with a 20–30-minute video that they can enjoy from the comfort of their homes.

Career Inspiration—Sit down with Itron professionals to learn about their career journeys and hear their advice about how your students can be a part of the ever-growing STEM field in many ways!

Educator Resources—Download activities that will help your students explore the unexpected connections at the heart of the energy-water nexus, and discover how you and your students can conserve water and energy at school and at home.

SUSTAINABLE DEVELOPMENT GOALS

The United Nations developed 17 Sustainable Development Goals (SDGs) to address the global need to end poverty, improve health and education, reduce inequality, and improve economic growth, while still addressing climate change and the need to preserve our oceans and forests. Itron continues to make progress towards achieving these goals through innovative initiatives to focus on building a more resourceful world.



CONNECTIONS TO STANDARDS AND SDGS

Here are just a few of our activities that link the national science standards with the United Nations SDGs. For a complete list of our activities, virtual field trips, and resources, be sure to visit [Conservation Station!](https://www.conservationstation.org/)

NGSS Connections and Educator Resources	SDG Connection
<p>Weather and Climate</p> <ul style="list-style-type: none"> • ESS3-5—Ask questions to identify and clarify evidence of an argument of the factors that have caused the rise in global temperatures over the past century. <p>Suggested Resource Sustainable Action Campaign</p>	 
<p>Human Impacts</p> <ul style="list-style-type: none"> • ESS3-2—Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects. <p>Suggested Resource Improving Sustainability</p> <ul style="list-style-type: none"> • ESS3-3—Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment. <p>Suggested Resource Clean Water and Sanitation</p> <ul style="list-style-type: none"> • ESS3-4—Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems. <p>Suggested Resource Sustainable City Planning</p>	   
<p>Ecosystems: Interactions, Energy, and Dynamics</p> <ul style="list-style-type: none"> • LS2-1—Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem. <p>Suggested Resource Calculating Your Personal Ecological Footprint</p>	 
<p>Engineering Design</p> <ul style="list-style-type: none"> • ETS1-1—Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, considering relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions. <p>Suggested Resource Improving Water Efficiency</p>	 