Glossary

Acronyms and abbreviations

BIPOC	Black, Indigenous, and people of color
BWSR	Board of Soil and Water Resources
CH_4	methane
CO_2	carbon dioxide
CO_2-eq	carbon dioxide equivalent
CTS	clean transportation standard
DC	direct current
DEED	Department of Employment and Economic Development
DLI	Department of Labor and Industry
DNR	Department of Natural Resources
DPS	Department of Public Safety
EV	electric vehicle
EPA	Environmental Protection Agency
EVINA	Electric Vehicle Infrastructure Needs Assessment
FEMA	Federal Emergency Management Agency
GCAM	Global Change Analysis Model
GHG	greenhouse gas
IPCC	Intergovernmental Panel on Climate Change
IRRR	Iron Range Resources and Rehabilitation (Department of)
LDV	light-duty vehicle
LiDAR	Light Detection and Ranging
LULUCF	land use, land-use change, and forestry
HDV	heavy-duty vehicle
MDA	Minnesota Department of Agriculture
MHFA	Minnesota Housing Finance Authority
MISO	Midwest Independent System Operator
MMB	Minnesota Management and Budget
$MMTCO_2$-eq	million metric tons of carbon dioxide equivalent
MN	Minnesota
MnCIFA	Minnesota Climate Innovation Finance Authority
MnDOT	Minnesota Department of Transportation
MPCA	Minnesota Pollution Control Agency
mpg	miles per gallon
N_2O	nitrous oxide
NREL	National Renewable Energy Laboratory
PUC	Public Utilities Commission
USDA	U.S. Department of Agriculture
VMT	vehicle miles traveled
ZET	zero-emission truck
ZEV	zero-emission vehicle

Glossary

accessibility

The intentional design of technology, policies, products, infrastructure, and services that increase one's ability to use, access, and obtain the respective item.

acidification (of manure)

The addition of an acid to a manure slurry to reduce the release of ammonia and **methane**.

active transportation

See **nonmotorized transportation**.

adaptation

Actions that help reduce vulnerability to the current or expected impacts of climate change like weather extremes and hazards, biodiversity loss, or food and water insecurity.

adaptation planning

The process a community uses to prioritize, prepare, and respond to **climate change** impacts through **adaptation** actions.

adaptive reuse

The process of changing the use of an existing building and making it more efficient through repair, alterations, and additions.

anaerobic digestion

A process through which bacteria break down organic matter, such as animal manure, in the absence of oxygen. Anaerobic digestion for biogas (a gaseous **biofuel**) production takes place in a sealed vessel called a reactor.

aquifer

A body of permeable rock which can contain or transmit groundwater.

beneficial electrification

The substitution of electricity for a **fossil fuel** that saves a consumer money over the long run compared with continued use of the fossil fuel, enables an electric utility to better manage the electric utility's electric **grid** network, or reduces negative environmental impacts of fuel use. [For statutory definition, see Minnesota Statutes 2023, section 216B.1691]

biochar

Stable, **carbon**-rich material produced by heating **biomass** in a low oxygen environment. Biochar may be added to soils to improve soil functions and to reduce **greenhouse gas** emissions from biomass and soils, and for **carbon sequestration**.

biodiversity

The enormous variety of life on Earth, including plants, bacteria, animals, and humans. It can more specifically refer to all the species in one region or ecosystem.

biofuel

A fuel produced from **biomass**. These include first-generation biofuels such as ethanol from corn sugars and biodiesel from soybean oil, second-generation biofuels from an array of source materials including lignocellulosic feedstocks and municipal solid waste, and any biofuels that may be developed in the future.

biomass

1. The mass of all living things. 2. **Renewable material** that comes from plants or animals. This organic material can be used as fuel to produce electricity or heat. Examples are wood, energy crops, and waste from forests, yards, or farms.

broadband

High-speed internet access that is always on and faster than traditional dial-up access. Broadband includes several high-speed transmission technologies such as: Digital Subscriber Line (DSL), cable modem, fiber, wireless, satellite, and broadband over power lines (BPL).

buffer

Vegetated land adjacent to a stream, river, lake or wetland. Buffers help filter out phosphorus, nitrogen, and sediment, and are an important conservation practice for helping keep water clean.

building sector

The building construction, operations, and maintenance industries.

carbon

1. A chemical element. Carbon is found in all living things. 2. Used when referring to the gas **carbon dioxide** in terms of the effect it has on the earth's **climate** in causing **climate change**.

carbon capture

Any of various methods of removing **carbon dioxide** (as from industrial emissions) to reduce its presence in the atmosphere.

carbon dioxide (CO_2)

A naturally occurring gas, CO_2 is also a by-product of burning **fossil fuels** (such as oil, gas and coal), of burning **biomass**, of land use changes, and of industrial processes (e.g., cement production). It is the principal **greenhouse gas** produced by human activities that affects the Earth's radiative balance.

carbon dioxide equivalent

A measure used to compare the emissions from different **greenhouse gases** based on their varying effectiveness at trapping heat in the atmosphere, by converting amounts of other gases to the equivalent amount of carbon dioxide with the heat-trapping potential.

carbon footprint

The amount of **greenhouse gases,** and specifically **carbon dioxide,** emitted by something (such as a person's activities or a product's manufacture and transport) during a given period.

carbon-free electricity

Electricity generation that either does not use **fossil fuels** or does not emit **carbon**. Examples include wind, solar, and nuclear.

carbon intensity

The quantity of **lifecycle greenhouse gas** emissions associated with a specific fuel.

carbon neutral

Balancing **greenhouse gas** emissions with carbon sequestration and storage. Also known as **net zero**.

carbon sequestration (biological)

The process by which atmospheric **carbon dioxide** is taken up by trees, grasses, and other plants through photosynthesis and stored as carbon in **biomass** (trunks, branches, foliage, and roots) and soils.

carbon sequestration (geological)

The process of storing captured **carbon dioxide** into deep underground geological formations for long-term isolation from the atmosphere. Long-term geological storage generally refers to retention over centuries or longer.

carbon storage

The containment of **carbon** for a period of time. Storage may occur biologically (e.g., forests, soils), geologically (e.g., underground formations), or through durable products (e.g., mineralized carbon in building materials, long-lived wood products).

carbon utilization

The use of captured **carbon dioxide** as an input to produce products such as fuels, chemicals, building materials, or other goods, potentially displacing emissions that would otherwise occur. Depending on the application, carbon utilization may result in short-term or long-term retention of **carbon**.

carshare

Short-term car rental that bundles all costs (fuel, insurance, parking, tolls, etc.) into a single rate calculated by the hour or minute.

circular economy

An approach that prioritizes reusing materials and keeping products in circulation for as long as possible

clean economy

An economy that is **low-carbon** and that produces goods and services with an environmental benefit.

clean energy

Energy generated from **renewable** or **carbon-free** sources, as well as energy saved through **energy efficiency** measures.

clean heat

Refers to the use of a broad spectrum of technologies that are highly efficient and produce low GHG emissions and air pollutants. It may include renewable technologies such as solar, geothermal, heat pumps, and combustion of some biofuels.

clean transportation standard

A policy to incentivize reducing **carbon intensity** from transportation fuels as compared to conventional petroleum fuels, such as gasoline and diesel.

clean transportation

Technologies aimed at **energy efficiency** in transportation systems, switching from **fossil fuels** to renewable and clean technologies, improvements in public transit and non-motorized transportation systems and infrastructure, and travel demand management to reduce the negative effects caused by conventional technologies. Examples include light rail, bus rapid transit vehicles and systems, multimodal transit hubs, and traffic signal prioritization and coordination systems.

climate

The typical weather conditions of a specific region over a given period, with a minimum period of 20-30 years.

climate-adaptive

The ability of a species, ecosystem, or human system to cope with or adjust to changing climatic conditions.

climate change

A change of **climate** attributed directly or indirectly to human activity that alters the composition of the global atmosphere and is in addition to natural climate variability observed over comparable time periods.

climate pollution

See **greenhouse gas**.

climate-smart

Aiming to increase **climate resiliency** and reduce **greenhouse gas** emissions.

community forest

The collection of trees and forests within communities including, but not limited to, street or boulevard trees, park trees, trees on private lands, and trees in natural spaces within a community. Typically, community forests are managed by a variety of stakeholders including local units of government, community groups, and private residents.

Complete Streets approach

The planning, scoping, design, implementation, operation, and maintenance of roads to reasonably address the safety and accessibility needs of users of all ages and abilities

conservation improvement activities

Rebates or other kinds of help that utilities provide to their customers to lower their energy bills.

conservation tillage

Farming practices that leave at least 30 percent of the soil surface covered by crop residue after planting to reduce erosion and improve soil and water quality.

continuous living cover

Agricultural systems that include year-round vegetative cover above ground and living roots below ground. Examples of CLC include agroforestry, perennial biomass, perennial forages and grazing lands, perennial grains, and systems of summer and winter annuals and cover crops managed to maximize soil coverage.

cooling center

An air-conditioned public or private space to temporarily deal with the adverse health effects of extreme heat.

cover crop

Crops planted to temporarily reduce wind and water erosion, enhance water availability, and supply living roots to the soil outside of the growing season when cropland is often not adequately protected.

critical facility

Facilities and **infrastructure** that are critical to the health and welfare of the population and that are especially at risk due to climate change or from the impacts of **extreme weather** events. These include, but are not limited to, police and fire stations, hospitals, waste-water treatment plants and other public utilities.

decarbonize

Lower the **greenhouse gas** emissions.

deconstruction

Taking apart or removing some building components for reuse and recycling.

demand response (in energy management)

Balancing the demand on power grids by incentivizing customers to shift electricity use to times when electricity is more plentiful

derecho

A widespread, high-strength windstorm that is associated with a band of rapidly moving showers or thunderstorms.

disadvantaged

In unfavorable circumstances, especially about financial or social opportunities.

discrimination

The practice of unfairly treating a person or group differently from other people or groups of people.

disparity

A group is systematically faring worse than another for reasons that are not due to the group's needs, eligibility or preference

dispatchable clean energy

Power sources that can be turned on, off, or have their output adjusted on demand to match the fluctuating needs of the electrical grid.

disproportionate effects/impacts

Situations of concern where **people of color, Indigenous** people, or **lower income communities** experience significantly worse health, environmental, or social impacts.

distributed energy resources

Utility or customer-sited resources on the distribution grid that can include combined heat and power, solar photovoltaic, wind, battery storage, thermal storage, and demand-response technologies.

distributed generation

The generation of electricity on site or close to where it is needed in small facilities designed to meet local needs.

drainage (agricultural)

Use of surface ditches, subsurface permeable pipes or both to remove standing or excess water from poorly drained lands.

electric power sector

Utilities providing electricity to Minnesota.

embodied carbon (of construction materials)

All the **carbon dioxide** emitted in producing a product, including the energy needed for the extraction of natural resources, manufacturing, transportation, and installation.

emerald ash borer

An invasive insect that has killed millions of ash trees throughout the eastern half of the U.S. and southeastern Canada. Native to eastern Russia, northern China, Japan, and Korea, emerald ash borer infests and kills both weak and healthy ash trees. All ash species native to North America are vulnerable to attack.

energy cost burden

The percentage of gross household income spent on residential energy costs.

energy efficiency

Using less energy to achieve the same outcome.

energy sector

Energy industries involved in the production and supply of energy related to heating, industrial processes, and electricity generation.

enteric fermentation

A digestive process that occurs in ruminant animals, such as cattle, sheep, and goats. Carbohydrates are broken down by microorganisms within the rumen and methane is produced as a byproduct. Approximately 90% of this methane is belched by the animal, while a small percentage is produced in the large intestine and passed as flatulence.

environmental justice

The fair treatment and meaningful involvement of all people regardless of race, color, culture, national origin, income, and educational levels with respect to the development, implementation, and enforcement of protective environmental laws, regulations, and policies.

environmental justice areas

Minnesota statute defines environmental justice areas as census tracts in which at least 40 percent of the population is “nonwhite”; at least 35 percent of households have income at or below 200 percent of the federal poverty level; at least 40 percent of the population over the age of five has limited proficiency in English; or which are located within Indian Country, which is defined as federally recognized reservations and other Indigenous lands. Census tracts need to meet only one of these criteria to be considered an environmental justice area.

equity

The proactive and ongoing reinforcement of actions that (re)distribute power to ensure access, opportunities, and outcomes for all to be successful. Equity addresses historically imbalanced systems, ensuring all people, particularly those with marginalized identities, have access to opportunities to develop to their fullest potential.

extreme heat

Weather that is much hotter and/or humid than typical for a place and time of year. In the United States, it’s the deadliest weather-related hazard and causes more deaths than flooding, tornadoes, and hurricanes combined.

extreme weather

Severe, unusual, or unseasonal atmospheric conditions that deviate significantly from normal weather patterns for a specific location and time. These events can include phenomena like hurricanes, floods, droughts, heat waves, and blizzards, and can cause significant damage to the environment and human communities.

fibers (construction materials)

Thread-like materials that are produced from plants or other natural processes, such as cellulose, jute, or hemp.

firm (energy)

Energy that is available on demand as needed

fossil fuel

Fuel formed in the earth from ancient plant or animal remains. These fuels are found in the Earth's crust and contain carbon and hydrogen, which can be burned for energy. Coal, oil, and natural gas are examples of fossil fuels.

frontline community

A community at risk from the most disruptive and immediate impacts of climate change, including extreme weather and climate pollution.

geothermal networked district energy

An energy system that uses shared water-filled pipes and heat pumps to transfer heat between buildings and other thermal energy-producing resources.

Gold Leaf Challenge (program)

A voluntary challenge for communities (of any type, including governments, neighborhoods, community-based organizations, etc.) that focuses on pathways for taking climate action. The program identifies high-priority, high-impact local climate actions under the categories of climate mitigation, planning, adaptation, and community connectedness for Minnesota's changing climate.

green

Contributing to preserving or restoring the environment.

green fuel

See **biofuel**.

green hydrogen

Hydrogen produced using only renewable energy sources like solar and wind power, through a process called electrolysis, which splits water into hydrogen and oxygen with zero lifecycle greenhouse gas emissions. *See* **low-emission hydrogen**.

green infrastructure

Ecological systems, both natural and engineered, that are managed primarily for **stormwater management**, reduction of heat stress, increased **biodiversity**, better air quality, cleaner water, and healthier soils.

green space

Usually publicly accessible areas with natural vegetation, parks, street trees, woodlands, forests and grasslands which often provide co- benefits with mitigating stormwater and reducing the impacts of extreme heat.

greenhouse gas (GHG)

Gases in the earth's atmosphere that trap heat produced both naturally and through human activity. Excess **greenhouse gas** emissions cause **climate change**. **Carbon dioxide** (CO_2) is the primary greenhouse gas emitted through human activities, such as burning **fossil fuels**. **Nitrous oxide** (N_2O) and **methane** (CH_4) are also potent greenhouse gases emitted through human activities. The Minnesota GHG Emissions Inventory accounts for the six GHGs originally covered by the Kyoto Protocol of the United Nations Framework Convention on Climate Change: CO_2, N_2O, CH_4, sulfur hexafluoride, and two types of compounds called hydrofluorocarbons and perfluorocarbons.

GreenStep (program)

A voluntary program that challenges Minnesota cities, Tribal Nations, and schools to achieve their sustainability and quality-of-life goals through technical assistance and recognition.

grid (electrical)

An interconnected network for electricity delivery from producers to consumers. *See* **transmission and distribution.**

grid-enhancing technologies (GETs)

Hardware or software that reduces congestion or enhances the flexibility of the transmission system by increasing the capacity of a high-voltage transmission line or rerouting electricity from overloaded to uncongested lines,

groundwater

The water beneath the land surface that fills the spaces in rock and sediment. It is replenished by precipitation. Groundwater supplies about 75 percent of Minnesota's drinking water and nearly 90 percent of the water used for agricultural irrigation.

habitat complex

A collection of adjacent or nearby parcels in public and private working lands ownership that provide habitat for a wide range of wildlife species. An example could include a state wildlife management area, a federal waterfowl production area, and a private pasture in proximity.

hazard

The potential occurrence of a natural or human event that may cause damages to health, property, **infrastructure**, and ecosystems.

hazard mitigation

Any sustained action taken to reduce or eliminate long-term risk from hazard events.

health disparities

Differences in health among population groups.

health equity

Health equity is a state where all persons, regardless of race, creed, income, sexual orientation, gender identity, age or ability have the opportunity to reach their full health potential without the limits of structural barriers.

health inequities

Health disparities based in inequitable, socially-determined circumstances (for example, American Indians have higher rates of diabetes due to the disruption of their way of life and replacement of traditional foods with unhealthy commodity foods). Because health inequities are socially-determined, change is possible.

heat island

An area that experiences higher temperatures than outlying areas because structures such as buildings and roads absorb and re-emit the sun's heat more than natural landscapes such as forests and water bodies. Also known as urban heat island. Rural areas of the state also experience heat islands.

hedgerow

A narrow line of closely spaced native trees, shrubs, grasses or groundcovers designed to buffer adjacent land uses and benefit native wildlife.

heritage tree preservation

A program to identify and give official recognition to trees that are very large, very old, or are an important part of an area's history or culture. Heritage trees may live on either public or private property.

inclusion

The act of creating environments in which any individual or group can be and feel welcomed, respected, supported, and valued to fully participate.

Indigenous

A broad term for people who have historical ties to societies that existed prior to colonial settlement. Indigenous people often have a special relation to and use of their ancestral land. Indigenous people exist across the world and often maintain distinct language, culture, beliefs, and social and political systems.

Indigenous knowledge

Indigenous knowledge refers to the understandings, skills and philosophies developed by societies with long histories of interaction with their natural surroundings.

inequality

Difference in size, degree, circumstances, etc.

inequity

Differences in outcomes that are systematic, avoidable and unjust.

infiltration

The movement of water into the ground from the surface.

infrastructure

The basic systems and services, such as transportation, water, and power supplies, that a society or organization uses to work effectively.

internal combustion engine

A device that generates mechanical power by burning fuel within the engine. Examples include gasoline engines and diesel engines.

invasive species

Species that are not native to Minnesota and cause economic or environmental harm or harm to human health.

land use pattern

The layout or arrangement of the human uses of land. It represents the economic and cultural activities (e.g., agricultural, residential, industrial, commercial, mining, and recreational uses) that are practiced in each place.

land use planning

The process of regulating the use of land by a central authority, such as a local government or planning commission. Usually, this is done to promote better social and environmental outcomes and a more efficient use of resources.

LiDAR

A remote sensing method that uses light in the form of a pulsed laser to measure variable distances to Earth. The technology can be used to identify localized food risk among many other applications. LiDAR is an abbreviation for Light Detection and Ranging.

life cycle (emissions)

An activity, project, or product's total **greenhouse gas** emissions associated with all stages of its lifespan.

long-duration storage

An energy storage system that is capable of delivering electricity for 10 or more hours in duration.

low-emission hydrogen

Hydrogen produced using processes that result in significantly lower lifecycle greenhouse gas emissions compared to conventional hydrogen production, including hydrogen produced via electrolysis using renewable or nuclear electricity and other emerging low-emission pathways. (Note hydrogen is often described using "color" labels to indicate production pathways, *see* **green hydrogen**; however, lifecycle emissions can vary, and this framework uses "low-emission hydrogen" to reflect performance rather than production labels.)

low-carbon

Causing or resulting in only a relatively small net release of **carbon dioxide** or other **greenhouse gas** into the atmosphere.

low income (communities, census tracts)

Communities that are made up of many households that meet one of several low-income definitions, including, but not limited to, <80% area median income and <200% federal poverty level.

marginalized

Descriptor for groups and communities which are discriminated against and excluded from mainstream social, economic, cultural, or political life based on a cultural identity or difference. Examples include, but are not limited to, race, religion, age, gender, or financial status.

methane (CH_4)

A powerful **greenhouse gas** produced by both natural processes and human activities. It is a primary component of natural gas. Human- influenced emission sources include landfills, oil and natural gas systems, agricultural activities, coal mining, combustion, wastewater treatment, and certain industrial processes.

mitigation (of climate change)

A human intervention to reduce emissions or enhance the removal of a **greenhouse gas** from the atmosphere (e.g., through **carbon sequestration** in plants)

multimodal (transportation, development)

Multimodal refers to anything that includes more than one type of transportation. Multimodal transportation and land use planning consider multiple transportation options, typically including walking, bicycling, public transit, and automobile, and accounts for land use factors (such as land use density and mix) that affect access to destinations.

natural and working lands

Farms, forests, wetlands, grasslands, and urban open space.

net-zero

1. Statewide **greenhouse gas** emissions equal to zero; or 2. when annual human-caused emissions of greenhouse gases to the atmosphere are balanced by removals over a specific period. *See also* **carbon neutral**.

net-zero buildings

A highly energy-efficient building that generates as much energy through renewable energy on site or locally as it consumes in its operation over the course of one year.

nitrification inhibitors

A compound added to a nitrogen-based fertilizer or manure to reduce losses of **nitrogen** to the environment while maximizing use by crops. By extending the time the active nitrogen component of the fertilizer remains in the soil, an inhibitor can increase the amount of the nitrogen that is eventually used by the plants and reduce the amount of fertilizer needed.

nitrogen

1. A chemical element. Nitrogen is found in all living things. 2. Used when referring to a group of chemically reactive forms of nitrogen, some of which form naturally, while some are produced through human activities. Excess reactive nitrogen pollution impacts water quality, air quality, **greenhouse gas** balance, ecosystems, and **biodiversity**.

nitrous oxide (N_2O)

A **greenhouse gas** emitted through agricultural activities such as application of nitrogen fertilizers or manure management, as well as through land use, transportation, and industrial activities.

no-till/strip till

A tillage system where soil disturbance is limited to narrow strips where seeds are planted. The rest of the field is left undisturbed, with no full-field tillage between the harvest (or termination) of one crop and the harvest (or termination) of the next crop in the rotation.

nonmotorized transportation

Human-powered transportation modes including walking and bicycling, and variants such as small-wheeled transport (skates, skateboards, push scooters, etc.) and wheelchair travel. These modes can provide recreation (they provide enjoyment), transportation (they provide access to goods and activities), or both. Also known as **active transportation**.

offset

A way to balance out greenhouse gas emissions by reducing or removing an equal amount of emissions somewhere else. For example, emissions can be offset by planting trees, restoring wetlands, or capturing pollution that would otherwise go into the atmosphere.

overburdened community

A community where multiple factors, including environmental and socio-economic stressors, act together to negatively affect **people of color**, **Indigenous** people, non-English-speaking communities, and **lower income communities**. Overburdened communities face overlapping harms and risks that reduce **resilience**, create negative health impacts, and reduce economic and political opportunities.

peaker plant

A power plant that operates during times of high energy demand.

peatlands

Wetland ecosystems in which waterlogged conditions prevent plant material from fully decomposing. Consequently, the production of organic matter exceeds its decomposition, which results in a net accumulation of peat. Peatlands are **carbon**-rich ecosystems that store and sequester more carbon than any other type of terrestrial ecosystem.

people of color

A broad reference to multiple **races** other than white.

perennial crops

Plants that last for more than two growing seasons, either dying back after each season or growing continuously.

pollinator

Bees, butterflies, flies, birds, hummingbirds, moths, and other species who transfer pollen grains to other plants by feeding of its pollen or nectar.

precision agriculture

Farming management that uses technology and data from multiple sources to improve crop yields and increase the cost-effectiveness of crop management strategies including fertilizer inputs, irrigation management, and pesticide application. These tools and strategies are generally applied to address variability between and within fields.

public infrastructure

The essential physical systems and structures such as roads, bridges, water systems, and power grids that support a community's functions, economy, and quality of life.

race

A social construct that artificially divides people into distinct groups based on characteristics such as physical appearance (particularly skin color), ancestral heritage, cultural affiliation, cultural history, ethnic classification, and the social, economic and political needs of a society at a given period.

redlining

Redlining refers to a banking practice that restricted loans for properties in racially mixed and predominantly Black neighborhoods, leading to lack of access to credit, reduced home ownership, and lower home values.

rehabilitation (of buildings)

See **retrofitting**.

remediation

The action of reversing or stopping environmental damage.

renewable energy

Energy collected from resources that are naturally replenished on a human timescale. Examples include wind, wood, solar, hydropower, and geothermal energy.

renewable materials

Products that can be replenished or regenerated after use.

resilience (to climate change)

The capacity of individuals, communities, businesses, buildings, infrastructure, services, or the natural environment to prevent, withstand, respond to, and recover from disruptive events and continue to perform despite persistent stresses imposed by **climate change**. Both **mitigation** and **adaptation** are necessary for long-term resilience.

resilient design standards

Specific criteria for the design or renovating of buildings, infrastructure, and landscapes within communities and regions to better withstand the impacts of **climate change**.

resilience hubs

Community buildings that provide essential services, information, resources and funding to those in need due to extreme weather, disaster, or other impacts from climate change. Resilience hubs are not 'one-size fits all.' They are flexible and scalable based on a community's specific priorities and needs.

reskilling

Learning a new skill to do a different job, or training people to do a different job.

retrofitting (of buildings)

The process of making an existing building more efficient and/or changing its use through repair, alterations, and additions while keeping large portions of the building structure, material and architectural character.

rewilding

Restoring ecosystems and reversing biodiversity declines by allowing wildlife and natural processes to reclaim areas no longer under human management.

rideshare

The act or practice of sharing automobile trips.

rolling (in active transportation)

Access via low-speed, wheeled devices ranging from wheelchairs to bikes and scooters that are either human- or battery-powered. Also known as micromobility.

shelterbelts

Linear plantings of multiple rows of trees or shrubs established for environmental purposes such as protecting farmsteads and livestock, reducing wind erosion, saving energy, and enhancing wildlife habitat.

sink

Any natural or artificial system, process, activity, or mechanism that can absorb more greenhouse gasses, aerosol, or a precursor of a greenhouse gas, than it releases. *See also* **carbon sequestration**.

soil organic carbon

A measurable component of soil organic matter that is a source of solid carbon and energy for the soil food web. It is a building block of soil productivity that contributes to higher water-holding capacity, better drainage, and better storage of nutrients.

sovereign

The authority of a political entity (such as a tribe, state, or nation) to govern itself.

split nitrogen fertilizer applications

To make two or more nitrogen fertilizer applications during the growing season rather than providing all the crop's nitrogen requirements with a single application before or while planting.

stormwater management

Stormwater runoff includes rain and snowmelt that flows over land or hard surfaces, such as paved streets, parking lots, and building rooftops, and does not soak into the ground. Management of stormwater runoff means intercepting and treating the runoff water.

sustainability

Creating and maintaining the conditions under which humans and nature can exist in productive harmony to support present and future generations.

telecommute

Work from home rather than a central office, using telecommunications (telephone, email, websites, video connections, etc.) to substitute for physical travel.

transmission and distribution (of electricity)

Different stages of carrying electricity over poles and wires from generators to a home or business. Electricity generated at power plants moves through a complex network of electricity substations, power lines, and distribution transformers before it reaches customers. Together, transmission and distribution lines make up the electrical **grid**.

transportation options

The quantity and quality of options available to an individual or group to reach desired goods, services, activities and destinations, considering their specific needs and abilities.

tree canopy

The layer of leaves, branches, and stems of trees that cover the ground when viewed from above.

Tribal consultation

Within the contexts of tribal-state relations in Minnesota, the term consultation tends to be used to refer to formal government-to- government interactions undertaken by duly authorized officials from tribes and the state.

Tribal Nation

A political and legal entity possessing inherent rights of self- government, having a government-to-government relationship with the U.S., and entitled to certain federal benefits, services, and protections through this relationship. Also known as Indian tribe.

under-resourced (communities, neighborhoods)

Geographic areas or populations with concentrated poverty, lack of investment, and limited access to essential services like quality education, healthcare, jobs, and infrastructure.

underserved communities

Communities that face barriers in accessing and using resources due to geographic location, racial background, sexual orientation, language, or other social factors. These communities have often been systematically denied a full opportunity to participate in aspects of economic, social, and civic life.

upskilling

Improving existing skills or learning additional skills to better perform a current job.

urban heat island

See **heat island**.

vehicle miles traveled (VMT)

The amount of travel for all vehicles in a geographic region over a given period, typically a one-year period. It is calculated as the sum of the number of miles traveled by each vehicle.

virtual power plant

The aggregation and management of electricity from distributed energy resources, such as rooftop solar panels and smart thermostats, to activate demand response measures to address electricity supply shortages.

vulnerability (of people)

The increased risk of harm faced by certain groups due to systemic inequities, such as discriminatory housing, unequal environmental protections, and exclusionary decision-making, which leave them disproportionately exposed to climate hazards.

vulnerability (of homes and infrastructure)

The susceptibility of homes, buildings, or infrastructure to damage from environmental hazards like storms, flooding, or extreme heat, often influenced by location, construction quality, and access to weatherization.

Weatherization Assistance Program

The U.S. Department of Energy program designed to reduce energy costs for income-eligible households (200% of the federal poverty level or below) by increasing the **energy efficiency** of their homes, while ensuring their health and safety.

zero-emission vehicle

A vehicle that produces no harmful tailpipe emissions during operation, including electric cars and hydrogen fuel cell vehicles.

zero waste

The conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health.