Trakarn Prapaspongsa
Ph.D. (Environmental Engineering)

Email: Trakarn.pra@mahidol.ac.th; Trakarn.pra@gmail.com

Tel: +662-889-2138 Ext.6378

EDUCATIONAL PROFILES

2006 - 2010	Ph.D. (Environmental Engineering), Department of Biotechnology, Chemistry and Environmental Engineering, Faculty of Engineering and Science, Aalborg University, Denmark
2003 - 2005	Master of Science (Environmental Management), International Postgraduate Programs in Environmental Management (Hazardous Waste Management), Chulalongkorn University, Thailand
1998 - 2002	Bachelor of Engineering (Environmental Engineering), Department of Environmental Engineering, Faculty of Engineering, Chulalongkorn University, Thailand

PROFESSIONAL SPECIALIZATION AND RESEARCH INTERESTS

Life cycle assessment (LCA); Inventory analysis; Eco-efficiency assessment; Sustainability assessment; Life cycle management; Consequential and attributional modelling approaches in LCA; Carbon footprint; Water footprint ; Indirect land use changes; Impact assessment of bioenergy, biomass and transportation systems; Agricultural waste management; Solid waste management; Sustainable production and consumption; Food and energy production systems; Green infrastructure.

LANGUAGE SKILLS

Fluently in Thai & English both spoken and written

CAREER PROGRESS

2015 – Present	Assistant Professor, Department of Civil and Environmental Engineering, Mahidol University, Thailand
2012 – Present	Head, Eco-Efficient Engineering Research Lab (EcoLab), Department of Civil and Environmental Engineering, Mahidol University, Thailand http://www.eg.mahidol.ac.th/dept/egen/section4.php?p=research-detail&rid=S00045
2014 – 2017	Collaboration Partner, Danish Centre for Environmental Assessment, Department of Development and Planning, Aalborg University, Denmark
2016 – 2017	Guest Editor, International Journal of Life Cycle Assessment (2017 Impact Factor of 4.195), Special Issue: Promoting sustainability in emerging economies via life cycle thinking
2012 – 2015	Lecturer, Department of Civil and Environmental Engineering, Mahidol University, Thailand
2012	Part-time Lecturer, Danish Centre for Environmental Assessment, Department of Development and Planning, Aalborg University, Denmark

2010 - 2012 Post-Doc Researcher, Danish Centre for Environmental Assessment, Department of Development and Planning, Aalborg University, Denmark

2002-2003 Quality Engineer (ISO9001; ISO14001), The Continuing Education Center of Chulalongkorn University, Chulalongkorn University, Thailand

TEACHING AND PROFESSIONAL EXPERIENCE/INVITED SPEAKER

2015 - Present **Life Cycle Assessment** (MU)

Course description Introduction to life cycle assessment; attributional and consequential life cycle assessment; goal and scope definition; life cycle inventory analysis; life cycle impact assessment; life cycle interpretation; improvement analysis and identification of environmental hotspots; computer programs for life cycle assessment; product stewardship and design for environment; life cycle assessment applications in environmental and water resources engineering; life cycle management; life cycle costing; life cycle sustainability assessment.

2013 - Present **Infrastructure Systems** (MU)

Subjects Green Building Technologies and Standards; Green and Gray Infrastructure for Sustainable Cities.

2012 - Present **Eco-Efficient Engineering** (MU)

Course description Industrial ecology and clean technology; Environmental management system; Life cycle thinking; Life cycle assessment; Carbon footprint and water footprint; Life cycle management; Eco-efficiency assessment; Sustainability assessment and indicators; Eco-design; Eco-labelling; Corporate environmental reporting and stakeholder engagement.

Skills Enhancement through Problem Based Learning (MU)

Course description Environmental management and practices in national and international level of public and industrial sectors; field surveys; environmental management systems and standards for communities and industries; strategic environmental assessments; environmental impact assessments; monitoring programs for projects development.

Solid and Hazardous Waste Management (MU)

2017 Invited Keynote Speaker in an International Conference

Prapaspongsa, T (2017) Life Cycle Based Decision Support for Waste Management towards Sustainable Energy Production and Circular Economy. Keynote Presentation. International Conference on Clean Water, Air & Soil 2017 (CleanWAS 2017). 25-27 August 2017, Bangkok, Thailand.

2012-2016 Invited Session Chairs in International Conferences

International Conferences the 3rd to 5th International Conferences on Green and Sustainable Innovation (ICGSI 2012; ICGSI 2014; ICGSI 2015) in Thailand; the 12th Biennial International Conference on EcoBalance (EcoBalance 2016 – Responsible value chains for sustainability) in Japan.

2012 – 2013 Invited Speaker in the Course "Renewable Energy Human Resource Development Program for Industry and Buildings"

Organised by BRIGHT Management Consulting
Commissioned by Department of Alternative Energy Development and Efficiency, Ministry of Energy
Subject Biogas Technology and Applications

2015-2016 Invited Guest Speakers at Kasetsart University (Faculty of Engineering & Faculty of Environment), Chiang Mai University (Faculty of Engineering), and Maejo University (Faculty of Science)
Subjects Consequential life cycle assessment; eco-efficiency assessment; Eco-Efficient Engineering Research and Applications towards Green Industry and Communities in Thailand.

18.10.2016 Invited Speaker in the Course "Water Footprint (ISO 14046: 2014)"
Organised by Water Institution for Sustainability (WIS),
the Federation of Thai Industries (FTI).
Subject Water Footprint Assessment Methodology (ISO 14046: 2014)

11.10.2016 Invited Speaker in Special Seminar "Environmental Engineering and Technology for Sustainable Development"
Hosted by Kyoto University
Subject Eco-Efficient Engineering: The Applied Engineering for Sustainability

01-02.12.2015 APEC Research Mobility Workshop, Jakarta, Indonesia
Hosted by the Australian Government Department of Education and Training
Subject Researcher mobility – early career researchers and research students

13, 16.10.2014 Aalborg University (AAU) in Aalborg and Copenhagen
Study Programmes
(1) Aalborg: Master's Programme in Urban, Energy- and Environmental Planning & Management
(2) Aalborg: Master's programme in Cities & Sustainability
(3) Copenhagen: Bachelor Programme in Urban, Energy- and Environmental Planning
(4) Copenhagen: Master's programme in Sustainable Cities
Subject Sustainable Cities in Denmark and Thailand: Policies and Practices
– Lectures and Role-play workshops

17-24.08.2014 Green for Executives: G4X3 (NSTDA Academy)
Subject Technical guide for study visits in Denmark and Sweden including:
(1) "City of Copenhagen" under the topics of Sustainable City, Bicycle Strategy and European Green Capital
(2) "Amager Resource Center" under the topics of Sustainable Energy & Waste Management
(3) "Samsø Energy Academy" under the topics of Sustainable City & 100% Renewable Energy Island
(4) "Ericsson, Stockholm" under the topics of Green Innovation & Green ICT
(5) "Stockholm Public Transport, biogas buses & Keolis" under the topic of green transportation

01.08.2014 Green for Executives: G4X3 (National Science and Technology Development Agency Academy, NSTDA Academy)
Subject Green Tools, Processing and Innovation

17.09.2013 Current Topics in Sustainability Research (Aalborg University, AAU)
Subject Sustainable Communities: Policies and Implementation
– The Cases of Samui Island and Muangklang Municipalities

2010 - 2012 **Life Cycle Assessment** (AAU)

2009 – 2012 **Environmental Impact Assessment** (AAU)

AWARDS, SCHOLARSHIPS AND CERTIFICATES

2017	JEMES CiSu Consortium Scholarship (Erasmus Mundus Scholar Mobility) *Host University:* Aalborg University, Denmark *Visiting period:* 6 – 27 October 2017
2016	The silver award for high impact research from Kasetsart University from collaborating project on life cycle assessment and water footprint performed with Centre of Excellence on enVironmental strategy for GREEN business (VGREEN) of Kasetsart University. *Important Note:* This award celebrates the impact of research which has significantly developed, informed, and contributed to the country. It indicates that the research has achieved outstanding economic, social and environmental impact.
2015	JEMES CiSu Consortium Scholarship (Erasmus Mundus Scholar Mobility) *Host University:* Aalborg University, Denmark *Visiting period:* 13 - 15 August 2015 *Host University:* Hamburg University of Technology (TUHH), Germany *Visiting period:* 17 - 28 August 2015
2015	The Australia-Thailand Young University Researchers Exchange Program *Host University:* Flinders University, South Australia *Funding Organization:* Australian Government *Visiting period:* 17 February – 7 March 2015
2014	JEMES CiSu Consortium Scholarship (Erasmus Mundus Scholar Mobility) *Host University:* Aalborg University, Denmark *Visiting period:* 4 -19 October 2014
2013	JEMES Consortium Scholarship (Erasmus Mundus Scholar Mobility) *Host University:* Aalborg University, Denmark *Visiting periods:* (1) 15 April -15 May 2013, (2) 8 - 27 September 2013
2014	CERTIFICATE: Career Building for Women in Science National Metal and Materials Technology Center (MTEC) National Science and Technology Development Agency (NSTDA) L'Oreal (Thailand) Co., Ltd.
2013	CERTIFICATE: TRAIN-THE TRANERS WORKSHOP ON ENVIRONMENTAL FOOTPRINTING OF PRODUCTS (FOCUSING ON WATER FOOTPRINTING) MTEC and UNEP
2013	The AFC 2013 best presentation prize The First Asian Future Conference 2013, 8-10 March 2013, Bangkok, Thailand.
2012	CERTIFICATE: Life Cycle Assessment NSTDA Academy
2012	CERTIFICATE: Carbon Footprint of Product NSTDA Academy
2003 – 2010	Royal Thai Government Scholarship

ON-GOING PROJECTS

- **Life Cycle Based Decision Support for Sustainable Agriculture and Food Production**

Role: Principal Investigator
Funding organization: Thailand Research Fund
Project period: July 2018 – June 2020

- **REliability and Safety Engineering and Technology for large maritime engineering systems (RESET)**

Role: Co-Investigator
Responsibility: Leading a sub-project entitled **"Development and Application of Sustainability Assessment Tool and Indicators for Maritime Transport Systems"**
Funding organization: Research and Innovation Staff Exchange (RISE): H2020-MSCA-RISE-2016
Project partners: Liverpool John Moores University (UK), Aalto University (Aalto-Korkeakoulusäätiö; Finland), Instituto Superior Tecnico, Universidade of Lisbon (Portugal), Leibniz University Hannover (Germany), University of Plymouth (UK), Mahidol University (Thailand), Universiti Kebangsaan Malaysia (National University of Malaysia; Malaysia), Universiti Teknologi Malaysia (Malaysia), Wuhan University of Technology (China)
Project period: 1 May 2017 – 30 April 2021

- **Network for Research and Innovation for Trade and Production of Sustainable Food and Bioenergy**

Role: Co-Investigator
Responsibility: Leading a sub-project entitled **"Development and Application of Life Cycle Impact Assessment Method for Supporting Sustainable Food Innopolis and Bioenergy Industry in Thailand"**
Funding organization: National Science and Technology Development Agency (Research Chair Grant 2016)
Project partners: The Joint Graduate School of Energy and Environment (JGSEE) at King Mongkut's University of Technology Thonburi, Kasetsart University, Prince of Songkla University, University of Phayao, and Mahasarakham University.
Project period: 1 February 2017 – 31 January 2022

- **Development and Application of Life Cycle Based Decision Support Tool for Municipal Waste Management towards Sustainable National Circular Economy**

Role: Head of the Project & Project Supervisor
Funding organization: Thailand Research Fund (TRF) and SORTs Corporation Co., Ltd. (Researchers and Research for Industry Grants: Industrial PhD 2017)
Project period: August 2018 – July 2021

- **Life Cycle Human Toxicity Assessment of Major Agricultural Crops and the Use of Agricultural Chemicals in Thailand**

Role: Project Supervisor
Funding organization: Thailand Graduate Institute of Science and Technology (TGIST) 2018 and Mahidol University
Project period: August 2017 – July 2019

- **Sustainability assessment of palm biodiesel production: the impacts from technologies and the changes of oil and palm oil markets**

Role: Head of the Project & Project Supervisor
Funding organization: Energy Policy and Planning Office (EPPO)
Project period: August 2018 – July 2019

- **Life Cycle Assessment of Alternative Energy Production from Municipal Solid Waste in Thailand towards Sustainable Development with Human Health, Ecosystem and Natural Resource Impact Reduction Strategies**

Role: Head of the Project & Project Supervisor
Funding organization: Energy Policy and Planning Office (EPPO)
Project period: August 2017 – July 2018

- **Eco-Design of Tap Water Treatment and Distribution from Metropolitan Waterworks Authority (MWA), Thailand for Sustainable Waterworks Management Planning**

Role: Project Supervisor
Funding organization: Metropolitan Waterworks Authority (Industrial PhD Research Project)
Project period: January 2015 – December 2019

COMPLETED PROJECTS

- **Development and Application of Consequential Life Cycle Assessment Method for Food and Fuel in Thailand and Asia**

Role: Principal Investigator
Funding organization: Thailand Research Fund
Project period: 2 June 2014 – 30 April 2018

- **Research Network for LCA and Policy on Food, Fuel and Climate Change funded by National Science and Technology Development Agency**

Role: Post-Doc Researcher
Responsibility: Leading a sub-project entitled **"Consequential and attributional life cycle assessment of major biomass products in Thailand including land use change impacts"**.
Funding organization: National Science and Technology Development Agency
Project period: 15 September 2012 – 14 September 2017

- **Human Resource Development on Renewable Energy for Industry and Buildings**

Role: Head of the Sub-Project (Biogas Technology)
Funding organization/Contractor: Bright Management Consulting Co., Ltd.; Department of Alternative Energy Development and Efficiency
Project period: March 2014 – September 2014; April 2015 – March 2016; May 2016 – March 2017
Note: More than 1,000 participants from industry and building sectors in Thailand joined the renewable energy courses offered under these projects from 2014 to 2017.

- **Sustainability Assessment of Sugarcane Complex for Enhancing Competitiveness of Thai Sugarcane Industry**

Role: Co-Investigator
Funding organization: National Science and Technology Development Agency
Project period: 2014 – 2016

- **Life Cycle Assessment of PANDORA Production Co., Ltd. towards Green Industry**

Role: Head of the Project & Project Supervisor
Funding organization: Thailand Research Fund (TRF) and PANDORA Production Co., Ltd. (Researchers and Research for Industry Grants: Master Sci. & Tech Grants 2013)
Project period: 2013 – 2017

- **Water Scarcity Footprint Assessment of Tap Water from Metropolitan Waterworks Authority for Water Resources Management**

Role: Head of the Project & Project Supervisor
Funding organization: Thailand Research Fund (TRF) and Metropolitan Waterworks Authority (Researchers and Research for Industry Grants: Master Sci. & Tech Grants 2014)
Project period: 2014 – 2016

- **Sustainable Food Waste Management for Department Stores and Municipality on Samui Island: Technical, Environmental Impact, Economic and Social Analysis of Biogas Systems**

Role: Project Supervisor
Project partner: Tourism Association of Koh Samui
Project period: August 2014 – December 2014

- **Corporate Social Responsibility of PANDORA: A comparison between CSR policy and its implementation**

Role: Head of the Project & Project Supervisor
Funding organization: PANDORA Production Co., Ltd.
Project period: August 2013 – January 2014

- **APEC Low Carbon Model Town (LCMT) Promotion through Eco-Point Program (LCMT-EPP)**

Role: Sustainable Development Expert & Head of Technical Team
Funding organization/Contractor: Bright Management Consulting Co., Ltd.; Asia-Pacific Economic Cooperation
Project period: February 2014 – November 2014

- **Assessment on energy performance of certified green buildings in Thailand**

Role: Head of the Project & Project Supervisor
Funding organization: Energy Policy and Planning Office (EPPO)
Project period: June 2013 – May 2014

- **Development of guideline for material selection in green building design to reduce energy consumption and environmental impacts**

Role: Head of the Project & Project Supervisor
Funding organization: Energy Policy and Planning Office (EPPO)
Project period: June 2013 – May 2014

- **Training Program for Alternative Energy and Efficiency towards Low Carbon Society.**

Role: Renewable energy and environmental management expert. The training program has been taken place in Samui Island. Required total participants for this program are 900 people.
Funding organization/Contractor: Bright Management Consulting Co., Ltd.; Department of Alternative Energy Development and Efficiency
Project period: February 2013 – December 2013

- **"The ECO-Mini Project 2013" Zero Waste Program- A Preliminary Study.**

Role: Head of the Project & Project Supervisor
Funding organization: PANDORA Production Co., Ltd.
Project period: January 2013 – March 2013

- **Life Cycle Assessment of Green Building Technology for Sustainable Energy Consumption.**

Role: Head of the Project & Project Supervisor
Funding organization: Energy Policy and Planning Office (EPPO)
Project period: Academic year 2012

OTHER HIGHTLIGHT PROJECT EXPERIENCE

- **APEC Low Carbon Model Town (LCMT) Project Phase 2 on Samui Island, Thailand (Work packages on chapter 12 eco-life style and report editing)**

The main purposes of LCMT Initiatives are to plan, develop and implement the concrete roadmap in order to lower the carbon emission from the selected town while the natural resources are effectively utilized and the economic growth still remains. Low Carbon Model Town Initiatives is set out by APEC after the 9th APEC Energy Ministers Meeting (EMM9). The LCMT perspective is thought to be an effective model implemented to quantify how effective the local community performs and how much effect to the environment in terms of carbon emission as a main goal and targets in accordance with other indicators. LCMT initiatives will pave a way for long term sustainable development paralleling with the increase of economics value. Following the Phase 1 conducted at Yujiapu CBD in China, the extensive concept of LCMT will be deployed in APEC Economies. For LCMT Phase 2, SAMUI Island low carbon town project in Suratthani province, Thailand was selected, and confirmed at the EWG 42 Meeting in Kaohsiung, Chinese Taipei.

Project Reference:

APEC Energy Working Group (2013) Final Report for APEC Low Carbon Model Town Project Phase 2. Also available in http://publications.apec.org/publication-detail.php?pub_id=1400

- **Data collection support for establishing an inventory of consumption and emission of F-gases (CFCs, HCFCs, HFCs, PFCs and SF_6) in Thailand**

The project develops fluorinated gas (CFCs, HCFCs, HFCs, PFCs, SF_6) inventory for refrigeration, air conditioning and foam blowing sectors. The inventory database covers the relevant data (both historical data and future projections) for the consumption and emissions of the F-gas using sectors by applying the IPCC 1996 Guidelines for Greenhouse Gas Inventories and IPCC Good Practice Guidance and Uncertainty Management.

- **Impact assessment of DONG Energy's policy on increased use of biomass in power and heat production**

Aiming at securing sustainable production and use of biomass for energy purpose in DONG Energy, this pre-project is assessing environmental impacts of possible scenarios of where DONG Energy in the short-term likely will purchase biomass and for different types of biomass. The results e.g. reveal substantial differences in global warming impact, especially due to change in land use and carbon stock. The project, primarily based upon a life cycle assessment study, develops sustainability criteria for guiding DONG Energy in the future research and decision-making on the integration of a larger biomass share in the power and heat production.

- **Comparative study of LCAs in Danish world leading companies and substantial projects**

This project determines how different world leading companies and substantial projects in Denmark carry out life cycle assessment (LCA), apply LCA in the decision making processes, and view their future development in relation to undertaking and using LCA.

- **A background LCA study for Large-Scale Utilization of Bio-pellets for Energy Application (LUBA) Project (Work Package 1)**

The LCA study is part of the project 'Large scale Utilisation of Bio-pellets for energy Application' (LUBA), which aims to develop technical solutions that can support and strengthen the consumption of biofuel pellets from different raw materials. Within that project DONG Energy is responsible for Work Package 1 (WP1), which analyses and describes the basis for an increased import of sustainably produced biomass for energy applications. This study with its Life Cycle Assessment (LCA) screening feeds into WP1. The results of this LCA screening are further used for testing selected schemes such as Forest Stewardship Council and Montreal Process Criteria and Indicators in order to measure different sustainability indicators.

- **Life cycle assessment screening of freight transportation**

The project is a background LCA study for SAFE green logistic project. The study assesses the CO_2 and environmental consequences of changing the current European freight transport system to a system as described in the SAFE green logistic project considering the modal shift from road to rail freight transport.

PUBLICATIONS

Journal Papers

(1) **Prapaspongsa, T.** & Gheewala, S.H. (2017) Consequential and attributional environmental assessment of biofuels: Implications of modelling choices on climate change mitigation strategies. International Journal of Life Cycle Assessment, 22, 1644 - 1657.

(2) Gheewala, S.H., Silalertruksa, T., Malakul, P. & **Prapaspongsa, T.** (2017) Preface. International Journal of Life Cycle Assessment, 22, 1641 - 1643.

(3) Thammaraksa, C., Wattanawan, A. & **Prapaspongsa, T.** (2017) Corporate Environmental Assessment of a Large Jewelry Company: From a Life Cycle Assessment to Green Industry. Journal of Cleaner Production, 164, 485-494.

(4) **Prapaspongsa, T.**, Musikavong, C. & Gheewala, S.H. (2017) Life cycle assessment of palm biodiesel production in Thailand: Impacts from modelling choices, co-product utilisation, improvement technologies, and land use change. Journal of Cleaner Production, 153, 435-447.

(5) **Prapaspongsa, T.** & Gheewala, S.H. (2016) Risks of indirect land use impacts and greenhouse gas consequences: An assessment of Thailand's bioethanol policy. Journal of Cleaner Production, 134, 563-573.

(6) Gheewala, S.H., Silalertruksa, T., Jakrawatana, N., Mungkung, R., Musikavong, C., **Prapaspongsa, T.** & Prasara-A, J. (2015) LCA for food, fuel and climate change in Thailand. Kasetsart Engineering Journal, 30, 73-84.

(7) Jørgensen, H., **Prapaspongsa, T.**, Van, V.T.K. & Poulsen, H.D. (2013) Models to quantify excretion of dry matter, nitrogen, phosphorus and carbon in growing pigs fed regional diets. Journal of Animal Science and Biotechnology 4:42, doi:10.1186/2049-1891-4-42.

(8) **Prapaspongsa, T.** & Løkke S. (2012) Framework for LCI Modelling towards Green Logistic Systems. Environment and Natural Resources 10(2), 58-65.

(9) **Prapaspongsa, T.**, Christensen, P., Schmidt, J.H. & Thrane, M. (2010) LCA of comprehensive pig manure management incorporating integrated technology systems. Journal of Cleaner Production 18, 1413-1422.

(10) **Prapaspongsa, T.**, Poulsen, T.G., Hansen, J.A. & Christensen, P. (2010) Energy production, nutrient recovery and greenhouse gas emission potentials from integrated pig manure management systems. Waste Management and Research, 28 (5) 411-422.

(11) Vu, T.K.V., **Prapaspongsa, T.**, Poulsen, H.D. & Jørgensen, H. (2009) Prediction of manure nitrogen and carbon output from growing-finishing pigs. Animal Feed Science and Technology, 151, 97-110.

International Conference Papers/Abstracts/Posters

(1) **Prapaspongsa, T.** & Gheewala, S. H. (2018) The characterisation of site-dependent environmental impacts in LCA and global supply chains. To be published in Proceedings of 13th Biennial International Conference on EcoBalance (EcoBalance 2018), 9-12 October 2018, Tokyo, Japan.

(2) Makmoon, P., Mungkalasiri, J., Phenrat, T., Gheewala, S.H. & **Prapaspongsa, T.** (2018) Human toxicity assessment of rice cultivation in Thailand: the variability from using different life cycle impact assessment methods. To be published in Proceedings of EcoBalance 2018, 9-12 October 2018, Tokyo, Japan.

(3) Adhikari, B & **Prapaspongsa, T.** (2018) Life Cycle Assessment of Food Consumption in Asia towards Sustainable Consumption and Production. To be published in Proceedings of EcoBalance 2018, 9-12 October 2018, Tokyo, Japan.

(4) **Prapaspongsa, T.** & Blanco-Davis, E. (2018) Sustainability assessment of maritime transport systems. To be published in Proceedings of 11th International Conference on Life Cycle Assessment of Food 2018 (LCA Food 2018) in conjunction with the 6th LCA AgriFood Asia and 7th International Conference on Green and Sustainable Innovation (ICGSI 2018), 17-19 October 2018, Bangkok.

(5) **Prapaspongsa, T.** & Gheewala, S. H. (2018) Globalised or localised life cycle impact assessment methods? Implications from method comparison for sustainable food production in Thailand. To be published in Proceedings of LCA Food 2018 in conjunction with LCA AgriFood Asia 2018 and ICGSI 2018, 17-19 October 2018, Bangkok.

(6) Makmoon, P., Mungkalasiri, J., Phenrat, T., Gheewala, S.H. & **Prapaspongsa, T.** (2018) Human toxicity assessment of oil palm cultivation in Thailand: the variability from using different life cycle impact assessment methods. To be published in Proceedings of LCA Food 2018 in conjunction with LCA AgriFood Asia 2018 and ICGSI 2018, 17-19 October 2018, Bangkok.

(7) Mokkhavas, O. & **Prapaspongsa, T.** (2018) Life Cycle Assessment of Automated Port Logistics Systems. To be published in Proceedings of LCA Food 2018 in conjunction with LCA AgriFood Asia 2018 and ICGSI 2018, 17-19 October 2018, Bangkok.

(8) Sakpheng, P., Rakkhrai, A., Lalong, N., Jakrawatana, N., Prueksakorn, K., Mungkalasiri, J. & **Prapaspongsa, T.** (2018) Life cycle assessment of alternative energy production from municipal solid waste towards sustainable circular economy in Thailand. To be published in Proceedings of LCA Food 2018 in conjunction with LCA AgriFood Asia 2018 and ICGSI 2018, 17-19 October 2018, Bangkok.

(9) **Prapaspongsa, T.** & Gheewala, S. H. (2017) Right Product or Technology for Sustainable Agri-Food Value Chains? Lessons Learned from Rice, Sugarcane and Oil Palm Cultivation in Thailand. Proceedings of the 8th International Conference on Life Cycle Management (LCM 2017), 3-6 September 2017, Luxembourg.

(10) **Prapaspongsa, T.**, Ren, J., Punurai, W., Wang, J., Sapsathiarn, Y. & Ornthammarath, T. (2017) Lessons Learned from International Best Practices in Sustainable Maritime Transport: Potential Technology and System Adaptation for Life Cycle Management of Maritime Transport in Emerging Economies. Proceedings of LCM 2017, 3-6 September 2017, Luxembourg.

(11) Silalertruksa, T., Gheewala, S.H., Pongpat, P., Prasara-A, J., **Prapaspongsa, P.** & Jakrawatana, N. (2016) Sustainability assessment of sugarcane biorefineries to enhance the competitiveness of the Thai sugar industry. Proceedings of the International Society of Sugar Cane Technologiests, volume 29, 2016. The XXIX ISSCT 2016 Congress, 5-8 December 2016, Chiang Mai, Thailand.

(12) **Prapaspongsa, T.** & Gheewala, S. H. (2016) Potential life cycle assessment applications for supporting environmental regulation improvement toward sustainable energy industry in Thailand. Proceedings of the 6th International Conference on Sustainable Energy and Environment (SEE 2016) in conjunction with the 6th International Conference on Green and Sustainable Innovation (ICGSI 2016) and the 1st International Conference on Climate Technology and Innovation (CTI 2016), 28-30 November 2016, Bangkok, Thailand.

(13) Musikavong, C., **Prapaspongsa, T.** & Gheewala, S. H. (2016) Carbon, water, and ecological footprints analysis and potential environmental improvements in palm oil and rubber production in Thailand. Proceedings of SEE 2016 in conjunction ICGSI 2016 and CTI 2016, 28-30 November 2016, Bangkok, Thailand.

(14) **Prapaspongsa, T.** & Gheewala, S. H. (2016) Life cycle and land use assessment as a tool for enhancing sustainable agricultural value chains: Case study on major biomass products for food, feed and fuel in Thailand. Proceedings of the 12th Biennial International Conference on EcoBalance (EcoBalance 2016), 3-6 October 2016, Kyoto, Japan.

(15) Kaoudom, M. & **Prapaspongsa, T.** (2016) Eco-Efficiency Assessment of Various Biogas Technologies for Sustainable Food Waste Management. Proceedings of the 5th International Conference on Environmental Engineering, Science and Management, 11-13 May 2016, Bangkok, Thailand

(16) **Prapaspongsa, T.** & Gheewala, S. H. (2015) System expansion and allocation in life cycle assessment: Implications of modelling choices for biofuel on climate change mitigation. Proceedings of the 5th International Conference on Green and Sustainable Innovation (ICGSI 2015), 8-10 November 2015, Pattaya, Thailand.

(17) **Prapaspongsa, T.** & Gheewala, S. H. (2015) Greenhouse gas implications from land use changes: A case study of sugarcane complex for food and fuel production. Proceedings of ICGSI 2015, 8-10 November 2015, Pattaya, Thailand.

(18) Chotanapund, V., **Prapaspongsa, T.** & Musikavong, C. (2015) Water Scarcity Footprint Assessment of Tap Water from Metropolitan Waterworks Authority (MWA), Thailand. Proceedings of ICGSI 2015, 8-10 November 2015, Pattaya, Thailand.

(19) Kaoudom, M., **Prapaspongsa, T.**, Chaiwat, W., Natanee Vorayos, N. & Sampattagul, S. (2015) Eco-Efficiency Assessment of Sustainable Food Waste Management Systems For Large-Scale Hotels on Samui Island. Proceedings of ICGSI 2015, 8-10 November 2015, Pattaya, Thailand.

(20) Kamil, I.M., **Prapaspongsa, T.** & Kaoudom, M. (2015) Life Cycle Thinking for Sustainable Consumption and Production in Indonesia: Review of Current Status and Way Forward. Proceedings of ICGSI 2015, 8-10 November 2015, Pattaya, Thailand.

(21) Deethavorn, C. & **Prapaspongsa, T.** (2015) Eco-efficiency assessment of water meter maintenance with repaired and new meters at Metropolitan Waterworks Authority (MWA), Thailand. Proceedings of ICGSI 2015, 8-10 November 2015, Pattaya, Thailand.

(22) **Prapaspongsa, T.** & Gheewala S. H. (2015) Policy implications from consequential LCA applications for future food and fuel policies: Gainers and losers in a world with constrained materials. Proceedings of the 7th International Conference on Life Cycle Management (LCM 2015), 30 August - 2 September 2015, Bordeaux, France.

(23) Thammaraksa, C., **Prapaspongsa, T.** & Apichartpattanasiri, S. (2014) A Greener Footprint for Jewelry Manufacturing Industry: Case Study on Carbon Footprint of PANDORA Production Co., Ltd. Proceedings of the 5th International Conference on Sustainable Energy and Environment (SEE 2014): Science, Technology and Innovation for ASEAN Green Growth, 19-21 November 2014, Bangkok, Thailand.

(24) Chotanapund, V., **Prapaspongsa, T.** & Musikavong, C. (2014) A Water Footprint of Tap Water: Case Study on the Maha Sawat Water Treatment Plant, Metropolitan Waterworks Authority, Thailand. Proceedings of SEE 2014: Science, Technology and Innovation for ASEAN Green Growth, 19-21 November 2014, Bangkok, Thailand.

(25) Chayaviwattanawong, C., **Prapaspongsa, T.**, Kaoudom, M., Boonya-atichart, A. & Wattanawan, A. (2014) A Tool for Thailand's Green Industry Enhancement: Case Study on Sustainability Indicators at National Level for Mining Industry. Proceedings of SEE 2014: Science, Technology and Innovation for ASEAN Green Growth, 19-21 November 2014, Bangkok, Thailand.

(26) **Prapaspongsa, T.** & Gheewala S. H. (2014) Thailand's bioethanol policy revisited: understanding the risks of indirect land use impacts and greenhouse gas consequences. Proceedings of the 4th International Conference on Green and Sustainable Innovation (ICGSI) 2014 and 3rd LCA AgriFood Asia 2014, 22-24 May 2014, Bangkok, Thailand.

(27) **Prapaspongsa, T.** (2013) Eco-Efficient Engineering Research and Applications towards Green Industry and Communities. Poster presentation at JSPS Core-to-Core Program - The First International Symposium on Formulation of the cooperation hub for global environmental studies in Indochina region & The sixth Inter-University Workshop on Education and Research Collaboration in Indochina Region, 16 September 2013, Hoi An, Vietnam.

(28) **Prapaspongsa, T.**, Davidson, C.I., Jindal, R., Wohlers, D., Squier, M., Flynn, C., Tamargo , J., & Maneschi, D. (2013) Framework for climate change mitigation and adaptation in cities by utilizing green infrastructure. Proceedings of The First Asian Future Conference 2013, 8-10 March 2013, Bangkok, Thailand.

(29) Bundgaard, A.M., Dalgaard, R., Thrane, M. & **Prapaspongsa, T.** (2012) Assessment of digestibility improving enzymes potential to reduce greenhouse gas emissions in broiler production. Proceedings of the 8th International Conference on LCA in the Agri-Food Sector, 2-4 October 2012, Rennes, France.

(30) Zacho, K. O., Ørnstrup, N. H., Zimmermann, T. M., Kravchenko, M., Lehmann, M. & **Prapaspongsa, T.** (2011) Skallerup Klit's carbon footprint - a tool for building up the business strategy. Proceedings of LCM 2011 - Towards Life Cycle Sustainability Management, 28-31 August 2011, Berlin, Germany.

(31) **Prapaspongsa, T.**, Kørnøv, L. & Schmidt, J.H. (2010) GREEN or GREY? How can delimitation of system boundary lead to misleading results? A case study from biomass power production. Climate Change and Impact Assessment. IAIA Special Symposium, 25-26 October 2010, Aalborg , Denmark.

(32) **Prapaspongsa, T.**, Hansen, J.A. & Christensen, P. (2009) LCA of pig manure management – Contribution to greenhouse gas emission reduction by integrated technology systems. Published

summary in the Proceedings of Waste and Climate Conference 2009, 3-4 December 2009, Copenhagen, Denmark. The published abstract and poster presentation is available at www.wasteandclimate.org.

(33) **Prapaspongsa, T.**, Pholchan, P., Hansen, J.A., Poulsen, T.G. & Christensen, P. (2009) Improved energy recovery efficiencies from piggery waste biogas plants in Thailand using Danish experiences. Proceedings of World Renewable Energy Congress 2009 – Asia, The 3rd International Conference on "Sustainable Energy and Environment (SEE 2009)", 18-23 May 2009, Bangkok, Thailand.

(34) Poulsen, T.G., **Prapaspongsa, T.** & Hansen, J.A. (2008) Energy and greenhouse gas balances for pig manure using alternative treatment options. Proceedings of ISWA/WMRAS World Congress 2008. East meets Waste, 3 – 6 November 2008, Singapore.

(35) Poulsen, T.G., **Prapaspongsa, T.** & Hansen, J.A. (2008) Energy and greenhouse gas balances for organic household waste using alternative treatment options. Proceedings of ISWA/WMRAS World Congress 2008. East meets Waste, 3 – 6 November 2008, Singapore.

(36) **Prapaspongsa, T.**, Vu, T.K.V., Poulsen, H.D. & Hansen, J.A. (2008) Nitrogen, phosphorus, and carbon utilization and excretion in growing pig fed Danish and simulated Asian diets. Proceedings of International Conference on Agriculture Engineering and Industrial Exhibition, 23 – 25 June 2008, Crete, Greece.

Scientific Publications

(1) Gheewala, S.H., Silalertruksa, T., Prasara-A, J., **Prapaspongsa, T.**, Jakrawatana, N., Pongpat, P., Sawaengsak, W., Permpool, N., Chatwachirawong, P., Leal, M.R.L.V. (2017) Sustainability assessment of sugarcane complex for enhancing competitiveness of Thai sugarcane industry. Final Report. National Science and Technology Development Agency.

(2) **Prapaspongsa, T.** (2013) Climate Reality in Thailand. In Klimalab (2013) Innovation in Climate Planning. Rapidly scaling climate change solutions to drive low-carbon, resilient urban development.

(3) **Prapaspongsa, T.** & Kørnøv, L. (2012) Life cycle assessment of wood pellets for energy applications. A background report for the Large-Scale Utilization of Bio-pellets for Energy Application (LUBA) Project – WP 1. Aalborg University.

(4) Holm-Nielsen, J.B., Kirchovas, S., Gonzales, M.E.C., **Prapaspongsa, T.** & Kørnøv, L. (2012) Large-Scale Utilization of Bio-pellets for Energy Application (LUBA) Project – WP 1. Aalborg University.

(5) **Prapaspongsa, T.**, Schmidt, J.H. & Kørnøv, L. (2011) Life cycle assessment of biomass power production in Denmark and UK. A background report for impact assessment of DONG Energy's policy on increased use of biomass in power and heat production. Aalborg University.

(6) Kørnøv, L., **Prapaspongsa, T.**, Holm-Nielsen, J.B. & Schmidt, J.H. (2011) Impact assessment of DONG Energy's policy on increased use of biomass in power and heat production. Aalborg University.

(7) **Prapaspongsa, T.** & Kørnøv, L. (2011) Comparative study of LCAs in Danish world leading companies and substantial projects. Aalborg University.

(8) **Prapaspongsa, T.** (2010) Sustainable piggery waste management: A study based on examples and cases from Denmark and Thailand. PhD dissertation. Department of Biotechnology, Chemistry and Environmental Engineering, Aalborg University, Aalborg.