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Dr. Timilsina joined the Development Research Group of the World Bank in May 2007. He has more than 20 years' experience across a board range of energy and climate change economics at the international level. His key expertise includes macroeconomic and structural modeling for policy analysis, particularly general equilibrium modeling; energy and economic development, clean and renewable energy economics and policies including biofuels, climate change policies and carbon pricing; energy and power sector modeling and urban transportation. Prior to joining the Bank, Dr. Timilsina was a Senior Research Director at the [Canadian Energy Research Institute](#), Calgary, Canada, where he was engaged mainly on climate change policy analysis, economic impacts assessment and electricity issues. Currently he is leading and contributing to a number of studies including the linkages between energy, economic growth and poverty reduction; regional energy cooperation; low carbon economic growth and urban transportation planning and economics.

ACADEMIC QUALIFICATION

- Doctoral: Energy/Climate Change Economics, Asian Institute of Technology, Bangkok, Thailand, 2001
- Masters: Energy Economics, Asian Institute of Technology, Bangkok, Thailand, 1994
- Bachelor of Engineering (Electrical): M. N. R. Engineering Collage, Allahabad, India, 1990

SELECTED PUBLICATIONS

Journal Articles

1. A Quarter Century Effort Yet to Come of Age: A Survey of Electricity Sector Reform in Developing Countries. **The Energy Journal**, Vol. 38 (3), DOI: <http://dx.doi.org/10.5547/01956574.38.3.tjam> (with Tooraj Jamasb and Rabindra Nepal).
2. Potential Gains from Expanding Regional Electricity Trade in South Asia. **Energy Economics**, Vol. 60, pp. 6-14, 2016 (with Mike Toman).
3. Will global convergence of per-capita emissions lead the way to meeting the UNFCCC goal? **Carbon Management**, May 2016, <http://dx.doi.org/10.1080/17583004.2016.1181837>.

4. Filling the Gaps: Policy Supports and Interventions for Scaling up Renewable Energy Development in Small Island Developing States. **Energy Policy**, Vol. 98, pp. 653-662, 2016 (with Kalim Shah).
5. Understanding energy efficiency barriers in Ukraine: Insights from a survey of commercial and industrial firms, **Energy**, Vol. 106, pp. 203-211, 2016 (with Gal Hochman and Iryna Fedets).
6. Producing biodiesel from soybeans in Zambia: An economic analysis, **Food Policy**, Vol. 59, pp. 103–109, 2016 (with Dusan Drabik and Harry de Gorter).
7. Oil prices and the global economy: A general equilibrium analysis, **Energy Economics**, Volume 49, Pages 669-675, 2015.
8. The economics of Brazil’s ethanol-Sugar markets, mandates, and tax exemptions, **American Journal of Agricultural Economics**, Vol. 97, No.5, pp. 1433-1450, 2015 (with Dusan Drabik, Harry de Gorter and David R. Just).
9. Offsetting the CO2 locked-in by roads: Suburban transit and core densification as antidotes, **Economics of Transportation**, Vol. 4, pp. 37–49, 2015 (with Alex Anas).
10. Demand Side Instruments to Reduce Road Transportation Externalities in the Greater Cairo Metropolitan Area, **International Journal of Sustainable Transportation**, Volume 9, Issue 3, pp. 203-216, 2015 (with Ian W.H. Parry).
11. The Effect of Biodiesel Policies on World Biodiesel and Oilseed Prices, **Energy Economics**, Volume 44, Pages 80-88, 2014 (with Dusan Drabik and Harry de Gorter).
12. Quantifying the Causes of the Global Food Commodity Price Crisis, **Biomass & Bioenergy**, Vol. 68, pp. 106-114, 2014 (with Gal Hochman, Deepak Rajagopal, and David Zilberman).
13. The Effect of Brazilian Policies on Ethanol Market Prices, **Biofuels**, Vol. 4, No. 6, pp. 583-585, 2013 (with Harry de Gorter, Dusan Drabik and Erika M Kliauga).
14. Economic Implications of Reducing Carbon Emissions from Energy Use and Industrial Processes in Brazil, **Journal of Environmental Management**, Vol. 130, pp. 436-446, 2013 (with Y.-H. Chen and F. Landis).
15. Global Wind Power Development: Economics and Policies, **Energy Policy**, Vol. 61, pp. 642–652, 2013 (with G.C. van Kooten and P. A. Narbel).

16. Biofuels in the Long-run Global Energy Supply Mix for Transportation, **Philosophical Transactions of the Royal Society A**. December 2013, pp. 372-392.
17. Transaction costs analysis of low-carbon technologies, **Climate Policy**, Vol.13, No. 4, pp. 490-513 (with L. Mundaca, M. Mansoz and L. Neij).
18. Biofuels and Climate Change Mitigation: A CGE Analysis Incorporating Land-Use Change, **Environmental and Resource Economics**, Vo. 55, pp: 1-19 (with Simon Mevel).
19. The Impact of Biofuels on Commodity Food Prices: Assessment of Findings, **American Journal of Agriculture Economics**, Vol. 95, No. 2, pp. 275-281, 2013 (with David Zilberman, Gal Hochman, Deepak Rajogopal and Steve Sexton).
20. Economy-wide Impacts of Biofuels in Argentina, **Energy Policy**, Vol. 55, pp. 636-647, 2013 (with Omar O.Chisari and Carlos A. Romero).
21. How Will the EU's Cap on Crop-based Biofuels Impact the Future of Biofuels? **Biofuels**, Vol. 4, No. 2, pp. 139-141, 2013.
22. Biofuels Development in China: Technology Options and Policies Needed to Meet the 2020 Target, **Energy Policy**, Vol. 51, pp. 64-79, 2012 (with Shiyan Chang, Lili Zhao and Xiliang Zhang).
23. Providing Numbers for a Food versus Fuel Debate: An Analysis of a Future Biofuel Production Scenario, **Applied Economic Perspectives and Policy** Vol. 34, No. 4, pp. 637–668, 2012 (with Biswo N. Poudel, Krishna P. Paudel, and David Zilberman).
24. Biofuels: the food versus fuel debate, **CAB Reviews**, Vol. 7, No. 036, pp. 1-8, 2012.
25. The Impacts of Biofuel Targets on Land-Use Change and Food Supply: A Global CGE Assessment, **Agriculture Economics**, Vol. 43, pp. 313-330, 2012 (with John Beghin, Dominique van der Mensbrugge and Simon Mevel).
26. Solar energy: Markets, economics and policies, **Renewable and Sustainable Energy Reviews**, Vol. 16, No. 1, pp.449-465, 2012 (with L. Kurdgelashvili and P. A. Narbel).
27. Oil price, biofuels and food supply, **Energy Policy**, Vol. 39, No. 12, pp. 8098-8105, 2011 (with Simon Mevel and Ashish Shrestha).
28. When Does a Carbon Tax on Fossil Fuels Stimulate Biofuels? **Ecological Economics**, Vol. 70, No. 12, pp. 2400-2415, 2011 (with Stefan Csordás and Simon Mevel).

29. Second Generation Biofuels: Economics and Policies, **Energy Policy**, Vol. 39, No. 7, pp. 4222-4234, 2011 (with Miguel A. Carriquiry, Xiaodong Du).
30. Status and Barriers of Advanced Biofuel Technologies: A Review, **Renewable Energy**, Vol. 36, No. 12, pp. 3541-3549, 2011 (with Jay J. Cheng).
31. International Evidence on Aggregate Short-run and Long-run Interfuel Substitution, **Energy Economics**, Vol. 33, No. 2, pp. 209-216, 2011 (with Apostolos Serletis and Olexandr Vasetsky).
32. How much hope should we have for biofuels?, **Energy**, Vol. 36, pp. 2055-2069, 2011 (with Ashish Shrestha).
33. A Review of Energy System Models, **International Journal of Energy Sector Management**, Vol. 4, No. 4, pp. 494-518, 2010 (with Subhes Bhattacharyya).
34. International Evidence on Sectoral Interfuel Substitution, **The Energy Journal**, Vol. 31, No. 4, 2010, pp. 1-30 (with Apostolos Serletis and Olexandr Vasetsky).
35. How should passenger travel in Mexico City be priced? **Journal of Urban Economics**, Vol. 68, No. 2, 2010, pp. 167-182 (with Ian Parry).
36. Interfuel substitution in the United States, **Energy Economics**, Vol. 32, No. 3, pp. 737-745, 2010 (with Apostolos Serletis and Olexandr Vasetsky).
37. Urban Road Transportation Externalities: Costs and Choice of Policy Instruments, **World Bank Research Observer**, Vol. No. 2, pp. 1-30, 2010 (with Hari B. Dulal).
38. Modeling Energy Demand of Developing Countries: Are the Specific Features Adequately Captured? **Energy Policy**, Vol. 38, No. 6, pp. 1979-1990, 2010 (with Subhes Bhattacharyya).
39. Clean Development Mechanism Potential and Challenges in Sub-Saharan Africa, **Mitigation and Adaptation Strategies for Global Change**, Vol. 15, No. 1, pp. 93-111 (with Christophe de Gouvello, Massamba Thiolye and Felix B. Dayo).
40. Transport Sector CO₂ Emissions Growth in Asia: Underlying Factors and Policy Options, **Energy Policy**, Vol. 37, No. 11, pp. 4523-4539 (with A. Shrestha).
41. Regulatory Instruments to Control Environmental Externalities from the Transport Sector, **European Transport**, Vol. 41, pp. 80-112 (with H. Dulal).
42. Factors Affecting Transport Sector CO₂ Emissions Growth in Latin American and Caribbean Countries: An LMDI Decomposition Analysis, **International Journal of Energy Research**, Vol. 33 No. 4, pp. 396-414, 2009 (with Ashish Shrestha).

43. Carbon tax under the Clean Development Mechanism: A unique approach reducing GHG emissions in developing countries, **Climate Policy**, Vol. 9, No. 2, pp. 139-154, 2009.
44. A General Equilibrium Analysis of Demand Side Management Programs in the Household Sector under the Clean Development Mechanism of the Kyoto Protocol, **International Journal of Energy Sector Management**, Vol. 2, No. 4, pp. 570-593, 2008.
45. Atmospheric Stabilization of CO₂ Emissions: Near-term Reductions and Intensity-based Targets, **Energy Policy**, Vol. 36, No. 6, pp. 1927-1936, 2008.
46. Effects of Revenue Recycling Schemes in Selecting Tax Instruments for CO₂ Emissions Reduction: A CGE Analysis of Thailand, **Energy Studies Review**, Vol. 15, No. 1, pp. 19-48. 2007.
47. General Equilibrium Effects of a Supply Side GHG Mitigation Option under the Clean Development Mechanism, **Journal of Environmental Management**, Vol. 80, pp. 327-341, 2006 (with R.M. Shrestha).
48. The Additionality Criterion for Identifying Clean Development Mechanism Projects under the Kyoto Protocol, **Energy Policy**, Vol. 30, No. 2, 2002 (with R.M. Shrestha).
49. A General Equilibrium Analysis of Economic and Environmental Effects of Carbon Tax in a Developing Country: Case of Thailand, **Environmental Economics and Policy Studies**, Vol. 5, No. 3, pp. 179-211, 2002 (with R.M. Shrestha).
50. Financing Solar Thermal Technologies under DSM Programs: An Innovative Approach to Promote Renewable energy, **International Journal of Energy Research**, Vol. 24, No.6, pp. 503-510, 2000 (with T. Lefevre and S. Shrestha).
51. Techno-Economic Databases for Environmental Policy Analysis in Asia: Requirements and Barriers, **Pollution Atmospherique**, pp. 79-88, October 2000 (with T. Lefevre and S. Shrestha).
52. Reducing GHG emissions from the Power Sector in Developing Asian Countries: An AIJ Prospective, **World Resource Review**, Vol. 11, No.1, PP. 115-131, 1999 (with T. Lefevre).
53. A Divisia Decomposition Analysis of NO_x Emission Intensities for the Power Sector in Thailand and South Korea, **Energy The International Journal**, Vol. 23, No. 6, PP. 433-438, 1998 (with R.M. Shrestha).
54. CO₂ Mitigation Potential of Efficient Demand-Side Technologies: A Case of Thailand, **Energy Sources**, Vol. 20, No. 3, PP. 301-316, 1998 (with R.M. Shrestha, P. Khummongkol, W.K. Biswas and S. Sinbanchongjit).

55. Government Policies and Strategies for Developing and Promoting Renewable Energy in Asia: An Overview, **Renewable Energy**, Vol. 16, PP. 2648-2651, 1998 (with T. Lefevre).
56. SO₂ Emission Intensities of Power Sector in Asia: Effects of Generation Mix and Fuel Intensities Changes, **Energy Economics**, Vol. 19, No. 3, 1997 (with R.M. Shrestha).
57. Factors Affecting Inter-Fuel Substitutions in Energy Demand in Asia, **ASEAN Energy Journal**, Vol. 1, No. 1, 1997(with T. Lefevre).
58. Factors Affecting CO₂ Intensities of Power Sector in Asia: A Divisia Decomposition Analysis, **Energy Economics**, Vol. 18, No. 4, 1996 (with R.M. Shrestha).
59. Productive Efficiency of Electric Utilities in Asia: A Comparative Study, **Revue de Énergie**, Sept. 1995 (with R.M. Shrestha).

Book and Book Chapter

1. The Economics of Renewable Energy Promotion Policies: A Case of Wind Power in Brazil in Erdo, M.M., T. Arun and I.H. Ahmad (eds.) Handbook of Research on Green Economic Development Initiatives and Strategies. IGI Global Publication. 2016 (with Florian Landis).
2. The Impacts of Biofuels on the Economy, Environment, and Poverty: A Global Perspective (David Zilberman, co-editor), Springer, 2014.
3. Chapters 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10. Timilsina, Govinda R. and David Zilberman (eds.) The Impacts of Biofuels on the Economy, Environment, and Poverty: A Global Perspective, Springer, 2014.
4. Macroeconomic and Sectoral Impacts of Climate Change Mitigation in Thailand, Van den Berg, R.D. and O. Feinstein eds. Evaluating Climate Change and Development, Transaction Publishers, 2009.
5. Baseline Methodologies For Clean Development Mechanism Projects, A Guidebook, **UNEP Risø Center, Denmark**, 2005 (with R.M., Shrestha, S. Kumar and S. Sharma)
6. Economic Impacts of Alberta's Oil Sands, **Canadian Energy Research Institute**, 2005 (with N. LeBlanc and T. Walden).

7. Methodological Manual of Energy Environmental Database, DBA-VOID, United Nations, New York, 1998 (with T. Lefevre and S. Acharya).
8. Power in Thailand: Business Opportunities, Financial Times Energy Publications, 1996 (with T. Lefevre, R. Pacudan and J. Todoc).
9. Guide Book on Energy Environmental Planning, United Nations, New York, 1996 (with T. Lefevre, X. Chen and B.D. Thanh).
10. Guide Book on Energy Survey, United Nations, New York, 1995 (with T. Lefevre).

SELECTED STUDIES

- Romania climate change and green growth study, June 2013 – June 2015.
- Regional Energy Cooperation in South Asia, April 2013- June 2015.
- Assessing impacts of transmission lines linking Bhutan with Northern India electricity grids, May 2012 – Feb. 2013.
- Linking bottom-up modeling of GHG mitigation measures with top-down CGE models, April 2012 – June 2015.
- Climate Change in the Himalayas, April 2011 – June 2012.
- Green Growth in Macedonia, March 2011 – June 2013.
- Transaction Costs of Energy Efficiency, February 2011 – June 2013.
- Low Carbon Economic Growth in Developing Countries, August 2010- December 2012.
- Macro and Microeconomics of Biofuels: Country Case Studies (Argentina, Mali, China), August 2010- December 2012.
- South Asia Infrastructure Need Assessment, October 2010 – June 2012.
- Reducing Traffic Congestion in Cairo: Simulations of Selected Fiscal Policy Instruments, Egypt Country Office, The World Bank, October 2009 – June 2010.
- Feasibility of Concentrated Solar Power (CSP) in MENA Region under the Clean Technology Fund (CTF) Scheme, MENA Regional Office, The World Bank, August 2009 – June 2010.

- An Estimation of Interfuel Substitution Elasticities for Energy and Climate Change Policy Modeling, The World Bank, March 2009 – Continue.
- Biofuels: Economic, Social and Environmental Impacts, The World Bank, August 2008 – June 2011.
- Brazil Low Carbon Study, The World Bank, November 2007 – June 2010.
- Electricity Planning and Climate Change in Latin America, January 2009 – June 2010.
- Climate Change Mitigation Policies for Urban Transportation: the Case of Mexico City, Sao Paulo and Beijing, The World Bank, June 2007 – June 2009.
- Economics and Policies of Renewable Energy: Wind and Solar, The World Bank, April 2008 – March 2009.
- Energy Planning Models from Developing Country Perspective, The World Bank, April 2008 – March 2009.
- Factors Affecting Transport Sector CO₂ Emissions in Asia and LAC, The World Bank, April – August 2008.
- A Review of Fiscal and Regulatory Policy Instruments to Reducing Transport Sector Externalities, The World Bank, October 2007 – June 2008.
- Reductions of GHG Emissions from the Oil and Gas Sector in Alberta, Institute of Sustainable Energy, Environment and Economy, University of Calgary, Calgary, Nov. 2005 – Sept. 2006.
- Potential Effects of Climate Change on the City of Calgary: Adapting to a New Environment, City of Calgary, March – December, 2005.
- Analysis of Federal Government's Plan to Meet the Kyoto Protocol, Natural Resource Canada, Mar to Nov 2002.
- Asia Least Cost Greenhouse Gases Abatement Strategies (ALGAS), Asian Development Bank, Aug. 1997 – Dec. 1999.
- Identification of power sector GHG mitigation project under the Clean Development Mechanism in Selected Asian Countries, International Atomic Energy Agency (IAEA), Oct. 1999 – Jul. 2001.
- Program for Asian Cooperation on Energy and Environment (PACE-E), UNESCAP and UNDP, Jan. 1994 – Dec. 1997.

PROFESSIONAL MEMBERSHIP

- American Economic Association (AEA)
- Canadian Economics Association (CEA)
- International Association of Energy Economics (IAEE)
- Association of Environmental and Resource Economists (AERE)
- International Association of Agricultural Economists (IAAE)