

## Final Project Report

Human activity has now brought about such profound and far-reaching changes in the earth systems that we have become the dominant force of environmental change on the planet (Maslin, 2015). Due to these changes, we have entered a new geologic epoch of our own making, the Anthropocene. There are many facets to and consequences of the Anthropocene but the largest is the impending global crisis posed by anthropogenic climate change.

A major thread throughout the readings and discussions in this course has been the urgent need to address this climate crisis. One main example, the IPCC Special Report on Global Warming of 1.5 °C, found that even a 1.5 °C increase in the global mean surface temperature relative to pre-industrial times could have serious consequences for a number of important systems like corals, fisheries, the Arctic region, and coastal flooding (IPCC, 2018). In order to not exceed this level of warming, and to avoid the increased risks associated with warming of 2°C and beyond, the IPCC states that far-reaching transitions in all sectors of society are needed to achieve the deep emission cuts required (IPCC, 2018). These transitions also have to be accomplished in a shrinking window of time, as it is predicted that 1.5 °C of warming could be attained between 2030 and 2052 if the current rate of warming continues (IPCC, 2018).

In addition to the science of climate change, we have also discussed at length the need for collective action to address this crisis. Science and technology alone will not be enough to solve this problem. Social change will be required, starting with initiating often difficult conversations about the Anthropocene and climate change in order to engage others with the topics and pave the way towards collective action (Adams, 2018). Climate change is arguably the greatest challenge that we will face in our lifetimes, and the solutions to this super wicked problem are complex in nature and must be addressed from many different perspectives. It is with this in mind that we approached the class project.

### *Reasoning Behind our Project:*

Using our interdisciplinary readings and discussions, we determined that the university's goal of 2050 carbon neutrality was insufficient. We realized that it would be more effective to work in tandem

with the Sustainability Office to reach an earlier goal, as opposed to putting external pressure on them.

So, we narrowed down on our project by collaborating with Chris Benson and Emerson Andrews and assisting with what the Offices of Sustainability & Facility Management are already doing.

With this, we determined an effective way to mitigate the U's carbon emissions was to run a thermostat campaign. Not only does data support that efficient thermostat use can help to reduce emissions, but action around thermostats encourages discussion about the environment and collective action. A plus to this idea was that it was feasible to accomplish within the timeframe we had to execute the project, whereas an extremely ambitious idea like getting the University to commit to an earlier carbon neutrality date was not as tractable. In addition to this, we decided we would try to promote a culture of collective action by involving ourselves in the legislative session and by reaching out to the community. In order to make the most progress in the short amount of time, we divided our efforts into groups: "Bridging the Gap," "Outreach," and "Graphics and Web Design." Splitting into groups also allowed for all people to contribute their unique skills to the elements of the project that were most appropriate.

Being able to work in an interdisciplinary setting accelerated the completion of this project. In the reading, *How the Arts and Humanities Help People See, Feel, and Engage with Climate Change* by Julia B. Corbett and Brett Clark, the value of the humanities in terms of climate change is made clear, for humanities can engage with the emotions surrounding climate change and thus communicate what statistics alone often can not. Science may be effective at communicating the practical side of the problem and explaining what mitigatory and adaptive measures should be taken, but the humanities are also essential to conveying the need to address climate change and the consequences of inaction in a manner that can be deeply affecting for many people and thus motivate action on their part. By utilizing the sciences, humanities, and indigenous perspectives to inform our project, we were able to understand,

communicate, and address the whole picture of climate change from an interdisciplinary perspective, which made for a deeper learning experience.

*Bridging the Gap Summary of Accomplishments:*

The “Bridging the Gap” group’s focus was to expand our project beyond just optimizing thermostats at the University. To create a larger and more lasting impact, we supported bills in the Utah Legislature via petitioning and tabling, made a radio appearance on KRCL’s RadioActive, and published an op-ed in the Salt Lake Tribune.

In the 2020 Legislative session, a number of bills were introduced that aimed to move Utah toward carbon neutrality. We were able to get in contact with Representative Ward, the sponsor of HB 194, an act which would set new efficiency standards for large power suppliers, and coordinated a strategy for class involvement. This bill was having difficulty getting through the House Public Utilities committee, so our class wrote a letter to the committee members to encourage a hearing on the bill. We also contacted Representative Arent who sponsored HB 235, an act aimed at increasing home energy efficiency across the state. We ended up working with Rep. Arent and Utah Clean Energy and wrote a letter in support and appeared in committee to testify in favor of this bill. Additionally, we reached out to representatives via email to send letters of support for HB 259, which created a plan for a statewide electric vehicle charging network, and HB 176, which focused on a program for vehicle emissions reductions. Of the bills we demonstrated our support for, HB 259 and HB 235 have been passed into law.

The majority of the “bridging the gap” group’s effort, however, was spent supporting HCR 11, a resolution which sought to adopt the goals recommended by the Utah Roadmap. We wrote a letter expressing our support for this measure and through tabling sessions, canvassing efforts, we were able to get nearly 200 sign-ons. We delivered this letter to the House Rules Committee but, unfortunately, HCR 11 was never heard.

After the legislative session ended, we published an op-ed in the Salt Lake Tribune. The op-ed is centralized around a brief analysis of how strategies implemented by the local and global communities to combat the spread of COVID-19 can be replicated to mitigate and adapt to the impacts of the current climate crisis. It also draws parallels between the collective action needed to overcome the ongoing situation with the coronavirus and the collective action that will need to occur to mitigate climate change. We hope it will inspire the legislature to introduce and pass more climate-friendly legislation next session.

*Outreach Summary of Accomplishments:*

The purpose of distributing our survey was to gather data on how much our target populations already know about efficient thermostat use. We received 191 responses as of April 16th. 87% of respondents gave a 5 to the Likert scale (1-5) prompt “It is important to use your thermostat effectively.” 50% gave a 4 or 5 out of 5 to “I know how to use most of my thermostat's functions.” 86% of respondents gave a 4 or 5 to indicate their knowledge of how to change the thermostat temperature, but 62% indicated “no knowledge” of rules concerning thermostats on campus. Results were mixed concerning the scheduling of programs and 36% said they never use that function. Participants said they would be compelled to change their thermostat 2 degrees closer to seasonal temperatures for environmental reasons (57%) or to save money (41%). Individuals who do not practice efficient thermostat use indicate a desire to do so, but may not act due to lack of training, mistrust in temperature accuracy, or poor system design.

Of particular note are responses to “The University of Utah should be a leader in sustainable development and be completely carbon neutral before 2030.” 87% strongly agreed (5 of 5), 8% gave a 4 of 5, and no one gave a 1. The support for carbon reduction at the institutional level is overwhelming. This is excellent news that we can communicate to the Utah Climate Advocates club, the Sustainability Office, and President Ruth Watkins.

Additionally, newsletters and social media are another form of outreach that we have used to share our efforts. The Sustainability Office has supported our project from the beginning and will

continue to help us with outreach. Our newsletter piece, *Let's Start With Thermostats*, will be included in Sustainability's April newsletter and will be accessible through their website. Sustainability has or will post about our project on social media on Friday, April 2nd and Earth Day. These come in addition to the KRCL radio show and op-ed outreach methods previously discussed. One of our last means of outreach will be the donation of the remainder of our project budget to environmental organizations and causes that fit best with the goals of our project.

*Graphics and Web Design Group's Summary of Accomplishments:*

With Chris Benson's input, we determined the best course of action to promote proper usage of thermostats was to design and place educational stickers near thermostats. These stickers include which temperatures balance seasonal comfort with efficiency, as well as a QR code that directs the user to a website with information on basic thermostat programming. To determine possible target buildings, we used Chris's spreadsheet on building energy usage and contacted the relevant operators of each building. We were able to gain the interest from Dana Johnson, District Manager for President's Circle and from Barb Remsberg, the Director of Housing and Residential Education (HRE) for the sticker portion of the project. We have been successful in getting our stickers approved with both the math department and Housing and Residential Education. Dana identified two target buildings, LCB and JWB. Barb gave us the green light on being able to post the stickers in all of the dorm rooms on campus.

The final step is the printing and placement of stickers. We are currently getting the stickers printed through the University's Print and Mail services. Due to delays from COVID-19, we will now be giving the Math Department their stickers following the end of quarantine for them to place, and the HRE Office will hang their stickers during the 2020 Winter Break.

As previously mentioned, the QR code directs users to a website regarding thermostat functions and why we should make the effort to adjust our thermostats. The website includes resources about the use of different types of thermostats, statistics about benefits of adjusting thermostats, a FAQ section, some results of our survey, and information about our Praxis lab and the goals behind it. Our website is in

the process of being linked on the website of the Office of Sustainability and Energy and on the social media platforms of Sustainability at the U of U. Chris Benson has vetted the site and offered additional feedback to make the information the most valuable to furthering the University's carbon neutrality goals.

*Impacts of Our Project:*

Throughout the course of this project we faced many challenges, such as communication with administrators, gaining approval, and complications from COVID-19, that delayed or changed some of our plans. However, despite these challenges, there are many tangible and apparent successes that came as a result of our efforts. We were able to educate ourselves and develop a sticker design that gained approval to be posted in both the math buildings and in all the residence halls in HRE. We were able to build a website, populate it with information about thermostat usage to further the University's carbon neutrality goals, and have it linked and sponsored by the Office of Sustainability & Energy. We also had great success in bridging the gap and reaching out to the community by becoming involved with the passage of HB 235 and HB 259 and having an op-ed published in the Salt Lake Tribune.

These approvals and accomplishments required much persistence and patience, however they have the potential to be long-lasting impacts that will extend the reach of our project. The stickers, website, and survey results have the potential to educate the campus community for several years to come. Our supporting efforts in the legislature contributed to lasting change at a state level backed by the power of law. Finally, our outreach efforts in the entire community may inspire others to take part in the collective action needed to mitigate the effects of climate change and provide a better future for all.

### Works Cited

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3. IPCC, 2018: Summary for Policymakers. In: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press.
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