

Sustainability September: LEED Certification

What do all these buildings, ranging from the Orientation Center at Duke Farms to a Finnish shopping center, have in common? They're all LEED certified! But what does it mean to achieve such a standard?



Clockwise from top left: **Sello Shopping Center** (Esbo, Finland), **King Abdullah University of Science and Technology** (Thuwal, Saudi Arabia), **Pixel Building** (Carlton, Australia), **Soldier Field** (Chicago, USA), **Duke Farms Orientation Center** (Hillsborough USA), **Salt Lake City Library** (Salt Lake City, USA) Images courtesy of USGBC.org

In 1993, the **U.S. Green Building Council** (spearheaded by the Natural Resources Defense Council) was created to define a green building. They established a baseline, a universally agreed-upon, holistic system for reducing environmental impacts, saving resources, impacting human health for the better, reducing carbon emissions and addressing climate change.

Virtually all building types and phases of building would be evaluated to be more energy efficient, generate less waste, and use to better conserve water. This would require a 3rd party evaluation by LEED certified evaluators. They devised four levels of verification with a scale of 110 points as the highest attained.

			
Platinum	Gold	Silver	Certified
80+ points earned	60-79 points earned	50-59 points earned	40-49 points earned



Points can be earned for building use, storage and collection of recyclables (ex. composting), renewable energy use (ex. solar, geothermal), and indoor/outdoor water use reduction (ex. wells, rainwater collection).

Building towards this certification has many other benefits, including:

- ✿ Reduced liability to business/owner
- ✿ More durable structure
- ✿ Greater re-sale value
- ✿ Improved indoor air quality
- ✿ Tax incentives by many cities and states



The Orchid Range at Duke Farms is one of the world's first LEED certified conservatories!

Here at Duke Farms, we are proud to be amongst the ranks of these forward-thinking entities by achieving a Platinum level of certification, the highest level possible! You can find evidence of the hard work and planning put into this throughout the property, including the Orchid Range and the Orientation Center (a repurposed building that was once, if you can believe it, a horse and dairy barn). This certification reflects the way that these buildings have been redesigned from their original purposes to use sustainable energy for heating, cooling, and lighting and water conservation.



LEED Platinum Certification emblem adorning the classroom doors of the Duke Farms Orientation Center.

What does this mean for you at home? You don't have to be a large organization to be an active part of the fight to protect our environment! You can do your part right at home by taking a good look at your home's energy consumption and water usage. The following activities are designed to help you and your family explore ways to do an "energy audit" of your home to see how you can not only help our environment but also reduce your own utility costs and maybe even increase your home's lifespan!

WaterSense is a certification program from the Environmental Protection Agency that labels products for your home and business that are designed to use "at least 20 percent less water, save energy, and perform as well as or better than regular models." ([Source: EPA](#))

- **For parents:** Check out this [awesome game from WaterSense For Kids](#) to teach your family about why we should and how we can conserve water at home!
- **For educators:** WaterSense has [an entire page](#) dedicated to lesson plans and activities designed to engage your students and arm them with the knowledge to become better stewards of the earth's water resources!



Can you find all the ways to improve your home's energy and water usage? Check out this guide to do your own energy audit and find all the ways your house could be working for you to save money and the planet! Scroll to the next page for just some possible answers.

HOW CAN YOU SAVE ENERGY IN YOUR HOME?

Why is it important to conserve energy?

What are some sources of energy?



How are climate change and energy related?

What did you find in your home that works well to conserve energy? What can be improved?

HOW CAN YOU SAVE ENERGY IN YOUR HOME?

- Reduce effects of climate change
- Conserve natural resource
- Improve air quality
- Save money

- Solar
- Wind
- Geothermal
- Electric
- Hydropower
- Natural Gas
- Biofuel

Roof - Light colored shingles

Attic - Insulation

Bedroom - Automatic light dimmer



Office - Programmable blinds



Bathroom - Low flow fixtures



Garage - Insulated doors



Kitchen - Energy Star appliances



Living Room - Programmable thermostat



- The effects of energy consumption adds to unneeded greenhouse gases in our atmosphere which contributes to the greenhouse effect and global warming



Sustainable New Jersey

Is your school or municipality participating in this program? [Check it out!](#)

60% of New Jersey school districts participate in our Sustainable Jersey for Schools program. It provides tools, training, technical assistance, and grants to help schools pursue sustainability initiatives and prepare the next generation for the challenges they will face. The Roadmap is a practical guide for school administrators and teachers to help them implement remote learning programs that provide every student with the best education possible.



Climate Change: The road to various “green-based certifications” usually entails a long series of steps and a way to achieve long standing modifications that fight climate change. This is the perfect time to research programs that build a healthier environment as it will also directly align with New Jersey’s new Climate Change Curriculum.

Learning about the Duke Farms Platinum LEED Certification aligns with the newly adopted NJ Student Learning Standards.

Adopted 2020 New Jersey Student Learning Standards (NJSLS)

Climate Change

New Jersey is the first state in the country to require climate change curriculum across all content areas and at a K-12 level.

As stated by the NJDOE:

On June 3, 2020, the State Board of Education adopted the 2020 NJSLS in the following content areas:

- Career Readiness, Life Literacies, and Key Skills;
- Comprehensive Health and Physical Education;
- Computer Science & Design Thinking;
- Science;
- Social Studies;
- Visual and Performing Arts;
- and World Languages.

These standards truly represent a foundation from which districts will build coherent curriculum and instruction that prepares each New Jersey student with the knowledge and skills to succeed in our rapidly changing world. They will put New Jersey again at the forefront of national education by including the following:



- Climate Change across all content areas, leveraging the passion students have shown for this critical issue and providing them opportunities to develop a deep understanding of the science behind the changes and to explore the solutions our world desperately needs.

For more information about how you may use the LEED Certification or other green certifications to address climate change topics in your PK-12 and beyond classrooms, contact Kate Reilly, Manager of Education, Duke Farms at kreilly@dukefarms.org