# ABHISHEK DAS

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Experienced professional with expertise in energy systems modelling, regulatory analysis, finance and sustainability, including developing capacity expansion models and conducting academic and stakeholder-driven research. Proven track record in delivering impactful projects, authoring publications, and contributing to zero-carbon transition initiatives.

## ELIGIBILITY & CERTIFICATION

- **UGC NET JRF (Management), December 2016:** Qualified for *Junior Research Fellowship (JRF)* and eligibility for *Assistant Professorship* in Management.
- **GARP SCR, November 2024:** Earned the *Sustainability and Climate Risk (SCR) Certificate*, from the *Global Association of Risk Professionals (GARP)*.

## ACADEMIC PROFILE

| DEGREE | UNIVERSITY | YEAR |
|---|---|---|
| PhD | Indian Institute of Science, Bengaluru | 2019 – Pursuing |
| MBA (Power Management) | National Power Training Institute, Faridabad, Ministry of Power, Govt. of India | 2013 – 2015 |
| B. Tech (Mechanical Engineering) | National Institute of Technology Karnataka, Surathkal | 2006 – 2010 |

## WORK EXPERIENCE

**PricewaterhouseCoopers Private Limited** — **06 July 2015 – 22 July 2017**

| | |
|---|---|
| Designation | Consultant |
| Key Assignments | • Retainership assistance to Meghalaya Energy Corporation Limited (MeECL) in all electricity regulatory and policy matters.<br>• Cleared 3+ years of compliance backlogs and prepared tariff/true-up petitions for MeECL.<br>• Represented client in regulatory hearings, and supported APTEL litigations.<br>• Delivered presentations to state and central governments on financial and regulatory compliance.<br>• Improved AT&C loss reduction and collection efficiency; assisted in UDAY scheme implementation.<br>• Conducted due diligence of hydro assets, supported wind project debt syndication via financial modelling, and co-authored a renewable energy white paper. |

**Coal India Limited** — **29 July 2010 – 21 July 2013**

| | |
|---|---|
| Designation | Assistant Manager (Electrical & Mechanical) |
| Responsibilities | • **Headed the team for Operation & Maintenance** of all Electrical and Mechanical Machinery like Side Discharge Loaders, Belt Conveyor System, Tuggers & Haulage, Pumping Systems, Ventilation Systems etc in a semi mechanized underground coal mine of 1000 Tonnes per Day production capacity – **reduced downtimes by 18% in three months**. |

| WORK EXPERIENCE | |
|---|---|
| | • Record keeping and preparation of performance reports. **Digitised the production logbook and record keeping process of the mine.**<br>• **Departmentally installed and commissioned** ~1.5km of conveyor belt system in an underground coal mine.<br>• Maintenance of power supply to the mine and its adjoining miners' colony through a 2.5MVA, 6.6kV/3.3kV/550V Substation and approx. 3km of associated overhead lines<br>• Maintenance of water supply to the adjoining miners' colony. |

| SPONSORED PROJECTS | |
|---|---|
| **Indian Institute of Science, Bangalore** | |
| Title | **In**D**i**an Z**E**ro-Carbon **E**nergy P**A**thways (IDEEA) |
| Key Activities | IDEEA is an indigenous open-source generation capacity expansion model for optimising India's power sector growth and renewable energy transition. This is a collaborative project between *Environmental Defense Fund (EDF), Jadavpur University (JU) and Indian Institute of Science (IISc).*<br>• Subject matter expert on the structure and operations of the Indian electricity sector.<br>• Extracting relevant data from various primary and secondary sources and, cleaning and organising them.<br>• Developing and validating an indigenous capacity expansion planning model for rationalizing India's electricity system growth, using R.<br>• Development of various scenarios for zero-carbon growth in India to meet the sustainable objective.<br>• Attending stakeholder meetings and preparing progress reports. |
| **Indian Institute of Technology, Kanpur** | |
| Title | Centre for Energy Regulation (CER) |
| Key Activities | • Contributed to the establishment of India's first Centre for Energy Regulation (CER).<br>• Designed and delivered training programs to strengthen academia–utility–regulator linkages.<br>• Facilitated workshops and capacity-building initiatives as a resource person.<br>• Served on the editorial team of the CER newsletter.<br>• Conceptualized and developed the Centre's Regulatory Database module. |

## PUBLICATIONS

**Journal Articles**

- **Abhishek Das** and Balachandra Patil**.** (2025). **Counting the cost of clean energy transition – A novel framework for mapping the socio-economic costs of renewable energy adoption in India.** [in preparation]
- Tarun Sharma, Praveen P., **Abhishek Das**, Manjunath M. and Balachandra Patil. (2025). **Planning for a Net-Zero Future: Evolution of Electricity System Models.** [in preparation]
- **Abhishek Das** and Balachandra Patil**.** (2025). **Implications of electricity system transition on employment; the gainers and the losers: A systematic literature review.** ***Renewable and Sustainable Energy Reviews, 219*****, 115870. https://doi.org/10.1016/j.rser.2025.115870.**
- Varun Jyothiprakash, Balachandra Patil and **Abhishek Das** et al. (2024), ***"Towards a Zero-Carbon Electricity System for India in 2050: IDEEA Model-Based Scenarios Integrating Wind and Solar Complementarity and Geospatial Endowments"***. Environmental Research: Infrastructure and Sustainability [Under Review].
- Oleg Lugovoy, …, **Abhishek Das** et al. (2021), ***"Towards a Zero-Carbon Electricity System for India in 2050: IDEEA Model-Based Scenarios Integrating Wind and Solar Complementarity and Geospatial Endowments"***. Energies, Volume 14, Issue number 21. https://doi.org/10.3390/en14217063
- **Abhishek Das**, Varun Jyothiprakash and Samridh Sharma (2021), ***"Impact of COVID-19 on Karnataka' s Electricity System – A Supply-Side Perspective".*** International Journal of Engineering Management, Humanities and Social Science Paradigm, volume 33, Issue number 1. ISSN (Online): 2347-601X.

## PUBLICATIONS

### Book Chapter

- **Abhishek Das**, Somen Dey (2021), ***"Forecasting Long-term Electricity Demand: Evolution from Experience-Based Techniques to Sophisticated Artificial Intelligence (AI) Models".*** In: Patnaik, S., Tajeddini, K., Jain, V. (eds) Computational Management. Modeling and Optimization in Science and Technologies, vol 18. Springer, Cham. https://doi.org/10.1007/978-3-030-72929-5_27.

### Monograph

- Anoop Singh, …, **Abhishek Das** et al., (2019), ***"Regulatory framework for long-term demand forecasting and power procurement planning".*** Centre for Energy Regulation (CER), IITK; ISBN 978-93-5321-969-7

## CONFERENCES

### Presentations

- **Abhishek Das** and Balachandra Patil (2025), **"Transitioning Energy Systems and Transforming Lives: A Pluralistic Approach to India's Energy Transition"** – Oral presentation at the **10th Anniversary NEST Conference**, University of Sussex, Brighton, United Kingdom, May 2025.
- **Abhishek Das** and Balachandra Patil (2025), **"Rethinking Electricity Transitions: A Socio-Economic Accounting of Cost-to-Net-Zero"** – Poster presentation at the **10th Anniversary NEST Conference**, University of Sussex, Brighton, United Kingdom, May 2025. [Poster presentation]
- **Abhishek Das** and Balachandra Patil (2025), **"Socio-Economic Challenges and Policy Implications of Renewable Energy Transition: Lessons from a Developing Country"**. Innovations in Climate Resilience Conference (ICR25). Washington DC. [Under Review].
- Varun Jyothiprakash, Balachandra Patil, **Abhishek Das** and Samridh Sharma (2023), **"Modelling Electricity System Transition – a Comparison of Two Supply-mix Scenarios"**. 8th North American IEOM Houston Conference, Texas. [Bagged SECOND prize].
- Varun Jyothiprakash, Balachandra Patil, Samridh Sharma and **Abhishek Das** (2023), **"Developing and Validating Mathematical Model for Electricity System Transition Planning"**. 8th North American IEOM Houston Conference, Texas.
- Samridh Sharma, **Abhishek Das**, Varun Jyothiprakash, Oleg Lugovoy and Balachandra Patil. (2022). **"Tracking zero-carbon electricity pathways for a renewable energy dominant system: Model-based scenarios and techno-economic feasibilities"** [Poster presentation]. Fifteenth IAMC Annual Meeting, College Park, MD, USA.

### Panellist

- ***Indian Zero Carbon Energy Pathways – IDEEA***. Special panel discussion at Twelfth INSEE Biennial Conference, 2024 at BML Munjal University, Kapriwas, Haryana, India.
- ***Model-based planning for zero-carbon transition.*** IDEEA Panel Discussion at ICUE 2022, Asian Institute of Technology (AIT), Thailand.

## TRAININGS & WORKSHOPS

### Conducted

- Trainer at ***Training session on an open-source energy modelling tool – "Indian Zero Carbon Energy Pathways (IDEEA)"*** at Indian Institute of Science (IISc), Bengaluru, India on 21 February 2023.
- Trainer at ***"Application of open-source IDEEA model for Karnataka electricity system"*** at GNEC-IIT Roorkee, Roorkee, India on 22 August 2023.
- Resource person at ***Open-energy System Analysis Training cum Workshop***. Department of Management Studies, IIT Roorkee, Roorkee, India on 2-3 September 2024.

### Participated

- Attended ***"Indo-UK Capacity Building Symposium on Sustainable Energy Transition: Engineering, Entrepreneurship and Well-being"***, jointly Organised by Indian Institute of Technology Kharagpur, India and University of Birmingham, UK under the Scheme for Promotion of Academic and Research Collaboration (SPARC), on 8-12 July 2024.

## SUMMER INTERNSHIPS / PROJECTS

| **PricewaterhouseCoopers Private Limited** | **25 June 2014 – 20 August 2014** |
|---|---|
| Title | Comparative Study of Determinants of Tariff and Trends in Retail Supply Tariffs across Indian States |
| **Tata Bearings Limited** | **05 May 2008 – 04 July 2008** |
| Title | Causes of defects in bore and track grinding machines in a semi-automatic production line |

## ACADEMIC PROJECTS

- Research report titled, *Study of Distribution Franchisee in India* under the guidance of Dr. Manisha at NPTI Faridabad.
- Study of *Effect of Conductivity of Mould Materials on Microporosity in Aluminium Castings* under the guidance of Prof. G.L. Datta, Dept. Of Mechanical Engineering, IIT Kharagpur.
- Designed an innovative *Rice Husk Cooker* under the guidance of Dr. Vasudeva M, Dept of Mechanical Engg, NITK Surathkal.

## AWARDS/RECOGNITIONS

- Bagged **Second Prize** at the IEOM Simulation Competition at 8th North American IEOM Houston Conference, Texas.
- Received **Letter of Appreciation** from Meghalaya Energy Corporation Limited for exceptional service delivery in 2016.
- Received **Client Appreciation Award** from PricewaterhouseCoopers Pvt. Ltd. In 2016.
- Received **Letter of Appreciation** from the CMD of BCCL, a subsidiary of Coal India Limited for the all-round outstanding performance in the fiscal year 2010-11.

## SKILLS

- Technical Skills: R, Python, MS Office, Energy Modelling, Regulatory Accounting, Financial Modelling
- Research Skills: Literature Review, Data Collection & Cleaning, Empirical Research Methods, Technical Writing

## LANGUAGES KNOWN

- English (proficient)
- Bengali (native)
- Hindi (proficient)
- Kannada (conversational)

## REFERENCES

1. **Dr. Balachandra Patil**
   Chief Research Scientist
   Department of Management Studies
   Indian Institute of Science, Bangalore, India
2. **Dr. Shashi Jain**
   Associate Professor and Chairman
   Department of Management Studies
   Indian Institute of Science, Bangalore, India

## DECLARATION

I hereby declare that all the information furnished above is true and correct to the best of my knowledge and belief. I take full responsibility for the accuracy of the particulars mentioned herein.

**Abhishek Das**
Bangalore, India
22 August 2025