Minal Pathak, M.Sc, PhD
Global Centre for Environment and Energy, Ahmedabad University, Navrangpura, Ahmedabad-380009, INDIA
Email: minal.pathak@ahduni.edu.in; **Alternate email:** m.pathak@ipcc-wg3.ac.uk

Brief Profile

Minal Pathak is currently a Senior Scientist of Working Group III of the Intergovernmental Panel on Climate Change (IPCC). Working Group III covers the mitigation of climate change, i.e. methods for reducing emissions of greenhouse gases and enhancing atmospheric sinks. The Working Group III Technical Support Unit which is jointly hosted by the Global Centre for Environment and Energy Ahmedabad University and Centre for Environmental Policy Imperial College London. Working Group III is responsible for the one of the three main IPCC reports due in 2021, managed the and contributed to the scientific leadership of the due in 2018.

From 2016-17, she was Associate Professor and Head of the Doctoral Program at CEPT University, Ahmedabad and Assistant Professor at CEPT from 2011-2016. She was a drafting author on two IPCC Special Reports on 'Global Warming of 1.5°C' and 'Climate Change and Land'. Her publications focus on low carbon scenarios for India, climate change and cities and demand-side mitigation actions and their interlinkages with SDGs. She has over two dozen peer-reviewed publications including articles in eminent journals, book chapters and technical reports.

Professor Pathak holds a PhD and MS in Environmental Science. She is a Visiting Researcher at Imperial College London and has held visiting scholar positions at the Department of Urban Studies and Planning, Massachusetts Institute of Technology and Universiti Teknologi Malaysia, Johor Bahru.

Work Experience

Since Jan 2018 Senior Scientist, Global Centre for Environment and Energy, Ahmedabad University

June 2017 to present
Senior Scientist. IPCC WGIII Technical Support Unit. Imperial College is hosting the Technical Support Unit (TSU) jointly with Global Centre for Environment and Energy, Ahmedabad University under an award from the UK Department of Business Energy and Industrial Strategy.

Sep 2016 - May 2017
Visiting Scholar Massachusetts Institute of Technology, USA and Universiti Teknologi Malaysia, Johor Bahru under the MIT-UTM Malaysia Sustainable Cities Program

May 2011- February 2017
CEPT University, India
Associate Professor, Faculty of Planning (April 2016 - February 2017)
Assistant Professor, Faculty of Planning (January 2013-April 2016)
Assistant Professor, Faculty of Sustainable Environment & Climate Change (Jun 2011-Dec 2012)
Head, M.Tech Programme (Climate Change and Sustainable Development) (Dec 2013- April 2014)

May 2007-May 2011
Indian Institute of Management, Ahmedabad. Researcher

Recognition and Scholarships

- September 2016-May 2017. International Visiting Scholar MIT UTM Malaysia Sustainable Cities Program
- Recognized among top 165 urban researchers in India in a methodological study titled 'Sustainable Cities and Rapid Urbanisation: Mapping Institutions, Researchers and Funders in India' prepared for UK's Science and Innovation Network and the Research Councils UK, India (2012)
- Young researcher from India for the Low Carbon Asia Research Network. Institute for Global Environmental Strategies (IGES), Japan (2013-14)
- Qualified for UGC National Eligibility Test for Lectureship in Environmental Sciences (2001)
- Awarded 'Senior Research Fellowship' for doctoral research by the Indian Council of Medical Research (2003-06)

Publications (Selected)

IPCC

1. P.R. Shukla, J. Skea, R. Slade, R. van Diemen, E. Haughey, J. Malley, **M. Pathak**, J. Portugal Pereira (eds.) Technical Summary, 2019. In: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems [P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson Delmotte, H.-O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M, Belkacemi, J. Malley, (eds.)]. In press
2. IPCC, 2019: Summary for Policymakers. In: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems [P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.- O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, **M. Pathak**, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley, (eds.)]. In press.
3. IPCC, 2018: Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, Maycock, M. Tignor, and T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland, 32 pp.
4. World Climate Research Programme (2019). Global Research and Action Agenda on Cities and Climate Change Science - Full Version. Prieur-Richard, A.H., B. Walsh, M. Craig, M.L. Melamed, M. Colbert, **M. Pathak,** S. Connors, X. Bai, A. Barau, H. Bulkeley, H. Cleugh, M. Cohen, S. Colenbrander, D. Dodman, S. Dhakal, R. Dawson, J. Espey, J. Greenwalt, P. Kurian, B. Lee, L. Leonardsen, V. Masson Delmotte, D. Munshi, A. Okem, G.C. Delgado Ramos, R. Sanchez Rodriguez, D. Roberts, C. Rosenzweig, S. Schultz, K. Seto, W. Solecki, M. van Staden, and D. Ürge-Vorsatz (Eds.). 31 pp. WCRP Report No. 3/2019.

Peer-reviewed Journal Articles (since 2017)

1. Roy J., Some S., Das, N and **Pathak M** (2021) Demand side climate change mitigation actions and SDGs: literature review with systematic evidence search. Environmental Research Letters, https://doi.org/10.1088/1748-9326/abd81a
2. Mahadevia, D., **Pathak. M.,** Bhatia, N., and Patel, S., (2020) Climate Change, Heat Waves and Thermal Comfort—Reflections on Housing Policy in India. Environment and Urbanization Asia 11 (1), 29-50. DOI: 10.1177/0975425320906249
3. Dhar, S., **Pathak, M.,** and Shukla. P.R., (2020). Transformation of India's steel and cement industry in a sustainable 1.5° C world. Energy Policy. 137. 111104. Elsevier. https://www.sciencedirect.com/science/article/abs/pii/S0301421519306913
4. Waisman, H., Bataille, C., Winkler, H., Jotzo, F., Shukla, P., Colombier, M., Buira, D., Criqui, P., Fischedick, M., Kainuma, M., La Rovere, E., Pye, S., Safonov, G., Siagian, U., Teng, F., Virdis, M.-R., Williams, J., Young, S., Anandarajah, G., Boer, R., Cho, Y., Denis-Ryan, A., Dhar, S., Gaeta, M., Gesteira, C., Haley, B., Hourcade, J.-C., Liu, Q., Lugovoy, O., Masui, T., Mathy, S., Oshiro, K., Parrado, R., **Pathak, M.,** Potashnikov, V., Samadi, S., Sawyer, D., Spencer, T., Tovilla, J., & Trollip, H. 2019. A pathway design framework for national low greenhouse gas emission development strategies. Nature Climate Change, 9(4): 261-268.
5. Dhar S., **Pathak M.** & Shukla P. R. (2018). Transformation of India's transport sector under global warming of 2 °C and 1.5 °C scenario, Journal of Cleaner Production. 172, 20, 417-427. https://doi.org/10.1016/j.jclepro.2017.10.076
6. Sharifi, A., Chelleri, L., Fox-Lent, C., Grafakos, S., **Pathak, M.**, Olazabal, M., Moloney, S., Yumagulova, L., Yamagata, Y. (2017). Conceptualizing Dimensions and Characteristics of Urban Resilience: Insights from a Co-Design Process. Sustainability-Basel 9, 1032.
7. Dhar, S., **Pathak, M.** and Shukla, P.R. (2016). Electric vehicles and India's low carbon passenger transport: a long-term co-benefits assessment. Journal of Cleaner Production, 146, 139-148 https://doi.org/10.1016/j.jclepro.2016.05.111
8. **Pathak M.** and Shukla P.R. (2016). Co-benefits of low carbon passenger transport actions in Indian cities: Case study of Ahmedabad. Transportation Research Part D. 44, 303-316 https://doi.org/10.1016/j.trd.2015.07.013
9. Mittal S., **Pathak M.,** Shukla P. R., Ahlgren E. (2017) GHG Mitigation and Sustainability Co-benefits of Urban Solid Waste Management Strategies: A Case Study of Ahmedabad, India. Chemical Engineering Transactions. Vol. 56. 457-462. ISBN 978-88-95608-47-1 (2016 Impact factor 0.82)
10. Dhar S., Shukla P.R., **Pathak M.** (2017). India's INDC for Transport and 2 °C Stabilization Target. Chemical Engineering Transactions. Vol. 56. ISBN 978-88-95608-47-1

Peer-Reviewed Technical Reports

1. Marcotullio P., Sarzynski A., Sperling J., Chavez A., Dhaka, S., Estir, H., Najaf, M., **Pathak M.**, Zimmerman R., et al. (2018). Urban Energy Supply Systems: Challenges and Opportunities for Low-Carbon, Resilient and Just Cities. In Second Assessment Report on Cities and Climate Change, C. Rosenzweig, W. D. Solecki, S., Mehrotra S., Romero Lankao P, Dhakal S. Eds., Cambridge University Press, Cambridge, UK
2. UNEP (2016). Contributing Author in Chapter 5 Bridging the gap – the role of energy efficiency. In: The Emissions Gap Report 2016. United Nations Environment Programme (UNEP), Nairobi
3. Shukla P. R., Dhar S. **Pathak M.**, et al. (2015). Pathways to deep decarbonization in India. The India report of the Deep Decarbonization Pathways Project. SDSN – IDDRI. Link: http://deepdecarbonization.org/wp-content/uploads/2015/09/DDPP_IND.pdf
4. Deep Decarbonization Pathways Project (2015). Pathways to deep decarbonization 2015 report - executive summary, SDSN – IDDRI. Link: http://deepdecarbonization.org/wp-

content/uploads/2016/03/DDPP_2015_REPORT.pdf

5. Shukla P.R. and **Pathak M.** (2015). How can research serve international policymaking towards low-carbon development path? Looking forward, Special Issue on: Transition and global challenges towards low carbon societies, Energie, Ambiente e Innovazione (EAI). DOI: 10.12910/EAI2015-023. Link: http://www.enea.it/it/pubblicazioni/EAI/anno-2015/speciale-transition-and-global-challenges/how-can-research-serve-international-policymaking-towards-low-carbon-development-path-looking-forward
6. Shukla P.R**., Pathak M**., Mittal S., Dhar S. (2015) Intercity Transport in India: The role of High Speed Rail. UNEP RISO Centre on Energy, Climate and Sustainable Development, Denmark Technical University. ISBN: 978-87-93130-60-9. Link: http://www.unep.org/transport/lowcarbon/PDFs/Role_of_High_Speed_Rail_Final.pdf
7. Dhar S., **Pathak M.** and Shukla P.R. (2015). Transport Scenarios for India: Harmonizing Development and Climate Benefits. UNEP RISO Centre on Energy, Climate and Sustainable Development, Denmark Technical University. Link: http://www.unep.org/transport/lowcarbon/PDFs/TransportScenarios.pdf
8. Matsumoto T, Nuttal C, Bathan G, Gouldson A, **Pathak, M.**, Robert A, and Welch D. (2014) National-Subnational Integration for green growth. Chapter 8. In: Green Growth in Practice: Lessons from Country Experiences. Green Growth Best Practice. Link: http://www.ggbp.org/report/best-practice-report/integrating-subnational-action
9. Shukla P.R., Dhar S., **Pathak M.**, & Bhaskar K. (2014). Electric Vehicle Scenarios for India UNEP RISO Centre on Energy, Climate and Sustainable Development, Denmark Technical University. ISBN: 978-87-93130-22-7. Link: http://www.unep.org/transport/lowcarbon/PDFs/ElectricVehicleScenarios.pdf
10. (2016). Toolkit for Comprehensive Low Carbon Mobility Planning in Asian Cities. UNEP RISO Centre on Energy, Climate and Sustainable Development, Denmark Technical University
11. Dhar S., **Pathak M.** and Shukla P.R. (2013). Low Carbon City: A Guidebook for City Planners and Practitioners, Published by UNEP RISO Centre on Energy, Climate and Sustainable Development, Denmark Technical University, ISBN: 978-87-92706-27-0. Link: http://www.unep.org/transport/lowcarbon/PDFs/LowCarbonCity_Guidebook.pdf
12. MoEF (2012). India's Second National Communication to UNFCCC, Ministry of Environment and Forests, Government of India, New Delhi.
13. Phansalkar, A and **Pathak M.** (2012). Understanding the Impacts of Variability and Other Drivers on the Agriculture of Thar Desert, Journal of SPA: New Dimensions in Research of Environments for Living", 5, 60-75

Chapters in Edited Books

1. Williams M., Adeney Thomas J, Brown G., **Pathak M.**, Burns M., Steffen W., John Clarkson J., Zalasiewicz J. (2021). Mutualistic cities of the near future. (Forthcoming)
2. Mukhopadhyay, C. and Pathak, M. (2020) "Partnership for electrification of urban passenger transport in India" *in Encyclopedia of the UN Sustainable Development Goals. (Partnership for the Goals*). Springer Nature.
3. Dhar, S., **Pathak. M.,** Shukla, P.R., and Gupta, A., (2020). Electric vehicles penetration in India for enhanced energy efficiency deployment in the transport sector, In Energy Efficiency in Developing Countries: Policies and Programmes. (Eds.) Silva Da Tavares, S., and Dias Prata, G. Routledge Studies in Energy Policy. ISBN 9780367361976. <https://www.routledge.com/Energy-Efficiency-in-Developing-Countries-Policies-and-Programmes/Silva-Dias/p/book/9780367361976>
4. **Pathak, M.,** and Mahadevia, D., (2018) Urban Informality and Planning: Challenges to Mainstreaming Resilience in Indian Cities. Ch 3. In Yamagata and A. Sharifi (eds.), Resilience-Oriented Urban Planning, Lecture Notes in Energy 65, https://doi.org/10.1007/978-3-319-75798-8_3
5. **Pathak, M.**, Shukla P.R., Garg, A., and Dholakia, H., (2015). Integrating Climate Change in City

Planning: Framework and Case Studies Ch. 8 In: Cities and Sustainability: Issues and Strategic Pathways. Mahendra Dev S.,Sudhakar Yedla S. (Eds). Springer Proceedings in Business and Economics ISBN:978-81-322-2310-8. Link: http://link.springer.com/chapter/10.1007/978-81-322-2310-8_8

6. Shukla P.R., **Pathak, M.,** (2015). Low Carbon Transport in India: Assessment of Best Practice Case Studies. Chapter 8 In: Enabling Asia to Stabilize Climate. Eds. Nishioka, S. Springer Publishing. DoI 10.1007/978-981-287-826-7_8. Link: http://link.springer.com/chapter/10.1007%2F978-981-287-826-7_8

Non-peer reviewed Technical Reports

1. (2020) Penser l'après: La reconstruction plutôt que la reprise. The Conversation.
2. (2015) Stabilising climate through low carbon actions in Asia: Road to COP21 and Beyond. Synthesis Report of the Fourth Annual meeting of the Low Carbon Asia Research Network
3. (2014) Asia is ready to stabilise climate. Synthesis Report of the Third Annual meeting of the Low Carbon Asia Research Network
4. (2013) Asia's low carbon future: Can Asia change the world through leapfrogging? Synthesis Report of the Second Annual meeting of the Low Carbon Asia Research Network
5. (2013) Urban Low Carbon Growth: Financing Opportunities for Indian Cities. British High Commission and ICLEI-South Asia, New Delhi. Member on Advisory Committee
6. (2012) India Community Protocol for Accounting & Reporting Greenhouse Gas Emissions. British High Commission and ICLEI-South Asia, New Delhi. Member on Advisory Committee
7. (2011). Low Carbon Society Roadmap 2050: India, IIM Ahmedabad, Kyoto University Japan, NIES Japan, and Mizuho Information and Research Institute, Japan http://2050.nies.go.jp/report/file/lcs_asia/indialcs.pdf
8. (2010) A Roadmap towards Low Carbon Ahmedabad 2050, Indian Institute of Management Ahmedabad, Kyoto University Japan, NIES Japan, and Mizuho Information and Research Institute Japan http://2050.nies.go.jp/report/file/lcs_asialocal/ahmedabad_2010.pdf
9. NIOH (2002). Health Risk Assessment of Rural and Urban Population due to indoor/ambient air pollution. Annual Report 2002. National Institute of Occupational Health pp 42-45

Conference Publications/Presentations/Posters

1. Mahadevia Darshini and **Pathak Minal** (2018). Mainstreaming Climate Change Mitigation in Equitable Urban Transformations: Insights from Indian cities. IPCC Co-sponsored Conference on Cities and Climate Change Science, Edmonton Canada, March 5-7
2. Renée van Diemen, Minal Pathak, Joana Portugal-Pereira, Priyadarshi R. Shukla, Jim Skea, Raphael Slade (2017). The Intergovernmental Panel on Climate Change (IPCC) 6th Assessment Report Cycle, 2015 – 2022: Cities and Mitigation. Conference on Cities and Climate Change, Potsdam, September 19-21 (Poster)
3. Dhar, S., Pathak M and Shukla P.R. (2015) Electric vehicles and future low carbon passenger mobility in India. International Conference of Low Carbon Asia (ICLCA) October 11-12, Johor Bahru, Malaysia (Poster)
4. Chokshi P., Shukla P.R., **Pathak M.,** & Bhaskar K. (2014). Green Energy and Sustainable Urban Transport Transition: A Co-benefits Assessment for Ahmedabad, India. IEEE Xplore. ISBN 978-1-4799-2628-2
5. Parmar R.N., Singh H.S. and **Pathak M.** (2014). Assessment of Status and Carbon Sequestration Potential of Green Cover in the Major Urban Development Authorities of Gujarat. Conference on Agriculture, Forestry, Horticulture, Aquaculture, Animal Sciences, Food Technology, Biodiversity and Climate Change Sustainable Approaches" (AFHAFBC-2014), JNU University,

New Delhi.

6. **Pathak M.** (2009) Sustainable Transportation and Air Quality – Future Scenarios for Ahmedabad city, International Conference On Environmental Issues in Emerging and advanced Economies: Canada, India, 24-26 November, Ahmedabad

Published Case Studies

1. Pathak M. and Muller S. (2016) Gujarat state: Pioneering and Scaling Solar Energy in India. LEDS in Practice. http://ledsgp.org/wp-content/uploads/2016/06/LEDS-GP-Gujarat-state-pioneering-and-scaling-up-solar-energy-in-India.pdf (Theme: Subnational leadership for solar energy deployment)
2. Pathak M. California Air Quality Regulation (2014). http://www.ggbp.org/case-studies/united-states/california-air-quality-regulation. As part of the report, 'Green Growth in Practice', the case study highlights approaches that enable green growth at the subnational level and across levels of government.

Articles in Magazines/Periodicals/Media Coverage

1. Radio Show on National Radio with Melissa Block. Ahead Of Climate Summit, 2 Views From Cities In Canada And India with Minal Pathak from Global Centre for Environmnet and Energy and Lisa Helps the mayor of Victoria, British Columbia. https://www.npr.org/transcripts/763154318
2. Stepwell Podcast Indian Express. 'The people keeping our planet alive' - Minal Pathak and Jim Skea. Moderated by Patrick French
3. India must speed up renewable energy generation: Experts. Economic Times
4. India needs to make smooth, viable transition from coal, says IPCC report Business Standard
5. Minal Pathak (2016), Action from India Aligning climate change and sustainable development in India. International Research Network for Low Carbon Societies. Newsletter. February 19
6. Shukla P.R. and Pathak M. (2011). Low Carbon Future: Investing in Renewables, Renewable Watch, 1 (4), 46-47. Delhi: Indian Infrastructure Publishing.
7. Shukla P.R. and Pathak M. (2011). Bioenergy Strategies: Moving into a Greener Future, Energy Next, 1, 4.

Invited Presentations

1. Pathak M, 2020, Climate in the Age of the Anthropocene. Kolkata Literary Meet 2020. Victoria Memorial Kolkata. 25-01.2020
2. Pathak M, 2020, Climate Change and The Global Environment Science and Interpretation. University of Chicago Centre Delhi. 24.01.2020
3. Pathak M, (2019) Key findings of IPCCs Special Report on Climate Change and Land. Climate Change Conference (COP25). Madrid. 02-12-2019.
4. Pathak M, 2019, Three Special Reports of IPCC. Organised by the West Bengal Pollution Control Board, Jadavpur University and IPCC. 15-11.2019.
5. Pathak M, 2019, Panel Discussion - Science for Actions towards 1.5°C in Cities: Insights from Researchers and City Leaders. United Nations. New York. 21-09-2019.
6. Pathak M, 2019, Climate Action in Gujarat, Panel Discussion: Climate Action in Small Countries and Regions, April, University of Edinburgh
7. Pathak M, 2018, Electric Vehicles: Moving from the margins to the mainstream. Systematizing and Upscaling urban Mitigation Solutions. MCC Berlin, September, 2018
8. Shukla P.R. and **Pathak M**. Climate actions and interactions with SDGs. Third International Conference on Low Carbon Asia. Bangkok, November 1-3, 2017

9. Chairperson. Session on Climate Change and Cities. IPCC WGIII (Mitigation): Consultations and Outreach. Organized at the Indian Institute of Management, Ahmedabad, 22 December 2016
10. Shukla P.R., Garg A., **Pathak M**, Dholakia H and Khan S (2013). Framework for integrating climate change in urban planning in India. Conference on Cities and Climate Change. IGIDR, New Delhi, October 29-30 (Presented by co-author)
11. Sustainable low carbon development: Case of Ahmedabad city. Sustainability around the Globe. National Art Gallery. Kuala Lumpur. October 11, 2016
12. Pioneering and Scaling Solar Energy in India. Global webinar. LEDS Global Partnership. June 21, 2016.
13. Chelleri, L., Olazabal, M., Sharifi, A., **Pathak M.** et al. (2016). Synergies and Trade-offs in framing multi-level governance for managing urban resilience. World Congress on Resilience Cities 2016, Bonn (presented by L.Chelleri)
14. Mainstreaming climate change resilience in urban development. December 7-10. Organized by Global Carbon Project in collaboration with RMIT University, Urbanization and Global Environmental Change (UGEC) Project, Urban Climate Change Research Network (UCCRN), and IR3S. University of Tokyo, Japan.
15. Climate Compatible Urban Development: Assessment framework and Strategies, Workshop on Climate Change Projections, Impacts, Vulnerability and Adaptation Ministry of Environment, Forests and Climate Change, Delhi, India, 28-29 October, 2015
16. Electric Vehicle Scenarios for India, Urban Mobility India Conference, New Delhi. Co-authors: S. Dhar and P.R. Shukla, November, 2015
17. Aligning Long-term Climate Stabilization Target with Near-term Actions. International Conference for Low Carbon Asia cum. 4th Annual Meeting of Low Carbon Asia Research Network (LoCARNet), Johor Bahru, Malaysia, October 2015.
18. Deep Decarbonisation Pathways for India: Minimizing Social Cost of Carbon. Workshop on Energy Efficiency India Habitat Center, New Delhi. August 4, 2015. Co-authors: S. Dhar and P.R. Shukla. Presented by co-author
19. Climate Compatible Urban Development. 2nd Annual Meeting of Low Carbon Asia Research Network, July 24-25, 2013, Yokohama, Japan.
20. Scenarios and Integrated Assessment Framework for Climate Compatible Urban Development. Presentation at the Workshop for Climate Compatible Urban Development, Asian Institute of Technology, March, 2013, Bangkok.
21. Stakeholder Consultation on Indian Community Protocol for accounting & reporting of greenhouse gas emissions organized by ICLEI, project funded by British High Commission. December, 2012, New Delhi
22. Low carbon City Planning: Challenges in the Indian context. Indian Institute of Technology (IIT) Bombay. 2012, Mumbai.
23. Low Carbon Tools for City Development. Practitioners workshop on Low Carbon strategy options for cities, jointly organized by All India Institute of Local Self Government (AIILSG), IIMB and NextGen on behalf of the British High Commission. 2012, Mumbai
24. Energy and Emissions in Vatva Industrial Estate. Environment Management and Industrial Emissions Workshop on Climate Change Adaptation for Industrial Estates organized by GIZ December, 2012, Ahmedabad

Workshops and International Meetings

1. Scientific and organising support for IPCC Meetings (Over 150 participants)
    - WG II Third Leader Author Meeting. Faro, Portugal. January 25-30 2020.
    - SYR AR6 Scoping Meeting. Singapore. October 21-23 2019.

- WG III - AR6 Second Lead Author Meeting. New Delhi, India. September 30 - October 4 2019.
- WG I/II/III - Fourth Lead Author Meeting on Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems. (organized by WG III). Cali, Colombia. February 8-16 2019.
- WG II - AR6 Second Lead Author Meeting. Kathmandu, Nepal. July 14-19 2019.
- WG III - AR6 First Lead Author Meeting. Edinburgh, Scotland. April 1-5 2019.
- WG I/II/III - Preparatory Meeting of the Drafting Authors for Special Report on Climate Change and Land (organized by WG III) Geneva, Switzerland. July 30-31 2019.
- Provided key scientific support for Approval plenary for IPCCs Land Report, Geneva, 1-5 August 2019. (Participants included all UN member countries and IPCC authors)
- Provided scientific support for the Approval plenary for IPCCs Special Report on 1.5C, August, 2018, Incheon (Participants included all UN member countries and IPCC authors)
- WG I/II/III - Preparatory Meeting of the Drafting Authors on SR15 (organized by WG I), Incheon, Republic of Korea. September 26-30 2018.
- WG I/II/III - Third Lead Author Meeting on Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems. (organized by WG III) (Dublin, Ireland) September 3-7 2018
- Second Lead Author Meeting for IPCC Special Report on Climate Change and Land, Christchurch, New Zealand, March 26-30 2018
- First Lead Author Meeting for IPCC Special Report on Climate Change and Land, Oslo, Norway 15-21 October, 2017
- Third Lead Author Meeting for IPCC Special Report on Global Warming of 1.5°C. Malmo, Sweden 21-28 October, 2017
- Second Lead Author Meeting for IPCC Special Report on Global Warming of 1.5°C. Exeter UK. 5- 9 June, 2017
- IPCC Bureau and Plenary meeting for approval of the Land report outline, Guadalaraja, Mexico. 26-31 March, 2017

2. Member Organizing Committee, IPCC Co-sponsored Conference on Cities and Climate Change Science March 2018, Edmonton, Canada (750 participants)
3. International Conference on 'Systematizing and upscaling urban solutions for climate change mitigation (SUUCCM), Berlin, Germany. September 13-14 2018.
4. International Experience of Carbon Emission Exchange and Lessons for China. Organized by Tianjin University of Finance and Economics, Tianjin, China. 24-29 August, 2015
5. Roundtable with Sir David King, Special Representative for Climate Change, UK, Center for Environment Education (CEE) Ahmedabad. 12 January, 2015
6. Workshop on High impact opportunities for energy efficiency in India and a discussion on Deep Decarbonization Pathways for India, India Habitat Centre, Delhi. 4 August, 2015
7. Smart cities: Urban utopias or future of cities, CEPT University, Ahmedabad, 2015
8. Carbon Dioxide Capture and Storage (CCS), National Program on Carbon Sequestration Research (NPCSR). Organized by Department of Science and Technology, Government of India, IIM Ahmedabad. 5-6 November, 2014
9. AIM End-use Model Training Workshop, National Institute for Environmental Studies (NIES), Tsukuba, Japan. 27-31 October, 2014
10. Stakeholder Consultation Workshop on Global Greenhouse Gas Protocol (GPC), Organized by WRI, C40 and ICLEI. New Delhi. 11 December, 2013

11. Low Carbon Mobility Plans organized by Indian Institute of Technology, New Delhi. Udaipur, India. 22-23 August, 2013
12. International Conference on Sustainable Asia Pacific (ISAP) Yokohama, Japan. 23 July 2013
13. Low Carbon Asia Research Network, (LoCARNet) Second Annual Meeting Yokohama, Japan. 24-25 July, 2013
14. Increasing Energy Efficiency and Cost Savings in Buildings jointly organized by The Gujarat Institute of Housing and Estate Developers, Indian Green Building Council, Administrative Staff College of India and Natural Resources Defense Council. Ahmedabad, India
15. Financing Strategies for State Action Plans on Climate Change organized by The Department of Economic Affairs, Ministry of Finance, Government of India and Indian Institute of Management (IIM), Bangalore, India. 17 September, 2012
16. Roundtable on 'Gujarat Solar Roadmap' organized by Pandit Deendayal Petroleum University, Gandhinagar, India. 15 November, 2011
17. Cities and Climate Change, Training of Trainers organized by GIZ, New Delhi, India. 2011

Invited Presentations

1. Pathak M, 2020, Speaker at the UN Climate Action Summit 2019, New York. September 19 – 23 2019.
2. Pathak M, 2019, Climate Action in Gujarat, Panel Discussion: Climate Action in Small Countries and Regions, April, University of Edinburgh
3. Pathak M, 2018, Electric Vehicles: Moving from the margins to the mainstream. Systematizing and Upscaling urban Mitigation Solutions. MCC Berlin, September, 2018
4. Shukla P.R. and **Pathak M**. Climate actions and interactions with SDGs. Third International Conference on Low Carbon Asia. Bangkok, November 1-3, 2017
5. Chairperson. Session on Climate Change and Cities. IPCC WGIII (Mitigation): Consultations and Outreach. Organized at the Indian Institute of Management, Ahmedabad, 22 December 2016
6. Shukla P.R., Garg A., **Pathak M**, Dholakia H and Khan S (2013). Framework for integrating climate change in urban planning in India. Conference on Cities and Climate Change. IGIDR, New Delhi, October 29-30 (Presented by co-author)
7. Sustainable low carbon development: Case of Ahmedabad city. Sustainability around the Globe. National Art Gallery. Kuala Lumpur. October 11, 2016
8. Pioneering and Scaling Solar Energy in India. Global webinar. LEDS Global Partnership. June 21, 2016.
9. Chelleri, L., Olazabal, M., Sharifi, A., **Pathak M.** et al. (2016). Synergies and Trade-offs in framing multi-level governance for managing urban resilience. World Congress on Resilience Cities 2016, Bonn (presented by L.Chelleri)
10. Mainstreaming climate change resilience in urban development. December 7-10. Organized by Global Carbon Project in collaboration with RMIT University, Urbanization and Global Environmental Change (UGEC) Project, Urban Climate Change Research Network (UCCRN), and IR3S. University of Tokyo, Japan.
11. Climate Compatible Urban Development: Assessment framework and Strategies, Workshop on Climate Change Projections, Impacts, Vulnerability and Adaptation Ministry of Environment, Forests and Climate Change, Delhi, India, 28-29 October, 2015
12. Electric Vehicle Scenarios for India, Urban Mobility India Conference, New Delhi. Co-authors: S. Dhar and P.R. Shukla, November, 2015
13. Aligning Long-term Climate Stabilization Target with Near-term Actions. International Conference for Low Carbon Asia cum. 4th Annual Meeting of Low Carbon Asia Research Network (LoCARNet), Johor Bahru, Malaysia, October 2015.

14. Deep Decarbonisation Pathways for India: Minimizing Social Cost of Carbon. Workshop on Energy Efficiency India Habitat Center, New Delhi. August 4, 2015. Co-authors: S. Dhar and P.R. Shukla. Presented by co-author
15. Climate Compatible Urban Development. 2nd Annual Meeting of Low Carbon Asia Research Network, July 24-25, 2013, Yokohama, Japan.
16. Scenarios and Integrated Assessment Framework for Climate Compatible Urban Development. Presentation at the Workshop for Climate Compatible Urban Development, Asian Institute of Technology, March, 2013, Bangkok.
17. Stakeholder Consultation on Indian Community Protocol for accounting & reporting of greenhouse gas emissions organized by ICLEI, project funded by British High Commission. December, 2012, New Delhi
18. Low carbon City Planning: Challenges in the Indian context. Indian Institute of Technology (IIT) Bombay. 2012, Mumbai.
19. Low Carbon Tools for City Development. Practitioners workshop on Low Carbon strategy options for cities, jointly organized by All India Institute of Local Self Government (AIILSG), IIMB and NextGen on behalf of the British High Commission. 2012, Mumbai
20. Energy and Emissions in Vatva Industrial Estate. Environment Management and Industrial Emissions Workshop on Climate Change Adaptation for Industrial Estates organized by GIZ December, 2012, Ahmedabad

Research/Consulting Projects

Title	Organization	Role	Year
Opportunities for Climate Mitigation and Sustainable Development (OPTIMISM)	Towards a Sustainable Earth (TaSE) is a multinational initiative established by NERC, ESRC and The Rockefeller Foundation with the goal of placing environment-human interactions at the heart of achieving all the UN Global Goals.	Co-PI	2019-20
Gujarat State Electric Vehicle Policy	Gujarat Energy Research Management Institute	Consultant	2018
Inclusive urban housing as climate change resilience strategy under the area 'Climate Change Impacts, Vulnerability and Adaptation: Energy, Infrastructure, Settlements and Urban development' for India's Third National Communication to UNFCCC (NATCOMM)	Ministry of Environment, Forests and Climate Change, Government of India	Co-investigator	2016-17
Framework for Developing and Implementing Community Resilience Assessment	National Institute of Environmental Studies, Japan	Researcher	2015
Deep Decarbonization Pathways Project	Institut du Développement Durable et des Relations Internationales - Sustainable Development Solutions Network (IDDRI-SDSN)	Lead Author for the India team	2015
Second Assessment Report on Climate Change and Cities, Urban Climate Change Research Network	Supported by UN Habitat, NASA, University of Columbia, JICA, IDB, Cities Alliance, African Development Bank, Aarlborg Uni, Denmark	Lead Author, Energy Chapter	2013-16
Green Growth Best Practice Project	European Climate Foundation, Climate Change Development Knowledge Network and Global Green Growth Institute	Contributing Author	2013-14

Low Carbon Asia Research Network (LoCARNet)	Ministry of Environment Japan and the Institute for Global Environment Strategies (IGES)	Researcher	2013-15
Promoting Low Carbon Transport in India	UNEP Risø Centre on Energy, Climate and Sustainable Development, Technical University of Denmark	Team member and Lead Author for four reports	2013-14
Integrating Urban Guidelines through Clean Technologies (Renewable Energy and Energy Efficiency) at the State and City Level to Build Sustainable Low Carbon Cities	British High Commission	Consultant	2011-12
Climate Change Adaptation Plan in Industrial Estates of Gujarat	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	Energy and emissions expert	2011
POEM (Policy options to engage emerging Asian economies in a post-Kyoto regime)	European Commission	Researcher	2011
India's Second National Communication to UNFCCC (NATCOMM)	Ministry of Environment and Forests, Government of India	Researcher	2009-11
Health Risk Assessment of Rural and Urban Population due to indoor/ambient air pollution	Ministry of Health and Family Welfare	Project fellow	2003

Journal Referee

1. Land use and Urban Planning (2018 Impact factor 5.14)
2. Transportation Research, Part D (Transport and Environment) (2016 Impact Factor 2.3)
3. Advances in Climate Change Research (2016 SRJ 0.4)
4. Sustainable Cities and Society. Elsevier (2016 Impact factor 1.77)
5. Carbon Management. Taylor & Francis (2016 Impact factor 1.661)
6. Natural Resources Forum. Wiley. (2016 Impact factor 1.659)

Dissertations Guided

Doctoral Thesis Committee Member

1. Climate Induced Vulnerability and its relation to Adaptation in Indian Urban Context- Case of Ahmedabad
2. Climatic Factors: Vegetation Cover and Its Impact on Socio-Economic Aspects of Banni Maldharis, Kutch, Gujarat
3. Emergence of Ecoprenuership in India: An Empirical Study

Graduate Thesis Guidance

1. Climate change adaptation-mitigation synergies and trade-offs: a case study analysis of eight cities (2018). Best thesis awarded at Imperial College London
2. Integrating ecosystem services with future development: Case study of Loktak lake (2015-16)
3. Relationship between lakes and urban communities: A Case of Bangalore (2015-16)
4. Assessing environmental impacts from land-use change (2015-16)
5. Transport; CO_2 emissions; & energy use: Forecast, option analysis & evaluation in context of Ahmedabad city (2015)
6. National-subnational integration for energy and climate policies: Rajasthan, India (2015)
7. Residential electricity end use, projections and saving potential in Pune, India (2015)

8. Neighbourhood density and greenhouse gas emissions: Case of two wards in Ahmedabad city (2014-15)
9. Integrating adaptation and mitigation in development planning: Case study of a small town in India (2014)
10. Potential of energy savings at city level through energy efficient buildings - A study in the context of Ahmedabad (2014)
11. Analysis of Urban Energy Use and CO_2 Emissions in India: An Assessment of Select Cities (2014)
12. Evaluating the potential of maximizing India's residential equipment efficiency and model the change in trend in the use of electrical appliances of residential buildings in Pune (2014)
13. Residential densities & building height: identifying an energy efficient approach in cities (2014)
14. Climate co-benefits of air pollution management in Ahmedabad (2014)
15. Assessment of carbon stock, associated urban biodiversity, and enhancement of urban green cover in eight urban development authorities of Gujarat. (2014)
16. A comparative assessment of thermal power plants with respect to energy and climate change (2014)
17. Vulnerability assessment and resilience strategies for Mangalore city (2014)
18. Guidelines for Processes and Hardware Specifications for Rooftop Solar PV Projects (2014)
19. Assessing Co-Benefits of Transport Policies and Projects (2013)
20. Development of green courts in India: A legal study of National Green Tribunal (2013)
21. Sea level rise and its likely impacts in Kutch Region (2012)
22. Understanding the linkages between climate and other drivers affecting Agriculture in a desert ecosystem (2012)

Undergraduate Thesis Guidance

1. Comparing CO_2 emissions from LEED certified & non-certified commercial buildings (2015-16)
2. Sustainable infrastructure for townships (2015-16)
3. Evaluating benefits of urban green spaces (2015-16)
4. Planning strategies and options for increasing green cover in Ahmedabad (2015-16)
5. Assessment of the environmental condition of slum settlements in Ahmedabad (2015)
6. Sustainable tourism development of religious town: a case of Dwarka (2015)
7. Impact of BRTS on CO_2, NOx & $PM_{2.5}$ emissions in Ahmedabad (2015)

Teaching Case Studies (unpublished)

The following case studies were developed for the PGP course 'Environment Management' at IIM, Ahmedabad for the years 2010-2016

1. Shukla, P.R., Pangotra P. and **Pathak M** (2010) Nalsarovar Bird Sanctuary. The case discusses concepts of Managing Common Property Resources and ecosystem valuation
2. Shukla, P.R., Pangotra P. and **Pathak M** (2009) Public Private Partnerships in City Waste Management: Case of Excel Industries Ltd. The case highlights issues of waste management in Indian cities including public private partnerships for waste management
3. Pangotra P., Shukla, P.R., and **Pathak M** (2008) Commonwealth Games in Delhi- Managing Urban Air Quality. The case highlights issues of urban air quality management in Indian cities and discusses impacts of earlier policies and interventions
4. Shukla, P.R., Pangotra P. and **Pathak M** (2007) Dyestuff industry in Gujarat. The case details pollution problems due to dyestuffs industries in the three industrial estates of Ahmedabad; governance challenges including the management of effluent treatment plants.
5. Shukla, P.R., Pangotra P. and **Pathak M** (2009) Green Card Rating System at Reliance Industries Ltd. The thematic focus of the case is competitive environmental strategies
6. Pangotra P., Shukla, P.R., and **Pathak M** (2008) Sabarmati Riverfront Development Project. The case highlights the issue of climate change considerations for long term infrastructures, environmental sustainability issues, social costs and distribution of benefits

7. Shukla, P.R., Pangotra P. and **Pathak M** (2008) Sustaining the Taj Mahal. The case looks at the broader issue of environment and urban development

Energy Modelling

- I have worked on the ExSS model, a bottom up energy accounting model at the city level
- I work closely with the modeling teams in India working on the India MARKAL model
- Received training on AIM-End Use Model, at National Institute for Environmental Studies, Tsukuba Japan

Representation on Committees and Professional Memberships

- Director, South Asia Hub, Urban Climate Change Research Network (UCCCRN)
- Member, Scientific and Pedagogical Committee, Office for Climate Education, France
- Member, Gender Task Force of the Intergovernmental Panel on Climate Change
- Member, International Scientific Steering Committee on the Fourth International Conference on Low Carbon Asia (ICLCA), October 2018, Johor Bahru, Malaysia
- Member, Organizing Committee for the IPCC Conference on Cities and Climate Change Science to be held in Edmonton, Canada on March 5-7, 2018
- Member, Scientific Steering Committee for the Passive and Low Energy Architecture - PLEA 2014 Conference, CEPT University, 16-18 December, 2014
- Member, Scientific Steering Committee on the Third International Conference on Low Carbon Asia (ICLCA), November 2017, Bangkok, Thailand
- Country Expert, Climate Change Knowledge and Development (CDKN)
- Member. Low Carbon Asia Research Network (LoCARNet)
- Member. National Sub-national Integration Working group of the Global Low Emissions Development Strategies (LEDS) partnership

Computer skills and competences

Proficiency in Microsoft tools. Use of scientific referencing softwares including Mendeley. I have worked on GAMS and Excel supported energy and emissions accounting models