REFERENCES

Ajanovic, A., 2011, Biofuels versus Food Production: Does Biofuel Production Increase Food Prices? **Energy**, Vol. 36, pp. 2070-2076.

American Petroleum Institute, 2009. **Compendium of greenhouse gas emissions methodologies for the oil and natural gas industry**.

Andress, D., Nguyen, T.D. and Das, S., 2011, Reducing GHG Emissions in the United States' Transportation Sector, **Energy for Sustainable Development**, Vol.15, pp.117-136.

Apinyanon, J., 2007, **A Revision of "Price Determination of Biodiesel from Palm Oil",** Master's thesis, Faculty of Economics, Chulalongkorn University.

Awudu, I. and Zhang, J., 2012, Uncertainties and sustainability concepts in biofuel supply chain management: **A review, Renewable and Sustainable Energy Reviews**, Vol. 16, pp. 1359-1368.

Baffes, J. and Haniotis, T., 2010, **Placing the 2006/08 Commodity Price Boom into Perspective**, World Bank policy research working paper No. 5371.

Bank of Thailand, 2006, **The economic and monetary conditions in 2006**.

Bartok, J.W. Jr., 2004, **Approximate Heating Value of Common Fuels,** University of Connecticut, Storrs CT 06269-4087.

Bell, D.R., Silalertruksa, T., Gheewala, S.H. and Kamens, R., 2011, The Net Cost of Biofuels in Thailand - an Economic Analysis, **Energy Policy,** Vol. 39, pp.834-43.

Brundtland, G. H. (ed.), 1987, **Our Common Future: The World Commission on Environment and Development**, Oxford, Oxford University Press.

Burgess, A.A. and Brennan, D.J., 2001, Desulfurisation of gas oil: A case study in environmental and economic assessment, **Journal of Cleaner Production**, Vol. 9, pp. 465–472.

Buritt, R.L. and Saka, C., 2006, Environmental management accounting applications and eco - efficiency: case study from Japan, **Journal of Cleaner Production**, Vol. 14, pp.1262-1275.

Chom-in, T., Papong, S. and Malakul, P., 2009, **Life Cycle Energy Analysis for the Production of Palm Oil Methyl Ester in Thailand**, Sustainable Development to Save the Earth: Technologies and Strategies Vision 2050: SDSE 2008, 7-9 April 2009, Bangkok, Thailand.

Chuanruktham, W., 2007, **Palm oil industry**, Conference proceedings on Bioenergy, Faculty of Economics, Kasetsart University, p.36 (in Thai).

Cooper, J.S., 2003, Life – Cycle Assessment and Sustainable Development Indicators, **Journal of Industrial Ecology**, Vol. 7 No. 1, pp. 12-15.

Department of Alternative Energy Development and Efficiency, 2009, **The 15-year Renewable Energy Development Plan (2008–2022)**, Bangkok: Ministry of Energy, http://www.dede.go.th/dede/fileadmin/upload/nov50/mar52/REDP_present.pdf, [2012, February 6].

Department of Alternative Energy Development and Efficiency, 2012, **The Renewable and Alternative Energy Development Plan for 25 Percent in 10 Years (AEDP 2012-2021**). http://www.dede.go.th/dede/images/stories/dede_aedp_2012_2021.pdf, [2012, September 24].

Department of Internal Trade, 2011, **Production and Marketing of Palm Oil**, pp. 13-14 (in Thai).

Dewulf, J. and van Langenhove, H., 2006, **Renewables – Based Technology Sustainability Assessment**, John Wiley & Sons Ltd., Chapter 1,4,6,11,14.

Duer, H. and Christensen, P.O., 2010, Socio-Economic Aspects of Different Biofuel Development Pathways, **Biomass and Bioenergy,** Vol. 34, pp. 237-43.

Dyer, J.A., Vergé, X.P.C., Desjardins, R.L., Worth, D.E., Mc Conkey, B.G., 2010, The impact of increased biodiesel production on the greenhouse gas emissions from field crops in Canada, **Energy for Sustainable Development**, Vol. 14, pp.73-82.

Eaur-amnuay, W., 2005, **An Analysis of Supply Response and Production Trend of PepperinThailand**, Master thesis, Kasetsart University (in Thai).

Eggleston, H.S., Buendia, L., Miwa, K., Ngara, T. and Tanabe, K., 2006. **IPCC Guidelines for National Greenhouse Gas Inventories: Wastewater Treatment and Discharge**, Vol. 5. IGES, Japan, Chapter 6.

Ehrenfeld, J.R., 2005, Eco-efficiency: Philosophy, Theory and Tools, **Journal of Industrial Ecology**, Vol. 9, No. 4, pp. 6-8.

Energy Policy and Planning Office, 2012a, **Oil Fund Levied Monthly**, http://www.eppo.go.th\statistics, [2012, February 6].

Energy Policy and Planning Office (EPPO), 2012b, **The Energy Conservation Fund**, http://www.eppo.go.th/encon/encon-fund00.html, [2012, February 6].

Energy Policy and Planning Office, 2013, **Energy policy management committee notice**, www.eppo.go.th/nepc/kbg/kbg-46.htm, [2013, February 6].

Ehrenfeld, J.R., 2005, Eco-efficiency: Philosophy, Theory and Tools, **Journal of Industrial Ecology,** Vol. 9, No.4, pp. 6-8.

Eongprkornkeaw, A., 2006, **Determination of Carbon, Hydrogen, and Nitrogen in Biomass Fuels by Using and Elemental Gas Chromatographic Analyzer**., Paper presented at the 32nd Congress on Science and Technology of Thailand, Queen Sirikit National Convention Center, Bangkok, Thailand, 10-12 October, No. C1_C0083.

ERIA, 2008, **Guideline to Assess Sustainability of Biomass Utilization in East Asia**, ERIA research project report No. 8-3.

ESCAP, 2009, **Eco-efficiency Indicators: Measuring Resource-Use Efficiency and the Impact of Economic Activities on the Environment**, Greening of Economic Growth Series, United Nations publication, 2009. http://unescap.org/drpad/vc/conference/ex_th_tof.htm**,** [2012, October 15].

Escobar, J.C., Lora, E.S., Venturini, O.J., Yáñez, E.E., Castillo, E.F. and Almazan, O., 2009, Biofuels: Environment, technology and food security, **Renewable and Sustainable Energy Reviews**, Vol.13, No.6–7, pp.1275–1287.

Finco, M.V.A. and Doppler, W., 2010, Bioenergy and sustainable development: The dilemma of food security and climate change in the Brazilian savannah, **Energy for Sustainable Development**, Vol.14, pp. 194-199.

Fritsche, U.R., 2006, **Report of the GEF-STAP "Liquid Biofuels Workshop"** version amended and adopted by STAP4 prepared by The Scientific and Technical Advisory Panel (STAP) of the Global Environment Facility (GEF), 27th November 2006.

Fritsche, U. R., Hünecke, K., Hermann, A., Schulze, F. and Wiegmann, K., 2006, **Sustainability Standards for Bioenergy**, published by WWF Germany, Frankfurt am Main, November 2006.

Fritsche, U. R., Henenberg K., Hünecke, K., Hermann, 2010, **The "iLUC Factor" as a Means to Hedge Risks of GHG Emissions from Indirect Land Use Change**, Working paper, Öko-Institute, Damstadt, June 2010.

Fuengkrasae, N., 1999, **An analysis of rice supply responses in Thailand**, Master degree thesis, Department of Agriculture and Resource Economics, Kasetsart University (in Thai).

Gabriel, R. and Braune, A., 2005, Eco-Efficiency Analysis: Applications and User Contacts, **Journal of Industrial Ecology**, Vol. 9, No. 4, pp. 19-21.

Gheewala, S.H., Damen, B. and Shi, X., 2013, **Biofuels: Economic, Environmental and Social Benefits and Costs for Developing Countries in Asia**, WIREs Climate Change, Vol. 4, No. 6, pp. 497-511.

Gonçalves, M.L.A., Mota, D.A.P., Cerqueira, W.V., André, D., Saraiva, L.M., Coelho, M.I.F., Teixeira, A.R.F. and Teixeira, M.A.G., 2010**,** Knowledge of Petroleum Heavy Residue Potential as Feedstock in Refining Process Using Thermogravimetry, **Fuel Processing Technology**, Vol. 91, No. 9, pp. 983-987.

Han, S., Heck, R. and Ehlers, M. F., 1997, Production of High Cetane Diesel Fuel by Employing Hydrocracking and Catalytic Dewaxing Techniques. **Journal of Cleaner Production**, Vol. 5, No.3, p.246.

Hanff, E., Dabat, M.H. and Blin, J., 2011**,** Are Biofuels an Efficient Technology for Generating Sustainable Development in Oil-Dependent African Nations? A Macroeconomic Assessment of the Opportunities and Impacts in Burkina Faso, **Renewable and Sustainable Energy Reviews**, Vol.15, pp. 2199–2209.

Hogan, E., 2005, **Biodiesel Basics**, Vancouver Workshop, March 2005. Natural Resources, Canada.

Huppes, G. H. and Ishikawa, M., 2005a, A Framework for Quantified Eco-Efficiency Analysis, **Journal of Industrial Ecology**, Vol. 9, No. 4, pp. 25-41.

Huppes, G. H. and Ishikawa, M., 2005b, Eco-Efficiency and Its Terminology, **Journal of Industrial Ecology**, Vol. 9, No. 4, pp. 43-46.

Imai, K.S., Gaiha, R. and Thapa, G., 2011 , Supply response to changes in agricultural commodity prices in Asian countries**, Journal of Asian Economics**, Vol. 22, pp. 61–75.

IPCC, 2006, **Guidelines for National Greenhouse Gas Inventories,** Vol. 4, Agriculture, Forestry and Other Land Use.

Isaviranon, S., 1996, An analysis of rice supply, **Economics Journal,** Vol.1, No.3, pp. 33-34 (in Thai).

ISO 14040, 2006, **Environmental management – Life Cycle Assessment – Principles and Framework**, International Organization for Standardization.

ISO 14044, 2006, **Environmental management -- Life cycle assessment – Requirement and Guidelines**, International Organization for Standardization.

Jaigong, T., Chaichana, C. and Wongsapai, W., 2012, **The Economical and Additionality Analysis of Clean Development Mechanism Biofuel Project in**

Transport Sector, 4th International conference on Sustainable Energy and Environment (SEE 2011): A paradigm shift to low carbon society, 27-29 February 2012, Bangkok, Thailand.

Johansson, D.J.A. and Azar, C., 2007, A Scenario Based Analysis of Land Competition between Food and Bioenergy Production in the US, **Climate Change**, Vol. 82, pp.267-291.

Kanzig, J., Anex, R. and Jolliet, O., 2003, International workshop on Assessing the Sustainability of Bio-Based Products, **International Journal of Life Cycle Assessment**, Vol.8, No.5, pp.313 – 314.

Kim, S. and Dale, B.E., 2005, Life Cycle Assessment of Various Cropping Systems Utilized for Producing Biofuels: Bioethanol and Biodiesel, **Biomass and Bioenergy**, Vol. 29, No.6, pp.426-439.

Kim, S. and Dale, B.E., 2011, Indirect land use change for biofuels: Testing predictions and improving analytical methodologies, **Biomass and Bioenergy**, Vol. 35, No.6, pp. 3235-3240.

Kløverpris, J., Wenzel, H. and Nielsen, P.H., 2008a, Land Use in LCA, Life Cycle Inventory Modeling of Land Use Induced by Crop Consumption Part 1: Conceptual Analysis and Methodological Proposal, **International Journal of life cycle assessment**, Vol. 13, No 1, pp.13 – 21.

Kløverpris, J., Wenzel, H., Banse, M.A.H., Mila I. Canals, L. and Reenberg, A., 2008b, Global land use implication of biofuels: State of art, Conference and workshop on modeling global land use implications in the environmental assessment of biofuels, **International Journal of life cycle assessment**, Vol.13, No.3 pp.178 – 183.

Kochaphum, C., Gheewala, S.H. and Vinitnantharat, S., 2012, Environmental Comparison of Straight Run and Cracked Diesel, **Journal of Cleaner Production**, Vol. 7, pp. 142-146.

Kongrithi, W. and Isvilanonda S., 2009, Supply Response of Thailand's Rice to the Price of Biofuel Crops, **Journal of Economics**, Vol. 16, No.1, pp.1-25.

Kuosmanen, T., 2005, Measurement and Analysis of Eco-efficiency: An Economist's Perspective, **Journal of Industrial Ecology**, Vol. 9, No. 4, pp. 15-18.

Lam Soon (Thailand) Public Company Limited. **Annual Report**; 2007.

Lam Soon (Thailand) Public Company Limited. **Annual Report**; 2010.

Land Development Department, 2013, **Suitability land for Rice, Cassava, Para rubber, Oil Palm, Industrial Sugarcane and Maize** (in Thai).

Leaver, R., 2004, Measuring the supply response function of tobacco in Zimbabwe, **Agrekon**, Vol. 43, No. 1, pp. 113-131.

Leftwich, R.H., 1979, **The Price System and Resource Allocation**, the Seventh edition, Cacho Hermanos, Inc.

Luo, Y., Ahmed, I., Kubátová, A., Šťávová, J., Aulich, T., Sadrameli, S.M. and Seames, W.S., 2010, The thermal cracking of soybean/canola oils and their methyl esters. **Fuel Process Technology**, Vol. 91, pp. 613-617.

Markevicius, A., Katinas, V., Perednis, E. and Tamasauskiene, M., 2010, Trends and Sustainability Criteria of the Production and Use of Liquid Biofuels**, Renewable and Sustainable Energy Reviews**, Vol. 14, pp. 3226 – 3231.

Matsumura, A., Kondo, T., Sato, S., Saito, I. and de Souza, W.F., 2005, Hydrocracking Brazilian marlim vacuum residue with natural limonite, Part 1: catalytic activity of natural limonite, **Fuel**, Vol. 84, 411–416.

Mitchell, D.A., 2008, **Note on Rising Food Prices,** Policy Research Working Paper 4682, The World Bank development prospects group.

Miyake, S., Renouf, M., Peterson, A., Mc Alpine, C. and Smith, C., 2012, Land-use and Environmental Pressures Resulting from Current and Future Bioenergy Crop Expansion: A review, **Journal of Rural Studies**, Vol. 28, pp.650-658.

Mueller, S.A., Anderson, J.E. and Wallington, T.J., 2011, Impact of Biofuel Production and Other Supply and Demand Factors on Food Price Increases in 2008, **Biomass and Bioenergy,** Vol. 35, pp.1623-32.

Office of Agricultural Economics, 2011, **Palm oil consumption for food.** http://www.oae.go.th/download/article/article_20090417181149.html,[2011, March 23].

Office of Agricultural Economics, 2012, **Agricultural statistic of Thailand**

Phitthayaphinant, P., Nissapa, A. and Somboonsuke B., 2012. **Factors Influencing Oil Palm Plantation Areas in Thailand**, 4th International Conference on Humanities and Social Sciences, April 21st, 2012, Faculty of Liberal Arts, Prince of Songkla University.

Pikuntod, P., 1994, **Dynamic supply response model of mangosteen in Thailand,** Bangkok, Master Thesis, Kasetsart University (in Thai).

Pleanjai, S., Gheewala, S.H. and Garivait S., 2004, **Environmental Evaluation of Biodiesel Production from Palm Oil in a Life Cycle Perspectives,** Paper presented at the Joint International Conference on Sustainable Energy and Environment, Hua Hin, Thailand, 1-3 December 2004.

Pleanjai, S., Gheewala, S.H. and Garivait S., 2009, Greenhouse gas emissions from the production and use of palm methyl ester in Thailand**, International Journal of Global Warming,** Vol. 1, No. 4, pp. 418 - 431.

Proceeding "**Expert Consultation on Biofuels**" sponsored by APAARI, CIMMYT, ICRISAT IRRI 27-29 August, 2007, Los Baños, Philippines.

PTT Research and Technology Institute, 2008, **Biodiesel use in light duty truck**, March 2008 (in Thai).

Puppán, D., 2002, Environmental Evaluation of Biofuels, **Periodica Polytechnica Ser. Soc. Man. Sci**., Vol.10, No.1, pp. 95 - 116.

Rana, M.S., Samano, V., Ancheyta,. J. and Diaz, J.A.I., 2007. A Review of Recent Advances on Process Technologies for Upgrading of Heavy Oils and Residual, **Fuel**, Vol. 86, pp. 1216–1231.

ReCiPe, 2008, A life cycle impact assessment method which comprises harmonised category indicators at the midpoint and the endpoint level, First edition (version 1.08), Report I: Characterisation 2008.

Rüdenaue, I., Gensch, C., Grießhamme, R. and Bunke D., 2005, Integrated Environmental and Economic Assessment of Products and Processes: A Method for Eco-efficiency Analysis, **Journal of Industrial Ecology**, Vol. 9, No. 4, pp. 105-116.

Salvatore, M. and Damen, B., 2010, **Bioenergy and Food Security: The BEFS analysis for Thailand**, Environment and Natural Resources Management Working Paper, FAO, Rome, 2010.

Samuel, P.A., 1973, **Economics**, The Ninth edition, International student edition, McGRAW-HILL, Kogakusha, Ltd.

Schmidhuber, J., 2006, **Impact of an Increased Biomass Use on Agricultural Markets, Prices and Food Security: A Long - Term Perspective**, the International Symposium of Notre Europe, Paris 27-29 November, 2006.

Schmidt, J.H., 2007, **Life Cycle Assessment of Rapeseed Oil and Palm Oil**, Ph.D. thesis, Department of Development and Planning Aalborg University, Denmark.

Schnepf, R., 2005, **Price Determination in Agricultural Commodity Markets: A Primer CRS Report for Congress**, Order Code RL33204, December 20, 2005.

Shri Dewi, A., Arshad, F.M., Shamsudin, M.N. and Hameed, A.A.A., 2011**, An** Econometric Analysis of the Link between Biodiesel Demand and the Malaysian Palm Oil Market**, International Journal of Business and Management**, Vol. 6, No.2, pp. 35-45.

Siangjaeo, S., Gheewala, S.H., Unnanon, K. and Chidthaisong, A., 2011, Implications of land use change on the life cycle greenhouse gas emissions from palm biodiesel production in Thailand**, Energy for Sustainable Development**, Vol. 15, pp.1-7.

Silalertruksa, T. and Gheewala, S.H., 2012, Food, Fuel and Climate Change: Is Palm-Based Biodiesel is a Sustainable Option for Thailand? **Journal of Industrial Ecology**, Vol. 16, No. 4, pp. 541-551.

Silalertruksa, T., Bonnet, S. and Gheewala S.H., 2012, Life Cycle Costing and Externalities of Palm Oil Biodiesel in Thailand, **Journal of Cleaner Production**, Vol. 28, pp.225–32.

Smaling, R., 2006, **Biodiesel and Air Quality**, HARC Brownbag Presentation, November 3, 2006.

Susanto, D., Rosson, C.P. and Hudson, D., 2008, Impacts of Expanded Ethanol Production on Southern Agriculture**, Journal of Agricultural and Applied Economics**, Vol.40, No.2, pp.581–592.

The Bangchak Petroleum Plc, 2007**, Operational Records**.

The Bangchak Petroleum Plc, 2010**, Operational Records**.

Thoenes, P., 2006, **Biofuels and Commodity Markets-Palm oil Focus**, Commodities and Trade Division, FAO.

Timilsina, G.R., Mevel, S. and Shrestha A., 2011. Oil Price, Biofuels and Food Supply**, Energy Policy**, Vol. 39, pp. 8098–105.

Ubolsook, A., 2010**, Sustainable Energy Crops: An Analysis of Ethanol Production from Cassava in Thailand**. A graduate dissertation, Paper 794, Utah University.

Urbanchuk, J.M., 2006, **Contribution of the Biodiesel Industry to the Economy of the United States**, LeCG prepared for the National Biodiesel Board.

U.S. EPA, 2002**, A Comprehensive Analysis of Biodiesel Impacts on Exhaust Emissions**, Draft Technical Report, EPA420-P-02-001, Assessment and Standards Division, Office of Transportation and Air Quality, October 2002.

Van Dyne, D.L., Weber, J.A. and Brascher, C.H., 1996, Macroeconomic Effects of a Community Based Biodiesel Production System**, Bioresource Technology**, Vol. 56, No. 1, pp. 1-6.

Van der Horst, D. and Vermeylen, S., 2011, Spatial Scale and Social Impacts of Biofuel Production, **Biomass and Bioenergy**, Vol.35, pp. 2435-2443.

Vanichseni, T., Intaravichai, S., Saitthitti, B. and Kiatiwat, T., 2002, Potential Biodiesel Production from Palm Oil for Thailand, **Kasetsart Journal of Natural Science**, Vol. 36, pp. 83 - 97.

Varanda, M.G., Pinto, G. and Martins, F., 2011, Life Cycle Analysis of Biodiesel Production**, Fuel Processing Technology**, Vol. 9, pp.1087-1094.

Vichitbhun Palm Oil Co. Ltd., 2007, **Interview**.

Wenzel, H., Hauschild, M. and Alting L., 1997, **Environmental Assessment of Products,** Vol. 1, Methodology, tools and case studies in product development, Kluwer Academic publishers.

www.nbb.org/pdf.files/fuelfactsheet/lifecycle.summary.pdf, National Biodiesel Board: Life cycle Summary, [2007, September 27].

Yang, J., Huang, J., Qiu, H., Rozelle, S. and Sombilla, M.A., 2009, Biofuels and the Greater Mekong Sub Region: Assessing the Impact on Prices, Production and Trade. **Applied Energy**, Vol. 86, pp. s37-s46.

Zhang, Y., Dube, M.A., McLean, D.D. and. Kates, M., 2003, Biodiesel Production from Waste Cooking Oil: 2. Economic Assessment and Sensitivity Analysis, **Bioresource Technology**, Vol. 90, pp. 229-240.

Zhou, Z., Jiang, H. and Qin, L., 2007, Life Cycle Sustainability Assessment of Fuels. **Fuel**, Vol. 86, pp. 256–263.