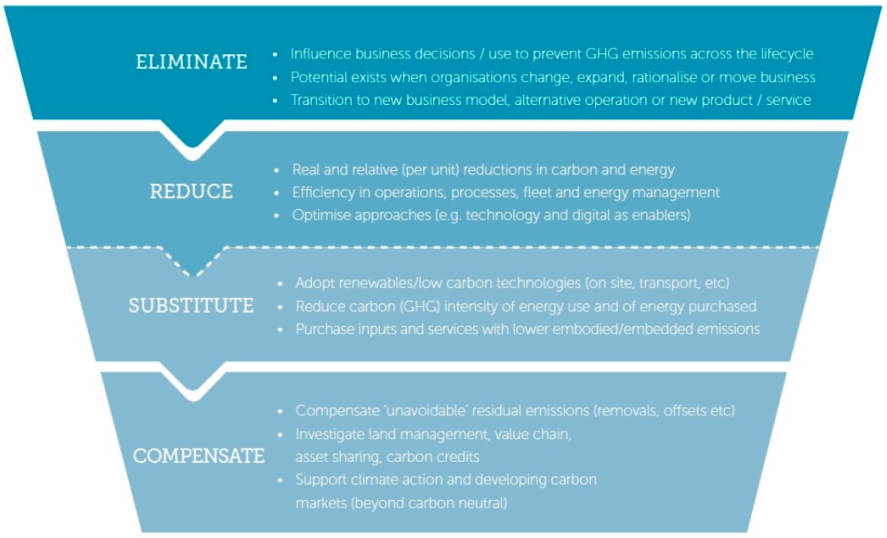
Recommendations for Reducing Greenhouse Gas Emissions[1]

Successful greenhouse gas management requires a comprehensive approach. The following figure shows that while reducing carbon emissions is paramount, it is also necessary to intensify action on all fronts to address the climate emergency truly. According to the hierarchy proposed by The Institute of Environmental Management and Assessment (IEMA), priority should be given to emissions removal, followed by carbon and energy reductions, and then to substitution measures, such as on-site renewable energy. Finally, having considered and implemented the above steps, offsetting is recommended.[2]



Updated from original IEMA GHG Management Hierarchy, first published in 2009

Air Quality

Air quality is a measure of how clean or polluted the air is. Emissions of air pollutants can cause climate change. Greenhouse gases trap heat in the atmosphere and warm the planet.

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[1] Please note that the following list contains recommendations only and does not constitute a formal GHG emissions reduction plan. A reduction plan should be specially adapted to your organization or company, should include the different GHG emission scopes, have medium and long-term objectives, be aligned with science, and, if possible, should be verified by a third party.

[2] For more information, please visit https://www.iema.net/resources

The main gases responsible for the greenhouse effect are carbon dioxide, methane, nitrous oxide, and fluorinated gases.

Recommendation	Guidance
Implement strategies to minimize the use of single-occupant vehicles.	
Provide information on alternative transportation (such as bus, train, bike-sharing, or personal mobility routes) to employees.	Public transportation information should be available electronically whenever possible to minimize printed/paper materials.
Encourage employees to use alternative modes of transportation, such as those with lower carbon intensity.	Options may include providing free bus passes, mass transportation options, or preferred parking for hybrid or alternative fuel vehicles.
Provide bicycle racks for employees and visitors.	
Use/operate with low-emission fleet vehicles.	Alternatives include biodiesel, hybrid, electric, compressed natural gas. Includes vehicles for city operations and maintenance.
Utilize a government-verified transportation program that addresses carbon emissions reduction.	
Establish a transportation reduction strategy and achievements.	
Perform periodic maintenance and inspections of all company vehicles.	Maintenance checklist and records of inspection.
Offer electric vehicle charging stations for employees and visitors.	

Water Management

Water management includes water quality and quantity management, as well as hydromorphology. Improved water management, including sanitation, is an essential component of successful climate mitigation and adaptation strategies.

Recommendation	Guidance
Have a water management plan to reduce consumption and increase efficiency.	

Encourage employees/guests to reduce water consumption by turning off water-consuming appliances with the help of clearly visible signs.	
Demonstrate achievement of water reduction targets.	Water consumption report for the reporting year and baseline year to demonstrate the reduction percentage.
Provide water quality and water use education programs to reduce water pollution and conserve water.	
Implement an integrated pest management (IPM) plan.	IPM combines the use of biological, cultural, and chemical practices to control insect pests. It discourages the usage of chemical pesticides by promoting the use of natural predators or parasites.
Select drought-tolerant or native plants to minimize water use in landscaping.	
Implement water-efficient landscape irrigation practices.	The irrigation system uses nonpotable water and/or efficiency attributes such as micro-irrigation systems (e.g., drip irrigation) or controls based on weather or moisture sensors.
Capture and reuse treated greywater.	
Track and measure water consumption.	
Set water targets and establish numerical targets and goals for reducing water consumption.	
Use water-efficient vehicle washing practices.	Practices may include automatic shut-off nozzles on water hoses or a car wash service with water conservation practices.
Use high-efficiency water facilities (toilets, urinals, sinks, showers) in rooms, back of the building, and public areas.	Water fixtures should meet the following criteria: 1) Toilets – low flush or dual flush model (1.28 gallon or 4.8 Liter flush); 2) Showerheads – Low flow model (2.0 gallons or 7.6 Liters per minute); 3) Taps – Low flow faucet and aerator (1.5 gallons or 2.7 Liters per minute).
Manage sub-meters to track water sub-systems such as cooling tower, irrigation, domestic hot water, kitchen, and laundry.	
Maintain publicly accessible drinking fountains and/or water bottle filling stations.	If water fountains are not available, water bubblers should be available at no charge.
Use environmentally preferable alternatives to de-icers and salts for snow and ice removal.	

Use eco-certified cleaning and laundry products.	Certifications could include: (i.e., Green Seal, Eco-Logo, Design for the Environment, or comparable). Laundry products may include: detergents, spot cleaners, fabric softener, and static removers.
Implement at least one of the following practices 1. green roofs, 2. beehives, 3. vertical gardens, 4. biophilic design.	

Waste Management

Waste prevention and recycling - together called waste reduction - help us better manage the solid waste we generate and are also powerful strategies for reducing greenhouse gases.

Recommendation	Guidance
Have a waste management plan to reduce waste, reuse, repurpose or donate materials and recycle.	
Maintain a recycling and/or composting program with clear instructions and guidelines for waste sorting in all areas.	Properties should have at a minimum clearly labeled recycling bins alongside regular waste bins. Properties may also process recycling at the back of buildings with balers or an off-site facility.
Properly dispose of all hazardous waste, including mercury-containing lamps, heavy metals, paints, sealants, coatings, adhesives, batteries, and biohazards.	
Recycle and/or donate electronic waste.	Including projector lamps properly as dictated by local laws and subject to availability of regional recycling centers. If recycled, the following electronic equipment must go to a registered company that can (1) certify it is not exporting electronic waste for dumping, (2) demonstrate third-party certification and comply with international laws prohibiting e-waste dumping, or comply with local policies. E-waste includes but is not limited to: computers, printer cartridges, cellular phones, peripherals, appliances, and cameras.

Measure waste and recycling on an annual basis.	Divert waste from landfills through waste minimization, recycling, composting, donations, or reuse. Waste to energy through incineration cannot be counted as diversion. Waste to energy through anaerobic digestion can be counted as diversion.
Establish objectives and numeric targets for increasing waste diversion.	
Conduct at least one waste audit every two years and set targets to reduce, reuse and recycle.	The audit may be performed by an internal team or a contracted third party. Opportunities for improvement may include increased recycling and other waste diversion methods, such as donation programs and improved purchasing practices.
Provide a composting program.	
Operate all copiers/printers in double-sided printing 'save toner' modes.	
Reduce paper usage for office and marketing purposes, and purchase sustainable office products.	Sustainably sourced products include a minimum of 30% of total purchased (by cost) in 12 months for office paper, contain at least 30% post-consumer recycled content, and consist of at least 50% Forest Stewardship Council (FSC)–certified paper products.
Provide hand dryers instead of or in addition to paper towels in bathrooms.	
Eliminate the use of all single-use water bottles.	
Demonstrate achievement of waste diversion goals.	

Energy Management

Energy production and consumption is the largest source of global GHG emissions. For this reason, the promotion and use of efficient energy consumption in the workplace are of great importance in a reduction plan.

Recommendation	Guidance
Have an energy management plan to reduce consumption and increase efficiency.	
Encourage the use of renewable energy.	
Use energy-efficient equipment and implement	Power management strategies may include

energy-efficient practices.	powering off unnecessary equipment and placing equipment in low-power mode.
Tracking and measuring energy consumption on an annual basis.	Measuring energy consumption monthly is the preferred method for identifying reduction opportunities.
Set energy goals and establish objectives and numeric targets for energy consumption reduction.	
Use LED technology for building interior and exterior.	
Encourage employees to reduce energy consumption by turning off lights and other energy-consuming devices aided by clearly visible signs.	
Monitor, optimize, and maintain significant building systems using a building automation system.	
Demonstrate achievement of workplace objectives.	It could include offices, warehouses, and manufacturing locations.
Provide monitors, projectors, and equipment with energy efficiency ratings, and reduce power consumption when not used.	
Measure annual energy consumption, set reduction targets, and achieve them.	Measuring energy consumption monthly is the preferred method for identifying reduction opportunities. If the food and beverage service provider operates within a venue or building and is not submetered, the energy report from the venue or facility may be provided.
Use office equipment with an energy efficiency rating.	
Perform energy audits and/or carry out a building commissioning.	
Maintain energy efficiency procedures for administrative and office areas.	Practices may include equipment power down at night, occupancy sensors, task lighting, etc.

Supply Chain Management

For companies, especially those in consumer-facing sectors, end-to-end supply chain emissions are far greater than the direct emissions from their operations. By implementing

supply chain management, companies can encourage emissions reductions in hard-to-eliminate sectors and accelerate climate action.

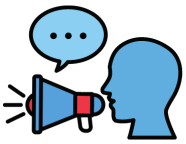
Recommendation	Guidance
Purchase environmentally preferable (and locally sourced) products and report purchases annually.	Such as office supply products, cleaning products, food, beverage, seafood, etc.
Conduct annual reviews of sustainable procurement criteria with staff and/or suppliers.	
Have a procurement policy that favors environmentally friendly, ethically and locally produced equipment, products, and services.	
Purchase electronic and housing equipment from environmentally friendly manufacturers.	
Reduce packaging to an appropriate minimum and optimize shipments.	Packaging to be limited to the minimum required to protect products and promote reuse.
Measure overall purchases, reporting the percentage of total purchases that are environmentally friendly.	
Request that the supplier(s) have a transportation reduction strategy.	
Request that suppliers purchase products from local and/or regional vendors.	
Choose suppliers with certification programs.	
Offer vegetarian or vegan entrée options in the restaurant/canteen.	

Organizational Management

Adaptation and mitigation actions related to environmental management consider the organizational context to cope with the complexity of environmental variables. The climate actions to be taken will depend on the type of organization and the size of its operations. To succeed in a GHG reduction plan, organizations need to have robust policies to help raise awareness among employees and staff, and assign responsibility and accountability mechanisms.

Recommendation	Guidance

There is a sustainability plan with annually reviewed objectives and targets.	The plan should detail the specific programs, projects, or initiatives the company manages to deliver its sustainability vision.
There is a staff member designated for implementing the organization's sustainability program.	
Provide staff training on sustainability policy and practices on an annual or more frequent basis.	
Provide new employees with sustainability goals and objectives.	Provides onboarding materials or job/role descriptions specifying sustainability goals and objectives.



Marketing & Communications

Recommendation	Guidance
Communicate ways that key stakeholders can support or add to the sustainability initiatives.	
Incorporate opportunities for feedback on sustainability aspects in its procedures.	

Climate Action

Recommendation	Guidance
Have a climate action plan to reduce emissions related to operations.	The plan may address energy management (reduce consumption and increase efficiency), mitigation through carbon offsetting, low-emission transportation, and low-carbon menu options.
Establish a staff travel policy that includes sustainability and carbon emission reduction criteria.	Strategies may involve reserving direct flights, encouraging public transportation, booking hotel rooms close to the venue, and offsetting carbon emissions.