

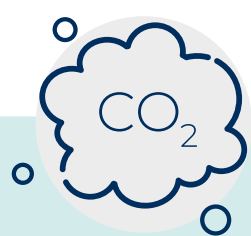
Scope 3 Emissions Draft Recommendations: Capital Goods

Capital goods encompasses the embodied carbon associated with the extraction, production, transportation, and end-of-life treatment of building materials.

Why do capital goods emissions matter?

- Built environment is responsible for 42% of annual global CO₂ emissions, including operational and embodied emissions.
- Building construction can represent up to 50% of peer Scope 3 emissions, and often dwarfs Scope 1 & 2 emissions.
- Numerous options for sustainable alternatives to typical building materials are available, making it easier to collect data and achieve reductions.
- Building materials have significant impact on health & wellbeing, pollution, and biodiversity – critical to address for sustainability and environmental justice.

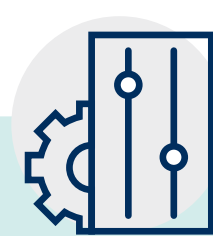
Category Prioritization Evaluation



Emissions Impact

Among peers, capital goods emissions represent up to 50% of Scope 3 footprint and 36% of total emissions (Scope 1, 2, 3).

High



Influence

U-M has direct influence over selection of design & construction partners, materials they procure, and overall approach to design/renovation.

High



Visibility

While embodied carbon from construction materials is not highly visible, buildings are! Efforts such as building signage and display screens can help to communicate emissions reductions.

Medium



Recommendations

Large Capital Projects (>\$10M)

- **Assess Viability of Lifecycle Cost Analysis (LCA) & Embodied Carbon Target:** Determine if standardizing LCAs would be time and cost effective (include requiring LEED Building Life-Cycle Impact Reduction Credit), & assess viability of requiring % reduction or set limit for embodied carbon. This data would be shared with the Office of Campus Sustainability. Optional, evaluate as part of the Sustainable Design Guidelines.
- **Update Standard Specifications:** Make spec updates based on what is available locally – exclude highest Global Warming Potential (GWP) products. Ensure that contractors are collecting GWP data and reporting back to AEC.

Medium Projects (\$3M-\$10M)

- **Study interior product carbon “hot spots”:** Select low GWP alternatives for categories such as flooring, ceilings, walls, etc. that fit specs to enable standard selection. Once products are identified defaults selections will need to be updated and/or training completed for project managers and decision-makers for interior finishes.
- **Evaluate Construction & Demolition (C&D) Waste Diversion:** Evaluate viability of implementing C&D diversion approach and required diversion rate or limit in alignment with LEED for large projects, and select key waste streams for consistent diversion and tracking for medium projects as possible. Optional, consider adding C&D Waste Diversion to Sustainable Design Guidelines.

- **Develop comprehensive guidance for reducing embodied carbon:** Develop guidance on reducing embodied carbon from construction, either as standalone documentation or as a part of Design & Construction Guidelines. Methods may include:
 - Building less – by studying and optimizing use of existing space
 - Encouraging renovation projects in place of new construction
 - Designing for deconstruction and flexibility
 - Prioritizing low-carbon alternatives for building materials, such as mass timber, refrigerants, and low GWP finishes
- **Develop trainings to educate stakeholders on sustainable design initiatives:** Alongside above guidance, develop training program to educate design managers on sustainable construction initiatives and integrate embodied carbon considerations throughout design process.
- **Partner with Academic Programs:** If not already underway, explore partnership with academic programs such as Michigan’s Center for Low Carbon for the Built Environment. This presents an opportunity to connect academic research with campus operations.

Note: Data-centric recommendations, such as calculation of baseline emissions and updates to data management processes, have been excluded to facilitate discussion around reduction strategies and to clarify U-M stakeholder priorities. If you'd like more detail, please let us know.

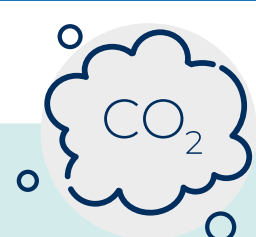
Scope 3 Emissions Draft Recommendations: Waste

Waste encompasses the carbon impacts from third-party disposal and treatment of waste generated by the university.

Why do waste emissions matter?

- Waste generation has direct impacts on environmental performance indicators, such as air, water, and soil quality, and biodiversity.
- Optimizing operations to reduce waste can have economic benefits by reducing the need for purchasing through increased use of reusable products.
- Negative impacts from landfills and waste incineration disproportionately impact lower-income and minority communities, making organizational waste a critical environmental justice issue.

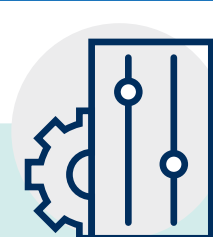
Category Prioritization Evaluation



Emissions Impact

Among academic peers, waste emissions represent less than 2% Scope 3 footprint and less than 1% of total emissions (Scope 1, 2, 3)

Low



Influence

U-M has direct influence over promoting waste reduction practices, such as selection of reusable materials over single-use and encouraging recycling & composting on campus.

High



Visibility

All campus community members have a role to play in waste emissions, as they directly engage with bins for alternative waste streams and can see shifts towards reusable products across campus events.

High



Recommendations

Academic

- **Waste Analysis and Audits**
 - Standardize waste audit & analysis process at Ann Arbor.
 - Document key findings, assessment of trends, and best practices based on results of waste audit (e.g. improved signage, educational campaigns, bin layouts).
- **Increase Knowledge Sharing**
 - Share results of audits and waste process insights that are actionable to other campuses (what is recyclable/not recyclable, challenges and opportunities, sorting/behavioral change management successes, etc.) between academic campuses.
- **Inform Upstream Procurement**
 - In addition to reviewing audit results, conduct quarterly reviews of waste tonnage by waste streams to identify trends generation & diversion.
 - Collect data on landfill-only materials (cannot be recycled/composted), diversion rates, contamination rates, insights around opportunities for improvement, and waste generation by stream and engage procurement teams on waste reduction practices.
- **Build Zero Waste Culture and Toolkit**
 - Identify sustainability champions within facilities and existing sustainability, quality, and leadership committees, to embed zero waste practices in operational and procurement processes.
 - Document best practices as they are developed for ease of expansion between campuses. Establish ongoing collaborative meetings to share insights, challenges and opportunities between campuses.
- **Investigate Waste Processing**
 - During contract negotiations engage with vendors on waste processing practices (i.e. transportation of waste, hazardous waste processing methods, recycling facilities, composting, etc.) to ensure that emissions from this phase of waste collection lifecycle, as well as environmental justice concerns from waste processing pollution, are tracked, limited, and steadily improved.

Healthcare

- **Engage Haulers to Receive Waste Reports:** Engage with third-party haulers to receive waste reports detailing tonnages for waste collected by facility. Clarify the following:
 - Can weight & spend can be provided by facility
 - Confirm whether weight is estimated or actual, and document estimation method
 - If estimated, discuss feasibility of obtaining actual tonnage data or using a standard process for spot weights to validate estimates. Consider including desired process for weight data in contract language.
- **Standardize Waste Analysis**
 - Assess waste totals on regular cadence (recommend monthly or quarterly) to flag anomalies, validate any data gaps, and benchmark results internally across facilities and against industry metrics.
 - Establish process for when results may influence need to conduct targeted waste audits for specific facilities or healthcare operational areas.
- **Develop Engagement Program**
 - Share waste data with key teams across healthcare to build awareness and identify sustainability champions within facilities.
 - Conduct regular outreach from sustainability to existing quality and leadership committees, in both clinical and operational departments.
 - Ensure that new staff is informed of sustainability practices during onboarding, and train staff annually on best practices for waste reduction and diversion.
 - Collaborate with stakeholders to inform actions based on waste insights. This may include improvements such as medical device delivery optimization, patient meal delivery improvements, or product substitutions to increase durable reusables.
- **Build Standard Toolkit for Waste Program**
 - Update standard operating procedures to reflect learnings from Ann Arbor campus of where greatest waste diversion potential lies and methods for reduction and reuse.
 - Document best practices as they are developed for future expansion to other healthcare campuses.
- **Investigate Waste Processing**
 - Engage with vendors on waste processing practices (transportation of waste, hazardous waste processing methods, recycling facilities, composting, etc.) to ensure that emissions and environmental justice concerns, are tracked, limited, and steadily improved.

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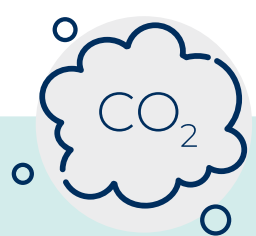
Scope 3 Emissions Draft Recommendations: Commuting

Commuting includes emissions from the transportation of students, staff, faculty, and other employees between their homes and campuses/workplaces.

Why do commuting emissions matter?

- GHG emissions from transportation account for 28% of total US GHG emissions and have increased more than any other sector from 1990-2022.
- Sustainable transportation can be more convenient, economical, and quicker for students, staff, and employees.
- Reducing driving alone and peak-hour commute trips can help reduce U-M's carbon footprint and pollutants from fossil fuel transport in the surrounding community.
- Students, staff and patients may face barriers to sustainable commuting. Ensuring equitable and accessible transportation options can have a positive impact on health and well-being across U-M.
- Students, participating staff, and the Advisory Council identified commuting as top priority for where they would like to see U-M show leadership in emissions reduction.

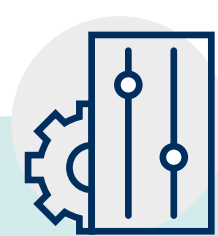
Category Prioritization Evaluation



Emissions Impact

Among peers, commuting emissions typically represent less than 6% of Scope 3 footprint. However, given the size of U-M and its affiliated health system these emissions may be higher.

Medium



Influence

U-M does not have control over student, staff and faculty modes of transport. However, U-M does have the ability to provide infrastructure and incentives for enabling more sustainable commuting options.

Medium



Visibility

Mobility infrastructure and public transportation, as well as cars and parking are highly visible, and instrumental to how students, staff, and faculty move to and around campus.

High



Recommendations

- **Establish Processes for Sharing Sustainable Commuting Options**
 - Office of Campus Sustainability and Logistics, Transportation and Parking (LTP) to coordinate to regularly share information with incoming Ann Arbor campus students, faculty, and staff about sustainable transportation options including public transportation, park & rides, limited on-campus parking and options for electronic scooters and bikes.
- **Establish Incentives for Low-Carbon Commuting**
 - Incentivize use of sustainable commuting modes through measures such as raising parking fees, subsidizing bus passes, and promoting carpooling and ridesharing.
 - Consider developing additional programs which gamify and reward sustainable commuting behaviors with various rewards such as discounts, points, etc.
- **Enhance Cycling and Pedestrian Infrastructure**
 - Evaluate opportunities to improve existing infrastructure to better promote active transportation, such as improving and expanding dedicated cycling paths, ensuring walkways are well-maintained and well-lit, providing sufficient bike parking and bike storage facilities, and creating car-free zones for specific areas or time periods to reduce traffic congestion and improve safety.
- **Analyze Transportation and Mobility Needs**
 - Complete analysis on existing and planned modes of mass and micro-mobility transit – understanding existing conditions, ridership, etc. Engage stakeholders to understand use and needs for enhancement.
- **Develop Mobility & Transportation Plan**
 - As a part of ongoing strategic planning and/or transportation planning efforts, consider opportunities to develop a comprehensive strategy that addresses critical active and mass transportation needs.
 - Align this with planned growth for the campus. Ideas may include establishing new bus routes, enhancing active transportation infrastructure, expanding EV charging, and more. The strategies pursued should address issues uncovered in the transportation & mobility analysis.
- **Analyze Emissions Impacts of Telemedicine**
 - For current telehealth appointments, work with patient informatics team to analyze emissions impacts associated with telemedicine.
 - Suggestion to develop an assumption for distance typically travelled and mode of travel (i.e., vehicle) and quantify emissions reduction based on number of telemedicine appointments.

Note: Data-centric recommendations, such as calculation of baseline emissions and updates to data management processes, have been excluded to facilitate discussion around reduction strategies and to clarify U-M stakeholder priorities. If you'd like more detail, please let us know.

Scope 3 Emissions Draft Recommendations: Food Purchasing

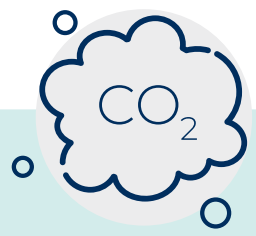
Food emissions generated throughout the lifecycle of food products and food services a university consumes.

Note: Food and Food Services emissions fall under the Purchased Goods and Services GHG Protocol category.

Why do food emissions matter?

- Food and land use drive **one-third of global greenhouse gas emissions**.
- Food service is highly visible to students, staff and faculty, creating opportunities to educate and shape behavior.
- U-M has **significant influence** over food selection and vendor engagements.
- Buying local helps **foster relationships in the community, while stimulating the local economy and supporting small businesses**.
- Sustainable food practices reduce pollution and environmental degradation, which **disproportionately affect marginalized communities**.

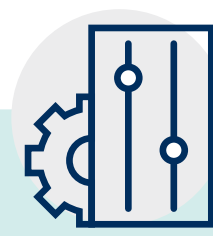
Category Prioritization Evaluation



Emissions Impact

Food purchasing is among U-M's top spend categories and among the most emissions intensive categories listed by the EPA. However, food likely accounts for a small portion of U-M's overall footprint.

Medium



Influence

U-M has **direct influence** over the type of food products procured through direct engagement with vendors, while also having control over menu development and catering options on campus.

High



Visibility

Food services provided in dining halls, concessions at athletic events and through patient services are highly visible—and providing alternatives signals U-M's priority to provide sustainable food options.

High



Recommendations

- **Adopt Best Practices from Ann Arbor:** Several sustainability initiatives already in progress at Ann Arbor campus can be adopted across facilities, such as:
 - Avoid purchasing of single-use products
 - Reduce purchasing of meat and dairy
 - Supporting local, minority, and women-owned businesses (MWBE)
 - Supporting diversified farming systems
- Document successes and potential roadblocks of ongoing initiatives and share with other academic campuses, athletics, healthcare, and Ross Business School so best practices can be adopted across the U-M ecosystem.
- **Healthcare - Expand Ongoing Process Improvement Initiatives:** The healthcare team should build on existing opportunities to reduce emissions and food waste as a part of ongoing process improvement initiatives. Example strategies include:
 - Evaluate data tracking mechanisms to quantify food waste and associated spend, and develop targets around this data
 - Continue to find opportunities to reduce emissions associated with meals and service ware for PFANS and in healthcare retail spaces (i.e., reduce meat and dairy options, reduce single use items, etc.)
 - Discuss sustainability objectives with primary vendors to collaboratively achieve targets
 - Launch Sustainability Committee to expand on existing initiatives and identify new process improvement areas
- **Set Goals**
 - Academics: Expand food goals & reporting:** Current goal of purchasing 20% of food from local and sustainable sources near completion by 2025 (at 19% as of 2024).
 - Revisit how ambitious Ann Arbor can be in goal setting (i.e., increase %)
 - Extend sustainable food goals to Dearborn and Flint campuses, U-M Athletics, and Ross School of Business
 - Expand food goals and transparently report progress on food-related fields (i.e., food waste reduction goal, elimination of single use items, etc.)
 - Healthcare: Set goals for food services:** Once data management process is established and there is clarity on where process improvements can be made, consider setting food goals related to waste reduction, elimination of single-use items, and reductions in emissions from food products. Start with the most actionable areas of food service.
- **Expand Partnerships with Academic Programs**
 - Using best practices from Ann Arbor such as departments to work with, initiatives to pilot, and academic organizations to align with, replicate academic partnerships across all campuses as possible.

Note: Data-centric recommendations, such as calculation of baseline emissions and updates to data management processes, have been excluded to facilitate discussion around reduction strategies and to clarify U-M stakeholder priorities. If you'd like more detail, please let us know.

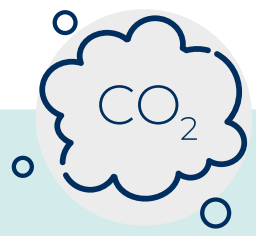
Scope 3 Emissions Draft Recommendations: Purchased Goods & Services

Purchased goods and services emissions are generated throughout the lifecycle of the products and services a university consumes.

Why do purchased goods & services emissions matter?

- For many universities, emissions from purchased goods and services can be substantial. According to this project's peer review, PG&S can account for up to 50% of Scope 3 emissions.
- Granular supplier data can show progress in reductions. **Many suppliers can provide emissions data**, making it easier to collect data and achieve reductions.
- Reducing emissions from purchased goods and services can also lead to **cost savings and improved operational efficiencies**.
- Supplier selection can enhance **economic opportunities for underrepresented and underserved supplier groups**.

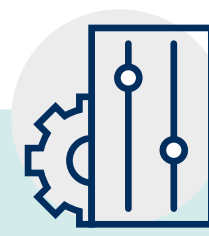
Category Prioritization Evaluation



Emissions Impact

Among peers, purchasing emissions represent up to 50% of Scope 3 footprint and 38% of total emissions (Scope 1, 2, 3).

High



Influence

U-M has direct influence over supplier selection and purchasing of goods, but has limited influence over purchasing by employees that is expensed or reimbursed.

Medium



Visibility

While sustainable purchasing policies are visible internally, progress towards reducing purchasing emissions may not be visible to the public.

Medium



Recommendations

- **Clarify Sustainable Purchasing Definition**
 - Currently within Marketsite+ the definition of a sustainable product is broad and up to interpretation. Align with definitions outlined in Sustainable Purchasing Guidelines.
- **Conduct Assessment of Suppliers through Supplier.io**
 - Utilizing Supplier.io, assess the current state of your vendors' diversity and sustainability initiatives such as publicly available ratings and certifications, GHG emissions, and science-based targets. Organize your current list of vendors by strong, light, or no sustainability action.
- **Conduct Supplier Survey**
 - Complete a supplier survey to validate findings from Supplier.io analysis and understand each supplier's capability to improve sustainable product offering.
 - Alternatively, go directly to supplier engagement.
- **Supplier Engagement**
 - For suppliers with "Strong" and "Light" sustainability action, meet with suppliers to understand product lines, available data, sustainability services and features (i.e. can they provide emissions associated with products?)
 - Identify areas of collaboration to reduce U-M's Scope 3 emissions.
- **Update Marketsite+ Catalogue**
 - As supplier engagement continues and partnerships deepen, investigate ways to display this information on Marketsite+ such as limiting selection to suppliers with sustainability initiatives, or defaulting to products from sustainable suppliers.
- **Provide Training & Engagement**
 - Create a training to clearly explain how purchasing choices impact an organization's carbon footprint, what sustainable options exist, and how to complete proper data entry. Start with internal purchasing team, expand to department procurement agents, establish sustainable procurement champions within department leadership.
- **Consider Academic and/or Healthcare Consortium**
 - Evaluate opportunities to partner with other universities and/or academic affiliated healthcare systems to leverage collective buying power & relationships with suppliers to push for more sustainable products, needed data, etc.
 - Healthcare should continue to participate in Practice Greenhealth.

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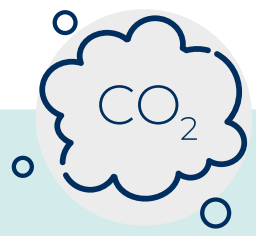
Scope 3 Emissions Draft Recommendations: University Travel

Travel includes the transportation of U-M community members for business-related activities (such as conferences and study abroad) in vehicles not owned by the university, such as airplanes, trains, buses, and cars.

Why do travel emissions matter?

- The transportation sector accounts for 20-25% of global CO₂ emissions, including emissions from cars, planes, and other vehicles.
- Long-distance travel accounts for less than 3% of trips, but is responsible for 60-70% of travel emissions, making it critical to identify opportunities for reducing trips and using more sustainable travel modes.
- Travel emissions contribute to air and noise pollution, which can lead to health concerns and heightened environmental justice issues.

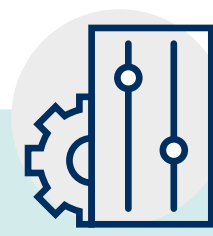
Category Prioritization Evaluation



Emissions Impact

Among peers, travel emissions represent up to 14% of Scope 3 footprint and 6% of total emissions (Scope 1, 2, 3).

High



Influence

U-M has some influence over emissions by encouraging more sustainable travel modes and virtual meetings, but is limited in its ability to control the carbon impact of travel fuels.

Medium



Visibility

While emissions from travel are not directly visible on campus, impacts from sustainable travel policies can have tangible impacts on campus community members across all U-M departments.

Medium



Recommendations

- **Engage Leadership on Collegiate Travel Planners (Travel Booking Platform) Policy**
 - Continue to engage U-M leadership to foster support for mandating use of CTP for all travel bookings.
 - Demonstrate need for CTP policy to collect and ensure quality of Scope 3 emissions data and for overall integrity of travel.
 - Reference U-M Athletics for input on how Anthony Travel mandate was implemented across Athletics Department.
- **Develop & Enable Sustainable Travel Guidelines**
 - Implement travel policies that prioritize sustainable options, such as road travel in place of short-haul flights, encouraging public transit and carpooling, and consolidating trips.
 - Consider also how sustainable options can be defaults within CTP (ex. Economy class for flights, fuel type/EV suggestion for rental car, etc.).
 - Train faculty and staff on updated policies and identify opportunities to incentivize employees to make sustainable travel choices. Ensure to connect with why these choices are preferred (emissions, environmental justice impacts, fiscal responsibility).
- **Conduct Trends Analysis on Travel Emissions**
 - Identify top contributing factors to total travel emissions across various metrics (by department, destination, transit mode).
 - Use results to inform discussions and recommendations, e.g. if a specific department accounts for significant portion of emissions, engage relevant stakeholders to understand where sustainable alternatives, such as virtual meetings or alternate travel modes, may be possible.
- **Engage Leadership on Sustainable Travel Impacts**
 - Use data from trend analysis to develop business case for prioritizing sustainable travel modes, such as demonstrating impact from sustainable aviation fuel partnerships on total emissions and potential cost savings from reducing need for carbon offsets.
- **Require Use of CTP (Booking Platform)**
 - With support from U-M leadership, incorporate practices learned from U-M Athletics to require academics faculty and staff to use CTP booking platform rather than Chrome River reimbursements.
 - Develop policy, trainings, and incentives to transition all travel bookings to CTP.
- **Partner with Sustainable Suppliers**
 - Build on existing efforts to support sustainable aviation fuel by continuing to work with airlines, hotels, and car rental companies with strong environmental policies and practices.
 - Identify opportunities for further pilot projects and investment to help develop low-carbon travel solutions.
- **Explore Viability of Accounting for Campus Visitor Travel**
 - To address high-visibility and high-impact travel to U-M campus, consider expanding data collection to include emissions from visitor travel to campus for events, such as sports games, conferences, etc.
 - Consider both data to be collected or assumptions to be made in order to generate initial estimate.

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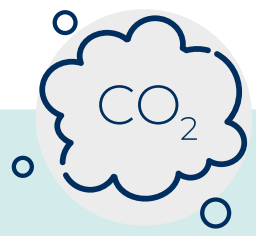
Scope 3 Emissions Draft Recommendations: Leased Assets

Leased assets encompasses emissions from the operation of assets that are leased by the university (such as real estate) and not already included in our Scope 1 or 2 inventories.

Why do leased assets emissions matter?

- Built environment is responsible for 42% of annual global CO₂ emissions, including operational and embodied emissions.
- Calculating emissions from leased assets helps organizations understand the **comprehensive environmental impact** of their real estate portfolio.
- Building materials have significant impact on health and wellbeing, pollution, and biodiversity, making them a critical product to address holistically for sustainability and environmental justice.

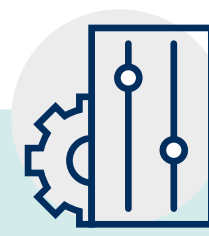
Category Prioritization Evaluation



Emissions Impact

Given that the majority of U-M's properties are owned facilities, emissions from leased assets are likely minimal, but need to be confirmed.

Low



Influence

U-M has some influence over emissions by encouraging the owners of leased properties to engage in sustainability initiatives, and U-M can select which buildings to lease based on sustainability features.

Medium



Visibility

While emissions from leased assets are not directly visible on campus, impacts from negotiating green leases can have tangible impacts U-M community members using these spaces.

Low



Recommendations

- **Continue and Expand Use of Direct Metering:** Extend usage of direct metering practices across leased assets as possible. These figures will give U-M actionable insights as to what energy conservation measures will be the most impactful per facility.
- **Develop Tenant Fit Out Guide:** Establish a clear fit out guide to uphold the University's sustainability commitments standardizing best practices in collaboration with AEC, Michigan Medicine and Office of Campus Sustainability. Example best practices include:
 - Defaulting to low-carbon options for furnishings (flooring, ceiling, walls)
 - Use of low-flow fixtures in bathrooms and kitchens
 - Use of energy-efficient equipment and fixtures (Energy Star, LED lighting, etc.)
 - Building energy management measures (occupancy sensors, shades, building automation system)
 - Requirements for construction and demolition waste diversion
- **Engage Property Management:** Engage lessors on potential to improve building energy efficiency and procure renewable energy. Request that landlord provide list of available programs they and/or local utility companies provide such as demand response, renewable energy purchases, etc.
- **Plan for Data Center Energy Needs:** Coordinate with U-M to meet energy needs of leased data centers and evaluate viability of procuring renewable energy in alignment with consumption, ensuring sufficient power supply as well as planning for operational redundancy
- **Share Operational Best Practices for Reducing Energy:** Share low-hanging fruit best practices to promote a culture of energy conservation amongst employees (ex. Turning the lights off, shutting down work-stations, drawing blinds, etc.)
- **Enhance RFP requirements:** Consider strengthening RFP requirements for leased spaces, requiring implementation of ECMs or certain energy performance, three stream waste diversion, use of non-toxic cleaning products, access to all energy data, in addition to confirmation of property being located along public transit lines. Reference LEED O&M credits to inform RFP requirements.

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