

Questions from Welcome Week Sustainability Action Fair, September 2022

- What significant accomplishments have been made so far?
 - Emissions from campus that contribute to climate change have been *reduced approximately 50%* from 2008 through 2020! Most of our emissions come from energy used to power, heat, and cool campus buildings. We've accomplished this emissions reduction by making those buildings more energy efficient and changing the supply of our energy to more renewable or lower emission sources.
- Are we going to reduce the asphalt and non-permeable surfaces on campus?
 - We already are! When the street in front of Jones Hall was redone and 17th Avenue Residence Hall was built, the University installed permeable pavers and green roofs to reduce stormwater runoff. These types of approaches will continue to be used in future projects.
- How can we ensure equity with protecting people from the effects of climate change?
 - As a part of our [Climate Action Planning process](#) we will be completing a risk and vulnerability assessment. This assessment will shed light on which areas and which populations are most vulnerable to harm from a changing climate. Our plan will then determine how to mitigate greenhouse gas emissions while protecting our most vulnerable populations and building community resilience. We understand that communities of color are impacted most by climate change and plan to center equitable solutions.
- Can we save the world?
 - Saving the world is a daunting task but we are dedicated to doing our part in our own communities! Climate action is an integral part of creating a just, healthy, sustainable society for us all. We hope that our leadership in climate action can serve as an example for other institutions.
- How do you combat climate doom and ecofascism rhetoric from spreading?
 - Education and communication are great tools for spreading correct information and instilling hope. There is a lot of misinformation out there and it can be challenging to discern fact from fiction. It is important to

identify eco-facist rhetoric and combat it with equitable solutions that put community first.

- Is there any hope of managing climate change within a capitalist world? (unlimited growth with limited resources)
 - It is possible to combat and manage climate change within a capitalist world if we are able to shift from an exponential growth mindset to a mindset of sustainable, equitable consumption and resource use. Our current economy operates as if our resources are unlimited. We know this to be false. As a society we need to critique growth for the sake of growth. If we are able to make this paradigm shift we will have a greater chance at combating climate change.
- How do we protect the unhoused from climate emergency? (give them houses + stop climate change)
 - Climate Change can not only negatively impact our unhoused population but it can also lead to homelessness. Climate Change is as much a social challenge as it is an environmental one. Mitigating the impacts of climate change while building resiliency are key to protecting our unhoused population. From there, affordable housing is needed to further protect this population by getting them off the street and into a safe and stable environment.
- How can we make public transport safe + convenient in the winter months?
 - Many Minnesotans rely on public transportation all year round. In the winter months accessing and utilizing public transportation can be more challenging due to extreme weather conditions. Ensuring that our sidewalks are clear of snow and ice is critical for safe travel to and from bus stops. Lighting and heating in bus stops could help to make waiting for the bus more comfortable. In the same vein, ensuring that buses are adequately heated is also important. Lengthy commute times can also make winter public transportation less attractive. Adequate snow and ice removal is important to keep our traffic moving smoothly.
- How much food waste does the University produce and are there any zero waste policies we are working toward? How can we reduce the amount of waste we make each year? How will you reduce plastic waste?

- On campus our Waste Recovery Services team has worked to implement campus wide composting. This program has the potential to divert most if not all of our food waste on campus away from landfills! During the 2019-20 academic year 1,176 tons of organic waste was composted and therefore kept out of landfills. The WRS team also offers guidance on hosting zero waste events. M Food Co also has commitments around waste diversion through composting food waste and using reusable to go containers. As individuals we can strive to reuse items, buy used when possible, and properly sort our waste. We can all strive to reduce plastic waste by choosing reusable items like water bottles and coffee cups. We can also say no to single use plastic whenever possible.
- How can we as students help lower our carbon emissions? What is the most impactful action I can do to help? What can we do to help the planet? What can we as students do to help our community and environment? How can we help to make a big effect? Hot temp is getting apparently serious for real. How can we help the planet at the U?
 - There are many things that we can do as individuals to help support climate action and mitigate the effects of climate change. One of the most impactful things we can do is talk about it! Talk with your friends, family, classmates and coworkers about climate change. Our voices are our most powerful tool. Other small changes can be made like eating plant based when possible, taking public transportation, walking, biking, taking fewer flights, composting at home, practicing energy conservation in your home, and voting for leaders who support climate action. In addition to these tips there are many opportunities right here on campus.
 - The [Sustainability Advocates](#) provide education around sustainable behaviors to students living in residence halls.
 - There are numerous [student organizations](#) focused on sustainability and climate action.
 - See the [Office of Sustainability website](#) for more information about sustainability opportunities and happenings on campus!
- How do I sustain a healthy planet within my own wellbeing?
 - Health and wellbeing are vital components to living a sustainable lifestyle. It is important to put your mental and physical health first! Getting outside and connecting with nature is a great way to prioritize wellbeing while living a

sustainable lifestyle. Remember, one individual can't do everything. Find an area of sustainability that resonates with you and start there! Maybe that means volunteering for your community, thrift shopping, cooking with locally sourced ingredients, or getting into biking. Start small and remember that every action counts!

- Check out [The Wellbeing Series](#) from the Bakken Center for Spirituality and Healing.
- Research opportunities?
 - The Institute on the Environment offers many opportunities for students to get involved in sustainability research. The following programs are worth a look!
 - [IonE Undergraduate Leaders Program](#)
 - [Sustainability Corps](#)
 - [Clean Energy Leaders Program](#)
 - There are also classes within the Sustainability Studies Minor that incorporate research projects. Check out [SUST 4096!](#)
- As a student, how can we promote change in businesses to be more sustainable?
 - One of the best ways we can push businesses to change is by voting with our dollar! When possible choose to support small business, local business and businesses who operate sustainably. Another great way to promote change is to talk about it! Talk about sustainable living and sustainable purchasing with your friends and family. Talking with others is a great way to inspire others.
- How can I use an environmental engineering major to work towards a sustainable future?
 - A degree in environmental engineering is a great path to a sustainability career! Engineers are, and will continue to be, integral to the transition to clean energy. Engineers also work in water management and treatment, building design and construction, climate solutions and so much more.
- How can we encourage people to take public transportation?
 - To encourage people to use public transportation, the first step would be to remove barriers to use. Free transportation passes, like our Universal Transit

Pass, are a great way to encourage use of public transit. Ensuring that everyone is aware of the transit options available to them is also important.

- What are some ways students can use sustainable products, especially in university housing?
 - Today there are so many options available for sustainable household products! Students can start small by looking into options to replace single use items. Below is a list of some simple and relatively inexpensive replacement options for common household items!
 - Steel straws
 - Bamboo eating utensils
 - Shampoo bars
 - Reusable shopping bags
 - Reusable napkins/paper towel alternatives
 - Reusable to go containers provided in the Dining Halls
 - Another great way to live sustainably is to re-use and buy used whenever possible! See the [UMN ReUse Program](#) for more information!

- How do we make climate change consumer friendly?
 - Reducing overall consumption and reducing waste can make a difference. Making small changes can be beneficial, too, such as committing to purchasing from local businesses to avoid additional shipping and packaging, purchasing used clothing and/or maintaining clothing instead of replacing it, repairing appliances, vehicles, etc. instead of buying a new product, etc.

- How do I keep up with staying sustainable once I start?
 - Starting small can help you keep it up long-term. Changing habits by switching to reusable water bottles instead of disposable, walking/biking/taking public transportation instead of driving, or turning off the lights when you leave a room can add up. Stay consistent in your efforts and it will become a habit. You can find tips for living sustainably on and off campus at z.umn.edu/sustainabilitytips.

- How can we motivate businesses to reduce waste?
 - In a city like Minneapolis or St. Paul where recycling and composting service is readily available, businesses have a great opportunity to reduce waste. Oftentimes, reducing waste will result in cost savings, which can be a major

motivator. For example, reducing printing in offices saves on paper and ink costs and turning off lighting and devices when not being used will reduce utility bills while also reducing energy use. Education may also help – not everyone knows that organic waste put in landfills instead of composted generates methane. Educating about the environmental benefits of waste reduction or diversion may influence businesses to change their waste habits.

- How can we make urban design more sustainable?
 - Strategically designing, building, and renovating buildings with energy efficiency and responsible purchasing and materials management in mind can make urban design more sustainable. This may include:
 - Adhering to the [MN B3 guidelines](#) to meet sustainability goals for site, water, energy, indoor environment, materials, and waste
 - Designing landscapes to include prairie/native plants; pollinator friendly plants; and ensuring sustainable maintenance (avoiding use of chemicals, etc.) and watering practices
 - Reusing materials when possible and/or purchasing sustainably sourced materials
 - Getting creative about reuse (collecting rainwater to reuse in plant/grounds watering, in toilets for flushing, cooling systems, etc.)
- What things or actions can I do at home to help our planet environment/community in MN?
 - There are many things you can do at home to help the planet. Two large sources of emissions are transportation-related and heating-related. Consider walking, biking, or taking public transportation to school or work or turning down heating or cooling systems when you're not home. You can find tips for living sustainably on and off campus at z.umn.edu/sustainabilitytips
- What materials are the most biodegradable?
 - Some of the more biodegradable materials commonly found in households include untreated bamboo, cork, or bioplastics. It's important to note, however, that bioplastics (often in the form of single-use utensils or dishes) often require a specific temperature or environment to biodegrade and therefore have to be composted in a facility because they can't biodegrade in a home compost.

- Do companies that cut down trees for paper and such re-plant those trees? How effective is the process?
 - Many paper companies claim to participate in “responsible forest management” or make commitments to sustainable sourcing and replanting trees as they cut them down. Planting new trees is one of the most effective ways to reduce atmospheric CO2 but the effectiveness of this process may depend on the company’s specific practice.
- What can we do to make transportation that reduces greenhouse gas?
 - Overall, the more people that take public transit, walk, and bike will reduce emissions and for trips where a car must be driven, an electric vehicle is best. Policies, incentives, and cultural norms can all influence the uptake of multi-modal travel. We also recognize that transportation and land use are inextricably linked. Compact and mixed use development can improve the efficacy of transit, make walking and biking more accessible, and reduce trip distance. Zoning and policy at the local level can influence development in addition to customer demand for this type of development.
 - Air travel is another major source of emissions in the transportation sector. Some airlines are exploring carbon offsets and other technology as important considerations in the suite of solutions.
- Can we work to reverse global warming at all?
 - The greenhouse gases that we have released over the last century are already influencing our climate. Engineered carbon sequestration and carbon capture technology is improving, which would help reverse some of the damage that’s already been done. We also need to continue to protect natural sinks, like forests and grasslands. However, carbon sequestration and capture are not enough to continue emitting carbon at the rate we are today and carbon mitigation continues to merit much of our attention. Read more from [UC Davis](#) and check out [Project Drawdown](#).
- What are ways to manage climate change and pollution?
 - Since the 1800s, human activities, primarily the burning of fossil fuels like coal, oil and gas, have been the main driver of climate change. For example, when we use gasoline for driving a car or burn natural gas in a furnace to heat a building. To manage climate change, we’ll need to stop burning fossil

fuels, which means making a large transition to carbon free sources of energy. In most places, carbon emissions are largely attributable to transportation and energy for buildings (heating, cooling, and electricity), which are supported by a complicated network of infrastructure that will need to be upgraded. As we make this transition, we also need to make the link to creating local, green jobs by providing trainings and pathways to be a part of the just transition. We should also consider how this transition can result in co-benefits for communities, such as building in resiliency measures for the future impacts of climate change.

- How much do the campus buses actually reduce the carbon emissions?
 - We don't have a specific number for campus buses, but we can tell you what we do know. Transit reduces emissions by reducing the number of people driving the same route, presumably in a vehicle by themselves (AKA a single occupancy vehicle or SOV). The emission savings compared to an SOV go up even more when there are more riders on each bus. In the US, assuming about a quarter of the seats on the bus are occupied on average, the bus will emit approximately 33% less emissions per passenger mile compared to the average SOV. You can read more about this [statistic if you're interested](#). Pre-pandemic, campus transit buses served around [4 million riders annually](#). So imagine if all of these people were driving! Campus buses not only reduce emissions, they also reduce traffic, which can reduce emissions even further by reducing idle times.

- What if we install solar panels in a desert to conduct electricity?
 - Solar power is an important part of our carbon free future. Solar panel technology has improved immensely over the years and has gone down in cost. The relatively easy installation and connection to a local grid are also benefits. However, large scale power solar in the desert can come with its own challenges from disrupting the desert ecosystem and decreased efficiency from the extreme heat and distance of transmission. Here is a [5 minute animated TED talk](#) that goes into more detail about the current status quo and thoughts for the future.

- How can we manage the temperature in summer in developing countries?
 - Climate adaptation is needed to address the risks of climate change. Adaption can take [various forms](#) from making investments in better

irrigation, improving and diversifying seed varieties, strengthening health systems, and improving access to finance. At the University of Minnesota, our research and outreach mission can support cutting edge developments in these areas. Given other global goals and challenges, adaptation should be integrated into other sustainable development strategies. Read [more about work at UMN](#) being done to advance the UN's Sustainable Development Goals.

- What's the most efficient thing I can do to reduce greenhouse gases?
 - It depends on your current lifestyle! Check out a [carbon footprint calculator](#) to see where there are opportunities within your current situation. A [few big ticket items](#) include reducing the amount you drive or going car free, opting into green energy, flying direct or avoiding plane travel entirely, and eating a plant-based diet.
- How many climate action groups are there in the US?
 - A lot! On campus, we have over 30 groups working on sustainability. Here is a [sampling of local groups](#) and a larger national list [US Climate Action Network](#).
- Do you offer undergraduate job/research opportunities?
 - We do offer job opportunities. Sign up for [our newsletter](#) to hear about open positions.
- How can students and others help or contribute to the process?
 - Everyone can get involved by attending workshops and other events to advocate for change and to provide input. Helping us spread the word about these opportunities is also really important. Word of mouth tends to be one of the strongest marketing tools!
 - We have also hired several students to help with the Climate Action Plan development through internships. Other students have also been selected to be members of the Twin Cities Sustainability Committee and other Working Groups.
- How much impact will net zero UMN have on a larger scale?
 - In 2018, the State of Minnesota's emissions was approximately [161 million metric tons of carbon dioxide equivalents](#), or MTCO_{2e}. MTCO_{2e} is a unit of measure used to compare greenhouse gas emissions across sectors. In the

same year, Minneapolis estimated its emissions at [4.3 million MTCO₂e](#) and the University of Minnesota Twin Cities' emissions were approximately 435,000 MTCO₂e. Using these metrics, the UMN Twin Cities accounted for 0.2% of the state's emissions and 10% of the city's emissions. As you can see, this is a story of collective action and perspective! As a major institution and one of the top 100 greenhouse gas emitters in the state, the University of Minnesota Twin Cities is committed to doing our part.

- How long will this process take?
 - The Climate Action Plan will be drafted for review in May 2023. The plan will be finalized with comments from the review period over the summer.
- Could it be possible for the U to become carbon negative?
 - The University could become carbon negative. The current commitment, made in 2008, is to be carbon neutral by 2050. Our strategy is to focus on reducing our direct emissions.
- What could interfere with the CAP process?
 - The CAP is on a fairly clear trajectory with a specific set of questions to be answered within the timeframe. This plan won't answer all the questions we have, so we'll also be documenting important areas for future exploration.
- How do we reduce the University's footprint? How do we plan to reduce fossil fuel dependence? How can we reduce our greenhouse emissions?
 - The University's primary emissions come from the heating and cooling system on campus, purchasing electricity, commuting, and other forms of traveling that are sponsored by the University. Wherever we can reduce consumption through energy efficiencies or reduced trips with fossil fuel powered vehicles, we should. The climate action plan will also look for other ways to reduce fossil fuel consumption through technology like geoexchange, renewable energy, and electric vehicles.
- How can we get funding to Facilities Management to advance our Climate Action Plans?
 - The University has a capital planning process, which will be used to fund some of the implementation of the Climate Action Plan. During the implementation of the plan, the University will also be positioned to

incorporate climate action and sustainability into other planned capital projects. Other funding sources, like grants and tax incentives, will also be explored.

- How do energy sources like solar/wind on campus help save the planet?
 - Renewable energy, like solar and wind power, provide electricity without emitting greenhouse gases like carbon dioxide and methane. Renewable energy can reduce the University's carbon footprint attributed to electricity usage.

- What is the most important step to reach the final goal?
 - The heating and cooling system on campus is the largest contributor to the University's carbon footprint. Transitioning the heating and cooling system to a carbon neutral state will be a large undertaking. The system is complex and expansive, touching nearly every building on campus. It's also imperative that the system is reliable and resilient.