

From SDGs to Climate Change

Integrating SDGs into climate change actions

United Nations University (UNU-IAS)

Spring 2025

Location: [Lecture room, 6th floor in the UNU building](#)

Time: 14:00 – 15:40

Lecturer: [Dr Mahesti Okitasari](#), [Dr Himangana Gupta](#)

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Office Hours: by appointment

Course Description

A response to climate change relies on active and responsive mitigation and adaptation fitting within the context of sustainability. Limiting warming to 1.5 °C would require halving emissions by 2030 and achieving net-zero emissions by 2050. This would simultaneously require extensive sustainable development efforts that will enhance both mitigation and adaptation. On the other hand, the Sustainable Development Goals (SDGs) interconnect society's prosperity, human health, quality education, energy savings, wildlife conservation, circular economy, cities' sustainability, correct usage of natural resources, and world peace. Most SDGs are intertwined with the urgent need to address climate change. Synergizing SDG and climate actions can become a valuable tool to mitigate and adapt to climate change not only until 2030 but can sow the seeds of transformation for the rest of the 21st century.

Climate action and SDGs are inherently interconnected, reflecting a shared commitment to global well-being. The synergy lies in recognizing that climate action is not isolated and is integral to a broader sustainable development agenda. This symbiotic relationship emphasizes the importance of integrated efforts in overcoming three key inertia that still hinder progress: the siloed nature of actions on development and climate change, the lack of comprehensive strategy that considers both synergies and trade-offs and investment gaps.

Just transition and inclusivity at all levels are key to delivering synergistic climate-SDG actions. Implementing mitigation and adaptation strategies calls for a variety of technical and policy solutions across sectors and levels. Simultaneously, placing greater emphasis on non-climate or developmental co-benefits can increase support for climate action measures. Focused efforts on synergies alone risk undermining justice as a core value and leaving vulnerable groups and regions often linked to less synergistic targets behind. Across technical and policy solutions, design, implementation and evaluation, understanding the distributional effects of climate actions and SDG co-benefits are essential to bridging the development-climate silos, designing comprehensive policies and financing actions that leave no one behind.

Course Objectives and Learning Goals

This course aims to explore the knowledge and synergy solutions to deliver climate change actions and multiple SDGs in a just and equitable transition. The course overviews the synergies between the international policy framework on climate change and the SDGs. Second, it examines the social, economic, and environmental challenges and synergies associated with climate change mitigation, adaptation, and SDG co-benefits from just transition lens. The synergies extend to various areas of transition, such as energy, critical minerals, cities, food systems, biodiversity, health, and gender. In contrast, inequity, energy poverty, job loss, biodiversity degradation, and food insecurity have emerged as trade-offs. Third, the course provides an opportunity to understand how distributional effects of climate actions and SDGs co-benefits are essential to designing comprehensive policies that leave no one behind and can sustainably transform society by enhancing synergies and reducing trade-offs with socio-economic impacts. Lastly, the course offers relevant theories, approaches and methodology in emerging research and real-world examples.

The course is comprised of three components as follows:

Component 1: Frameworks and concepts

Giving an overview of the synergies, policy framework, and conceptual and theoretical approaches relevant to synergizing climate actions and sustainable development in a just and equitable transition: What do climate-SDG synergies and just transition mean? What are the opportunities from the existing climate change and SDG policy frameworks and actions that can be leveraged to create and deliver synergies? What are the existing and emerging conceptual and theoretical approaches, methodologies and tools available to help understand and drive climate-SDG synergies and just transition? How can justice and leaving no one behind principles be detrimental to achieving synergistic targets?

Component 2: Implementing synergies and just transition

Exploring synergies and just transition implications of the means and pathways by which climate and SDG actions are delivered across sectors and synergistic targets are achieved: What are the synergies between addressing climate change and achieving the SDGs in a specific sector, whereby advancements in one can lead to improvements in the others? How do cross-cutting actions leverage immediate synergies and co-benefits across targets but also risk being disproportionately impacted by failure to achieve other SDGs and climate goals? How can just transition pathways be leveraged to enhance synergies and reduce trade-offs between climate change actions and social, economic, and environmental impacts? What are the mechanisms, governance arrangements, and policies that can facilitate or impede diverse interests to support transitions that are efficient, sustainable, and equitable?

Component 3: Financing climate actions and sustainable development

Synergizing finance to deliver climate change actions that have co-benefits on the SDGs: What are the financing needs and challenges for climate-SDG synergies? What are existing finance frameworks designed to deliver sustainable development, climate-SDG synergies and just transition? How can we harness sustainable finance for sustainable development? What are the emerging strategies to deploy finance to deliver climate actions and SDG co-benefits?

Requirements and Grading Policy

- Class participation (10%)
- Short report (20%)

- Class presentation (30%)
- Policy brief (40%)

Class Participation

The course requires students to attend all classes, arrive on time, complete the readings, and participate actively in class discussions. This means asking questions and sharing knowledge during each and every class. At the discretion of the instructor, frequent late arrivals or absences may result in a lower grade.

Assignment 1: Short Report

To develop a thorough understanding of the unique contexts of the specific sector/sub-sector and country that the students will pick, they will be asked to write a short report covering: (1) constraints and priorities of their selected country relevant to the selected sector/sub-sector, (2) existing sectoral/sub-sectoral strategies/policy measures relevant to achieving the Paris Agreement and SDGs, and (3) reflection/analysis of associated just transition issues and co-benefits of synergistic actions. Quality visualizations such as charts and graphs are strongly encouraged. Students are expected to revise the assignment based on instructors' feedback for their presentation.

Format:

1. Arial 12, 1.5 space, justified alignment, double side, references (in-text citation and bibliography can include both reports and academic articles).
2. Harvard referencing style.
3. Maximum of 2,500 words (excluding references).

Assessment Criteria:

1. Quality and completeness of written material as per any given template (10 points).
2. Application of knowledge from materials given in the lectures (20 points).
3. Critical engagement with existing literature (20 points).
4. Depth and scope of the analysis (30 points).
5. Argumentation and validation with proper reference (10 points).
6. Originality of content generated (10 points) (avoid plagiarism: anything with 20-30% similarities flagged over this amount will require resubmission and no point given).
7. Late submission: 3% deduction of total points per day, maximum 30 days.

Submission deadline of the Assignment 1: Tuesday, May 13, 2025, at 23:55 JST.

Assignment 2: Class Presentation

In order to encourage a critical engagement with the literature, to practice students' presentation skills and to stimulate class discussion, each student will present on their short-written assignment for no more than ten minutes. The presentations will also include proposed policy recommendations for the selected country to synergize climate change and SDG measures in a just and equitable transition in the selected sector/sub-sector. Students are expected to incorporate instructors' and classmates' feedback during presentation for their policy brief.

Assessment Criteria:

1. Structure and clarity of presentation (10 points).
2. Engagement with audience and confidence (10 points).
3. Critical engagement with existing literature (20 points).

4. *Depth and scope of the analysis/reflections (30 points).*
5. *Policy relevance of proposed recommendations (20 points).*
6. *Punctuality (10 points) (1 point deduction per 2 minutes, maximum 10 minutes).*

Assignment 3: Policy Brief

The policy brief should be a synthesis of Assignment 1 and a detailed elaboration of policy recommendations proposed in Assignment 2. The policy brief covers (A) introduction/background (i.e., presenting issues related to climate-SDG synergies in the selected sector/sub-sector), (B) challenges (i.e., associated transition challenges of implementing climate-SDG measures of selected sector/sub-sector in the selected country) and (C) policy recommendations for addressing (B) in the backdrop of just transition and achieving the Paris Agreement and the SDGs. Include examples of applied strategies/case studies in other countries to help visualize the implementation of recommendations.

Format:

1. *Arial 12, 1.5 space, justified alignment, double side, references (in-text citation and bibliography can include both reports and academic articles).*
2. *Harvard referencing style.*
3. *Maximum of 2,500 words (excluding references).*

Assessment Criteria:

1. *Quality and completeness of written material as per any given template (10 points).*
2. *Understanding of issues and quality of synthesis (30 points).*
3. *Policy relevance of recommendations (30 points).*
4. *Argumentation and validation with proper reference (20 points).*
5. *Originality of content generated (10 points) (avoid plagiarism: anything with 20-30% similarities flagged over this amount will require resubmission and no point given).*
6. *Late submission: 3% deduction of total points per day, maximum 30 days.*

Submission deadline of the Assignment 3: Sunday, July 20, 2025, at 23:55 JST.

Course Outline

Lecture No.	Component	Title	Date	Instructors/Invited Speakers if any
1	1: Frameworks and concept	Introduction to the course	Tuesday, April 1, 2025 ~ 14:00-15:40	Dr Mahesti Okitasari, Dr Himangana Gupta, Dr Mark McCarthy Akrofi
2		Overview of the 2030 Agenda for Sustainable Development	Tuesday, April 8, 2025 ~ 14:00-15:40	Dr Mahesti Okitasari
3		Just transition, inclusive development, and leaving no one behind	Tuesday, April 15, 2025 ~ 14:00-15:40	Dr Mahesti Okitasari

4		Demand side solutions and climate-SDGs synergies	Tuesday, April 22, 2025	Dr Mahesti Okitasari, Dr Mark McCarthy Akrofi
5	2: Implementing synergies and just transition	Just transition in energy sector and critical minerals	Tuesday, April 29, 2025 ~ 14:00-15:40	Dr Mark McCarthy Akrofi
6		Just transition in food systems	Tuesday, April 29, 2025 ~ 15:50-17:30	Dr Eric Herve H Ponthieu
7		Just Urban Transition – Injustices, key elements and Nature-based solutions Assignment 1: Short report due	Tuesday, May 13, 2025 ~ 14:00-15:40	Dr Juan Pastor Ivars
8		Gender, SDGs, and climate change	Tuesday, May 20, 2025 ~ 14:00-15:40	Dr Himangana Gupta
9		Biodiversity, food security, and climate change	Tuesday, May 27, 2025 ~ 14:00-15:40	Dr Himangana Gupta
10		Biodiversity, health, and sustainability nexus in the context of climate resilience	Tuesday, June 3, 2025 ~ 14:00-15:40	Dr Maiko Nishi
11	3: Financing climate actions and sustainable development	Integrated finance and budgeting	Tuesday, June 10, 2025 ~ 14:00-15:40	Dr Mahesti Okitasari
12		Climate change and sustainable energy – Financial and technological perspective	Tuesday, June 17, 2025 ~ 14:00-15:40	Dr Masachika Suzuki
13		Sustainable finance for sustainable development – Climate and biodiversity finance	Wednesday, June 25, 2025 ~ 14:00-15:40	Dr Kanako Morita
14	Evaluation	Assignment 2: Class presentations – Group 1	Tuesday, July 1, 2025 ~ 14:00-15:40	Dr Mahesti Okitasari, Dr Himangana Gupta, Dr Mark McCarthy Akrofi
15		Assignment 2: Class presentations – Group 2	Tuesday, July 8, 2025 ~ 14:00-15:40	Dr Mahesti Okitasari, Dr Himangana Gupta, Dr Mark McCarthy Akrofi

Course Readings

Students are expected to actively contribute to class discussions based on the material provided. The lecturer reserves the right to update the reading list throughout the course and will alert students to the changes in class.

Course Readings by each Lecture

Lecture No.	Recommended Readings
1	<p>Introduction to the course: This lecture offers a brief history of climate change and sustainable development frameworks and a broad perspective on the synergies between climate change and SDGs, including discourses and initiatives. Students will learn and discuss the need to achieve synergies through both national and global strategies.</p> <ul style="list-style-type: none"> Governance and National Implementation of the 2030 Agenda: Lessons from Voluntary National Reviews, UNU-IAS Policy brief No18, 2019 Third Global Conference on Strengthening Synergies Between the Paris Agreement and the 2030 Agenda for Sustainable Development. (2022). https://www.un.org/sites/un2.un.org/files/the_third_global_conference_report_11.08.2022.pdf IPCC (2007). The dual relationship between climate change and sustainable development. https://archive.ipcc.ch/publications_and_data/ar4/wg3/en/ch2s2-1-3.html WMO (2021). Climate Indicators and Sustainable Development: Demonstrating the Interconnections. World Meteorological Organization. https://library.wmo.int/doc_num.php?explnum_id=10804
2	<p>An overview of the 2030 Agenda for Sustainable Development: This lecture provides an overview of the 2030 Agenda processes at the global, regional, national and local level. It discusses the steering types, practices and political impact of the SDGs from the perspective of governing models and policymaking aspects of implementing, monitoring and following up the 2030 Agenda. It looks at how these processes connect to other climate-related international frameworks and how countries are progressing in their efforts to localize the SDGs. The lecture also offers examples of research areas, approaches and methodologies in analyzing the governing climate actions and SDG implementation.</p> <ul style="list-style-type: none"> Biermann, F., Kanie, N., Kim, R.E. (2017) Global governance by goal-setting: the novel approach of the UN Sustainable Development Goals. <i>Curr Opin Environ Sustain</i>, 26: 26-31. http://dx.doi.org/10.1016/j.cosust.2017.01.010 Forestier, O. & Kim, R.E. (2020) Cherry-picking the Sustainable Development Goals: Goal prioritisation by national governments and implications for global governance. <i>Sustain Dev</i>, 28(5): 1269-1278. September/October 2020. https://doi.org/10.1002/sd.2082 Fukuda-Parr, S. (2016) From the Millennium Development Goals to the Sustainable Development Goals: shifts in purpose, concept, and politics of global goal setting for development. <i>Gender & Development</i>. doi: 10.1080/13552074.2016.1145895 Fukuda-Parr, S. & McNeill, D. (2019) Knowledge and Politics in Setting and Measuring the SDGs: Introduction to Special Issue. <i>Global Policy</i>, 10, Supplement 1, January 2019. doi: 10.1111/1758-5899.12604 Nerini, F., Sovacool, F., Hughes, B., Cozzi, N., Cosgrave, L., Howells, E., Tavoni, M., Massimo, T., Zerriffi, J., Milligan, B. (2019) Connecting climate action with other sustainable development goals. <i>Nat Sustain</i>. https://doi.org/10.1038/s41893-019-0334-y Dzebo, A., Janetschek, H., Brandi, C., Iacobuta, G. (2019) Connections between the Paris Agreement and the 2030 Agenda. Working Paper September 2019. Stockholm Environment Institute. https://www.sei.org/wp-content/uploads/2019/08/connections-between-the-paris-agreement-and-the-2030-agenda.pdf Gustafsson, S. & Ivner, J. (2018) Implementing the Global Sustainable Goals (SDGs) into Municipal Strategies: Applying an Integrated Approach, in W. Leal Filho (ed.)

	Handbook of Sustainable Science and Research, World Sustainability Series, https://doi.org/10.1007/978-3-319-63007-6_18
3	<p>Just transition, inclusive development, and leaving no one behind: This lecture elaborates on the concepts of just transition, history, focus and current discourses and research. It discusses the connections between just transitions, inclusive development, and leaving no one behind in the context of delivering climate-SDG synergies and low-carbon economy. The discussion also covers what just transition means for different economies from the perspective of economics, institutions and governance and individuals. The lecture offers understanding of just transition in international and national climate regime and its operationalization, e.g., institutional arrangements, work program on just transition pathways.</p> <ul style="list-style-type: none"> • Denton et al. (2022) Accelerating the transition in the context of sustainable development. In IPCC, 2022: Climate Change 2022: Mitigation of Climate Change. Contribution of WG III to AR6 of IPCC. doi: 10.1017/9781009157926.019 • McCauley, D. & Heffron, R. (2018) Just transition: Integrating climate, energy, and environmental justice. <i>Energy Policy</i>, 119, August 2018, 1-7. https://doi.org/10.1016/j.enpol.2018.04.014 • Newell, P. & Mulvaney, D. (2013) The political economy of the 'just transition.' <i>Geogr. J.</i>, 179(2), 132–140, doi:10.1111/geoj.12008
4	<p>Demand side solutions and climate-SDGs synergies: Climate change and sustainable development are two of the most pressing global challenges of our time, and their solutions are deeply interconnected. This lecture provides a unique perspective on how we can address these challenges by focusing on the demand side of the equation—how we consume, use resources, and design our lifestyles—to create a sustainable future. Demand-side solutions refer to actions aimed at changing consumption and production patterns to reduce greenhouse gas emissions while improving well-being. These solutions present significant opportunities to foster synergies between climate mitigation and the SDGs, including goals related to health, education, inequality reduction, and sustainable cities. Through a combination of theoretical frameworks, practical tools, and real-world examples, this course explores how demand-side solutions can serve as pivotal entry points for achieving climate-SDG synergies. It examines the co-benefits and trade-offs of climate mitigation actions, methodologies for aligning Nationally Determined Contributions (NDCs) with the SDGs, and strategies for promoting policy coherence and integrated planning. Students will learn how to identify and leverage synergies between climate action and development objectives, assess the impacts of demand-side measures, and design policies that foster equitable and transformative change.</p> <ul style="list-style-type: none"> • Andrew, E., & Pigosso, D. C. (2024). Multidisciplinary perspectives on rebound effects in sustainability: A systematic review. <i>Journal of Cleaner Production</i>, 143366. https://doi.org/10.1016/j.jclepro.2024.143366 • Creutzig, F., Niamir, L., Bai, X. <i>et al.</i> (2022) Demand-side solutions to climate change mitigation consistent with high levels of well-being. <i>Nat. Clim. Chang.</i> 12, 36–46. https://doi.org/10.1038/s41558-021-01219-y • United Nations (2024) Synergy Solutions for Climate and SDG Action: Bridging the Ambition Gap for the Future We Want. https://sdgs.un.org/sites/default/files/2024-07/UN%20Synergy%20Solutions%20for%20Climate%20and%20SDG%20Action-3.pdf • Dzebo, A., Janetschek, H., Brandi, C., <i>et al.</i> (2019) 'Connections between the Paris Agreement and the 2030 Agenda The case for policy coherence', (September), pp. 1–

	<p>38. https://www.sei.org/wp-content/uploads/2019/08/connections-between-the-paris-agreement-and-the-2030-agenda.pdf</p> <ul style="list-style-type: none"> • Cohen, B., Cowie, A., Babiker, M., Leip, A., & Smith, P. (2021). Co-benefits and trade-offs of climate change mitigation actions and the Sustainable Development Goals. <i>Sustainable Production and Consumption</i>, 26, 805-813. https://doi.org/10.1016/j.spc.2020.12.034 • Dagnachew, A. G., & Hof, A. F. (2022). Climate change mitigation and SDGs: modelling the regional potential of promising mitigation measures and assessing their impact on other SDGs. <i>Journal of Integrative Environmental Sciences</i>, 19(1), 289-314. https://doi.org/10.1080/1943815X.2022.2146137 • Gupta, J., Bai, X., Liverman, D. M., Rockström, J., Qin, D., Stewart-koster, B., Rocha, J. C., Jacobson, L., Abrams, J. F., Andersen, L. S., McKay, D. I. A., Bala, G., Bunn, S. E., Ciobanu, D., Declerck, F., Ebi, K. L., & Gifford, L. (2024). A just world on a safe planet : a Lancet Planetary Health – Earth Commission report on Earth-system boundaries , translations , and transformations. 5196(24). https://doi.org/10.1016/S2542-5196(24)00042-1 • Akrofi, M.M., Okitasari, M., Qudrat-Ullah, H. (2023) Are households willing to adopt solar home systems also likely to use electricity more efficiently? Empirical insights from Accra, Ghana. <i>Energy Reports</i>, 10(Nov 2023), pp. 4170-4182. https://doi.org/10.1016/j.egy.2023.10.066
5	<p>Just transition in energy sector and critical minerals: This lecture covers the issues of just transition specifically in the energy sector, highlighting the criticalities related to minerals at the center of energy transformation. The transition to a clean energy future represents one of the most significant transformations of the 21st century, driven by the urgent need to mitigate climate change and ensure sustainable development. Central to this transition is the principle of a just transition, which emphasizes the importance of fairness and equity in addressing the socio-economic and environmental implications of energy system changes. This concept seeks to ensure that the benefits of clean energy transitions are distributed equitably, while minimizing and addressing the negative impacts on vulnerable communities, workers, and ecosystems. The shift to renewable energy technologies—such as solar panels, wind turbines, and electric vehicles—is heavily reliant on critical minerals, including lithium, cobalt, nickel, and rare earth elements. These minerals are indispensable for the production and storage of clean energy, but their extraction, processing, and trade present complex challenges that intersect with issues of justice, sustainability, and global inequality. This lecture delves into these pressing issues, providing students with a nuanced understanding of the interconnectedness between clean energy transitions and energy justice. Using theoretical frameworks and empirical case studies, students will explore how Just Transition principles can be operationalized to create equitable, inclusive, and sustainable energy systems. The lecture also highlights the importance of addressing distributive, procedural and recognition justice to ensure that historically marginalized groups, including indigenous peoples and low-income communities, have a voice in decision-making processes.</p> <ul style="list-style-type: none"> • Carley, S., & Konisky, D. M. (2020). The justice and equity implications of the clean energy transition. <i>Nature Energy</i>, 5(8), 569–577. https://doi.org/10.1038/s41560-020-0641-6 • Jenkins, K., McCauley, D., Heffron, R., Stephan, H., & Rehner, R. (2016). Energy justice: A conceptual review. <i>Energy Research and Social Science</i> (Vol. 11, pp. 174–182). Elsevier. https://doi.org/10.1016/j.erss.2015.10.004 • Baker, E., Carley, S., Castellanos, S., Nock, D., Bozeman, J. F., Konisky, D., Monyei, C. G., Shah, M., & Sovacool, B. (2023). Metrics for Decision-Making in Energy Justice. <i>Annual Review of Environment and Resources</i>, 48, 737–760. https://doi.org/10.1146/annurev-environ-112621-063400

	<ul style="list-style-type: none"> Peretto, M., Eichhammer, W., & Süsser, D. (2024). Just energy transition in coal regions: Innovative framework for assessing Territorial Just Transition Plans. <i>Renewable and Sustainable Energy Transition</i>, 100101. https://doi.org/10.1016/j.rset.2024.100101 Apergi, M., Eicke, L., Goldthau, A., Hashem, M., Huneus, S., de Oliveira, R. L., ... & Veit, K. (2024). An energy justice index for the energy transition in the global South. <i>Renewable and Sustainable Energy Reviews</i>, 192, 114238. https://doi.org/10.1016/j.rser.2023.114238 Bainton N, Kemp D, Lèbre E, Owen JR, Marston G. The energy-extractives nexus and the just transition. <i>Sustainable Development</i>. 2021; 29: 624–634. https://doi.org/10.1002/sd.2163 IRENA (2023), Geopolitics of the energy transition: Critical materials, International Renewable Energy Agency, Abu Dhabi. https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2023/Jul/IRENA_Geopolitics_energy_transition_critical_materials_2023.pdf Ash, J. (2024). Social impacts of critical mineral exploration on Indigenous peoples' lands: A case study from Solomon Islands. <i>The Extractive Industries and Society</i>, 17, 101439. Akrofi, M. M., McLellan, B. C., & Okitasari, M. (2024). Characterizing 'injustices' in clean energy transitions in Africa. <i>Energy for Sustainable Development</i>, 83, 101546. https://doi.org/10.1016/j.esd.2024.101546 Akrofi, M.M., Okitasari, M. (2023) Beyond cost: How urban form could limit the uptake of residential solar PV systems in low-income neighbourhoods in Ghana. <i>Energy for Sus Dev</i>, 74(June 2023), pp. 20-33. https://doi.org/10.1016/j.esd.2023.03.004
6	<p>Just transition in food systems: This lecture focuses on how the European Union (EU) is addressing the issue of just transition in the food system. It will feature the main advances of the EU Farm to Fork Strategy which aims to make food systems fair, healthy, and environmentally friendly. It will also discuss the many stumbling blocks to its full implementation which are related to competing political priorities, overall low farmers' income, uneven support to green measures, lower standard food imports and public acceptability.</p> <ul style="list-style-type: none"> Crippa, M., Solazzo, E., Guizzardi, D. et al. (2021) Food systems are responsible for a third of global anthropogenic GHG emissions. <i>Nat Food</i> 2, 198–209. https://doi.org/10.1038/s43016-021-00225-9 European Union (2020). Farm to Fork Strategy: For a fair, healthy and environmentally-friendly food system. https://food.ec.europa.eu/document/download/472acca8-7f7b-4171-98b0-ed76720d68d3_en?filename=f2f_action-plan_2020_strategy-info_en.pdf A shared prospect for farming and food in Europe - The final report of the Strategic Dialogue on the future of EU agriculture (September 2024) <u>Strategic Dialogue on the Future of EU Agriculture</u>
7	<p>Just Urban Transition – Injustices, key elements and Nature-based solutions: With the global increasing population mainly in urban areas, 2.5 billion people are expected to live in cities by 2050; therefore, the need for a climate transition to reduce emissions to 'net zero' is mainly focused on these areas. Coordinating a transition across different areas, such as the built environment, energy, and mobility, to cover society's basic needs is urgently needed in urban areas. This lecture will examine the components necessary for just transitions in cities and propose approaches that can support sustainable development and resilience of the communities by integrating spatial and social justice, adoption of nature-based solutions, and equity across generations. Firstly, it will overview the injustices in urban areas, particularly at the environmental level, with</p>

	<p>biodiversity loss, climate change, and natural hazards affecting mostly marginalized groups and communities. Secondly, it will propose key elements of a just urban transition, looking specifically at transitions in the built environment and infrastructure, in the ecosystem services to provide health and wellbeing, and in governance to efficiently implement global agendas at local levels. Thirdly, it will showcase the case study of Kanazawa City as an example of a city of a developed country affected by depopulation and environmental challenges, where a green infrastructure project implementing nature-based solutions with their communities is being explored as a socioecological restoration method.</p>
	<ul style="list-style-type: none"> • Alebel , Pastor-Ivars, Juan and Sahle, Mesfin, (2023). The state-of-the-art and future research directions on sacred forests and ecosystem services. Environmental Management, 71(June 2023), 1255-126. https://link.springer.com/article/10.1007/s00267-023-01790-4 • Cities 40 Knowledge Hub. Achieving the just transition: A toolkit for city leaders across the globe. https://c40.my.salesforce.com/sfc/p/#36000001Enhz/a/Hp00000000ci/hmQ8_ENjBrh1XaRGS2vftiAOzeKRb6N076N9TvhIhb4 • Cocks, ML, & Shackleton, C.M. (Eds.). (2020). Urban Nature: Enriching Belonging, Wellbeing and Bioculture (1st ed.). Routledge. Chapter 2: Pastor-Ivars, Juan. The veil, the clearing and the flow New commons of Japanese traditional gardens in Kanazawa city https://library.unu.edu/cgi-bin/koha/opac-detail.pl?biblionumber=41947 • Connop, Stuart, Paula Vandergert, Bernd Eisenberg, Marcus J. Collier, Caroline Nash, Jack Clough, and Darryl Newport. "Renaturing cities using a regionally-focused biodiversity-led multifunctional benefits approach to urban green infrastructure." Environmental Science & Policy 62 (2016): 99-111. https://doi.org/10.1016/j.envsci.2016.01.013 • Kabisch, Nadja, Niki Frantzeskaki, Stephan Pauleit, Sandra Naumann, McKenna Davis, Martina Artmann, Dagmar Haase et al. "Nature-based solutions to climate change mitigation and adaptation in urban areas: perspectives on indicators, knowledge gaps, barriers, and opportunities for action." Ecology and Society 21, no. 2 (2016). https://doi.org/10.5751/ES-08373-210239 • Leslie Mabon (2024). What does a just transition mean for urban biodiversity? Insights from three cities globally. Geoforum. Volume 154, 104069https://doi.org/10.1016/j.geoforum.2024.104069 • Nick Watts et.al Health and climate change: policy responses to protect public health. The Lancet, Volume 386, Issue 10006,2015, Pages 1861-1914 • PASTOR-IVARS, Juan. ed. (2019) Restoring Kinship with Nature through Japanese Gardens: The Challenge to Achieve a Sustainable Commons in Kanazawa UNU-IAS OUIK, Kanazawa, Japan. 132pp. https://oui.k.unu.edu/wp-content/uploads/Booklet5-Restoring-Kinship-with-Nature-through-Japanese-Garden.pdf • Sustainable and Justice Cities. Toolkit for local governments and community led-initiatives. https://sustainablejustcities.eu/sites/default/files/media/Toolkit%20for%20local%20governments%20and%20community%20led-initiatives.pdf • Yuhang Sun (2024). Understanding the dynamics of urban just transitions: An interdisciplinary analysis with latent dirichlet allocation (LDA),Journal of Urban Management, https://doi.org/10.1016/j.jum.2024.12.001
8	<p>Gender, SDGs, and Climate change: As the role of women engagement in climate negotiations become important, this lecture sheds light on current situation at the grassroot level, and how climate change enhances gender inequality. In addition to presenting some case studies showing disproportionate impacts, it shows research trends on this topic, presenting solutions for their engagement, including through</p>

	<p>empowerment, policy coherence, technology and awareness, and through multi-stakeholder engagement.</p> <ul style="list-style-type: none"> Gupta, H. (2015). Women and climate change: Linking ground perspectives to the global scenario. Indian Journal of Gender Studies. Available at: https://www.researchgate.net/publication/282468449_Women_and_Climate_Change_Linking_Ground_Perspectives_to_the_Global_Scenario Masika, R. (2002). Gender, Development, and Climate Change. Oxfam. Available at: https://oxfamlibrary.openrepository.com/bitstream/handle/10546/121149/bk-gender-development-climate-change-010102-en.pdf;jsessionid=9D5C095E571CEF07453DF8D0DE95B697?sequence=1 Hone, K. (2013). The 'Doha Miracle'? Where are the women in climate change negotiations? E-International Relations. http://www.e-ir.info/2013/01/18/the-doha-miracle-where-are-the-women-in-climate-change-negotiations/ Dimensions and examples of the gender-differentiated impacts of climate change, the role of women as agents of change and opportunities for women. Synthesis report by the secretariat (2022): https://unfccc.int/documents/494455
9	<p>Biodiversity, food security, and climate change: This lecture discusses the climate-biodiversity-food nexus in terms of policy interlinkages, drivers and impacts, carbon offsets and various sub-nexuses linked to SDGs. It discusses case studies highlighting nature-based solutions on-the-ground that can effectively address climate, food, and biodiversity objectives, while contributing to SDGs holistically.</p> <ul style="list-style-type: none"> Basics: Connecting biodiversity and climate change mitigation and adaptation: Report of the second ad hoc technical expert group on biodiversity and climate change: https://www.cbd.int/doc/publications/ahteg-brochure-en.pdf Climate change, biodiversity and nutrition nexus: https://www.fao.org/3/cb6087en/cb6087en.pdf IPBES and IPCC workshop report: https://www.ipcc.ch/site/assets/uploads/2021/07/IPBES_IPCC_WR_12_2020.pdf UNFCCC COP 21 decision on alternative policy approaches: https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/sbsta_42_agenda_item_4_alternative_policy_approaches_auv_template.pdf Smith, P., Calvin, K., Nkem, J., Campbell, D., Cherubini, F., Grassi, G., Korotkov, V., Le Hoang, A., Lwasa, S., McElwee, P., Nkonya, E., Saigusa, N., Soussana, J.-F., Taboada, M. A., Manning, F. C., Nampanzira, D., Arias-Navarro, C., Vizzarri, M., House, J., ... Arneeth, A. (2020). Which practices co-deliver food security, climate change mitigation and adaptation, and combat land degradation and desertification? Global Change Biology, 26(3), 1532–1575. https://doi.org/10.1111/gcb.14878 Behnassi, M., & Gupta, H. (2022). Managing the Food Security, Biodiversity, and Climate Nexus: Transformative Change as a Pathway. In M. Behnassi, H. Gupta, M. Barjees Baig, & I. R. Noorka (Eds.), The Food Security, Biodiversity, and Climate Nexus (pp. 15–34). Springer International Publishing. https://doi.org/10.1007/978-3-031-12586-7_2
10	<p>Biodiversity, health and sustainability nexus in the context of climate resilience: This lecture contextualizes the nexus approach to landscape and seascape management in the era of climate crisis. It introduces the theoretical and methodological development concerning biodiversity, health, and sustainability nexus. It also discusses several cases of landscape and seascape management where nexus approaches are practiced in enhancing both ecosystem and human health while ensuring climate resilience.</p> <ul style="list-style-type: none"> Folke, C. (2006). Resilience: The emergence of a perspective for social–ecological systems analyses. Global environmental change, 16(3), 253–267.

	<ul style="list-style-type: none"> • Liu, J., Hull, V., Godfray, C., Tilman, D., Gleick, P. H., Hoff, H., Pahl-Wostl, C., Xu, Z., Chung, M. G., Sun, J., & Li, S. (2018). Nexus approaches to global sustainable development. <i>Nature Sustainability</i>, 1(9), 466–476. https://doi.org/10.1038/s41893-018-0135-8 • Nilsson, M., Griggs, D., & Visbeck, M. (2016). Policy: Map the interactions between sustainable development goals. <i>Nature</i>, 534(7607), 320–322. https://doi.org/10.1038/534320a • Nishi, M., Natori, Y., Dublin, D. (2021). Resilience in landscapes & seascapes: Building back better from COVID-19. <i>UNU-IAS Policy Brief 2021</i>, 26, 1–4. http://collections.unu.edu/eserv/UNU:8409/UNU-IAS-PB-No26-2021.pdf • Nishi, M., Subramanian, S.M., Gupta, H. (2022). Introduction. In: Nishi, M., Subramanian, S.M., Gupta, H. (eds) <i>Biodiversity-Health-Sustainability Nexus in Socio-Ecological Production Landscapes and Seascapes (SEPLS)</i>. Satoyama Initiative Thematic Review. Springer, Singapore. https://doi.org/10.1007/978-981-16-9893-4_1 • Weitz, N., Carlsen, H., Nilsson, M., & Skånberg, K. (2018). Towards systemic and contextual priority setting for implementing the 2030 agenda. <i>Sustainability Science</i>, 13(2), 531–548. https://doi.org/10.1007/s11625-017-0470-0
11	<p>Integrated finance and budgeting: This lecture discusses discourses for financing for sustainable development, financing for the climate-SDG synergies, the funding gap and disjointed approach challenges to climate and SDG finance, and initiatives towards an integrated approach at the global-national levels. It covers SDG budgeting modalities and tools, Integrated National Financing Framework and just transition finance.</p> <ul style="list-style-type: none"> • Iacobuță, G.I., et al. (2022) Aligning climate and sustainable development finance through an SDG lens. The role of development assistance in implementing the Paris Agreement. <i>Global Env Ch</i>, 74, May 2022, 102509. https://doi.org/10.1016/j.gloenvcha.2022.102509 • Kreibiehl, S. et al. (2022) Investment and finance. In IPCC, 2022: <i>Climate Change 2022: Mitigation of Climate Change. Contribution of WG III to AR6 of IPCC</i>. doi: 10.1017/9781009157926.017
12	<p>Climate change and sustainable energy – Financial and technological perspectives: This lecture discusses how sustainable energy technologies, including solar energy, wind energy and achieving higher efficiency in conventional technologies, can help in climate mitigation. It also talks about sustainable development benefits through the introduction of such technologies and how finance can be deployed to promote technology innovation and diffusion.</p> <ul style="list-style-type: none"> • Bertheau, P. (2020) Assessing the impact of renewable energy on local development and the Sustainable Development Goals: Insights from a small Philippine island. <i>Technol. Forecast. Soc. Change.</i>, 153, 119919. https://doi.org/10.1016/j.techfore.2020.119919 • Karakosta, C., Doukas, H., Psarras, J. (2010) Technology transfer through climate change: Setting a sustainable energy pattern. <i>Renew. Sustain. Energy Rev.</i>, 14(6), 1546-1557. https://doi.org/10.1016/j.rser.2010.02.001 • Massini, A., Menichetti, E. (2013). Investment decisions in the renewable energy sector: An analysis of non-financial drivers. <i>Technol. Forecast. Soc. Change.</i>, 80(3), 510-524. http://dx.doi.org/10.1016/j.techfore.2012.08.003 • Sheikh, N.J., Kocaoglu, D.F., Lutzenhiser, L. (2016) Social and political impacts of renewable energy: Literature review. <i>Technol. Forecast. Soc. Change.</i>, 108, 102-110. https://doi.org/10.1016/j.techfore.2016.04.022

	<ul style="list-style-type: none"> Wüstenhagen, R., Menichetti, E. (2011) Strategic choices for renewable energy investment: Conceptual framework and opportunities for further research. Energy Policy, 40, 1-10. https://doi.org/10.1016/j.enpol.2011.06.050
13	<p>Sustainable finance for sustainable development: This lecture covers two aspects of sustainable finance for sustainable development by using some cases. One is sustainable finance regarding financial stability, and another is exploring effective ways to achieve sustainable development (Ferri and Acosta, 2019).</p> <ul style="list-style-type: none"> UNEP Inquiry (2016). Inquiry into the Design of a Sustainable Financial System: Definitions and Concepts – Background Note. UNEP, Nairobi, Kenya. 19 pp. https://unepinquiry.org/publication/definitions-and-concepts-backgroundnote/ United Nations, Inter-agency Task Force on Financing for Development (2024). Financing for Sustainable Development Report 2024: Financing for Development at a Crossroads. New York: United Nations, available from: https://desapublications.un.org/publications/financing-sustainable-development-report-2024 Kreibiehl, S. et al. (2022). Investment and finance. In IPCC, 2022: Climate Change 2022: Mitigation of Climate Change. Contribution of WG III to AR6 of IPCC. doi: 10.1017/9781009157926.017 Ferri, G., Acosta, B. A. (2019). Sustainable Finance for Sustainable Development., CERBE Working Papers from CERBE Center for Relationship Banking and Economics No. 30. https://repec.lumsa.it/wp/wpC30.pdf

Important Information

Class Conduct & Etiquette

Students are expected to arrive on time and not to engage in disruptive behavior during class. This includes, among other things, private side conversations, the use of mobile phones and other electronic devices, or the reading of newspapers. Mobile phones should be switched off and stored in the bag. We wish to create an atmosphere of open and tolerant discussion in the classroom and request students to recognize every individual's right to have an opinion. The lecturer and other students should be treated with dignity and respect, particularly in discussions on contentious political issues where a diversity of opinion will likely arise. However, we also recognize that there are limits to tolerance and the lecturer reserves the right to request disciplinary action against any student who violates this policy or repeatedly shows disruptive behavior in class.

Computer Use in Class

The use of computers (including tablets) in the classroom is restricted to taking notes, reading the course material or searching for course-related information on the internet. Any disruption of the class by cell phones, instant messaging programs or other communication devices will not be tolerated. The lecturer reserves the right to revoke this permission if a student is found using a computer for any non-course related activities.

Plagiarism & Academic Misconduct

Please be aware that the consequences of plagiarism are severe, and students found guilty of academic misconduct will be punished in accordance with UNU's academic honesty policies. The lecturer reserves the right to run all assignments through an anti-plagiarism software provided by the UNU. If evidence of academic misconduct on the assigned presentations, the mid-term exam or the final essay should be found, the assignment will receive a failing grade. In case of repeated violations of academic conduct, the student may receive a failing grade for the entire course and will be reported to the appropriate authorities for disciplinary action.

Invited Speakers/Lecturers Bio

Dr Eric Ponthieu (Lecture 6)

Strategy Director of the Fair Trade Advocacy Office (FTAO), Adjunct Professor at Bologna and Firenze Universities, and Associate Lecturer at Ca'Foscari University

Eric Ponthieu holds 28-year professional experience in EU sustainable development policy- and decision-making, communication, R&D and teaching. He has wide range of interrelated areas of expertise including sustainable development, environment, climate, food and agriculture, sustainable consumption, energy, transport, information society, urban sustainability, R&D and innovation. He is the author of a book on climate governance (Springer, October 2020) and holds a vast teaching experience including as Associate lecturer at Ca'Foscari university and regular Visiting Professor (more than 15 universities as hosts since 2006).

Dr Masachika Suzuki (Lecture 12)

Professor and Chairperson, Graduate School of Global Environmental Studies, Master's (Doctoral) Program in Global Environmental Studies, Sophia University.

Masachika Suzuki's research interests include clean energy technology innovation and development, sustainable finance and banking, and sustainable tourism and community development. He received PhD from Erasmus Universiteit Rotterdam in the Netherlands and MAs from Columbia University in the US and Keio University in Japan. He has work experience in the field of environmental and energy consultancy. The positions include senior analyst positions at Mitsubishi Securities in Tokyo and Innovest Strategic Value Advisors in New York as well as consultant positions at the Department of Economic and Social Affairs (DESA) at the UN headquarters in New York and the United Nations Framework Convention on Climate Change (UNFCCC) in Bonn.