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Carleton's Obligation to Pursue Carbon Neutrality

Recent severe weather events and rising temperatures have focused the world's attention on climate change as one of the most important issues facing society today. However, there has not been substantial action taken by society as a whole to reduce emissions to the point required to stop climate change. Thus, several organizations have taken steps on their own to address the emissions at the root of the problem. One of these groups is the American College and University Presidents' Climate Commitment (ACUPCC), of which Carleton College is a signatory, which promises to achieve net carbon emissions of zero by 2050. However, the costs of doing so are significant, and so we examine whether Carleton is obligated to pursue such a goal. We begin by summarizing where the world stands in terms of climate change and the steps that Carleton has taken so far. We then examine the obligations that Carleton College must obey, and what those obligations mean for pursuing carbon neutrality. We conclude that Carleton does have an obligation bring net emissions to zero, because it satisfies our obligations to the biotic community, stakeholders, and future generations. We end by looking at the ethical basis for the timeframe that Carleton has laid out, and the methods that Carleton has elected to use to reduce emissions.

Background

By far the largest driver of global climate change has been human caused emissions of greenhouse gases such as carbon-dioxide. There is no single source of carbon emissions, and it is impossible to assign blame for a specific environmental event to an institution like Carleton or St. Olaf, or even a nation like China or the United States. Some emissions are unavoidable, because our society depends on energy for almost everything. However, some emissions are the result of glaring inefficiencies in either how we produce energy or how we use energy. These emissions have been caused largely by the combustion of non-renewable fossil fuels both in everyday life and industrial settings. As the global population has grown, the need to burn such fuels has increased exponentially over time. In order to keep the temperature rise caused by this usage at a manageable level, the amount of carbon emitted must be decreased substantially.

Climate change has resulted in devastating impacts within the global biotic community. Due to the temperature rise, there have been shocks to the global ecosystem. Droughts have increased in warmer regions and flooding has increased in colder regions, causing substantial agricultural and habitation problems (Schiermeier 2011; Allen et al. 2010). As arable land disappears, food pressures will increase, particularly in poor regions of the world that are already teetering on the brink of famine. Increases in ocean acidification levels will cause the deaths of millions of fish, threatening already weakened marine populations that humans depend on for both recreation and food. Global weather patterns will change, resulting more frequent and more severe storms throughout the world.

Beyond the impacts to humans, biodiversity loss is another major result of climate change. Global changes are driving species into extinction at a rate that greatly outpaces the

background rate indicated in the fossil record (Hooper et al. 2012). The increased number of droughts has negatively affected forests within North America and in the tropics (Allen et al. 2010; Laurence et al. 2011). This is not only restricted to large scale ecosystems. Carleton's own arboretum, which is used for recreational, scientific and ecological purposes, is threatened by these global forces. If nothing more is done to address global climate change, biodiversity loss around the world will accelerate, leading to the loss of untold numbers of species and ecosystems.

The world has not completely ignored this threat and neither have institutions of higher learning. In 2007, the then-President of Carleton College joined over 500 other college and university presidents in signing the American College and University Presidents' Climate Commitment (ACUPCC). This committed Carleton to the goal of becoming carbon neutral by 2050, reducing our net carbon emissions to zero. In order to accomplish this goal, Carleton appears to have identified five areas to focus its efforts on: Energy Supply and Demand, Transportation, Waste Management, Procurement, and Land Management. To lower its net emissions to zero by 2050, the college is embarking a variety of changes to its policies and practices.

Guiding these changes was the Climate Action plan as well as the following 2001 statement approved by the Board of Trustees (Statement of Environmental Principles 2001):

"Carleton College recognizes that it exists as part of interconnected communities that are affected by personal and institutional choices. We are dedicated, therefore, to investigating and promoting awareness of the current and future impact of our actions in order to foster responsibility for these human and natural communities. Carleton strives to be a model of

environmental stewardship by incorporating ideals of sustainability into the operations of the College and the daily life of individuals."

This statement and relevant passages in the college's mission statement have helped inspire and guide many aspects of Carleton's operations. Carleton's Environmental Advisory Committee, which first drafted this statement, is devoted to advising the college administration on issues of sustainability and supporting student sustainability projects. Initiatives coming out of these goals come in many forms. All cleaning supplies, soaps, paper towels, and garbage bags used by custodians have multiple environmental certifications and represent some of the best available options in their product groups. The school has built two wind turbines, one in 2004 and one in 2011; the former sells energy to Xcel Energy, and the latter provides power to Carleton. Environmental consciousness has also infiltrated the curriculum. Carleton has expanded its environmental studies concentration to a full major, and offers numerous environment- and climate-focused courses annually. The grounds maintenance and the arboretum are managed with an eye towards stewardship, conservation, and habitat restoration.

Carleton employs a full time manager of campus energy and sustainability and several part-time students who work on issues of energy, food, procurement, and other sustainable initiatives. A sustainable revolving fund of over $40,000 is available to help students undertake their own sustainability projects, and student groups frequently receive financial and institutional support for making a difference; one example is the drying racks installed in student dorms by the group Students Organized for the Projection of the Environment in 2011, done through school funding. Every winter, Carleton offers a week of programming, Climate Action Week, devoted to exploring the problem and solution of climate change. Sustainability and efficiency

are integrated throughout the school's new Facilities Master Plan. Composting and other responsible waste disposal strategies are integral parts of college operations, and the facilities department maintains an ongoing effort to upgrade lighting systems and install timers, further reducing campus energy use, following accepted industry practices (Clark 2010). Additionally, all of the school's newest buildings, Weitz, Cassat, and James, are LEED Certified. And beyond the Carleton campus, Carleton is involved in the recently established Greater Northfield Sustainability Collaborative, a new effort to improve collaboration on sustainability initiatives between Carleton, St. Olaf, and the town of Northfield. Many of these measures save Carleton money, and many others are directly relevant to the school's educational mission; but all are done with the goal of Carleton's being a community leader and responsible steward of its resources and environment.

Efficiency is key for the facilities master plan to become successful. Sufficient building plans that will allow Carleton to accomplish its goal by 2050 or earlier will be to apply the designs of near or net zero buildings. These buildings use renewable energy technology to reduce the amount of conventional energy needed to power a building (Clark 2010). The carbon neutral architectural designs will improve the lighting, circulation, and energy consumption of buildings that will result in bigger leaps towards carbon neutrality (Clark 2010; La Roche 2012). Carleton is already in the process of pursuing a sustainable facilities master plan; now all that is needed is the exploration of advanced technology currently being used to create carbon neutral buildings. For example, a movement towards grid neutrality or a smart grid, which improves the energy efficiency of a building to reduce consumption, could be extremely beneficial. Other possibilities are selecting energy conservation measures for buildings and using carbon-counting tools to

reduce Carleton's carbon footprint. (Clark 2003; La Roche 2012). The carbon neutral technology to provide lighting, energy, air and water heating, and cooling are available and utilized to help Carleton College achieve its goal.

The cost of carbon neutrality must also be factored into an ethical analysis of the question of whether to pursue it as an explicit and important goal. The Facilities Master Plan takes into account certain renovations and improvements that will occur in the future into its reduction of carbon emissions, which would spread the cost of carbon neutrality over many years. Colby College, another college that signed the ACUPCC, achieved carbon neutrality through the reduction in areas such as increased energy efficiency and lower temperatures in buildings, use of geothermal heating and cooling in new buildings, waste management, and others. The emissions they found more difficult to avoid were covered by using a small amount of their savings on energy costs to purchase carbon offsets ("Colby Achieves Environmental Milestone: Carbon Neutrality" 2013). Colby is a school of similar size to Carleton, and if the emissions of Carleton are comparable, it is feasible that Carleton could achieve carbon neutrality through similar techniques. Instead of carbon neutrality being a burden on Colby College, it has saved them money, especially in terms of their energy costs. If Carleton forgoes some short term costs and focuses on the benefit in the long term, the cost of carbon neutrality could turn out to be negligent, or it could even yield a financial gain for the college.

The specific plans that Carleton has laid out so far do not completely bring the college to net carbon neutral. Although the school's Climate Action Plan includes plans for many similar projects to the ones undertaken by Colby College, these actions only leave emissions at about half of their current levels. The remaining cuts in emissions are left to future decision makers

based on changes in technology and policy. Carbon offsets are one potential part of this portfolio, although for reasons of cost uncertainty Carleton has been reluctant to commit to this route. Carleton could in fact become carbon neutral today solely through offsets at a cost of $65,000 per year, although it chooses not to do so because fluctuations in costs could drive the price as high as $2 million in future years. Currently, the carbon offsets market has relatively few buyers, as no institutions are committed to purchasing them. However, as demand for carbon offsets increases, their price is likely to increase accordingly. Carleton has committed to an investment of millions of dollars, and only a portion of that investment will see a return in terms other than reduced carbon emissions. However, the benefits from reduced emissions outweigh those costs.

With continually-advancing technology and the ever-present and pressing prospect of irreversible climate change, carbon neutrality seems like an admirable and attainable goal for a college like Carleton to pursue. Carleton alone is not responsible for fixing the problems in the world, but does it have an obligation to become a part of the solution? In order to answer this, we must first determine what moral obligations Carleton has as an institution, and then unpack why these obligations lead to carbon neutrality as a goal.

What Carleton's Obligations Are

As a corporation, Carleton has an obligation to its stakeholders. R. Edward Freeman, in his essay titled "A Stakeholder Theory of the Modern Corporation", notes that the actions a corporation takes affect far more than simply stockholders. There are also legal and economic constraints on the ability of the corporate managers to act purely in the interest of profit. Rather, the actions taken by a corporation affect the broader community of stakeholders in the

corporation (Freeman 2006). Freeman provides two definitions of stakeholders, those that are needed for the survival of the corporation, and those that can affect or are affected by the corporation. Because a corporation is a legal entity that is created at the request of a group, and its chief characteristics are the separation of ownership and management and the protection from liability that they offer, the wider definition offered by Freeman is more appropriate: corporations should have duties to all those that they affect (Smith 2014).

While Milton Friedman argues that corporations have duties only to stockholders (or in the case of a non-profit like Carleton, donors), this view is not compatible with the larger context in which corporations find themselves. As an organization granted legitimacy by the state and formed of individuals, a corporation is part of our social contract. Like any corporation, Carleton has basic responsibilities not to act against the good of society, and like any individual, Carleton is responsible for the harms inflicted by its actions. Stockholders certainly are stakeholders, to which the closest analogue in a college are the donors. Other obvious stakeholders in Carleton include the students, faculty, staff, alumni, board of trustees, donors, and the community of Northfield. These groups are obviously stakeholders because we can see the immediate impact of Carleton's actions on their welfare.

Less obviously, the biotic community is also a stakeholder in Carleton. The biotic community is all around us, and so any action Carleton takes will have an impact on that community. Thus, according to the wider definition of stakeholders in a corporation, the biotic community is a stakeholder. As such, Carleton must ensure that it becomes a good steward of the land and a responsible community member, ideals outlined in the mission statement (Mission Statement 2007). The first step towards fulfilling this duty, according to Aldo Leopold, is the

extension of the social community to the entire biotic community (Leopold 1966). If we believe that we have duties to other humans, that we are moral beings who possess empathy and the knowledge of right versus wrong, then Leopold argues that our duties to the nonhuman communities of the world, both living and nonliving, can be an extension of our human moral communities. We base our moral communities on a feeling of kinship with other humans, that they are like us and therefore should be treated in a way we ourselves would want. If we extend that sense of kinship to the biotic community, then we have an obligation to protect more than just human interests. For Carleton that would include the protection of the land and ecosystem of the college, and if we put it in the larger context, it would impel Carleton to protect the environment and contribute to the effort to reduce the damage we are causing to the earth and the climate.

Future generations are another set of stakeholders who will also be affected by Carleton's actions, albeit in a less immediate and tangible sense. Carleton has already affirmed its commitment to these future generations through actions such as the growth of its endowment and the master plan for the next 50 years, all of which demonstrate a desire to provide the best possible services for students to come. In the arguments of both Derek Parfit and Martin Golding, the far future seems too far away from the current generation, too unknown, to apply moral principles (Parfit 2001; Golding 2001). We are unable to describe the potential needs of a future that we don't know anything about. But we do have obligations to the closer future, to our immediate posterity. We can count the individuals of the near future as part of our moral community; we have a desire to protect their good. We can predict that the near future will want a world that has not witnessed a catastrophic climate change, that is not over polluted with

greenhouse gases, and that does not have dramatic weather fluctuations that devastate communities. In other words, we are morally obligated to care and foster a world that will be fit for future generations, at least the ones in the near future, to inhabit. In his essay on duties to future generations, Parfit concludes that our duty is to bring into being the best possible future (Parfit 2001), and to do that it begins with caring for the world we have now.

We can't consider each of these obligations in a vacuum, but instead need to be cognizant of the interactions among all of them. All of Carleton's stakeholders are interested in and impacted by any decision made by the college, and expect the college to uphold its mission statement. In short, the stakeholders are part of the moral community of Carleton, and we therefore have a duty to recognize, protect, and weigh the good of the stakeholders in addition to the sole good of the college itself. For instance, Carleton may have an obligation to future generations, but that does not mean that Carleton should use all of its resources for those future generations. Carleton also has an obligation to its current students, who may in fact deserve a greater share of the resources than the future generations. Thus, it is important that we come to a careful balance between all of the competing interests. Luckily for Carleton, many of the school's different obligations lead to the conclusion that we should pursue carbon neutrality.

What Carleton's Obligations Mean

In order for Carleton to uphold its obligations to stakeholders, it must first know what those stakeholders want. Stakeholders are too numerous for Carleton to practically assess their interests continuously, so instead the school issues a mission statement to outline what stakeholders ought to expect from Carleton and relies on certain representatives to convey general wishes and concerns. While the mission statement has not been explicitly approved by

every single stakeholder, it was still established by the trustees as a way to signal to potential stakeholders the values that Carleton holds. Thus, by looking to the mission statement, we can decide how Carleton should behave in order to fulfill its obligation to stakeholders. There are several tenets that could be construed as requiring Carleton to move towards carbon neutrality. First, Carleton aims to "prepare students to live lives...of service to humanity" (Mission Statement 2007). In current times, it is impossible to live a life truly of service to humanity without some awareness of the environmental impacts of your actions. Carleton explicitly declaring how and why it will achieve carbon neutrality acts as a powerful signalling mechanism to students that it thinks carbon neutrality is an important and worthy goal. As students venture out into the world they will carry that value with them, spreading it to other and helping to change society in the direction needed. This aim requires more than simply communicating to students what the college believes is right; it also requires that the college equip students with the knowledge of how to take action. The ACUPCC states that taking on-campus action allows colleges to "[model] ways to minimize global warming emissions, and [provide] the knowledge and the educated graduates to achieve climate neutrality" (ACUPCC 2014). Pursuing carbon neutrality provides students with both an ethical goal to strive towards and exposure to some of the technical skills needed to get it done.

Further, "Carleton aims to be...a responsible steward of its resources" (Mission Statement 2007). This can be interpreted in several different ways. Some might argue that this means that Carleton should spend its money carefully, and therefore not spend money reducing carbon emissions. By this argument, it would be a misallocation of resources to spend money on technology that will not benefit the quality of education that Carleton provides. However,

Carleton spends a great deal of money on heating buildings, and purchasing the energy required to run the campus effectively. Achieving carbon neutrality is fundamentally about reducing carbon emissions and using energy more efficiently, saving money in the long run. Carleton may make a large investment now to build climate friendly buildings, however it will spend less money in the future on heating and cooling those buildings, and dealing with the aftereffects of climate change. Thus, more money will be made available in the future. Additionally, the Cowling Arboretum is a critical resource to the college, as it is used for research, recreation, and many other activities. As outlined above, the Arboretum is threatened by the prospect of climate change, and so in order to be a responsible steward of the Arboretum, Carleton must take actions to prevent climate change. Because the effects will be so significant, and so wide-reaching, the only effective mechanism to protect the Arboretum is to ensure that climate change does not happen.

Tying in nicely with Carleton's obligation to be a steward of its own resources is its obligation to be a steward of the biotic community as a whole. Aldo Leopold would argue that as a member of the biotic community, Carleton has an obligation to preserve and uphold the land's beauty, integrity, and health (Leopold 1966). This directly conflicts with practices that currently lead to large greenhouse gas emissions. The emissions are the result of extracting the maximum amount of energy from the land (in the form of coal or natural gas) without considering the impact that that extraction will have on the land. The use of such resources often displays a shocking disregard for the consequences of harvesting and burning fossil fuels with no care given to mitigating those consequences. The actions taken toward achieving carbon neutrality, however, are important steps toward correcting those issues. As Carleton has an obligation to

reduce the harm to the biotic community and act as responsible stewards of the environment, it follows that we have an obligation to adopt these practices and move toward carbon neutrality.

Finally, Carleton's obligation to future generations provide a clear argument that Carleton should adopt carbon neutrality. Future generations are those that will be most adversely affected by climate change, and have the most to gain or lose from Carleton's actions (assuming Carleton can actually make a difference, which we will address later on). As we noted, global climate change will result in untold damage both in terms of lives lost and in terms of the existential threat to humanity that it poses. If Carleton's actions can prevent those lives from being lost, and the famines, heat waves, and severe storms that will cause billions to suffer, then it certainly has an obligation to do so, and ensure that people's lives are not as bad as they could be.

Therefore, it seems that in order to conclude that Carleton should pursue carbon neutrality, we need to consider whether Carleton can make a difference on the future of global climate change. It is our contention that it can. Dealing with the problem of global climate change is not as simple as coming up with some quick technical fixes that make it easy to stop polluting the environment. New technologies will initially cost more than current practices, and so people (and institutions) will need compelling reasons to adopt them. Unfortunately, as Jamieson argues, it is difficult to show that individuals are themselves having a negative impact on the environment, because their actions do not appear on their face to be bad, and the actual harms that are caused are hard to pinpoint (Jamieson 1992). When there are consequences, they generally are not inflicted on the people that did the polluting. Instead, they will harm people mostly in poor regions of the world and future generations. Therefore, the harms are usually hidden from us, and even when they are not it is impossible to attribute a specific harm to a

specific person. A given individual could stop all of their own emissions, but there would be no impact on global climate change, because it is only in the aggregate that our emissions are dangerous. Therefore, Jamieson says, we need to move toward a more collective understanding of responsibility, because it is only collectively that we can have any chance of stopping global climate change.

Becker agrees, arguing that because issues of sustainability are fundamentally relational in nature, we need to develop systemic change to effectively embrace the values required (Becker 2010). Indeed, the Carleton College administration acknowledged this sentiment when formulating the Climate Action Plan, noting that Carleton has long been noted for its leadership in environmental issues through initiatives such as the Cowling Arboretum and wind turbine (making Carleton the first college to have a wind turbine) (CAP 2011). Carleton's goal was not to cause a meaningful change in the amount of greenhouse gases in the atmosphere on its own, but rather to show that carbon neutrality can be done, and to change attitudes about it. Carleton College is sending a very clear message that it believes carbon neutrality is important, and that institutions should attempt to move in that direction. Indeed, the American College and University Presidents' Climate Commitment, the signing of which led Carleton to adopt the Climate Action Plan, specifically wants to "[drive] the thought and [define] the cutting edge of what is necessary and what is possible in effectively fighting climate change" (ACUPCC 2014). Others agree that college and universities are positioned to help create grassroots change and help move people and organizations toward carbon neutrality (Knuth 2007).

Fahlquist as well argues that institutional agents that have an ability to make environmental efforts easier and less costly have an obligation to do so (Fahlquist 2009). With

this view, it appears as though Carleton does have a significant moral responsibility because it has the power to "create reasonable alternatives" (Fahlquist 2009). Carleton, as well as other colleges and universities, is well suited to set up this forward-looking responsibility for the environment. Moreover, because the business of the college is education, we can argue that Carleton has more responsibility than just a typical corporation. If the goal is to prepare students to lead lives "of service to humanity" (Mission Statement 2007), then as a corporation Carleton has a duty to make that service a possibility and to devote resources and power towards the betterment of environmental problems.

In general, the obligations that Carleton derives from its mission statement do not contradict the other obligations that it has to its stakeholders. Carleton obviously has other obligations to its stakeholders; for example, it must educate its students. The school should not put all of its money and resources into reducing emissions as much as possible, as this would defeat the larger goal of the school to educate young people. However, such extreme measures are not necessary to achieve carbon neutrality. The school has laid out a very clear plan whereby Carleton can produce zero net carbon. Given that carbon neutrality fits both into the larger mission of educating students and reflects the values of the school, it is possible to fit carbon neutrality among the other obligations of the school.

Timing and Implementation

Clearly Carleton has an obligation to pursue carbon neutrality. However, there are also certain ethical constraints to consider on how that goal should be achieved. In terms of the specifics of implementing carbon neutrality, Carleton still has much to decide: as mentioned, many of the school's future plans for reducing emissions remain up in the air, left to future

stakeholders to decide based on changes in knowledge and technology. One group of stakeholders that tends to be active in pushing for changes to college policy is the students. Carleton's students are less likely to look to the schools' mission statement to get a sense of its values, as it is generally a distant document from their everyday experiences and is consulted by students when choosing college to attend. However, there are ways to gain insight into the wishes of students. As part of a survey assessing their environmental values, we asked Carleton students two questions regarding their opinions of carbon neutrality; these questions and results are summarized in the table below:

Carleton has committed to becoming carbon neutral by 2050, according to the College and University Presidents' Climate Commitment signed by the College president in 2007. This would require that Carleton lower its carbon emissions or purchase carbon offsets, or some combination of the two, so that Carleton produces zero net carbon by 2050.

Were you previously aware of this commitment? (Yes / No)

Assuming all options are possible, but waiting comes at lower cost and greater environmental harm, please mark the statement you agree with the most.

-2050 is too far away; Carleton should aim to be carbon neutral sooner

-2050 is a good goal; Carleton should continue with the current plan

-2050 is too soon; Carleton needs more time

-Carleton should not pursue carbon neutrality as an explicit goal

Table 1: Results of Student Survey

	2050 is too late	2050 is good	2050 is too soon	Should not do
Were Aware (109)	62 (56.9%)	44 (40.4%)	1 (0.9%)	2 (1.8%)
Weren't Aware (194)	112 (57.7%)	78 (40.2%)	1 (0.5%)	3 (1.5%)
Total (303)	174 (57.4%)	122 (40.3%)	2 (0.7%)	5 (1.7%)

These results confirm the notion that students, at least, believe that Carleton has a duty to act in the best interest of the environment. Prior knowledge of the commitment did not affect responses; although one might predict that prior knowledge of the commitment indicates a greater passion for campus environmental initiatives, nearly identical percentages of students who were and were not aware of it supported carbon neutrality, and on the same time frame as well. This is despite other survey results that indicate a strong diversity of issue prioritization among students.

These responses also indicate that a substantial majority of the student body thinks that Carleton should actively pursue carbon neutrality sooner than 2030. This may be because cannot necessarily plan for a time over 30 years from now, because we do not know what the environment, the technology, or the society will look like. Additionally, a 2014 study by the International Energy Agency stated that the world must cease carbon emissions by 2040 in order to keep the planet below the 2 degrees celsius threshold for warming agreed on by world governments (Spross 2014). If the world must become carbon neutral by 2040, then as a self-proclaimed role model Carleton cannot afford to be 10 years behind the rest of the world's bare minimum. Because of all the ethical principles discussed above that give Carleton a moral duty to pursue carbon neutrality,the school also has an need to respond to climate change in as

timely a manner as possible in order to respect its obligations to the community, stakeholders, and future generations. These survey results show that moving up Carleton's goal is not only desirable, but politically feasible as well.

Although Carleton faces an ethical mandate to achieve carbon neutrality and do so expediently, the question remains of how best to do so. There remains a significant diversity of definitions and tactics among those institutions that have committed to carbon neutrality. Among the questions that have arisen are whether or not to include off-site emissions (such as those from commutes and study abroad), and what the limits of acceptable actions are. Carleton has chosen to include emissions from study abroad travel, but has thus far not included emissions from faculty and staff commute. One debate that Carleton is still considering is that over carbon offsets: commodified reductions of emissions by someone else, often a third party.

By buying a carbon offset, Carleton pays someone to not emit carbon dioxide- perhaps by investing in a solar energy project or funding efficiency upgrades for a building. In an interview with Martha Larson, Manager of Campus Energy and Sustainability at Carleton, we learned that Carleton could become fully carbon neutral immediately at a price of approximately $65,000 a year in carbon offsets. However, in doing so, Carleton takes no direct on-campus action to reduce its own emissions. It can be argued that the purchase of a carbon offset does achieve the desired goal of reducing carbon emissions, and as this quantity of emissions is equal regardless of where it takes place, Carleton fulfils its responsibilities by contributing to it. Opponents of offsets argue against this largely on two grounds. First, they claim that offsets are dubiously effective in practice and may in fact go towards emissions reductions that would have happened even without them (Dhanda 2011). Second, they argue that offsets represent an abdication of

personal moral responsibility and represent at best an action taken to soothe one's own conscience (Hyams 2013). Another, case-specific argument against offsets is that by supporting sustainable projects remotely, offsets fail to achieve to the educational and "role-model" mission of Carleton and the ACUPCC, which is largely achieved by engaging students in visible, on-campus projects.

In practice, colleges such as Colby that have achieved carbon neutrality have used offsets to replace only those emissions that are difficult or impossible to replace on-site, such as those from study abroad travel. Given Carleton's well-established ability to create change on campus, it seems proper to suggest that Carleton should follow this approach and only purchase offsets for emissions that are infeasible to reduce on site. A possible exception to this could be made for investment in local renewable projects in which Carleton can make a significant difference and whose impact will be both seen and felt by students and the school community.

When we as a society confront problems as vast and complex as global climate change, a wide variety of solutions will often present themselves. None of them, however brilliant, can serve as a panacea for the systematic problems that plague our world. Climate change will be solved through a complex interaction of local and global solutions, just as it is caused by a similar network of local and global problems. The pursuit of carbon neutrality represents one major way in which Carleton can do its part in this process—a part that Carleton has an obligation to play due to its missions of education and stewardship and its relationships with its stakeholders and its community. There is enthusiasm among administrators and broad agreement among students that Carleton can and should fulfill its ethical obligations by taking responsibility for its emissions and acting as a role model for individuals and institutions to follow. As with any

campus policy, Carleton should move forward with caution, carefully considering the best ways carbon neutrality can be achieved and weighing the costs of these methods against the other obligations of the college. But it is clear that Carleton has an ethical mandate not only to ask these questions but to find answers, and to move forward towards carbon neutrality as directly and expediently as is responsibly possible.

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