How to Decarbonize the MIT Campus

Christoph Reinhart, David Hsu, Caitlin Mueller, Les Norford, John Sterman and Jessika Trancik

Over the years, there have been multiple proposals about how and when we should decarbonize our campus. We present a brief introduction to the world of net zero building retrofits followed by MIT's past and current approaches to decarbonize our building operations. We end with recommendations for MIT leadership and the broader community to consider.

Summary of Recommendations

- *Leadership Is Essential* Decarbonization should be treated as a long-term institutional priority led at the executive level with buy-in from the whole community. Short-term cost savings should not be the primary driver.
- *Urgently Pursue Bold Solutions* We need to implement innovative, scalable decarbonization solutions now. The impact of our actions should extend far beyond campus.
- *Strengthen Our Accountability* We need an Energy Strike Team that measures and reports carbon emission and cost savings from past retrofit projects. The team needs resources to recommend and implement corrective measures. Progress towards our goals should be monitored independently.
- *Rapidly transition away from Carbon Offsets* Relying on carbon offsets hides the lack of actual progress and delays campus investment.

How We Got Here

Initially saving energy and later decarbonizing the campus have been goals of the MIT administration and many members of our community for close to two decades, starting with the Campus Energy Task Force in 2006. We are not alone. As of December 2024, 148 countries representing 90% of the world population and global gross domestic product (GDP) have committed to fully decarbonize their economies, most by 2050.[1] Closer to home, Massachusetts' Decarbonization Roadmap aims to reduce the Commonwealth's greenhouse gas (GHG) emissions by 85% by 2050. Given that MIT's campus buildings account for over 95% of our scope 1 and 2 GHG emissions, this manuscript focuses on buildings. We note that scope 3 emissions from MIT-related travel, vehicles, materials, and embodied carbon to construct and maintain our buildings are also substantial and need to be addressed synchronously.

How can we decarbonize 190 laboratory, classroom, dormitory and administrational buildings in a dense urban setting in a cold climate? Many of the required actions resemble those that any single-family homeowner in New England would follow such as reducing demand via energy efficiency measures, electrifying fossil fuel powered equipment such as space and water heaters, and ensuring that the remaining electricity is generated by renewable sources. These measures might translate into our hypothetical homeowner switching to LED lighting and Energy Star appliances, weatherizing windows and doors, adding insulation to walls, roof, basement, and water piping, installing a heat pump water and space heater as well as purchasing a rooftop PV system or electricity from a local green power provider. The resulting building is "net zero energy" meaning that it uses no more energy over the course of the year than is generated via local renewable energy carriers. From an electric grid perspective, it is important that any temporal mismatch between when surplus electricity is deposited into and withdrawn from the grid is minimized to reduce the need for daily or seasonal electric storage. A dedicated homeowner can help the grid by purchasing a battery to even out daily imbalances and become less vulnerable during blackouts. Economically this purchase has no benefit to our MA homeowner since previously deposited green electricity can be withdrawn any time at no cost.

[1] "Energy and Climate Intelligence, Climate Action Tracker" Accessed: Dec. 15, 2024. [Online]. Available: https://zerotracker.net/; The numbers have changed since the United States' withdrawal from the Paris accord in Jan 2025.

Figure 1: MIT's Central Utility Plan (CUP) on Vassar Street (Photo courtesy: Ellenzweig)

Today, most households implement a subset of the above best-practice steps starting with LED lighting and efficient appliances. For MA homeowners with a sufficiently sized roof and the required resources, the most economical and least disruptive pathway towards a net zero energy home is to weatherize their home, skip logistically complicated energy efficiency measures – such as adding wall insulation – and purchase a heat pump and enough rooftop PV to cover their annual electricity use.[2] Even though seasonal electricity use and PV deposits end up being grossly imbalanced, the resulting building has zero utility costs. Needless to say, the electric grid can neither technically nor economically sustain a large number of net zero energy/cost buildings that have not also undergone substantial energy efficiency retrofits.

Net zero carbon is another accounting method where Greenhouse Gas (GHG) emissions associated with on-site energy use – which may include the burning of fossil fuels – are offset against GHG emissions avoided by feeding green electricity into an electric grid that may be located anywhere in the world. While the use of carbon credits to offset natural gas use is unusual for homeowners, it is widely used by institutions including MIT as we will see in the following.

MIT's Approach

A concrete GHG reduction goal for our campus was first announced in MIT's 2015 Plan for Action on Climate Change. At the time, our target was to reduce "net campus greenhouse gas (GHG) emissions by 32% by 2030." The 2017 From Plan to Action: MIT Campus Greenhouse Gas Emissions Reduction Strategy report specifies how these targets were to be met: 12% of GHG emissions were to come from energy-efficiency and operational measures, 3% from other measures and 10% from the expansion of our central utility plant (CUP). The CUP is the main source of electricity, steam and chilled water for campus buildings (Figure 1). These energy services are mostly provided via the combustion of natural gas. The 2015 plan also predicted an *increase* of GHG emissions from new campus buildings of 10%. Taken together, these predictions lead to a decrease of *direct* campus emissions by 15% by 2030 (Table 1).

Table 1: Projected change in direct GHG emission by 2030

Δ GHG emissions	Cause of change
-12%	Energy-efficiency and operational measures
-10%	Central Utility Plant (CUP) expansion
-3%	Other measures
10%	New campus buildings
-15%	**Projected change in direct campus emissions**

[2] MIT's MABI web app offers custom advice to homeowners interested in retrofitting their dwelling.

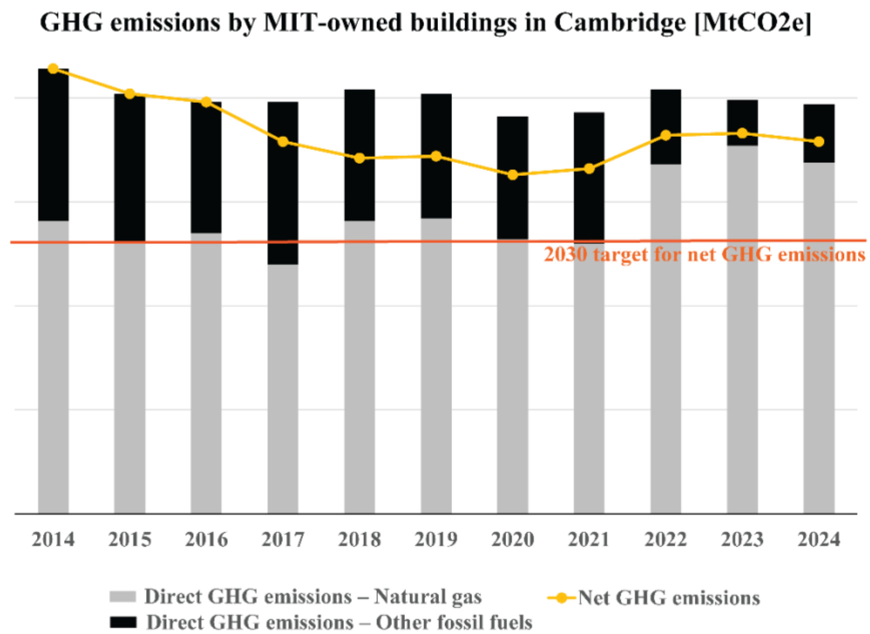

Figure 2: Direct and net MIT campus emissions between 2014 and 2024

Finally, to reach the earlier mentioned 32% reduction of net GHG emissions by 2030, the 2015 plan includes a provision of 17% GHG emission reductions via a power purchase agreement (PPA) for a solar farm in North Carolina. The farm was completed in 2017. Since then, clean electricity from the farm has been sold into the North Carolina grid, reducing its fossil fuel use. MIT has claimed a portion of the resulting renewable energy credits to offset our GHG emissions generated in Cambridge. Figure 2 shows actual direct (stacked bars) and net (yellow line) GHG emissions by MIT-owned buildings in Cambridge between 2014 and 2024. Since the CUP expansion in 2021, 85% of direct emissions stem from the combustion of natural gas in the CUP. The remaining emissions include purchased electricity from the local grid. Direct GHG emission reductions vis-à-vis the 2014 baseline have plateaued at 8%, about half of the 15% needed by 2030 according to Table 1.

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In 2021, MIT released Fast Forward: MIT's Climate Action Plan for the Decade which encouraged the community to "go as far as we can, as fast as we can, with the tools and methods we have now." Regarding our campus buildings, the plan acknowledges that previous efforts have "delivered the sobering if expected lesson that dramatically reducing the direct carbon footprint of an organization like MIT is hard" (p. 12). In reaction to this finding, we pivoted and introduced a new, dual approach to campus emissions:

- Our near-term goal to reach net-zero carbon emissions by 2026, is to bring together "partners to create one of the nation's largest solar farms." The resulting solar offsets are expected to move the yellow line in Figure 2 to zero by as early as 2026.
- The second approach focusses on also bringing our direct GHG emissions (stacked bars in Figure 1) to zero by 2050. This goal follows the City of Cambridge's Net Zero Action Plan which aims for carbon neutrality by 2050.

A Review of Three Proposals

In recent years, a number of campus decarbonization strategies have been proposed, three of which are summarized in Table 2. Recommended decarbonization pathways according to all three studies are shown in Figure 3. MITTEN foresees a fully decarbonized campus by 2035 assuming that the New England electric grid will be emissions free at that point, i.e. all electricity provided to MIT by Eversource will need to be generated via nuclear or renewable energy carriers. AEI proposes a pathway that would lead to a 90% direct emissions reduction by 2045 assuming no changes to the existing electric grid. DECARB shows a range of 72% to 97% reductions by 2050 assuming either current grid emissions or the "95% Decarbonization" scenario by National Renewable Energy Laboratory (NREL).

Table 2: Three campus decarbonization proposals

DECARB study (May 2024)	**AEI study** (December 2024)	**MITTEN study** (January 2025)
During spring 2024, to complement MIT's Campus Decarbonization Working group activities, the first author organized a seminar in which a group of 20 students from across the institute evaluated what combination of technology upgrades may lead to net zero scope 1 and 2 emissions for MIT's buildings. Many members of the Campus Decarbonization Working Group, including staff and faculty, generously contributed to this effort via guest lectures and sharing campus-related information. The outcomes of the seminar include a report, a recording of the final presentation as well as a results dashboard.	In April 2023, Affiliated Engineers, Inc. was hired by MIT to conduct a comprehensive campus decarbonization study. The results were presented to MIT representatives on December 17, 2024. AEI's mandate was to help MIT develop "energy infrastructure to plug into a greener power grid with flexibility to incorporate emerging technologies." These emerging technologies (also explored in the DECARB study) included not yet available approaches such as small nuclear reactors and deep earth geothermal.	In January 2025, MIT Alumni for Climate Action (MACA) and MIT student group Geo@MIT presented another campus decarbonization concept entitled "MIT Thermal Energy Networks" (MITTEN). The proposed thermal energy network "consists of distributed water-source heat pumps (WSHP) to provide heating and cooling […] for all buildings, supplied by temperate water pumped from the central utility plant (CUP) through existing chilled water distribution piping." The concept will be further described below. The group focused on a "Test Fit" cluster of six buildings on West campus.

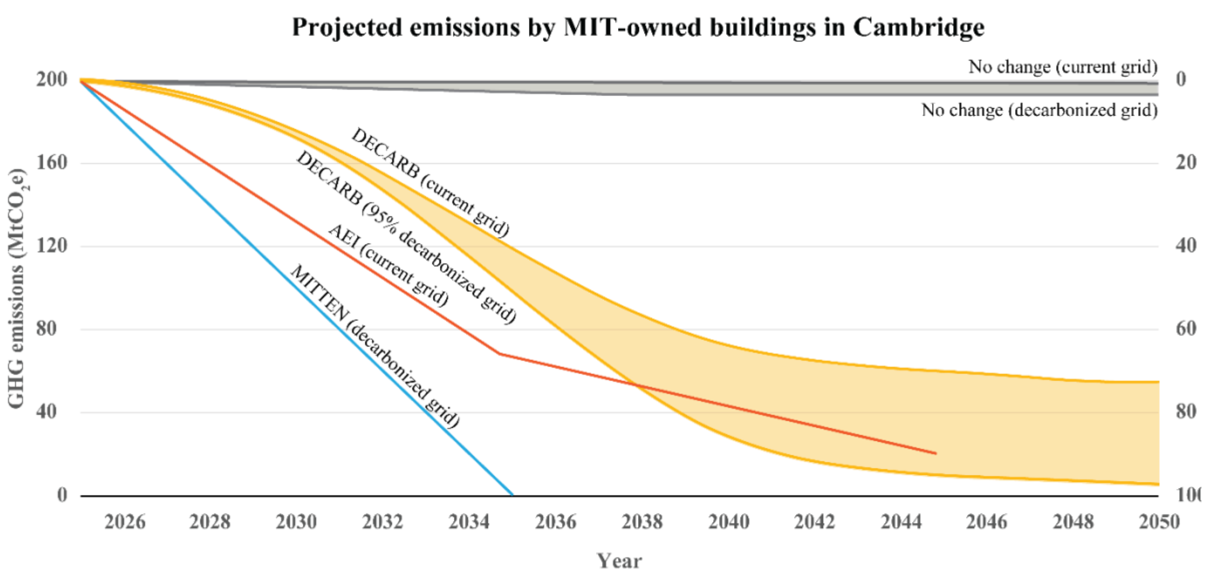

Figure 3: Decarbonization pathways according to AEI, MITTEN and DECARB

While the differences between the studies are quite striking, there is broad agreement on the steps required to reduce direct emission from campus buildings:

- Step 1: Implement energy efficiency measures in buildings
- Step 2: Reduce or eliminate distribution losses
- Step 3: Electrify all heating
- Step 4: Secure decarbonized electricity for all campus operations

Before covering these four, interrelated steps, Figure 4 schematically reviews how our campus is currently operated (top) along with two alternative scenarios discussed below. MIT currently purchases

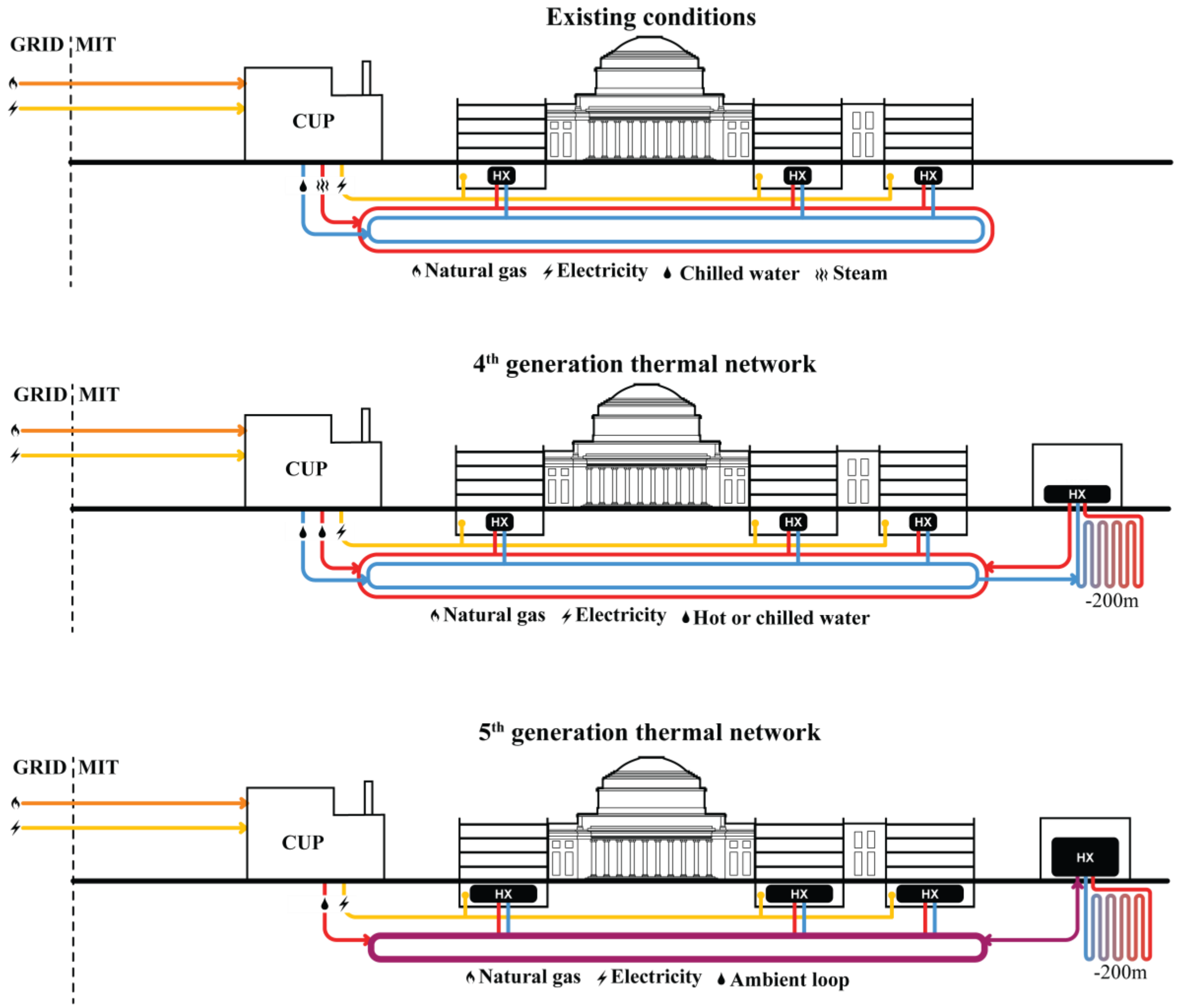

Figure 4: MIT campus section: Top: Existing conditions; Middle: 4th generation thermal network with hot and chilled water loops and heat recovery via a geothermal borehole field; Bottom: 5th generation thermal network with ambient loop and heat recovery via a geothermal borehole field (Figure: DECARB report)

natural gas and electricity from the New England grid. In the CUP we use a so-called trigeneration system to convert natural gas into electricity, steam and chilled water. All three energy sources are then delivered to the buildings. For the steam and chilled water, this happens via piped loops that are mostly buried or located in MIT's famous tunnels. Once steam or chilled water reach a building, heat exchangers (HX) connect to a variety of secondary distribution systems such as heated and cooled air ducts and hot water, chilled water or steam pipes. Given that our buildings have been constructed over a span of over 150 years, almost any imaginable system can be found.

As can be seen, in Figure 2, we meet most of our electricity needs by burning natural gas and only import a fraction from the grid. The reasons for this practice are that CUP-generated electricity is currently cleaner (generates less GHG emissions per kWh) than grid-based electricity. It is also more affordable because we need to run the CUP to heat and cool our buildings. The downside of this approach is that 85% of our direct emissions stem from natural gas, locking us into a fossil fuel carrier, while the New England grid is projected to soon become cleaner than CUP-generated electricity as more renewable energy sources are deployed. In the following we go through steps 1 to 4 from above.

Step 1: Implement energy efficiency measures in buildings

As already discussed, there is a plethora of energy efficiency measures available for buildings. Table 2 lists best practice upgrades for institutional buildings that define the upper limit of what is technically possible in a retrofit. Figure 5 shows select examples which were implemented on campus. A version of these measures was used in a 2015 campus study by environmental consulting firm Atelier Ten, which was also hired by MIT to estimate the amount of carbon reduction from implementing a variety of efficiency measures in our buildings based on simulations. Implementing all measures in Table 2 would reduce direct campus emissions by around 40%, five times more than what has been accomplished to date.[3] Given the earlier mentioned variety of campus buildings, it is difficult to estimate what would be the costs for MIT to consistently implement these comprehensive measures. In old buildings, upgrades generally tend to cost more than expected and historic preservation concerns limit what can be accomplished, especially in MIT's Main Group. However, envelope upgrades also improve occupant thermal comfort and make a building more resilient during extreme weather events. As a test project, the envelope of Building 2 was comprehensively upgraded in 2016 (Figure 5 left).

Table 2: Summary of pre-programmed parameters considered for retrofit scenarios[2]

Efficiency Measure	Upgrade parameters
Envelope Upgrades	Add insulation to existing wall assemblies to achieve assembly performance of U:0.20 W/m^2K
	Add insulation to existing roof assemblies to achieve assembly performance of U:0.15 W/m^2K
	Upgrade fenestration to achieve assembly performance U:1.96 W/m^2K, SHGC: 0.40
Lighting Upgrades	Install vacancy sensors to control ambient lighting in all non-regularly occupied spaces
	Incorporate photo-sensor based automated dimming controls in all perimeter spaces
	Upgrade all lighting fixtures to achieve an installed lighting power density of 8 W/m^2
Mechanical Upgrades	Install zone CO_2 sensors in all high occupancy spaces for demand-controlled ventilation
	Incorporate active air quality sensing in all laboratories to setback unoccupied airflow rates
	Incorporate sensible heat recovery in laboratory exhaust, enthalpy heat recovery elsewhere

The AEI-study included cost estimates for various upgrades and grouped the spectrum of retrofit measures by payback time and how disruptive the implementation would be to building operation. They found that recommended upgrades would lead to additional GHG reductions of around 10% compared to 2024 levels.[4] As mentioned above, the MITTEN study is limited to a subset of six buildings and does not provide a separate estimate of GHG emission reductions from campus buildings. While the MITTEN report is not explicit about what efficiency measures will be implemented, it states that "regardless of the decarbonization pathway MIT selects, building envelope upgrades and additional energy recovery from exhaust systems will be implemented to reduce campus-wide heating and cooling demand" (page 2). The report further states that "all glazings are upgraded" (page 29) and that waste heat recovery from ventilation systems will be consistently implemented. Waste heat recovery is a well-established efficiency technology where heat from exhaust (used) ventilated air is transferred to incoming air. For example, exhaust air during winter is significantly warmer than incoming fresh air and so heat from the former is used to heat the latter without compromising its fresh air qualities. Waste heat recovery is one of the largest saving opportunities in laboratory buildings which oftentimes need copious amounts of fresh air for safety reasons, especially in

[3] S. Nagpal and C. Reinhart, 2018, A comparison of two modeling approaches for establishing and implementing energy use reduction targets for a university campus, Energy and Buildings, 173.

[4] Based on AEI's presentation on December 17, 2024; at the time of writing, the full AEI building efficiency report was available to the authors.

Figure 5: Left: Vacuum insulation glass was used to replace the single pane glazing units in Building 2 (Photo credit: E. Reinhard); Right: Energy Recovery Ventilation (ERV) enthalpy wheel in Building E62 (Photo credit: M. Craven, MIT)

fume hoods. The energy recovery ventilation system in Building E62 has been in operation since 2010 (Figure 5 right). Another saving opportunity in labs is to carefully control the amount of fresh air that is provided to begin with based on building occupancy and ongoing experiments. Realizing such savings requires careful safety assessment, can be disruptive to laboratory operations and requires willingness to cooperate from all parties.

Overall, based on the information in the report, MITTEN's ambition for MIT campus buildings is closer to the DECARB full retrofit potential estimate than the AEI study, which does not, for example, foresee further comprehensive building envelope upgrades including window replacements. Beyond direct savings and improved occupant well-being, envelope upgrades are oftentimes required to switch the heating system of older campus buildings from steam to hot water. Differences in cost assumptions by the AEI and MITTEN studies partially stem from the fact that dramatically different building retrofit measures are assumed in both studies.

Step 2: Reduce or eliminate distribution losses

Along with heat losses at the building level, significant losses (up to 20% for steam and 15% for chilled water) currently occur between the heat source (CUP) and the buildings. Because the heat losses in an underground loop are proportional to the temperature difference between the ground and the circulated media (steam or chilled water), all three studies agree that steam needs to be replaced with a water loop closer to ground temperature. A disagreement between AEI and MITTEN is whether steam should be replaced by a hot water loop (170ºF) leaving the chilled water loop as is (Figure 4 middle) or the steam loop is retired, and the chilled water becomes a so-called ambient loop at 45-85ºF (Figure 4 bottom). In the former case, hot and chilled water are still provided by the CUP and standard heat exchangers continue to transfer heat from either loop to a separate circulation system in each building, with higher losses. In the case of a single ambient loop, water source heat pumps (WSPH) in each building need to extract or inject heat from or to the loop, with lower losses. The process is quite efficient, with one kWh of electricity needed to operate the heat pump leading to multiple kWh of heating or cooling. This ratio is called the coefficient of performance (COP). AEI and MITTEN assume that quite different COPs can be attained, with AEI estimating values around 2, and MITTEN estimating more than 5 (MITTEN page 5). Both studies also disagree how disruptive and costly installing WSHP will be in each building.

It is worthwhile noting that the Metropolitan Storage Warehouse (MET warehouse), soon to be the new home of the Departments of Architecture and Urban Studies and Planning, will be heated via WSHPs that will draw their heat from the campus chilled water loop. Securing space in the building for the WSHPs was a challenge given the many demands to use the space, but did not significantly slow or disrupt the project since the building is being gut-renovated. These differences notwithstanding, the MET warehouse may be viewed as a case study for the MITTEN proposal. The recognized thermodynamic advantage of an ambient loop system – because different campus buildings are heated and cooled at the same time (some labs are cooled all year round) – is that the temperature of the ambient loop is somewhat balanced and less heat is needed to stabilize it. The AEI study assumes that industrial size WSHPs would balance the overall system by transferring heat between the warm and cool loops at the CUP rather than across many buildings (Figure 4 middle). In technical terms, the difference between the AEI and MITTEN proposals corresponds to 4th and 5th generation thermal networks. Most experts agree that the latter is more efficient than the former if implemented from scratch. The question for the MIT campus is which system is easier to implement and maintain. Often cited benefits of centralized systems are easier system monitoring and system access, while decentralized systems rely on more off-the-shelf components, lower installation costs per unit, reduced heat losses and less pumping energy for the ambient loop. The DECARB report also assumes that a thermal network will be installed but remains uncommitted as to whether the system is 4th or 5th generation. Considering the thermodynamic benefits of a thermal network it seems clear that MIT will need such a system with the decision between 4th and 5th generation being largely a question of implementation costs, willingness to disrupt campus operations, maintenance preferences and resiliency concerns.

Step 3: Electrify all heating

A fully decarbonized campus will require replacing the fossil-powered CUP with electricity-based technologies such as a heat pump to maintain either a single ambient or separate hot and chilled water loops at their desired temperatures. Electricity is the source energy of choice since it can be generated by fossil-free sources. To heat or cool, a heat pump needs a heat source or sink such as the ambient air or the ground. The latter offers more stable temperatures which is why buildings connected via a thermal network are often combined with a borehole field that consists of around 200m deep tubing (Figure 4 meddle and bottom). Depending on whether the heat pump is in heating or cooling mode, heat is taken from or injected into the ground, which also acts as a seasonal storage device. All three studies recommend the use of this technique, with the borehole field being installed under Briggs Field. Boston is a heating dominated climate meaning that our campus will on balance need more heating than cooling over the course of the year. MITTEN proposes to tap into the city's sewer water to extract the missing heat. The AEI study recommends purchasing steam from a company called Vicinity Energy which has secured the rights to use industrial WSHPs to extract heat from the Charles River.

Step 4: Secure decarbonized electricity for all campus operations

Assuming that we retrofit our buildings, connect them via a thermal network and implement a largely electrified heating system, the final task is to secure the required fossil-free electricity. The MITTEN project sidesteps the problem assuming that the US grid will be fully decarbonized by 2035. Even before the change of administration in Washington, that assumption was unrealistic. The AEI study does not mention any explicit grid decarbonization rate but relies on Vicinity Energy to purchase clean electricity to offer carbon-free hot water to MIT. The DECARB study relies on two extreme scenarios in NREL's Cambium data set and shows that the New England grid will need to be largely decarbonized by 2050 for MIT to reach its goals (Figure 3).

In summary, the three reports rely on similar sets of techniques to decarbonize MIT campus buildings. This is not surprising since comparable approaches are already being pursued or have been implemented by other universities across the country. Differences in projected implementation speed in Figure 3 stem from diverging assumptions about how fast and comprehensively MIT will upgrade its buildings and distribution systems and what will happen to the New England electric grid. The DECARB study starts with the end goal that all measures need to be implemented by 2050 and accordingly applies a steady retrofit rate of eight buildings per year. This goal is extremely ambitious given MIT's current staffing allocation. MITTEN goes even further, assuming that all buildings can be retrofitted and electrified by 2035 (19 buildings per year). The AEI study is most deliberate in proposing a phasing approach in which the easier to retrofit and spatially adjacent buildings are completed first, and designates a future decision point in 2045 for MIT to potentially adjust its strategy in case viable new technologies will have emerged at that point.

Our Recommendations to Move Forward

In the preceding sections we presented three proposals to decarbonize our campus, making every effort to ensure that the information presented is correct and unbiased. We welcome any feedback and/or corrections. In the following, we offer our personal recommendations with the hope of initiating an informed and productive debate about the future of our campus buildings.

Carbon Offsets are a Distraction, not a Solution

Carbon offsets – claiming GHG emissions avoided elsewhere as a means to reduce one's carbon balance – are a widely used accounting mechanism for institutions to meet their sustainable development goals (SDG). For MIT, these offsets are a means to comply with the City of Cambridge's Building Energy Use Disclosure Ordinance (BEUDO) which requires "large non-residential buildings to reach Net Zero Emissions by 2035" or face "alternative compliance payments". Attitudes towards carbon offsets vary. The MITTEN report flatly "prohibit[s] purchase of carbon offsets." The authors acknowledge that in order to be legitimate, carbon offsets need to be additional, verifiable, immediate, and durable (AVID) to lead to GHG emissions reductions that would not have happened otherwise. Our concerns with MIT's carbon offsets, even if they end up meeting these criteria, is that they dilute and delay our on-campus efforts. We think that relying on carbon offsets can even compromise our educational mission: Referring students to a faraway solar farm that most of them will never see – while the smokestacks on Vassar Street and single pane windows in the Main Group remind them of the state of our campus buildings – is unlikely to awaken the next generation of climate warriors. Only tangible GHG reduction efforts on campus can accomplish that task.

Building Energy Efficiency

As expressed in Fast Forward: MIT's Climate Action Plan for the Decade, "dramatically reducing the direct carbon footprint of an organization like MIT is hard." Indeed, retrofitting old institutional buildings successfully is *MIT-hard* and requires careful detective work if initial savings fall short. This is why we have to do it. Right now, our Department of Facilities lacks the capacity to follow up, even on deep retrofit projects such as Buildings 2 and 9 which seemingly exhibit the same energy use pre- and post-renovation (DECARB report p.11). We recommend that MIT forms an Energy Strike Team for post-occupancy evaluation and control adjustments for all energy efficiency projects to ensure that projected energy savings are realized. The Strike Team would require around five additional positions in the Department of Facilities whose efforts should directly pay for themselves. The team should regularly report on all major energy saving projects and present their findings to an independent committee. The role of the committee would be to hold us accountable and publicly share successes and failures. Additional activities of this committee could include a research component to explore innovative building technologies, an educational component to train our students, and a collaboration with trade organizations so that successful retrofit measures find their way into green workforce curricula.

In addition, we all need to do our part including turning off unused equipment, closing the sashes on those energy-hogging fume hoods, and cooperating when it is our building's turn to be renovated. We should also celebrate the earlier mentioned and well-established fact that properly insulated and operated buildings offer health and comfort benefits to their occupants. Our students deserve to spend the majority of their waking hours during their most productive years in the healthiest possible environments.

Urgency and Strategic Vulnerability

A decade ago, while Stanford significantly reduced its carbon footprint via an innovative combination of campus upgrades, MIT defined its first set of GHG reduction targets. As part of that plan, we doubled down on the use of fossil fuels by upgrading our CUP without also managing to substantially reduce our building energy use. We adjusted our targets in 2021 and spent two years setting up a carbon offsets program to react to Cambridge's BEUDO requirements. In 2024, while Princeton and other universities dug up their campuses, we completed yet another set of studies. While it is good to act deliberately and think ahead to a time when small nuclear reactors or deep geothermal boreholes might become a reality, the time for bold actions is now.

Invest to save

Being a global climate leader is an institutional priority for MIT. To demonstrate this leadership locally and globally, we need to literally break ground and aggressively decarbonize our campus. Rather than simply purchasing carbon offsets and clean heat from Vicinity, we need to deep retrofit our buildings and work towards a 5th generation district system. We should think of required costs – such as capital investments and salaries for a Strike Team – as sequenced investments whose returns are deposited in a revolving account and reinvested in further improvements. Approaches chosen to achieve our top institutional priorities, such as this one, must be designed to work in any fiscal environment. Bold and innovative leadership in campus decarbonization would raise our credibility in interactions with our industry partners and help ongoing fundraising efforts through the MIT Climate Project and beyond. Of course, the mandate to choose the more impactful – but initially costlier path – cannot come from the Department of Facilities who has a fiduciary responsibility towards the Institute. Support has to come from MIT leadership, and the whole MIT community. In 2021, several of the authors of this article lobbied for introducing WSHPs in the Met Warehouse to electrify the building's heating system rather than to connect to the CUP's steam loop. The change introduced a price premium to the project without clear operational cost savings beyond Cambridge's earlier mentioned BEUDO requirements. We nevertheless advocated for the measure because we found it unfathomable that – in 2026 – one of the world's highest ranked schools of Architecture would *not move* into an electrically heated building. MIT leadership listened to us and our Department of Facilities has been very supportive. We now need to expand this thinking to the whole campus. Every month that we do not dig in and start trying bold things, we fall behind our own ambition to go "as far as we can, as fast as we can, with the tools and methods we have now."