

PARTH VAISHNAV

7206 Raymond St., Pittsburgh, PA 15218, USA * parthv@cmu.edu * +1 (412) 512 2038 * www.parthv.com

SUMMARY

- Experienced in working on sustainability in industry, NGOs, and academia; including in an internal consulting role
- Strong background in financial and statistical modelling related to energy and sustainability
- Skilled in extracting and communicating practical insights from analyses, with over 15 external presentations

EXPERIENCE

Carnegie Mellon University

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| Assistant Research Professor, Engineer & Public Policy, Pittsburgh, PA | Sep 2017 – present |
| Associate Director, Center for Climate and Energy Decision-Making, Pittsburgh, PA | Nov 2015 – present |
| Research Engineer, Pittsburgh, PA | Nov 2015 – Sep 2017 |
| Post-doctoral fellow, Pittsburgh, PA | Jun 2015 – Oct 2015 |
- Lead author of five and co-author of nine critically-reviewed research papers on sustainability and innovation
 - Chair, USAEE Case Competition. Leading a team to write the case, liaise with sponsors, publicize the competition to ensure wide participation, and to organize judging of entries (2016–)
 - Ad-hoc reviewer for *Environmental Research Letters*, *Transportation Research Part C: Emerging Technologies*, *Energy Journal*

Environmental Defense Fund (EDF)

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| Aviation Policy Intern, Washington, DC | May 2014 – Aug 2014 |
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- Estimated and published the impact on airlines of International Civil Aviation Organization (ICAO) proposals to contribute to improving ICAO's scheme to limit carbon dioxide emissions from international aviation
 - Played a key role in drafting EDF's comments in support of the U.S. Environmental Protection Agency's endangerment finding for greenhouse gases from aircraft engines [Docket ID No. EPA-HQ-OAR-2014-0828]
 - Mentored a graduate recruit, who went on to provide excellent analytical support to the team

Royal Dutch Shell

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| Strategy & Portfolio Analyst, The Hague, Netherlands | Apr 2008 – Sep 2010 |
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- Triggered profitable trading decisions by producing and analyzing forecasts of the long- and short-term evolution of market fundamentals for European natural gas and global liquefied natural gas (LNG)
 - Provided key inputs to strategic decisions (e.g., whether to invest in gas transmission pipelines) by producing analyses and briefing materials for senior management
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| Deployment Analyst, Singapore | Oct 2006 – Mar 2008 |
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- Reduced inventory at Shell Lubricants, Singapore, by 15% by implementing improved supply chain processes
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| Production Planner, Singapore | Aug 2005 – Oct 2006 |
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- Ensured >95% supply reliability to customers at an industrial lubricant oil plant operating at near-full capacity

EDUCATION

Carnegie Mellon University, Pittsburgh, PA

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| PhD in Engineering and Public Policy | May 2015 |
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- Dissertation on reducing air pollution from aviation and ocean shipping
 - Committee: Prof. M. Granger Morgan (CMU), Prof. Paul S. Fischbeck (CMU), Prof. James J. Corbett (University of Delaware), Annie Petsonk (Environmental Defense Fund).

University of Cambridge, United Kingdom

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| MPhil in Technology Policy | Jul 2011 |
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- Dissertation on business models to supply energy to the rural poor
 - Letter of commendation for outstanding performance

National University of Singapore and Eindhoven University of Technology, Netherlands

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| Master of Technological Design | May 2005 |
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National University of Singapore

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| Bachelor of Engineering (Mechanical), Minor in Bioengineering | Jun 2003 |
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SKILLS

- Analytical: Decision analysis, Monte Carlo simulation, optimization, financial modeling, survey design
- Software: Microsoft Office Suite including Excel, R, GAMS, IBM SPSS
- Languages: English – native language; German – intermediate (speaking, reading, writing)

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NOTABLE PROJECTS AND OUTCOMES

- 2017: Led the organization of Workshop on Strategies and Opportunities for Decarbonizing the World's Freight System, supported by the Centre for Climate and Energy Decision-Making at Carnegie Mellon University, Pittsburgh, PA. The workshop resulted in a publication that is currently under review.
 - Kaack, L., Vaishnav, P., Morgan, M.G., Azevedo, I., Rai, S., "Decarbonizing Global Freight Systems with a Focus on Modal Shift" Minor revisions requested at *Environmental Research Letters*
- 2016: Co-organizer, with Prof. Granger Morgan, Workshop on Identifying and Avoiding Potential Dead Ends and Missed Opportunities in Climate Policy, supported by the Centre for Climate and Energy Decision-Making in Washington, DC. Wrote a widely disseminated summary of the workshop.
 - Vaishnav, P., Morgan, M.G., 2016. "Summary of a Workshop on Identifying and Avoiding Potential Dead Ends and Missed Opportunities in Climate Policy." <https://tinyurl.com/climate-missed-opportunities>
- 2015: Co-organizer of a workshop on Certification of Metal Additive Manufacturing Systems and Parts for Use in Civil Aviation: Challenges and Opportunities." Workshop resulted in several publications, which have been featured in the industry and popular press.
 - Bonnín Roca, J., Vaishnav, P., Mendonça, J., Morgan, M.G., 2017. "Getting Past the Hype About 3-D Printing" *MIT Sloan Management Review* 58, 57–62; Beme News, a CNN online channel, featured our research in a short video, "What happened to the 3D printing revolution?" at: <https://www.youtube.com/watch?v=f5fBwppxtkl>
- 2016: Co-authored a blog post on fostering innovation in nuclear energy, which was mentioned in the testimony of Dr. Edwin Lyman, Senior Scientist, Union of Concerned Scientists Global Security Program, in a hearing of the U.S. Senate Committee on Environment and Public Works on S.2795, "the Nuclear Energy Innovation and Modernization Act." Available here: <https://tinyurl.com/lyman-senate-testimony>
 - Vaishnav, P., Abdulla, A., 2016. The Myth of Technology Neutral Regulation. *The Energy Collective*. Available: <https://www.energycentral.com/c/ec/myth-technology-neutral-regulation>
- 2014-2016: Collaborated with the Environmental Defense Fund (EDF) to produce several industry and academic publications, which—timed to emerge before key ICAO meetings—played a key role in persuading ICAO to simplify the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)
 - Vaishnav, P., 2016. "Plug the Loopholes in ICAO's Plan." *Aviation Week & Space Technology* 178, 66.
 - Vaishnav, P., 2016. "Design of a Global Market Based Measure ICAO's Market Based Mechanism: Keep It Simple." *Carbon & Climate Law Review* 10, 120–126. Available: <http://cclr.lexxion.eu/article/CCLR/2016/2/9>
 - Vaishnav, P., Petsonk, A., Avila, R.A.G., Morgan, M.G., Fischbeck, P.S., 2016, "Analysis of a proposed mechanism for carbon-neutral growth in international aviation." *Transportation Research Part D: Transport and Environment, Special Issue on Climate Change and Transport* 45, 126–138. 10.1016/j.trd.2016.02.017
- 2014: Policy brief to assess the impact of a severance tax on shale gas produced in Pennsylvania. We discussed this research extensively with State Senator Art Haywood of Pennsylvania and his staff, and participated in hearings about the feasibility of a shale gas severance tax in Pennsylvania
 - Vaishnav, P. & Horner, N., 2014. "Apocalypse Not: Severance Taxes and Industry Exit in the Marcellus Shale." *Pennsylvania Budget and Policy Center Briefing Paper* Available: <http://tinyurl.com/n8enbtg>

AWARDS

- Grants from (1) CMU's Manufacturing Futures Initiative to study expert judgment at the technological frontier (2018; \$200k; Role: co-PI and 2017; \$107k, Role: co-PI); (2) The Alfred P. Sloan Foundation to study the feasibility of converting HVAC lines to HVDC (2018; \$165k; Role: co-PI); (3) CMU ProSEED / Crosswalk to purchase equipment to support experiential learning for high-school students participating in a summer program on sustainability (2015; \$2.5k; Role: PI); (4) The Transportation Research Board's Airport Co-operative Research Program to study ways of reducing pollution from aircraft (2012; \$10k; Role: PI)
- Hughes Hall Scholarship covering tuition fees associated with pursuing a PhD at the University of Cambridge. Each year, only one of over 300 graduate students at Hughes Hall is offered this award. (2011)
- Vice President's award from Shell Energy Europe (SEE) for work on modeling the impact of the 2009 recession in Europe on natural gas demand. The awards were presented to up to three individuals each quarter, from SEE's staff of about 500 (2009)
- Vice President's award from SEE for work on the identification of potential bottlenecks in Europe's gas transmission pipeline system (2008)