



O.P. Jindal Global University
A Private University Promoting Public Service
NAAC Accreditation - 'A' Grade

The Geopolitics of Energy Transitions

Cross-listed elective – Fall 2026

Course code:
XX

Course Information

Course Duration: August - November 2026

Credit Hours: 4

Meeting time and location: tba

Office hours: tba

Instructor Information

Instructor: Dr. Annika Bose Styczynski

Professor, Jindal School of Government and Public Policy (JSGP)

Email: astyczynski@jgu.edu.in

Phone: +91 83 96 90 74 66

Office Hours: By appointment

Homepage: <https://jgu.edu.in/jsgp/annika-bose-styczynski/>

1. Course Description

Every major energy transition in history — from wood to coal, from coal to oil — has redrawn the lines of geopolitical influence. The transition we are living through now may be the most disruptive of them all.

This course examines one of the most consequential questions of our time: how energy transitions, from fossil fuels to renewables and low-carbon systems, are shaped not just by technology, but by politics, economics, and institutions. Students will explore how governments, markets, corporations, civil society, and consumers interact to influence the pace and direction of the shift toward reliable, affordable, and clean energy for all.

Where the past century was defined by control over barrels, vessels, and pipelines, the emerging era centers on lithium, cobalt, and rare earths; on solar panels and batteries; on electric vehicle supply chains stretching from the Congo to Indonesia; and on hydrogen corridors linking Australia, Chile, and Germany. India — the world's third-largest greenhouse gas emitter, its fastest-growing major economy, and a country committed to at least 500 GW of non- fossil capacity by 2030 — sits at the very center of this narrative.

Students will leave the course with a framework for understanding energy as a strategic resource, a working knowledge of the actors, technologies, and supply chains defining the next two decades, and the analytical tools to assess what is truly at stake in global energy politics.

Keyword Syllabus

Energy Transition Governance, Geo-politics and economics, Sustainable Development Goals,

Session Plan

Session plans are suggestive, might be modified prior to or during the course keeping in mind revisions in the academic calendar or in teaching pedagogy and learning in order to make-up for classes missed because of holidays or other reasons.

Session with Date	General Topic	Readings	Approach/ Pedagogy
1. week			
1. Session	Orientation session		
2. Session	General Introduction to the Geopolitics of Energy Transitions		Class lecture/ Take home questions for Q&A

2. week			
3. Session	SDG 7: Affordable and Clean Energy (for all)		Class lecture/ Interactive reflections on the topic/ Take home questions for Q&A
4. Session	From energy poverty to energy security		Take home questions for Q&A
3. week			
5. Session	The ultimate dusk of the fossil fuel era?	The Guardian (2012)	Class lecture/ Take home questions for Q&A/ Group work
6. Session	Primary energy and energy end use cases – the lingering dominance of the hydrocarbons		Class lecture/ Take home questions for Q&A/ Group work
4. week			
7. Session	Climate Change and GHG emissions from the energy sector	Latest ICCP reports	Class lecture/ Take home questions for Q&A/ Group work
8. Session	Drivers and barriers of a transition to renewable energies (cost, investment trends, progress, challenges)		Class lecture/ Student presentation/ Take home questions for Q&A/ Group work
5. week			
9. Session	Green Finance	Niti Aayog, IEA, Bloomberg NEF, etc.	Class lecture/ Take home questions for Q&A/ Group work
10. Session	Green supply chains and the dollar denominated global trade system		Class lecture/ Student presentation/ Take home questions for Q&A/ Group work
6. week			
11. Session	The transition to renewable sources of energy and the shifting resource base	Conway (2024)	Class lecture/ Take home questions for Q&A/ Group work
12. Session	India's critical mineral strategy: domestic reserves, import exposure, bilateral sourcing, Critical Minerals Mission		Class lecture/ Student presentation/ Take home questions for Q&A/ Group work
7. week			
13. Session	Electro-states and energy efficiency	Weizsäcker (2014)	Class lecture/ Take home questions for Q&A/ Group work Movie time
14. Session	How electricity systems work: generation, transmission, distribution, and balancing	Holliday (2015)	

8. week			
15. Session	The solar revolution and the storage requirement		Class lecture/ Take home questions for Q&A/ Group work
16. Session	Batteries & Co.		
9. week			
17. Session	The transport sector: vehicle electrification		Class lecture/ Take home questions for weekly Q&A
18. Session	The EV life-cycle – a circular economy perspective	Howell, S. et al. (2014)	
10. week			
19. Session	Digitalization and AI in energy system management		Class lecture/ Take home questions for Q&A
20. Session	ACs, other white goods, and AI data centers		
11. week			
21. Session	Nuclear Energy: the special case of low-carbon energy technologies (nuclear fusion and fission)	MITeI (2009), German Ethics Commission (2010), Schneider (2026)	Class lecture/ Debate/ Take home questions for Q&A
22. Session	The nuclear energy debate		Student debate
12. week			
Diwali week			
23. Session	Green hydrogen: The boon and bane of cleaner molecules	Liebreich	Class lecture/ Group work/ Take home questions for Q&A
24. Session	The hydrogen policy brief		Movie time/ Take home questions for Q&A
13. week			
25. Session	Buffer week		Class lecture/ Student presentation/ Take home questions for Q&A/ Group work
26. Session	Wrap-up session		Preparation for end term paper
14. week			
01.-07.11.2026	End-semester examinations (electives)		

Course Intended Learning Objectives

Course Intended Learning Outcomes	Teaching and Learning Activities	Assessments/ Activities
Learn to distinguish primary from secondary energy, molecules from electrons, and high- from low-carbon carriers in policy analysis	Lectures, weekly text-based homework, individual or group work	Q&As, individual & group presentation via blogs, term paper, written exam
To describe, analyze, discuss, and evaluate specific (conflicting) aspects of sustainable energy governance (economic, social, ecologic and governance related).	Lectures, tailored reading material, online discussion format	Q&As, individual & group presentation via blogs, term paper, written exam
To develop systemic thinking skills and policy solutions in line with the relevant SDG goal and targets for India.	Lectures, inter-active group work	Q&As, individual & group presentation, term paper, written exam

Scheme of Evaluation and Grading

Students are expected to prepare assigned readings and exercises, participate actively in the classroom, and complete independent work. Quality of student work in the following areas will determine the course grade:

Internal Evaluation breakup:

- In-class participation (15%)
- Individual or group presentation (20%)
- One 1000-word essay (25%)
- End term paper (40%)

Grade Definition

The grading scale for the course is as follows:

The A (above average) level paper is unique, original, engaging, and full. It will have virtually no grammatical, usage, punctuation, or spelling errors. It is an original contribution and speaks with authority and clarity. It is rich in detail, showing a clear understanding of differences in levels of specificity; it provides justification or support for all general assertions. It addresses all

aspects of the assignment including specific requirements and excels in writing structure, clarity, focus, style, analytical systematization, critical analysis, and creativity. It often includes unique or unusual perspectives.

The B (meets expectations) level paper falls short of an A paper usually in style, depth, and analytical development. It has some errors in grammar, usage, punctuation, or spelling, but usually few; or it has some awkward phrases--but in neither case enough to impede the reading of the paper. Its development is consistently strong, with detail and support present in most, but perhaps not every, instance. Its sense of audience is clear. The B paper addresses the assignment directly and satisfies almost all requirements.

The grade of F is reserved for students who fail to turn in assignments or turn in assignments that demonstrate basic incomprehension of the assigned topics and an insufficient effort to overcome these problems.

80-100 O Outstanding	75-79 A+ Excellent	70-74 A Very good	65-69 A- Better	60-64 B+ Good	55-59 B Adequate	50-54 B- Marginal	< 50 F Fail
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Academic Integrity

Academic integrity is a major learning objective.

The University of Oxford has addressed issues of meeting academic standards in an academic good practice guide which you can find in the link provided below under 'Related Documents'.

<https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism?wssl=1>

Please use **APA style** for your written assignments. To learn this style of citing sources you can complete the tutorial on the link below before your first written assignment is due:

<https://apastyle.apa.org/blog/basics-7e-tutorial>

Please get your text checked for correct grammar, orthography, syntax and punctuation. If you wish to get your text checked software like 'Grammarly' and others are available to support you in correcting all kinds of textual mistakes. If you don't have an inbuilt correction software, you can go to www.grammarly.org to download the software for free.

The JSJP policy allows limited AI use only with disclosure, and expects students to take responsibility for accuracy. Before submitting any text-based assignment, add a short disclosure statement such as:

“I used generative AI tools for language editing and structural refinement; all arguments, analysis, and data choices are my own.”

**** The submission of fully AI generated texts or presentations is considered a breach of intellectual honesty and academic integrity. Standard citation and referencing rules apply. The following conversion rates for grade finding apply if the use of AI generated content is not properly indicated.**

AI use detection rate 100%	Reduction quota -50%
90%	- 45%
80%	- 40%
70%	- 35%
60%	- 30%
50%	- 25%
...	...

Participation/Attendance Policy:

Students must meet a minimum of 75% attendance over the semester.

Use of phone/ texting/ laptop:

During sessions, courtesy suggests that you limit the use of your phones, tablets, and laptops to course content-related tasks such as fact checks. If your use of these devices disturbs the teaching environment, I reserve the right to collect your devices for the time of the session.

Selected Course Material

Books, book chapters, journal and newspaper articles, reports, and web-based material.

1. Agora Energiewende (2023). Breaking free from fossil gas. A new path to a climate-neutral Europe. May 2023.
2. Arent, D. et al. (2017) The Political Economy of Clean Energy Transitions. OUP.
3. BNEF (2026) Global trends in clean energy investment. Bloomberg New Energy Finance.
4. Bose Styczynski, A. (ed.) (2024) India's Energy Revolution. Insights into the Becoming of a Global Power. Routledge India.
5. Ethics Commission for a Safe Energy Supply (2011) Germany's energy transition – A collective project for the future, Berlin, May 30, 2011.

6. Geels, F. & Schott, J. (2007) Typology of sociotechnical transition pathways, In: Research Policy 36 (2007) 399-417.
7. IEA (2017) Digitalization and Energy. International Energy Agency, Paris.
8. Liebreich, M. (2022). The Unbearable Lightness of Hydrogen. Bloomberg New Energy Finance. Retrieved from: <https://about.bnef.com/insights/clean-energy/liebreich-the-unbearable-lightness-of-hydrogen/>
9. Mehta, V. (2017) 2016, the year of inflexion for the oil industry? Indian Express, Feb. 6, 2017.
10. Polanyi, K. (1944) The Great Transformation. The political and economic origins of our time.
11. Schneider, M. et al. (2017) World Nuclear Industry Status Report.
12. Smil, V. (2022) How the World Really Works. Penguin.
13. ___ (2017) Energy and Civilization. A History. MIT Press, Cambridge Massachusetts, London, England.
14. The Economist (2017) Renewable energy: A world turned upside down.
15. The Guardian (2012) 'Fossil fuels are the new whale oil', says environmentalist Amory Lovins. (2012, February, 21).
16. UNEP (2015) District Energy in Cities. Unlocking the Potential of Energy Efficiency and Renewable Energy. Paris, 25 February 2015.
17. Victor, D. G. & Heller, T. C. (2007) Political economy of power sector reform the experiences of five major developing countries, Cambridge University Press, New York.
18. Weizsäcker, E.U., et. al. (2014) Factor Five: Transforming the Global Economy through 80% Improvements in Resource Productivity, Routledge.

Additional web sources are www.sustainabledevelopment.un.org, <https://www.greentechmedia.com/podcast/the-energy-gang>, and others.

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