

**Energy Studies Programme****School of International Studies**

Course	:	<b>Ph.D.</b>
Course No.	:	<b>EG607N</b>
Course Title	:	<b>Energy: Concepts, Policies and Politics</b>
Course Type	:	<b>Core</b>
Course Teacher	:	<b>Prof. Atul Kumar</b>
Credits	:	<b>2</b>
Semester	:	<b>Monsoon</b>
Contact Hours	:	<b>2 hours per week</b>
Teaching Method	:	<b>Lectures and Discussions</b>
Evaluation Method	:	<b>Class Performance/Assignments/ End semester Test</b>

**Course Rationale**

Defined as “the capacity of the system to do work” in physical sciences, 'Energy' refers to the mix of fuel types that run the economic engine of any country' in international politics and policy studies. As the commonly used commercial energy sources of today are unevenly distributed among different geographical locations, energy used by any country demands greater cooperation and stronger interdependence among economies. The exploration, production, transportation, usage and waste processing of energy sources and the generation and transmission of electricity often involve trade and interaction of more than one country. The environmental impacts of energy-related emissions and the public concerns about the use of specific fuel sources also are critical issues beyond the geographical borders of any single country. Further, the growing demand for renewable sources and clean energy technologies are

already influencing regional and multilateral collaborations and making way for cooperation and competition among countries. Energy studies is an interdisciplinary field and are the confluence of studies of fuel sources, international politics, foreign policy, technology, economics, environment, market dynamics, society and legal aspects.

### **Course Objectives**

The objective of this course is to equip students with detailed knowledge of energy resources, pertinent trends along with the national and global energy policies, and energy-climate change linkages. This course seeks to provide students with an overall context for understanding both the domestic and global energy sector landscape and how it impacts international relations.

### **Learning Outcomes**

The learning outcomes expected from this course include:

- Examine and assess the role of energy sector developments in influencing international relations.
- Analyse the interlinkages between energy and climate change from an Indian and international standpoint.
- Evaluate global energy policies and its implications for India.

### **Course Contents:**

***Introduction to Energy Resources:*** This component will introduce various fuel sources including fossil fuels, nuclear energy, and non-conventional sources.

***Units and Measures of Energy:*** This component will discuss the key units and measures commonly used in the energy sector, relevant to domestic policies and international politics.

***Energy in Domestic and External Policy:*** This component will focus on energy as a factor in domestic and external policy. Making of energy policy in the backdrop of market trends, geopolitics, resource security, the resource curse and energy nationalism will be discussed

***Global Energy Industry and Market:*** This component will discuss the key aspects related to the global energy market and industry players, commercial competition in different geographic settings, the search for energy security and the competition among import dependent economies

***Energy and Climate Change Linkages:*** This component will discuss the energy and the climate change dimension, climate change and equity, international response to climate change, India's responses to climate change.

## **Reading List**

### ***Introduction to Energy Resources***

1. Bhattacharyya, S.C., 2011. Energy economics: concepts, issues, markets and governance. Springer Science & Business Media.
2. Blair, JM., 1976. Control of Oil, Macmillan Press
3. Block K., (2009). Introduction to Energy Analysis, Techn Press.
4. Jansen, J.C. and Seebregts, AJ., 2010. Long-term energy services security: What is it and how can it be measured and valued?. Energy Policy, 38(4). pp.1654-1664.
5. Klssel, E., Hamburg, A., Harm, M., Leppelman, A. and Ots, M., 2016. Concept for Energy Security Matrix Energy Policy, 95, pp.1-9.
6. Sorensen, B., 1975. Energy and resources. Science, 189(4199), pp.255-260.

### ***Units, Measures and Key Segments in Global Energy Sector***

7. IEA, 2004. Energy Statistics Manual, International Energy Agency (IEA), Accessed on 12 January, 2017 at: <http://ec.europa.eu/eurostat/ramon/statmdnuals/files/Ene..gy> Statistics manual 2 004\_ EN.pdf
8. IEA, 2020 World Energy Balance, International Energy Agency (IEA), (IEA), Paris, France.
9. MoC, 2022, Coal Director of India 2020-21, Ministry of Coal (MoC), Government of India, New Delhi, India.
10. MoPNG, 2022, Indian Petroleum and Natural Gas Statistics 2020-21, Ministry of Petroleum and Natural Gas (MoPNG), Government of India, New Delhi, India
11. TERI 2020, TERI Energy & Environment Data Diary and Yearbook 2020/21, The Energy and Resources Institute (TERI), New Delhi India.
12. UN. 1991. Energy Statistics: Definitions, Units of Measure and Conversion Factors, New York, Accessed on 8 January 2017 at: [http://unstats.un.org/unsd/publication/SeriesF/SeriesF\\_44E.pdf](http://unstats.un.org/unsd/publication/SeriesF/SeriesF_44E.pdf)

### ***Energy in Domestic and External Policy***

13. Adelman, M.A. and Conant, M.A., 1984. Sense and Nonsense about World Oil. The Energy Journal, 5(1), pp.169-172.

14. Božić, F., Karasalihović Sedlar, D., Smajla, I. and Ivančić, I., 2021. Analysis of Changes in Natural Gas Physical Flows for Europe via Ukraine in 2020. *Energies*, 14(16), p.5175.
15. Calder, K.E., 1996. Asia's empty tank. *Foreign Affairs*, pp.55-69.
16. Cherp, A. and Jewell, J., 2014. The concept of energy security: Beyond the four As. *Energy Policy*, 75, pp.415-421.
17. Klare, M., 2002. *Resource wars: the new landscape of global conflict*. Macmillan.
18. Klare, M., 2009. *Rising powers, shrinking planet: the new geopolitics of energy*. Macmillan.
19. Pant, G., 2007. Energy security in Asia: the necessity of interdependence. *Strategic Analysis*, 31(3), pp.523-542.
20. Yergin, D., 2006. Ensuring energy security. *Foreign Affairs*, pp.69-82.

### ***Global Energy Industry and Market***

21. Adelman, M.A., 1985. An unstable world oil market. *The Energy Journal*, 6(1), pp.17-22.
22. British Petroleum, 2021. *BP statistical review of world energy 2021*. BP Plc, London, United Kingdom
23. IEA, 2021, *Key world energy statistics 2021*, International Energy Agency (IEA), Paris, France.
24. Fnedman, T.L., 2006. The first law of petropolitics. *Foreign Policy*, 154(3), pp.28-36.
25. Yergin, D., 1990. *The prize: The epic quest for oil, money & power*. Simon and Schuster.
26. Yergin, D., 2011. *The quest: energy, security, and the remaking of the modern world*. Penguin.

### ***Energy and Climate Change Linkages***

27. Kumar A., 2011. *Growth, sustainable development and climate change: friends or foes?* Utrecht University, Netherlands.
28. Tanner, T. and Allouche, J., 2011. Towards a new political economy of climate change and development. *Ids Bulletin*, 42(3), PP.1-14.

29. Thaker, J. and Leiserowitz, A., 2014. Shifting discourses of climate change in india. *Climatic Change*, 123(2), PP.107-119.
30. Gallopín, G.C., 2006. Linkages between vulnerability, resilience, and adaptive capacity. *Global Environmental Change*, 16(3), Pp.293-303.
31. United Nations, 1992. *United Nations Framework Convention on Climate Change*. New York, United Nations, General Assembly.
32. Pachauri, R.K., Allen, M.R., Barros, V.R., Broome, J., Cramer, W., Christ, R., Church, J.A., Clarke, L., Dahe, Q., Dasgupta, P. And Dubash, N.K., 2014. *Climate change 2014: synthesis report. Contribution of working groups I, II and III to the fifth assessment report of the Intergovernmental Panel on Climate Change (IPCC)*