

## *Curriculum Vitae*

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### **Shabbir H. Gheewala**

Professor and Head

Life Cycle Sustainability Assessment Lab

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### **Professional Qualifications:**

- *D.Eng.* (2001) in Environmental Engineering, Asian Institute of Technology, Thailand
- *M.Eng.* (1995) in Environmental Engineering, Asian Institute of Technology, Thailand
- *B.Eng.* (1992) in Civil Engineering, Jadavpur University (First class honours), Calcutta, India

### **Academic Positions:**

- Subject editor (Energy and waste management systems) for the International Journal of Life Cycle Assessment
- Associate editor for the journal, Energy for Sustainable Development
- Managing editor for the Journal of Sustainable Energy and Environment
- Member of the Thai Carbon Footprint methodology development committee
- Member of the Thai Carbon Footprint Label verification committee
- Member of the UNEP-SETAC Life Cycle Initiative's steering committee on Life Cycle Impact Assessment
- Member of the Global Bioenergy Partnership's (GBEP) activity group on water
- Member, International Advisory Board, Ecobalance conference, Japan
- Member, Scientific Committee, Indian Life Cycle Management conference

## **Employment History:**

**Professor** at the Joint Graduate School of Energy and Environment (JGSEE), King Mongkut's University of Technology, Thonburi (June 2010 – present). Responsibilities include teaching a course on life cycle assessment and supervising graduate students' research. Heading the "Life Cycle Sustainability Assessment Lab" at JGSEE.

**Distinguished Adjunct Professor** at the Asian Institute of Technology, (Jan 2015 onwards). Responsibilities include sitting on Phd committees.

**Adjunct Professor** at the Department of Environmental Sciences and Engineering, University of North Carolina Chapel Hill, (Jan 2012 – present). Responsibilities include teaching a course on life cycle assessment and supervising undergraduate students' Capstone projects.

**Associate Professor** at the Joint Graduate School of Energy and Environment (JGSEE), King Mongkut's University of Technology, Thonburi (March 2007 – June 2010).

**Assistant Professor** at the Joint Graduate School of Energy and Environment (JGSEE), King Mongkut's University of Technology, Thonburi (January 2004 – March 2007).

**Lecturer** at the Joint Graduate School of Energy and Environment, King Mongkut's University of Technology, Thonburi (March 2002 – January 2004).

**Adjunct lecturer** in the Design and Engineering Management of the School of Advanced Technologies at the Asian Institute of Technology, Thailand (May – August 2003 / August – December 2004). Responsibilities included teaching part of the course "Ecodesign and Manufacturing Systems" and committee member of graduate student.

**Visiting lecturer** at Kasetsart University, Thailand (2002 – present). Responsibilities include teaching a course on " Life Cycle Assessment" at the International Program in Environmental Engineering.

**Research Engineer** at the Urban Environmental Engineering and Management Program, Asian Institute of Technology (June 2001 – February 2002). Responsibilities included conducting research on life cycle assessment of air conditioning systems, assisting with computer classes on an LCA software, SimaPro, and sharing lectures in ecodesign course.

**Research Associate** at the Environmental Engineering Program, Asian Institute of Technology (September 1995 – May 2001). Responsibilities included conducting research on wastewater nitrogen removal technologies, assisting in organizing workshops, seminars and training programs, preparing scientific publications and project reports.

**Design Engineer** at F. Harley and Co. Pvt. Ltd. (1992 – 1993). Responsibilities included design of air pollution control equipment such as bagfilters, cyclones and dust suppression systems, installation of the designed systems, site supervision, project proposal preparation, bidding and client contact.

## Projects Undertaken:

- ***Strategic Environmental Assessment of Biofuels in Thailand.*** Supervising graduate research on integrated environmental assessment of bioethanol (cassava and molasses) and biodiesel (jatropha, palm oil, coconut oil and waste cooking oil) in Thailand. Currently there are 6 post-doc, 10 PhD, 3 MSc students and 3 researchers on the team.
- ***Sustainability assessment of sugarcane complex for enhancing competitiveness of Thai sugarcane industry.*** The project will study the sugarcane industry in Thailand to establish the current status and make recommendations for its further sustainability and competitiveness. It is funded by the National Science and Technology Development Agency (NSTDA) (Sep 2014 – Aug 2016).
- ***Palm Oil: Sustainability, Health and Economics.*** Assessing the sustainability, health and economic aspects of palm oil in Thailand to use for policy decision making in the future. The project is led by the School of Oriental and African Studies (SOAS), University of London and has the London School of Hygiene and Tropical Medicine, Chiang Mai University, University of Copenhagen and Stanford University as the other partners. It is funded by the Wellcome Trust, UK (Sept 2014 – Aug 2016)
- ***Water footprinting of food, feed and fuel for effective water resource management (Phase II).*** The project has Kasetsart University and the Asian Institute of Technology as partners. It is funded by the Thailand Research Fund (Oct 2013 – Sep 2015)
- ***Life cycle environmental sustainability assessment of oil palm plantation in Thailand.*** Environmental sustainability indicators of oil palm plantation in Thailand to use for policy decision making in the future for the expansion of oil palm plantation areas and for the RSPO. The project had Kasetsart University and Prince of Songkla University as partners. It is funded by the Agriculture Research and Development Agency (Aug 2013 – Aug 2014)
- ***Application of water footprint for PTT corporate water accounting and resource efficiency.*** The study aims to apply the concept of water footprint assessment as a tool for supporting PTT's corporate water accounting. The improvement of the ability to effectively account for water use and impacts is expected to help PTT in enhancing more sustainable water use and management and become aligned with external stakeholders' expectations. It is funded by PTT Plc (Sep 2013 – Aug 2014)
- ***Life cycle assessment of PTT-LPG cylinders.*** The study aims to assess the environmental impacts and risks on health and safety aspects over the life cycle of composite and steel LPG cylinders of PTT. The project has Kasetsart University as a partner. It is funded by PTT Plc (Mar 2013– Dec 2013)
- ***Network for LCA and Policy Research on Food, Fuel and Climate Change.*** Mentoring 10 researchers (5 Postdoc and 5 PhD) on LCA of agriculture to develop capacity on LCA in Thailand and produce high quality peer-reviewed journal paper. The project is funded by the National Science and Technology Development Agency (NSTDA) with Royal Golden Jubilee PhD scholarships from the Thailand Research Fund (Sep 2012 – Sep 2017)

- ***Water footprinting of food, feed and fuel for effective water resource management.*** The project has Kasetsart University and the Asian Institute of Technology as partners. It is funded by the Thailand Research Fund (Apr 2012 – Mar 2013)
- ***Water Footprint of Agri-food Products.*** The project is in collaboration with Kasetsart University. It is funded by the Agricultural Commodity and Food Standards (ACFS) (Apr 2012 – Mar 2013)
- ***Global Assessments and Guidelines for Sustainable Liquid Biofuels Production in Developing Countries.*** The project is conducted by Öko-Institut and is part of a joint project led by the Global Environmental Facility (GEF), United Nations Environmental Program (UNEP), Food and Agriculture Organisation of the United Nations (FAO) and United Nations Industrial Development Organisation (UNIDO) (Jan – Dec 2011).
- ***FOOD Footprint calculator enhance carbon footprint measurement and management in Thai food industry to promote low-carbon economy for climate change mitigation.*** Developing a calculation tool for the agro-food industry to facilitate the implementation of carbon footprinting and building the local capacity of Thai food industries, including SMEs. The project is in collaboration with Kasetsart University and the Federation of Thai Industries. The project is funded by the Commission of European Communities under the Thailand-EC Cooperation Facility. (Jan 2011 – Jun 2013).
- ***Sustainability Assessment for Biomass Utilisation in Thailand.*** Investigation of pilot study results in Thailand using ERIA's Sustainability Assessment Method of biomass utilisation and upgrading the integrated assessment method. Funded by the Economic Research Institute of ASEAN and East Asia (ERIA) (Mar – Jul 2011)
- ***Investigation of energy supply/demand in Thailand.*** Collection of energy data and modelling of energy scenarios in Thailand with a view to mitigating greenhouse gas emissions. Funded by the National Institute for Advanced Industrial Science and Technology (AIST), Japan. (April – Oct 2011)
- ***Developing GHG calculation methodology for Thai Palm Oil Industry – Land use change.*** Conducted research on development of methodology for GHG emissions from land use change in Thailand. The project is funded by GIZ (Mar – Dec 2010)
- ***Pilot Study on Sustainability Assessment for Biomass Utilisation.*** Conducting research on sustainability assessment of biofuels. Funded by the Economic Research Institute of ASEAN and East Asia (ERIA) (Mar – Jul 2010)
- ***Promoting of carbon footprinting and labelling of products in Thailand.*** CF analysis for 8 different companies in Thailand using the newly developed Thai Carbon Footprint methodology. The project is in collaboration with Kasetsart University and funded by MTEC, NSTDA and coordinated by the Thai Greenhouse Gas Management Organization (TGO) (Jun 2009 – Jun 2010).

- ***Capacity Building of Thai Food Industries on "Carbon Footprint Labelling" to Promote the Development of Low-carbon Trade between EU and Thailand for Climate Change Mitigation.*** CF of chicken and tuna products in Thailand. The project is coordinated by Kasetsart University with Institut National de la Recherche Agronomique (INRA), France, University of Santiago de Compostela (USC), Spain and University of Surrey (UniS), UK as the European partners. The project is funded by the Commission of European Communities under the Thailand-EC Cooperation Facility.
- ***Carbon Footprint and Label of Agricultural Products to Enhance Competitiveness and Promote Low-carbon Economy.*** CF analysis for several agricultural products in Thailand. The project is in collaboration with Kasetsart University and funded by the National Bureau of Agricultural Commodity and Food Standards (ACFS) (Mar 2010 – Jun 2011).
- ***Carbon Footprint and Label of Textile Products to Enhance Green Networking between Thailand and EU.*** CF analysis for several textile factories in Thailand. The project is in collaboration with Kasetsart University and funded by Thai Textile Institute (THTI) (Mar – Dec 2010).
- ***EU Flower Eco-label for Textiles.*** Helping two textile companies in achieving compliance with the EU flower ecolabel. The project is in cooperation with Kasetsart University and funded by the Thai Textile Institute (THTI). (Oct 2009 – May 2010)
- ***Environmental, Economic and Social Assessments for Biomass Utilisation.*** Conducting research on sustainability assessment of biofuels. Funded by JETRO, Japan. (Nov 2008 – Feb 2009)
- ***Life Cycle Inventory of Solid Waste Incineration in Thailand.*** Conducting research on solid waste incineration life cycle inventory for the national database of Thailand. Funded by MTEC, NSTDA. (May 2008 – April 2009)
- ***Integrated Sustainable Solid Waste Management in Asia.*** Conducting research on sustainability assessment of solid waste management systems in Asia. The project is coordinated by ttz, Germany and funded by the European Commission under the Seventh Framework Programme. (Jan 2009 – Jun 2012)
- ***Life Cycle Assessment of Bioethanol from Sugarcane Molasses and Cassava.*** Conducting research on LCA of bioethanol in Thailand. The project was coordinated by MTEC, NSTDA and funded by PTT Plc. (Oct 2008 – Aug 2009)
- ***Ecoefficiency of Power Production from Agricultural Residues.*** Conducted research on ecoefficiency of power production from rice husk and bagasse in Thailand. The project was coordinated by MTEC, NSTDA and funded by EGAT. (Mar – Nov 2008)
- ***EU Flower Eco-label for Ceramic Tiles.*** Helping a ceramic company in achieving compliance with the EU flower ecolabel. The project is in cooperation with Kasetsart University and funded by the Thai Ceramic Co. Ltd. (June 2008 – May 2009)

- ***Effects of certification and labelling requirements from importing countries on the sustainability of Thai shrimp industry.*** Conducting research on the impact of certification and labelling requirements from EU and US on the Thai shrimp industry. The project is coordinated by Kasetsart University (partners CMU and KMUTL) and funded by the Thailand Research Fund. (Mar 2008 – Oct 2009)
- ***Carbon Footprint Analysis and Management of Rice Products for Carbon Label to Promote Low Carbon Economy for Climate Change Mitigation.*** CF analysis for a rice vermicelli producer in Thailand. The project is coordinated by Kasetsart University and funded by the Thailand Research Fund.
- ***Societal Costs of Biofuels.*** Conducted research on societal or external costs of ethanol from cassava in Thailand. Funded by JETRO, Japan. (Nov 2007 – Feb 2008)
- ***Life Cycle Inventory Investigation of Biodiesel Production from Palm Oil.*** Conducted research on life cycle inventory of GHG emissions for biodiesel production from palm oil in Thailand. Funded by the National Institute for Advanced Industrial Science and Technology (AIST), Japan. (May – Oct 2006)
- ***Life Cycle Assessment of Bioethanol from Cassava and Sugarcane.*** Invited on the research team as energy and LCA expert by the Thailand Environment Institute (TEI). Funded by the Department of Alternative Energy Development and Efficiency (DEDE), Ministry of Energy. (Jul 2006 – Jul 2007)
- ***Life Cycle Assessment of Flooring Tiles: A New Approach for Improving Eco-Efficiency and Benchmarking.*** Conducted research on life cycle assessment of flooring tiles for improving the environmental profile as well as eco-efficiency. The project was coordinated by Kasetsart University and funded by the Thai Ceramic Co. Ltd. (Feb 2006 – Feb 2007)
- ***Life Cycle Assessment for Participatory Environmental Management in the Supply Chain of Frozen White Shrimp.*** Conducted research on life cycle assessment of shrimp farming in Thailand for improving eco-efficiency along the supply chain as well as increasing competitiveness of the shrimp industry. The project was coordinated by Kasetsart University and funded by the Thailand Research Fund.
- ***Capacity Building of Thai Institutions and Textile Industry on EU Standards and Eco-labels to Enhance Trade and Investment between Thailand and EU.*** Invited on the research team to conduct life cycle assessment in textile companies as well as assisting them in achieving EU Flower certification. The project was led by MTEC (NSTDA) with Thailand Textile Institute, Kasetsart University and Danish Technological Institute as partners and funded by the European Commission under the EU-Thailand Economic Cooperation Small Project Facilities. (Dec 2005 – Dec 2006)
- ***Strategic Planning of an Integrated Solid Waste Management System of a Medium-Scale Municipality in Thailand.*** Conducted research on developing a methodological framework for assessment of integrated solid waste management systems from environmental and social perspectives<sup>1</sup> (Nov 2004 – Mar 2006)

- ***Environmental Assessment of Renewable Energy Production for Distributed Generation.*** Conducted research on the comparative LCA of energy production from renewables – biomass, wind, minihydro and solar – for Thailand. (Jan – June 2004)
- ***Ecodesign of air-conditioning systems.*** Conducted life cycle assessment of central and split air-conditioning systems to compare the environmental footprints. Also conducted lectures in the ecodesign course at AIT in September 2001 term.

### **Keynote presentations:**

**Gheewala, S.H.** (2016) LCA for AgriFood Policy – Moving from farm to landscape, Keynote lecture at the 12th Asia Pacific Roundtable on Sustainable Consumption and Production & 5th LCA AgriFood Asia, Siem Reap, Cambodia, 12-13 July 2016

**Gheewala, S.H.** (2015) Perspectives on Life Cycle Assessment application and research in Thailand, Keynote lecture at the 1st ILCAN workshop on LCA research in Indonesia, Serpong, Indonesia, 24-25 November 2015

**Gheewala, S.H.** (2014) Sustainable Production of Biofuels – Challenges and Opportunities, Keynote lecture at the 5th International Conference on Sustainable Energy and Environment (SEE 2014): Science, Technology and Innovation for ASEAN Green Growth, Bangkok, Thailand, 19-21 November 2014

**Gheewala, S.H.** (2013) How Green are Biomass-based Fuels and Fibres? Considerations from a Life Cycle Perspective, Keynote lecture at the European Polysaccharide Network of Excellence 2013 (EPNOE 2013) International Conference, Nice, France, 21-24 October 2013

**Gheewala, S.H.** (2012) Challenges for LCA in the agri-food sector, perspectives from Thailand and Southeast Asia, Keynote lecture at the LCA Food 2012, Saint Malo, France, 02-04 October 2012

**Gheewala, S.H.** (2012) Policies, practices and prospects of biofuels in Asia – Sustainability issues, Keynote lecture at the BIMSTEC Regional Workshop on Biofuels Production and Utilization, Bangkok, 06-07 June 2012

**Gheewala, S.H.** (2012) Land use change and expanding system boundaries of biofuels LCA, Keynote lecture at the International Conference on Green and Sustainable Innovation 2012 (ICGSI 2012), Chiang Mai, 24-26 May 2012

**Gheewala, S.H.** (2012) Sustainability Assessment of a Sugar Biorefinery Complex in Thailand, Plenary lecture at the 4th Sugar Asia Conference, Bangkok, 16-17 May 2012

**Gheewala, S.H.** (2012) Biofuels and the sustainability conundrum – Policies, practices and prospects in Asia, Keynote lecture at the Seminar on Resource Efficiency and Decoupling Approach, UNEP, Bangkok, 03-04 April 2012

## **Invited conference presentations:**

**Gheewala, S.H.** (2016) Life Cycle Thinking for Sustainable Consumption and Production, Invited lecture at the Eighth Researchers Meeting of the International Research Network for Low Carbon Societies, Wuppertal, Germany, 6-7 September, 2016

**Gheewala, S.H.** (2016) Using life cycle thinking in sustainability assessment of agricultural products, Invited lecture at the 12th Asia Pacific Roundtable on Sustainable Consumption and Production, Siem Reap, Cambodia, 12-13 July 2016

**Gheewala, S.H.** (2016) LCA for Food, Feed, Fuel and Climate Change, Invited lecture at the 12th Asia Pacific Roundtable on Sustainable Consumption and Production & 5th LCA Agrifood Asia, Siem Reap, Cambodia, 12-13 July 2016

**Gheewala, S.H.** (2016) Are bio-based materials good for the environment? A life cycle evaluation, Invited lecture at the Pure and Applied Chemistry International Conference (PACCON2016), Bangkok, Thailand, 09-11 February 2016

**Gheewala, S.H.** (2015) Biomass Energy Assessment: Experiences from Thailand, Invited talk at the Asia Pacific Regional Workshop on Biomass Energy Resource Assessment, Bangkok, Thailand, 6-8 July 2015

**Gheewala, S.H.** (2015) Implications of biofuels policy mandate in Thailand on water, Invited talk at the 3rd Global Bio-Energy Partnership (GBEP) week, Medan, Indonesia, 25-29 May 2015

**Gheewala, S.H.** (2015) LCA as a policy tool: Sustainability assessment of palm oil expansion in Thailand, Invited lecture at the 4th LCA Agrifood Asia, Shah Alam, Malaysia, 09 March 2015

**Gheewala, S.H.** (2015) Sustainability Assessment of Bioenergy Systems and the Road to Industrialization, Invited lecture at the Asia Renewable Energy Workshop 2015 (AREW2015), Universiti Putra Malaysia, 03-04 February 2015

**Gheewala, S.H., Silalertruksa, T., Nilsalab, P., Lecksiwilai, N.** (2014) Corporate Water Footprint Assessment for Supporting Sustainable Water Use and Management for an Oil & Gas Company in Thailand, Invited lecture at the Indian Life Cycle Management Conference 2014 (ILCM2014), New Delhi, India, 29-30 September 2014

**Gheewala, S.H.** (2013) Biomass for Food, Fuel and Fibre – Considerations from a Life Cycle Perspective, Invited lecture at the Pure and Applied Chemistry International Conference (PACCON2013), Chonburi, Thailand, 23-25 January 2013

**Gheewala, S.H.** (2012) Reflections on water assessment, Invited lecture at the Regional workshop on "LCA Agri-Food Asia Initiative", Bangkok, 15-16 February 2012

Silalertruksa, T. and **Gheewala, S.H.** (2012) LCA of palm oil in Thailand, Invited lecture at the Regional workshop on "LCA Agri-Food Asia Initiative", Bangkok, 15-16 February 2012



**Gheewala, S.H.** (2012) Biofuels and the quest for sustainability: Global issues and Thai experience, Invited lecture at the 4th STGMS Conference, Khon Kaen, 24 January 2012

**Gheewala, S.H.** (2011) PAS 2050:2008 Methodology and Experiences, Invited lecture at the Climate Thailand Conference 2011, Bangkok, 19 August 2011

**Gheewala, S.H.** (2011) Current Status and Prospect of Biofuels in Thailand, Invited lecture at the FAO Sustainable Bioenergy Symposium, Bangkok, 02 June 2011

**Gheewala, S.H.** (2011) Life Cycle Assessment (LCA) to evaluate environmental impacts of bioenergy projects, Invited lecture at the Thai-German Workshop on Energetic Biomass Utilization, Bangkok, 30-31 May 2011

**Gheewala, S.H.** (2011) Current Status and Prospect of Biofuels in Thailand, Invited lecture at the international conference on Alternative Energy in Developing Countries and Emerging Economies, Hat Yai, 25-26 May 2011

**Gheewala, S.H., Mungkung, R.** (2011) Product Carbon Footprinting in Thailand: Experiences from an exporting nation, Invited talk at the 5<sup>th</sup> PCF World Summit, Zurich, 07-08 April 2011

**Gheewala, S.H.** (2011) Actions to address environmental issues, Invited lecture at “First EnvironmentAsia International Conference, Bangkok”, Bangkok, 24 March 2011

**Gheewala, S.H.** (2011) Developing and testing standards for biomass energy in ASEAN and East Asia, Invited lecture at “Promoting climate friendly bioenergy and food security in the GMS”, ADB, Bangkok, 11 February 2011

**Gheewala, S.H.** (2010) Strategic environmental assessment of bioenergy systems, Invited lecture at the 7th Biomass-Asia Workshop, Jakarta, 29 November – 01 December 2010

**Gheewala, S.H.** (2010) Carbon Footprinting & Labelling: How should Thailand prepare?, Invited lecture at the 2nd Rajamangala University of Technology International Conference, 24-26 November 2010

**Gheewala, S.H.** (2010) Sustainable utilization of biomass resources using an integrated approach, Invited lecture at the 9th International Conference on Ecobalance, Tokyo, 09-12 November 2010

**Gheewala, S.H.** (2010) Pilot study on sustainability assessment of biomass utilization in Thailand, Invited lecture at the Symposium on Energy Saving and Biofuel Utilization, Hat Yai, Thailand, 01-02 September 2010

**Gheewala, S.H.** (2010) Water, water everywhere – Reflections on system boundaries from an LCA perspective, Joint International Workshop: Spotlight on Bioenergy and Water, UNEP, Paris, France, 05-06 July 2010

- Gheewala, S.H.** (2009) LCA of Biofuels: Global issues and Thai Experience, APEC LCA Workshop 2009, Chiang Rai, Thailand, 27 Nov - 04 December 2009
- Gheewala, S.H.** (2009) Life cycle evaluation of palm oil biodiesel in Thailand, Invited lecture at the International Palm Oil Life Cycle Assessment Conference 2009, Kuala Lumpur, Malaysia, 19-20 October 2009
- Gheewala, S.H.** (2009) Are biofuels green and sustainable?, Invited lecture at the Sustainable Development to Save the Earth: Technologies and Strategies Vision 2050, Bangkok, 7-9 April 2009
- Gheewala, S.H.** (2009) Life Cycle Assessment of Waste to Energy Project: Phuket Incinerator Case Study, Invited lecture at the World Alternative Energy Sciences Expo 2009 (WAESE 2009), Bangkok, March 5-8, 2009
- Gheewala, S.H.** (2008) Environmental assessment of municipal solid waste incineration in a life cycle perspective, Invited lecture at the pre-conference workshop in the 5th i-CIPEC 2008, Chiang Mai, 16 December 2008
- Gheewala, S.H.** (2008) Life cycle thinking in sustainability assessment of biofuels, Invited lecture at the 8th International Conference on Ecobalance, Tokyo, 10-12 December 2008
- Gheewala, S.H.** (2008) Lifecycle GHG Emissions from Biofuels, Invited lecture at the Better Air Quality 2008, Bangkok, 13 November 2008
- Gheewala, S.H.** (2008) Biofuels and Sustainability: The Challenge Ahead, Keynote lecture at the Renewable Energy Asia 2008, BITEC, Bangkok, 04 June 2008
- Gheewala, S.H.** (2008) LCA of biofuels in Thailand, Presentation at the Workshop on LCA for APEC Member Economies, Tokyo, Japan, 06-07 March 2008.
- Gheewala, S.H.** (2008) Sustainability and Biomass Utilization, Presentation at the Expert Working Group meeting of Sustainable Biomass Utilization Vision in East Asia under the Economic Research Institute for ASEAN and East Asia (ERIA), 31 Jan– 2 Feb 2008, Singapore
- Gheewala, S.H.** (2007) LCA of biodiesel in Thailand, Invited presentation at Institut National de la Recherche Agronomique (INRA), 06-07 December 2007, Rennes, France<sup>1</sup>
- Gheewala, S.H.** (2007) Sustainability and Biomass Utilization, Presentation at the 3rd working group meeting, Sustainable Biomass Utilisation Vision in East Asia, Bangkok, 12-14 November 2007.
- Gheewala, S.H.** (2007) Energy balance of two *Jatropha* plantation systems in Thailand, Presentation at the International Workshop on the Development of the *Jatropha curcas* L. Industry, Hainan, China, 29-31 October 2007.

**Gheewala, S.H.** (2007) LCA Activities in Thailand, Presentation at the Thailand Electrical and Electronic Green Society International Conference 2007 (TEEGS 2007), Bangkok, 14 -15 September, 2007.

**Gheewala, S.H.** (2007) External or societal costs of biofuels II: The case of ethanol from cassava in Thailand, Presentation at the 2nd working group meeting, Sustainable Biomass Utilisation Vision in East Asia, Chiang Mai, 06-07 September 2007.

**Gheewala, S.H.** (2007) External or societal costs of biofuels I: The case of ethanol from cassava in Thailand, Presentation at the 1st working group meeting, Sustainable Biomass Utilisation Vision in East Asia, Bangkok, 17-19 July 2007.

**Gheewala, S.H.** and Nguyen, T.L.T. (2007) Fuel ethanol from cane molasses in Thailand: fossil energy, environmental, and economic performances, Invited lecture at Biofuel Assessment Conference, Copenhagen, Denmark, 4-5 June 2007.

**Gheewala S.H.** (2007) Jatropha in Thailand: present and future, Invited lecture at Bioenergy Asia 2007, Kyoto, Japan, 15 March 2007.

**Gheewala S.H.**, Wanichpongpan, W. and Sagisaka, M. (2006) Sustainability Assessment of Biodiesel Production, 3rd Biomass Asia Workshop, Tsukuba, Japan, 15-16 November 2006.

**Gheewala, S.H.** (2006) Life Cycle Assessment (LCA) and Cost Effectiveness of Landfill Gas Management Options, Solid Waste Landfill Technology in Asia, Bangkok, 03 August 2006.

**Gheewala, S.H.** and Janghathaikul, D. (2005) Environmental Assessment of Power Production from Bagasse in Thailand: A Life Cycle Evaluation. Capacity Building on Life Cycle Assessment in APEC Economies, Bangkok, 15-16 December 2005.

**Gheewala, S.H.** and Garivait, S. (2005) Application of Life Cycle Approach for Bioenergy in Thailand. Biomass Asia Workshop II, 13-15 December 2005.

**Gheewala, S.H.** (2003), Recycling Technologies in a Life Cycle Perspective – the Quest for Sustainable Development, International Conference on "Advances in Petrochemicals and Polymers in the New Millennium", 22-25 July 2003 in Bangkok, Thailand.

### **International Journals:**

1. Sawaengsak, W., **Gheewala, S.H.** (2016), Analysis of social and socio-economic impacts of sugarcane production: a case study in Nakhon Ratchasima province of Thailand, *Journal of Cleaner Production*, Vol. xx, pp. xx-xx. (in press)
2. Musikavong, C., **Gheewala, S.H.** (2016) Assessing ecological footprint of products from rubber industry and palm oil mills in Thailand, *Journal of Cleaner Production*, Vol. xx, pp. xx-xx. (in press)

3. Permpool, N., **Gheewala, S.H.** (2016), Environmental and Energy Assessment of Alternative Fuels for Diesel in Thailand, *Journal of Cleaner Production*, Vol. xx, pp. xx-xx. (In press)
4. Ngammuangtueng, P., Jakrawatana, N., **Gheewala, S.H.** (2016) Linking Substance Flow Analysis and Soil and Water Assessment Tool for Nutrient Management, *Journal of Cleaner Production*, Vol. xx, pp. xx-xx. (In press)
5. Pongpat, P., Silalertruksa, T., **Gheewala, S.H.** (2016), An assessment of harvesting practices of sugarcane in the central region of Thailand, *Journal of Cleaner Production*, Vol. xx, pp. xx-xx. (in press).
6. Musikavong, C., **Gheewala, S.H.** (2016) Ecological footprint assessment towards eco-efficient oil palm and rubber plantations in Thailand, *Journal of Cleaner Production*, Vol. xx, pp. xx-xx. (in press)
7. Shane, A., **Gheewala, S.H.** (2016) Missed environmental benefits of biogas production in Zambia, *Journal of Cleaner Production*, Vol. xx, pp. xx-xx. (in press).
8. Lecksiwilai, N., **Gheewala, S.H.**, Silalertruksa, T., Mungkalasiri, J. (2016) LCA of Biofuels in Thailand using Thai Ecological Scarcity Method, *Journal of Cleaner Production*, Vol. xx, pp. xx-xx. (in press)
9. Lieberie, J., **Gheewala, S.H.** (2016) Resource depletion assessment of renewable electricity generation technologies - comparison of life cycle impact assessment methods with focus on mineral resources, *International Journal of Life Cycle Assessment*, Vol. xx, pp. xx-xx. (in press) doi:10.1007/s11367-016-1152-3
10. Bukoski, J., Chaiwiwatworakul, P., **Gheewala, S.H.** (2016) The life cycle assessment of an energy-positive peri-urban residence in a tropical regime, *Journal of Industrial Ecology*, Vol. xx, pp. xx-xx. (in press)
11. Kaechan, P., **Gheewala, S.H.** (2016) Cost – Benefit of Water Resource Use in Biofuel Feedstock Production, *Journal of Cleaner Production*, Vol. xx, pp. xx-xx. (in press)
12. Silalertruksa, T., Pongpat, P., **Gheewala, S.H.** (2016), Life cycle assessment for enhancing environmental sustainability of sugarcane biorefinery in Thailand, *Journal of Cleaner Production*, Vol. xx, pp. xx-xx. (in press).
13. Kerdlap, P., **Gheewala, S.H.** (2016) Electric motorcycles in Thailand: A life cycle perspective, *Journal of Industrial Ecology*, Vol. xx, pp. xx-xx. (in press)
14. Shane, A., **Gheewala, S.H.**, Fungtammasan, B., Silalertruksa, T., Bonnet, S., Phiri, S. (2016) Bioenergy resource assessment for Zambia, *Renewable & Sustainable Energy Reviews*, Vol. 53, pp. 93-104.

15. Kittner, N., **Gheewala, S.H.**, Kammen, D.M. (2016) Energy return on investment (EROI) of mini-hydro and solar PV systems designed for a mini-grid, *Renewable Energy*, Vol. 99, pp. 410-419.
16. Bukoski, J., Chaiwiwatworakul, P., **Gheewala, S.H.** (2016) Energy savings vs. costs of implementation for demand side management strategies within an energy efficient tropical residence, *Energy Efficiency*, Vol. 9, No. 2, pp 473-485
17. Charmondusit, K., **Gheewala, S.H.**, Mungcharoen, T. (2016) Green and Sustainable Innovation for Cleaner Production in the Asia-Pacific Region, *Journal of Cleaner Production*, Vol. 134, pp. 443-446.
18. Ullah, A., Perret, S.R., **Gheewala, S.H.**, Soni, P. (2016) Eco-efficiency of cotton-cropping systems in Pakistan: An integrated approach of life cycle assessment and data envelopment analysis, *Journal of Cleaner Production*, Vol. 134, pp. 623-632.
19. Lecksiwilai, N., **Gheewala, S.H.**, Sagisaka, M., Yamaguchi, K. (2016) Net Energy Ratio and Life cycle GHG assessment of bio-DME produced from various agricultural residues in Thailand, *Journal of Cleaner Production*, Vol. 134, pp. 523-531.
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