

## **ENVR / URBS 375 | Renew & Rise: Climate Action and Fair Energy Policies** **UOWM ZEP Campus Kozani** **Summer 2025**

**Course Instructor: Associate Professor Lefteris Topaloglou**  
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**Class Times: Monday to Friday. Times: 09:00-15:00 (except during day-trips)**  
**Office Hours Available: 09:00-15:00**

### **Course Description**

The "Climate & Fair Energy Transition Summer School" is a comprehensive four-week program designed to equip participants with the knowledge and skills necessary to navigate the complexities of modern energy transitions. Coordinated by the Institute of Energy Development & Transition to Post-Lignite Era and the Laboratory of Energy Transition & Development Transformation (ENTRA Lab), this course emphasizes a multifaceted approach to addressing climate change and ensuring equitable energy policies.

The course focuses on the paradigm shift from fossil fuels to renewable energy sources, exploring the broader implications of this transition. It integrates perspectives from climate justice, policy frameworks, and community engagement to provide a holistic understanding of energy transitions. The curriculum covers historical injustices, the need for equitable policy measures, and the importance of inclusive approaches that recognize the voices of marginalized communities.

The primary aim of the summer school is to empower participants to become leaders and advocates for a just energy transition. The course seeks to ensure that the move towards renewable energy sources not only addresses the urgent need to mitigate climate change but also promotes social justice and equity. Participants will be equipped with the skills to develop and implement inclusive and participatory energy policies that integrate climate justice principles.

### Key Topics

The program is structured around seven key modules, each addressing crucial aspects of the energy transition:

1. Introduction to Just Energy Transition:
  - Evolution from climate change mitigation to just energy transitions.
  - Case studies, including Canada's approach and the EU's comprehensive policies.
2. Policy Frameworks:
  - Examination of international and EU-specific policies such as the Paris Agreement, the EU Green Deal, and the Just Transition Mechanism.
  - Analysis of national policies with a focus on Greece and the USA.
3. Public and Community Engagement:
  - Strategies for effective public engagement and the role of local actors.
  - Principles of deliberative democracy and community involvement in energy transitions.
4. Governance of Just Transition:
  - Exploration of governance models and place-based governance approaches.
  - Monitoring mechanisms and observatories, with case studies from Greece.
5. Economic, Social, and Environmental Implications:
  - Analysis of economic impacts, including green innovation and entrepreneurship.
  - Examination of social impacts such as employment and energy access.
  - Environmental considerations like biodiversity and land repurposing.
6. Just Transition and Energy Reform:
  - Analysis of energy production and consumption patterns.
  - Exploration of technological advancements and policies for a net-zero society.
7. Climate-Neutral and Smart Cities:
  - Methods to achieve net-zero greenhouse gas emissions in urban areas.
  - Technologies and data-driven management for smart cities.

### Relevance to Academic and Social Contexts

The relevance of this course extends beyond academic learning; it addresses pressing social issues and contributes to the broader goal of sustainable development. By focusing on climate justice and equitable policy measures, the course prepares participants to tackle the disproportionate impacts of climate change on vulnerable populations. It

aligns with international frameworks such as the Sustainable Development Goals, emphasizing the need for inclusive and participatory approaches in energy policy.

Participants will engage in practical exercises, including living labs and case studies, to develop real-world solutions. These activities foster a deep understanding of the interconnected aspects of energy transitions and the importance of a holistic approach in policy development and implementation.

## Course Approach

### Reading

- **Core Texts and Articles:** Assigned readings will include core texts on climate justice, energy policy, and sustainability, supplemented with contemporary research articles. These readings will provide theoretical foundations and current perspectives.
- **Case Studies:** Detailed case studies on specific regions, policies, and initiatives will be analyzed to understand real-world applications and outcomes.

### Field Work

- **Site Visits:** Field trips to locations such as Prespa Lake Geopark and Kastoria, will offer hands-on learning experiences about sustainable practices, energy transitions in action, and the socio-environmental impacts.
- **Community Engagement Projects:** Students will participate in local community projects to observe and contribute to ongoing energy transition efforts, fostering a deeper connection to the material.

### Relevant Methodologies

- **Workshops and Simulations:** Interactive workshops and simulations, with the use of gamifications, will be used to teach sustainable practices and decision-making processes.
- **Role-Playing Exercises:** Stakeholder negotiations and scenario planning exercises will help students understand diverse perspectives and the complexities of policy-making.

### Class Discussion

- **Seminars and Debates:** Regular seminars and debates on key issues will encourage critical thinking and the exchange of ideas. These sessions will be guided by the assigned readings and current events in the energy sector.
- **Guest Lectures:** Experts from academia, industry, and government will be invited to share insights and answer questions, enriching the learning experience with real-world expertise.

## Individual and Group Work

### Pair Work

- **Peer Review:** Students will engage in peer review activities, providing constructive feedback on each other's written work, which helps develop critical thinking and editing skills.
- **Collaborative Projects:** Pairs will collaborate on smaller projects, such as analyzing specific policy measures or community engagement strategies.

### Group Projects

- **Living Labs:** Small groups will participate in living labs, such as designing community engagement campaigns or developing local strategies for upskilling and reskilling. These projects will require collaboration, research, and practical application of course concepts.
- **Debate Teams:** Groups will be assigned different positions in debates on controversial topics, promoting teamwork and the ability to argue with different perspectives.

### Class Activities

- **Class Debates and Discussions:** Whole-class debates and discussions will be integral to the course, providing a platform for students to articulate their ideas, challenge each other, and refine their understanding of complex issues.
- **Interactive Workshops:** Workshops involving the entire class will focus on essential topics like just transition planning, where students will work together to develop comprehensive strategies.

## Learning Objectives

By the end of the "Climate & Fair Energy Transition" Summer Course, students should be able to:

- **Analyze** the socio-economic and environmental impacts of energy transitions, comparing and contrasting different global, regional, and local approaches.
- **Evaluate** the effectiveness of existing energy policies and frameworks, such as the EU Green Deal and the Paris Agreement, in promoting sustainable and equitable energy transitions.

- **Interpret** complex data related to energy consumption, emissions, and socio-economic indicators to draw informed conclusions about the progress and challenges of energy transitions.
- **Discuss** the principles of climate justice and just energy transitions, reflecting on the historical injustices and the necessity of inclusive and participatory policy-making.
- **Apply** theoretical knowledge to practical scenarios by designing community engagement campaigns and local strategies for upskilling and reskilling in regions undergoing energy transitions.
- **Create** comprehensive policy recommendations and strategies for achieving just energy transitions, integrating interdisciplinary perspectives and stakeholder inputs.
- **Recognize** the role and importance of marginalized communities in the energy transition process, and explain methods for ensuring their active participation in decision-making.
- **Reflect on** personal learning experiences and fieldwork observations to connect theoretical concepts with practical applications in real-world settings.

## Course Requirements

### Reading

Weekly Reading: Approximately 40-50 pages per week, consisting of journal articles, book chapters, and policy documents.

### Written Assignments

Response Paper: One response paper (3-4 pages, double-spaced, 1,000 words).

Group Research Paper: One research paper (10-12 pages, double-spaced, approximately 2,000 words).

Final Exam: One final exam covering all course material.

- Format: Combination of multiple-choice questions & short answers.

### Attendance and Participation

Attendance: Mandatory for all lectures, field trips, and workshops.

Participation: Active participation in discussions, group activities, and workshops is required.

## Class Field Work and CYA Field Study

Class field work and CYA field study are integral components of the "Climate & Fair Energy Transition" Summer Course. These hands-on experiences are designed to bridge the gap between theoretical knowledge and practical application, offering students a comprehensive understanding of the complexities involved in climate and energy transitions. Field work and study provide unique opportunities to observe, engage, and analyze real-world scenarios, enhancing the learning experience and developing essential skills.

## Evaluation and Grading

Evaluation is designed to assess students' understanding, engagement, and ability to apply the concepts learned throughout the course. The evaluation criteria encompass a variety of assignments and activities to provide a comprehensive assessment of students' knowledge and skills.

### Grading Distribution

Your grade for this course will be based on the following distribution:

Attendance and Participation: 15%

Field Work Reports/ Response papers: 15%

Research Paper: 25%

Group Project: 20%

Final Exam: 25%

## CYA Regulations and Accommodations

### Attendance Policy

CYA regards attendance in class and on-site as essential. Absences are recorded and have consequences. Illness or other such compelling reasons which result in absences should be reported immediately to the Course instructor.

### ePolicy on Original Work

Unless otherwise specified, all submitted work must be your own original work. Any ideas taken from the work of others must be clearly identified as quotations, paraphrases, summaries, figures etc., and accurate internal citations and/or captions (for visuals) as well as an accompanying bibliography must be provided.

### Use of Laptops

In-class or onsite use of laptops and other devices is permitted if this facilitates course-related activities such as note-taking, looking up references, etc. Laptop or other device privileges will be suspended if devices are not used for class-related work.

**Class Schedule**

<b>Class Day</b>	<b>Day/Date/Place</b>	<b>Topic / Readings / Assignments Due</b>
1	Mon June 30 UOWM Kozani	<b>Students arrive – Orientation Session</b> <b>Orientation Session</b> CYA Staff & UOWM Staff
2	Tue July 1 UOWM Kozani	<b>Just Transition: History and current dynamics</b> Wang, X., & Lo, K. (2021). Just transition: A conceptual review. <i>Energy Research &amp; Social Science, 82</i> , 102291. <u>Reading per day: 10 pages</u>
3	Wed July 2 UOWM Kozani	<b>Just Transition: Climate, Energy, and Environmental Justice</b> McCauley, D., & Heffron, R. (2018). Just transition: Integrating climate, energy and environmental justice. <i>Energy policy, 119</i> , 1-7. <u>Reading per day: 10 pages</u>
4	Thu July 3 UOWM Kozani	<b>Course &amp; Field Trip in PPC Mines &amp; Amyntaio</b> <b>Just Transition: Spatial &amp; Social Justice</b> Garvey, A., Norman, J. B., Büchs, M., & Barrett, J. (2022). A “spatially just” transition? A critical review of regional equity in decarbonisation pathways. <i>Energy Research &amp; Social Science, 88</i> , 102630. <u>Reading per day: 10 pages</u>
5	Fri July 4 Chalkidiki	<b>2-Day trip in Thessaloniki &amp; Chalkidiki</b> <b>Procedural, Distributive, Recognition, Restorative and Cosmopolitan Justice</b> Heffron, R. J., & Heffron, R. J. (2021). Just Framework. <i>Achieving a Just Transition to a Low-Carbon Economy</i> , 21-42. <u>Reading per day: 10 pages</u> <u>Group Research Paper: Topic Approval</u>
6	Mon July 7 UOWM Kozani	<b>Just Transition &amp; Place-Based approach</b> Topaloglou, L., & Ioannidis, L. (2022). From transition management towards just transition and place-based governance. The case of Western Macedonia in Greece. <u>Reading per day: 12 pages</u>
7	Tue July 8 UOWM Kozani	<b>Just Transition, Public Engagement &amp; Deliberative Democracy</b> Topaloglou, L., Kouskoura, A., Janikowska, O., Grozeva, R., Nikolaidou, K., Karagiannis, I., & Kulczycka, J. (2024). The interplay between just energy transition and community engagement: Assessing collaborative pathways in Greece, Poland and Bulgaria. <i>Energy Research &amp; Social Science, 116</i> , 103708. <u>Reading per day: 12 pages</u>
8	Wed July 9 UOWM Kozani	<b>Mobilizing local stakeholders &amp; local communities</b> Annan-Aggrey, E., Arku, G., Atuoye, K., & Kyeremeh, E. (2022). Mobilizing ‘communities of practice’ for local development and acceleration of the Sustainable Development Goals. <i>Local Economy, 37</i> (3), 219-229. <u>Reading per day: 12 pages</u>
9	Thu July 10 UOWM Kozani	<b>Day trip to Kastoria</b> <b>The challenge of climate change: Global vs Local</b> Moloney, S., Fünfgeld, H., & Granberg, M. (2017). Climate change responses from the global to local scale: An overview. <i>Local action on climate change</i> , 1-16.

		<u>Reading per day: 12 pages</u>
10	Fri July 11 UOWM Kozani	<b>Impacts of climate change on the environment, economy, and society</b> Rocha, J., Oliveira, S., Viana, C. M., & Ribeiro, A. I. (2022). Climate change and its impacts on health, environment and economy. In <i>One Health</i> (pp. 253-279). Academic Press. <u>Reading per day: 12 pages</u> <u>Written Assignment: Response Paper (3-4 pages)</u> <u>Group Research Paper: Annotated bibliography</u>
11	Mon July 14 Grevena	<b>2-Day trip and stay to Grevena</b> <b>Climate Change and Just Transition Policies</b> Zhang, Y., & Wang, M. (2018). Climate change actions and just transition. <i>Chinese Journal of Urban and Environmental Studies</i> , 6(04), 1850024. <u>Reading per day: 10 pages</u>
12	Tue July 15 Grevena	<b>EU strategies for climate change adaptation, mitigation and resilience</b> Kyriakopoulos, G. L., & Sebos, I. (2023). Enhancing climate neutrality and resilience through coordinated climate action: review of the synergies between mitigation and adaptation actions. <i>Climate</i> , 11(5), 105. <u>Reading per day: 10 pages</u>
13	Wed July 16 UOWM Kozani	<b>The interplay between Just Transition and Climate Change</b> Creti, A., & Ftiti, Z. (2024). Energy, just transition, and sustainability: What's new?. <i>Energy Economics</i> , 107872. <u>Reading per day: 12 pages</u>
14	Thu July 17 UOWM Grevena	<b>Sustainable Development Goals and just transition</b> Filipović, S., Lior, N., & Radovanović, M. (2022). The green deal—just transition and sustainable development goals Nexus. <i>Renewable and Sustainable Energy Reviews</i> , 168, 112759. <u>Reading per day: 12 pages</u>
15	Fri July 18 UOWM Kozani	<b>Paris Agreement and 17 Sustainable Development Goals</b> Gomez-Echeverri, L. (2018). Climate and development: enhancing impact through stronger linkages in the implementation of the Paris Agreement and the Sustainable Development Goals (SDGs). <i>Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 376(2119), 20160444. <u>Reading per day: 11 pages</u> <u>Written Assignment: Response Paper (3-4 pages)</u> <u>Research Paper: Draft Submission</u>
16	Mon July 21 UOWM Kozani	<b>European Green Deal</b> Fetting, C. (2020). The European green deal. <i>ESDN Report, December</i> , 2(9). <u>Reading per day: 12 pages</u>
17	Tue July 22	<b>Day trip in Serbia &amp; Velvendo</b> <b>Just Energy Transition Policies</b> Carley, S., & Konisky, D. M. (2020). The justice and equity implications of the clean energy transition. <i>Nature Energy</i> , 5(8), 569-577. <u>Reading per day: 12 pages</u>
18	Wed July 23 UOWM Kozani	<b>Just Energy Transition Governance</b> Swarnakar, P., & Singh, M. K. (2022). Local governance in just energy transition: towards a community-centric framework. <i>Sustainability</i> , 14(11), 6495. <u>Reading per day: 12 pages</u>
19	Thu July 24 UOWM Kozani	<b>Sustainable Europe Investment Plan and Investment Programs</b> Anguelov, K. (2022). Achieving sustainable development through the effectiveness and efficiency of EU

		structural and investment funds in selected member states with a special focus on Bulgaria. <i>Sustainable Development and Engineering Economics</i> , (1), 62-76. <u>Reading per day:</u> 12 pages <u>Group Research Paper:</u> Completion & Presentation (10-12 pages)
20	Fri July 25 UOWM Kozani	<b>Just Energy Transition Monitoring Hub/Mechanisms</b> <b>Wrapping up</b> Nowakowska, A., Rzeńca, A., & Sobol, A. (2021). Place-based policy in the “just transition” process: The case of polish coal regions. <i>Land</i> , 10(10), 1072. <u>Reading per day:</u> 12 pages <u>Exams:</u> Combination of multiple-choice questions & short answers

*N.B.: The course schedule, in terms of subjects and readings, may be subject to change to benefit student learning and to keep up to date with current research.*

## COURSE BIBLIOGRAPHY

### Books and Book Chapters

1. Agyeman, Julian, Robert D. Bullard, and Bob Evans. "Just Sustainabilities: Development in an Unequal World." Earthscan Publications, 2003.
  - o Comprehensive overview of sustainability issues with a focus on justice and equity in development.
2. Gunningham, Neil, and Cameron Holley. "Next-Generation Environmental Regulation: Law, Regulation, and Governance." Routledge, 2016.
  - o Discusses modern regulatory approaches and governance structures for environmental management.
3. Newell, Peter, and Matthew Paterson. "Climate Capitalism: Global Warming and the Transformation of the Global Economy." Cambridge University Press, 2010.
  - o Explores the intersection of capitalism and climate change, examining how market mechanisms are used to address environmental issues.
4. Sovacool, Benjamin K. "Energy and Ethics: Justice and the Global Energy Challenge." Palgrave Macmillan, 2013.
  - o Analyzes the ethical dimensions of energy production and consumption, focusing on justice and equity.

### Journal Articles

5. Heffron, Raphael J., and Darren McCauley. "The Concept of Energy Justice across the Disciplines." *Energy Policy* 105 (2017): 658-667.
  - o A multidisciplinary examination of the concept of energy justice and its applications in policy and practice.
6. Jenkins, Kirsten, Darren McCauley, Raphael Heffron, Hannes Stephan, and Robert Rehner. "Energy Justice: A Conceptual Review." *Energy Research & Social Science* 11 (2016): 174-182.
  - o Provides a comprehensive review of the energy justice literature, proposing a framework for understanding and applying the concept.
7. Sovacool, Benjamin K., and Michael H. Dworkin. "Energy Justice: Conceptual Insights and Practical Applications." *Applied Energy* 142 (2015): 435-444.
  - o Discusses the practical applications of energy justice in policy and planning, offering case studies and conceptual insights.

### Reports and Policy Documents

8. Intergovernmental Panel on Climate Change (IPCC). "Global Warming of 1.5°C: An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial Levels." IPCC, 2018.
  - o A key scientific report outlining the impacts of global warming and the necessary measures to limit temperature rise to 1.5°C.
9. United Nations. "Transforming Our World: The 2030 Agenda for Sustainable Development." United Nations, 2015.
  - o The official document outlining the 17 Sustainable Development Goals (SDGs) adopted by UN member states to promote global sustainability and equity.
10. European Commission. "The European Green Deal." European Commission, 2019.

- A comprehensive policy framework aimed at making the EU's economy sustainable by turning climate and environmental challenges into opportunities.

### **Case Studies and Practical Examples**

11. Caramizaru, E., and A. Uihlein. "Energy Communities: An Overview of Energy and Social Innovation." European Commission, Joint Research Centre, 2020.
  - Provides an overview of energy communities in Europe, highlighting social innovation and community-led energy projects.
12. Holstenkamp, Lars, and Jörg Kahla. "What Are Community Energy Companies Trying to Accomplish? An Empirical Investigation of Investment Motives in the German Case." *Energy Policy* 97 (2016): 112-122.
  - Examines the motivations and objectives of community energy companies in Germany, offering insights into their contributions to the energy transition.

### **Online Resources**

13. International Renewable Energy Agency (IRENA). "Renewable Energy Statistics 2020." IRENA, 2020. Available at: [IRENA](#)
  - Provides comprehensive statistics on global renewable energy capacity, production, and investments.
14. U.S. Department of Energy. "The Office of Energy Efficiency and Renewable Energy (EERE)." Accessed June 30, 2024. Available at: [EERE](#)
  - A valuable resource for information on energy efficiency and renewable energy initiatives in the United States.
15. Climate Justice Alliance. "A Guide to Community-Driven Just Transition Planning." Climate Justice Alliance, 2021. Available at: [Climate Justice Alliance](#)
  - A practical guide for communities to develop and implement just transition plans