

Curriculum Vitae

Name : Atul Kumar

Date of Birth : July 22, 1977

Sex : Male

Nationality : Indian

Address for Correspondence:

Atul Kumar
Fellow & Area Convenor
Modelling & Economic Analysis
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Education :

Ph.D., (Energy Policy and Planning), Indian Institute of Technology, Delhi, India (2005)
Thesis Title: “CO₂ Emissions Mitigation by Using Renewable Energy Technologies for Irrigation Water Pumping and Crop Drying in India”

Courses Studied during Ph.D:

Economics and Planning of Energy Systems, Economics and Financing of Renewable Energy Systems, Quantitative Techniques for Energy Management, Project Evaluation and Management, Energy Ecology and Environment, Environmental Audit, Environmental Economics, Non Conventional Sources of Energy, Solar Energy Utilization, Heat Transfer, Communication skills.

M.Sc. (Physics), Hemwati Nandan Bahuguna Garhwal University, Srinagar (Garhwal), India, (1998)

Specialization: Laser and Opto-Electronics
Dissertation Title: Fabrication of Reflection Hologram

B.Sc. (Physics, Mathematics and Chemistry), Hemwati Nandan Bahuguna Garhwal University, Srinagar (Garhwal), India (1996)

Employment Record:

Eleven years of research experience in the areas of energy-economy-environment modeling, climate change (mitigation), energy policy, preparation of GHG inventory, techno-economics

of energy systems, distributed generation planning, rural energy, and analysis of sustainable life style with respect to climate change.

Countries of Work Experience: India, Bhutan

July 2008-Present: **Fellow & Area Convenor,**
Modeling and Economic Analysis Area,
The Energy and Resources Institute (TERI),
New Delhi, 110003 (India)

October 2006- June 2008: **Associate Fellow,**
Modeling and Economic Analysis Area,
The Energy and Resources Institute (TERI),
New Delhi, 110003 (India)

April 2005 - September 2006: **Research Associate,**
Modeling and Economic Analysis Area,
The Energy and Resources Institute (TERI),
New Delhi, 110003 (India)

Job Responsibilities:

Energy sector assessment studies for different national and international agencies/organizations at various levels such as Ministry of Environment and Forests and Planning Commission of Government of India. Providing inputs to the Government of India for climate change negotiations meeting.

December 2004 – April 2005: **Executive: Energy Systems,**
Technology Systems Branch,
Development Alternatives, New Delhi, India.

Job Responsibilities:

- Preparation of Integrated rural energy plan.
- Technical and economical assessment of biomass based energy systems for rural areas

January 2002 – November 2004: **Project Associate,**
Centre for Energy Studies,
Indian Institute of Technology Delhi, India.

February 1999 – December 2001: **Senior Research Fellow,**
Centre for Energy Studies,
Indian Institute of Technology Delhi, India.

Job Responsibilities:

Research and development in the areas of energy-environment interaction modeling, testing and standardization of solar thermal systems, renewable energy utilization in India, programme on renewable energy education and training, research guidance and assistance to master and doctoral student, teaching assistance ship.

List of Recent Research Projects Undertaken:

- European Responses to climate change: deep emissions reductions and mainstreaming of mitigation and adaptation, Sponsored by European Commission, Under FP7, Duration: 2010-2013
- Full costs of climate change; Sponsored by European Commission, Under FP7, Duration: 2008-2011
- Climate policy research, Sponsored by Swedish Foundation for Strategic Environmental Research (MISTRA), Stockholm, Sweden, Duration: 2008-2010
- Estimating the costs of mitigating and adapting to climate change, Sponsored by Norwegian Ministry of Foreign Affairs, Norway; Duration: 2008-2012.
- Reduction of energy consumption/CO₂ emission and improvement of air quality in Asia, Sponsored by Toyota Motor Corporation, Japan, Duration: 2008-2010
- Ensuring India's energy security; TERI's in-house project carried out for office of the Prime Minister of India, Duration: 2008-2010
- Development of an Indicator for Impact of Climate Change Mitigation and Adaptation Strategies on Poverty Alleviation, Sponsored by United Nations Development Programme, Duration: 2009-2010
- E3 Modeling to support climate change assessment & policy-making in India, Sponsored by Ministry of Environment and Forests, Government of India, Duration: 2005-2009
- Research on key issues in climate change negotiations, Sponsored by Ministry of Environment and Forests, Government of India, Duration: 2006-2009
- Possible impacts of relatively severe climate change, Sponsored by Oak Ridge National Laboratory, USA, Duration: 2008-2009
- Environment for development: India and China, Sponsored by India Council for Sustainable Development (ICSD) and China Council for International Cooperation on Environment and Development (CCICED). Duration: 2008-2010
- Enabling activities for preparation of India's Second National Communication to the UNFCCC, Sponsored by United Nation Development Fund- Global Environment Facility Duration and Ministry of Environment and Forests Government of India, Duration 2007-2010
- Mitigation Cost Database and energy sector projections for India, Sponsored by International Energy Agency Duration: 2009-2010.
- Energy-efficient pathways for sustainable development in India, Sponsored by Ministry of Environment and Forests, Government of India, Duration: 2007-2008

- A national energy map for India: technology vision 2030, Sponsored by Office of the Principal Scientific Advisor, Government of India Duration: 2005-2006
- Assisting developing country climate negotiators through analysis and dialogue, Sponsored by Department of International Development, UK, Duration 2005-2006
- Scaling-up of off-Grid rural electrification programme, Sponsored by World Bank (GAP fund), Duration: 2006-2007
- Input to IEA's (International Energy Agency's) Publication "World Energy Outlook – 2007", Sponsored by International Energy Agency (IEA), Duration: 2006-2007
- An expanded scope of the climate regime: participation by developing countries, Sponsored by Norwegian Ministry of Foreign Affairs, Duration: 2006-2008
- Building an Energy Secure Future for India through a Multi Stakeholder Dialogue Process, Sponsored by Nand and Jeet Khemka Foundation, Duration: 2006-2009
- Integrated Energy Management Master Plan (IEMMP) for Bhutan, Sponsored by The Royal Government of Bhutan, Thimphu, Duration: 2005-2008
- Background Study on Energy Matrix for India, Sponsored by Czarnikow Sugar Group, Duration: 2007

Training Programmes:

- Training Course on Technical-Economic Modelling with the TIMES Model Generator (An Energy System Model), 18-20 January 2010, TERI, New Delhi, India
- Training course on Advanced MARKAL-ANSWER Options (An Energy System Model), 23 January 2010
- Course on Oil and Gas Business (third semester MBA infrastructure elective course), TERI University, (July – December 2007)
- Introductory Training Session on Dynamic analysis of Economics and Environmental Policy model (DEEP): A CGE model 26 November 2006, CICERO (Centre for International Climate and Environmental Research-Oslo), Oslo, Norway
- National Training Programme on Economics of Renewable Energy Systems, January 20-24, 2003, Indian Institute of Technology Delhi, India.
- Training Seminar on RETScreen Software (renewable energy project analysis software), May 18, 2004, Indian Institute of Technology Delhi, India.
- Practical training in "Holography", 7 January – 6 February 1998, Instruments Research and Development Establishment (Defence Research Development Organization's Lab), Dehradun, India.

Language & Degree of Proficiency:

	Read	Write	Speak
Hindi:	Native	Native	Native
English:	Excellent	Excellent	Excellent

Membership of Professional Organizations/Official Committees:

- Life member of Solar Energy Society of India (Indian chapter of International Solar Energy Society)
- Member of Modeling Subgroup on Climate Change of the Government of India
- Participated in meetings of several committees/sub-groups/task-forces constituted by Government of India for policy formulation

Scholarship/Fellowship and Awards:

- Awarded Senior Research Fellowship -Extended: by Council of Scientific and Industrial Research, India, in 2004 to research on issues related to the Clean Development Mechanization (CDM) in India
- Team Award 2007 at TERI for cross-divisional/or inter-organization team work in the project
- Role of Honour Award 2007/08 at TERI for outstanding performance during the year 2007-08

Proficiency in Computers:

Operating Systems:	Windows
Languages:	GAMS (General Algebraic Modelling Software)
Packages:	MARKAL- ANSWER, RETScreen. MS Office, Sigma Plot, Mathcad, TORA, EViews,

Selected Research Publications:

Chapters in Book

1. **Atul Kumar**, Overview of Energy Sector of India, TERI Energy Data Directory and Year Book, The Energy and Resources Institute, New Delhi, India (2008)
2. Leena Srivastava, Sakshi Marwah, **Atul Kumar**, Ritu Mathur, Pradeep Kumar Dadhich “India’s Economic Development and the Energy Agenda”, China, India

and United States Competition for Energy Resources, Emirates Centre for Strategic Studies and Research, Abu Dhabi, UAE (2008)

Peer Reviewed Journals

3. Vivek Kumar, **Atul Kumar**, Markus Åhman, Asbjorn Torvanger, and Lars Zetterberg, A Bottom up Approach for India, *European Review of Energy Markets*, **3** (2): 300-321 (2009)
4. **Atul Kumar**, Parimita Mohanty, Debajit Palit and Akanksha Chaurey, Approach for Standardization of Off-grid Electrification Projects, *Renewable and Sustainable Energy Reviews*, **13**(8):1946-1956 (2009)
5. Vivek Kumar and **Atul Kumar**, Emerging Asian Giants in the Energy and Climate Debate, *World Affairs: The Journal of International Issues*, **12** (1): 32-46, (2008)
6. **Atul Kumar** and Tara C. Kandpal, "Potential and Cost of CO₂ Emissions Mitigation by Using Solar Photovoltaic Pumps in India", *International Journal of Sustainable Energy*, **26**(3) 159-166 (2007).
7. **Atul Kumar** and Tara C. Kandpal, "CO₂ Emissions Mitigation Potential of Some Renewable Energy Technologies in India", *Energy Sources*, **29**(13):1203:1214 (2007).
8. **Atul Kumar** and Tara C. Kandpal, "Renewable Energy Technologies for Irrigation Water Pumping in India: A Preliminary Attempt towards Potential Estimation" *Energy*, **32**(5): 861-870, (2007).
9. Pallav Purohit, **Atul Kumar** and Tara Chandra Kandpal, "Solar Drying vs. Open Sun Drying: A Framework for Financial Evaluation", *Solar Energy*, **80**(12): 1568-1579 (2006).
10. **Atul Kumar** and Tara C. Kandpal, "Solar Drying and CO₂ Emissions Mitigation: Potential for Selected Cash Crops in India" *Solar Energy*, **78**(2): 321-329, (2005).
11. Tara C. Kandpal, Pallav Purohit, **Atul Kumar** and B. Chandrasekar, "Study of Selected Issues Pertaining to the Economics of Renewable Energy Utilization in Developing Countries", *SESI Journal*, **13**(1&2): 57-82, (2003).
12. **Atul Kumar**, Pallav Purohit, Santosh Rana and Tara Chandra Kandpal, "An Approach to the Estimation of Value of Agricultural Residues Used as Biofuels", *Biomass and Bioenergy*, **22**(3): 195-203, (2002).
13. Pallav Purohit, **Atul Kumar**, Santosh Rana and Tara Chandra Kandpal, "Using Renewable Energy Technologies for Domestic Cooking in India: A Methodology for Potential Estimation", *Renewable Energy*, **26**(2), 235-246, (2002).
14. Pallav Purohit, **Atul Kumar** and Tara Chandra Kandpal, "Potential of CO₂ Emissions Reduction by Using Renewable Energy Technologies for Domestic

Cooking in India", International Journal of Ambient Energy, **23**(3) 127-135: (2002).

Peer Reviewed Conference Proceedings/News Letters

15. **Atul Kumar** and Ritu Mathur, Role of Renewable Energy in India, YOJANA, Volume 53, (Apr, 2009): 28-31 (2009)
16. Ritu Mathu, Ruchika Chawala, and **Atul Kumar**, The Role of Energy Efficiency and Renewable Energy in Enhancing Energy Security: Challenges and Opportunity for India, Energy Security Insights **3**(2) 2-6 (2009)
17. R.K. Pachauri, Leena Srivastava, Ritu Mathur, **Atul Kumar**, Pradeep K Dadhich, Ila Gupta, Amrita Goldar, and Ruchika Chawala, Mitigation options for India: The Role of the International Community, Special TERI position paper for COP-14 (2008)
18. Vivek Kumar and **Atul Kumar**, Engaging the Asian Giants in Energy and Climate Debate, Energy Security Insights **2**(2) 7-13 (2007)
19. **Atul Kumar** and Tara C. Kandpal, "Renewable Energy Technologies for Water Pumping: An Estimation of Unit Cost of CO₂ Emissions Mitigation", AIP Conference Proceeding **941** :14-19 (2007)
20. **Atul Kumar** and Tara C. Kandpal, "Potential of Renewable Energy Utilization for Irrigation Water Pumping in India" World Renewable Energy Congress VIII (WREC VIII), Denver, Colorado, 28th August – 3rd September, (2004).
21. Tara Chandra Kandpal, Pallav Purohit and **Atul Kumar**, "Techno-Economic Evaluation of Solar Crop Dryer" Proceeding of International Conference on Renewable Energy Technology for Rural Development – 03 (RETRUD 03), October 12 – 14, 2003, Kathamndu, Nepal, pp 197-201, (2003)
22. **Atul Kumar** and Tara C. Kandpal, "Solar Drying and CO₂ Emissions Mitigation: Potential for Selected Cash Crops in India" ISES Solar World Congress 2003, June 14 – 19, 2003, Goteborg, Sweden.
23. Tara Chandra Kandpal, **Atul Kumar** and Pallav Purohit, "CO₂ Mitigation Potential of Renewable Energy Technologies for Domestic Cooking in India", Proceeding of the National Conferences on Advances in Contemporary Physics and Energy, Organized by Indian Institute of Technology Delhi, Allied Publishers Ltd, New Delhi (India), pp 390-401, (2002).
24. **Atul Kumar**, Pallav Purohit, Santosh Rana and Tara Chandra Kandpal, "Potential of Using Renewable Energy Technologies for Domestic Cooking in India", National Workshop on Energy and Environment Management for Sustainable Development of Agriculture and Agro-Industrial Sector, Bhopal (India), July (2001).

25. Pallav Purohit, **Atul Kumar**, Santosh Rana and Tara Chandra Kandpal, "Estimation of Monetary Worth of Agricultural Residues Used as Biofuels: A Preliminary Estimation", Proceeding of the 24th National Renewable Energy Convention 2000 of the Solar Energy Society of India, Allied Publishers Ltd, New Delhi (India), pp 328-333. (2000).

Research Reviewing:

Reviewed various research articles for Energy and Energy Policy Journals

References:

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