

# GOH CHUN SHENG, Ph.D.

Malaysian, born in Penang in 1985.

Study sustainable development in Malaysia & Indonesia, with a special focus on Borneo.

Speak English, Chinese (Mandarin, Hokkien, Cantonese), Bahasa Malaysia, Bahasa Indonesia (basic), Dutch (limited), Japanese (limited).

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## EDUCATION

### 1. Ph.D. Copernicus Institute of Sustainable Development, Utrecht University

| August 2011 – July 2016 • Utrecht, The Netherlands |

- Thesis: ‘Monitoring the Bio-economy: Assessing biomass flows, land-use change, carbon impacts and future land resources’ Supervisors: Prof. André Faaij, Prof. Martin Junginger, Prof. Birka Wicke
- Visiting researcher (2014-2015) Centre for International Forestry Research (CIFOR), Indonesia

### 2. M.Sc. (2011) & B.Sc. Chemical Engineering (2009), University of Science Malaysia, Malaysia

| July 2005 – August 2011 • Penang, Malaysia |

- Practicum / Australia Awards Scholar (Feb-Aug 2011) University of New South Wales, Australia
- Visiting researcher (Jun-Sep 2010) University Henri Poincare / Université de Lorraine, France

## WORK

### 1. Programme Leader, Master in Sustainable Development Management (MSDM) & MSDM-ODL, Jeffrey Sachs Center on Sustainable Development (JSC), Sunway University

| July 2020 – present • Greater Kuala Lumpur, Malaysia |

- Managing ‘Master in Sustainable Development Management’ (MSDM and MSDM-ODL) which currently has 80+ active students (in 2022). See: <https://jeffreysachs.center/graduate-study>
- Teaching ‘Sustainable Agriculture and Food Systems’ (3 credit) in MSDM
- Supervising master’s students research projects
- Consultancy Projects:
  - UN-FAO – *Opportunities and gaps in circular bioeconomy deployment in Southeast Asia*
  - IRENA – *Sustainable Bioenergy for the Energy Transition. A Guide to Policy Making*
  - WWF – *The Environmental Status of Borneo 2020*
  - UN-SDSN – *Food, Agriculture, Biodiversity, Land, and Energy (FABLE)*
  - UN-SDSN - *Roadmap to 2050: The Land-Water-Energy Nexus of Biofuels*
- Columnist in *Borneo Post* (the largest English Daily in Borneo) ‘Exploring Sustainable Development with Dr. Goh Chun Sheng’ (fortnightly) from June 2022
- Regular writer in *Daily Express*, *Malaysia Kini* (English and Chinese), *Think China*, and others

**2. Research Fellow\*, Associate\*\*, Harvard University Asia Center**

| September 2019 – (June 2020\*) – present\*\* • Cambridge, MA, USA |

- Book project: ‘*Transforming Borneo: From Land Exploitation to Sustainable Development*’
- Visiting scholar at Department of Earth System Science, Tsinghua University, China

**3. JSPS Postdoctoral Fellow (Teaching and Research)**

**(1) United Nations University - Institute for the Advanced Study of Sustainability (UNU-IAS)**

**(2) Japan’s National Institute for the Environmental Studies (NIES)**

| September 2017 – August 2019 • Tokyo, Japan |

- Teaching and facilitating postgraduate courses at UNU-IAS: ‘*Sustainable Bio-production and Ecosystem Management*’, ‘*Transdisciplinary Research*’, ‘*Sustainability Science Research Seminar*’
- Editorial: Supporting academic journal ‘*Sustainability Science*’ (IF 7.2, by Springer) at the editorial office at UNU-IAS; also the lead editor of the Special Feature ‘*Developing sustainable bio-energy systems in Asia*’
- Research: Investigating sustainable bio- & eco-economy development in East and Southeast Asia, focusing on environmental impacts, socio-economic dynamics, & urban-rural transition
- Knowledge dissemination: Organising workshops for experts and stakeholders from governments, academia, industries, and NGOs to discuss various topics related to sustainability

**4. Senior Executive, National Agency of Innovation Malaysia, Prime Minister’s Department**

| July 2016 – August 2017 • Greater Kuala Lumpur, Malaysia |

- Policy execution: Designing and coordinating the National Biomass Strategy (NBS) 2020 to promote income generation from bio-resources and waste streams
- Liaison: Liaising government activities across sectors from the Federal to the State level and managing trade & investment relations with foreign governments

**5. Task Manager, International Energy Agency (IEA) Bioenergy Task 40**

| August 2011 – July 2016 • Utrecht, The Netherlands |

Managing Task 40 ‘*Sustainable biomass markets and international bioenergy trade*’:

- Events: Organising international business meetings, workshops, and conferences with multiple stakeholders in various locations with local partners across the world
- Publications: Edit research publications, including a hardcover book published by Springer
- Dissemination: Managing website and composing newsletters

**6. Researcher, Copernicus Institute of Sustainable Development, Utrecht University**

| August 2011 – June 2016 • Utrecht, The Netherlands |

Key projects:

- ‘*Large-scale Investments in Food, Fibre, and Energy: Options for the Poor*’ (2013-2016). Commissioned by Department for International Development of United Kingdoms (DfID).
- ‘*Monitoring bio-based economy in the Netherlands*’ (2011-2016). Commissioned by the Netherlands Enterprise Agency (RVO), the NL Government.

## PUBLICATIONS

### Statistics (as at 2022.07):

- Academic publications: 35 (published) + 2 (in progress)
- Professional reports (from 2021): 3
- Media (from 2022): 13
- Citations: 1033 (Scopus); 1775 (Google)
- H-Index: 13 (Scopus); 17 (Google)
- <https://scholar.google.com/citations?hl=en&user=ZejcBy4AAAAJ>
- <https://orcid.org/0000-0003-1209-6591>

### List of refereed journal papers (sort by year):

1. Goh CS, Clements RG, Putz F (2022) Missing the forest for the carbon: five familiar lessons being learned again in Malaysia. *Environmental Science and Policy*. *Under review*.
2. Goh CS, Potter L (2022) Bio-economy for sustainable growth in developing countries: The case of Malaysia and Indonesia. *Biofuels Bioprod. Biorefining*. DOI: 10.1002/bbb.2381
3. Yeoh ML, Goh CS (2022) Hydrotreated Vegetable Oil (HVO) Production from Palm Oil Mill Effluents (POME): Status, Opportunities and Challenges. *Biofuels Bioprod. Biorefining*. DOI:10.1002/bbb.2365
4. Sato, I, Aikawa T, Goh CS, Kayo C (2022) Life-Cycle Greenhouse Gas Emissions in Power Generation Using Palm Kernel Shell. *Global Change Biology Bioenergy*. DOI:10.1111/gcbb.12950
5. Mohd Hanafiah K, Abd Mutalib AH, Miard P, Goh CS, Mohd Sah SA, Ruppert N (2021) Impact of Malaysian palm oil on sustainable development goals: co-benefits and trade-offs across mitigation strategies. *Sustainability Science*. DOI:10.1007/s11625-021-01052-4
6. Goh CS, Ahl A, Woo WT (2021) Sustainable Transformation of Land-Based Economic Development in the Era of Digital Revolution. *Trends in Biotechnology* 17:192-200.
7. Goh CS, Saito O, Yamagata Y (2020) Developing sustainable bioenergy systems with local bio-resources: cases in Asia. *Sustainability Science* 15:1449–1453.
8. Goh CS (2020) Transforming exploitative land-based economy: The case of Borneo. *Environ. Dev.* 33:100487.
9. Goh CS, Aikawa T, (...) Yamagata Y, Osamu S (2020) Rethinking sustainable rural development with bioenergy in Japan: Decentralised systems supported by local forestry biomass. *Sustain. Sci.* 15: 1461–1471.
10. Goh CS, Junginger M, Koppejan J, Goh CS (2019) Sustainable bioenergy deployment in East and South East Asia: notes on recent trends. *Sustain. Sci.* 15: 1455-1459.
11. Jaung W, Wiraguna E, Okarda B, Artati Y, Goh CS, Syahru R, Leksono B, Prasetyo LB, Lee SM, Baral H (2018) Spatial assessment of degraded lands for biofuel production in Indonesia. *Sustainability* 10(12):4595.
12. Goh CS, Junginger M, Potter L, Faaij A, Wicke B (2018) Identifying opportunities and barriers to mobilising under-utilised low carbon land resources: A case study on Kalimantan. *Land Use Policy* 70:198-211.

13. Goh CS, Wicke B, Potter L, Faaij APC, Zoomers A, Junginger M (2017) Exploring under-utilised low carbon land resources from multiple perspectives: Case studies on regencies in Kalimantan. *Land Use Policy* 60:150-168.
14. Goh CS, Wicke B, Versteegen J, Faaij A, Junginger M (2016) Linking carbon stock change from land-use change to consumption of agricultural products: A review with Indonesian palm oil as a case study. *J. Environ. Manage.* 184:340-352.
15. Goh CS, Wicke B, Faaij A, Bird DN, Schwaiger H, Junginger M (2016) Linking carbon stock change from land-use change to consumption of agricultural products: Alternative perspectives. *J. Environ. Manage.* 182:542-556.
16. Goh CS (2016) Can We Get Rid of Palm Oil? *Trends in Biotechnology* 34(12):948-950.
17. Stupak I, Joudrey J, Smith CT, Pelkmans L, Chum H, Cowie A, Englund O, Goh CS, Junginger M (2016) A global survey of stakeholder views and experiences for systems needed to effectively and efficiently govern sustainability of bioenergy. *Wiley Interdisciplinary Reviews: Energy and Environment* 5(1):89-118.
18. Matzenberger J, Kranzl L, Tromborg E, Junginger M, Daioglou V, Goh CS, Keramidis K (2015) Future perspectives of international bioenergy trade. *Renew. Sustain. Energy Rev.* 43:926-941
19. Goh CS, Junginger M, Faaij A (2014) Monitoring sustainable biomass flows: General methodology development. *Biofuels Bioprod. Biorefining* 8(1):83-102.
20. Goh CS, Junginger M, Cocchi M, Marchal D, Thrän D, Hennig C et al. (2013) Wood pellet market and trade: a global perspective. *Biofuels Bioprod. Biorefining* 7(1):24-42.
21. Goh CS, Tan HT, Lee KT (2012) Pretreatment of oil palm frond using hot compressed water: An evaluation of compositional changes and pulp digestibility using severity factors. *Bioresour. Technol.* 110:662-669.
22. Goh CS, Tan HT, Lee KT, Brosse N (2011) Evaluation and optimization of organosolv pretreatment using combined severity factors and response surface methodology. *Biomass Bioenergy* 35(9):4025-4033.
23. Goh CS, Lee KT (2011) Second-generation biofuel (SGB) in Southeast Asia via lignocellulosic biorefinery: Penny-foolish but pound-wise. *Renew. Sustain. Energy Rev.* 15(6):2714-2718.
24. Goh CS, Lee KT (2010) Will biofuel projects in Southeast Asia become white elephants? *Energy Policy* 38(8):3847-3848.
25. Goh CS, Tan KT, Lee KT, Bhatia S (2010) Bio-ethanol from lignocellulose: status, perspectives and challenges in Malaysia. *Bioresour. Technol.* 101(13):4834-4841.
26. Goh CS, Lee KT (2010) A visionary and conceptual macroalgae-based third-generation bioethanol (TGB) biorefinery in Sabah, Malaysia as an underlay for renewable and sustainable development. *Renew. Sustain. Energy Rev.* 14(2):842-848.
27. Goh CS, Lee KT (2010) Palm-based biofuel refinery (PBR) to substitute petroleum refinery: an energy and emergy assessment. *Renew. Sustain. Energy Rev.* 14(9):2986-2995.
28. Goh CS, Lee KT, Bhatia S (2010) Hot compressed water pretreatment of oil palm fronds to enhance glucose recovery for production of second generation bio-ethanol. *Bioresour. Technol.* 101(19):7362-7367.
29. Goh CS, Tan HT, Lee KT, Mohamed AR (2010) Optimizing ethanolic hot compressed water (EHCW) cooking as a pretreatment to glucose recovery for the production of fuel ethanol from oil palm frond (OPF). *Fuel Process. Technol.* 91(9):1146-1151.

30. Hameed BH, Goh CS, Chin LH (2009) Process optimization for methyl ester production from waste cooking oil using activated carbon supported potassium fluoride. *Fuel Process. Technol.* 90(12):1532-1537.

**Book (monograph):**

31. Goh CS, Potter L (2022) *Transforming Borneo: From Land Exploitation to Sustainable Development*. P.p. 273, ISEAS Publishing. Singapore. *Accepted. To be published in late 2022.*

**Book (editorial):**

32. Junginger M, Goh CS, Faaij A (Eds.) (2014) *International bioenergy trade. History, status & outlook on securing sustainable bioenergy supply, demand and markets*. Springer, Dordrecht.

**Book chapters (authorship):**

33. Goh CS, Lee JSH (2021) Transforming Exploitative Land-Based Economy to Reduce Terrestrial Carbon Stock Loss: The Case of Kalimantan. In: Djalante R, Jupesta J, Aldrian, E (Eds.) *Climate Change Research, Policy and Actions in Indonesia*. Springer, Tokyo. Pp. 229-245.
34. Faaij A, Goh CS, Junginger M (2014) A general introduction to international bioenergy trade. In: Junginger M, Goh CS, APC Faaij (Eds.) *International bioenergy trade*. Springer, Dordrecht. Pp. 1-15.
35. Pelkmans L, Goovaerts L, Goh CS, Junginger M, van Dam J, Stupak I et al. (2014) The role of sustainability requirements in international bioenergy markets. In: Junginger M, Goh CS, Faaij APC (Eds.) *International bioenergy trade*. Springer, Dordrecht. Pp. 125-149.
36. Junginger M, Goh CS, Faaij A (2014) Synthesis and Recommendations. In: Junginger M, Goh CS, Faaij APC (Eds.) *International bioenergy trade*. Springer, Dordrecht. Pp. 213-224.
37. Stupak, I, Joudrey, J, Tattersall Smith, C, ...Goh, CS, Junginger, M (2015) A Global Survey of Stakeholder Views and Experiences for Systems Needed to Effectively and Efficiently Govern Sustainability of Bioenergy. In: *Advances in Bioenergy: The Sustainability Challenge*, pp. 507–534.

**Professional reports (from 2021):**

38. Lead author. "Sustainable Bioenergy for the Energy Transition. A Guide to Policy Making" IRENA. Abu Dhabi. June 2022.
39. Lead author. "Environmental Status of Borneo 2020. Balancing the needs of nature and people." WWF-Indonesia & WWF-Malaysia. April 2022.
40. Lead author. "Roadmap to 2050: The Land-Water-Energy Nexus of Biofuels" UN-SDSN. New York. September 2021.

**Media (English, from 2022):**

41. "Redefining Kalimantan's power dynamics with hydropower" *Borneo Post*. To be published on 1 August 2022.
42. "Shaping of Indonesia's new capital by foreign capital" *Borneo Post*. 18 July 2022.  
<https://www.theborneopost.com/2022/07/18/shaping-of-indonesias-new-capital-by-foreign-capital/>

43. "Indonesia must push for renewables pivot from coal backers Japan and China" by Guanie Lim and Chun Sheng Goh. *Think China*. 4 July 2022. <https://chinadialogue.net/en/energy/opinion-indonesia-must-push-for-renewables-pivot-from-coal-backers-japan-and-china/>
44. "Powering Nusantara: 'coal' hearts, clogged 'mines'" *Borneo Post*. 4 July 2022. <https://www.theborneopost.com/2022/07/04/powering-nusantara-coal-hearts-clogged-mines/>
45. "Building a future-oriented city in Kalimantan's old-growth forest" *Borneo Post*. 20 June 2022. <https://www.theborneopost.com/2022/06/20/building-a-future-oriented-city-in-kalimantans-old-growth-forests/>
46. "On Harimau-Garuda collaboration" *Daily Express*. 12 June 2022. <http://www.dailyexpress.com.my/read/4786/of-harimau-garuda-collaboration/>
47. "Sabah-Kalimantan borderland" *Daily Express*. 29 May 2022. <https://www.dailyexpress.com.my/read/4770/sabah-kalimantan-borderland/>
48. "Appreciating forests for carbon, health, and sustainability" *Borneo Post*. 26 May 2022. <https://www.theborneopost.com/2022/05/26/appreciating-forests-for-carbon-health-and-sustainability/>
49. "Creating a bio-economy in Borneo" *Borneo Post*. 12 May 2022. <https://www.theborneopost.com/2022/05/12/creating-a-sustainable-bio-economy-in-borneo/>
50. "Demolish academic silos to achieve sustainability" *Malaysia Kini*. 08 May 2022. <https://www.malaysiakini.com/columns/620499>
51. "Re-imagining Borneo in the digital revolution" *Borneo Post*. 06 May 2022. <https://www.theborneopost.com/2022/05/06/re-imagining-borneo-in-the-digital-revolution/>
52. "The NCA's important lessons" *Daily Express*. 01 May 2022. <http://www.dailyexpress.com.my/read/4742/the-nca-s-important-lessons/>
53. "What next for Sabah, Sarawak post-Covid?" *Daily Express*. 24 April 2022. <https://www.dailyexpress.com.my/read/4736/what-next-for-sabah-sarawak-post-covid-/>