



Glossary – 100 terms on climate change and sustainable energy

Dear readers,

In today's world, understanding climate change and sustainable energy is more crucial than ever. As we navigate the complexities of these topics, it is essential to have a clear grasp of the terminology used in discussions, reports, and media coverage.

We present this comprehensive glossary featuring 100 key terms related to climate change and sustainable energy. Our primary goal is to provide journalists, the general public, public administration, and other interested parties with a valuable resource that clarifies these important concepts.

This glossary has been carefully crafted to ensure that each term is explained in a clear, concise, and easily understandable manner. We have underlined the terms that are most relevant to the Municipal Energy and Climate Action Plan (MECAP) and the National Energy and Climate Plan (NECP) offering you a focused look at the language we use in our work. Additionally, we have included a broader selection of terms to provide a more comprehensive understanding of the subject matter. In some cases, there is an official definition available in Albanian language. Wherever a definition is available in Albanian legislation, it is provided in the footnote.

We encourage you to explore this glossary and familiarize yourself with the language of climate change and sustainable energy. By doing so, you will be better equipped to engage in meaningful discussions, understand the latest developments, and make informed decisions in your professional and personal life.

At the end of the glossary, you will find a list of sources and links that we have referenced in compiling this resource. We invite you to delve deeper into these materials to expand your knowledge further.

We hope that this glossary serves as a valuable tool in your journey towards understanding and addressing the challenges of climate change and promoting sustainable energy solutions.

Happy reading!

SEMP Project Team

SEMP at a Glance

Improving energy efficiency (EE) and diversifying the energy mix to other renewable energy sources (RES) are key strategic objectives of the Albanian Government. The **Smart Energy Municipalities Project (SEMP)** supports Albanian municipalities to implement the national energy policy.

The focus of the project is on the development of an **energy management system** inspired by the European Energy Award in pilot municipalities and the **strengthening of institutional capacities** to implement the national energy policy and to better **plan and realize EE&RES infrastructure measures**.

SEMP is a project of the **Swiss State Secretariat for Economic Affairs (SECO)** implemented in partnership with the **Ministry of Infrastructure and Energy (MoIE)** and the **National Agency for Energy Efficiency (AEE)** acting as national Project Management Unit (PMU).

A

A project of the Swiss State Secretariat for Economic Affairs

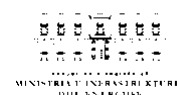


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Active Leak Detection: Taking a proactive approach to find and fix leaks in water and energy systems. This helps prevent wastage and makes systems more efficient.

Adaptation to climate change: Actions and strategies aimed at reducing the vulnerability and increasing the resilience of both natural and human systems in response to the impacts of climate change. Adaptation can take various forms, such as proactive measures taken in anticipation of change or reactive responses to actual changes. It can be carried out by individuals, communities, or public authorities. Some examples of adaptation include constructing higher river or coastal dikes, relocating from flood-prone coastal areas due to rising sea levels, or replacing traditional crops with varieties that are better suited to changing temperature and drought conditions.

Afforestation: Afforestation refers to the process of creating new forests by planting or seeding trees in areas that have long been without forest cover or have never been forested before.

B

Baseline Emissions: Baseline emissions are the greenhouse gas (GHG) emissions that are expected to happen in a given scenario or situation when no measures are taken to reduce them. They serve as a starting point for comparing and evaluating emission reduction efforts and strategies.

Baseline Scenarios: Baseline scenarios, also known as reference, benchmark, or non-intervention scenarios, represent a future projection of society and the environment without the implementation of new environmental and climate policies beyond those already planned or in progress. These scenarios assume that existing policies have little or no impact on the specific issues being analyzed. Baseline scenarios serve as a reference point for evaluating the potential effects and benefits of new environmental policies and interventions.

Bike Lane Development: Bike lane development refers to the establishment of designated pathways or lanes specifically intended for cyclists. These dedicated lanes aim to encourage the use of bicycles as a sustainable and healthy mode of transportation, reducing the dependence on motor vehicles.

Bioenergy: Bioenergy is the chemical energy stored within organic materials that can be converted into usable energy sources through various biological, mechanical, or thermochemical processes. This energy can be harnessed by methods such as the digestion of food, mechanical means, or through heat-based processes. Bioenergy offers a renewable and sustainable alternative to traditional energy sources, as it utilizes organic materials that can be replenished naturally.

Biomass¹: Biomass is organic material from plants and animals that can be used to produce biofuels. It serves as a renewable source of energy, reducing the need for fossil fuels.

Biofuel²: Biofuels are fuels that are derived directly or indirectly from biomass. They are produced from organic materials and serve as an alternative to conventional fuels. It's important to note that biofuels used for non-energy purposes, are not included in energy statistics. Those are wood for construction or furniture, biolubricants for engines, and biobitumen for road surfaces. Biofuels contribute to reducing reliance on fossil fuels and have lower greenhouse gas emissions compared to traditional fuels.

Boiler Change Program: A Boiler Change Program is an initiative aimed at replacing outdated and inefficient boilers in buildings with modern and energy-efficient models. The objective of such programs is to reduce energy consumption and emissions by promoting the use of more efficient heating systems. An energy-efficient boiler helps to enhance sustainability, lower energy costs, and contribute to

¹ **Biomass (ALB):** Biomass is the fractionation of products, waste and decomposable organic waste, obtained from the production activity, which includes plant and animal matter, forest and similar industrial matter, as well as the fractionation of decomposable industrial organic waste, decomposable waste organic rural and urban. (Law No. 9876, dated 14.2.2008 on the production, transport and trade of biofuel and other renewable fuels for transportation)

² **Biofuel (ALB):** "Biofuels" are fuels, in liquid or gaseous form, for transport, which are produced from biomass. (Law No. 9876, dated 14.2.2008 on the production, transport and trade of biofuel and other renewable fuels for transportation)



environmental protection. You can find out, whether those programs are available in your country via your municipality, utility companies or the Albanian Ministry of Infrastructure and Energy.

Biodiversity: Biodiversity, short for biological diversity, refers to the abundance, variety, and variability of living organisms, including humans, within a specific area. When biodiversity declines or is lost, it not only affects the natural environment but also undermines the economic and social objectives of human societies. This is because humans rely on natural resources for essential needs such as food, energy, raw materials, clean air, and clean water, which are crucial for sustaining life. The significance of conserving biodiversity, as well as the potential consequences of failing to do so, made it an international issue.

C

Citizens' Initiative: To enhance citizen participation in the democratic processes of the European Union (EU), Article 11 of the Treaty on European Union grants the right to a citizens' initiative. Article 24 of the Treaty on the Functioning of the European Union provides the framework for an EU regulation that establishes the practical conditions and procedures for the European citizens' initiative (ECI). The ECI enables citizens to request the European Commission to propose legislation on any issue within its jurisdiction. This initiative empowers citizens to directly influence the legislative agenda of the EU and promotes greater democratic engagement.

Climate Change: Climate change refers to long-term shifts in the Earth's climate system. It can be identified by changes in average weather patterns and variations that last for many years or even decades. Basics for identifying such patterns and variations are e.g. statistical tests. Climate change can occur due to natural processes or external factors, but it can also be caused by human activities. When we talk about man-made (anthropogenic) climate change, we are specifically referring to the increase in global temperatures caused by human activities, such as the release of greenhouse gases like carbon dioxide and methane into the atmosphere. These gases trap heat and contribute to the warming of the planet. The United Nations Framework Convention on Climate Change (UNFCCC) distinguishes between climate change caused by human activities and natural climate variability.

Covenant of Mayors: The Covenant of Mayors is an initiative backed by the European Commission that unites thousands of local governments in European countries and elsewhere committed to creating a more sustainable future for their communities. By joining this initiative, these local governments voluntarily pledge to implement the climate and energy objectives set by the European Union. Through their participation, they demonstrate their dedication to addressing climate change and promoting renewable energy, ultimately working towards a greener and more resilient society.

Compact Fluorescent Lamp (CFL): CFLs are energy-saving light bulbs that use less energy and last longer than traditional incandescent bulbs while providing the same amount of light. They are a more efficient and cost-effective option for lighting, helping to save energy and reduce electricity bills.

Circular Economy: A circular economy is a system that aims to maintain the value of products, materials, and resources for as long as possible, while minimizing waste generation. This is achieved through practices such as reusing, repairing, remanufacturing, and recycling products. The implementation of circular economy measures also supports other important EU priorities. Those are e.g. green recovery, climate change mitigation, energy conservation, biodiversity protection, and sustainable development.

Clean Energy Package: The adoption of the Clean Energy Package in 2019 marks a significant step towards transforming the European energy policy framework. Its primary goal is to facilitate the transition from fossil fuels to cleaner and more sustainable energy sources. Decision 2022/02/MC-EnC, adopted by the Energy Community Ministerial Council on 15 December 2022, sets the 2030 energy and climate targets. These targets are crucial for the Energy Community Contracting Parties to progress towards achieving climate neutrality by 2050 and reducing their dependence on fossil fuels in the near future.

For Albania, the targets until 2030 are as follows:

- Greenhouse gas emissions: A decrease of 53.2% below the levels recorded in 1990.
- Renewable energy: Achieving a 52.0% share of energy from renewable sources.



- Energy efficiency: Primary energy consumption should be 2.60 million tonnes of oil equivalent (Mtoe), and final energy consumption should be 2.40 Mtoe.

These targets reflect Albania's commitment to transitioning to a more sustainable and cleaner energy system.

Climate and Energy Targets: Climate and energy targets refer to the goals set by countries or municipalities in alignment with international objectives to reduce carbon dioxide (CO₂) emissions, increase energy efficiency, and promote the use of renewable energy sources (RES). By setting specific targets, governments and local authorities demonstrate their commitment to addressing climate change, promoting energy efficiency measures, and increasing the share of renewable energy in their energy mix. These targets play a crucial role in guiding policy decisions and driving actions to achieve global sustainability goals.

Climate Finance: Climate finance refers to the financial resources and tools used to support actions on climate change. It is essential because it provides the necessary funding to transition to a low-carbon economy and build resilience to climate impacts. Climate finance can come from various sources, such as public or private entities, and can be used for activities like reducing emissions, adapting to climate change, and building resilience. Multilateral funds like the Green Climate Fund (GCF), Global Environment Facility (GEF), and Adaptation Fund (AF) are available to countries for accessing climate finance. These funds provide financial support through grants, loans, and other mechanisms.

Co-finance: Co-finance is a funding arrangement where multiple entities contribute financially to a project, sharing the financial burden and reducing the costs for each participant.

Communication Strategy and Action Plan: A communication strategy and action plan is a strategic document that outlines how to effectively communicate energy and climate-related topics to different stakeholders. It includes objectives, channels, tools, and actions to engage and inform target audiences.

D

Decarbonization: Decarbonization involves reducing greenhouse gas emissions and increasing their absorption. It requires changes in various sectors of the economy, such as energy generation, how goods and services are produced and delivered, and how buildings are built and how lands are managed. To meet the goals of the Paris Agreement and keep the 1.5° target alive, governments and businesses must rapidly decarbonize by 2030. This involves investing in clean infrastructure, renewable energy, circular economy practices, and restoring land and soil. It also requires rethinking economic models focused solely on growth. Decarbonization is crucial for addressing climate change and creating a sustainable future.

Demand Side Management (DSM): Demand-side management (DSM) refers to strategies aimed at reducing peak electricity demand and optimizing energy consumption on the consumer side. Traditionally, it has been used to help utilities avoid the need for additional capacity by lowering overall electricity load during peak periods. However, DSM offers several additional advantages. By reducing strain on the electricity network, it helps prevent emergencies, minimize blackouts, and enhance system reliability. It can also reduce reliance on costly fuel imports, lower energy prices, and contribute to environmental sustainability by curbing harmful emissions. Moreover, DSM plays a crucial role in deferring substantial investments in generation, transmission, and distribution infrastructure. Overall, DSM brings notable economic, reliability, and environmental benefits when implemented in electricity systems.

Demand Side Management Promotion: Demand-side management promotion initiatives aim to encourage consumers and businesses to modify their energy use patterns, reducing both peak demand and overall energy consumption. This can involve measures such as incentives for energy-efficient appliances, time-of-use pricing, and promoting energy-saving practices. The goal is to empower individuals and organizations to make conscious choices that contribute to more sustainable and efficient energy usage.



E

Eco-Design: Eco-design is the inclusion of environmental aspects in the design and production of products that affect energy consumption in order to reduce the negative impact of the product to the environment during its entire life cycle. Eco-design aims to minimize the environmental footprint of products throughout their life span, from raw material extraction to disposal. The main objectives of eco-design are to reduce energy and resource consumption, minimize waste and pollution, and promote the use of environmentally friendly materials.

Eco-friendly: Eco-friendly refers to actions that minimize harm to the environment and prioritize sustainability. By adopting eco-friendly practices, individuals and organizations contribute to the preservation of biodiversity, the reduction of pollution, and the conservation of natural resources. Examples of eco-friendly actions include using renewable energy sources, practicing recycling and waste reduction, promoting sustainable transportation options, and choosing environmentally friendly products.

Eco-behavior Guidelines: Eco-behavior guidelines provide recommendations for eco-friendly practices in daily activities, promoting sustainability and energy conservation. They aim to raise awareness about the environmental impact of our actions and empower individuals to make informed choices that reduce their ecological footprint. By following eco-behavior guidelines, individuals and organizations can contribute to a more sustainable future by conserving resources, minimizing waste, and promoting environmentally friendly practices in their everyday lives.

European Energy Award (EEA): The European Energy Award (EEA) is a quality management and award system designed for municipalities and regions. It assists local authorities in adopting interdisciplinary planning approaches and implementing effective energy and climate policies. By participating in the EEA, municipalities and regions can enhance their energy and climate policies, improve resource efficiency, and contribute to a more sustainable future.

Efficient New Construction Tax Incentives: Efficient new construction tax incentives are financial incentives, such as property tax rebates, provided to encourage the development of buildings that meet higher than minimum required EE standards energy efficiency standards. These incentives aim to promote sustainable building practices, reduce energy consumption, and lower greenhouse gas emissions.

Energy Audit³: An energy audit is a systematic process that identifies, prioritizes, and reports opportunities for improving energy efficiency and reducing energy costs in buildings and facilities. This assessment includes evaluating how and where energy is used, as well as identifying opportunities for incorporating renewable energy sources (RES). Through inspections, diagnostics, data collection, analysis, and reporting, an energy audit provides valuable information on their energy usage and identifies opportunities for improving efficiency. The goal is to help make informed decisions and take actions to enhance energy efficiency and reduce energy consumption.

Energy Efficiency (EE) Retrofit: An energy efficiency retrofit involves upgrading existing buildings to improve energy performance and reduce consumption. This typically includes improvements such as insulation upgrades, HVAC system enhancements (Heating, Ventilation, and Air Conditioning), and appliance replacements. The goal is to make the building more energy-efficient, lower operating costs, and enhance occupant comfort.

³ **Energy Audit (ALB):** 'Energy audit' is the procedure followed to collect the necessary data for the existing energy consumption profile of a building or a group of buildings, an object and/or industrial installation, owned or managed by a legal entity, public or private, in order to identify and calculate energy costs and savings, report the results and highlight the measures to be taken to improve energy efficiency. (Law No. 124/2015 ON ENERGY EFFICIENCY (amended by law no. 5/2019, dated 7.2.2019))



Energy Management System: An energy management system (EnMS) is a framework for energy consumers, including industrial, commercial and public sector organizations, to manage their energy use. It helps companies identify opportunities to adopt and improve energy-saving technologies, including those that do not necessarily require high capital investment. In most cases, the successful implementation of an EnMS requires specialized expertise and staff training. According to the International Organization for Standardization (ISO), an energy management system involves developing and implementing an energy policy, setting achievable targets for energy use, and designing action plans to reach them and measure progress. This might include implementing new energy-efficient technologies, reducing energy waste or improving current processes to cut energy costs. Its objectives include resource conservation, climate protection, and cost savings, while ensuring continuous access to required energy. By implementing such a system, users can effectively manage energy resources, optimize usage, and achieve sustainability goals.

Energy performance of a building: The energy performance of a building measures its energy efficiency in terms of the energy required for lighting and heating. It provides insights into how effectively a building utilizes energy resources. Evaluating energy performance helps identify areas for improvement, implement energy-saving measures, and reduce operating costs. The aim is to achieve sustainable and efficient building operations, minimizing environmental impact.

Energy Performance Codes: Energy performance codes are regulations and standards that buildings must meet regarding their energy efficiency and consumption. These codes set requirements for aspects such as insulation, HVAC systems, lighting, and renewable energy integration. Their aim is to promote sustainable building practices, reduce energy consumption, and lower greenhouse gas emissions.

Energy Community: The Energy Community is an international organization that fosters the integration of the European Union (EU) and its neighboring countries into a unified pan-European energy market. Established by the Treaty signed in 2005 in Athens, Greece, the Energy Community aims to extend the rules and principles of the EU internal energy market to countries in Southeast Europe, the Black Sea region, and beyond. This legally binding framework promotes cooperation, harmonization, and the adoption of common energy policies to enhance energy security, sustainability, and economic development in the participating countries.

Energy Label:

Energy labeling classifies equipment that consumes energy based on its energy efficiency, on a scale of letters and colors: class A appliances (green) are those that consume the least energy (the most efficient from an energy point of view); Class G devices (red) are the ones that consume the most energy. Energy labeling has a triple function:

- to classify devices on a scale from A to G, depending on the amount of energy they consume,
- helps consumers save money by allowing them to choose products that consume less energy,
- encourages companies to design products that consume less energy.

Energy poverty: Energy poverty refers to a lack of adequate essential services, such as warmth, cooling, lighting. Energy poverty refers to a situation where people do not have access to basic energy services like heating, cooling, lighting, and power. It is often caused by low incomes, high energy costs, and inefficient buildings or appliances that consume a lot of energy. To address energy poverty, EU Member States are obligated to include measures in their national Long-term Renovation Strategies and National Energy and Climate Plans. These policies aim to alleviate energy poverty by improving energy efficiency, reducing energy costs, and ensuring access to essential energy services for all.

EEA-Management-Tool (EMT): The EEA Management Tool (EMT) is an online tool for participating municipalities to process and implement the catalogue of measures. It helps track the implementation of energy efficiency and sustainability initiatives. The EMT streamlines efforts and enables progress monitoring towards energy goals.

EnerCoach: EnerCoach is a cloud-based software used for energy accounting in public buildings and street lighting. It helps monitor and manage energy consumption, allowing for efficient energy management and cost savings.



Energy Services Companies (ESCOs): ESCOs, or Energy Services Companies, are contractors specializing in energy retrofitting. They finance retrofit costs by using the energy cost savings achieved through efficiency measures. ESCOs employ different methods to capture these savings from clients, enabling them to offer energy efficiency solutions without upfront costs.

Energy Performance Contracting (EPC): Energy Performance Contracting (EPC) is a contractual arrangement between a beneficiary and a provider of energy efficiency improvements (ESCO company). The EPC provider guarantees achieving the agreed-upon level of energy savings or related cost reductions and assumes the risks associated with implementing and operating the measures. The investments in energy efficiency measures are paid for based on the agreed-upon level of improvement or other performance criteria, such as financial savings.

Energy Supply Contracting (ESC): Energy Supply Contracting (ESC) is a contract for the efficient energy supply. It is measured and contracted based on the amount of energy delivered in megawatt-hours (MWh). ESC ensures a reliable and efficient energy supply for the recipient. ESC often includes the use of RES or at least less carbon intensive fuel (e.g. switching from coal or heavy fuel oil to natural gas)

F

Final Energy Consumption: Final Energy Consumption refers to the total energy used by end-users like households, industries, and agriculture. It represents the energy that reaches the consumer's door and excludes the energy used by the energy sector itself. It provides a measure of the energy directly consumed by end-users for various purposes.

G

Green Agenda for the Western Balkans: The Green Agenda for the Western Balkans is a growth strategy aimed at addressing climate change and promoting a green transition in the region. It helps Western Balkan countries align their environmental regulations with the European acquis. Based on the European Green Deal, the Green Agenda was endorsed during the Western Balkans Sofia Summit in 2020. The five pillars of the Green Agenda in the in the Western Balkans are: (1) climate action, including decarbonisation, energy and mobility, (2) circular economy, addressing in particular waste, recycling, sustainable production and efficient use of resources, (3) biodiversity, aiming to protect and restore the natural wealth of the region, (4) fighting pollution of air, water and soil and (5) sustainable food systems and rural areas.

Greenhouse gases: Greenhouse gases are a group of gases that contribute to global warming and climate change. The Kyoto Protocol, an environmental agreement, adopted by many of the parties to the United Nations Framework Convention on Climate Change (UNFCCC) in 1997 to curb global warming, aims to reduce global warming and covers seven greenhouse gases: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆), and nitrogen trifluoride (NF₃). Converting these to carbon dioxide equivalents allows for easier comparison and understanding of their individual and combined impact on global warming.

Green Deal: The Green Deal, introduced in 2019 by the European Commission, is a plan to make the European Union more sustainable and climate-friendly by 2050. It builds upon the Energy Union and aims to reduce emissions across all sectors by at least 55% by 2030. The Green Deal covers various areas and seeks to transform the EU into a modern, resource-efficient, and competitive economy. Its goals include achieving zero greenhouse gas emissions by 2050, promoting economic growth without using up too many resources, and ensuring that everyone benefits from these changes and that no person or place is left behind.

Green jobs: Green jobs are good jobs that help protect the environment and fight climate change. These jobs can be in industries that produce green products like renewable energy, or in processes that are environmentally friendly, such as recycling. Green jobs play a crucial role in creating a sustainable economy and addressing environmental challenges.



Green procurement: Green procurement is defined by the European Commission when public authorities choose to purchase goods, services, and works that have a smaller environmental impact throughout their life cycle compared to alternatives with the same purpose. It is a process that aims to prioritize environmentally friendly options when making procurement decisions. The goal is to reduce the overall environmental impact of government purchases and promote sustainability.

H

I

International financial institutions (IFIs): International financial institutions (IFIs) are organizations set up by multiple nations to provide financial assistance. They follow international laws instead of the laws of a specific country. Typically, IFIs are owned by the national governments of the countries involved in their establishment. These institutions play a crucial role in supporting global economic development and providing financial resources to countries in need.

Industry SME Energy Efficiency Support: Industry SME Energy Efficiency Support includes programs and resources for small and medium-sized businesses in the industrial sector. These aim to assist them in making energy efficiency improvements. The support can include guidance, funding, and technical assistance. By implementing these improvements, businesses can reduce energy consumption, save money, and contribute to environmental sustainability.

Inter-municipal Cooperation: Inter-municipal cooperation refers to collaborative efforts between neighboring municipalities. The aim is to share resources, knowledge, and strategies for energy efficiency and climate action. Through this cooperation, municipalities work together to address common challenges and achieve shared goals in areas such as reducing energy consumption and combating climate change.

Internal Communication Concept: An Internal Communication Concept is a strategy that organizations use to ensure effective communication within their teams. Its objective is to keep all members informed and engaged with energy and climate initiatives. This concept helps foster a sense of unity and collaboration, leading to successful implementation of energy and climate-related projects.

Investment Preparation: Investment Preparation involves various activities to get ready for significant infrastructure or technology investments. These activities include conducting feasibility studies, developing detailed engineering designs, and creating tender documents. These preparations, support organizations to make informed decisions and ensure a smooth implementation process for their investments.

IPCC: The IPCC, or Intergovernmental Panel on Climate Change, is a United Nations body that evaluates the scientific knowledge on climate change. It provides regular assessments on the scientific basis of climate change, its impacts, and potential measures for adaptation and mitigation. The IPCC was established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP). Its goal is to inform policymakers and the public about the risks and options related to climate change based on scientific evidence.

J

Just transition: In the context of climate change, transitioning to a low-carbon or net-zero economy requires significant changes in our economic systems. However, this transformation can potentially worsen social inequality, exclusion, and unrest, as well as harm businesses and markets. To address this, it is crucial that countries prioritize a just transition. This means ensuring that all communities, workers, and social groups are included in and benefit from the structural changes that occur. A just transition involves considering the impact of the transition on different groups of workers across the economy and providing training and reskilling opportunities to support decent work and avoid leaving no one behind.



K

L

LED (light-emitting diode): LED, or light-emitting diode, is a technology where the materials that produce light are enclosed within a solid material. This makes LED lamps last longer compared to lamps that use other technologies like incandescent or fluorescent. LED lighting is also more durable and less likely to fail due to shocks or vibrations.

Loss and damage: Loss and damage, in the context of climate change, refers to the impacts that occur despite efforts to mitigate and adapt to climate change. It recognizes that there are limits to adaptation and that certain climate change effects become unavoidable. Loss and damage can involve both economic and non-economic consequences. Economic loss and damage may include costs associated with rebuilding infrastructure damaged by climate-related events or the loss of land due to sea-level rise. Non-economic loss and damage encompasses intangible impacts, such as trauma from natural disasters, loss of life, displacement of communities, cultural and historical losses, and biodiversity decline.

LULUCF (Land Use, Land-Use Change and Forestry): LULUCF plays a role in reducing the accumulation of carbon dioxide (CO₂) in the atmosphere. This is because CO₂ can be stored as carbon in vegetation and soils in terrestrial ecosystems. Under the United Nations Framework Convention on Climate Change, any process that removes a greenhouse gas from the atmosphere is called a "sink." Human activities, particularly related to land use, land-use change, and forestry, affect these terrestrial sinks. As a result, there are changes in the exchange of CO₂ between the Earth's vegetation and the atmosphere, which impacts the carbon cycle.

M

MECAP (Municipal Energy and Climate Action Plan): The MECAP is a strategic document that guides municipalities in improving energy efficiency and reducing greenhouse gas emissions. It outlines specific actions and initiatives to achieve sustainability goals, including measures like energy conservation, renewable energy adoption, transportation improvements, and waste management. MECAPs play a crucial role in creating more sustainable and climate-resilient communities.

MEMU (Municipal Energy Management Unit), MEMU, or Municipal Energy Management Unit, is a body within a municipality that is responsible for implementing energy and climate measures and policies. It is responsible for the Energy Management System and coordinates the implementation of MECAP .

Mitigation: Climate change mitigation refers to actions taken by governments, businesses, or individuals to reduce greenhouse gas emissions or enhance carbon sinks. This can be done through renewable energy adoption, energy efficiency, sustainable agriculture, and changes in production and consumption patterns. Enhancing carbon sinks involves restoring ecosystems and maintaining soil health. Successful mitigation requires supportive environments with legislation, policies, and investments. To limit global warming to 1.5°C, mitigation actions must reduce emissions by 45% before 2030 and achieve net-zero emissions by midcentury, as outlined in the Paris Agreement.

Measurement, Reporting, and Verification (MRV): Measurement, Reporting, and Verification (MRV) is a process used to measure and report the amount of greenhouse gas (GHG) emissions reduced through specific mitigation activities, such as addressing deforestation and forest degradation. This involves tracking emissions over a period of time and reporting the findings to an accredited third party. The third party then verifies the report, certifying the results, and enabling the issuance of carbon credits. MRV ensures transparency and accountability in emissions reduction efforts.

Municipal Energy Day: Municipal Energy Day is a community event organized by the municipality to promote awareness about energy efficiency, renewable energy, and climate action. It serves as a platform to engage the community and stakeholders in discussions, workshops, and activities related to sustainable energy practices. The event aims to inspire and empower individuals to take action towards a more sustainable and resilient future.



N

Nature Based Solutions: Nature-based solutions are approaches that tackle societal challenges by protecting, managing, and restoring ecosystems in a sustainable manner. These solutions benefit both people and nature by addressing issues such as climate change, disaster risk reduction, food and water security, biodiversity loss, and human health. Nature-based solutions play a crucial role in achieving sustainable development goals and ensuring a harmonious relationship between human activities and the natural environment.

NDC or Nationally Determined Contribution: NDC, or Nationally Determined Contribution, is a climate action plan established by each country to reduce greenhouse gas emissions and adapt to climate impacts. Required under the Paris Agreement, countries must update their NDCs every five years, outlining their targets, policies, and measures to combat climate change.

National Energy and Climate Plan (NECP): The NECP is a strategic document that outlines how European Union (EU) countries plan to achieve the energy and climate targets set for 2030. These plans were introduced as part of the *Clean Energy for All Europeans* package and cover areas such as energy efficiency, renewable energy, greenhouse gas emissions reduction, interconnections, and research and innovation. NECPs require coordination across government departments and provide a framework for public and private investments in line with the EU's energy and climate objectives.

Nearly Zero-Energy Building (NZEB): A Nearly Zero-Energy Building (NZEB) is a building that demonstrates exceptional energy performance, as defined in Annex I. It requires a minimal amount of energy, which is primarily sourced from renewable sources, including on-site or nearby renewable energy generation. This definition is outlined in Directive 2010/31/EU, emphasizing the importance of energy efficiency and renewable energy in the construction and operation of buildings.

Non-Motorized Transport Promotion: Non-motorized transport promotion encourages walking, cycling, and other human-powered modes of transportation as sustainable alternatives to motorized vehicles. It involves creating infrastructure, policies, and awareness campaigns to make non-motorized transport safer and more accessible. These efforts reduce congestion, improve air quality, and promote healthier lifestyles.

Non-motorized transport: Non-motorized transport encompasses various human-powered modes of transportation, including walking, cycling, and small-wheeled vehicles like bicycles, skateboards, push scooters, wheelchairs, and rickshaws. This entry primarily focuses on the two main non-motorized modes: walking and cycling for transportation purposes. These active modes of transport promote physical activity, reduce traffic congestion, and contribute to sustainable and healthy urban mobility.

O

P

Park and Ride: Park and Ride refers to public transport stations where commuters can park their personal vehicles and switch to buses, trains, or carpooling for the remainder of their journey into city centers. The vehicles are kept in the parking lot during the day and retrieved when the commuter returns. These facilities are typically located in suburban or outer areas of large cities, providing a convenient and sustainable transportation option that reduces congestion and encourages the use of public transport.

Paris Agreement: The Paris Agreement is a global climate agreement adopted by 196 parties at the Paris climate conference in December 2015. It is the first legally binding agreement of its kind and aims to prevent dangerous climate change by limiting global warming to below 2 °C, with a goal of 1.5 °C. The agreement also focuses on enhancing countries' ability to address the impacts of climate change and providing support for their efforts. It became effective on November 4, 2016.

Primary Energy: Primary energy refers to the energy contained in natural resources such as coal, crude oil, sunlight, and uranium, which has not undergone any human-induced conversion or transformation.



Primary Energy Consumption (PEC): Primary Energy Consumption (PEC) refers to the energy that is directly available in its source before undergoing any conversion. This includes various energy sources such as hard coal, lignite, crude oil, natural gas, as well as renewable sources like solar energy, wind power, hydropower, geothermal energy, and tidal energy.

Prosumer: A prosumer is an individual or entity that acts as both a producer and consumer of energy. Prosumers play a crucial role in the energy transition by actively reducing their energy consumption and generating renewable energy.

Public Lighting Modernization: Public Lighting Modernization refers to initiatives that focus on improving the energy efficiency of public lighting systems, such as street and public space lighting. These initiatives aim to upgrade and optimize the lighting infrastructure to reduce energy consumption, enhance lighting quality, and minimize environmental impact.

Public Transport Electrification: Public Transport Electrification refers to the process of replacing conventional fossil fuel-powered public transport vehicles with electric or hybrid models. This transition aims to reduce emissions and enhance air quality by utilizing cleaner and more sustainable energy sources for public transportation.

Q

R

Recycling: Recycling is a process where waste materials are transformed into new products, materials, or substances. This includes reprocessing organic materials. However, recycling does not involve energy recovery or the reprocessing of materials into fuels or for backfilling operations.

Reforestation: Reforestation refers to the process of planting trees in areas where forests were previously lost. This could be due to various reasons such as wildfires, drought, disease, or human activities like clearing land for agriculture. The aim of reforestation is to restore tree cover and promote the growth of new forests.

Renewable energy sources, also called renewables: Renewable energy sources, also known as renewables, are energy sources that naturally replenish or renew themselves. Examples include solar energy, wind power, and biomass. These sources provide sustainable and clean alternatives to conventional forms of energy.

Renovation Concept: A renovation concept is a plan designed to upgrade and improve buildings in terms of energy efficiency, comfort, and sustainability. It involves refurbishing and making necessary changes to enhance the overall performance of the building. The objective is to reduce energy consumption, increase comfort levels, and promote sustainability.

Resilient cities: Resilient cities are cities that can withstand, recover from, and prepare for future shocks, such as economic, environmental, social, and institutional challenges. Resilient cities prioritize sustainable development, well-being, and inclusive growth. There are four key areas that contribute to the resilience of cities: economy, governance, society, and environment. By focusing on these aspects, resilient cities can better adapt, thrive, and ensure the long-term prosperity of their communities.

PV Incentivization: Rooftop PV incentivization refers to policies and programs aimed at encouraging the installation of solar photovoltaic (PV) systems on rooftops. These initiatives provide financial incentives or regulatory support to make rooftop solar more attractive and accessible for individuals and businesses.

Refuse Derived Fuel (RDF): Refuse Derived Fuel (RDF) is a renewable energy source produced from combustible components found in Municipal Solid Waste (MSW). This waste, obtained from industrial or commercial sites, undergoes shredding, drying, and baling before being burned to generate electricity. RDF offers an environmentally friendly alternative to landfill disposal by utilizing waste for energy production. It can also be used as a fuel in cement kilns, replacing conventional fossil fuels like coal, after meeting specific requirements. RDF can be further classified into TDF (Tyre Derived Fuels), SRF (Solid Recovered Fuels), and AF (Alternative Fuels).



S

Scenario: Scenario refers to a simplified description of how the future might unfold, based on a set of assumptions about driving forces and key relationships. These assumptions are internally consistent and coherent. Scenarios can be derived from projections and may include additional information from other sources. They are often accompanied by a narrative storyline. Climate scenarios and emissions scenarios are specific types of scenarios related to climate change.

Share of renewable energy in energy consumption: The share of renewable energy in energy consumption refers to the proportion of energy derived from renewable sources in the total energy used in the final stages of consumption. It indicates the percentage of energy consumption that comes from renewable sources.

Smart Metering: Smart metering refers to advanced metering technologies that offer detailed, real-time information about energy consumption. These meters enable better energy management and billing by providing accurate and timely data on energy usage. Smart metering allows consumers and utility providers to monitor and optimize energy consumptions.

Solar PV (Photovoltaic) System: A solar PV (Photovoltaic) system is a power system that harnesses sunlight using photovoltaic cells to directly convert it into usable electricity. These systems are designed to generate solar power by capturing the energy from the sun. By utilizing photovoltaic cells, solar PV systems provide a renewable and sustainable source of electricity.

Spatial Energy Planning: Spatial energy planning involves integrating energy considerations into spatial planning. It focuses on the distribution and optimization of energy resources. A spatial heating/cooling plan is a strategic document that outlines how a municipality manages heating and cooling needs within its area. The plan emphasizes energy efficiency and the integration of renewable energy sources to meet heating and cooling requirements.

Sustainable Urban Mobility: Sustainable urban mobility promotes environmentally-friendly transportation and sustainable urban development. It focuses on using transportation methods that have minimal environmental impact and planning cities with sustainability goals in mind.

Sustainable Urban Mobility Plan (SUMP): A Sustainable Urban Mobility Plan (SUMP) is a strategic plan aimed at meeting the mobility needs of residents and businesses in cities and their surrounding areas. Its purpose is to improve the quality of life by creating a sustainable transportation system. A SUMP builds upon existing planning practices and incorporates principles of integration, participation, and evaluation to ensure effective implementation.

Sustainable development: Sustainable development refers to a form of economic growth and social progress that can be sustained over time, benefiting not only the current generation but also future generations. It involves balancing economic development with environmental protection and social justice. The goal is to meet present needs without compromising the ability of future generations to meet their own needs.

Sustainable Energy and Climate Action Plan (SECAP): A Sustainable Energy and Climate Action Plan (SECAP) is a strategic document prepared and implemented by signatories of the Covenant of Mayors for Climate and Energy. The SECAP addresses both climate mitigation and adaptation with a 2030 timeframe. It outlines how the signatory will achieve their vision and targets.

T

Tonne(s) of oil equivalent (toe): A tonne of oil equivalent (toe) is a standard unit used to measure energy. It represents the amount of energy that can be obtained from approximately one tonne of crude oil. It is assigned a net calorific value of 41,868 kilojoules per kilogram. The toe unit enables the comparison of energy from different sources, allowing for a standardized measurement of energy across various sectors.



United Nations Framework Convention on Climate Change (UNFCCC): The United Nations Framework Convention on Climate Change (UNFCCC) is an international agreement adopted in 1992. It was signed by over 150 countries and the European Community at the Earth Summit in Rio de Janeiro. The main goal of the convention is to stabilize greenhouse gas concentrations in the atmosphere to prevent harmful interference with the climate system. All participating countries have commitments under the convention. Parties listed in Annex I aim to reduce their greenhouse gas emissions to 1990 levels by 2000. The UNFCCC came into force in March 1994. It is also linked to the Kyoto Protocol.

V

W

Waste (non-renewable): Non-renewable waste refers to materials that come from various sources such as industries, institutions, hospitals, and households. These materials can be in solid or liquid form and include items like rubber, plastics, waste fossil oils, and similar types of waste. Unlike renewable waste, non-renewable waste cannot be naturally replenished or regenerated.

Waste Collection Route Optimization: Waste collection route optimization involves planning waste collection routes. The goal is to find the most efficient routes for waste collection vehicles to minimize travel distance and time, leading to cost savings and environmental benefits. By optimizing waste collection routes, the overall efficiency of waste management operations can be improved, resulting in reduced fuel usage and lower greenhouse gas emissions.

Waste Management Plan: A Waste Management Plan is a comprehensive strategy that addresses various aspects of waste management, such as collection, sorting, recycling, and composting. The goal of the plan is to minimize waste and promote a circular economy, where resources are reused and recycled rather than discarded.

Water-efficient Fixtures: Water-efficient fixtures are specially designed devices that help reduce water consumption. Examples include low-flow faucets and toilets. These fixtures promote water conservation by using less water without compromising functionality.

Wood Pellets Production: Wood pellet production refers to the process of manufacturing sustainable fuel sources from compacted sawdust or other biomass materials. These fuel sources, known as wood pellets, are used in heating systems. The production process involves compressing the biomass material to form small pellets, which can be efficiently burned for heat generation.

X

Y

Z

Zero Waste: Zero Waste refers to the approach of designing and managing products and processes in a way that minimizes waste and maximizes resource conservation. The goal is to divert 90 percent or more of an organization's waste from landfills or incinerators. By successfully achieving a Zero Waste goal, harmful discharges to land, water, or air, which can pose threats to the environment and health, are eliminated by at least 90 percent. This approach aims to protect the planet and all living beings by minimizing waste generation and promoting resource recovery.



Sources (State: May 2024)

Below, you will find a list of links that were used as sources in compiling the definitions for this glossary. These resources have been carefully selected to ensure the accuracy and reliability of the information provided. We acknowledge the valuable contributions of these sources and encourage readers to explore them further for a more in-depth understanding of climate change and sustainable energy concepts.

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