

Course title: Energy Policy and Sustainable Development				
Course code: PPS 135		No. of credits: 2		L-T-P: 18-10-4
Learning hours: 30				
Pre-requisite course code and title (if any): None				
Department: Policy and Management Studies				
Course coordinator: Dr. Sapan Thapar and Dr. Gopal Sarangi			Course instructor: Dr. Sapan Thapar and Dr. Gopal Sarangi	
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Course type: Core			Course offered in: Semester 1	
Course description: Energy is at the centre of achieving both the climate and the sustainable development goals that the world has committed to. At the same time ensuring its availability, efficient use and access is critically important to the growth and development of any country. The course is designed to enable the student to understand the challenges of understanding energy security, its complex interactions with the economy and society as well as the tools available to assess impact on multiple, often competing goals.				
Course objectives The objective of the course is to sensitize the student to the role of energy in society, the multiple means of meeting energy service demands, global energy linkages, emerging scenarios of vulnerability and the instruments and tools available for effective energy policy formulation. At the end of the course, the student will have an enhanced understanding of the need for an integrated energy policy and the impact of alternative policies on the energy security of a country and its populace. By the end of the course, the students will be able to: <ul style="list-style-type: none"> ▪ Frame issues from a public policy energy and sustainability perspective ▪ Create a matrix of cross-sectoral issues and linkages ▪ Assessment of unintended outcomes and risks ▪ Assessment of Policy implementation challenges ▪ Have an understanding of path dependencies 				
Course contents				
Module	Topic	L	T	P
1	Basic Introduction to Energy: Comprehensive overview of different forms and sources of energy being used, particularly in the context of India; Distinction between primary and secondary forms of energy; Different units of measurement used conventionally and their equivalence. Total energy mix of the country with regard to the availability of different forms of energy, distribution, supply mechanism and end-uses.	1	1	
2	Energy and Sustainable Development: Many linkages of energy with other sectors and areas such as economic development, environment, health, gender, agriculture, livelihoods etc.; Linkage between energy and sustainable development	2	1	
3	Energy Security: Energy security and energy dependence for different levels in the society such as – household, community, company and a country; Geopolitics associated with energy security concerns, trading and transnational flow and the issue of control over strategic areas from an energy security perspective.	1	1	
4	Energy, Technology & End-use: Policy implication of energy conversion, technology, process and end-use. Three dimensions of energy from a policy intervention perspective.	2	1	
5	Energy Infrastructure and Path Dependencies: Weighing options, making tradeoffs and judgments w.r.t. technology and infrastructure approaches. Assessment of pathways for energy intensity and path dependencies.	2	1	

6	Energy Poverty: Policy implications of Energy poverty, distinction between energy poverty and poverty, infrastructure access, remoteness and affordability.	1	1	
7	Evolution of Energy Policy in India: Evolution of Energy policy in India; Pre Reforms; Post Reforms; Recent Trends. Electricity generation, transmission and distribution; PSUs, mini and maharatna; Oil & Gas In the pre-reform period, the focus of energy policies was mainly on development generation and transmission capacities under public sector. Private investments, unbundling of the state utilities, Electricity Bill 2003 and formation of State and Center Electricity Regulatory Commissions. Electricity generation tariffs arrived at through competitive bidding in renewable energy.	2	1	
8	Energy Scenarios and energy vulnerabilities: Scenarios analysis in policy formulation, building futuristic and long-term scenarios with modeling techniques, quantitative and qualitative parameters in future associated with the chosen policy options. Vulnerabilities associated with policies. Multi-dimensional, cross-sectorial and intended and unintended fallouts of a given policy option.	2	1	
9	Policy Tools & Techniques: Tools and methods to address complex Energy policy problems in the context of sustainable development. Assessment of the desirability of a policy option. Different kinds of approaches & analysis such as GIS, cost-benefit, social cost benefit, tradeoffs, and Risk-Opportunity frameworks for technology evaluation etc.	4	1	3
10	Policy Case Studies: Analysis of case studies to examine linkages with other sectors, risks, dependencies, sustainable development, scale etc. Energy policies from past and present. For example : Bio Fuel Policy, UMPP, current Bidding and Auctions in Wind and Solar projects	2	1	1
	Total	18	10	4
Evaluation criteria:				
<ul style="list-style-type: none"> ▪ Assignment 40% ▪ Term Paper 30% ▪ Case Study Analysis and Presentation 30% 				
Learning outcomes:				
At the end of the course, the course participant will have:				
<ol style="list-style-type: none"> 1. Comprehensive understanding of the Indian energy sector, its evolution, the sustainability issues and the evolution of the policy landscape 2. A deeper understanding of the nature of the policy issues and the interplay of many cross-sectorial aspects that must be considered in policy making in the energy sector 3. A broad understanding of tools and techniques needed for policy making in the context of energy sector and sustainable development 4. Ability to analyse a given policy for risks and intended and unintended outcomes 5. A deeper understanding of path dependencies, scenarios and vulnerabilities in policy making 6. An understanding of what may or may not work through an analysis with case-studies. 				
Pedagogical approach:				
A combination of class-room interactions, participative group discussion and presentations, tutorials and assignments				

Materials:**Required text**

1. Power Sector Outlook IEA
2. India: Five Years of Stabilization and Reform and the challenges ahead
3. Electricity Act 2003
4. TERI Energy Data Directory (TEDDY) 2016 (TERI Press, 2016)

Suggested readings**Websites and Links:**

5. Ministry of new and renewable energy
6. Planning commission
7. Ministry of Power
8. Niti Ayog
9. Energy Access in India – Today, and Tomorrow: CEEW Report
(<http://ceew.in/pdf/CEEW-Energy-Access-in-India-Today-and-Tomorrow-1Jul14.pdf>)
10. The Status of Rural Energy Access in India: A Synthesis (BELFER Center)
(http://www.belfercenter.org/sites/default/files/files/publication/ETIP_DP_2010_09.pdf)
11. Additional select Presentations and papers will be circulated.

Case Studies**Journals****Other readings****Additional information (if any):**

There will be a test after the completion of the course

Student responsibilities:

Attendance, timely feedback, discipline: as per university rules, adopt peer learning and knowledge sharing within the class

Course reviewers:

1. Alok Srivastava (IAS), Ministry of shipping, GOI; Transport Bhawan, Sansad Marg, New Delhi, 110001
2. Arunabha Ghosh, CEO, Council on Energy, Environment and Water, Thapar House, 124, Janpath, New Delhi 110001, India
3. Varsha Joshi (IAS), Secretary Power & Transport, Gov of NCT of Delhi