

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

--- In the Matter of the Application of --- ) PUC Docket 2007-0346  
)  
HAWAIIAN ELECTRIC COMPANY, INC. )  
)  
For Approval of Biodiesel Supply Contract )  
with Imperium Services, LLC, and to include )  
Contact Costs in HECO's Energy Cost )  
Adjustment Clause )

LIFE OF THE LAND'S

TESTIMONIES & EXHIBITS RE AMENDED CONTRACT

&

CERTIFICATE OF SERVICE

HENRY Q CURTIS  
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1 Aloha Commissioners,  
2  
3 My testimony will cover the following topics: (A) My Background; (B) Life of the Land; (C)  
4 Campbell Industrial Park Generating Station Combustion Turbine #1; (D) Biodiesel Supply  
5 Contract; (E) Human Rights: Testimony by LOL Witnesses Ms. Crockett, Joshua Cooper; (F)  
6 Environmental Impacts: Testimony by LOL Witnesses: Dr. Tadeus Patzek, Lorrin Pang; (G) Post  
7 Transcript Events; (H) HECO's Amended Contract; (I) Biofuels: Are they all bad?; (J) Life Cycle  
8 (Cradle-to-Grave) Analysis; (K) Is RSPO Palm Oil OK?; (L) Human Rights: An Update; (M)  
9 LOL Supplemental Exhibits; (N) Climate Change; and (O) Conclusion

10  
11 This docket is complex with four rounds of testimony. To distinguish different testimony and  
12 exhibits from each round, we need adequate abbreviations: Life of the Land ("LOL"), Amended  
13 Contract ("AC"), Testimony ("T"), and Exhibits ("EXH"). Thus in the current round three, Life of  
14 the Land is sponsoring two witnesses: Henry Q Curtis ("LOL-AC-T1") and Dr. Stephanie Fried  
15 ("LOL-AC-T2"). Their exhibits are labeled ("LOL-AC-T1-EXH-1") and ("LOL-AC-T2-EXH-  
16 1"). Yesterday HECO released additional documents to us, so we will abbreviate Supplemental  
17 ("S") and our subsequent fourth filing will be labeled using the following notation: Witnesses  
18 (LOL-AC-S-T1) Exhibits ("LOL-AC-S-T1-EXH-1").

19

20 **(A) My Background**

21

22 I am Henry Curtis, Vice President of Life of the Land. I have been with Life of the Land since  
23 1994, Executive Director since 1995 and Vice President since 1997. I have a B.A. in Economics  
24 from Queens College, City University of New York and all but a thesis towards a M.A. in  
25 economics. At both the undergraduate and graduate levels, the program emphasized theoretical  
26 and mathematical economics. My graduate work focused on international trade and investments,  
27 and in particular, agricultural trade. My planned thesis research focused trading hard and soft red  
28 and white wheat on agricultural futures markets.

29

30 Over the past decades I have focused on environmental and social impacts involving technical  
31 areas: I served on Army, Navy and Air Force boards dealing with toxic cleanups, attended several  
32 risk assessment workshops run by the Army, Navy and Air Force, and a three day workshop  
33 sponsored by the Department of Health in which we were the only community people in  
34 attendance, served on the Community Advisory Committee of the Hawai'i Department of  
35 Health's Source Water Assessment Project, and on numerous utility and energy related

1 organizations, boards and committees. I have served as a UH Hawaii Natural Energy Institute  
2 peer reviewer for a report filed with this Commission, and as a moot court judge for practice  
3 rounds involving the UH Richardson School of Law Environmental Moot Court Team in their  
4 preparation for national moot court competition dealing with a "hypothetical case" involving  
5 Canadian natives suing American coal companies for the costs of relocating their villages due to  
6 rising sea levels caused by greenhouse gas emissions. I have represented Life of the land in 20  
7 regulatory dockets involving energy issues. I am the producer/director of the `Olelo series  
8 "Energy and Power in Hawai`i" and I am a videographer, producer, director and film editor of  
9 films appearing on `Olelo Public TV, Google and Youtube films re political, energy, cultural, and  
10 social justice issues.

11  
12 **(B) Life of the Land**

13  
14 Life of the Land is Hawai`i's own energy, environmental and community action group advocating  
15 for the people and `aina for almost four decades. Our mission is to preserve and protect the life of  
16 the land through sound energy and land use policies and to promote open government through  
17 research, education, advocacy and, when necessary, litigation.

18  
19 The environment is what all of society is located in, all business, all people, all societies are part  
20 of the environment. The environment is the big picture, the framework.

21  
22 Life of the land has been intimately involved with all aspects of energy policy in Hawai`i, since  
23 we were founded, before the first Earth Day.

24  
25 **(C) Campbell Industrial Park Generating Station Combustion Turbine #1**

26  
27 On June 17, 2005, Hawaiian Electric Company, Inc. ("HECO") filed an application requesting  
28 the Public Utilities Commission's of the State of Hawaii's ("Commission") approval to commit  
29 funds estimated at \$134,310,260 for the purchase and installation of the Campbell Industrial Park  
30 Generating Station and Transmission Additions Project (the "Project"). The Commission opened  
31 docket 05-0145. The Division of Consumer Advocacy of the Department of Commerce and  
32 Consumer Affairs ("CA") is a party by statute. The Commission admitted Life of the Land in as  
33 a party. HECO and Life of the Land each sponsored 12 witnesses while the CA sponsored one  
34 witness. HECO and the CA promoted the use of biofuels while Life of the Land advocated for

1 ocean power. Life of the Land was the only party to sponsor a witness on biofuels -- international  
2 expert Dr. Tad Patzek.

3  
4 Life of the Land's position was that biofuels negatively impact climate change in a number of  
5 ways: producing ethanol and biodiesel requires the use of large amounts of fossil fuels, water, and  
6 land. Hawai`i is parceling off its agricultural land and where we would get the water remains a  
7 huge issue. Will Hawai`i ever be able to grow enough biofuel to satisfy our needs? Life of the  
8 Land doubts it. After one hundred plus years of plantation-style monocropping, is this what we  
9 really want to do? Growing biofuels is not about small farmers, it is about big agribusinesses and  
10 corporate farming. How will this help Hawai`i's struggling family farms? Should Hawai`i be  
11 using our precious agricultural lands to grow energy crops or food? Since Hawai`i imports 90%  
12 of our food, wouldn't promoting food security and feeding our people be a more prudent use of  
13 these lands?

14  
15 Biofuel production competes with food products for resources. In the US, corn that could be used  
16 to feed people and animals is siphoned off for fuel. In Brazil ethanol production displaces other  
17 crops which are then grown in newly decimated Amazon rain forests. The most productive source  
18 of biodiesel is palm oil. Most of the world's biodiesel is grown in Indonesia and Malaysia on  
19 recently destroyed rain forests. ...

20  
21 Indonesia ranks third in the world in greenhouse gas emissions from the carbon emitted by  
22 burning forests and peat soils to make room for mono-cropped palm oil plantations. In essence,  
23 we are substituting the greatest source of global warming – the burning of fossil fuels – for the  
24 second greatest contributor – deforestation. ...

25  
26 There was no direct or rebuttal testimony by other parties regarding biofuels. HECO did not  
27 cross-examine any witnesses on biofuels related issues.

28  
29 The Commission approved the proposed power plant.

30  
31 **(D) Biodiesel Supply Contract**

32  
33 On October 18, 2007, HECO filed an Application for commission approval of a Biodiesel Supply  
34 Contract between HECO and Imperium Services, LLC (“Imperium”) dated August 13, 2007

1 (“Contract”). The Contract is for a biodiesel fuel supply for HECO’s new combustion turbine  
2 generating unit at Campbell Industrial Park (“CIP”) in Kapolei, Hawaii. HECO also requests  
3 commission approval to include the costs for biodiesel fuel, transportation, storage and related  
4 taxes incurred pursuant to the Contract in HECO’s Energy Cost Adjustment Clause (“ECAC”) to  
5 the extent that the costs are not recovered in HECO’s base rates.

6  
7 The parties in this second docket, 2007-0346, remain the same. HECO sponsored 7 expert  
8 witnesses, Life of the Land sponsored 16 expert witnesses and the CA sponsored one witness.

9  
10 DR. CHARLES PE’APE’A MAKAWALU BURROWS is president of Ahahui Malama i ka  
11 Lokahi, a Hawaiian environmental organization dedicated to the conservation of native  
12 ecosystems both here in Hawaii and globally. Their mission is to develop, promote, and practice a  
13 native Hawaiian conservation ethic that is grounded in ancient tradition, is relevant to our times,  
14 and is responsible to both Hawaiian culture and science in order to protect Hawaii's native  
15 cultural and natural heritage through research, education, and active stewardship. He currently  
16 serves on the Kaho'olawe Island Reserve Commission, the OHA Native Hawaiian Historic  
17 Preservation Council, the United Church of Christ Environmental and Energy Task Force, the  
18 U.S. National Ramsar Wetlands Council and is a board member of three Kailua environmental  
19 and cultural organizations. Dr. Burrows academic degrees are: B.S. in Biology and Chemistry  
20 from Linfield College; M.S. and M.Ed. in Environmental Science and Biology from Oregon State  
21 University; an Ed.D. in Instructional Technology and Educational Change from Indiana  
22 University. He was a science educator for years starting in Oregon and ending at the  
23 Kamehameha Schools in 2000. (118: XXX-31)

24  
25 [W]e who network with grassroots indigenous peoples, and interfaith  
26 religious and spiritual groups such as Buddhists, Jewish, Muslim and  
27 Christians do not endorse the use of biofuels such as corn, sugarcane and palm  
28 oil because of its ecological damages to the environment, food systems, water  
29 resources, increase in global warming and devastation to indigenous cultures.  
30 A Hawaii Interfaith Power and Light composed of interfaith groups in Hawaii  
31 has been established to bring the awareness of the impacts of energy and  
32 climate change to congregations and to commit to ways in which lifestyles  
33 must change to be less consuming" (121:19-27)  
34

35 **(E) Human Rights**

36  
37 MS. CHARMAINE CROCKETT (LOL-T-10) became involved in human rights as a graduate  
38 student in anthropology when she received a fellowship at the United Nations. She was an NGO

1 representative to the United Nations for Economists Allied Against Arms Reductions, and the  
2 Peoples Movement for Human Rights Learning. Additionally she was vice chair of two UN  
3 conferences and served for four years on the United Nations Committee. Ms. Crockett worked as  
4 a human rights worker for several UN affiliates as well as given several UN level workshops, as a  
5 human rights lobbyist for RIO plus 10. Ms. Crockett was a research analyst at Goldman Sachs for  
6 nine years, and understands international trade agreements and markets. (LOL Testimony page  
7 176)

8  
9 "[W]hen we make decisions on energy use, we have to remember that the 'us'  
10 is not only Hawaii. We are all part of the human family and we bear a  
11 responsibility to mitigate human suffering not increase it. We need to look at  
12 the ethical aspect of our decision-making in what alternative energy systems  
13 we want to use. Ethics and morality should be at the heart of our decision-  
14 making. If we know that other people are suffering as a result of our decision,  
15 do we want to do it? We know that biofuels was the flavor of the week. It is no  
16 longer a favored alternative energy use. ... It is obvious from recent reports  
17 that food prices are escalating and hunger is increasing. Does Hawaii really  
18 want to be a part of this?" (LOL T-10, 178:14-22)

19  
20 "I am interested in ending poverty and human suffering. I have also been for  
21 many years a big proponent of the right to food and the right to water. We do  
22 not need to be hungry. There are choices. Before you make the decision, visit a  
23 country where tens of thousands of people are hungry. Then you will rethink  
24 how you use land. Recent reports are showing that there is a trend towards  
25 small farming again. We need to do this. Use our land wisely. We don't need  
26 air conditioners and SUV's. We need smart cars, electric cars, good bus transit  
27 and food. Civilization cannot progress without adequate sources of food and  
28 access to clean water." (LOL T-10, 179-81)

29  
30 MS. CHARMAINE CROCKETT sponsored several exhibits including

31  
32 \* Human Rights Watch: January 2008 country summary – Malaysia (LOL-EXH-33):

33  
34 "Malaysia continues to confound hopes that human rights progress will  
35 parallel the country's strong economic growth. Basic rights such as freedom of  
36 expression, assembly, and association are subject to burdensome and  
37 unjustified restrictions. A series of stringent and outdated laws and regulations,  
38 such as the Internal Security Act (ISA) and Emergency Ordinance (EO),  
39 continue to undermine basic due process rights. Routine censorship threats  
40 target bloggers; new rules impede workers' right to organize; and indigenous  
41 communities face loss of communal land. The government has resisted  
42 widespread calls to establish an Independent Police Complaints and  
43 Misconduct Commission, as recommended in May 2005 by a Royal  
44 Commission."

45  
46 Malaysia: Government failing to respect the right to freedom of assembly. Amnesty

1 International. 12 December 2007. (LOL-EXH-34):

2  
3 "Amnesty International is concerned that the Malaysian government is  
4 obstructing the fundamental human right of all individuals to freedom of  
5 expression and assembly."  
6

7 U.S. Department of State's Country Reports on Human Rights Practices: Malaysia (2007) (LOL-  
8 EXH-35)

9  
10 "The constitution provides for freedom of speech and of the press; however,  
11 some important legal limitations exist. In practice the government restricted  
12 freedom of expression and intimidated journalists into practicing self-  
13 censorship. According to the government, it imposed restrictions on the media  
14 to protect national security, public order, and friendly relations with other  
15 countries. ... The Printing Presses and Publications Act requires domestic and  
16 foreign publications to apply annually to the government for a permit, makes  
17 publication of "malicious news" a punishable offense, and empowers the  
18 minister of internal security to ban or restrict publications believed to threaten  
19 public order, morality, or national security. It also prohibits court challenges to  
20 suspension or revocation of publication permits. According to the government,  
21 these provisions ensured that the media did not disseminate "distorted news"  
22 and were necessary to preserve harmony and promote peaceful coexistence in  
23 a multiracial country. During the year the ministry continued to review,  
24 censor, and confiscate many foreign publications. ...  
25

26 Eleven national daily newspapers--three in English, four in Malay, and four in  
27 Chinese--dominated print journalism. Parties in the ruling coalition owned or  
28 controlled a majority of shares in two of the three English and all Malay  
29 dailies. Politically well-connected businesspersons owned the third English-  
30 language newspaper and all four major Chinese-language newspapers.  
31

32 Criminal defamation is punishable by a maximum of two years in jail, a fine,  
33 or both. This along with the government power over annual license renewal  
34 and other policies inhibited independent or investigative journalism and  
35 resulted in extensive self-censorship. ...  
36

37 Radio and television stations were as restricted as the print media and were  
38 almost uniformly supportive of the government. News of the opposition was  
39 tightly restricted and reported in a biased fashion. ...  
40

41 [I]n July Prime Minister Abdullah warned that Internet users, particularly  
42 bloggers, "do not have the freedom to do whatever they like...It is not for  
43 them [bloggers] to claim that they are immune from the law simply because  
44 their Web sites are hosted overseas where they have the right to say anything."  
45

46  
47 MR. JOSHUA COOPER (LOL-ST-2) the executive director of Hawaii Institute for Human  
48 Rights, a NGO working on the promotion and protection of human rights at home in Hawaii as  
49 well as the Asia- Pacific region. The Hawaii Institute for Human Rights has been involved in

1 education and empowerment for a decade in our local community but also at the United Nations  
2 in Geneva and New York. He is a lecturer at the University of Hawaii teaching courses in  
3 political science and a facilitator at the International Training Center for Teaching Peace and  
4 Human Rights. HIHR is very active in the field of sustainability and social justice. (LOL ST-2:  
5 12-25)

6  
7 Writing his testimony while in Malaysia, he stated:

8  
9 "The opening of the land for oil palm plantations is done massively to meet the  
10 demand while denying the human rights of indigenous peoples as outlined in  
11 the UN Declaration on the Rights of Indigenous Peoples which our own  
12 legislature adopted during the UN Decade on the Rights of Indigenous Peoples  
13 as well as the UN General Assembly on 13 September 2007. There are many  
14 rights violations. Besides the land rights issues, there is also the issue of the  
15 right to life as violence escalates in the homelands of indigenous peoples. The  
16 existence of Oil palm plantation mostly leads to the presence of security  
17 personnel. Companies hired Police personnel, private militias and even troops  
18 to safeguard companies' operations and facilities. In the immediate past,  
19 indigenous peoples' territories have been skimmed of their oil, gas and coal  
20 deposits in name of development." (LOL ST-2, 20-33)

21  
22 **(F) Environmental Impacts**

23  
24 Dr. TADEUS PATZEK (LOL-AC-W1-EXH-6 is the same as LOL-ST-4) As of September 1,  
25 2008, Dr. Patzek became Chairman of the Petroleum & Geosystems Engineering Department at  
26 the University of Texas at Austin. I also hold a Distinguished Cockrell Chair #11 in the College  
27 of Engineering. He was hired by UT to provide leadership in investigating a broad range of  
28 energy issues and sources, and advise the State of Texas and Nation. Between 1990 and 2008 Dr.  
29 Patzek was a Professor of GeoEngineering at the University of California, Berkeley. Prior to  
30 Berkeley, he was a Senior Research Engineer with Shell Development, Bellaire Research Center  
31 in Houston, TX, and a Senior Reservoir Engineer with Shell Western E&P in Bakersfield. At  
32 Berkeley He worked on the mathematical modeling of flow of oil, water, and gas in the  
33 subsurface at different scales, smart control of water flood projects, and on the thermodynamics  
34 and ecology of biofuel cycles. He have thoroughly investigated the feasibility of large-scale  
35 energy supply from corn, sugarcane, tree biomass, soybeans, and sunflowers.

36  
37 I have played a significant role in turning the world public opinion against  
38 biofuels and their insidious role in destroying life on our beautiful planet. My  
39 role seems to have been particularly important in Europe, where I participated  
40 in two OECD meetings devoted to biofuels and collaborated with several  
41 influential scientists and economists. Of course it helps to have the scientific  
42 truth and facts on one's side, but the speed with which my predictions have

1 become facts of life still surprises me. Suffices it to say that my prediction of  
2 the increases in food prices caused by biofuels, made 3 years ago at the  
3 Washington National Press Club, was met with a roar of dismissive laughter  
4 by an audience that consisted mostly of the USDA officials, National Lab  
5 scientists, corn growers, and lobbyists for biofuel production. Now I am  
6 predicting the diverse negative consequences of intensive biofuel use in  
7 Hawaii and dare the defenders of the Hawaiian Electric Company (HECO's)  
8 decision to burn palm oil from Malaysia in an electrical power plant on Oahu  
9 to laugh at me. What seems to be at stake here is a tragically misguided  
10 decision by HECO to secure a new source of fossil fuel for its electrical power  
11 station. Their thinking seems to be that as long as the new fuel is not crude oil,  
12 somehow its flow will increase the strategic security of energy supply of  
13 Oahu. This type of linear, unimaginative thinking is characteristic of large  
14 bureaucracies under pressure to come up with a quick fix of a perceived  
15 problem. (LOL ST 136: 8-26)  
16  
17

18 Lorrin Pang, MD, MPH testified as a private citizen. He is Retired Army Medical Corp, served on  
19 Preventive Medicine Boards 1990, listed on America's Best Doctors List 2006-8, served as a  
20 consultant to Consultant to World Health Organization, and as a Consultant to Glaxo Smith Kline  
21

22 'Whenever the source of biofuels involve products which are Genetically  
23 Engineered (GE) there must be strict health assessments under EIS rules. The  
24 GE risks will involve different types of occupational and environmental  
25 exposures – covering all stages of production, processing and use (as a fuel)  
26 across laws of different countries, states and XXXX (286: 6-11)  
27

28 **(G) Post Transcript Events**

29  
30 Following HECO's acquisition of the Evidentiary Hearing Transcript, but prior to Life of the  
31 Land's acquisition of that document, HECO proposed and the Commission approved a process  
32 whereby HECO amended the contract. The amended contract process led to a new round of  
33 discovery, testimony (which this is part of), and a new Evidentiary Hearing.  
34

35 **(H) HECO's Amended Contract**

36  
37 "Based on actual biodiesel samples from Imperium and a review of their processing facilities,  
38 HECO expects that Imperium will be able to meet the Specifications of the Contract." (HECO  
39 Response to CA-IR-3a). Imperium has imported canola oil and other non-palm vegetable oils.  
40 How does this lead to the belief that Imperium can live up to the terms of the contract?  
41

42 "Attached is a letter from Imperium dated January 29, 2009 providing its financial information."

1 (HECO Response to CA-IR-8). Is HECO basing their beliefs on the financial viability of  
2 Imperium based on a few pages of un-audited Imperium statements, delivered to HECO the day  
3 before they filed the Amended Contract with the Commission?  
4

5 "HECO and Imperium did not explore cooking oil (yellow grease) because of concerns about the  
6 reliability of large volumes of feedstock required to meet HECO's potential demand, concerns  
7 about the consistence of the quality of feedstock commingled from multiple varying sources and  
8 whether such feedstock could be reliably processed into biodiesel meeting the utility's  
9 specifications" (HECO Response to CA-IR-9b). Was this analysis by HECO or Imperium? What  
10 were the concerns? Why does ASTM have standards for waste oil biodiesel if it isn't feasible?  
11

12 "Implementation Manual For Environmental Policy for HECO's Procurement of Biodiesel  
13 Feedstock DRAFT" (LOL-IR-1, page 2) Why is it a draft?  
14

15 "The Environmental Policy calls for the use of palm oil feedstock that complies with all the  
16 requirements of the RSPO P&C." (LOL-IR-1, page 6; Implementation Manual page I-1). Doesn't  
17 the supply have to meet the RSPO *Principles, Criteria, Indicators and Guidance*?  
18

19 "A description of the Stakeholders in this process ... HECO ... Biofuel Provider ... Palm Oil  
20 Exporter/Trader ... RSPO Accredited International Inspection Entity ... RSPO Certified palm Oil  
21 Producer ... Palm Oil Quality Control (QC) Cargo Inspector" (LOL-IR-1, pages 7-8;  
22 Implementation Manual page I-2,3). Aren't there other stakeholders?  
23

24 "HECO provided initial funding to the Hawaii Agricultural Research Center (HARC) for 2007. ...  
25 The objective of the HARC relationship is to provide community outreach." (LOL-IR-1, page 12;  
26 Implementation Manual page II-1-1). Isn't there mission agricultural research?  
27

28 "Plantations or crops shall not be established on land that was converted from natural ecosystems  
29 after 2005, the date adopted in the RSPO P&C" (LOL-IR-1, page 6; Implementation Manual page  
30 II-3-1) Why 2005?  
31

32 This [GHGenius] Model is a life cycle assessment tool for the evaluation of current and future  
33 fuels. (LOL-IR-1, page 18; Implementation Manual page II-5-1). Is reliable data difficult to find  
34 for future fuels?

1

2 "Hawaiian Electric is currently working on the establishment of a Biofuels Public Trust Fund  
3 ("BPTF"). ... The BPTF will have representatives from all key stakeholders that will be affected  
4 by the transition to biodiesel, including the State, local agriculture, local environmental, native  
5 Hawaiian cultural, and R&D interests. The funding will be used to enhance the environmental,  
6 social, cultural and economic viability of the production and consumption of biofuels in Hawaii."  
7 (LOL-IR-1, page 19; Implementation Manual page II-6-1) How long does it take to create a new  
8 entity? Who will be on the BPTF?

9

10 "RSPO Principles and Criteria for Sustainable Palm Oil Production. Guidance Document. Format  
11 to emphasize Guidance for National Interpretation. March 2006." (LOL-IR-1, page 41;  
12 Implementation Manual Appendix B.1). For this contract, doesn't the supply have to meet the  
13 RSPO requirements and not any particular national interpretation?

14

15 **(I) Biofuels: Are they all bad?**

16

17 In this new round of testimony Life of the Land wishes to address the issue of whether all  
18 biofuels are bad or whether some are good. For HECO there is only one option available today,  
19 only one company that is willing to meet the technical specifications (ASTM modified by specific  
20 turbine requirements for low alkali metals (sodium, potassium); and sustainability requirements  
21 (RSPO modified by NRDC requirements) and only one or more plantations in one country --  
22 Malaysia.

23

24 For Life of the Land, one solution is on re-using "waste" material. Used oil constitutes over 1/3  
25 of the available biofuel feedstocks in the United States:

26

27 The U.S. Supply of Biodiesel Feedstocks (Billion Potential Gallons): Crops  
28 (3.044); Used Oils (1.643) Total (4.687)

29

30 LOL-Supplemental Exhibit 1 ("LOL-AC-W1-EXH-1"): Commercialization  
31 of First Generation Biofuels by Vernon R. Eidman, Department of Applied  
32 Economics. University of Minnesota. August 21, 2007

33

34

35 Leland Tong (HECO RT-4, 5:13-21) cited The Greenhouse and Air Quality Emissions of  
36 Biodiesel Blends in Australia by Tom Beer, Tim Grant and Peter Campbell. Section 4.2.1 Used

1 Cooking Oil states:

2  
3 "Used cooking oil (UCO) is also known as used vegetable oil, waste vegetable  
4 oil, waste cooking oil or yellow grease. In this document the terms are used  
5 interchangeably, with a preference to avoid the use of the term "waste".  
6 Although considered a waste product in the past, due to its use in biodiesel the  
7 accepted term is now 'used'.  
8

9 Life of the Land filed its written testimony in Docket 05-0145, at the time when HECO stated that  
10 it would use ethanol in its new power plant. Dr. Tad Patzek, LOL T-4, Figure 17 (page 34)  
11 analyzes the "[e]quivalent CO2 emissions from each major non-renewable resource consumed by  
12 the industrial corn-EtOH cycle." According to Dr. Patzek, the top three sources of greenhouse  
13 gases in the production of ethanol (EtOH) are: (1) Ethanol Plant Fuel; (2) Humus Oxidation; and  
14 (3) Nitrogen as Ammonia. Humus Oxidation includes emissions in soil eroded by wind (34:322)  
15 and Nitrogen fertilizer ... is the largest fossil energy input to industrial agriculture. (27:263-67)  
16

17 There are many types of used oil, most or all of which can be made into ASTM quality biofuel.  
18 Most Waste Vegetable Oil is exported, and thus could be available. Pacific Biodiesel has been  
19 turning Waste Vegetable Oil into low sodium, low potassium, ASTM standard biodiesel for 13  
20 years.

21  
22 **(J) Life Cycle (Cradle-to-Grave) Analysis**

23  
24 HECO Witness Leland Tong used "Tom Beer, Tim Grant and Peter Campbell, The Greenhouse  
25 and Air Quality Emissions of Biodiesel Blends in Australia, Report Number KS54C/1/F2.27,  
26 2007, and Don O'Connor, The Addition of Palm Oil Biodiesel and Coal Derived FT Distillate to  
27 GHGenius, May 15, 2006. (LOL-AC-W1-EXH-4) These studies were used in the evaluation  
28 because they provide a full life cycle assessment of the greenhouse gases associated with palm oil  
29 based biodiesel relative to petroleum based biodiesel fuel. These studies are applicable to the  
30 HECO situation because they include feedstock production, processing, transportation, biodiesel  
31 production and fuel transportation for palm oil biodiesel." (HECO RT-4, 5:13-21)  
32

33 The Greenhouse and Air Quality Emissions of Biodiesel Blends in Australia by Tom Beer, Tim  
34 Grant and Peter Campbell states:

35  
36 "The establishment and running of oil palm plantations in Malaysia and

1 Indonesia has been shrouded with controversy for several decades now, as  
2 discussed at length in the references below, as well as in Gellert (2005).  
3 Although there are many oil palm plantations that have been established on  
4 existing croplands, the ever-increasing demand for palm oil has led to ‘slash  
5 and burn’ techniques being used in lowland tropical rainforests. When this  
6 occurs a section of tropical rainforest (or peat swamp forest) is initially logged  
7 for useful timber. Then the remains are cleared by fire (Glastra 2002).

8  
9 An oil palm plantation is established (often after some time), which is  
10 economically productive for 20-25 years; at this time harvesting becomes  
11 uneconomic due to reduced production and increased tree height, and  
12 decreased soil fertility if expensive fertilisers are not employed (Härddter,  
13 1997). However, many companies find it more profitable at this point to repeat  
14 the process, abandoning the existing plantation (Webster 2004) and making  
15 additional money by logging a new section of forest." (Section 8.2 Palm Oil  
16 Overseas, pages 34-36)

17  
18  
19 The Study analyzes three different production scenarios: (a) Malaysian Cropland; (b) Malaysian  
20 Rainforest; and (c) Indonesia peat swamp forest, and assumes, without explanation, that the  
21 amount of land, pesticides, phosphate, urea, potassium chloride and fuel input are identical for  
22 each approach. (Table 8.2, page 39)

23  
24 The Addition of Palm Oil Biodiesel and Coal Derived FT Distillate to GHGenius states (LOL-  
25 AC-W1-EXH-4):

26  
27 “Fertilize Manufacture: Direct and indirect life cycle emissions from fertilizers  
28 and pesticides used for feedstock production, including raw material recovery,  
29 transport and manufacturing of chemicals. This is not included if there is no  
30 fertilizer associated with the fuel pathway. Land use changes and cultivation  
31 associated with biomass derived fuels: Emissions associated with the change  
32 in the land use in cultivation of crops, including N<sub>2</sub>O from application of  
33 fertilizer, changes in soil carbon and biomass methane emissions from soil and  
34 energy used for land cultivation." (page 2) "The fertilizer requirements for oil  
35 palm are shown in the following table (Hai)." (page 20) "It was stated earlier  
36 that land use emissions related to changes in soil carbon and above ground  
37 biomass were not considered in the base case ... There is little data on the  
38 change in soil carbon" (page 28)

39  
40 According to Dr. Patzek, the number 2 and 3 causes of greenhouse gas emissions in the use of  
41 ethanol are changes to soil carbon via humus oxidation and nitrogen use. For GHGenius, the  
42 changes to soil carbon were ignored, and the data on nitrogen fertilizers comes from Mr. Teoh  
43 Cheng Hai, who is the Golden Hope Plantations Berhad's Director Quality & Environment,  
44 former Secretary-General of the RSPO Secretariat in Kuala Lumpur, and has over three decades  
45 of working in the plantation industry.

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In addition, palm oil has two other significant impacts: the direct destruction of rainforests for palm oil production, and the indirect destruction of rainforests for crops displaced by palm oil production. Proponents of palm oil production state that the first can be discounted since non-rainforest palm oil will be grown, and that the second one is ignored.

The purchase of non-rainforest palm oil by some increases the demand for all palm oil and all virgin vegetable oils:

"[B]ecause vegetable oils are substitutable with each other for a variety of uses (and for biodiesel, in particular) an incremental increase in the demand for any vegetable oil will cause a corresponding increase in demand for all oils. The effect will be largely the same as a commodity purchase of palm oil, in terms of wider demand." (HECO-NRDC page 2)

If one wants to use biodiesel, a solution is using waste oil as a feedstock.

**(K) Is RSPO Palm Oil OK?**

The Roundtable on Sustainable Palm Oil (RSPO) has just started to certify palm oil as sustainable. The first certifications were made in September 2008. But the early analysis of these certifications raise alarms.

Certified unsustainable? Observations on the first three RSPO certificates By Almuth Ernsting (Biofuelwatch, U.K.) 2nd November 2008. (LOL-AC-W1-EXH-5)

The first three RSPO certificates dispel hopes that the RSPO will guarantee even basic social and environmental standards for the palm oil it certifies as 'sustainable':

- One certificate relates to plantations which, according to the assessors, were established without local communities' free, prior and informed consent, even though communities have been offered no form of redress.
- Two of the three certificates relate to estates on which paraquat is currently used, with one company showing no intention to eliminate its use.
- One assessment endorses two claims made by the company which a simple search of their own website of the UNFCCC website would have shown to be incorrect. ... In August 2008, the RSPO awarded the first ever certificate for sustainable palm oil to United Plantations Bhd in respect of some of their plantations in Peninsular Malaysia. Since then, two other RSPO certificates have been awarded – one to New Britain Palm Oil, in respect of all their plantations in West New Britain, and one to Sime Darby Berhad in respect of

1 one palm oil mill and four estates in Sabah.  
2

3 United Plantations certified despite gross violations of RSPO Standards By Greenpeace. (LOL-  
4 AC-W1-EXH-3)  
5

6 The granting of the first sustainability certificate by the Roundtable on  
7 Sustainable Palm Oil (RSPO) to United Plantations seems little else but a  
8 cover up of business as-usual including land grabbing, deforestation, peatland  
9 conversion, and the violation of Indonesian law. ... In August 2008, United  
10 Plantations was the first company to be certified under RSPO standards. They  
11 were assessed and certified by the Dutch certifier Control Union Certification.  
12 United Plantations applied for certification of their Malaysian operations only.  
13 United Plantations' new concessions in Kalimantan are therefore subject to the  
14 RSPO rules for so-called partial certification. (RSPO Certification Systems,  
15 Final document approved by RSPO Executive Board, 26 June 2007 "RSPO  
16 (2007a)")  
17

18 According to these rules companies must ensure that all their operations  
19 (including all of their plantations) meet certain minimum criteria (see box).  
20 (RSPO (2007a), section 4.2.4 of the RSPO Certification Systems document  
21 approved on June 26, 2007) NGOs pushed RSPO to adopt this condition to  
22 prevent big company groups from certifying a show case plantation, while  
23 business as-usual continues in the other plantations owned by the group. What  
24 these minimum criteria mean is that even if only one concession within a  
25 company group is getting certified, all concessions majority owned by the  
26 group must meet these minimum criteria. (The RSPO Executive Board  
27 decided on 28 February 2008 that special exceptions apply for all new  
28 plantation development in areas where the HCV status was known, unknown  
29 or disputed between November 2005 and November 2007. This decision and  
30 its details, however, has up to date not been made public by the RSPO  
31 secretariat.) If the company fails to comply with this then "Certificates for all  
32 of the company's holdings shall be suspended...". (RSPO (2007a)) ...  
33

#### 34 Minimum criteria

35 The key minimum-criteria for "partial certification" set out in section 4.2.4 of  
36 the RSPO Certification Systems document are:<sup>26</sup> • "a time-bound plan for  
37 achieving certification of all relevant entities. The certification body will be  
38 responsible for reviewing the appropriateness of this plan (in particular, that  
39 the time scale is sufficiently challenging),....  
40

- 41 • no significant land conflicts
- 42
- 43 • no replacement of primary forest or any area containing HCVs [High  
44 Conservation Value] since November 2005
- 45
- 46 • no labour disputes that are not being resolved through an agreed process
- 47
- 48 • no evidence of non-compliance with law in any of the non-certified  
49 holdings." ...  
50

51 The results of the Greenpeace study demonstrate that United Plantations does  
52 not comply with any of the RSPO standards for partial certification that we  
53 investigated. The results show clearly that United Plantation may have their

1 RSPO certification of Malaysian plantations but continue with business as  
2 usual in their Indonesian concessions. In addition to violating these RSPO  
3 minimum criteria, in Kalimantan United Plantations has cleared and continues  
4 to clear significant forests that are very important carbon stocks, crucial to  
5 combating climate change.  
6

7  
8 Malaysian palm oil - green gold or green wash? a commentary on the sustainability claims of  
9 Malaysia's palm oil lobby, with a special focus on the state of Sarawak October 2008 (LOL-AC-  
10 W1-EXH-2)

11  
12 Friends of the Earth has examined a large number of public statements made  
13 by MPOC, the Minister of Plantation Industries and Commodities and State  
14 politicians in the local and international media. Grouped under five main  
15 headings, each has been tested against the reality on the ground or as seen  
16 from satellite imagery. The main findings are as follows: Malaysian palm oil -  
17 green gold or green wash? a commentary on the sustainability claims of  
18 Malaysia's palm oil lobby, with a special focus on the state of Sarawak

19  
20 1. openburning to clear (peat) land The Malaysian palm oil lobby has claimed  
21 that "zero-burning is strictly enforced by Malaysia's laws". This claim is false.  
22 Sarawak has in place its own environmental laws, which allow plantation  
23 companies to practice open burning to clear land for planting, even on peat  
24 soils. Open burning is regularly practiced in Sarawak and contributes to the  
25 regional air pollution (haze) problem and promotes faster release of GHGs into  
26 the atmosphere. The legislation in Sarawak is independent of the Malaysian  
27 Federal law, and runs counter to the spirit of the ASEAN Transboundary Haze  
28 Agreement, to which Malaysia is a key signatory.

29  
30 2. deforestation The Malaysian palm oil lobby has claimed that "forests are not  
31 converted for oil palm expansion in Malaysia". This claim is false. There is an  
32 overwhelming body of evidence that oil palm plantations are being expanded  
33 at the expense of tropical forests. In Sarawak, peat swamp forests are  
34 particularly targeted for expansion and for this purpose at least 400,000 ha of  
35 Permanent Forest Estates were allocated for the conversion into agriculture  
36 plantations, mostly oil palm. A recent call by Malaysia's Prime Minister on the  
37 country's state governments to end this practice was swiftly brushed off by the  
38 Chief Minister of Sarawak, indicating that the state will continue to allocate  
39 more forestlands for oil palm expansion.

40  
41 3. indigenous peoples The Malaysian palm oil lobby has claimed that the  
42 Penan indigenous communities in Sarawak were given large tracts of virgin  
43 forests to sustain their nomadic way of life. This claim is false. The  
44 "Biosphere Reserves" promised to the Penan have no legal basis and have  
45 never materialised. Under the limited interpretation of land rights legislation  
46 by the Sarawak state authorities, the nomadic Penan communities are often  
47 denied full recognition of their traditional land rights. Now that logging  
48 companies have degraded much of the tropical forest on which they depend  
49 and plantations are expanding, the Penan have become more impoverished  
50 than ever. This situation, which is applicable to other indigenous groups in  
51 Sarawak as well, is in clear violation of the UN Declaration on the Rights of  
52 Indigenous Peoples, to which Malaysia is a signatory.

1  
2 4. environmental impact assessments The Malaysian palm oil lobby has  
3 claimed that EIA studies “ensure wise development”. This claim is false and  
4 potentially misleading. It fails to mention that in Sarawak, the public is denied  
5 the right to participate in the EIA process. The Sarawak state authorities have  
6 even insinuated that public participation would render uneducated rural  
7 communities susceptible to manipulation by nongovernmental organisations  
8 opposing development plans. The standard overall recommendation of  
9 plantation EIAs in Sarawak is that the projects should go ahead. The bias  
10 towards affirming government policy, combined with numerous technical  
11 weaknesses and the denial of public participation is out of line with  
12 international guidance on best practices in EIAs, such as those of the  
13 International Association for Impact Assessment (IAIA). Plantation EIAs in  
14 Sarawak do not ensure that impacts are adequately identified or addressed.  
15

16 5. carbon debt The Malaysian palm oil lobby has claimed that “oil palm  
17 absorbs almost as much carbon dioxide as tropical forests do”. The claim is  
18 based on a nine-year old study that did not take into account the GHG  
19 emissions released from deforestation or drainage of peat lands. There is  
20 growing international consensus that the GHG emissions from such sources  
21 must be taken into account when determining if a biofuel delivers a net  
22 “carbon credit”, or “carbon debt”(and is thus good or bad for the climate). In  
23 the case of palm oil, the carbon debt is huge if the plantation is developed on  
24 peat soils and/or at the expense of forests. The debt can be small if the  
25 plantation was developed on mineral soil without forest cover. At present,  
26 most new plantation developments in Malaysia are established on peat land  
27 and/or forested land.  
28

29  
30 BIOFUELS - AT WHAT COST ? Government support for biodiesel in Malaysia. One of a series  
31 of reports addressing subsidies for biofuels in selected developing countries September 2008  
32 Prepared by: Gregore Pio Lopez (Malaysian Institute of Economic Research) and Tara Laan  
33 (Global Subsidies Initiative). Prepared for: The Global Subsidies Initiative (GSI), The  
34 International Institute for Sustainable Development (IISD) (LOL-AC-W1-EXH-7)  
35

36 The key problem with regard to enforcement in Malaysia relates to lack of  
37 independent, transparent and accountable institutions. This in turn generates  
38 systemic corruption. There have been several influential reports that highlight  
39 these problems and indicate the continued deterioration of governance (e.g.  
40 Tenaganita, 2007a; Tenaganita, 2007b; Human Rights Commission of  
41 Malaysia, 2008; Suara Rakyat Malaysia, 2002; Human Rights Watch, 2007;  
42 Mongabay.com, 2008b). Transparency International (TI) notes that Malaysia’s  
43 ranking in the Corruption Perception Index fell from a high of 33 in 2002 to 44  
44 in 2006, and increased only marginally in 2007 to 43.56 Several other reports  
45 such as the Asia Pacific Development Report 2007 and the International  
46 Country Risk Guide suggest that corruption is worsening in Malaysia. Recent  
47 high-profile exposures in Malaysia on alleged links between high political  
48 offices, business and institutions responsible for implementing and enforcing  
49 regulations demonstrate the seriousness of the problem. (page 55)  
50

51 Other challenges for enforcement of environmental and social laws in

1 Malaysia include difficulties in intergovernmental coordination, poor  
2 infrastructure (particularly in East Malaysia) and limited resources for policing  
3 wide expanses of forest and coastline. ... Another way to consider this chain  
4 reaction is in terms of displacement effects. Arable land around the world that  
5 once produced food is now being used to grow biofuel crops. Assuming that  
6 people will continue to consume the same amount of food, new land is needed  
7 for food crop production. This leads to increased land use intensity (e.g.  
8 cropping of fallow land or pasture) or conversion of natural ecosystems to  
9 farms or plantations (Searchinger Set al., 2008). A recent report commissioned  
10 by the United Kingdom Government found that displacement of existing  
11 agricultural production as a result of biofuel demand is accelerating land-use  
12 change and, if left unchecked, will reduce biodiversity and may even cause  
13 increases rather than reductions in GHG emissions (Gallagher et al., 2008).  
14 The 2007–08 Human Development Report of the United Nations Development  
15 Program (UNDP) concluded that EU demand for biofuels is coming at a high  
16 social and environmental cost in Asia. ...

17  
18 Over 15 000 flowering plant species (nine per cent of the world's total) and  
19 185 000 animal species (16 per cent of the world's total) are found in Malaysia  
20 (Malaysian Ministry of Information, 2008). A total of 286 species of  
21 mammals, 736 species of birds, 406 species of amphibians and reptiles and  
22 more than 100 000 species of insects have been recorded in the country. Parts  
23 of Malaysia and Indonesia are located within biodiversity hotspots that contain  
24 high concentrations of endemic species.

25  
26 For example, 89 species (44.5 per cent) of amphibians in Malaysia and 17 500  
27 species (60 per cent) of vascular plants in Indonesia do not occur anywhere  
28 else in the world Lowland tropical forests (the land type most commonly  
29 converted to palm plantations) support the highest biodiversity of any  
30 terrestrial ecosystem, with those of equatorial Southeast Asia among the  
31 richest. The loss of forest cover has had an impact on biodiversity and  
32 threatened rare species, including rhinoceros, Sumatran tiger, honey bear,  
33 gibbons, tapir and orangutans.

34  
35 One quarter (47 species) of Malaysia's amphibians are listed as threatened on  
36 the IUCN Red List. Because almost all these species are unique to the region,  
37 their loss would mean global extinction. Source: Koh and Wilcove, 2007;  
38 Ministry of Information, 2008; Nelleman, 2007. Oil-palm plantations are  
39 generally located in previously logged areas, or converted from rubber,  
40 coconut or cocoa plantations (Table 6.2).

41  
42 “Previously logged” land may include land that has re-grown into mature  
43 natural forest, once again species-rich and providing valuable ecosystem  
44 services such as water catchment and carbon storage. An analysis of FAO data  
45 found that, during the period 1990 to 2005, more than half of oil-palm  
46 expansion in Malaysia occurred at the expense of forests (Koh and Wilcove,  
47 2008). ... While secondary forests can support up to 80 per cent of the species  
48 found in virgin forest, oil palm plantations can support no more than 20 per  
49 cent of the species of mammals, reptiles and birds found in primary forest  
50 (Wakker, 2005). (pages 56-57)

51  
52  
53 **(L) Human Rights Updated** (Human Rights Watch, September 2008, LOL-AC-W1-EXH-8)

54 The following is from a Human Rights Watch article about this report: Malaysia: UN Review

1 Should Challenge Rights Record, End Preventative Detention, Investigate Abuses, February 9,  
2 2009

3  
4 "A long, hard look at Malaysia's performance on fundamental human rights,  
5 including its detention practices, is in order," said Elaine Pearson, deputy Asia  
6 director at Human Rights Watch. "Countries should call Malaysia to account  
7 for failing to address abuses against migrants and refugees, and for its  
8 continuing use of preventative detention."  
9

10 Under Malaysia's draconian Internal Security Act (ISA), anyone deemed to be  
11 a threat to national security can be detained indefinitely without charge or trial,  
12 violating international due process standards. In its submission for the human  
13 rights review, Malaysia characterizes the ISA as "essential to peace, stability,  
14 and security" and describes the procedures under which a detained person can  
15 challenge the detention.  
16

17 But Malaysia's reliance on the ISA violates a number of international human  
18 rights standards, including the right to be free from arbitrary detention, the  
19 rights to due process and to a fair trial, and the rights to freedom of speech and  
20 expression. While an advisory board reviews all ISA detentions, its  
21 recommendations are not binding. The detainees have no avenues of redress as  
22 the courts are not permitted to review a case on its merits. Permitted appeals  
23 on procedural grounds routinely fail.  
24

25 On September 12, 2008, the Malaysian government arrested two journalists  
26 and an opposition politician under the ISA. All have since been released. But  
27 one of the journalists, Raja Petra Lamarudin, founder and editor of Malaysia  
28 Today, Malaysia's most popular website, is now on trial for sedition. In  
29 December 2007, five leaders of the Hindu Rights Action Force (Hindraf) were  
30 charged under ISA after the organization staged a demonstration to draw  
31 attention to education and economic policies that discriminate against  
32 Malaysia's Indian population. These five remain in detention.  
33

34 "Malaysia uses the pretext of national security to invoke the ISA and lock up  
35 critics and political opponents indefinitely," Pearson said. "UN member states  
36 should challenge Malaysia to repeal the ISA, and either to charge or to free all  
37 those currently detained under its provisions."  
38

39 In its report to the Human Rights Council, Malaysia fails to address the  
40 problems faced by migrant workers, but suggests that a Malaysia-Indonesia  
41 Memorandum of Understanding provides necessary protection. Human Rights  
42 Watch has long documented abuses suffered by domestic workers - physical  
43 abuse, unpaid wages, excessively long working hours, and lack of rest days.  
44 The memorandum with Indonesia still fails to establish minimum labor  
45 protections or to guarantee the rights of domestic workers to hold their own  
46 passports, which sometimes are confiscated by employers to maintain control  
47 over an employee.  
48

49 Human Rights Watch said that UN member states should especially raise  
50 concerns about Malaysia's failure to address abuses by the People's Voluntary  
51 Corps (Ikatan Relawan Rakyat or RELA), the government-backed force that  
52 apprehends irregular migrants and provides security for Malaysia's  
53 immigration detention centers. In 2008, Human Rights Watch documented a  
54 pattern of abuse by members of RELA, including physical assault,

1 intimidation, threats, humiliating treatment, forced entry into living quarters,  
2 extortion, and theft perpetrated against migrants, asylum seekers and refugees  
3 ([http://www.hrw.org/en/news/2009/02/04/universal-periodic-review-](http://www.hrw.org/en/news/2009/02/04/universal-periodic-review-malaysia)  
4 [malaysia](http://www.hrw.org/en/news/2009/02/04/universal-periodic-review-malaysia)).

5  
6 One detained migrant told Human Rights Watch how RELA members treated  
7 them "like animals" and would punch and kick detainees for no apparent  
8 reason. Another migrant described a beating by RELA officers that left him so  
9 sore that he could not walk for days. The government consistently denies that  
10 abuses by RELA are widespread, and instead of disbanding RELA, wants to  
11 upgrade it into a fully-fledged enforcement agency.

12  
13 Regarding human trafficking, Malaysia's submission to the Human Rights  
14 Council points to the state's new anti-trafficking law, shelters for trafficking  
15 victims, and awareness campaigns to prevent trafficking. But Malaysia has  
16 failed to investigate allegations of collusion between Malaysian immigration  
17 officers and trafficking gangs on the Malay-Thai border, dismissing such  
18 reports as "wild accusations." In 2008, Burmese migrants told Human Rights  
19 Watch of being sold to criminal gangs, who charged those with money to  
20 smuggle them back into Malaysia and trafficked those who could not pay.

21  
22 "RELA officers have beaten, tortured, and extorted money from migrants, but  
23 instead of punishing them, the government wants to reward their bad behavior  
24 by giving them more powers," said Pearson. "In reviewing Malaysia's record,  
25 states should be asking why Malaysia won't conduct impartial investigations  
26 into the involvement of RELA and immigration officers in abuses against  
27 migrants."

28  
29 Malaysia has not signed major international human rights treaties, including  
30 the International Covenant on Civil and Political Rights, the International  
31 Covenant on Economic, Social and Cultural Rights, the Convention against  
32 Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, the  
33 Convention Relating to the Status of Refugees and its optional protocol, and  
34 the Convention on the Protection of the Rights of All Migrant Workers and  
35 Members of Their Families. The Malaysian government has repeatedly stated  
36 that the Universal Declaration of Human Rights will only be given effect  
37 where it is compatible with Malaysia's constitution.  
38

39 **(M) LOL Supplemental Exhibits**

40  
41 LOL-AC-W1-EXH-1: Commercialization of First Generation Biofuels by Vernon R. Eidman,  
42 Department of Applied Economics. University of Minnesota. August 21, 2007 (30 pages)

43  
44 LOL-AC-W1-EXH-2: **Malaysian palm oil - green gold or green wash?** This report constitutes  
45 a cooperation of Friends of the Earth England, Wales and Northern Ireland. Friends of the Earth  
46 Netherlands - Vereniging Milieudefensie. Friends of the Earth, Malaysia - Sahabat Alam  
47 Malaysia (SAM). Friends of the Earth Europe. Published October 2008 in the Netherlands. **(59**  
48 **pages)**

1 LOL-AC-W1-EXH-3: United Plantations certified despite gross violations of RSPO  
2 Standards. Greenpeace (13 pages)

3  
4 LOL-AC-W1-EXH-4: The Addition of Palm Oil Biodiesel and Coal Derived FT Distillate to  
5 GHGenius, Don O'Connor, May 15, 2006. (43 pages)

6  
7 LOL-AC-W1-EXH-5: Certified unsustainable? Observations on the first three RSPO certificates  
8 By Almuth Ernsting, Biofuelwatch, U.K. 2nd November 2008 (13 pages)

9  
10 LOL-AC-W1-EXH-6: Written Testimony, Dr. Tad W. Patzek. LOL T-4, Docket 05-0145

11  
12 LOL-AC-W1-EXH-7: BIOFUELS - AT WHAT COST ? Government support for biodiesel in  
13 Malaysia. One of a series of reports addressing subsidies for biofuels in selected developing  
14 countries September 2008 Prepared by: Gregore Pio Lopez (Malaysian Institute of Economic  
15 Research) and Tara Laan (Global Subsidies Initiative). Prepared for: The Global Subsidies  
16 Initiative (GSI), The International Institute for Sustainable Development (IISD) (90 pages)

17  
18 LOL-S-EXH-8: Malaysia. Human Rights Watch. September 2008 (7 pages)

19  
20 **(N) Climate Change**

21  
22 Today, Bloomberg News reported that: "Glaciers in Greenland and Antarctica are melting faster  
23 than predicted, accelerating their march to the sea and adding to the rising ocean levels that  
24 threaten coastal communities worldwide. ... David Hik, executive director of the Canadian  
25 secretariat of the International Polar Year, an international scientific project ... "Altogether, the  
26 glaciers in the West Antarctic are losing about 103 billion tons a year of ice in discharge,"  
27 he said. "This discharge from west Antarctica would add an additional 10 to 20 centimeters" to  
28 the existing UN predictions of sea level rise this century, he said. While the UN said a complete  
29 melt of the West Antarctic ice sheet is unlikely this century, Hik said "we thought lots of things  
30 were unlikely even two years ago." A collapse of the sheet could add 1 to 1.5 meters to sea levels  
31 this century, he said." (Greenland, Antarctica Glaciers Speeding Faster Toward the Sea By Alex  
32 Morales. [www.bloomberg.com/apps/news?pid=20601085&sid=aTg9EF2NtBCg&refer=europe](http://www.bloomberg.com/apps/news?pid=20601085&sid=aTg9EF2NtBCg&refer=europe))

33  
34 Today, Reuters reported that: "The world faces a final opportunity to agree an adequate global

1 response to climate change at a U.N.-led meeting in Copenhagen in December, the European  
2 Union's environment chief said on Friday. ... "It is now 12 years since Kyoto was created. This  
3 makes Copenhagen the world's last chance to stop climate change before it passes the point of no  
4 return," European Union Environment Commissioner Stavros Dimas told a climate conference in  
5 Budapest on Friday ... With greenhouse gas emissions rising faster than projected" (World faces  
6 last chance to avoid fatal warming: EU By Gergely Szakacs.

7 <http://uk.reuters.com/article/usTopNews/idUKTRE51Q22X20090227?sp=true>

8  
9 Today the National Science Foundation stated: "As a result of global climate change, Earth and  
10 its systems are undergoing rapid alterations. To adapt to changes happening at unprecedented  
11 rates, according to scientists, we must study how the interrelated geosphere, atmosphere,  
12 hydrosphere and biosphere interact with each other. ... In order to adapt to a changing world, and  
13 to mitigate changes that have already occurred, such knowledge ... is critical."

14 (The National Science Foundation supports interdisciplinary research in Earth system science.  
15 [www.nsf.gov/news/news\\_summ.jsp?cntn\\_id=114300&org=NSF&from=news](http://www.nsf.gov/news/news_summ.jsp?cntn_id=114300&org=NSF&from=news))

16  
17 Today, USA Today reported: "The South Asian summer monsoon — critical to agriculture in  
18 Bangladesh, India, Nepal and Pakistan — could be weakened and delayed due to rising  
19 temperatures in the future, according to a recent climate modeling study. A Purdue University  
20 research group found that climate change could influence monsoon dynamics and cause less  
21 summer precipitation, a delay in the start of monsoon season and longer breaks between the  
22 rainy periods. Noah Diffenbaugh, whose research group led the study, said the summer monsoon  
23 affects water resources, agriculture, economics, ecosystems and human health throughout South  
24 Asia. "Almost half of the world's population lives in areas affected by these monsoons, and even  
25 slight deviations from the normal monsoon pattern can have great impact," said Diffenbaugh, an  
26 associate professor of earth and atmospheric sciences and interim director of the Purdue Climate  
27 Change Research Center. 'Agricultural production, water availability and hydroelectric power  
28 generation could be substantially affected by delayed monsoon onset and reduced surface runoff.  
29 Alternatively, the model projects increases in precipitation over some areas, including  
30 Bangladesh, which could exacerbate seasonal flood risks.'" (Study: Climate change to affect  
31 monsoon in South Asia. [http://www.usatoday.com/weather/climate/globalwarming/2009-02-27-climate-change-asian-monsoon\\_N.htm](http://www.usatoday.com/weather/climate/globalwarming/2009-02-27-climate-change-asian-monsoon_N.htm))

1

2 **(O) Conclusion**

3

4 Renewable energy systems, including wind power, photovoltaic power, and other energy systems  
5 such as geothermal, have fairly easy to calculate Life Cycle Analyses, whereas biomass to  
6 electricity Life Cycle Analysis is fraught with uncertainty, and requires numerous assumptions  
7 based on poorly understood mechanisms. Just as non-point source pollution was the last source of  
8 pollution to be tackled, non-point source greenhouse gas emissions is an enormous problem, in a  
9 field of study that is complex to begin with. We must act quickly to deal with climate change.  
10 Should we gamble on monocropped agrofuels from the tropics?



CERTIFICATE OF SERVICE

I hereby certify that I have this date served a copy of the foregoing Testimony re Amended Contract together with this Certificate of Service, upon the following, by causing a copy hereof to be hand delivered to the Commission (the original and 8 copies) and the Consumer Advocate (3 copies), and served by U.S. Mail, postage prepaid and properly addressed, to HECO and their attorneys:

Carl Caliboso, Chair  
Public Utilities Commission  
465 S King St. Suite 103  
Honolulu, HI 96813

Catherine P. Awakuni  
Executive Director  
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