Postgraduate Certificate in Climate Risk Analysis

Climate Policy And Governance

Adaptation – process of adjusting systems, communities, or economies to reduce vulnerability to climate impacts. Related terms: Adaptive capacity, resilience, mitigation. Example: coastal cities elevating infrastructure to cope with sea-level rise. Practical application includes integrating climate projections into urban planning. Challenges involve financing, data uncertainty, and ensuring equitable outcomes.

Adaptive Capacity – the ability of a system to adjust to climate change, moderate potential damages, and exploit opportunities. Related terms: Vulnerability, resilience, adaptive management. Example: farmers diversifying crops to cope with variable rainfall. In policy, it informs capacity-building programs. Challenges include measuring capacity across sectors and addressing social inequities.

Agenda 2030 – United Nations framework of 17 Sustainable Development Goals (SDGs) adopted in 2015, guiding global development through 2030. Related terms: SDGs, UN Sustainable Development Goals, Paris Agreement. Climate-related goals (e.g., SDG 13) intersect with mitigation and adaptation policies. Implementation challenges stem from fragmented governance and financing gaps.

Anthropogenic Emissions – greenhouse gas releases resulting directly from human activities such as fossil-fuel combustion, deforestation, and industrial processes. Related terms: GHG inventory, carbon budget, mitigation. Policy instruments like carbon pricing target these emissions. Challenges include accurate accounting, leakage, and political resistance.

AR5 (IPCC Fifth Assessment Report) – 2013–2014 comprehensive synthesis of climate science, impacts, and mitigation pathways. Related terms: IPCC, AR6, climate scenarios. It underpins many national climate strategies. Limitations involve data lag and uncertainties in regional projections.

AR6 (IPCC Sixth Assessment Report) – 2021–2022 update providing the latest scientific understanding of climate change, impacts, and mitigation pathways. Related terms: IPCC, AR5, climate pathways. Influences policy revisions, especially NDC ambition. Challenges include translating complex findings into actionable policy.

Baseline Scenario – a reference projection of future emissions, land use, or climate conditions without additional policy interventions. Related terms: Business-as-usual, counterfactual, scenario analysis. Used to assess the incremental impact of climate policies. Uncertainty in assumptions can affect policy credibility.

Bioenergy – energy derived from organic material (biomass, biofuels, biogas). Related terms: Renewable energy, carbon neutrality, land-use change. Policies like renewable portfolio standards promote bioenergy. Challenges involve competition with food production, indirect emissions, and sustainability certification.

Carbon Accounting – systematic measurement, reporting, and verification of greenhouse gas emissions and removals. Related terms: GHG inventory, carbon footprint, MRV (measurement-reporting-verification). Essential for NDC reporting and corporate climate targets. Difficulties include data quality, scope boundaries, and methodological consistency.

Carbon Budget – the cumulative amount of CO_2 that can be emitted while limiting global warming to a specific temperature threshold (e.g., 1.5 °C). Related terms: Emissions pathways, Paris Agreement, mitigation. Guides national emission reduction targets. Allocation among countries raises equity and fairness debates.

Carbon Capture and Storage (CCS) – technologies that capture CO_2 from point sources or the atmosphere and store it underground. Related terms: Carbon capture utilization and storage (CCUS), mitigation, negative emissions. Policy incentives include tax credits and subsidies. Barriers involve high costs, public acceptance, and long-term storage assurance.

Carbon Credit – a tradable permit representing the right to emit one tonne of CO_2 or equivalent greenhouse gas. Related terms: Offsetting, emissions trading, carbon market. Used in voluntary and compliance markets. Challenges include additionality verification, double counting, and market volatility.

Carbon Pricing – economic approach that assigns a cost to carbon emissions, usually via taxes or cap-and-trade systems. Related terms: Carbon tax, emissions trading scheme (ETS), market-based instruments. Encourages low-carbon investment. Design complexities involve price level, coverage, and revenue recycling.

Carbon Tax – a direct levy on the carbon content of fossil fuels, expressed per tonne of CO_2 emitted. Related terms: Carbon pricing, fiscal policy, revenue recycling. Provides predictable price signals. Political acceptance varies; concerns include regressive impacts and competitiveness.

Climate Finance – financial resources mobilized to support mitigation, adaptation, and loss-and-damage activities, sourced from public, private, and multilateral channels. Related terms: Green Climate Fund, climate bonds, blended finance. Critical for developing-country implementation of NDCs. Challenges include tracking, additionality, and aligning private sector risk appetite.

Climate Governance – structures, processes, and institutions that shape climate-related decision-making, implementation, and accountability at global, national, and local levels. Related terms: UNFCCC, multilevel governance, policy integration. Effective governance links climate objectives with development, finance, and technology. Barriers include fragmented authority, policy incoherence, and limited stakeholder participation.

Climate Justice – principle asserting that climate action must address historical responsibility, equity, and the disproportionate impacts on vulnerable populations. Related terms: Equity, loss and damage, CBDR. Influences negotiations on finance, adaptation support, and NDC ambition. Operationalizing justice faces political contestation and measurement difficulties.

Climate Mitigation – actions to reduce or limit greenhouse gas emissions or enhance sinks. Related terms: Decarbonization, carbon pricing, renewable energy. Policy tools include standards, subsidies, and carbon markets. Implementation challenges involve technology readiness, sectoral coordination, and behavioural change.

Climate Resilience – capacity of systems to absorb disturbances and reorganize while undergoing change so as to retain essential functions. Related terms: Adaptation, robustness, vulnerability. Resilience-oriented policies embed redundancy, diversification, and risk-informed planning. Measuring resilience remains methodologically complex.

Climate Risk – the probability and magnitude of adverse climate-related outcomes for assets, economies, or societies. Related terms: Vulnerability, exposure, impact assessment. Risk assessment tools (e.g., scenario analysis) guide insurance, investment, and policy decisions. Uncertainty in climate projections and socio-economic pathways complicates risk quantification.

Climate Vulnerability – degree to which a system is susceptible to, and unable to cope with, climate-induced hazards. Related terms: Exposure, adaptive capacity, risk. Vulnerability assessments inform prioritization of adaptation funding. Data gaps and dynamic socio-economic conditions pose challenges.

Common But Differentiated Responsibilities (CBDR) – principle recognizing that while all states share responsibility for addressing climate change, they have different capabilities and historical contributions. Related terms: Equity, Paris Agreement, Annex I. Shapes finance commitments and NDC expectations. Negotiations often grapple with interpretations of “differentiated”.

Decarbonization – process of reducing carbon intensity of economies, sectors, or processes toward net-zero emissions. Related terms: Energy transition, low-carbon technologies, mitigation. Policies include phase-out of coal, electrification, and carbon pricing. Barriers involve legacy infrastructure, workforce retraining, and financing.

Emissions Trading Scheme (ETS) – market-based mechanism that caps total emissions and allows participants to trade emission allowances. Related terms: Carbon market, cap-and-trade, carbon pricing. EU ETS is a leading example. Design challenges include allowance allocation, market liquidity, and carbon leakage.

Energy Transition – shift from fossil-fuel-dominant energy systems to low-carbon and renewable sources. Related terms: Decarbonization, renewable energy, grid modernization. Policies include renewable portfolio standards, subsidies, and grid reforms. Transition risks include job displacement, supply chain constraints, and system reliability.

Equity – fairness in distribution of climate benefits, burdens, and decision-making power. Related terms: Climate justice, CBDR, social inclusion. Integrated into national policies through just transition strategies.

Operationalizing equity requires robust indicators and stakeholder engagement.

GHG Protocol – internationally recognized standards for measuring and reporting greenhouse gas emissions at corporate and product levels. Related terms: Carbon accounting, Scope 1-3 emissions, MRV. Widely adopted for corporate climate disclosures. Challenges include data collection across supply chains and aligning with evolving regulations.

Green Climate Fund (GCF) – UN-established financial mechanism to channel climate finance to developing countries for mitigation and adaptation. Related terms: Climate finance, UNFCCC, adaptation fund. Supports projects ranging from renewable energy to resilient agriculture. Access barriers include complex application processes and limited absorptive capacity.

IPCC (Intergovernmental Panel on Climate Change) – United Nations body that assesses scientific, technical, and socio-economic information on climate change. Related terms: AR5, AR6, climate scenarios. Its assessment reports form the scientific basis for international negotiations. Criticisms involve perceived conservatism and time lags.

Kyoto Protocol – 1997 international treaty establishing legally binding emission reduction targets for Annex I countries. Related terms: UNFCCC, emissions trading, Clean Development Mechanism (CDM). Laid groundwork for carbon markets. Its first commitment period ended in 2012, succeeded by the Paris Agreement.

Loss and Damage – impacts of climate change that cannot be avoided through mitigation or adaptation, including permanent loss of land, cultural heritage, or lives. Related terms: Climate justice, compensation, insurance. Emerging discourse in UNFCCC negotiations. Implementation faces issues of attribution, financing mechanisms, and political will.

Nationally Determined Contributions (NDCs) – voluntary, country-specific climate action plans submitted under the Paris Agreement, outlining mitigation and adaptation targets. Related terms: Paris Agreement, ambition, transparency framework. Periodic updates aim to increase ambition. Gaps often exist between pledged targets and implementation capacity.

Paris Agreement – 2015 global treaty under the UNFCCC aiming to limit warming to well below 2 °C and pursue 1.5 °C. Related terms: NDCs, global stocktake, CBDR. Provides a framework for mitigation, adaptation, finance, and loss-and-damage. Challenges include the “ambition gap” and ensuring compliance.

REDD+ (Reducing Emissions from Deforestation and Forest Degradation) – mechanism that incentivizes developing countries to protect and sustainably manage forests. Related terms: Forest carbon, climate finance, carbon markets. Generates results-based payments for verified emission reductions. Implementation hurdles involve land tenure, monitoring, and ensuring social safeguards.

Sustainable Development Goals (SDGs) – 17 goals adopted by UN member states in 2015 to address global

challenges, including climate action (Goal 13). Related terms: Agenda 2030, Paris Agreement, integration. Aligning climate policies with SDGs promotes co-benefits. Trade-offs and policy silos can impede integrated progress.

Transparency Framework – set of rules under the Paris Agreement that requires parties to regularly report on emissions, NDC implementation, and financial support. Related terms: MRV, technical expert review, global stocktake. Enhances trust and accountability. Data quality and reporting capacity remain variable across nations.

UNFCCC (United Nations Framework Convention on Climate Change) – international treaty adopted in 1992 establishing the global framework for climate cooperation. Related terms: Paris Agreement, COP, CBDR. Hosts annual Conferences of the Parties (COP) where negotiations occur. Institutional fragmentation and funding constraints limit effectiveness.

Vulnerability Assessment – systematic analysis of exposure, sensitivity, and adaptive capacity to identify at-risk populations, assets, or ecosystems. Related terms: Climate vulnerability, risk assessment, adaptation planning. Guides allocation of adaptation resources. Challenges include data scarcity, scale mismatches, and dynamic baselines.

Adaptation Planning – process of developing strategies, policies, and projects to reduce climate-related vulnerability. Related terms: Vulnerability assessment, resilience, stakeholder engagement. Often embedded in local development plans. Barriers include limited technical expertise and competing development priorities.

Adaptation Gap – shortfall between the level of adaptation needed to address projected climate impacts and the level currently implemented. Related terms: Adaptation finance, vulnerability, resilience. Quantified in UNFCCC reports as billions of USD annually. Closing the gap requires scaling finance, capacity building, and policy integration.

Afforestation – establishment of forest on lands that have not been forested for a long period, often for carbon sequestration. Related terms: Reforestation, carbon sinks, REDD+. Policies may offer incentives or carbon credits. Risks include monoculture planting, biodiversity loss, and land-use conflicts.

Air-Conditioning Regulation – standards and policies aimed at improving the energy efficiency of cooling equipment, reducing associated GHG emissions. Related terms: Energy efficiency, building codes, refrigerant phase-down. Example: EU's Ecodesign Directive for AC units. Implementation challenges include market compliance and consumer acceptance.

Albedo Effect – measure of the reflectivity of Earth's surface; changes (e.g., from ice melt) affect climate forcing. Related terms: Radiative forcing, feedback loops, climate modeling. Policy relevance appears in land-use decisions (e.g., forest vs. cropland). Quantifying albedo impacts remains scientifically complex.

Annex I Countries – group of 43 UNFCCC parties (mostly developed nations) with specific obligations under the Convention. Related terms: CBDR, emission reduction commitments, climate finance. Historically responsible for the majority of cumulative emissions. Their mitigation targets have evolved from Kyoto to NDCs.

Baseline Emissions – reference level of greenhouse gas emissions against which reductions are measured. Related terms: Business-as-usual, counterfactual, mitigation accounting. Used in carbon offset projects to demonstrate additionality. Determining an accurate baseline can be contentious.

Bioeconomy – economic system that uses renewable biological resources for production of food, bioenergy, and bio-based materials. Related terms: Sustainable agriculture, circular economy, bioenergy. Climate policies promote bioeconomy for mitigation and rural development. Risks involve land-use competition and biodiversity impacts.

Carbon Leakage – situation where stringent climate policies in one jurisdiction cause emissions to shift to regions with laxer regulations. Related terms: Border carbon adjustments, competitiveness, ETS. Leakage undermines global mitigation goals. Policy responses include free allocation of allowances and carbon border taxes.

Carbon Neutrality – state where net greenhouse gas emissions are zero, achieved by balancing emissions with removal or offsetting. Related terms: Net-zero, offsets, carbon budgeting. Corporate net-zero pledges increasingly require robust accounting. Challenges include ensuring real, permanent removals and avoiding double counting.

Carbon Offsetting – practice of compensating for emissions by financing external projects that reduce or sequester an equivalent amount of CO_2. Related terms: Carbon credits, additionality, voluntary market. Used by businesses to meet interim targets. Effectiveness depends on rigorous verification and permanence.

Carbon Pricing Signals – economic incentives created by carbon taxes or cap-and-trade that influence investment and consumption decisions toward low-carbon options. Related terms: Market-based instruments, policy design, price elasticity. Strong, predictable signals can drive innovation. Weak or volatile pricing reduces effectiveness.

Carbon Removal – technologies or nature-based solutions that extract CO_2 from the atmosphere and store it long-term (e.g., afforestation, direct air capture). Related terms: Negative emissions, CCS, biochar. Emerging policy interest includes incentives and accounting frameworks. High costs and scalability remain major hurdles.

Carbon Sink – natural or engineered reservoir that absorbs more carbon than it releases, such as forests, soils, or oceans. Related terms: Carbon sequestration, land-use change, REDD+. Protecting and enhancing sinks is integral to many NDCs. Monitoring and permanence pose technical challenges.

Climate Adaptation Fund – financial mechanism established under the Kyoto Protocol to support concrete adaptation projects in developing countries. Related terms: Climate finance, GCF, MDG. Funding focuses on vulnerable sectors like agriculture and water. Limited resources and eligibility criteria restrict its reach.

Climate Action Plan – comprehensive strategy outlining a jurisdiction's or organization's approach to mitigation, adaptation, and resilience. Related terms: NDC, policy integration, implementation roadmap. Often includes targets, timelines, and responsible agencies. Execution gaps often stem from fragmented governance and funding shortfalls.

Climate Modeling – use of mathematical representations of the Earth system to simulate climate processes and project future conditions. Related terms: General circulation models, scenario analysis, uncertainty. Informs risk assessments and policy scenario planning. Model intercomparison and downscaling are technical challenges.

Climate Policy Integration – coordination of climate objectives across sectoral policies (e.g., transport, agriculture, energy). Related terms: Policy coherence, mainstreaming, cross-sectoral governance. Integration avoids policy contradictions and maximizes co-benefits. Institutional silos and competing priorities often impede integration.

Climate Resilience Index – composite metric that quantifies the capacity of a system to withstand climate stresses. Related terms: Vulnerability assessment, adaptation indicators, monitoring. Used by governments to prioritize investments. Indicator selection and data availability affect reliability.

Climate Risk Disclosure – reporting of climate-related risks and opportunities by corporations, typically following frameworks like TCFD. Related terms: ESG, financial materiality, scenario analysis. Enhances investor awareness and market stability. Standardization and verification remain evolving.

Co-benefits – ancillary positive outcomes from climate policies, such as improved air quality, health, or employment. Related terms: Synergies, integrated assessment, policy design. Highlighting co-benefits can increase public support. Quantifying them accurately can be methodologically complex.

Carbon Budget Allocation – process of distributing the global carbon budget among countries or sectors, reflecting equity and capability considerations. Related terms: CBDR, fairness, per-capita allocation. Various proposals include equal per-capita, historic responsibility, or capacity-based methods. Negotiations are contentious due to differing national interests.

Decarbonisation Pathways – strategic roadmaps outlining sector-specific steps to achieve net-zero emissions by a target date. Related terms: Energy transition, scenario analysis, technology deployment. Examples include electricity sector phase-out of coal by 2035. Pathway feasibility depends on policy stability, financing, and technology readiness.

Digital Climate Governance – use of digital tools (e.g., satellite monitoring, blockchain, AI) to enhance

transparency, verification, and participation in climate policy implementation. Related terms: MRV, climate tech, data analytics. Can improve emissions tracking and carbon market integrity. Data privacy, interoperability, and digital divide are challenges.

Disaster Risk Reduction (DRR) – strategies aimed at preventing or minimizing damage from natural hazards, closely linked to climate adaptation. Related terms: Resilience, early warning systems, hazard mitigation. Integrated DRR policies can reduce climate-related losses. Funding and coordination across agencies remain obstacles.

Emission Factor – coefficient that quantifies the average emission rate of a given greenhouse gas for a specific activity (e.g., kg CO_2 per litre of fuel). Related terms: Carbon accounting, GHG inventory, scope 1 emissions. Essential for calculating corporate footprints. Variability across regions and technologies can affect accuracy.

Energy Efficiency – practice of using less energy to provide the same service, thereby reducing emissions and costs. Related terms: Building codes, appliance standards, demand-side management. Policy instruments include labeling schemes and performance standards. Barriers include upfront investment costs and split incentives.

Equitable Transition – process of shifting to a low-carbon economy while ensuring that workers, communities, and vulnerable groups are not left behind. Related terms: Just transition, social dialogue, retraining. Policies may include income support, job-creation programs, and stakeholder participation. Measuring equity outcomes requires robust social indicators.

Financial Risk Assessment – evaluation of how climate change may affect the value of assets, portfolios, or institutions. Related terms: Climate scenario analysis, stress testing, TCFD. Banks use it to adjust lending practices. Data gaps and methodological heterogeneity hinder comparability.

Forestry Carbon Credits – tradable units representing verified carbon sequestration from forest management activities. Related terms: REDD+, carbon market, permanence. Used by companies to offset emissions. Challenges include ensuring additionality, avoiding leakage, and respecting indigenous rights.

Greenhouse Gas (GHG) Protocol Scope 1 – direct emissions from owned or controlled sources (e.g., fuel combustion on site). Related terms: Scope 2, Scope 3, corporate accounting. Basis for internal mitigation strategies. Accurate measurement may require meter installation and emission factor updates.

Greenhouse Gas (GHG) Protocol Scope 2 – indirect emissions from purchased electricity, heat, or steam. Related terms: Scope 1, Scope 3, renewable procurement. Companies can reduce Scope 2 emissions through power purchase agreements for renewable energy. Data transparency from suppliers can be limited.

Greenhouse Gas (GHG) Protocol Scope 3 – all other indirect emissions that occur in a company's value chain (e.g., upstream procurement, product use). Related terms: Supply-chain emissions, lifecycle assessment,

Scope 1-2. Often represents the largest share of corporate carbon footprints. Gathering reliable data across tiers is complex.

Intergenerational Equity – principle that present generations should not compromise the ability of future generations to meet their needs. Related terms: Sustainability, climate justice, long-term planning. Embedded in the Paris Agreement's temperature goals. Operationalizing it requires long-term policy horizons and discount rate considerations.

Just Transition – framework ensuring that the shift to a low-carbon economy is socially fair, creating decent work and safeguarding livelihoods. Related terms: Equitable transition, social dialogue, retraining. Policy tools include transition funds and sectoral roadmaps. Monitoring social outcomes is essential but often under-resourced.

Low-Carbon Development – development pathways that minimize greenhouse gas emissions while promoting economic growth and poverty reduction. Related terms: Sustainable development, green growth, climate-compatible development. Integrated in many NDCs. Balancing growth with emission constraints poses trade-off challenges.

National Climate Change Adaptation Strategy (NCCAS) – country-level plan outlining priorities, objectives, and actions for building resilience. Related terms: Adaptation planning, vulnerability assessment, financing. Often linked to national development plans. Effective implementation requires coordination across ministries and clear financing mechanisms.

National Climate Change Policy (NCCP) – overarching policy framework that sets a country's vision, objectives, and instruments for climate mitigation and adaptation. Related terms: NDC, climate governance, sectoral strategies. Guides legislative and regulatory reforms. Gaps may arise between policy statements and on-the-ground enforcement.

Net-Zero Emissions – state where any remaining greenhouse gas emissions are balanced by removals, achieving a balance in the global carbon budget. Related terms: Carbon neutrality, negative emissions, carbon budget. Many nations and corporations have set net-zero targets for 2050. Realizing net-zero requires deep decarbonisation and scalable removal solutions.

Negative Emissions Technologies (NETs) – approaches that remove CO_2 from the atmosphere, including bioenergy with carbon capture and storage (BECCS) and direct air capture. Related terms: Carbon removal, CCS, afforestation. Policy discussions focus on incentives, accounting, and governance. High cost and land-use implications are key concerns.

Renewable Energy Certificates (RECs) – tradable instruments that certify the generation of one megawatt-hour of electricity from a renewable source. Related terms: Green power purchasing, market mechanisms, renewable portfolio standards. Used by corporations to claim renewable electricity use.

Verification and additionality can be contentious.

Sectoral Decarbonisation – targeted efforts to reduce emissions within specific economic sectors (e.g., transport, industry, agriculture). Related terms: Decarbonisation pathways, technology roadmaps, policy mix. Sector-specific measures may include fuel standards, electrification, or process innovations. Coordination across sectors is essential to avoid policy conflicts.

Supply-Chain Emissions – greenhouse gas emissions associated with the production, transport, and use of goods and services throughout a company's value chain. Related terms: Scope 3 emissions, lifecycle assessment, carbon accounting. Companies are increasingly setting targets for supply-chain reduction. Data collection and verification remain major hurdles.

Technology Transfer – sharing of climate-relevant technologies from developed to developing countries, often facilitated by finance and capacity-building mechanisms. Related terms: Climate finance, IPCC, capacity building. Crucial for global mitigation equity. Barriers include intellectual property rights, affordability, and local adaptability.

Transparency and Accountability Mechanism (TAM) – processes within the UNFCCC that ensure parties report and verify their climate actions accurately. Related terms: Transparency framework, technical expert review, compliance. Enhances trust among nations. Varying national capacities affect the quality of reports.

Urban Climate Resilience – ability of cities to anticipate, prepare for, and respond to climate hazards while maintaining essential functions. Related terms: Smart cities, green infrastructure, adaptation planning. Municipal policies may include flood-plain zoning and heat-wave action plans. Funding constraints and governance fragmentation are common challenges.

Climate-Smart Agriculture (CSA) – approach that simultaneously increases agricultural productivity, enhances resilience, and reduces greenhouse gas emissions. Related terms: Sustainable intensification, agroforestry, adaptation. Policy instruments include subsidies for conservation agriculture and climate-resilient seeds. Implementation must balance food security with environmental goals.

Carbon Pricing Elasticity – measure of how responsive emissions reductions are to changes in carbon price levels. Related terms: Price signal, demand response, marginal abatement cost. High elasticity indicates strong behavioral change. Estimating elasticity requires robust econometric analysis.

Carbon Border Adjustment Mechanism (CBAM) – policy tool that imposes a carbon charge on imported goods to prevent carbon leakage and level the playing field. Related terms: Border carbon tax, trade policy, ETS. The EU proposes a CBAM for high-emitting sectors. Legal challenges under WTO rules and data verification are key issues.

Climate-Related Financial Disclosure – reporting framework that requires entities to disclose material climate risks and opportunities, often aligned with TCFD recommendations. Related terms: ESG reporting,

risk assessment, scenario analysis. Improves market pricing of climate risk. Standardization and audit assurance are ongoing development areas.

Climate-Sensitive Sectors – economic sectors highly vulnerable to climate impacts, such as agriculture, water resources, tourism, and insurance. Related terms: Risk assessment, adaptation, sectoral policy. Targeted interventions can protect livelihoods and GDP. Inter-sectoral dependencies complicate policy design.

Decarbonisation of Industry – strategies to reduce emissions from manufacturing, processing, and heavy industry (e.g., steel, cement). Related terms: Carbon capture, low-carbon fuels, process innovation. Policies include carbon pricing, technology subsidies, and standards. High capital intensity and limited alternatives make transition challenging.

Emission Reduction Target (ERT) – specific quantitative goal for lowering greenhouse gas emissions over a defined period. Related terms: NDC, mitigation pathway, carbon budget. Targets may be absolute (e.g., 40% reduction by 2030) or intensity-based. Ambitious targets require robust implementation plans and monitoring.

Environmental, Social, and Governance (ESG) Integration – incorporation of climate and sustainability factors into investment decision-making. Related terms: Sustainable finance, climate risk disclosure, stewardship. ESG metrics guide asset allocation. Standardizing ESG data and avoiding greenwashing are persistent challenges.

Fiscal Policy for Climate – use of taxation, subsidies, and public spending to influence emissions and support climate objectives. Related terms: Carbon tax, green budgeting, subsidies. Can accelerate clean-energy deployment and discourage polluting activities. Policy coherence and avoiding regressive impacts are essential considerations.

Geothermal Energy Policy – regulatory and incentive frameworks that promote the development of geothermal power and heating. Related terms: Renewable energy, resource assessment, feed-in tariffs. Provides baseload low-carbon power. High upfront exploration costs and resource uncertainty limit deployment.

Greenhouse Gas Inventories – comprehensive accounting of a country's or organization's emissions, typically compiled annually. Related terms: Carbon accounting, MRV, reporting standards. Required under UNFCCC reporting obligations. Data quality, activity data gaps, and methodological consistency pose challenges.

Heat-Wave Early Warning System – coordinated network that monitors temperature extremes and issues alerts to protect public health. Related terms: Climate adaptation, public health, resilience. Integrated with urban planning to trigger cooling centers. Effectiveness depends on communication channels and

vulnerable population outreach.

International Climate Finance – flow of financial resources from developed to developing countries to support mitigation, adaptation, and capacity building. Related terms: GCF, climate fund, ODA. Tracking is done through the Biennial Assessment. Predictability, additionality, and alignment with national priorities remain concerns.

Land-Use Change Accounting – methodology for quantifying emissions and removals associated with conversion of land (e.g., deforestation, afforestation). Related terms: Carbon sinks, REDD+, MRV. Critical for accurate national GHG inventories. Remote sensing advances improve monitoring but verification on the ground remains essential.

Low-Carbon Transport Policy – measures to reduce emissions from the mobility sector, including electrification, public transit, and active transport incentives. Related terms: EV subsidies, modal shift, fuel standards. Urban congestion pricing can also reduce emissions. Infrastructure investment and consumer behavior change are key obstacles.

Marginal Abatement Cost Curve (MACC) – graphical representation of the cost per tonne of CO_2 avoided for various mitigation options. Related terms: Cost-effectiveness, mitigation portfolio, investment priority. Helps policymakers prioritize low-cost measures. Data quality and dynamic cost changes over time affect reliability.

Nationally Appropriate Mitigation Actions (NAMAs) – voluntary mitigation initiatives undertaken by developing countries, supported by international finance and technology. Related terms: Climate finance, technology transfer, NDC. Provide a pathway for early action before formal NDC submission. Monitoring and reporting mechanisms are still evolving.

Net-Zero Transition Roadmap – detailed plan outlining milestones, sectoral pathways, and policy instruments for achieving net-zero emissions. Related terms: Decarbonisation pathways, climate targets, implementation plan. Roadmaps often include interim targets (e.g., 2030). Aligning multiple stakeholders and securing financing are complex tasks.

Non-CO_2 GHGs – greenhouse gases other than carbon dioxide, such as methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. Related terms: GWP (global warming potential), mitigation, sectoral emissions. Agriculture and waste management are major sources. Reducing non-CO_2 gases can deliver rapid climate benefits.

Paris-Compatible Policies – national strategies and measures that are aligned with the temperature goals of the Paris Agreement. Related terms: NDC, mitigation ambition, carbon budget. Includes sectoral decarbonisation plans and climate-finance commitments. Regular reviews are needed to maintain compatibility as science evolves.

Policy Coherence – alignment and mutual reinforcement among different policy domains (e.g., energy, agriculture, trade) to achieve climate objectives. Related terms: Climate policy integration, mainstreaming, governance. Incoherent policies can create counterproductive outcomes. Institutional coordination mechanisms are essential for coherence.

Renewable Energy Feed-in Tariff (FIT) – policy that guarantees a fixed price for electricity generated from renewable sources over a specified period. Related terms: Incentive mechanisms, market support, renewable portfolio standards. Encourages investment by reducing revenue uncertainty. Tariff design must balance cost recovery with market integration.

Risk-Based Climate Adaptation – approach that prioritizes adaptation actions based on assessed climate risks (probability × impact). Related terms: Vulnerability assessment, cost-benefit analysis, resilience. Enables efficient allocation of limited resources. Requires robust risk modeling and stakeholder consensus on risk tolerances.

Sector-Specific Climate Finance – financing instruments tailored to the needs of particular sectors (e.g., clean-energy bonds for power, green loans for sustainable agriculture). Related terms: Climate finance, blended finance, green bonds. Improves relevance and uptake. Sectoral data gaps and standardization issues can hinder scaling