



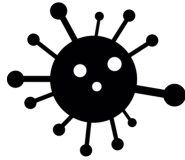
Virtus Semper Viridis

The VILLEage Green



Lawrenceville's Sustainability Newsletter... For our community and for the Earth

Fall 2020 | Volume 3



COVID-19 Edition

The COVID-19 pandemic has unprecedented and profound impacts on every member of the Lawrenceville community. In this edition of *The VILLEage Green*, the Sustainability Council informs the campus community of **(1) initiatives and events the Council and students dedicated to sustainability have successfully carried out this Fall despite the pandemic, (2) a report on how sustainability work of the School has been affected by the pandemic, (3) connections to national and global effects of COVID-19 on sustainability, and (4) suggestions for taking action.** Since the pandemic will have severe and negative implications for sustainability, such as the generation of massive amounts of waste, it is crucial that the campus community expands its efforts to keep Lawrenceville sustainable during these difficult times.

Campus Sustainability News

1 Zero Fossil Fuels: The Hydrogen House Project Webinar

What's it like living life without being dependent on fossil fuels? On October 26, 2020, Samir Khare '21 and the Climate Action Club organized a webinar discussing the Hydrogen House Project.



The Hydrogen House Project is a non-profit organization dedicated to education and the pursuit of clean and renewable energy technologies. Its founder, Mike Strizki, gave an educational talk about his home in Hopewell, which is the first solar-hydrogen residence in North America. His house is off the electrical power grid, and he powers his home and vehicles using hydrogen, oxygen, and the sun, which he claims "is the ultimate fuel." Instead of fossil fuels, he uses 100% pure renewable energy! Strizki stated, "Energy and water are the two that will change this planet," and has proceeded to make his home even further sustainable.



Zero Fossil Fuels:

1

The Hydrogen House Project Webinar (Cont.)

His home stations two grid-tie inverters which take the solar energy right from the roof and use the energy to run an electrolyzer. The electrolyzer splits water molecules into oxygen and hydrogen, and the hydrogen is stored in reusable propane tanks like ones at a gas station. Electricity, converted from hydrogen using hydrogen fuel cells, is used to power his refrigerator, geothermal system, hot tub, and just about everything. Even more surprisingly, the only byproducts of his system are chemically pure water and medical-grade oxygen. For instance, Strizki's car makes twelve gallons of drinkable water every tankful.

When looking at Lawrenceville, it's clear that our community has made sustainability a priority. Lawrenceville has already initiated a campaign, called the "Green Campus Initiative," which addresses energy efficiency, focuses on renewable energy, and works towards reducing the dependence on traditional fossil fuel-intensive methods of producing energy. More interestingly, Lawrenceville includes a 30-acre solar facility. The solar farm produces power for both the school and the township it is located in, offsetting over 3,700 metric tons of carbon dioxide annually through the sale of renewable energy credits (RECs). Lawrenceville also continues to successfully maintain its school farm and other gardens.

As we grow, one of our jobs as community members is to lower our energy consumption. It can be as simple as not wasting water and unplugging electrical devices when not in use, to more complicated solutions, such as switching to a hybrid car or starting a home garden. There are so many ways to make a difference. Strizki uses his knowledge to build sustainable homes for others and notes that "we are consuming ourselves...Ultimately, [we] have the keys to [our] own independent power plant."



Grid-tie inverters & batteries installed in Strizki's home!



Strizki's house in the making with solar panels!



Strizki's Toyota Mirai Fuel Cell Vehicle!

Source: Hydrogen House Project

2 Campus-Wide Recycling Program



The recycling program that was recently launched this fall is not as new as it may seem. A similar program was discontinued years ago due to a large contamination rate that made it unable for local recycling companies to accept. However, last winter term, small scale recycling was pioneered in Boys and Girls Lower, Upper, and Hogate.



This success led to students planning the current recycling program during the virtual spring term and through the end of summer break. The program includes both academic buildings and houses with the help of heads of houses as well as students who monitor the bins for contamination. A network of students in houses, teachers in academic buildings, and infographics were created to guarantee thoroughness. A recycling pickup team now goes around all the houses on Wednesdays and Academic Buildings on Fridays to collect recycling bins with the help of Dr. Laubach and Ms. Kim.

Since the launch, the contamination rate in each house has gone significantly down with houses like Stanley, Woodhull, Kinnan, McClellan, Upper, and Reynolds showing almost no contamination. Data is gathered from each pickup and presented on a spreadsheet, promoting competition between Houses to achieve zero contamination.



The program has tried to emphasize its motto, "When in Doubt, Throw it Out" to ensure that there will be no contamination in the recycling. It is important to note that recycling is simply a means to deal with the issue of single-use plastic and does not address the issue at its root. The more effective way to reduce our carbon footprint is to reduce consumption and to reuse items.



Harvesting for Halloween Pumpkin Carving Contest

3

On October 30th, pumpkins were sent out to every house on campus for a Lawrenceville pumpkin carving contest. Mr. Ian MacDonald, the Farm Manager on campus, said that the process of picking pumpkins to give to each house was a tedious yet incredibly rewarding process. According to Mr. MacDonald, “the pumpkins took the entire farm crew plus a sports team a long time to harvest, wash, and load on the truck” because of how many and how heavy the pumpkins were. After all the pumpkins were loaded, it took him 2 hours to unload the pumpkins into the glass greenhouse in Kirby in order to turn many pumpkins, which were green at the time, orange in the 80-degree temperature. Finally, Mr. MacDonald picked out 20 of the pumpkins from the glass greenhouse that he deemed the most suitable for carving, and he loaded them back into the truck and delivered each pumpkin to each house along with a pumpkin-carving kit and candlelight. Although it took a lot of work, being able to harvest pumpkins for the sake of this house competition was worth it. After the pumpkins were available, student council social representative Caroline Foster '21 worked to arrange the Halloween carving contest. The pumpkin availability was timely for the upcoming Halloween spirit. “I think it was the idea that we’re keeping our campus engaged, and being able to utilize what we create here,” Foster said. The house presidents were informed, and one pumpkin arrived at each house on Friday night and pictures of the final products were due by midnight of Halloween. The event was a huge success as it was a COVID-safe and socially-distant event. “It brought the houses together... and it [didn’t] make people want to take off their masks because it’s not a strenuous activity.” In the end, each house submitted their photos, and the Student Council nominated the top three. Then, the top three were sent out to the student body for a popular vote. The winning house was Kennedy.



4 Sightings of Spotted Lanternflies

Recently, there have been multiple sightings of an invasive planthopper, the Spotted Lanternflies, around New Jersey including on Lawrenceville's campus, and people have been urged to take action if they see these species in any life form.



These species are native to China, India, and Vietnam, but they have been spotted in the U.S. since 2014. Although they pose no harm to animals and people, they are invasive, or a species which does not naturally belong in an area and threatens the environment, the food chain, agriculture, and more. By hopping from plant to plant, and tree to tree, these lanternflies threaten the safeties of agriculture and hardwood trees in America, so they have the potential to worsen the conditions of life for those who live in heavily-invested lanternflies areas. According to the State of New Jersey Department of Agriculture, if you are in a quarantined county, which Lawrenceville is in, you do not need to contact the New Jersey Department of Agriculture regarding sightings of Spotted Lanternflies since they are already well-established, but it is encouraged to eliminate these bugs if possible.

On the [official New Jersey Department of Agriculture website](#), there are many informational pieces one might want to know if they want to help prevent the spread of these invasive species. It has informational maps, tables, pictures, diagrams, and more, so that people can work together to deal with this invasive species. The website includes different ways people can catch the insects, such as DIY traps and tutorials on how to remove egg masses. They also include tips to help out the community in order to prevent the spread. The website also includes the information and pictures of the life-stages of these insects so one can easily identify them. The life-forms range from egg masses, things stuck onto trees that can survive the winter even if adults cannot, nymphs, beetle-like insects that can easily be spotted by their spots, and their adult form, bugs capable of flying now that they have wings.

This is so important to our community because there have been trees found in the Circle where large amounts of Spotted Lanternflies have been seen. According to Alyssa Roberts '24, she counted 84 Spotted Lanterflies on one tree. She also said that you have to be careful when facing them because they can also be very aggressive. However, we must eliminate them as much as we can because of how destructive they can be to crops and plant life.

Status of Lawrenceville's Sustainability Initiatives

Many of the planned sustainability initiatives for Lawrenceville have been paused due to coronavirus. At the same time, the Sustainability Council continued to plan for and carry out initiatives in new and creative ways.

Ongoing

- **Recycling initiative:** As a result of the successful recycling pilot program last winter in Boys Lower, Girls Lower and Hogate, the Recycling Initiative officially began on September 30th with the leadership of Allison Haworth '22, Marlene Guadian '22, and Alistair Lam '23, expanding to all houses and academic buildings on campus. Currently, there is not enough data yet to assess just how much this impact has helped Lawrenceville with recycling and waste produced. However, we do know it is offsetting some of the waste being generated.
- **Big Red Farm (Lifetime Farming):** Because of the size of the Big Red Farm and the ability to work outdoors, COVID-safe, the farm's operations have not been impacted greatly—students have still been able to venture out to the Big Red Farm to harvest crops. However, the only restriction due to COVID social distancing guidelines is that fewer students are able to be in the greenhouse and other enclosed spaces at once. The Big Red Farm has also hosted many houses and interscholastic sports teams, reaching an additional 180+ students. This program will be expanded in future years.



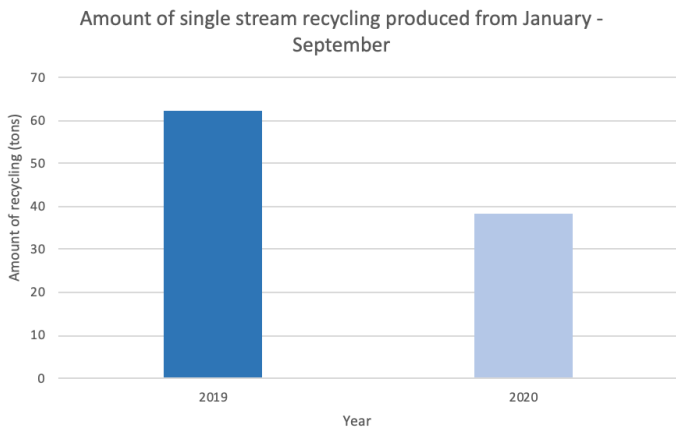
- The Sustainability Council is organizing a **virtual Sustainuary** in 2021.
- As a part of their **Sustainability Seminar** projects, students donated surplus produce from the Big Red Farm — especially rainbow chard — to local food pantries and people in need during the pandemic. Other crops include peppers, tomatoes, and summer squash. For each of the past two years, Lawrenceville has brought over 700 lbs of produce from the Farm to area food pantries.

Paused

- **Composting out of dining hall:** Due to Irwin's current Grab-and-Go operations, Lawrenceville has not been able to continue taking food waste from Irwin to a large composter on the farm. There are also no commercial composters near Lawrenceville. Currently, there is faculty composting behind the KAC, a part of the faculty composting program that began in Spring 2020.
- **Water monitoring initiative:** The creek behind the field house is impaired. The TDAC project calls for moving the road further away from the stream and adding rain gardens, permeable pavers, and other vegetative buffers. Currently, we are hoping to test the water to set a baseline to measure improvements in water quality. This initiative is paused for now but will resume in the spring of 2021.

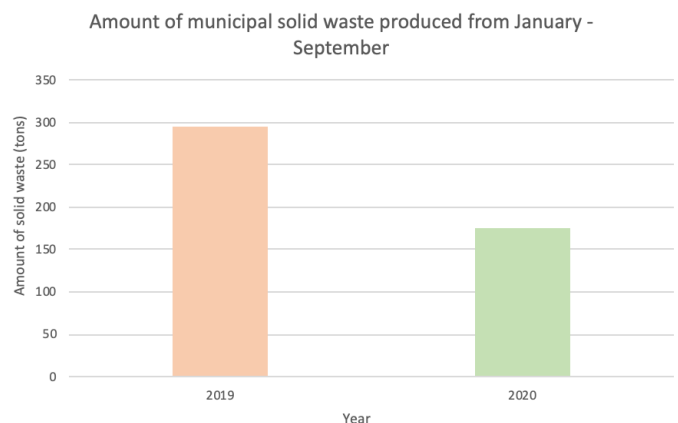


Looking at the Numbers



In 2019, Lawrenceville generated 352 tons of municipal solid waste and 79 tons of recycled materials. In May and June of 2019, there was a dramatic increase in waste due to trash from students moving out from their rooms, from around 25 tons to around 55 tons.

When comparing January-September of 2019 and January-September of 2020, there was 120 tons less waste through September in 2020. There was also less recycling in those months in 2020 than in 2019—38 tons of recycling in 2020 compared to 62 tons in 2019. Both data changes are largely due to the fact that campus was closed from March-September in 2020 and summer programs did not run.



The Coronavirus has affected nearly every aspect of our country, including our environment and, in particular, our pollution rates.

Plastic Pollution

With the rise of the pandemic, the increasing number of plastic masks, latex gloves, and bottles of hand sanitizers used throughout the world has led to a surge in ocean pollution. The use of single-use masks has been particularly harmful to our bodies of water, and the aquatic life living within them. These types of masks are made of polypropylene, polyurethane, polyacrylonitrile, polystyrene, polycarbonate, polyethylene, polyester, or other variations of polymers. Disposable masks, which have experienced an increase in production and consumption due to COVID-19, can break down into pieces under 5 mm, also known as microplastics, which have already been shown to be detrimental to wildlife. Through being thrown away, littered, or left to degrade in nature, single-use masks have found their way into rivers and oceans, adding to our already high amount of plastic waste that ultimately ends up in large bodies of water. This number was already estimated to be as much as 13 million tonnes according to a 2018 UN Environment report, however, this figure has had the risk of growing substantially due to the pandemic.



Masks, gloves, and other objects littered on the ocean floor.

How you can help

- Wash your hands more frequently! This will reduce the use of plastic gloves and bottles of hand sanitizer.
- Embrace using reusable cloth masks! Investing in a good, washable face mask will not only save you money over time but also save the environment in the long run.

Air Pollution

Despite the Coronavirus' negative impact on plastic pollution, it has actually improved air quality. During the quarantine period, when people around the nation were forced to remain at home, fossil fuel emissions decreased drastically, particularly in metropolitan areas. One study claims that CO2 emissions worldwide were reduced by 17% in April, around the peak of the outbreak. This decrease can be seen in the animation linked below, which shows the annual air pollution rates of New York City through the years:

[Video: Annual NO2 emissions \(diesel, gasoline, coal\) in the North East](#)

Unfortunately, this improvement in air quality is only temporary and is expected to return to normal as areas around the nation and around the world continue to reopen and revert to their old habits.

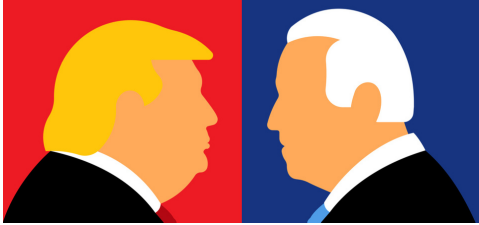


Skylines of Salt Lake City (left) and New Delhi (right), taken in Fall 2019 (top) and Spring 2020 (bottom).

How you can help

- Reducing your flights, the most carbon-intensive form of travel
- Reducing your personal car usage by using other methods of transportation such as walking, biking, skateboarding, etc.
- Carpooling or using public transportation, such as buses or trains
- Reducing food and water waste (both take a large amount of energy to get to you)
- Turning off your lights when you do not need them
- Using energy-efficient light bulbs and appliances
- Avoiding purchasing fast fashion, which is manufactured with fossil fuels

Sources: US National Library of Medicine, National Institutes of Health, NASA, *The Guardian*, *CNN*, *New York Daily News*



Trump Versus Biden: Climate Change Policies

Climate change was one of the main issues of the 2020 election, so now that America has voted in a new President-elect, it is important to know the differences in approaching this issue between current President Trump, and now President-elect Joe Biden.

Donald Trump, the 45th President of the United States, had policies that touched on clean air and water, but critics believe that the proposals that he has put forth do not address climate change. On several occasions, Trump has denied that humans are causing observed changes in climate. Trump's approach to environmental policy shows that he does not want these efforts to get in the way of short-term economic success. He has repeatedly said that he wants America to have the best air and water quality, which almost everyone could agree is a great goal, yet he continues to promote the extraction and use of fossil fuels, which negatively impacts air quality and global climate. In 2017, Trump announced that America would be leaving the Paris Climate Accord, an agreement between several nations to come together and work to stop climate change. This action was greatly criticized by the scientists that work daily to document the damage of climate change. While Trump seems to want to address environmental quality in targeted areas, he has shown that it is not a big enough issue for him to be willing to slow down use of fossil fuels, and hinder short-term economic growth, which could have been a major reason why he lost the 2020 Presidential election.

Joe Biden, former Vice President and now 2020 President-elect, plans on taking a more aggressive approach on combating climate change, and while he has also gotten some criticism for shifting his plan to a more moderate approach, he still gets significantly more support than Trump on his environmental plan. When Biden was working to earn the Democratic Presidential nomination, he supported more extreme plans like the Green New Deal and a ban on fracking, however since earning the Presidential nomination he has rejected that he had ever made those comments and has promoted his idea, the Clean Energy Plan. The goal of the Clean Energy Plan would be to make America carbon neutral in emissions by 2050. If Biden can achieve this while in office, it would be a groundbreaking step in the fight against climate change, and would set a good example to other nations that the world is capable of protecting the Earth and can still have an economically strong country. Biden has also said that he is planning to rejoin the Paris Climate agreement and work with other countries to reach the common goal of making Earth a healthy country. Environmental experts have preached the issues of climate change for a long period of time, so it is a major step in the right direction that the President-elect has a clear plan in how he would help fix this issue.



Podcasts

- [Making Republicans Environmentalists Again \(How to Save a Planet\)](#)

The Republican Party has been almost uniformly opposed to climate action for years — nobody more so than President Donald Trump. But it wasn't always like this. This episode of the podcast "How to save a Planet" is hosted by Dr. Ayana Elizabeth Johnson and Alex Blumberg. They look back at how conservatives came to see the denial of climate science as a kind of badge of honor and talk to two conservative activists who are trying to change that.

- [20 Million Trees \(How to Save a Planet\)](#)

Climate change is a big problem and a big team is needed to solve it. This may entail reaching out to people who might not think of themselves as climate activists. This podcast episode explores how the climate movement can learn from YouTubers such as MrBeast and his tree planting efforts.

Trees

- [Find the right tree for the place you live with the National Federation's Plant Finder](#)
- [Learn how to plant and take care of your tree](#)



Click on links for more information!



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