

e-Learning Catalogue

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hub101.earth hosts e-Learning series and modules by topic

Each e-Learning series contain modules – see following pages for details

Climate Change &
Mitigation 101

Carbon Markets &
Pricing 101

Nature & Biodiversity
101

Sustainable Finance
& ESG 101

Land Use &
Agriculture 101

Circular Economy 101

Water & Oceans 101



Climate Change & Mitigation 101

What is climate change and its enormous impact, and what can we do about it?

A. The science behind climate change: [\[CCM101.A01\]](#)

- Fundamentals of climate science: feedbacks, the carbon cycle, detection, attribution, observed and future changes.

B. Impact and adaptation: [\[CCM101.B01\]](#)

- Climate risks: physical and economic impact of climate change.
- Climate justice: what is it and why it is important.
- What is adaptation and its challenges.

C. Mitigation: [\[CCM101.C01\]](#)

- What drives greenhouse gas (GHG) emissions and why?
 - What is the carbon budget?
 - What is the emissions gap?
- Role of mitigation by sector: electricity and heat, transport – aviation and shipping, manufacturing and construction, agriculture, industry, buildings, waste, land-use change and forestry.
 - Introduction to shipping decarbonisation [\[CCM101.C13\]](#)
- Energy transition and the role of technology.
- Potentials of nature-based solutions.
- Role of insetting. [\[CCM101.C21\]](#)
- Role of engineered solutions.
- Introduction to carbon removal: what are the solutions and how to scale. [\[CCM101.C50\]](#)
- Economics and financing of climate solutions.

C. Mitigation – continued:

- Role of governments: comparison and examples of climate policy instruments.
- Role of private sector: corporate emission target setting and reporting.
- Cross disciplinary bodies and standard-setting.
 - The Greenhouse Gas (GHG) Protocol [\[CCM101.C71\]](#)
 - The CDP – formerly Carbon Disclosure Project [\[CCM101.C72\]](#)
 - The Science-Based Targets Initiative (SBTi) [\[CCM101.C73\]](#)
 - Global Report Initiative (GRI)'s climate and energy standards [\[CCM101.C74\]](#)
 - Taskforce for Climate-related Financial Disclosures (TCFD) and the IFRS S1 and S2 [\[CCM101.C75\]](#)
 - European Sustainability Reporting Standards (ESRS) [\[CCM101.C76\]](#)
 - U.S. Securities and Exchange Commission (SEC) climate disclosure rule [\[CCM101.C77\]](#)
- Behavioural change and public reach.

D. Global cooperation:

- UN frameworks: from Kyoto to Paris, how has global agreements evolved. [\[CCM101.D01\]](#)
- The Paris Agreement, UNFCCC and COP: how does it work and main processes? [\[CCM101.D02\]](#)
- Nationally Determined Contributions (NDCs) and the Global Stock Take (GST) explained. [\[CCM101.D03\]](#)
- Link between climate and the Sustainable Development Goals (SDGs).
- International Maritime Organisation (IMO) and shipping decarbonisation. [\[CCM101.D13\]](#)

E. Glossary and definitions.

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Carbon Markets & Pricing 101 – page 1

What role can carbon markets and pricing play to reduce emissions and incentivise change?

A. Carbon markets and pricing overview:

- Introduction: do we need to put a price on carbon and why? Different pricing tools; explicit versus implicit pricing; carbon pricing versus other regulatory tools. [\[CMP101.A01\]](#)
- Social Cost of Carbon (SCC) and its role in policy-making. [\[CMP101.A02\]](#)
- Internal carbon pricing as a tool. [\[CMP101.A03\]](#)

B. Compliance carbon markets and pricing:

- Comparison of different compliance systems: emissions trading systems (ETS); carbon taxes; examples and trends from around the world. [\[CMP101.B01\]](#)
- Global compliance schemes: EU ETS [\[CMP101.B10\]](#), China's national ETS [\[CMP101.B11\]](#), US regional carbon markets [\[CMP101.B12\]](#), Brazil ETS (SBCE) [\[CMP101.B13\]](#), Carbon tax: examples from around the world [\[CMP101.B20\]](#)
- International and cross-border schemes: Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) [\[CMP101.B30\]](#), EU's Carbon Border Adjustment Mechanisms (CBAM) [\[CMP101.B31\]](#), the IMO Net-Zero framework [\[CMP101.B32\]](#), and carbon clubs [\[CMP101.B33\]](#).

C. The voluntary carbon market (VCM):

- Introduction to the VCM: how does it work, VCM structure & key stakeholders, who's who; different project types – nature and tech, reduction and removal, co-benefits and attributes; a carbon credit's life journey: from production, to trading and end use. [\[CMP101.C01\]](#)

C. The voluntary carbon market (VCM) – continued :

- A brief history of VCM and where is it headed. [\[CMP101.C02\]](#)
- Supply-side perspective: project management, credit generation, best practices; role of ICVCM and understand the 10 Core Carbon Principles (CCPs) [\[CMP101.C03\]](#)
- Demand-side perspective: what do buyers want, how do credits get used? Role of VCMI and understand the Claims Code of Practice (Claims Code) for companies. [\[CMP101.C04\]](#)
- Role of ICROA. [\[CMP101.C05\]](#)
- VCM standards and registries: what are they and what do they do? [\[CMP101.C06\]](#)
- Carbon credit rating agencies [\[CMP101.C07\]](#), exchanges [\[CMP101.C07\]](#) and financial instruments.
- VVBs and how do they work? [\[CMP101.C08\]](#)
- Indigenous Peoples (IPs) and Local Communities (LCs) and carbon markets, related challenges and opportunities in financing and solutions, FPIC and the Cancun Safeguards etc. [\[CMP101.C10\]](#)
- Greenwashing allegations and what do they mean? [\[CMP101.C11\]](#)
- What is Beyond Value Chain Mitigation (BVCM)? [\[CMP101.C12\]](#)
- Lessons from the field: How to develop a project. [\[CMP101.C13\]](#)

Specific VCM schemes:

- UK Woodland Carbon Code [\[CMP101.C20\]](#) and Peatland Code [\[CMP101.C21\]](#).

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Carbon Markets & Pricing 101 – page 2

What role can carbon markets and pricing play to reduce emissions and incentivise change?

C. The voluntary carbon market (VCM) – continued :

VCM explainers by category:

- Forestry & Land Use / nature-based solutions (NBS): overview of different solutions [\[CMP101.C30\]](#): REDD+, Blue Carbon, Afforestation, Reforestation, Revegetation (ARR), Improved Forest Management (IFM), Avoided Forest Conversion, and Urban Forestry; introduction to REDD+ and J-REDD+ [\[CMP101.C31\]](#); Blue carbon [\[CMP101.C32\]](#); High Forest cover, Low Deforestation (HFLD) financing [\[CMP101.C33\]](#).
- Agriculture [\[CMP101.C40\]](#): grassland/rangeland management, soil carbon, livestock methane, sustainable agricultural land management, nitrogen management, no-till/low-till agriculture, rice cultivation/management, sustainable irrigation, etc.
- Renewable Energy [\[CMP101.C50\]](#): biogas, hydropower, solar, biomass/biochar, wind, geothermal, tidal, etc.
- Household & Community Devices [\[CMP101.C60\]](#)
- Chemical Processes & Industrial Manufacturing [\[CMP101.C61\]](#)
- Energy Efficiency & Fuel Switching [\[CMP101.C62\]](#)
- Waste Disposal [\[CMP101.C63\]](#)
- Transportation [\[CMP101.C64\]](#)
- Carbon removal in the VCM [\[CMP101.C70\]](#)

D. Article 6 and global carbon markets:

- Introduction to Article 6 of the Paris Agreement: what are Articles 6.2, 6.4 (Paris Agreement Crediting Mechanism), 6.8 and how do they work? [\[CMP101.D01\]](#)
- Article 6 and REDD+ [\[CMP101.D02\]](#)
- Countries' strategies on Article 6 [\[CMP101.D03\]](#)
- Article 6 and the VCM [\[CMP101.D04\]](#)

E. Glossary and definitions.

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Nature & Biodiversity 101 – page 1

The state of our natural world is in decline – how can we protect and restore nature and biodiversity?

A. Nature and biodiversity overview:

- Introduction: What is nature, natural capital, biodiversity and why are they important? State of our natural world and drivers of degradation. The Dasgupta Review explained. What is the biodiversity funding gap and how do we narrow it? [\[NBD101.A01\]](#)
- Valuing nature: Should we put a price on nature and biodiversity? What are ecosystem services and nature-based solutions? What is Payment for Ecosystem Services (PES)? [\[NBD101.A02\]](#)

B. Nature conservation and restoration explained:

- What are the various models and philosophy for nature conservation and restoration and how do they compare? Different conservation organisational approaches. [\[NBD101.B01\]](#)
- The IUCN Red List of Threatened Species [\[NBD101.B02\]](#)
- The IUCN Red List of Ecosystems [\[NBD101.B03\]](#)
- The IUCN Global Standard for Nature-based Solutions [\[NBD101.B04\]](#)
- Role for nature conservation, restoration and expansion.
- Key conservation bodies and examples from around the world.
- Conservation and nature financing.

C. Role of UN, international agreements and government policies:

- Kunming-Montreal Global Biodiversity Framework (GBF): 30x30 targets etc. [\[NBD101.C01\]](#)
- UN High Seas Treaty: was [\[NBD101.C02\]](#) now [\[WTR101.B32\]](#)
- UN Convention on the Conservation of Migratory Species of Wild Animals (CMS). [\[NBD101.C03\]](#)
- RAMSAR – UN Convention on Wetlands [\[NBD101.C04\]](#)

D. Role of country-specific policies and schemes:

- Introduction: what can countries do about nature and biodiversity loss – the role for policies and government-backed schemes. [\[NBD101.D01\]](#)
- EU Deforestation Regulation [\[NBD101.D02\]](#); England's Biodiversity Net Gain [\[NBD101.D03\]](#); EU Nature Restoration Law [\[NBD101.D04\]](#); Australia's Nature Repair Market [\[NBD101.D05\]](#), Costa Rica's journey [\[NBD101.D06\]](#), Colombia's habitat bank legislation [\[NBD101.D07\]](#)
- UN's System of Environmental-Economic Accounting for nature in national balance sheets. [\[NBD101.D08\]](#)

E. Role of companies and private sector:

- Introduction: what can corporations do about nature and biodiversity loss? Understanding supply chain impact on nature and related risks for companies and investors. [\[NBD101.E01\]](#)
- The Taskforce on Nature-related Financial Disclosures (TNFD). [\[NBD101.E02\]](#)
- The Science Based Targets Network (SBTN). [\[NBD101.E03\]](#)
- Accountability Framework initiative (for ethical agricultural and forestry supply chains). [\[NBD101.E04\]](#)
- SBTN's SBTs for Land. [\[NBD101.E53\]](#)
- GRI's Biodiversity Standard. [\[NBD101.E05\]](#)
- Private sector action and interplay with greenwashing allegations. [\[NBD101.E07\]](#)

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Nature & Biodiversity 101 – page 2

The state of our natural world is in decline – how can we protect and restore nature and biodiversity?

F. Role of nature and biodiversity markets:

- Introduction to biodiversity markets: [\[NBD101.F01\]](#)
 - What are biodiversity markets and how do they work?
 - How to define and measure biodiversity?
 - What is a biodiversity credit (biocredit)?
 - What are the proposed methodologies and processes?
 - What key bodies, stakeholders and participants in biodiversity markets.
 - What does the supply and demand look like in these markets?
 - Should biodiversity credits be used as offsets?
 - How do biodiversity markets interact with carbon markets?
 - How should these markets leverage learnings from the VCM?
 - Should regulation play a role?
- Biodiversity Credit Alliance’s high-level principles to guide the biodiversity credit market. [\[NBD101.F02\]](#)
- Case studies: Plan Vivo Nature [\[NBD101.F10\]](#), Verra Nature [\[NBD101.F11\]](#), TerraSOS [\[NBD101.F12\]](#)

G. System changes and innovation:

- Introduction to bioeconomy. [\[NBD101.G01\]](#)
- The role of nature tech. [\[NBD101.G02\]](#)

H. Glossary and definitions.

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Sustainable Finance & ESG 101

Can our financial systems work in favour of positive sustainability, environment and social outcomes?

A. Overview – ESG investing: [\[SFE101.A01\]](#)

- What does ESG mean?
- How do you measure ESG?
- How big is the ESG market?
- ESG investment range.

B. Sustainable Finance & ESG regulation and disclosure: [\[SFE101.B01\]](#)

- What are key regulations for the EU?
- What are key regulation for the US?
- What is ESG reporting?

C. ESG ‘investment products’: [\[SFE101.C01\]](#)

- What is green / sustainable debt?
- What are debt for nature swaps?
- What are nature-based investment funds?
- What are carbon offset futures?

D. Glossary and definitions.

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Land Use & Agriculture 101

What is the impact of the world's food systems on nature and climate, and how can we make it better?

- A. Impact and links of agriculture and livestock on climate change, nature and the environment:
 - Emissions and environmental impacts,
 - Land conversion and deforestation,
 - Agricultural commodity supply chain issues,
 - Water usage.
- B. Sustainable and climate-smart agriculture.
- C. Soil carbon, carbon-farming and market-based financing.
- D. Role of innovation and technology.
- E. Role of governments and regulation.
- F. Role of consumer choice and behaviour.
- G. ...

- H. Glossary and definitions.

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Circular Economy 101

How we make and consume goods have a huge impact on our planet: can we transition to a circular system to reduce waste and pollution?

- A. What is a circular economy? [CEM101.A01]
- B. Circular packaging:
 - The problem with plastic and alternative solutions. [CEM101.B01]
 - Recycling. [CEM101.B02]
 - Reuse and repair. [CEM101.B03]
 - Plastic credits. [CEM101.B04]
- C. Sustainable fashion. [CEM101.C01]

Water & Oceans 101 – page 1

There is no life without water, yet our freshwater resources and marine ecosystems are in trouble: what can we do about it?

A. Water:

- Introduction to freshwater, why is it important and what can we do to protect it? [\[WTR101.A01\]](#)
 - The Global Commission on the Economics of Water (GCEW): hydrological cycle and freshwater systems, blue and green water, current worrying state and trends of water around the world and recommendation for action. [\[WTR101.A02\]](#)
 - The importance of our natural freshwater systems and the challenges facing them today: pollution, overuse and impact of climate change.
 - Conservation and restoration of different freshwater systems.
- Traditional engineered solutions, problems and innovations. [\[WTR101.A05\]](#)
- Nature-based solution (NBS) for water security [\[WTR101.A10\]](#)
- Role for global coordination and policy: [\[WTR101.A30\]](#)
 - UN-Water: 2023 UN Water Conference, the UN Water Action Agenda, Innovation Task Force, and UNDP what works in water and ocean governance. [\[WTR101.A31\]](#)
 - OECD Principles on Water Governance. [\[WTR101.A32\]](#)
 - ARUP's City Water Resilience Approach. [\[WTR101.A33\]](#)
- Role of private sector:
 - Businesses and water stewardship [\[WTR101.A50\]](#)
 - The CEO Water Mandate on water stewardship and resilience. [\[WTR101.A51\]](#)
 - The International Water Stewardship Standard (AWS Standard). [\[WTR101.A52\]](#)
 - SBTN's SBTs for Freshwater. [\[WTR101.A53\]](#)
 - International Organisation for Standardisation (ISO) standards for water. [\[WTR101.A54\]](#)
 - Bonneville Environmental Foundation's Flow Restoration Standard. [\[WTR101.A55\]](#)
 - Volumetric Water Benefit Accounting (VWBA) by WRI and partners [\[WTR101.A56\]](#)
 - Global Reporting Initiative (GRI) – Water & Effluents Standard. [\[WTR101.A57\]](#)
 - Water utilities. [\[WTR101.A60\]](#)

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Water & Oceans 101 – page 2

There is no life without water, yet our freshwater resources and marine ecosystems are in trouble: what can we do about it?

B. Oceans:

- Introduction to oceans and seas ecosystems, importance, challenges and dynamics. [WTR101.B01]
- Seabed and subsea mining
- Role of global coordination and policy:
 - UN Convention on the Law of the Sea (UNCLOS) [\[WTR101.B31\]](#)
 - The High Seas Treaty (BBNJ) [\[WTR101.B32\]](#)
 - UN Oceans Conference (UNOC) [\[WTR101.B33\]](#)
 - Importance of Marine Protected Areas (MPAs) – a study of Marine Conservation Institute’s Blue Parks. [\[WTR101.B34\]](#)
 - Domestic government policies.
- Role of private sector:
 - SBTN’s SBTs for Ocean [\[WTR101.B53\]](#)
- Role of communities and local movements:
 - Coastal communities. [\[WTR101.B71\]](#)

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