Roundtable on Sustainable Biofuels Certification Readiness Study: Hawai‘i Biofuel Projects

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Prepared by

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And
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And submitted to

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1. EXECUTIVE SUMMARY

The Roundtable on Sustainable Biofuels(RSB) Principles and Criteria for Sustainable Biofuel Production and accompanying certification systems are fully developed to the point where organizations are currently certified or seeking certification with global recognition. The Hawaii Natural Energy Institute commissioned the Hawaii Biofuel Foundation to undertake this project which aims to develop a roadmap to certification of a biofuel entity in Hawaii through compliance with the RSB Principles and Criteria and other RSB standards.

The biofuel projects in Hawaii are maturing to the point where they could achieve certification to the RSB Standard. There is also strong support from government and the business community to ensure that any projects are environmentally and socially sustainable.

Driven by the Hawaii Clean Energy Initiative to source 70% of the state's energy needs from clean energy by 2030 and with consideration of the renewable fuels program described in the Hawaii Bioenergy Master Plan there is a strong platform for bioenergy projects generally, to be supported in Hawaii.

The RSB standard supports environmental and social outcomes with minimum and progress requirements that a biofuel operator must demonstrate. The RSB Standard is scalable from micro or small operators through to large organizations, with fewer requirements for small enterprises. Management plans, policies and procedures should reflect the complexity, scale and impact of the biofuel operation.

This report concluded that there is a strong correlation between County, State and Federal Laws and Regulations and the Principles and Criteria of the RSB Standard, particularly when an Environmental Assessment is conducted in accordance with the *National Environment Policy Act of 2006* and the State of Hawaii environmental review law Chapter 343, HRS and Title 11-200 administrative rules for the environmental review process.

The RSB Standard however has requirements that are not supported by or achieved through simple compliance with laws and regulations and these relate to:

- A more comprehensive stakeholder engagement process which adopts the principles of Free, Prior and Informed Consent to ensure that consultation is meaningful, and aims to seek consensus for negotiated agreements. Relevant planning information must be made publically available for all projects to ensure timely and transparent input.
- A biofuel operator must develop an Environmental and Social Management Plan which incorporates organizational policies and procedures to support the effective mitigation of impacts as well as monitor environmental and social performance with an emphasis on continuous improvement.

- The biofuel operator must evaluate compliance with all State, County and Federal Plans, Policies, Statutes and Regulations relevant to their activities. An operator may not be granted certification if it is determined that they are found to be in breach of relevant laws and regulations and do not seek to move into compliance.
- Consideration of Lifecycle Analysis for Greenhouse Gas Emissions to set a target for biofuels (using RSB methodology) of a 50% reduction over a fossil fuel baseline with improvements required over time.
- The determination of the invasiveness of species used in biofuel projects. A Weed Risk Assessment must be conducted and if a species achieves a high risk score for Hawaii it cannot be used.
- A Water Management Plan is required which aims to maintain and enhance water use efficiency and water quality, including for waste water from a biofuel project.
- Consideration of water rights and land rights which aims to seek consensus and support for the biofuel project, through a stakeholder engagement processes, as well as providing methods to manage disputes.
- Restrictions on the use of chemicals recorded in the World Health Organisation 1a and 1b lists, Annex III of the Rotterdam Convention and the Stockholm Convention on Persistent Organic Pollutants.
- To ensure conservation values are maintained or enhanced the audit process should consider rare and vulnerable species as well as species considered by the federal Endangered Species Act.

It is also important to recognize the importance of the certification systems that support the RSB Standard and which are based on a robust assurance system and risk management process. Certification is granted through a third party accredited Certification Body, that conducts desk and onsite audits initially and then at least once annually to verify ongoing compliance to the RSB Standard.

As part of the certification process the Certification Body undertakes its own stakeholder engagement process to seek input from persons in relation to biofuel operations and RSB requirements. Any findings, as well as feedback provided to stakeholders, are made publically available. Note: The confidentiality of stakeholders themselves and information they provide to the Certification Body is protected if requested.

2. INTRODUCTION

2.1 Background

In December, 2009, the Hawaii Natural Energy Institute issued the Hawaii Bioenergy Master Plan.[i] As stated in *Part III of Act 253, Session Laws of Hawaii (SLH) 2007*, "The primary objective of the bioenergy master plan shall [be to] develop a Hawaii renewable biofuels program to manage the State's transition to energy self-sufficiency based in part on biofuels for power generation and transportation." In section 2.9 of the master plan, it was stated that a biofuels certification program should be considered.

Since this report in 2009, certification systems for biofuels have continued to mature and gain recognition internationally. Many certification systems have emerged which focus on specific products such as palm oil and soybeans. Given that no single biofuel crop is yet to emerge in Hawaii, a system of certification that is feedstock neutral may better fit the local situation, as it allows coverage for multiple technological options at once.

The Roundtable on Sustainable Biofuels (RSB) is suited to the Hawaii situation as it is applicable to every feedstock and does not limit itself to a specific biofuels processing technology or final product (e.g. bioethanol, biodiesel, etc.). The RSB has continued to develop its certification systems including a full suite of supporting norms, documentation, templates and tools that a biofuel project may utilize in readiness for the certification audit. There are three accredited independent certification bodies who can certify a biofuel project to the RSB Standard.

Ultimately, the success of a voluntary standard and certification scheme depends upon the value and recognition provided to the end customers and stakeholders of the biofuels development process. In a recent request for proposal, the Hawaiian Electric Company, Inc. included the RSB standard as part of the procurement process and has begun working with a number of leading biofuels suppliers.

The Hawaii Natural Energy Institute commissioned the Hawaii Biofuel Foundation to undertake this project which aims to develop a roadmap to certification of a biofuel entity in Hawaii through compliance with the RSB Principles and Criteria and other RSB standards.

2.2 Scope of Work

The scope of work included the following interrelated components:

- Conduct an opening teleconference with Hawaii Biofuels Foundation and NCSI Americas Inc. to establish the scope of the project.

- Review current documents including The Hawaii Bioenergy Master Plan Report, The Needs Assessment of the Roundtable on Sustainable Biofuels Standards to the Hawaii Context Report, The Hawaii Clean Energy Initiative and other relevant documents or project information that is publically available.
- Consider the extent to which the Hawaii policy and regulatory situation align with RSB Standards and Certification Systems.
- Develop seminar and community stakeholder meeting formats to facilitate the exchange of information so that all stakeholders not just biofuel entities may benefit from understanding the details of the RSB certification process.
- Deliver seminar and community stakeholder meetings which focus on providing information that a biofuel entity must consider in readiness for an RSB certification process of a Hawaii project.
- Deliver a seminar on Oahu and community stakeholder meetings on Kauai, Hawaii and Maui.
- Deliver a comprehensive final report summarizing the findings plus feedback from the seminar and community stakeholder meetings.

The project methodology for the above scope of work was jointly developed by Hawaii Biofuels Foundation (HBF) and NCSI Americas Inc. (NCSI) and is outlined below.

2.3 Project Methodology

2.3.1 Project Launch

NCSI and HBF conducted a teleconference on Friday 18 May 2012. The purpose of the meeting was to introduce the project team and establish a working relationship with HBF, confirm the scope of the project and tasking, determine project schedule and timelines and access to project documentation and sources.

A project quality plan was developed by NCSI to monitor the project delivery process and to ensure that a coordinated, integrated approach was taken in the delivery of each project task

2.3.2 Desktop Review

HBF and NCSI conducted a desktop review of relevant publically available information relating to biofuel projects in Hawaii, including a consideration of Hawaii's legislative and regulatory framework, to identify gaps that a biofuel project entity must consider in order to achieve certification to the RSB Principles and Criteria and other RSB standards.

The desktop review comprised three stages:

1. Consideration of the online RSB application process (including self-risk assessment) developed by RSB Services and pre-audit tools which assists the participating operator to comply with RSB Standards and Certification systems.

2. A review of public domain documents from the Hawaii Public Utilities Commission and State energy policy documents was completed. Also, an Environmental Assessment required under *National Environmental Policy Act of 2006 (NEPA)* for an actual biofuel project (Study Biofuel Project) was compared to the impact assessment process required by the RSB.[ii]

    - The *RSB Screening Tool [RSB-GUI-01-002-02 (Version 2.1)]*[iii] and with consideration of *RSB Impact Assessment Guidelines* RSB-GUI-01-002-01 (Version2.0)[iv] was used for this purpose.

3. The mapping of relevant County, State and Federal laws and regulations for Hawaii against RSB's 12 Principles, 34 Criteria and 215 Indicators of the *Principles and Criteria for Sustainable Biofuel Production [RSB-STD-01-0019 (Version 2.0)*[v]*]* Standard

    - The document *Indicators of Compliance for the RSB Principle and Criteria RSB-IND-01-001 (Version 2)* (Roundtable on Sustainable Biofuels, Jan 2011) [vi] was used for this purpose and modified to incorporate the RSB Standards Minimum and Progress Requirements (Refer to Appendix B)

    - The *Hawaii Bioenergy Master Plan Permitting*,[vii] which identifies many of the Federal, State and County legal and other requirements relevant to a biofuel project entity in Hawaii, also supported the mapping exercise against the RSB Principles and Criteria.

    - Particular emphasis was placed on key issues that had been identified in the *'Needs Assessment of the Roundtable on Sustainable Biofuels Standards to the Hawaii Context Report'* such as pest invasion, prevention and control, food security, water and genetically modified organisms.[viii]

Documents and records that an assessor may review as part of the assessment process have also been included in the Compliance Indicators Checklist. (Refer to Appendix B)

2.3.3 Format for Seminar and Community Stakeholder Meetings

NCSI developed seminar and community stakeholder meeting formats which considered the information discovered in the Desktop Review as well as the full suite of RSB Standards and Guidelines and RSB Certification Systems. Presentation material focused on informing biofuel entities on the steps to certification to the *RSB Principles and Criteria for Sustainable Biofuel Production [RSB-STD-01-001 (Version 2.0)]* Standard and Certification Systems.[ix]

Particular emphasis was given to outlining the RSB application process including completing the Self-Risk Assessment in accordance with the *RSB Standard for Risk Management (RSB-STD-60-001-vers.2.0*[x]*)* and the RSB Online Application Process at http://rsbservices.org/rsbtool/.[xi] It

should be noted that changes to the RSB Standard for Risk Management occurred during the writing of this report; however, the RSB Online Tool reflects these changes.

A Case Study for a hypothetical company, 'Aloils' was developed and an impact assessment exercise was undertaken for Aloils in accordance with the *RSB Screening Tool [RSB-GUI-01-002-02 (Version 2.1)]* and the RSB Online Screening Tool at http://rsbservices.org/rsbtool/content/pre-audit-preparation-tools.[xii] The Aloils Case Study was also used to identify relevant stakeholders and assign categories for them. Appendix C of this report contains the case study presentation and results of the exercise.

2.3.4 Seminar and Community Stakeholder Meetings

A seminar was conducted at the Honolulu Community College on the 16-17 July 2012. Community stakeholder meetings were held at Kahului, Maui on 17 July 2012, Hilo, Hawaii on the 18 July 2012 and Lihue, Kauai on the 19 July 2012. The objective of the seminar and community stakeholder meetings was to provide detailed insight into the RSB Standards and Certification systems and address questions raised.

Primary focus of the Seminar was to:

- Provide an understanding of the role of the HBF.
- Outline work completed to date, specifically the Hawaii Bioenergy Master Plan, The Needs Assessment of the Roundtable on Sustainable Biofuels Standards to the Hawaii Context Report, The Hawaii Clean Energy Initiative.
- Communicate the RSB Online Application Process.
- Communicate the requirements of the RSB Principles and Criteria for Sustainable Biofuel Production and RSB Certification Systems that a Participating Operator must comply with to achieve certification.
- Use the hypothetical Case Study, Aloils, as a workshop exercise to promote an understanding of the Impact Assessment and Stakeholder Engagement Process in accordance with *RSB Impact Assessment Guidelines [RSB-GUI-01-002-01]*[xiii] and the RSB Screening Tool [RSB-GUI-01-002-02 (Version 2.0)].[xiv]
- Communicate the findings from the Desktop Review and the extent to which compliance with County, State and Federal statutory and regulatory frameworks meet RSB Standards and Certification System requirements.

Primary focus of the Community Stakeholder Meetings was to:

- Provide an understanding of the role of the HBF.
- Outline work completed to date, specifically the Needs Assessment of the Roundtable on Sustainable Biofuels to the Hawaii Context.
- Communicate the requirements of the RSB Principles and Criteria for Sustainable Biofuel Production.

- Describe the stakeholder engagement process and methods for stakeholder consultation in relation to biofuel projects in Hawaii.

2.3.5 Reporting

This report summarizes the findings from the desktop review, seminar and community stakeholder meetings. Highlights include:

- An overview of 'readiness' of current biofuel projects for certification to RSB Standards and Systems and future projections using publically available information.
- A roadmap for Hawaii projects to achieve RSB Certification. The roadmap will consider the process for becoming an RSB Participating Operator and preparatory steps prior to onsite assessment including the Self Risk Assessment, Screening Tool and Self Evaluation Process and the extent to which compliance with County, State and Federal statutory and regulatory frameworks meet the RSB Impact Assessment Process.
- A proposed framework for stakeholder engagement as part of the RSB Impact Assessment Process and the third party certification assessment. This is based on a compilation of information from the Desktop Review Seminars and Community Stakeholder meetings.

2.4 Hawaii Biofuels Foundation

The Hawaii Biofuels Foundation (HBF) is a multi-stakeholder governed organization that is seeking to facilitate the development of a sustainable Hawaii based biofuels industry, specifically utilizing locally grown agricultural residue or energy crops.

The Hawaii Biofuels Foundation has previously implemented a project which explored the local concerns regarding biofuels by completing a *Needs Assessment of the Roundtable on Sustainable Biofuels Standards to the Hawaii Context* Report [xv](Refer to: www.hawaiibiofuelsfoundation.org). The project was delivered by Liz Muller, LLC on behalf of the HBF. The technical group and public meetings brought forward a wide range of questions and concerns including the need for transparency, need for stakeholder input, and the balancing of food security and energy production. This report provided an initial platform for engagement with stakeholders moving forward.

2.5 Project Team

The team for the present project included:

- Brent Cutler – Project Manager, NCSI Americas
- Mick Berry – RSB International Lead Auditor, NCS International
- Alison Lord – Training Consultant, NCS International
- Dave Waller – President, Hawaii Biofuels Foundation

The NCSI Group is one of the world's foremost standards assessment bodies in the delivery of certification to Corporate Social Responsibility Standards. It has experience in developing and operating certification schemes for a broad range of industries with a key focus on promoting social, environmental and economic sustainability globally. NCS International issued the first certificate in the world against the RSB Principles and Criteria Standard.

2.6 Abbreviations

ASS	Assessment
C	Compliance
EA	Environmental Assessment
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
FAO	Food and Agriculture Organisation
FPIC	Free Prior and Informed Consent
GHI	Global Hunger Index
GMO	Genetically Modified Organisms
HAR	Hawaii Administrative Rules
HRS	Hawaii Revised Statue
IHDI	Inequality-adjusted Human Development
IUCN	International Union for Conservation Nature
NC	Non-compliance
NCSI	NCS International Pty Ltd
NRCS	Natural Resource Conservation Service
PO	Participating Operator, entity to be certified
RESA	Rapid Environmental Impact Assessment
RFS	Renewable Fuel Standard
RSB	Roundtable on Sustainable Biofuels
RSBSF	RSB Services Foundation

3. DESKTOP REVIEW

3.1 RSB Application and Self Risk Assessment

A biofuel project entity or operator seeking RSB certification must apply to RSB Services and complete the online application form. The application requests basic information about the organization applying including location, inputs and outputs and other questions relating to entities' core business.

RSB Services reviews the information provided by the organization and, in collaboration with the RSB Secretariat, performs due diligence on the applicant. Upon completion of internal due diligence, RSB Services lists the company name, Participating Operator type and scope of certification on the RSB website for a period of two weeks to allow stakeholders to provide feedback about the applicant. If the internal and public due diligence reveals that the applicant does not represent a risk to the 'good name of the Roundtable of Sustainable Biofuels', the applicant is accepted as a Participating Operator and receives a registration number, pending completion of the self-risk assessment (see below).

The *RSB Standard for Risk Management (RSB-STD-60-001)*[xvi] requires that a participating operator completes a self-risk assessment. The self-risk assessment includes 26 general risk factors that assess overall risk and determine the 'risk class' of the participating operator.

The risk class will determine the audit type and frequency of surveillance and re-certification audits as well as the maximum period of extension of a certificate expiry date (Refer Table 1).

For example, if a Participating Operator was classified as Risk Class 1 in accordance with the *RSB Standard for Risk management (RSB-STD-60-001)*[xvii] then the following would apply:

- A surveillance audit conducted as a desk audit by an international lead auditor is required at 12 months following the certification audit end date
- A re-assessment audit comprising an office and field audit by an international lead auditor is required every 24 months after the certification audit end date
- The certificate validity is for 24 months with a maximum extension of 6 months
- A periodic risk assessment is required to be completed every 24 months and notify Certification Body of changes
- Sampling relating to entities is 5 % and for compliance claims is 10% (i.e. RSB Chain of Custody product claims)

Table 1: Risk Class

Risk Class	Max. Validity of Certificate & Re-assessment Frequency	Surveillance Audit/Type	Max. Extension of Certificate
1	24 months	Desk Audit @ 12 months	6 months
2	18 Months	Desk Audit @ 9 Months	6 months
3	12 months	No Surveillance Audit	6 months
4	9 months	No Surveillance Audit	3 months

Note: Risk class is based on audit type, frequency and certificate validity

After the review, RSB Services will issue a Participating Operator (PO) agreement and a PO number. RSB Services will also assist the Participating Operator select an accredited Certification Body partner.

The Certification Body uses the organization profile, scope of certification and the self-risk assessment to develop a proposal for independent assessment of the Participating Operators Environmental and Social Management System to the *RSB Principles and Criteria for Sustainable Biofuel Production.*[xviii] The application and certification process is described below in Diagram 1:

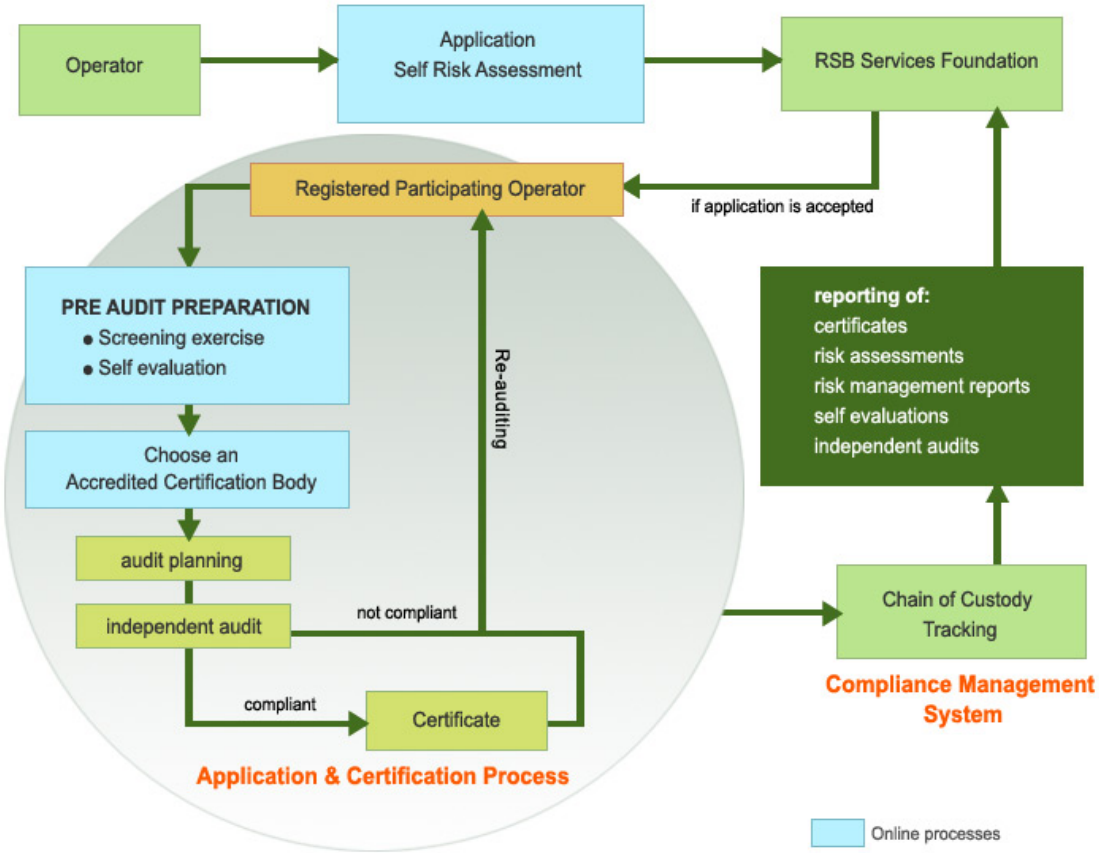

***Diagram 1**: The RSB Certification Process*

3.2 RSB Screening Tool and Impact Assessment Process

Following the application and self-risk assessment process the Participating Operator is required to undertake an impact assessment process and self-evaluation against the RSB Principles, Criteria and Indicators.

The impact assessment process starts with the *RSB Screening Tool [RSB-GUI-01-002-02 (Version 2.1)]* , which is available online at http://rsbservices.org/rsbtool/content/pre-audit-preparation-tools, to determine if an in-depth impact assessment is required in relation to each particular aspect in the RSB Principles and Criteria, for example water impacts, local food security or land rights. [xix]

The *RSB Impact Assessment Guidelines RSB-GUI-01-002-01 (Version2.0)*[xx] assists the PO to understand the impact assessment process as well as providing guidelines on the stakeholder engagement process.

The RSB Screening Tool was used for a Study Biofuel Project to determine if the impact assessment process required under the National Environmental Policy Act provided equivalence.[xxi] The review was confined to the Environmental Assessment which was publically available. It should be noted that no Management Plans required by the EA were available for review therefore the identification of gaps between the Study Biofuel project and RSB requirements is limited to consideration of the Environmental Assessment and RSB Screening Tool only.

Key differences were identified when comparing the Study Biofuel Project to RSB requirements including:

- Principle 2: The extent of the Stakeholder Consultation process was considered less rigorous than the RSB standards requirements and additional specialist studies that may be required by the RSB.
- Principle 7: A Weed Risk Assessment is required by the RSB standard. An RSB template can be completed to determine the risk level of invasiveness of the biofuel crop
- Principle 12: There was limited consideration of land rights, particularly in relation to native Hawaiian traditional use of the land. Note: Unlike NEPA requirements, HRS 343 requires a Cultural Impact Assessment.

All Participating Operators must complete an Environmental and Social Management Plan. The ESMP describes the environmental and social programmes (or 'controls') that the Participating Operator will implement, in line with the results of the impact assessment process. The ESMP is structured to mitigate impacts, to identify monitoring activities which verify performance and consider improvement opportunities

The ESMP can be a single document or comprise a series of individual management plans (e.g. the water management plan required in criterion 9.b can be integrated as a chapter of the ESMP), specialist studies and impact assessments. Refer to *ESMP Guidelines RSB GUI-01-002-06* for guidance on what a PO could include in their ESMP.[xxii]

RSB has developed ESMP Instructions and Sample Template which is available on the RSB Services website at http://rsbservices.org/rsbtool/content/pre-audit-preparation-tools

3.3 Relevant County, State and Federal Laws and Regulations

The desktop review included a consideration of County, State and Federal laws and regulations and their relevance to the RSB Principles Criteria and Indicators. The intent of this review was to determine if compliance with relevant laws and regulations by a Hawaii Participating Operator

implies or suggests that they would likely comply with RSB Principles and Criteria. It should be noted that there is an assumption that there is adequate enforcement of relevant laws and regulations.

It is important to note that actual compliance is dependent on a full onsite audit by an Accredited Certification Body, where a full review of the PO's Environmental and Social Management System documentation and records is conducted. NCSI could not determine the likelihood of compliance for 64 of the 215 Indicators.

In Appendix B of this report, each RSB compliance indicator was assessed against compliance with relevant laws and regulations, and was then classified as compliance, partial compliance, non-compliance, not applicable, or not assessed. Table 2 summarizes these results showing the numbers of RSB compliance indicators that fell within each classification category.

Table 2: Classification of RSB Compliance Indicators by Principle

Principle	Compliance	Partial-Compliance	Non-Compliance	Not Applicable	Not Assessed
1. Legality	3	0	0	0	0
2. Planning, Monitoring and Continuous Improvement	3	4	1	0	11
3. Greenhouse Gas Emissions	2	0	2	1	4
4. Human and Labour Rights	36	0	0	0	11
5. Rural and Social Development	0	0	0	16	0
6. Local Food Security	0	0	0	10	0
7. Conservation	8	7	12	0	2
8. Soil	4	0	0	0	4
9. Water	18	3	3	0	4
10. Air	2	1	0	0	2
11. Use of Technology, Inputs and Management of Waste	9	1	4	0	15
12. Land Rights	1	0	0	0	11
Total (215)	**86**	**16**	**22**	**27**	**64**

For the purposes of this report the information presented below represents a desktop review of County, State and Federal laws and regulations against the RSB Principles and Criteria. Table 3 describes the coding used in this review with a summary of key findings provided in Table 4.

Table 3: Understanding the Coding Used in Findings in Table 4

Code	Term	Definition
C	Compliance	Indicates that PO compliance to relevant legal or regulatory requirements will comply with the RSB Standard
O	Observation	May relate to an important consideration relevant to the PO to comply with the standard or a suggestion for improvement
NC	Non-Compliance	It is considered that legal or regulatory requirements do not meet the requirements of the RSB Standard
NA	Not Applicable	The Principle and Criteria is not applicable to a PO in Hawaii
ASS	Assessment On Site	PO's documents and records that will be used as evidence to verify compliance

Table 4: Summary of Findings of County State and Federal Laws and Regulations compared to RSB Principles and Criterion.

PRINCIPLE 1: LEGALITY

Code	Findings
Follow all applicable laws and regulations: *(Criterion 1a)*	
C	It was considered that the County, State and Federal Laws for Hawaii were comprehensive in meeting many of the requirements of the RSB Standard. The Participating Operator is required to identify all relevant legal and regulatory requirements and evaluate compliance to these.
O	A Participating Operator could develop a legal and other requirements register that identifies all relevant legal and other requirements. The process would be to determine how these apply to the activities of the PO. The final requirement is to periodically evaluate compliance to these perhaps by conducting an internal audit or check. For example, has the PO submitted an annual report for water usage for a well permit.
O	The PO could consider the international standards that are referenced in the RSB Standard to determine equivalence.

ASS	The auditor will review all relevant permits licences and registrations currently held for the Participating Operator and verify compliance. This could include the development of management plans including monitoring and reporting requirements determined as part of an Environmental Assessment.

PRINCIPLE 2: PLANNING, MONITORING AND CONTINUOUS IMPROVEMENT

Code	Findings
Impact Assessment Process and Plans: *(Criterion 2a)*	
C	An Environmental Assessment (EA) completed under the National Environment Policy Act of 1969, provides a comprehensive review of the environmental and social impacts of the organization's operations.
O	The Environmental Assessment is considered equivalent to Impact Assessments required under the RSB except where the *RSB Screening Tool RSB-GUI-01-002-02 (Version 2.1)* [xxiii] requires that specialist assessments, such as a Weed Risk Assessment, be completed for species that represent a 'risk of invasiveness'.
O	With the recent revision of the *RSB Screening Tool RSB-GUI-01-002-02 (Version 2.1)*[xxiv] an Environmental and Social Impact Assessment or a Rapid Environmental Assessment is now divided into individual impact assessments, with each assessment required depending on the impacts of the operation. The Screening Tool will identify what specialist studies or impact assessments the PO must complete. Any Impact Assessments must be completed by an independent, qualified professional.
Free, Prior and Informed Consent for Stakeholder Consultation: *(Criterion 2b)*	
NC	It is considered that the stakeholder engagement process undertaken as part of a an Environmental Assessment (EA), completed under the National Environment Policy Act of 2006, is not compliant with the Free Prior and Informed Consent process detailed in the *RSB Impact Assessment Guidelines RSB-GUI-01-002-01.*[xxv]
O	The scope and extent of stakeholder engagement as part of an Impact Assessment process is dependent on the scale of the operation and the extent to which a biofuel project will have an impact on environmental and social values. Relevant stakeholders could exist at different levels, categories as well as extent of impact.
NC	Whilst Environmental Assessments are publically available, Management Plans which detail how an organization will manage and monitor its environmental and social impacts are not.

Code	Findings
ASS	An assessor will review stakeholder lists and communication methods including meeting minutes, written and verbal correspondence etc.

Business Plan and Long Term Economic Viability: *(Criterion 2c)*

NC	A Business Plan is required that commits to long term economic viability and considers environmental and social principles described in the RSB Standard.
O	A PO could consider producing an annual social, environmental and economic report which measures performance against RSB Principles and Criteria and is available publically.

PRINCIPLE 3: GREENHOUSE GASES

Code	Findings

Compliance to Local Greenhouse Gas Reduction Policy or Regulations: *(Criterion 3a)*

C	Criterion 3a requires that the operator be in compliance with national environmental policies related to biofuels. The US Renewable Fuel Standard 2 program requires that biofuel meet certain reduction requirements (i.e. 20%, 50%, 60%) for different biofuel types. An RSB operator in the United States will demonstrate compliance with RSB Criteria 3a by providing evidence of their ability to produce a RIN credit under the RFS2 program.

Lifecycle GHG Emissions Calculation Methodology: *(Criterion 3b)*

NC	A Participating Operator must use the RSB GHG Calculator and maintain documentation of and evidence to support the GHG emissions calculations and the data used in the calculations for the RSB calculation methodology.

Code	Findings
O	The RSB Greenhouse (GHG) Calculator must be used and can be accessed at http://buiprojekte.f2.htw-berlin.de:1339/welcome Input data required for Online GHG Calculator are: ▪ Scope of operations relating to GHG emissions ▪ Feedstock Input Materials data from production. ▪ Energy Inputs including Electricity, Feedstock (for Cogeneration) or Feedstock (for Heat) ▪ Chemicals and Water used ▪ Co-Products and Waste volumes ▪ Other emissions including transport and production
O	The PO could develop and Energy Saving Plan to identify and implement potential energy saving opportunities.

Biofuel Blends shall have 50% lower GHG Emissions than Fossil Fuel Baseline *(Criterion 3c)*

NC	A RSB certified biofuel blender must demonstrate a minimum 50% improvement in the GHG performance of a blend of RSB certified biofuel. This requirement applies to the biofuel blender, not to the individual producer. Each biofuel in the blend must be better than the fossil fuel baseline.
NC	An additional progress requirement of the RSB is that starting at 50% the lifecycle emissions reduction shall increase over time.

PRINCIPLE 4: HUMAN AND LABOUR RIGHTS

Code	Findings

Freedom of Association, Right to Organise and Collectively Bargain: *(Criterion 4a)*

C	Hawaii Revised Statutes Chapter 377 provides laws ensuring the right to organize and collective bargaining. RSB does go beyond Federal, State and County laws by referencing ILO Conventions 87 and 98.

Code	Findings
ASS	The auditor will review relevant Workplace Agreements or employee contracts which may include details about hours of work including shift work, minimum hourly, weekly hours, penalty rate payments and leave entitlements for employees. The auditor will also interview staff as part of an onsite assessment.

Slave Labour or Forced Labour: ***(Criterion 4b)***

C	Since the U.S. Constitution prohibits slave labor, specific reference to slave labor was not identified in State or Federal law. RSB does reference ILO Convention 29, and the auditor will investigate any practices by the PO that may not comply with ILO 29.[xxvi]
ASS	A review of employee payment records, employee contracts and interviews with staff would be undertaken at audit.

Child Labor: ***(Criterion 4c)***

C	Hawaii Revised Statute Chapter 390 and related Administrative rules are in compliance with RSB requirements. RSB Also References ILO Convention 138 which related to hazardous child labor and determines that no child labor can occur except on family farms and only if it does not interfere with the child's schooling.

Discrimination: ***(Criterion 4d)***

C	HRS Chapter 378 and Title Vll of the Civil Rights Act align with RSB requirements. RSB also references ILO Convention 111[xxvii], which is consistent with these state and federal regulations.
ASS	Consideration could be given to the PO developing workplace policy which supports a workplace free from harassment and discrimination.

Wages and Working Conditions: ***(Criterion 4e)***

C	RSB requires that worker's wages and working conditions shall respect all applicable laws and International Conventions, as well as relevant collective agreement is met by a PO complying with HRS Chapter 387.
O	The RSB goes beyond state regulation by stating that regular hours per week cannot exceed 48 hours, and the total number of hours worked per week including overtime must not exceed 80.

Code	Findings
Occupational Health and Safety: *(Criterion 4f)*	
C	HAR12-60, 12-52 and 12- 50 meet the requirements of this Criterion. A mature process exists in Hawaii to ensure that workers are not exposed to occupational health and safety hazards without adequate protection and training in accordance with national law and international standards.
Human Rights and Labor Rights for Contractors: *(Criterion 4g)*	
O	These criteria will require onsite assessment to verify compliance. The auditor will assess individual or company contracts for contractors, training and competency records of contractors, contractor site induction records as well as interviews with contractors and site observation by the auditor.

PRINCIPLE 5: RURAL AND LOCAL DEVELOPMENT

Code	Audit findings
Socioeconomic Status of Local Stakeholders: *(Criterion 5a)*	
C	The State of Hawaii, being within the United States of America, is not in an area that satisfies the RSB definition of Poverty. The *RSB Screening Tool RSB-GUI-01-002-02 (Version 2.1)* [xxviii] uses the UNDP Human Development Indicators World Map to determine if you are in a region of poverty http://hdr.undp.org/en/data/map The IHDI value for the United States of America is 0.771. A value of less than 0.59 requires additional socioeconomic impact assessments under the RSB standard. This Criterion is considered not applicable.
Women, Youth, Indigenous Communities and the Vulnerable: *(Criterion 5b)*	
C	The State of Hawaii, being within the United States of America, is not in an area that satisfies the RSB definition of Poverty and therefore does not require special measures that benefit and encourage the participation of women, youth, indigenous communities and the vulnerable. This criterion is considered not applicable.

PRINCIPLE 6: FOOD SECURITY

Code	Findings
Food Security Risk Assessment and Mitigation: *(Criterion 6a)*	
NA	The State of Hawaii, being within the United States of America, is not in an area that satisfies the RSB Criteria for Food Insecurity. The International Food Policy and Research Institute's Global Hunger Index is used to determine if a biofuel project is located in a food insecure region http://www.ifpri.org/tools/2011-ghi-map. There is no GHI value for the United States of America since it is not considered to be in a region of food insecurity.[xxix]
Enhance Local Food Security of Local Stakeholders: *(Criterion 6b)*	
NA	The State of Hawaii, being within the United States of America, is not in an area that satisfies the RSB Criteria for Food Insecurity. Special measures that enhance the local food security of the directly affected stakeholders are not required.
PRINCIPLE 7: CONSERVATION	
Code	**Findings**
Local, Regional and Global Conservation Values: *(Criterion 7a)*	
C	The National Environmental Policy Act of 2006, US Endangered Species Act of 1973, HRS195D considers the protection of areas with identified conservation values. The RSB requires that Biofuel projects not occur within 'No Go Areas' these include and conservation of areas IUCN Category I-II, UNESCO World Heritage Sites, Ramsar Wetlands and any legally protected areas. To determine if project is in one of these areas go to https://www.ibatforbusiness.org/login website and register.[xxx] [xxxi]
C	HRS Chapter 343 requires an Environmental Assessment to be completed for areas identified as 'Conservation Areas' in the State of Hawaii. RSB permits the location of a biofuel project in an area with conservation values only if it is legally authorized. For example, HRS 186 allows the operation of tree farms in Agricultural and Conservation Districts zoned for Commercial Forest use.

Code	Findings
NC	RSB requires that conversion of land with identified conservation values cannot occur after 1 Jan 2009 or earlier for other International Standards such as the Forest Stewardship Council, 1 Nov 1994 and 1 Jan 2008 for products shipping to the EU. This is additional to County, State and Federal law.
C	HRS 195D Endangered Species Act, Conservation of Aquatic Life, Wildlife and Land Plants and the US Endangered Species Act of 1973 adequately protects rare, threatened or endangered or legally protected species from hunting, fishing ensnaring, poisoning and exploitation in accordance with RSB requirements.
O	The implementation of protection measures of rare and vulnerable species is considered as part of the audit process.

Ecosystem Functions and Services: ***(Criterion 7b)***

O	The auditor will verify this Criterion, as part of an onsite audit. A review of activities where site operations affect ecosystem functions will be undertaken. Monitoring records will be reviewed to verify that improvements in ecosystem functions over baseline studies have occurred.

Buffer Zones: ***(Criterion 7c)***

NC	No reference was found to buffer zones in legislation or Environmental Assessments that related to using buffers to maintain and enhance conservation values.
O	The US Department of Agriculture NCRS has a voluntary 'Conservation Reserve Program' which provides landholders compensation for the establishment of buffers.[xxxii]

Ecological Corridors: ***(Criterion 7d)***

NC	No reference was found in Legislation or Environmental Assessments that related to protecting ecological corridors with buffer zones or that requires the PO to create ecological corridors to provide connectivity. Note: Progress requirements under the RSB require the creation and restoration of ecological corridors under certain conditions.

Code	Findings
Invasive Species: *(Criterion 7e)*	
C	There are comprehensive legal requirements that exist which support RSB requirements including the HRS 194-5 Invasive Species Council powers to direct and control, HRS 520A where landowners are required to control native species, HRS152 Noxious Weed Control.
NC	RSB has additional requirements which include reviewing the IUCN Species Survival Commission - Global Invasive Species Database http://www.issg.org/database/welcome/ The RSB Screening Tool also calls up a Weed Risk Assessment to determine risk of invasiveness, if high the species shall not be used and for lower risk value a management plan is required.[xxxiii]
PRINCIPLE 8: SOIL	
Code	**Findings**
Soil Physical, Chemical and Biological Conditions: *(Criterion 8a)*	
C	HRS Chapter 180C describes the framework for Soil Erosion and Sediment Control Management by Department of Health. Landowners can develop Conservation Plans to maintain soil health. This is considered in alignment with RSB requirements however if an impact assessment is triggered using the RSB Screening Tool then a Soil Management Plan is required.
O	Focus is given by the RSB to maintaining and enhancing soil stability and organic content of soil.
O	The US Farm Bill 2008 provides assistance to producers who voluntarily conserve natural resources including maintaining soil health[xxxiv].
PRINCIPLE 9: WATER	
Code	**Findings**

Code	Findings
Existing Water Rights of Local and Indigenous Communities: *(Criterion 9a)*	
C	It is considered that Laws in Hawaii provide a framework to protect the rights of local and indigenous communities. These include: ▪ HRS 174-C Part IV defines the formation of a water management area and the regulation of the withdrawal and diversion of ground and surface water in the water management area. ▪ HRS 174-C Part III requires the development of a Hawaii Water Plan that identifies stream inflow requirements and maximum sustainable yield of underground water. ▪ Appurtenant rights are protected under HRS-174C-63 and native Hawaiian rights are protected under HRS 174C-101.
NC	RSB requires that water resources that are under legitimate dispute shall not be used for biofuel operations until these have been settled using the Free, Prior and Informed Consent process as described in the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01).
Water Management Plan: *(Criterion 9b)*	
C	A Water Management Plan that describes plans to use water efficiently and maintain or enhance water quality is required by the RSB for all PO's. Some Water Permits in Hawaii are aligned with RSB requirements including annual reporting.
NC	RSB requires that the Water Management Plan be made publically available unless limited by national law. Further, progress requirements include recycling and re-use of waste water.

Surface Water and Groundwater Resources: *(Criterion 9c)*

C	HRS 174-C Part IV defines the formation of a water management area and the regulation of the withdrawal and diversion of ground and surface water in the water management area. Further, Permits issued by the Commission on Water Resource Management require achievement of water use efficiencies over time. This aligns with RSB minimum and progress requirements.

Surface Water and Groundwater Quality: *(Criterion 9d)*

C	HRS 174-C Part IV defines the formation of a water management area as well as the regulation of the withdrawal and diversion of ground and surface water in the water management area. Permits require the maintenance of water and controls to maintain water quality including preventing contamination. This RSB requires the setting of buffers between the operation site and the surface water, however this is consistent with controls to prevent pollution under the HRS.

PRINCIPLE 10: AIR

Code	**Findings**

Identification of Air Pollution Emissions and Plan: *(Criterion 10a)*

C	The Clean Air Act and related HRS11-60 includes requirements for the identification of source emissions, air quality assessments, and reporting. This is considered in compliance with RSB requirements.
O	An Emission Control Plan is required to be included in the Environmental and Social Management Plan. Note: RSB has a reporting template for this purpose. It is considered that to meet Federal law such a plan would be required to comply with the Clean Air Act and National and State Ambient Air Quality Standards.

Open Air Burning: *(Criterion 10b)*

NC	Whilst open air burning is considered under HAR 11-60.1-52 to 11-60.1-58 and permits issued, RSB requires that open air burning of agricultural residues is phased out within 3 years of certification, with exemptions under specific circumstances.

PRINCIPLE 11: USE OF TECHNOLOGY, INPUTS AND MANAGEMENT OF WASTES

Code	**Findings**

Information Availability on Technologies Used: *(Criterion 11a)*

NC	Whilst the Emergency Planning and Community Right to Know Act mandates reporting of hazardous material on site, the RSB requires that information about the use of technologies for biofuel operations be publically available with consideration of proprietary and intellectual property.

Risk to the Environment and People of Technologies Used: *(Criterion 11b)*

C	There are established laws and systems including the Federal Plant Protection Act as regulated by the Animal and Plant Health Inspection Service of the U.S. Department of Agriculture which regulates the introduction of genetically engineered organisms and are considered consistent with international guidelines for crop specific stewardship. Monitoring and mitigation measures are in existence in Hawaii in relation to management of Genetically Modified Organisms which meet RSB requirements.
O	RSB requires that the Biosafety Clearinghouse established under the Cartagena Protocol on Biosafety be consulted in relation to GMO's including consideration of risk factors specific to Hawaii.
O	The RSB requires that the PO mitigate the risk of damage to environment and people, and improve environmental and/or social performance over the long term in relation to the use of GMO's

Containment of Micro-organisms: *(Criterion 11c)*

ASS	The auditor will verify that microorganisms on site do not pose a risk (pathogenic, mutagenic, containment etc.). The PO could develop procedures for managing microorganisms including permits for importation of these as required under HRS-150A.

Code	Findings
O	RSB requires that any procedures for the management of microorganisms shall include in the ESMP monitoring and emergency response procedures in case of accidental dissemination into the environment.

Chemical Storage, Handling, Use and Disposal: *(Criterion 11d)*

C	There are comprehensive regulations in the U.S for the storage, handling, use and disposal of chemicals including pesticides and with consideration of manufacturer's requirements.
NC	The RSB has specific requirements that relate to the phase out (i.e. within 3 years) of chemicals that are used in biofuel operations that are listed on the WHO's 1a and 1b lists and Annex III of the Rotterdam Convention and in the Stockholm Convention on Persistent Organic Pollutants (POPs). [xxxv]

Residues, wastes and by-products: *(Criterion 11e)*

C	The Resource Conservation and Recovery Act and Title 40 Code of Federal Regulations 239-299 align with RSB requirements in the handling and disposal of wastes and by-products from biofuel operations.
NC	RSB requires that a waste and by product management plan is included in the ESMP and progress requirements require a PO to consider clean and efficient processes for conversion of residues, waste and by products to energy.

PRINCIPLE 12: LAND RIGHTS

Code	Audit findings

Existing Land Rights and Land Use Rights Identified: *(Criterion 12a)*

NC	Whilst a Cultural impact Assessment is required under HRS Chapter 343, the extent to which stakeholder engagement is undertaken does not meet RSB requirements in relation to FPIC.

Free Prior and Informed Consent for Agreements *(Criterion 12b)*

ASS	The auditor will verify compliance by reviewing consultation records with local indigenous people and conduct interviews with consideration of agreements in place.

Seminar and Community Meetings

4.1 Seminar

The Seminar conducted on the 16, 17 July 2012 had in attendance 25 participants. A full copy of the seminar PowerPoint Presentation is available on the HBF website at http://www.hawaiibiofuelsfoundation.org/SustainableBiofuelWorkshops.php

Exercise 1 of the Seminar format was based on a case study of a hypothetical feedstock producer and processor, Aloils, that produces algae oil from growing algae in open ponds. Refer to Appendix C.

The Online RSB Screening Tool was used to determine what environmental and social impacts were associated with the Aloils activities and whether additional specialist studies were required. Results of the Online Screening Tool are in Appendix C.

The key findings or the impact assessment process are outlined below:

- The project was not located on land that had been converted after the 1 Jan 2009 or with consideration of other dates for other international standards.
- The Weed Risk Assessment determined that the algae species *Spirulina platensis* represented a moderate risk and therefore required a plan to mitigate impacts. The species can be used as a biofuel crop.
- A scoping study is required to determine if there are traditional rights to collect flowers from the land occupied by the biofuel project.
- Principle 5 relating to Rural and Local Development and Principle 6 were not applicable.

Exercise 2 of the Seminar required participants to identify and categorize stakeholders using the criteria specified in the RSB Impact Assessment Guidelines. Results of stakeholders identified are included in Appendix C.

4.2 Community Stakeholder Meetings

The Community Stakeholder Meetings were held in Kahului, Maui on 17 July 2012, Hilo, Hawaii on the 18 July 2012 and Lihue, Kauai on the 19 July 2012. Participant numbers were 7, 12 and 6 respectively.

The participants were enthusiastic in contributing comments and questions. By raising an awareness of the RSB standards and Certification Systems a number of comments and questions which required follow up are outlined below.

4.2.1 Commentary from Community Meetings

- At each meeting, a concern about food security in Hawaii was expressed. There were three dimensions to this concern. First, conversion of agricultural land to other uses (e.g. residential development) would have an impact on available land for both agriculture and biofuel production. Second, the available inventory of food in Hawaii is very limited (approximately 10 days) leaving Hawaii very vulnerable to food disruptions. Finally, there are concerns how land and other resources are allocated between food production and biofuel production.
- RSB is focused on production of liquid biofuels. There are opportunities to apply RSB to waste conversion to other energy products. Examples would be conversion of biomass or municipal waste directly to electricity, conversion of gas from waste water treatment, and capture of land fill methane.
- The cost of an audit, both the audit fees and preparing ESIA, were identified as a challenge by the seminar attendees. The cost was of greater concern for small producers. The concept of group certification was discussed, and more consideration of the group certification process should be considered.
- The University of Hawaii Department of Botany and Natural Resources and Environmental Management developed a Hawaii Pacific Weed Risk Assessment tool. The tool is currently operational and is being regularly updated at www.hpwra.org.
- Questions were raised on the timeline for beginning the audit process and timing of actual audit relative to the initial production.
- Does RFS-2 apply to transportation fuels only?
- The requirement to resolve all water disputes for certification in Principle 9a represents a high bar. Note: It was explained that if reasonable effort to resolve a dispute had been expended by the Participating Operator, the audit could move forward with certification.
- U.S Department of Agriculture's NCRS program may be useful in complying with principles related to soil conservation.
- Other processes such as Sustainable Biodiesel Alliance may be lower cost and are better focused on developing biodiesel production using locally available resources.
- Questions were raised about the Forest Stewardship Council and how it compared to RSB. The two certification systems are very similar, and if an entity was recognized under one system, would recognition under the other system be possible.
- The possibility of having a Hawaii specific standard might be beneficial.
- The Hawaii Public Utilities Commission process should be more flexible when considering the price of biofuels contracts including a long term focus on both price and benefits of biofuels.
- Several biofuel projects on Kauai have not been successful due to community concerns about the proximity of plant to local community, ability to wheel power to military facility, and purchase power pricing (e.g. capacity payments).

4.2.2 RSB GHG Calculation Methodology

During the seminar phase of this project, future Participating Operators and other involved parties raised a number of questions about the RSB GHG calculations. Given time limitations of the seminar, complete answers to the questions were not provided. The following is a list of these questions, and responses based on the review of RSB *GHG Calculation Methodology [RSB-Std-01-003-01(Version 2.0)]* and *RSB Fossil Fuel Baseline Calculation Methodology [RSB-STD-01-003-02]* documents. [xxxvi]

1. How does The Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (GREET) developed by Argonne National Lab compare with RSB Greenhouse Calculator? Would RSB accept GREET results in the certification process?

The RSB and European Union's Renewable Energy Directorate (RED) methodologies are very similar with specific differences identified in the RSB documentation. The RSB fossil fuel baseline process used global data, including data also used in RFS2 calculations. No side by side comparison to GREET was provided by RSB. The peer review of the RSB process noted that the GHG allocation process for co-products in the RSB calculation and GREET were different. Acceptance of the GREET model by RSB as substitute for RSB GHG is currently being investigated.

2. How is crude oil accounted for in RSB greenhouse gas calculators?

The RSB Fossil Fuel Baseline Calculation Methodology considers GHG emissions from crude oil production, crude oil transportation, fuel production (i.e. refining), and finished fuel transportation. It aims to calculate a global average fossil fuel baseline. The GHG intensity data for crude oil production and fuel production were based on the "Development of Baseline Data and Analysis of Life Cycle Greenhouse Gas Emissions of Petroleum-Based Fuels" prepared by the U.S. National Technology Energy Laboratory in November, 2008. This information was also used in RFS2 calculation.

3. Is transportation from outside the local area in RSB greenhouse calculations?

Transportation GHG intensity is considered both in the fossil fuel base line and biofuel life cycle.

4. How are prior land uses considered in the GHG calculations?

GHG calculations consider land categories including forest land, crop land, grassland, wetland (e.g. peat), settlement (human), and various types of unmanaged land. Land use is further stratified by climate, soil, ecological zone, and management practices (such as tilling). Carbon pools such as above ground vegetation are considered in the model.

Given the inventory of land categories, direct land use changes can be calculated by the model.

5. Is the release of Nitrogen from soil as a result of agricultural activities considered in the RSB GHG calculations?

Yes, Nitrogen release is considered in the RSB GHG calculations.

5. RECOMMENDATIONS

The following recommendations have been developed based on the work completed during the project:

Recommendations for Participating Operators:

- Use the Self Risk Assessment in the RSB Online Application Process to determine the organizations' risk profile. This process will help with the identification of environmental impacts, social impacts and likely specialist studies that may be required.
- Develop a legal register which lists all relevant County, State and Federal laws and regulations in relation to their operations. Information contained in this report and the Hawaii Bioenergy Master Plan may be helpful in developing the register and evaluating compliance with laws and regulations.
- Develop an Environmental and Social Management Plan which incorporates organizational policies and procedures that support the mitigation of impacts, monitor environmental and social performance, and consider continuous improvement.
- The operator should consider what existing company documentation and processes may support compliance with the RSB Standard and the Environmental and Social Management Plan.
- The RSB Standard has requirements for the Participating Operator to demonstrate performance over time. Developing a baseline survey of key variables during initial operation will facilitate monitoring and measurement of improvement initiatives and demonstrate progress during subsequent audits.
- The RSB Standard is scalable for micro, small, medium and large organizations e.g. a small operator has less requirements than a large operator. Furthermore, not all principles and criteria require compliance or are applicable. For example, biofuel blenders have to comply with Principle 3 only. Principles 5 and 6 are considered not applicable to the USA.
- Biofuel operators seeking certification should request a proposal for certification from an RSB Accredited Certification Body. The proposal should outline all relevant costs including application fees, audit and travel time fees, travel costs for the certification audit, surveillance audit and re-certification audit. Annual fees, separate from onsite audit costs may also be charged.

Recommendations RSB could consider:

- RSB Services has developed an excellent portfolio of on-line working tools, and they should consider providing online access to current versions of all RSB Standards and Guidelines.
- RSB has benchmarked its standard against the Sustainable Agriculture Network Standard so that biofuel operators can achieve recognition to RSB if compliance to this standard is achieved (there are specified conditions relating to this mutual recognition process). RSB could consider other local and international standards that can achieve mutual

recognition. The emerging standards developed by the Sustainable Biodiesel Alliance may provide an opportunity for benchmarking in the future. Also, given the similarities to the Forest Stewardship Council process, RSB may want to work with this group to benchmark standards.

- A Participating Operator may need to seek additional training for personnel who are engaged in the implementation of the Environmental and Social Management system within an organization or who have responsibilities to manage environmental and social impacts.
- Many entities seeking certification may be in a start-up mode and functioning with limited resources. Such entities may need to engage independent professionals to complete the specialist studies processes and other tasks such as the development of the Environmental and Social Management Plan. RSB should consider a process to train and develop these professionals.
- RSB process is currently focused on the production of liquid fuels. Given that the conversion of waste (e.g. digester gas, land fill gas, and municipal waste to energy), is very similar, the RSB may want to consider extending its certification to other energy processes. Note: There is currently an RSB policy relating to end of life products.
- Argonne National Lab's GREET model and RSB Greenhouse Gas Calculation share similar objectives. RSB could consider benchmarking its calculator with the GREET model to determine if use of GREET will avoid running both models for a United States Based P.O.
- Although Principles 5 and 6 are not applicable to the United States, there may areas of poverty and food insecurity within the U.S. At each interaction during this project, profound concerns were expressed about the vulnerability of Hawaii's food supply to transportation disruptions, conversion of agriculture land to other uses, and how to allocate agricultural land to food or to fuel production. Given these challenges, it is recommended that the audit process and the principle operator consider the impact a biofuels project will have on a localized area of poverty and food security. The stakeholder involvement process may be a mechanism to consider these issues.

Other Recommendation to Facilitate the RSB Certification Process

- The RSB Standard and Certification Systems support group certification which can significantly reduce the costs of developing and implementing the management system third party certification. A group might include a number of individual entities which form an alliance or association that has a centrally managed environmental and social management system. The central body implementing the system must have control and influence over individual entities in the group in relation to compliance to RSB Standard requirements.
- Financial or in-kind support should be made available from government or industry to assist biofuel projects in Hawaii seeking certification and to promote the adoption and acceptance of standards within the region. Knowledge gained from the first certification can support other entities who wish to demonstrate their sustainability credentials.

Appendix A

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Appendix B Indicators of Compliance for RSB Principles and Criteria Principle 1: Legality

Principle 1. Biofuel operations shall follow all applicable laws and regulations. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer

RSB Criterion and Requirements	Indicators	Compliance	Relevant Information/ Evidence Provided	Evidence required at Audit to Verify Compliance
Criterion 1a. Biofuel operations shall comply with all applicable laws and regulations of the country in which the operations occur and with relevant international laws and agreements. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer	1.a.i.1. The participating operator provides objective evidence demonstrating compliance with the applicable national laws and regulations. Applicable laws include those related to the social and environmental sustainability criteria outlined in the RSB standard, including but not limited to regulations and measures governing land tenure and land rights, labor, waste disposal, chemical use and environmental protection	Full Compliance	▪ Bioenergy Master Plan 2009 ▪ Hawaii Clean Energy Initiative ▪ *Energy Independence and Security Act of 2007* ▪ *National Environmental Policy Act of 1969* ▪ *Pollution Prevention Act* ▪ *Endangered Species Act of 1973* ▪ *National Historic Preservation Act of 1966* ▪ *Clean Water Act* ▪ *Clean Air Act* (including National Ambient Air Quality Standards. State Ambient Air Quality Standards) ▪ *Resource Conservation and Recovery Act* ▪ *Safe Drinking Water Act* ▪ *Maritime Transportation Security Act* ▪ Renewable Fuel Standard	▪ Copy of company registration ▪ Statutory declaration from Participating Operator (PO) confirming compliance with national laws and regulations ▪ Letter from legal counsel confirming the PO is not being prosecuted or has any current penalty infringement notices ▪ Details of any fines, penalty or infringement notices, or other notices from regulatory authorities in the last 5 years ▪ Assessment by PO of applicability of local, state and national legislation in relation to its activities (e.g. Legal and Other Requirements Register) ▪ Environmental Assessment Reports ▪ Independent and/or internal audit reports showing compliance with local, state and national laws and regulations for environmental, OH&S, industrial relations etc. ▪ Details of Environmental and OHS Management Systems (certificates, Manuals, procedures, standards)

			Program ▪ Hawaii Revised Statues ▪ Hawaii Administrative Rules ▪ National Pollutant Discharge Elimination System Permits ▪ Conservation District Use Permit ▪ *American Recovery and Reinvestment Act 2009* ▪ Final Environmental Assessment and Finding of No Significant Impact for Study Biofuel Project ▪ Public Utilities Commission of the State of Hawaii's Standard for Electric and Gas Utility Service Rule 6-60-6(2) ▪ *Hawaii Emergency Planning and Community Right to Know Act* ▪ *National Labor Relations Act 1935* ▪ *The Immigration Reform and Control Act of 1986* ▪ *Fair Labor Standards Act* ▪ *Hawaii Administrative Rules* ▪ *Civil Rights Act 1964 (Title VII)* ▪ *The Pregnancy Discrimination Act of 1978* ▪ *The Age Discrimination in Employment Act of 1967* ▪ *Americans with Disabilities Act of 1990* (*Titles 1 and V)*	
	1.a.i.2. The participating operator provides objective evidence demonstrating compliance with the applicable international laws and	Full Compliance	▪ International Labor Organisation Convention concerning Indigenous and Tribal Peoples in Independent Countries (No. 169) ▪ The Universal Declaration of	▪ Statutory declaration from Participating Operator (PO) confirming compliance with international laws and regulations ▪ Letter from legal counsel confirming the PO is not being prosecuted or has any

	agreements that apply to biomass/biofuels operations with regards to this standard.		Human Rights ▪ UNESCO World Heritage Sites ▪ Global Invasive Species Database ▪ International Food Policy and Research Institutes Global Hunger Index ▪ United Nations Human Development Indicators ▪ The Convention on Biological Diversity ▪ Ramsar Convention on Wetlands ▪ UN Framework Convention on Climate Change ▪ UN Fourth World Conference on Women's Beijing Declaration ▪ UN Food and Agriculture Organisation, Good Agricultural Practices	current penalty infringement notices ▪ Assessment by PO of applicability of local, state and national legislation in relation to its activities (e.g. Legal and Other Requirements Register) ▪ Environmental Assessment Reports ▪ Independent and/or internal audit reports showing compliance with international laws and regulations for environmental, OH&S, industrial relations etc. ▪ Details of any fines, penalty or infringement notices, or other notices from regulatory authorities in the last 5 years
	1.a.i.3. The participating operator provides objective evidence demonstrating that all applicable licenses, permits and other legal requirements are valid.	Full Compliance	▪ Various Federal State and County Permits and regulations that are considered as part of development, construction and operation of Biofuel operation	▪ Copies of current development, construction and operation Permits and Licences, periodic reporting and monitoring records

Principle 2: Planning, Monitoring and Continuous Improvement

Principle 2: Sustainable biofuel operations shall be planned, implemented, and continuously improved through an open, transparent, and consultative impact assessment and management process and an economic viability analysis.

RSB Criterion and Requirements	Indicators	Compliance	Relevant Information/ Evidence Provided	Evidence required at Audit to Verify Compliance
Criterion 2a. Biofuel operations shall undertake an impact assessment process to assess impacts and risks and ensure sustainability through the development of effective and efficient implementation, mitigation, monitoring and evaluation plans. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer Minimum requirements If a RESA or an ESIA is required: ▪ Where an impact assessment is required by national, regional, or local laws, the process shall be integrated with the RSB impact assessment process to avoid duplication of efforts, but the higher and more comprehensive standard shall be applied. ▪ A screening exercise shall be required for all new and existing operations and extensions to	2.a.i.1. The participating operator provides objective evidence determining the extent of the environmental and social impact assessment required for her/his/its operation(s) (i.e. whether the outcomes need to be equivalent with an Environmental and Social Impact Assessment (ESIA), a Rapid Environmental and Social Assessment (RESA) or whether neither of these studies or associated specialist studies are required. The determination conducted by the biomass/biofuels operation(s) of the participating operator followed the Screening Guidelines (RSB-GUI-01-002-02).	Partial Compliance	▪ Final Environmental Assessment for Study Biofuel Project ▪ Finding of No Significant Impact for Study Biofuel Project ▪ *National Environmental Policy Act of 1969*	▪ Screening Exercise as per Screening Guidelines (RSB-GUI-01-002-02) to determine if an ESIA or a RESA is required ▪ An Environmental Assessment (EA) for Study Biofuel Project was reviewed. The EA was completed by independent and qualified professionals. ▪ The RSB Screening Tool RSB-GUI-01-002-02 was completed as a desktop assessment for Study Biofuel Project. It was determined that a Weed Risk Assessment specifically to assess 'invasiveness' of plant species used. Specialist Impact Assessment may be required. Study Biofuel Project
	2.a.i.2. The participating operator provides objective evidence demonstrating that baseline surveys have been completed resulting in outcomes equivalent to those in the	Full Compliance	▪ Final Environmental Assessment for Study Biofuel Project ▪ Finding of No Significant	▪ Baseline surveys could be undertaken as part of individual assessments prior to commencement of Biofuel

operations of all sizes to determine whether an Environmental and Social Impact Assessment (ESIA) or a Rapid Environmental and Social Assessment (RESA) is required. The screening exercise shall be done in accordance with the Screening Guidelines (RSB-GUI-01-002-02). ▪ Participating operators shall conduct the RESA or ESIA, if required, in accordance with the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01), the RESA Guidelines (RSB-GUI-01-002-04) and the ESIA Guidelines (RSB-GUI-01-002-03) respectively, as determined by the scale and intensity of the operations. ▪ The ESIA, if required as determined through the screening exercise, shall be carried out using independent and qualified professionals. ▪ Where biofuel operations will have significant social impacts, as measured during the screening exercise, a social impact assessment process shall be carried out using local experts to ensure that local customs, languages, practices and indigenous knowledge are respected and utilized. ▪ The Environmental and Social Management Plan (ESMP), in accordance with the RSB ESMP Guidelines (RSB-GUI-01-002-05), shall be required for all operations and shall ensure compliance with all RSB	RSB guidelines including at minimum: ▪ land use type as of 1 January 2009 used for the biomass/biofuels operation(s) of the participating operator; ▪ current land use type used for the biomass/biofuels operation(s) of the participating operator; ▪ physical, chemical and biological soil properties of the biomass/biofuels operation(s) of the participating operator ▪ carbon in soil used for the biomass/biofuels operation(s) of the participating operator; ▪ (in regions of poverty – cross check with 5a.i.1) the socio economic status of directly affected local stakeholders of the biomass/biofuels operation (s) which have been disaggregated according to demographics of age, gender, income status, employment, health and disability; ▪ (in food insecure regions – cross check with 6a.i.1) food availability including access, stability and utilization within the locality of and surrounding the biomass/biofuels operation(s) of the participating operator; ▪ conservation values in and surrounding the biomass/biofuels operation(s) of the participating operator; ▪ ecosystem services in and surrounding the biomass/biofuels operation(s) of the participating		Impact for Study Biofuel Project ▪ *National Environmental Policy Act of 1969*	Project. ▪ Baseline surveys were conducted where relevant against criteria listed in 2.a.i.2 as part of Environmental Assessment for Study Biofuel Project ▪ Internal audit data/reports ▪ Independent audit reports assessing changes from baseline surveys since operations commenced.

Principles & Criteria. Where there are progress requirements, they shall be detailed. ▪ Where specifically stated in a criterion, the impact assessment process shall extend beyond the scope of the immediate operational area, for instance for food security, water management and use, ecosystem impacts, biodiversity and conservation in accordance with the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01). ▪ Multiple operators applying for certification as one single Participating Operator, as defined in the Standard for Participating Operators (RSB-STD-30-001), shall conduct the RSB impact assessment and management processes jointly.	operator; ▪ air quality without/before biomass/biofuels production in the areas of the biomass/biofuels operation(s) of the participating operator; ▪ Physical, chemical and biological properties of the water resources within and surrounding the biomass/biofuels operation(s) of the participating operator.			
	2.a.i.3. The participating operator provides objective evidence demonstrating that an Environmental and Social Management Plan (ESMP) that integrates all requirements of the RSB standard and that demonstrates how biomass/biofuels operation(s) will mitigate all risks identified through the ESIA/RESA has been compiled and is being implemented.	Compliance	▪ Nil documents provided ▪ Management Plans required under the Environmental Assessment process do not include all the required elements of an Environmental and Social Management Plan ▪ National Environmental Policy Act of 1969	▪ An Environmental and Social Management Plan (ESMP) is required to be completed for all Participating Operators. An ESMP may comprise individual plans relating to individual components i.e. water management, air emissions etc. ▪ A good ESMP should: 1. Describe the results of all parts of the RSB Impact Assessment Process from Screening through to the ESMP 2. Describe the way the Participating Operator plans to mitigate the impacts and monitor and evaluate

				operations 3. Integrates or links all management plans required by the RSB or by law into one document. 4. RSB Progress requirements should be described in the ESMP as well as monitoring and evaluation plans to meet them.
	2.a.i.4. The participating operator provides objective evidence demonstrating that all reports, plans, and activities responding to the impact assessment process as well as all assessments and surveys thereto comply with all legal requirements.	Full Compliance	▪ Final Environmental Assessment for Study Biofuel Project ▪ Finding of No Significant Impact for Study Biofuel Project ▪ *National Environmental Policy Act of 1969*	▪ An Environmental Assessment (EA) for Study Biofuel Project was reviewed. The EA reviewed is considered to comply with all legal and other requirements. ▪ Statutory declaration from Participating Operator (PO) confirming compliance with national laws and regulations ▪ Letter from legal counsel confirming the PO is not being prosecuted or has any current penalty infringement notices ▪ Correspondence with Regulatory Authorities regarding approvals and changes to plans and reports ▪ Independent audit reports verifying compliance with development approval
	2.a.i.5. The participating operator provides objective evidence demonstrating that ongoing monitoring of effectiveness of the execution of the ESMP, and	Not Assessed	Biofuel Projects have not yet commenced	▪ The Environmental Assessment (EA) for Study Biofuel Project has only recently been produced and management plans have yet to be developed. It is therefore too early to evaluate the

	that the results of this ongoing monitoring are used to improve the ESMP and the overall performance of the biomass/biofuels operation(s).			effectiveness of execution of these plans. ▪ Training records for staff/contractors required to implement plans ▪ Independent audits, monitoring records , meeting minutes, periodic reporting to Regulatory Authorities ▪ Non-conformance, corrective action reports and programs that improve performance
	2.a.i.6. The participating operator provides objective evidence demonstrating that the environmental and social impact assessment (ESIA) as applicable to her/his/its biomass/biofuels operation(s): ▪ covers all social, environmental, economic and other technical aspects of her/his/its biomass/biofuels operations; ▪ identifies all actual and possible future impacts of her/his/its biomass/biofuels operation(s); ▪ identifies all actual and possible future risks associated with her/his/its biomass/biofuels operation(s); ▪ involved social, environmental, economic and other technical experts as well as qualified (and where necessary independent) professionals as required; ▪ involved engagement, consultation and other interaction with affected stakeholders as required.	Partial Compliance	▪ Final Environmental Assessment for Study Biofuel Project ▪ Finding of No Significant Impact for Study Biofuel Project ▪ *National Environmental Policy Act of 1969*	▪ For Study Biofuel Project: 1. An additional Specialist Impact Study (as part of Rapid Environmental & Social Appraisal) is required for the Study Biofuel Project being a Weed Risk Assessment specifically to assess 'invasiveness' of species of plant used. 2. Independent and qualified professionals were used for Study Biofuel Project 3. Stakeholder engagement was undertaken to as part of assessing cultural heritage to a limited extent. ▪ Environmental and Social Aspects Register identifying all operational activities and impacts/risks

Criterion 2b. Free, Prior & Informed Consent (FPIC) shall form the basis for the process to be followed during all stakeholder consultation, which shall be gender sensitive and result in consensus-driven negotiated agreements. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer Minimum requirements ▪ While FPIC provides the process conditions for stakeholder engagement and negotiated agreements, consensus shall be the decision-making tool applied in all cases and carried out in accordance with the RSB consensus building toolkit in the Impact Assessment Guidelines (RSB-GUI-01-002-01). ▪ The ESIA facilitators shall invite all locally- affected stakeholders, local leaders, representatives of community and indigenous peoples groups and all relevant stakeholders to participate in the consultative process. ▪ The scope of engagement shall be determined by the scale of the operations as set out in the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01). ▪ Relevant government authorities shall be included in the stakeholder process to	2.b.i.1. The participating operator provides objective evidence demonstrating that the stakeholders affected by her/his/its biomass/biofuels operations have been identified.	Compliance	▪ HRS 343-3 requires that public comment process or public hearing relating to habitat conservation plan, safe harbor agreement or incidental take license under the Endangered Species Act	▪ Stakeholder engagement occurred as part of Study Biofuel Project ▪ Stakeholder register including name, type/classification, and organisation represented, communication type etc.
	2.b.i.2. The participating operator provides objective evidence demonstrating that the stakeholders identified as per indicator 2.b.i.1. have been engaged and consulted and that consensus with these stakeholders has been reached where required.	Partial Compliance	▪ *National Environmental Policy Act of 1969*	▪ Stakeholder engagement occurred as part of Study Biofuel Project however it could not be determined if all relevant stakeholders had been identified or whether meaningful participation had occurred.
	2.b.i.3. The participating operator provides objective evidence that stakeholder engagement and consultation processes, including the numbers of stakeholder meetings and attending participants along with comments, recommendations and consensus agreements resulting from these meetings have been recorded.	Not assessed	▪ No records were available for review	▪ Agenda, minutes, attendees lists etc. of stakeholder meetings
	2.b.i.4. The participating operator provides objective evidence demonstrating that: ▪ affected stakeholders have been invited to participate in engagement and consultation processes and if required in the decision making processes; ▪ every possible effort was made to ensure that meetings were convenient for stakeholders to	Not assessed	▪ No records were available for review	▪ Independent reports identifying stakeholders ▪ Community Consultation Plan ▪ Agenda, minutes, attendees lists etc. of stakeholder meetings ▪ Web based or public information available during the consultation period. ▪ Communication procedures ▪ Advertisements regarding the

ensure efficient streamlining of the process with legal requirements ▪ Those responsible for undertaking the ESIA or RESA shall undertake and document a stakeholder analysis in accordance with the RSB Impact Assessment Guidelines (RSB- GUI-01-002-01). ▪ Participatory methodologies described in the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01) shall be used to ensure meaningful stakeholder engagement. Special attention shall be made to ensure that women, youth, indigenous and vulnerable people can participate meaningfully in meetings and negotiations. Where the need is identified by the ESIA facilitator, there shall be informal workshops to build local understanding in the community of the processes that may impact them directly to aid meaningful engagement. ▪ Documentation necessary to inform stakeholder positions shall be made freely available to stakeholders in a timely, open, transparent and accessible manner through distribution channels appropriate to the local conditions in accordance with the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01). ▪ Management documents shall be publicly available, except where this is prevented by	attend; ▪ the methods (e.g. information sharing, group meetings, interviews, questionnaires, workshops, written materials, languages including local dialects, etc.) used to engage and consult with, and if required reach consensus with affected stakeholders were suitable to achieve the intended engagement and consultation processes and, if required, involvement in decision-making processes; ▪ participation of affected stakeholders in engagement, consultation, and if required involvement in decision-making is based on free, prior informed consent by all involved; ▪ information relevant for stakeholder engagement, consultation and stakeholder involvement in decision-making was available and accessible to affected stakeholders; ▪ information for stakeholder engagement, consultation and involvement in decision-making provided in an open and transparent, timely way, prior to meetings and in a format (e.g. including language, style, presentation, etc.) that was appropriate for the respective stakeholder(s) and/or stakeholder group(s) engaged, consulted and involved in decision-making; ▪ stakeholder access to other sources of information was not			consultation process ▪ Complaints or stakeholder management systems

commercial confidentiality, of a proprietary nature or where disclosure of information would result in negative environmental or social outcomes. ▪ Participating Operators shall seek consensus, in accordance with the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01), such that individuals or single- issue groups cannot block consensus. Deadlocks shall be broken in accordance with the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01).	restricted or otherwise negatively affected directly or indirectly by the participating operator or be anyone involved directly or indirectly with her/his/its biomass/biofuels operation(s); ▪ the ESMP and ESIA/RESA, if required, have been presented for consultation with stakeholders including special focus groups such as indigenous peoples, local communities, vulnerable peoples, women and youth to elicit their responses and comments, and where required consensus. ▪ dissenting views of individual stakeholders and/or single-issue groups were recorded in any stakeholder engagement, consultation and involvement in decision-making.			
	2.b.i.5. Stakeholders affected by the biomass/biofuels operation(s) of the participating operator confirm that indicators 2.b.i.1., 2.b.i.2., 2.b.i.3. and 2.b.i.4 were implemented in all aspects.	Not assessed	▪ No records were available for review	▪ Discussions and correspondence with stakeholder representatives ▪ Details of any adverse publicity news articles or protests
	2.b.i.6. The participating operator provides objective evidence demonstrating that stakeholders have been categorized according to the categories listed below, as described in the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01: Directly Affected Stakeholders ▪ Beneficiaries ▪ Negatively affected	Not assessed	▪ No records were available for review	▪ Discussions and correspondence with stakeholder representatives ▪ Stakeholder Register which includes categorization of stakeholders

	Indirectly Affected Stakeholders ▪ Beneficiaries ▪ Negatively affected Responsible Stakeholders ▪ Implementers (proponent and responsible government departments/structures) ▪ Government decision makers ▪ Representative Involved but not essential ▪ Government decision makers ▪ Representative Non-essential stakeholders Nice to have stakeholders – supportive or can provide assistance Interested stakeholders – concerned but not personally affected			
	2.b.i.7. The participating operator provides objective evidence describing the types of stakeholders consulted, and that consensus among stakeholders was sought in accordance with the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01). If unanimous support for the project from affected stakeholders was not achieved, then a Stakeholder Engagement Report has been developed following the RSB Impact Assessment Guidelines, indicating: ▪ the extent of stakeholder agreement and/or opposition; ▪ the types of stakeholders opposed to the project and reasons; ▪ whether any aspects of the project contravene any of the	Not assessed	▪ No records were available for review	▪ Discussions and correspondence with stakeholder representatives ▪ Stakeholder Engagement Report

	RSB principles; ▪ if the overwhelming majority of affected stakeholders support the proposal			
	2.b.i.8. The participating operator provides objective evidence demonstrating that management documentation including all documentation related to the impact assessment and ESMP were publicly available, except where this is prevented by commercial confidentiality or where disclosure of information would result in negative environmental or social outcomes.	Partial Compliance	▪ Final Environmental Assessment for Study Biofuel Project ▪ Finding of No Significant Impact for Study Biofuel Project ▪ National Environmental Policy Act of 1969	▪ The Final Environmental Assessment and FONSI for Study Biofuel Project are publically available. The Cultural Impact Assessment was not publically available however it is recognised that this may result in negative social outcomes
	2.b.i.9. Stakeholders affected by the biomass/biofuels operation(s) of the participating operator confirm that management documentation including all documentation related to the impact assessment and ESMP of the participating operator was available and accessible.	Not assessed	▪ No records were available for review	▪ Discussions and correspondence with stakeholder representatives
Criterion 2c. Biofuel Operators shall implement a business plan that reflects a commitment to long-term economic viability. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer Minimum requirements: ▪ Participating Operators shall develop and implement a business plan that reflects a commitment to long-term economic viability which takes into account the social and environmental principles	2.c.i.1. The participating operator provides objective evidence demonstrating that (a) business plan(s) for her/his/its biomass/biofuels operation(s) has/have been compiled and (b) that this/these business plan(s) show(s) the commitment of the management of the biomass/biofuels operation(s) to long term economic viability of the biomass/biofuels operation(s).	Not assessed	▪ No records were available for review ▪ PO in Hawaii likely to comply	▪ Strategic planning documents ▪ Business Plan for Biofuel Project ▪ Annual Reports ▪ Company Policy, Mission Vision Value statements
	2.c.i.2. The participating operator provides objective evidence demonstrating that the business plan	Not assessed	▪ No records were available for review	▪ Strategic planning documents ▪ Business Plan for Biofuel Project

described in the RSB Standard. This information shall be proprietary and shall not form part of the impact assessment process.	takes into account the social and environmental requirements described in the RSB principles & criteria and the RSB standards.			▪ Annual Reports ▪ Company Policy, Social and Environmental Policy
	2.c.i.3. The participating operator provides objective evidence demonstrating that the business plan(s) is/are implemented and its effectiveness monitored, and that the business plan(s) are updated and adjusted based on the result of monitoring their effectiveness.	Not assessed	▪ No records were available for review	▪ Annual reports, internal reports correspondence and meeting minutes re monitoring and implementation of business plan. ▪ Internal/external assessments against Business Plan ▪ Updates to Business Plan
	2.c.i.4. The participating operator provides objective evidence demonstrating that the business plan(s) objectively reflect(s) the actual situation in and (business) development of the biomass/biofuels operation(s) of the participating operator.	Not assessed	▪ No records were available for review	▪ Internal/external assessments against Business Plan

Principle 3: Greenhouse Gases

Principle 3. Biofuels shall contribute to climate change mitigation by significantly reducing lifecycle GHG emissions as compared to fossil fuels.

RSB Criterion and Requirements	Indicators	Compliance	Relevant Information/ Evidence Provided	Evidence required at Audit to Verify Compliance
Criterion 3a. In geographic areas with legislative biofuel policy or regulations in force, in which biofuel must meet GHG reduction requirements across its lifecycle to comply with such policy or regulations and/or to qualify for certain incentives, biofuel operations subject to such policy or regulations shall comply with such policy and regulations and/or qualify for the applicable incentives. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer and Biofuel Blender	3.a.i.1. The participating operator has either calculated the Greenhouse Gas (GHG) emissions of the biofuels using the applicable methodology or provided all necessary input data to the external party that performs the GHG emissions calculations.	Not Applicable	▪ There is no policy or regulations for Feedstock Producers, Feedstock Processors or Biofuel Producers. It does apply to Biofuel blenders under the Renewable Fuel Standard but given that the 50% target is duplicated in Criterian 3c it is considered Not Applicable under this Citerion	▪ GHG calculation records, spreadsheets. Online GHG Calculator ▪ Independent GHG report and verification statement
	3.a.i.2. The participating operator maintains documentation of and evidence to support the GHG emissions calculations and the data used in the calculations or provided to external parties.	Not Assessed		▪ Delivery dockets, purchase orders, invoices, production records –input, in process and finished product, receipts, spreadhseets, reference documentation,
	3.a.i.3. The participating operator provides objective evidence demonstrating that lifecycle GHG emissions of the biofuels meet the	Not Assessed	▪ Clean Air Act Section 211(o) Regulation of Fuels and Fuel Additives: Changes to Renewable	▪ Requires that Biofuel blends shall have on average 50/60% lower lifecycle greenhouse gas emissions relative to the fossil

	minimum required GHG emissions reductions of the legislative biofuels policy or regulation in force, for the part of the value chain for which the participating operator is responsible.		Fuel Standard Program	fuel baseline. Relevant to Biofuel Producers only
Criterion 3b. Lifecycle GHG emissions of biofuel shall be calculated using the RSB lifecycle GHG emission calculation methodology, which incorporates methodological elements and input data from authoritative sources; is based on sound and accepted science; is updated periodically as new data become available; has system boundaries from Well to Wheel; includes GHG emissions from land use change, including, but not limited to above- and below-ground carbon stock changes; and incentivizes the use of co-products, residues and waste in such a way that the lifecycle GHG emissions of the biofuel are reduced. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer and Biofuel Blender Minimum requirements: ▪ The Participating Operator shall report the lifecycle GHG emissions of the feedstock or biofuel using the RSB GHG Calculation Methodology (RSB-STD-01-003-01). ▪ In certain instances where the RSB GHG Calculation Methodology is not available for a fuel pathway, the Participating Operator shall report the lifecycle GHG emissions of the feedstock or biofuel using an alternative,	3.b.i.1. The participating operator has either: (a) conducted all required calculations using the RSB GHG calculation methodology or (b) used the RSB-listed methodology that is applicable to her/his/its biomass/biofuels operation(s), or (c) provided all necessary input data to the external party that performs the GHG emissions calculations.	Non-Compliance	▪ There are no laws that require use of RSB GHG Calculation Methodology.	The RSB Greenhouse (GHG) Calculator must be used and can be accessed at http://rsbservices.org/rsbtool/content/step-4-pre-audit-preparation-tools Input data required for Online GHG Calculator are: ▪ Scope of operations ▪ Feedstock Input Materials data from production. ▪ Energy Inputs including Electricity, Feedstock (for Cogeneration) or Feedstock (for Heat) ▪ Chemicals and Water used ▪ Co-Products and Waste volumes ▪ Other emissions including transport and production ▪ Exclusions
	3.b.i.2. The participating operator maintains documentation of and evidence to support the GHG emissions calculations and the data used in the calculations for the RSB calculation methodology or the RSB-listed methodology.	Non-Complaince	▪ Regulations do not require a PO in Hawaii to account for GHG emmissions or retain records	▪ Delivery dockets, purchase orders, invoices, production records –input, in process and finished product, receipts, spreadsheets, reference documentation,
	3.b.i.3. If the participating operator used a GHG emissions calculation methodology other than the RSB methodology: The participating operator provides objective evidence demonstrating that the same methodology has been used for the	Not Assessed		▪ Review of chosen methodology by auditor as part of assessment. Requires supply chain uniformity in GHG method used. ▪ GHG calculation methodology

RSB-listed methodology, as indicated in the RSB GHG Calculation Methodology (RSB-STD-01-003-01).	entire supply chain of the biofuels up to the point where the participating operator took ownership.			procedure/guideline.
	3.b.i.4. The participating operator has recorded the results of the GHG calculation.	Non-Compliance		▪ GHG calculation records, spreadsheets. Online GHG Calculator
Criterion 3c. Biofuel blends shall have on average 50% lower lifecycle greenhouse gas emissions relative to the fossil fuel baseline. Each biofuel in the blend shall have lower lifecycle GHG emissions than the fossil fuel baseline. PO's who must comply: Biofuel Blender Minimum requirements: ▪ Lifecycle greenhouse gas emissions of a biofuel blend, calculated following the methodology in Criterion 3b, shall be on average 50% lower than the applicable fossil fuel baseline. ▪ Each biofuel in the blend shall have lower lifecycle GHG emissions, calculated following the methodology in Criterion 3b, than the applicable fossil fuel baseline. Progress requirements: The minimum lifecycle GHG reduction of the biofuel blend, starting at 50%, shall increase over time.	3.c.i.1. For biofuel substitutes of gasoline, diesel, and aviation jet fuel, the lifecycle GHG emissions of biofuel blends, in gCO2e/MJ-fuel, are on average lower than the gasoline, diesel, and jet fuel baseline by 50%. Note: A biofuels blend can be comprised 100% of the same biofuel.	Full Compliance	▪ Clean Air Act Section 211(o) Regulation of Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program	▪ PO GHG inventory data results compared to fossil fuel baseline
	3.c.i.2. For biofuel substitutes of gasoline, diesel, and aviation jet fuel, the lifecycle GHG emissions of each biofuel in a blend, in gCO2e/MJ- fuel, are lower than the gasoline, diesel, and jet fuel baseline, respectively.	Full Compliance		▪ PO GHG inventory data results compared to fossil fuel baseline
	3.c.i.3. The participating operator provides objective evidence demonstrating that GHG emissions in their biomass/biofuel operation(s) have been reduced over time. Note: The gasoline, diesel and jet fuel baselines are stated in the RSB Fossil Fuel Baseline GHG Calculation Methodology (RSB-STD-01-003-02) in gCO2e/MJ-fuel.	Not Assessed		▪ Greenhouse gas reduction minimization strategy ▪ Reports on reduction/energy efficiency projects ▪ Quantification of GHG reductions/ savings from these projects

Principle 4: Human and Labor Rights

Principle 4. Biofuel operations shall not violate human rights or labor rights, and shall promote decent work and the well-being of workers.

RSB Criterion and Requirements	Indicators	Compliance	Relevant Information/ Evidence Provided	Evidence required at Audit to Verify Compliance
Criterion4.a Workers shall enjoy freedom of association, the right to organize, and the right to collectively bargain. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer **Minimum requirements** In countries where the law prevents collective bargaining or unionization, operators shall not interfere with workers' own efforts to setup representational mechanisms in such cases, and shall provide a mechanism for workers to engage with employers without breaking the	4.a.i.1.Workers engaged in the operation(s)of the participating operator confirm that they are aware of, and have the right to freely organize, voluntarily negotiate their working conditions and bargain collectively with the management of the operation(s),as established in ILO Conventions 87 and 98.	Full Compliance	▪ Worker rights available on web sites such as: ▪ http://www.nlrb.gov/rights-we-protect ▪ http://hawaii.gov/labor/about-us	▪ Interviews with workers/union representatives and management/ HR personnel
	4.a.i.2. Workers engaged in the operation(s) of the participating operator confirm that they do not fear nor suffer any negative consequences (e.g. loss of privileges, penalties, lack of career advancement) in exercising the right to freely organize, voluntarily negotiate their working conditions	Full Compliance	▪ Hawaii Revised Statutes(or HRS) 377-7 (1) & (2) define coercion as unfair labor practice	▪ Interviews with workers/union representatives ▪ Action of the Hawaii Labor Board are matter of public record as defined in HRS 377 – 13 ▪ http://hawaii.gov/labor/hlrb/portl

law.	and bargain collectively with the management of the operation(s).			et-links/decisions.shtml
	4.a.i.3. Workers engaged in the operation(s) of the participating operator confirm that there is no perceived or actual threat of undue interference by the management and/or their designated representatives of the operation(s) of the participating operator in workers exercising their rights to freely organize, voluntarily negotiate their working conditions and bargain collectively with the management of the operation(s).	Full Compliance	▪ HRS 377-6 (8) provides that discharge or discrimination against an employee who has filed charge or testified is unfair labor practice	▪ Interviews with workers/union representatives. ▪ Action of the Hawaii Labor Board are matter of public record as defined in HRS 377 – 13 http://hawaii.gov/labor/hlrb/portlet-links/decisions.shtml
	4.a.i.4. In situations where the rights to freedom of association and collective bargaining are restricted by law, the management of the operation(s) of the participating operator allows workers to freely elect their own representatives, does not interfere with such representational mechanisms, and provides a mechanism for workers to freely engage and negotiate with employers without breaking the law analog to the requirements established in ILOConventions87and98.	Full Compliance	▪ HRS -377-6 (2) provides that interference with formation of a bargaining unit is unfair labor practice	▪ Action of the Hawaii Labor Board are matter of public record as defined in HRS 377 – 13 ▪ http://hawaii.gov/labor/hlrb/portlet-links/decisions.shtml
Criterion4.b No slave labor or forced labor shall occur. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer	4.b.i.1. The participating operator provides objective evidence demonstrating that her/his/its operation(s) does/do not engage in or support the use of forced, compulsory, bonded, trafficked or otherwise involuntary labor as defined in ILO Convention 29 either directly or through independent third parties (e.g. contractors, etc.) engaged in the operations.	Full Compliance	▪ ILO Convention 29 ▪ Slavery illegal under the Thirteenth Ammendment of the United States Constitution	▪ The risk of slave labor or forced labor is negligible. ▪ Affidavit from PO confirming compliance with national laws and regulations ▪ Details of any fines, penalty or infringement notices and corrective action in the last 4 years in relation to labor laws.

	4.b.i.2. Workers engaged in the operation(s) of the participating operator confirm that they are not required to lodge their identity documents with anyone and that no part of their salary, benefits or property is retained in order to force them to work or stay on the operation(s).	Full Compliance	▪ Forced labor is illegal in the United States of America	▪ Interviews with workers/union representatives, management/HR Personnel
	4.b.i.3. Spouses and children of workers engaged in the operation(s) of the participating operator are not obliged to work in the operation(s).	Full Compliance	▪ Forced labor is illegal in the United States of America	▪ Interviews with workers/union representatives, management/HR Personnel
	4.b.i.4. Workers engaged in the operation(s) of the participating operator confirm that they are allowed to leave their employment after due notice according to their contractual agreements.	Full Compliance	▪ Forced labor is illegal in the United States of America	▪ Interviews with workers/union representatives, management/HR Personnel
	4.b.i.5. Workers engaged in the operation(s) of the participating operator confirm that they are allowed to leave company premises freely at the end of their work shifts.	Full Compliance	▪ Forced labor is illegal in the United States of America	▪ Interviews with workers/union representatives, management/HR Personnel
Criterion 4.c No child labor shall occur, exception family farms and then only when work does not interfere with the child's schooling and does not put his or her heal that risk PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer	4.c.i.1. The participating operator provides objective evidence demonstrating that her/his/its operation(s) does/do not engage children of age 14 and under (or the legal national age). (Exceptions may be made in the case of family farms – see 4.c.i.3., 4.c.i.4. and 4.c.i.5. below)	Full Compliance	▪ HRS 390-2 defines age requirements and exception for employment of children under age 14	▪ Affidavit from PO confirming compliance with national laws and regulations ▪ Letter from legal counsel confirming the company has not been prosecuted in the last 4 years or is not being prosecuted in relation to labor laws ▪ Minimum age requirement specified by PO for all employee and contractor labor
Minimum requirements	4.c.i.2. The participating operator provides objective evidence	Full	▪ Employment in hazardous occupations under the age	▪ Affidavit from PO confirming compliance with national laws

▪ Schooling age limits that defined in the national legislation or14, whichever is higher. ▪ Hazardous child labor as defined by ILO Convention138 is not allowed. ▪ Work by children on family small holdings is only acceptable under adult supervision and when work does not interfere with the child's schooling nor puts at risk his or her health.	demonstrating that in her/his/its operation(s) workers under the age of 18 do not undertake hazardous or dangerous work, as defined by ILO convention 138.	Compliance	of 18 is not allowed under HRS 390-5 (5) and further defined Hawaii Administrative Rules title 12 chapter 25 subchapter 4 (or HAR 12-25-4) administered by the Department of Labor and Industrial Relations	and regulations and ILO 138 ▪ Letter from legal counsel confirming the company has not been prosecuted in the last 4 years or is not being prosecuted in relation to labor laws ▪ Minimum age requirement specified by PO for all employee and contractor labor ▪ List of employees and contractors involved in hazardous or dangerous work including date of birth/ birth certificate
	In the case of family farms only: 4.c.i.3. The participating operator provides objective evidence demonstrating that in her/his/its operation(s) where permitted by law, children between 12 and 14 years of age can work part time on family farms, only if they are family members or neighbors in a community where children have traditionally helped with agricultural work.	Full Compliance	▪ HAR 12-25-32 allows children between 10 and 14 to work in coffee harvesting if under supervision of parents. This administrative rule is silent on other agricultural activity.	▪
	4.c.i.4. The participating operator provides objective evidence demonstrating that in her/his/its operation(s) the work of children on family farms does not interfere with their educational, social or physical development and that the work day including schooling, transport and work does not exceed 10 hours.	Full Compliance	▪ For children between 16 and 18, HRS 390-2 (7) provides for work to not exceed 3 hours on school day, and HRS 390-2 (8) provides for work not to exceed 8 hours on a non-school day.	▪ Letter from school/educational institution detailing attendance and school hours ▪ Interviews with teachers at school
	4.c.i.5. The participating operator provides objective evidence demonstrating that in her/his/its operation(s) the work of children on	Not assessed		▪ Interviews with teachers at school

	family farms does not have negative impacts on the children's schooling (i.e. this may be verified by interviewing the children and the teachers at the local school).			
	4.c.i.6. The participating operator provides objective evidence demonstrating that in her/his/its operation(s) the work of children on family farms does not have negative impact on the children's health and development (i.e. this may be verified by interviewing children and local health service providers).	Not assessed		▪ Interviews with children and local health service providers
Criterion 4.d Workers shall be free of discrimination of any kind, whether in employment or opportunity, with respect to gender, wages, working conditions, and social benefits Minimum requirements ▪ Employees, contracted labor, small out growers, and employees of out growers shall all be free of discrimination as per ILOConvention111. ▪ Career development shall been encouraged for all workers ▪ Work sites shall be safe for women; free from sexual harassment and other discrimination and abuse; and promote access to jobs, skills training, recruitment and career development for women to ensure more gender balance in work and career development.	4.d.i.1. Workers engaged in the operation(s) of the participating operator confirm that they are not subjected to any form of discrimination in hiring, remuneration, benefits, access to training, promotion, termination, retirement or any other aspect of employment, based on race, color, gender, religion, political opinion, national extraction, social origin, sexual orientation, family responsibilities, marital status, union membership, age or any other condition that could give rise to discrimination.	Full Compliance	▪ HRS section 378-2 defines unlawful discriminatory practices;	▪ Interviews with workers/union representatives, management/HR Personnel ▪ Company policies, procedures and programs with respect to anti-discrimination, sexual harassment, equal opportunities etc ▪ Affirmative action policies, procedures and programs ▪ Anti-discrimination training records for employees and number of employees undertaking training ▪ Complaint records relating to discrimination in the last 4 years and action taken ▪ Internal and external reporting on discrimination and social performance
	4.d.i.2. Workers engaged in the operation(s) of the participating operator confirm that they are not subjected to corporal punishment, mental or physical oppression and	Full Compliance	▪ HRS 378 does not expressly mention corporal punishment, physical oppression, physical abuse or intimidation	▪ Interviews with workers/union representatives, management/HR Personnel

	coercion, verbal or physical abuse, sexual harassment or any other kind of intimidation in the workplace and where applicable in residences and other facilities provided by the operation(s) of the participating operator for use by workers.		▪ Title VII of the Civil Rights Act of 1964 deals with intimidation and harassment of any kind in the workplace.	
	4.d.i.3. Male and female workers engaged in the operation(s) of the participating operator confirm that they have equal access to career development programs (Not Applicable to family farms or small-scale operators and outgrowers).	Full Compliance	▪ Title VII of the Civil Rights Act of 1964. . SEC. 2000e-2. [Section 703] part d provides that discrimination in access to career development programs is unlawful.	▪ Interviews with workers/union representatives, management/HR Personnel ▪ Percentage of employees receiving regular performance and career development reviews by gender ▪ Ratio of basic salary of men to woman by employee category ▪ Total number and rate of employee turnover by gender ▪ Employee training records
Criterion 4e. Workers' wages and working conditions shall respect all applicable laws and international conventions, as well as all relevant collective agreements. Where a government regulated minimum wage is in place in a given country and applies to the specific industry sector, this shall be observed. Where a minimum wage is absent, the wage paid for a particular activity shall be negotiated and agreed on an annual basis with the worker. Men and women shall receive equal remuneration for work of equal value. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer	4.e.i.1. The participating operator provides objective evidence demonstrating that all workers are paid at least the government regulated minimum wage in the specific industry sector for the applicable work as required by law, and that this includes all mandated wages, allowances and benefits.	Full Compliance	▪ HRS 387-2 provides for minimum wages.	▪ Evidence of minimum wage payments e.g. employee pay slips ▪ Employee/Employee/Enterprise Agreements
	4.e.i.2. The participating operator provides objective evidence demonstrating that where government regulated minimum wages do not exist in the specific industry sector, the management of the operation(s) of the participating operator has agreed a wage with the workers.	Full Compliance	▪ HRS 387-2 provides for minimum wages.	▪ Not Applicable since HRS 387-2 provides for minimum wages.
	4.e.i.3. Workers engaged in the	Full	▪ HRS 387-2 provides for	▪ Not Applicable since HRS 387-

Minimum requirements: ▪ Wages shall be provided in cash or in another form acceptable to workers. ▪ Any housing provided by the Participating Operator for permanent or temporary workers shall be built and maintained to ensure good sanitary, health, and safety conditions. ▪ For piecework(pay based on production rather than hours), the pay rate must allow workers to earn at least the legal minimum wage or comparable regional wage, ▪ Whichever is higher, based on an eight-hour workday under average conditions. ▪ The maximum number of regular hours worked per week must not exceed 48. Workers may work overtime which shall be voluntary, but total working hours shall not exceed 80 hours per week.	operation(s) of the participating operator confirm that the agreed wage, as referred to in indicator 4.e.i.2. is agreed freely on an annual basis.	Compliance	minimum wages.	2 provides for minimum wages.
	4.e.i.4. The participating operator provides objective evidence demonstrating that such agreements are in line with all applicable laws and international conventions and local collective agreements.	Not assessed		▪ Not Applicable since HRS 387-2 provides for minimum wages.
	4.e.i.5. Workers engaged in the operation(s) of the participating operator confirm that men and women earn equal pay for equal work	Full Compliance	▪ HRS 378-2.3 provides that employer shall not discriminate between employees by paying wages to employees at a rate less than the rate paid to employees of another gender ▪ HRS 387-4 provides that wage discrimination base on sex is unlawful	▪ Evidence of minimum wage payments e.g. employee pay slips ▪ Employee/Employee/Enterprise Agreements ▪ Ratio of basic salary of men to women by employee category
	4.e.i.6. Workers engaged in the operation(s) of the participating operator confirm that for piecework, the pay rate allows male and female workers to earn at least the legal minimum wage (or comparable regional wage) for the specific work, based on an eight- hour workday under average conditions.	Not Assessed		▪ Evidence of minimum wage payments e.g. employee pay slips ▪ Employee/Employee/Enterprise Agreements
	4.e.i.7. Workers engaged in the operation(s) of the participating operator confirm that wages are paid on a monthly basis, or more frequently, in cash or in another form	Full Compliance	▪ HRS 387-3 defines monthly, weekly, bi-weekly, semi-monthly pay periods.	▪ Evidence of payments to employee e.g. employee pay slips ▪ Employee/Employee/Enterprise Agreements

	acceptable to workers.			
	4.e.i.8. Workers engaged in the operation(s) of the participating operator confirm that no deductions from wages as a result of disciplinary measures are made.	Not Assessed		▪ Interviews with workers/union representatives
	4.e.i.9. Workers engaged in the operation(s) of the participating operator confirm that all agreements relating to pay, benefits and conditions of employment are upheld	Not Assessed		▪ Interviews with workers/union representatives ▪ Employee Contract or Enterprise Agreement
	4.e.i.10. Work plans of and workers engaged in the operation(s) of the participating operator confirm that the maximum number of hours worked per regular week does not exceed 48 hours on average.	Not Assessed		▪ Interviews with workers/union representatives ▪ Employee Contract or Enterprise Agreement
	4.e.i.11. Workers engaged in the operation(s) of the participating operator confirm that overtime work takes place only in exceptional circumstances (e.g. peak production periods), that overtime work is voluntary, and that the total number of work hours including overtime does not exceed 80 hours per week.	Not Assessed		▪ Interviews with workers/union representatives ▪ Employee Contract or Enterprise Agreement
	4.e.i.12. Workers engaged in the operation(s) of the participating operator confirm that overtime is paid according to legal requirements and existing industry standards, and that the pay for overtime is equal to or higher than the pay for regular work time.	Full Compliance	▪ HRS 387-3 provides from overtime at 1.5 times non-overtime rate.	▪ Interviews with workers/union representatives ▪ Employee Contract or Enterprise Agreement
	4e.i.13. Workers engaged in the operation(s) of the participating operator confirm that in cases of terminations/redundancies/lay-offs,	Full Compliance	▪ HRS 394B – Dislocated Workers requires employees whose employment has been	▪ Employee Contract or Enterprise Agreement

	economic compensation for workers is provided according to relevant national labor legislation, and that in the absence of national legislation, the labor contract includes a provision for economic compensation.		terminated is elegible for relocation assistance, training, allowances, payment of wages and benefits	
Criterion 4.f Conditions of occupational safety and health for workers shall follow internationally-recognized standards. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer	4.f.i.1. The participating operator provides objective evidence demonstrating where applicable comprehensive and consistent compliance with the provisions of ILO convention 184.	Full Compliance	▪ Employers are required to establish a plan that provides a safe workplace in HAR 12-60-2	▪ Affidavit from PO confirming compliance with national laws and regulations and ILO 184 ▪ Letter from legal counsel confirming the company has not been prosecuted in the last 4 years or is not being prosecuted in relation to Occupational Health and Safety (OH&S) laws ▪ OH&S Policy, Manuals and procedures. ▪ Safety risk assessments
Minimum requirements Workers shall not be exposed to any occupational health or safety hazards without adequate protection and training as defined in national law and international standards.	4.f.i.2. The participating operator provides objective evidence demonstrating that workers are skilled in the implementation of their prescribed activities and jobs to minimize health and safety risks and the risk of work related accidents.	Full Compliance	▪ Employers are required to establish a plan that provides a safe workplace in HAR 12-60-2	▪ OH&S Policy, Manuals and procedures. ▪ Safety risk assessments ▪ Employee training and competency records ▪ Employee position descriptions
	4.f.i.3. The participating operator has a health and safety policy in place, which applies to all workers, including contractors, workers and outgrowers. (i.e. this indicator is Not Applicable to small operations).	Full Compliance	▪ Employers are required to establish a plan that provides a safe workplace in HAR 12-60-2	▪ Safety Policy for employees and contractors
	4.f.i.4. Small participating operators do not need to have the procedures required in indicator 4.f.i.3. in written form, but they need to be able to demonstrate that the requirements of	Full Compliance	▪	▪ Employer procedures and measures ▪ Interviews with workers/union representatives

	indicators 4.f.i.3. are complied with, and that their workers are aware of, and confirm implementation of such requirements (procedures and measures).			
	4.f.i.5. The participating operator provides objective evidence demonstrating that procedures and measures addressing emergencies and accidents are in place, fully implemented, continuously monitored and improved, and apply to all workers engaged in the operations of the participating operator.	Full Compliance	▪ See HAR 12-60-2-b-1-B-XI	▪ Incident reporting and management procedures/system ▪ Emergency procedures and records of emergency drills ▪ Independent/ internal audits of OH&S implementation
	4.f.i.6. The participating operator provides objective evidence demonstrating that all workers understand the participating operators' accident and emergency procedures and measures.	Full Compliance	▪ See HAR 12-60-2-b-2-B	▪ Interviews with workers/union representatives and management ▪ Emergency response training and competency records ▪ Records of emergency drills e.g. fire/chemical spill/personal injury ▪ Employee induction records
	4.f.i.7. The participating operator maintains, and reviews periodically records of all work-related accidents, and adjusts its accident and emergency procedures to minimize the risk of work-related accidents.	Full Compliance	▪ HAR 12-52.1 define accident reporting requirements.	▪ OH&S Incident reporting and management procedures/system ▪ Analysis of OH&S performance indicators ▪ OH&S meeting minutes, communications (e.g. safety alerts)
	4.f.i.8. The participating operator provides objective evidence demonstrating that first aid kits, fire extinguishers, and spill response material are available in sufficient quantity (i.e. readily available and accessible to workers) and quality	Full Compliance	▪ See HAR 12-60-2-b-2-A	▪ Site observation by auditor ▪ Equipment Maintenance and Service records ▪ Emergency response training and competency records

	(i.e. current and periodically serviced and appropriate to address the associated hazards and risks) at all sites including mobile facilities and in the vicinity of agricultural sites, and that workers are knowledgeable of such equipments and its use.			including use of equipment ▪ Emergency Response Plan including map
	4.f.i.9. The participating operator provides objective evidence demonstrating that all workers are provided with and regularly use personal protective equipment to protect them from all occupational health and safety hazards associated with their respective jobs.	Full Compliance	▪ HAR12-50-10 requires employers to provide personal protective equipment and training on that equipment.	▪ Site observation by auditor ▪ Interviews of workers by auditor ▪ Purchasing records ▪ OH&S Incident reporting and management procedures/system
	4.f.i.10. The participating operator provides objective evidence demonstrating that all workers are; ▪ trained, knowledgeable and regularly using protective equipment and installations, ▪ trained and knowledgeable in interpretation of labels, markings, signs, and other safety relevant audio and/or visual signals, ▪ trained and knowledgeable about work-related health and safety risks and preventative measures for minimizing the risk to health and safety, ▪ trained and knowledgeable about work-related risks to the environment and/or society, ▪ trained and knowledgeable about accident and emergency procedures, ▪ trained and knowledgeable about correct application, transport, storage and handling of hazardous	Full Compliance	▪ See HAR 12-60-2-b-2-B	▪ Site observation by auditor ▪ Interviews with workers and management ▪ Emergency response training and competency records ▪ Records of emergency drills e.g. fire/chemical spill/personal injury ▪ Employee induction records ▪ Employee training and competency records

	substances and waste, and ▪ trained and knowledgeable about all other aspects of the operation(s) of the participating operator that pose occupational health and safety risks or risks to the environment and/or to society.			
	4.f.i.11. In operation(s) other than small operations the participating operator provides objective evidence demonstrating that specially trained and equipped teams have been established to respond to accidents and emergencies without delay.	Full Compliance	▪ See HAR 12-60-2	▪ OH&S Policy, Manuals and procedures. ▪ Emergency response training and competency records including use of equipment ▪ Emergency response procedures
	4.f.i.12. The participating operator provides objective evidence demonstrating that all workers have access to clean sanitary facilities and potable (drinking) water.	Not Assessed	▪	▪ Site observation by auditor ▪ Purchasing records
	4.f.i.13. The participating operator provides objective evidence demonstrating that any living quarters and infrastructure for sleeping, for sanitary facilities (e.g. toilet/latrines, showers, etc) and facilities for storing, preparing and distributing of food provided to workers are designed, built and regularly maintained to which meet the basic needs of the personnel and their families, and comply with legal requirements, and ensure safe and healthy conditions.	Not Assessed	▪	▪ Site observation by auditor ▪ Purchasing including Equipment Maintenance and Service records ▪ Interviews with workers/union representatives
	4.f.i.14. Workers engaged in the operation(s) of the participating operator confirm that housing provided by the participating operator is in good structural condition, is maintained sufficiently and offers	Not Assessed	▪	▪ Site observation by auditor ▪ Interviews with workers/union representatives ▪ Purchasing including Equipment Maintenance and

	sufficient privacy, sanitary, health, and safety conditions.			Service records
Criterion 4 g. Operators shall implement a mechanism to ensure the human rights and labor rights outlined in this principle apply equally when labor is contracted through third parties. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer Progress requirements(required within three years of certification): ▪ Participating operators shall identify instances where those working within the scope of their operational function (feedstock producer, feedstock processor, or biofuel producer) are contracted outside of the direct influence of the operation by external parties and shall implement a mechanism to ensure that such contracted workers are afforded the same rights as described in this principle as employed staff within the process.	4.g.i.1. The participating operator maintains up-to-date records of all independent third parties engaged in her/his/its operation(s).	Full Compliance	▪ Ensure third parties comply with law and regulation defined above.	▪ Site observation by auditor ▪ Contractor register ▪ Interviews with contract workers ▪ Individual or company contracts for services provided ▪ Contractor training and competency requirements ▪ Contractor/site Induction records
	4.g.i.2. The participating operator provides objective evidence demonstrating that independent third parties engaged in her/his/its operation(s) are compliant with the requirements of Principle 4.	Full Compliance	▪ Ensure third parties comply with law and regulation defined above.	▪ Site observation by auditor ▪ Contractor register ▪ Interviews with contract workers ▪ Individual or company contracts/agreements for services provided ▪ Contractor training and competency requirements ▪ Contractor/site Induction records

Principle 5: Rural and Local Development

Principle 5. In regions of poverty, biofuel operations shall contribute to the social and economic development of local, rural and indigenous people and communities.

RSB Criterion and Requirements	Indicators	Compliance	Relevant Information/ Evidence Provided	Evidence required at Audit to Verify Compliance
Criterion 5a. In regions of poverty, the socioeconomic status of local stakeholders impacted by biofuel operations shall be improved. PO's who must comply: Feedstock Producer, Feedstock Processor and Biofuel Producer Minimum Requirements ▪ Where the socio economic baseline survey undertaken during the social impact assessment process in accordance with the Social Impact Assessment Guidelines (RSB-GUI-01-005-01) identifies an excess of unemployed or under employed labor in the locality of the operations, biofuel operations shall optimize the job creation potential. ▪ The Participating Operator shall assess ways in which the use of permanent and local	5.a.i.1. The participating operator provides objective evidence analyzing whether her/his/its biomass/biofuels operation(s) is/are in a region of poverty.	Not Applicable	▪ United Nations Human Development Indicators	▪ Auditor considers that PO's in the Hawaii context do not operate in a regional area that satisfies the RSB definition of poverty. ▪ The UNDP Human Development Indicators World Map is used to determine if you are in a region of poverty http://hdr.undp.org/en/data/map ▪ The IHDI value for the United States of America is 0.771. A value of less than 0.59 requires additional socioeconomic impact assessments under the RSB standard ▪ The PO should consider if a Social Impact Assessment is required by reviewing criteria presented in the screening exercise completed in accordance with the Screening Guidelines (RSB-GUI-01-002-02).
	In regions of poverty: 5.a.i.2. The participating operator provides objective evidence demonstrating that measures to improve their socio-economic status have been agreed with directly affected local stakeholders.	Not Applicable	▪	
	5.a.i.3. Local stakeholders affected by the biomass/biofuels operation(s) of the participating operator confirm that measures agreed with the management of and implemented by the biomass/biofuels operation(s) of the participating operator improve their socio-economic status	Not Applicable	▪	
	5.a.i.4. The measures agreed as per indicator 5.a.i.2. include measures to mitigate negative socio- economic	Not Applicable	▪	

labor can be promoted and introduced over the use of migrant, seasonal and casual labor. ▪ If it is determined through the RSB impact assessment or monitoring process that mechanization is the optimal choice from an environmental, economic, and social perspective, the transition from labor intensity to mechanization shall be done in a fair and equitable way for existing workers whereas many of the existing workers as possible are retrained and employed in the mechanized process. ▪ Measured improvements in the social and economic indicators as set against the baseline survey carried out under the social impact assessment process shall be targeted for review every three years. ▪ Skills training shall be provided by the operator if necessary to ensure the implementation of this criterion. Cultural sensitivity and respect for existing social structures shall be applied in the development of options for compliance with this criterion. ▪ At least one measure to significantly optimize the benefits to local stakeholders shall be implemented within a three year period of the start of the operations, for instance: a. Creation of year round and/or	impacts resulting directly or indirectly from the biomass/biofuels operation(s) on the directly affected stakeholders.			
	5.a.i.5. Local workers confirm that the management of the biomass/biofuels operation(s) of the participating operator has preferred and continues to prefer local workers where available over migrant labor.	Not Applicable	▪	
	5.a.i.6. Local workers confirm that the management of the biomass/biofuels operation(s) of the participating operator has created and continues to create permanent employment opportunities.	Not Applicable	▪	
	5.a.i.7. The participating operator provides objective evidence demonstrating that skill-training programs that support the employment of permanent workers and of local workers are in place and implemented.	Not Applicable	▪	
	5.a.i.8. The participating operator provides objective evidence demonstrating that where introduction of mechanization leads to a reduction in labor intensity this solution is preferable from a social and environmental and/or economic perspective.	Not Applicable	▪	
	5.a.i.9. Where introduction of mechanization leads to a reduction in labor intensity the directly affected stakeholders confirm this solution is preferable from a social and environmental and/or economic perspective.	Not Applicable	▪	
	5.a.i.10. Where introduction of mechanization leads to a reduction in	Not Applicable	▪	

long term jobs b. The establishment of governance structures that support empowerment of small scale farmers and rural communities such as co-operatives and micro credit schemes c. Use of the locally produced bio- energy to provide modern energy services to local poor communities d. Shareholding options, local ownership, joint ventures and partnerships with the local communities e. Social benefits for the local community such as the building or servicing of clinics, homes, hospitals and schools.	labor intensity the directly affected stakeholders confirm that the maximum possible number of employees was retained through re-assignment and re-training.			
	5.a.i.11. Where introduction of mechanization leads to a reduction in labor intensity the directly affected stakeholders confirm that the effects on workers who were not retained were mitigated through (a) social action plan(s).	Not Applicable	▪	
	5.a.i.12. The participating operator provides objective evidence demonstrating that at least one of the following has been achieved within a three-year period of the start of operations: a. Creation of year round and/or long term jobs by the biomass/biofuels operation(s) of the participating operator. b. The establishment of governance structures that support empowerment of small-scale farmers and rural communities such as co-operatives and micro credit schemes. c. Use of the locally produced bio-energy to provide modern energy services to local communities. d. Shareholding options, local ownership, joint ventures and partnerships with the local communities. e. Social benefits for the local community such as the building or servicing of clinics, homes, hospitals and schools.	Not Applicable	▪	
Criterion 5b. In regions of poverty,	The criterion 5.b. and the indicators to	Not	▪	

special measures that benefit and encourage the participation of women, youth, indigenous communities and the vulnerable in biofuel operations shall be designed and implemented. PO's who must comply: Feedstock Producer, Feedstock Processor and Biofuel Producer 5.b.1 Minimum requirements Data for rural poor women in regions of poverty shall be disaggregated in the baseline social surveys to assist with the design of special programs for the targeted people. 5.b.2 Progress requirements: Training and capacity building shall be required to give effect to this principle. Such training is required for both the workers and also for management that oversees employment protocols and supervision.	criterion 5.b. apply only to biomass/biofuels operations in regions of poverty.	Applicable		
	5.b.i.1. The participating operator provides objective evidence demonstrating that the management of the biomass/biofuels operation(s) has sufficient understanding of gender issues and issues that relate to youth, indigenous people and vulnerable people.	Not Applicable	▪	
	5.b.i.2. The participating operator provides objective evidence demonstrating that a social plan has been agreed with directly impacted stakeholders which includes special measures to benefit women, youth, indigenous people and vulnerable people and involve them in the biomass/biofuels operation(s) of the participating operator.	Not Applicable	▪	
	5.b.i.3.Women, youth, indigenous people and vulnerable people confirm that the social plan agreed as per indicator 5.b.i.2.isimplementedandthat benefits are received.	Not Applicable		

Principle 6: Food Security

Principle 6. Biofuel operations shall ensure the human right to adequate food and improve food security in food insecure regions.

RSB Criterion and Requirements	Indicators	Compliance	Relevant Information/ Evidence Provided	Evidence required at Audit to Verify Compliance
Criterion 6a.Biofuel operations shall assess risks to food security in the region and locality and shall mitigate any negative impacts that result from biofuel operations. PO's who must comply: Feedstock Producer, Feedstock Processor and Biofuel Producer Minimum requirements ▪ Where the screening exercise of the RSB impact assessment process reveals a direct impact on food security in food insecure regions, Participating Operators shall conduct a food security assessment in accordance with the RSB Food Security Assessment Guidelines (RSB-GUI-006-01). ▪ The scope of the food security assessment shall include additional impacts that the biofuel operations may have on cross- cutting requirements for food security including land,	6.a.i.1. The participating operator provides objective evidence demonstrating whether the biomass/biofuels operation(s) is/are in a region which is at risk of food insecurity, in accordance with the RSB screening exercise.	Not Applicable	▪ International Food Policy and Research Institutes Global Hunger Index ▪ United Nations Human Development Indicators	▪ Auditor considers that PO's in the Hawaii context will not impact on food security do not operate in a regional area that satisfies the RSB definition of food insecurity ▪ The International Food Policy and Research Institute's Global Hunger Index is used to determine if a biofuel project is located in a food insecure region http://www.ifpri.org/tools/2011-ghi-map. There is no GHI value for the United States of America since it is not considered to be in a region of food insecurity ▪ The PO should consider if a Food Security Assessment is required by reviewing criteria presented in the screening exercise completed in accordance with the Screening Guidelines (RSB-GUI-01-002-02).

water, labor, and infrastructure. ▪ If the food security assessment indicates a food security risk as a result of biofuel operations, a mitigation plan shall be developed and implemented through the ESMP. ▪ Measures developed under Principle 5 that mitigate food insecurity shall be integrated with the measures developed under Criterion 6a.	In regions where food security has been identified as a risk during the RSB screening exercise: 6.a.i.2. The participating operator provides objective evidence demonstrating that an assessment of the status of food security in the region has been undertaken including the assessment of access, availability, stability and utilization of food.	Not Applicable	▪ Final Environmental Assessment for Study Biofuel Project ▪ Finding of No Significant Impact for Study Biofuel Project	▪ The RSB Screening Tool RSB-GUI-01-002-02 was completed as a desktop assessment for Study Biofuel Project. It was determined that no Food Security Specialist Impact Study is required
	6.a.i.3. The participating operator provides objective evidence demonstrating that the methodology used for assessment of the status of food security in the region provides results equivalent to the RSB Food Security Assessment Guidelines (RSB-GUI-006-01).	Not Applicable		
	6.a.i.4. The participating operator provides objective evidence demonstrating that an assessment of the impacts of her/his/its biomass/biofuels operation(s) on food security in the region in accordance with the RSB Food Security Assessment Guidelines (RSB-GUI-006-01) was carried out, including an assessment of potential positive and negative impacts and impacts on local economic development.	Not Applicable		
	6.a.i.5. The participating operator provides objective evidence demonstrating that in cases where her/his/its biomass/biofuels operation(s) actually or possibly result in negative impact(s) on food security in the region, the corresponding management plan has been adapted to mitigate such negative impacts.	Not Applicable		

	6.a.i.6. The participating operator provides objective evidence demonstrating that the implementation of the relevant management plan ensures that impacts on food security are minimized and mitigated, and that access, availability, stability and utilization of food at the local level do not decrease as a result of her/his/its biomass/biofuels operation(s).	Not Applicable		
Criterion 6b. In food insecure regions, biofuel operations shall enhance the local food security of the directly affected stakeholders. PO's who must comply: Feedstock Producer, Feedstock Processor and Biofuel Producer; Small Scale Operators are exempt Minimum requirements: ▪ In regions where food security is an ongoing risk and concern the operations shall enhance food security of the locally affected community by for instance setting aside land for food growing, increasing yields, providing opportunities for workers to carry out household-level food production, sponsoring agricultural support programs and activities and/or making value added food byproducts available to the local market. ▪ Measures to enhance regional food security shall be integrated with measures that contribute to rural and social development developed under Principle 5.	Criterion 6.b and the corresponding indicators 6.b.i.1., 6.b.i.2. and 6.b.i.3. apply only in food insecure regions.	Not Applicable	▪ Hawaii is not considered a food insecure region	
	6.b.i.1. The participating operator provides objective evidence demonstrating that measures are implemented to enhance food security of directly affected stakeholders.	Not Applicable		
	6.b.i.2. The participating operator provides objective evidence demonstrating that the effectiveness of the measures to enhance food security of directly affected stakeholders is monitored.	Not Applicable		
	6.b.i.3. The participating operator maintains records of all activities designed to enhance local food security(as prescribed in indicator 6.b.i.1.) including the type of activity, number of people/organizations affected and monetary value of the implemented measures. Guidance-activities to enhance food Not Applicable security includes but is not limited to: 1.setting aside land for food growing, 2.increasing yields, 3.Providing opportunities for workers to	Not Applicable		

	carryout household-level food production, 4.Sponsoring agricultural support programs and activities, 5.Making value-added food byproducts available to local markets			

Principle 7: Conservation

Principle 7. Biofuel operations shall avoid negative impacts on biodiversity, ecosystems, and conservation values.

RSB Criterion and Requirements	Indicators	Compliance	Relevant Information/ Evidence Provided	Evidence required at Audit to Verify Compliance
Criterion 7.a Conservation values of local, regional or global importance within the potential or existing area of operation shall be maintained or enhanced. PO's who must comply: Feedstock Producer, Feedstock Processor and Biofuel Producer **Minimum requirements** ▪ Participating Operators shall identify the conservation value(s) within the area of a potential or existing operation during the screening exercise of the RSB impact assessment process (Principle2). ▪ Conversion or use of new areas for biofuel operations shall not occur prior to the screening exercise. ▪ Where conservation values of local, regional or global importance have been identified, Participating Operators shall carry out a specialized impact assessment in accordance with the Conservation Impact	7.a.i.1. The participating operator provides objective evidence demonstrating that they have identified conservation values of global, regional or local importance affected by the potential or existing biomass/biofuels operation(s) of the participating operator by following the screening exercise (RSB-GUI-01-002-02) of the RSB impact assessment process.	Full Compliance	▪ Final Environmental Assessment for Study Biofuel Project ▪ Finding of No Significant Impact for Study Biofuel Project ▪ *National Environmental Policy Act of 1969*	▪ The RSB Screening Tool RSB-GUI-01-002-02 was completed as a desktop assessment for Study Biofuel Project. It was determined that no Conservation Impact Assessment was required
	7.a.i.2. The objective evidence provided by the participating operator on the identification of conservation values as per the screening exercise (RSB-GUI-01-002-02) includes: ▪ Maps and databases used for the first steps of the assessment. ▪ Evidence of consultation (e.g. meeting records) with relevant national/regional experts and institutions to identify conservation values of global, regional or local importance. ▪ Evidence of consultation with local stakeholders to conservation values of global, regional or local importance.	Partial Compliance	▪ Conservation Impact Assessment Guidelines (RSB-GUI-01-007-01). ▪ The RSB Screening Tool RSB-GUI-01-002-02 ▪ If the project land is in a "No Go" area then RSB certification is not allowed. These areas include: IUCN Category I-II, UNESCO World Heritage Sites, Ramsar Wetlands and any legally protected areas. To determine if project is in one of these areas	▪ Methodology assessment is in accordance with best practice or US/Hawaii standards, policies and regulations etc. ▪ Public documents used during the initial investigation (maps, databases etc.) ▪ Minutes and correspondence with conservation experts/professional bodies/ regulatory authorities and associations. ▪ Minutes and correspondence with government departments discussing aspects of

Assessment Guidelines (RSB-GUI-01-007-01). Biofuel operations shall prioritize areas with the lowest possible risk of impacts to the identified conservation values. ▪ Areas identified as "no-go areas" shall not be used for biofuel operations after the 1st of January 2009, unless feedstock production or processing operations are legally authorized as part of the conservation management for the area concerned. ▪ Areas that contain identified conservation values of global, regional or local importance or that serve to maintain or enhance such conservation values shall not be converted after the 1st of January 2009, or earlier as prescribed by other relevant international standards. ▪ Areas that contain conservation values of global, regional or local importance or serve to maintain or enhance such conservation values shall only be used if adequate management practices maintain or enhance the identified conversation values (e.g. sustainable biomass harvesting).In case of new operations, conversion or use of areas shall not occur prior to the land use impact assessment ▪ Hunting, fishing, ensnaring, poisoning and exploitation of rare, threatened, endangered and legally protected species shall not occur on the operation	▪ For new projects, site level mapping, including delineation of areas to be planted and areas to be set aside for conservation values of global, regional or local importance. ▪ For existing projects, site level mapping, including delineation of areas to be maintained or restored for conservation values of global, regional or local importance. ▪ Comprehensive description of conservation values of global, regional or local importance related to the area. ▪ Comprehensive description of the possible impacts of the biomass/biofuels operation(s) on conservation values of global, regional or local importance. ▪ Comprehensive description of the possible risks resulting from the biomass/biofuels operation(s) to conservation values of global, regional or local importance. ▪ Comprehensive description of the precautionary measures and practices identified and implemented to ensure that the conservation values of global, regional or local importance relating to and/or affected by the potential or existing biomass/biofuels operation(s) of the participating operator (i.e. including consideration of the wider landscape context are maintained or enhanced.		go to https://www.ibatforbusiness.org/login website and register. ▪ If project has not been under continuous cultivation since January 1 2009 then a Conservation Impact Assessment is required following the RSB Impact Assessement Guidelines (RSB-GUI-01-007-01). Cut off varies depending on activity: Forestry Nov 1994, Palm Plantation 2005, products sold in US - 19 Dec 2007 USRFS and or EU – 1 Jan 2008. ▪ National Environmental Policy Act of 1969 compliance is required where federal funding for project or if permit is mandated. ▪ US Endangered Species Act of 1973 ▪ HRS 195D – Endangered Species Act, Conservation of Aquatic Life, Wildlife and Land Plants	conservation on the site ▪ Consultation plan regarding conservation that includes indigenous peoples views ▪ Environmental assessment is on public exhibition prior to approval ▪ Public submissions addressed ▪ Site level mapping for new projects identifying conservation values to be maintained and enhanced ▪ Threatened flora and fauna database search results for project area of species expected to be present at the site and species actually observed at the site
	7.a.i.3. The participating operator provides objective evidence demonstrating that the methodology used to identify conservation values follows the RSB Screening Exercise (RSB-GUI-01-002-02) or provides	Non-Compliance	▪ Conservation Impact Assessment Guidelines (RSB-GUI-01-007-01). ▪ The RSB Screening Tool RSB-GUI-01-002-02	▪ The Assessment for Study Biofuel Project focussed on current site survey results and did not consider conservation values in a wider context such as 'expected' species (rather

site.	equivalent results.			than observed) that may have local regional and global significance.
	7.a.i.4. The participating operator provides objective evidence demonstrating that no area with conservation values of global, regional or local importance has been converted for biofuels production after 1 January 2009,or earlier as prescribed by other international standards	Full Compliance	▪ HRS – 343. Land use in Conservation Area requires an Environmental Assessment	▪ Site observation by auditor ▪ Aerial photography ▪ Internal/External studies completed identifying conservation values (or lack of) for project site
	7.a.i.5. The participating operator provides objective evidence demonstrating that the proposed or existing biomass/biofuels operation(s) can be/are managed in ways which maintain or enhance any conservation values of global, regional or local importance identified during the screening exercise.	Full Compliance	▪ HRS – 343 requires a habitat conservation plan or safe harbor agreement	▪ Site management plans that consider flora and fauna, ecology, landscape and vegetation or conservation specific
Guidance for 7.a.i.6: The mitigation measures to be covered in the ESMP include but are not limited to sustainable harvesting of the biomass existing on the site (e.g. thinning, mowing), protection measures for biodiversity values , the creation of conservation set side zones, buffer zones, multiple use zones, controls on access and product removals, and specifically the ban on hunting, fishing, ensnaring, poisoning and exploitation of rare, threatened, endangered and legally protected species.	7.a.i.6. The participating operator provides objective evidence demonstrating that precautionary measures and implemented practices have been effective in maintaining or enhancing conservation values of global, regional or local importance.	Full Compliance	▪ HRS – 343 requires a habitat conservation plan or safe harbor agreement	▪ Site management plans that consider flora and fauna, ecology, landscape and vegetation or conservation specific
	7.a.i.7. The participating operator provides objective evidence demonstrating that the results of the RSB Screening Exercise (RSB- GUI-01-002-02) and related precautionary measures have been effective in giving preference to operating in areas which pose the lowest risk to conservation values of global, regional or local importance.	Not Assessed		▪ Reference to conservation impact assessment in site management plans ▪ Recommendations of conservation impact assessment in site management plans
	7.a.i.8. The participating operator	Full	▪ HRS 343-3 requires that	▪ Location of public display of

	provides objective evidence demonstrating that a written summary listing of the conservation values of global, regional or local importance identified through the RSB Screening Exercise (RSB-GUI-01-002-02) is publicly available.	Compliance	habitat conservation plan and safe harbor agreement are available to the public for inspection	Conservation impact assessment –web based, hardcopy on site, library, local government agency
	7.a.i.9. The participating operator provides objective evidence demonstrating that none of her/his/its biomass/biofuel operation(s) have taken place or are planned within legally protected areas, UNESCO World Heritage sites, Ramsar sites, IUCN Protected Areas Types 1 & 2, Alliance for Zero Extinction sites, or any legally protected areas, after 1 January 2009 unless there is documented evidence that biomass/biofuels production or processing operation(s) are legally authorized as part of the conservation management for the area concerned.	Partial Compliance	▪ HRS 343 requires an Environmental Assessment for operations in identified Conservation areas ▪ HRS 195 Natural Area Reserve Systems ▪ HRS 186 – Allows for the operation of tree farms in Agricultural and Conservation Districts zoned for Commercial Forest Use	▪ Regional Plan displaying nearest identified world heritage sites, RAMSAR sites, National Parks and formal reserves in relation to the site.
	7.a.i.10. The participating operator provides objective evidence demonstrating that no hunting, fishing, ensnaring, poisoning and exploitation of rare, threatened, endangered and legally protected species is ongoing on her/his/its biomass/biofuels operation(s).	Full Compliance	▪ HRS 195D Endangered Species Act, Conservation of Aquatic Life, Wildlife and Land Plants. ▪ US Endangered Species Act of 1973	▪ Identification of rare, threatened, endangered and legally protected species on site ▪ Recorded instances of listed activities occurring on the site ▪ Public access and mitigation strategies to manage risk if present
Criterion 7.b Ecosystem functions and services that are directly affected by biofuel operations shall be maintained or enhanced. PO's who must comply: Feedstock Producer, Feedstock Processor and Biofuel Producer	7.b.i.1. The participating operator provides objective evidence demonstrating that ecosystem functions and services that are directly affected by her/his/its biomass/biofuels operation(s) were identified during the screening exercise.	Partial Compliance	▪ Conservation Impact Assessment Guidelines (RSB-GUI-01-007-01).	▪ Conservation Impact Assessment
Guidance for 7.b.i.2: The	7.b.i.2. If evidence exists that the	Partial	▪ The RSB Screening Tool	▪ Identified instances where site

management practices in the ESMP may include: *For ecosystem functions: the creation or maintenance and protection of areas where natural regeneration processes are allowed to take place, and where populations of native plants and animals can breed, feed and find refuge.* *For Ecosystem services:*	operation will directly affect ecosystem functions and services, the participating operator provides objective evidence demonstrating that management of her/his/its biomass/biofuels operation(s) effectively maintains or enhances the ecosystem functions and services identified both inside, and outside the site(s) of the biomass/biofuels operation(s).	Compliance	RSB-GUI-01-002-02	operations will affect ecosystem functions
Actions to control and minimize disturbance to water quality and water flows e.g., the creation or protection of riparian buffer zones of natural vegetation, and the maintenance of natural vegetation in important water catchments, especially steep slopes. *•Actions to control and minimize soil disturbance, erosion and compaction including the avoidance of land clearance on sensitive or highly erodible soils, especially on steep slopes, and positive soil restoration measures where appropriate.* *•Actions to minimize the risk of fire and the effects of wind erosion e.g., maintenance of appropriate natural barriers.* *•Protection and maintenance of areas of natural vegetation where local populations can maintain a sustainable harvest of those natural goods (e.g., NTFPs) which have been identified as important to their livelihoods.*	7.b.i.3. The participating operator provides objective evidence demonstrating that continuous monitoring and measures implemented through their ESMP to maintain and enhance ecosystem functions and services are effective.	Partial Compliance	▪ Management Plans are referred to in Environmental Assessment of Study Biofuel Project but none were sighted	▪ Monitoring records that demonstrate improvements in ecosystem functions over baseline studies.
Criterion 7c. Biofuel operations shall protect, restore or create buffer zones. PO's who must comply: Feedstock	7.c.i.1. The participating operator provides objective evidence demonstrating that buffer zones are protected, restored or created within the site(s) of her/his/its	Non-Compliance	▪ No reference to buffer zones in Legislation or Environemtnal Assessment relating to maintaining and	Site management plan which identifies buffer zones and methods for protection

Producer, Feedstock Processor, Biofuel Producer Minimum requirements In accordance with the results of the impact assessment process, buffer zones shall be protected, restored or created to avoid negative impacts from biofuel operations on areas that are contiguous to the operation site. In accordance with the results of the impact assessment process, within the operational site, buffer zones shall be protected, restored or created to avoid negative impacts from the biofuel operations on areas that contain conservation value(s)of local, regional or global importance. *Guidance for 7.c.i.3: Buffer Zones may be managed in order to contribute to the sustained supply of environmental goods and services, in line with their protective functio*	biomass/biofuels operation(s) around areas with conservation values of local, regional or global importance.		enhancing conservation values	
	7.c.i.2. The participating operator provides objective evidence demonstrating that buffer zones are effective in mitigating potential negative impacts of the biofuel/biomass operations on areas that are contiguous to the operation site and, within the operation site, on any area containing conservation value(s) of local, regional or global importance.	Non-Compliance	▪ US Dept of Agriculture has voluntary Conservation Reserve Program providing compensation for establishment of buffers	Monitoring and inspection of buffer zones in accordance with site management plan requirements and Conservation Impact Assessment recommendations
	7.c.i.3. The participating operator provides objective evidence demonstrating that buffer zones remain unused for her/his/its biomass/biofuels operation(s).	Not Assessed		Site observation of any activities occurring in buffer zones
Criterion 7d. Ecological corridors shall be protected, restored or created to minimize fragmentation of habitats. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer 7.d.1 Minimum requirements ▪ Existing ecological corridors within the operational site shall be set-aside and protected with appropriate surrounding buffer zones. ▪ Whenever the operational site impairs the connectivity between surrounding ecosystems, ecological corridors shall be	7.d.i.1. The participating operator provides objective evidence demonstrating that ecological corridors within the production site(s) of her/his/its biomass/biofuels operation(s) have been identified.	Non-Compliance		Site management plans displaying ecological corridors if any. Management plan prescriptions for ecological corridor states that they have restricted access or have specific management
	7.d.i.2. The participating operator provides objective evidence demonstrating that existing ecological corridors within the production site(s) of her/his/its biomass/biofuels operation(s) are set-aside and protected with appropriate buffer zones.	Non-Compliance		Site observation by auditor Incident reports of unauthorized access or habitat impacts.
	7.d.i.3. The participating operator provides objective evidence demonstrating that, where there is the			Previous site plans and changes to site plans to accommodate surrounding ecosystem

created by the operator. 7.d.2 Progress requirements (non small-scale Operators only) ▪ New ecological corridors shall be created within the operation site if it is surrounded by areas containing wildlife and there is evidence that such corridors would improve connectivity. ▪ Any ecological corridor destroyed between the1stof January 2004 and the 31st December 2008 on or near the operation site and for which the Participating Operator is directly accountable shall be restored.	risk that biomass/biofuels operation(s) could increase the fragmentation of surrounding ecosystems, the spatial layout of the biomass/biofuels operation(s) is adjusted to not cause any additional fragmentation and to maintain connectivity of ecosystems through the creation of ecological corridors within her/his/its biomass/biofuels operation(s).			requirements.
	Progress requirements (Non small-scale Operators only) 7.d.i.4. The participating operator provides objective evidence demonstrating that specific measures are implemented to establish ecological corridors that facilitate the movement of wildlife in areas surrounding the site(s) of her/his/its biomass/biofuels operation(s).	Non-Compliance		If corridors exist or could potentially exist then specific measures are taken to establish and maintain corridors
	7.d.i.5. The participating operator provides objective evidence demonstrating that ecological corridors, which were destroyed between the 1st of January 2004 and the 31st December 2008, and for which the participating operator is directly accountable, have been restored effectively.	Not Assessed		Aerial photography Rehabilitation plans for ecological corridors Monitoring records indicating increasing biodiversity
	7.d.i.6. The participating operator provides objective evidence demonstrating that ecological corridor(s) are effective in protecting, maintaining and/or enhancing the environmental aspect for which they were established.	Non-Compliance		If corridors exist specific management plans for them Monitoring records indicating increasing biodiversity
Criterion 7e. Biofuel operations shall prevent invasive species from invading areas outside the operation	7.e.i.1. The participating operator provides objective evidence demonstrating that no species which is	Partial Compliance	▪ Public Law 109-154 109th Congress Public Lands Corps Healthy Forests	▪ The plant species proposed to be used in the Study Biofuel Project was not listed on the

site. PO's who must comply: Feedstock Producer, Feedstock Processor (including transport) Minimum requirements ▪ Participating Operators shall not use any species officially prohibited in the country of operation. ▪ If the species of interest is not prohibited in the country of operation, Participating Operators shall seek adequate information about the invasiveness of the species to be used for feedstock production, e.g.in the Global Invasive Species Database(GISD)[1]. ▪ If the species is recorded as highly invasive under similar conditions (similar climate, and similar local ecosystems, and similar oil types), this species shall not be used. ▪ If the species has not been recorded as representing a high risk of invasiveness under similar conditions(climate, local ecosystems, soil type),Participating Operators shall follow the specific steps: 1. During the feedstock selection and development, Participating Operators shall conduct a Weed Risk Assessment (WRA) to identify the potential threat of invasion. If the species is deemed highly invasive after the Weed Risk Assessment, this specie shall not be used. 2. During feedstock production,	officially prohibited at national or regional level because of high risk for invasion or which has been analyzed or recorded (e.g. in the Global Invasive Species Database) as highly invasive under similar conditions (climate, local ecosystems, soil types, etc.) are used by the biomass/biofuels operation(s) of the participating operator.		Restoration Act of 2005 ▪ HRS 194 Invasive Species Council ▪ HRS 520A Landowners are required to control invasive species ▪ IUCN Species Survival Commission - Global Invasive Species Database http://www.issg.org/database/welcome/ ▪ The RSB Screening Tool RSB-GUI-01-002-02 Weed Risk Assessment	Global Invasive Species Database
	7.e.i.2. The participating operator provides objective evidence demonstrating that a Weed Risk Assessment has been undertaken analyzing each species cultivated, used, or otherwise handled in the biomass/biofuels operation(s) of the participating operator, the risk of invasion.	Non-Compliance	▪ The RSB Screening Tool RSB-GUI-01-002-02 Weed Risk Assessment	▪ The RSB Screening Tool RSB-GUI-01-002-02 was completed as a desktop assessment for Study Biofuel Project. It was determined that 1 Specialist Impact Study is required being a Weed Risk Assessment specifically to assess 'invasiveness' of plant species used.
	7.e.i.3. The participating operator provides objective evidence demonstrating that the species used in her/his/its biomass/biofuels operation(s) have no or low risk of invasion in similar conditions (climate, local ecosystems, soil type, etc.).	Non-Compliance	▪ HRS 152 Noxious Weed Control Plant Import ▪ RSB-GUI-01-007-01 RSB Conservation impact Assessment Guidelines Clause 2.6 ▪ IUCN Guidelines on Biofuels and Invasive Species ▪ RSB Weed Risk Assessmemt Template	▪ Weed Risk Assessment
	7.e.i.4. If no evidence exists demonstrating that the species used in biomass/biofuels operations have no or low risk of invasion in similar conditions, the participating operator	Non-Compliance	▪ IUCN Guidelines on Biofuels and Invasive Species ▪ HRS 152 – Noxious Weed Control	▪ Weed Risk Assessment

Participating Operators shall setup a management plan, which includes cultivation practices that minimize the risks of invasion, immediate mitigation actions(eradication, containment or management) in case of escape of a plant species outside the operation site(possibly through the provision of a specific fund), as well as a monitoring system that checks for escapes and the presence of pests and pathogens outside the operation site. 3. During harvesting, processing, transport and trade, Participating Operators shall contain propagules in an appropriate manner on site and during transport.	provides objective evidence demonstrating implementation of the IUCN Guidelines on Biofuels and Invasive Species or any applicable government approved guidelines that exist in the country or region of her/his/its biomass/biofuels operation(s).		▪ RSB Weed Risk Assessmemt Template	
	7.e.i.5. The participating operator provides objective evidence demonstrating that specific measures are implemented which prevent and mitigate the risk of invasion during cultivation, harvesting, processing, transport and trade.	Partial Compliance	▪ HRS 194-5 enbles state to control or direct control of invasive species on private property ▪ HRS 152 – Noxious Weed Control	▪ Weed Management Plan
	7.e.i.6. The participating operator provides objective evidence demonstrating that continuous monitoring is undertaken to detect any invasion outside the operation site, of species cultivated, used or otherwise handled by the biomass/biofuels operation(s).	Full Compliance	▪ HRS 194-5 enbles state to control or direct control of invasive species on private property ▪ HRS 152 – Noxious Weed Control	▪ Weed Management Plan ▪ Monitoring records ▪ Complaints from neighbours, local community and stakeholders
	7.e.i.7. The participating operator provides objective evidence demonstrating that in the case of invasion, the participating operator has implemented corrective measures (e.g. eradication, containment or management).	Full Compliance	▪ HRS 194-5 enbles state to control or direct control of invasive species on private property ▪ HRS 152 – Noxious Weed Control	▪ Weed Management Plan includes response, containment and eradication measures.

Principle 8: Soil

RSB Principle				
Principle 8: Biofuels operations shall implement practices that seek to reverse soil degradation and/or maintain soil health.				
RSB Criterion and Requirements	Indicators	Compliance	Relevant Information/ Evidence Provided	Evidence required at Audit to Verify Compliance
Criterion 8a. Operators shall implement practices to maintain or enhance soil physical, chemical, and biological conditions. PO's who must comply: Feedstock Producer 8.a.1 Minimum requirements: ▪ Soil erosions hall be minimized through the design of the feedstock production site and use of sustainable practices in order to enhance soil physical health on a watershed scale. ▪ Participating Operators shall implement practices to maintain or enhance soil organic matter on the feedstock production site. ▪ The use of agrarian and forestry residual products for feedstock production, including	8.a.i.1. The participating operator provides objective evidence demonstrating that soil erosion is minimized through the design of feedstock production and through the use of specific management practices (e.g. crop rotation, direct planting, maintaining vegetative ground cover, terracing, maintaining or creating tree hedges, etc.).	Full Compliance	▪ UN Food and Agriculture Organisation, Good Agricultural Practices ▪ HRS 180C – describes the framework for Soil Erosion and Sediment Control Management by Dept of Health. Landowners can develop Conservation Plans	▪ Soil management plan/erosion control plan includes soil erosion mitigation strategies
	8.a.i.2. The participating operator provides objective evidence demonstrating an understanding of the soil erosion issues and organic matter content in the biomass/biofuels production area of the operation(s), and the impacts of biomass/biofuels production on the maintenance or enhancement of soil properties.	Not Assessed	▪ UN Food and Agriculture Organisation, Good Agricultural Practices ▪ US 2008 Farm bill provides assistance to producers to voluntarily conserve natural resources including soil health	▪ Soil erosion and mitigation training records ▪ National Soil Maps ▪ Soil management plan including soil properties, current/potential uses in local and regional context and risk assessment and mitigation strategies for key impacts including preparation for

lignocellulosic material, shall not be at the expense of long-term soil stability and organic matter content. ▪ Where the screening exercise has triggered the need for a Soil Impact Assessment (RSB- GUI-01-008-01), Participating Operators shall: ▪ Develop a soil management plan as part of the Environmental and Social Management Plan (ESMP). ▪ Perform periodic sampling of soil on the feedstock production site to evaluate the effect of the soil management plan on the organic matter content. Where the practices included in the soil management plan are not seen during monitoring to maintain soil organic matter at the optimal level, alternative practices shall be investigated. 8.a.2 Progress requirements: ▪ Participating Operators shall implement measures to improve soil health, such as Conservation Agriculture practices as defined by the FAO, including: a. Organic direct planting, b. Permanent soil cover, c. Crop rotation, or d. Fallow areas with natural or planted vegetation in order to recover natural fertility and interrupt pest life cycles				planting, use of fertilizers and management of residues
	8.a.i.3. The participating operator provides objective evidence demonstrating implementation of practices to reduce or avoid soil erosion and compaction, and to maintain or improve soil organic matter.	Not Assesed	▪ UN Food and Agriculture Organisation, Good Agricultural Practices	▪ Baseline soil survey results ▪ Representative soil sampling regime including consideration of compliance requirements ▪ Soil erosion and mitigation training records ▪ Soil Management Plan
	8.a.i.4. The participating operator provides objective evidence demonstrating that the use of agricultural and/or forestry residual materials for feedstock production, including lignocellulosic material, have and/or is not affecting the long-term soil stability and organic matter content of the soils in the biomass/biofuels operation(s) of the participating operator.	Not Assesed		▪ Site observation by auditor ▪ Soil monitoring program with analysis of results over time in comparison to baseline surveys
	8.a.i.5. The participating operator provides objective evidence demonstrating that within three years of certification, measures to improve soil health, such as Conservation Agriculture practices as defined by the FAO, are implemented, including organic direct planting, permanent soil cover, crop rotation and set aside areas with natural or planted vegetation in order to recover natural fertility and interrupt pest life cycles.	Not Assesed	▪ FAO Conservation Agriculture	▪ Site observation by auditor ▪ Soil monitoring program with analysis of results over time in comparison to baseline surveys ▪ Soil management practices are in accordance with FAO guidelines
	The following indicators are applicable only if the RSB screening exercise has triggered the need for a Soil Impact Assessment (RSB-GUI-01-008-01): 8.a.i.6. The participating operator provides objective evidence	Full Compliance	▪ HRS 180C – describes the framework for Soil Erosion and Sediment Control Management by Dept of Health. Landowners can develop	▪ Soil Management plan developed as part of ESMP

	demonstrating that a comprehensive Soil Management Plan is in place and implemented as part of the ESMP		Conservation Plans	
	8.a.i.7. The participating operator provides objective evidence demonstrating that the Soil Management Plan is based on continuous monitoring (e.g. at minimum once per season and once per crop rotation, etc.) of physical, chemical and biological properties of the soils and other related factors (e.g. rainfall, water availability, run-off and other conditions, climatic conditions, size and layout of the production area, etc.) in and around the biomass/ biofuels production area of the operation(s) of the participating operator, as collected through the impact assessment studies or other equivalent source.	Full Compliance	▪	▪ Soil Management Plan includes all list items in 8.a.i.7. ▪ Site observation by auditor
	8.a.i.8. Where the Soil Impact Assessment demonstrated that the soil conditions were already optimal, the participating operator provides objective evidence demonstrating that implementation of Soil Management Plan effectively prevents (and if necessary mitigates) alteration of physical, chemical and/or biological soil properties including soil organic matter. Where the Soil Impact Assessment demonstrated that the soil conditions were below optimal, the participating operator provides objective evidence demonstrating that implementation of Soil Management Plan effectively reverts soil degradation and restores physical, chemical and/or biological soil properties to optimal levels.	Full Compliance	▪	▪ Baseline soil survey results ▪ Representative soil sampling/monitoring regime including consideration of compliance requirements ▪ Soil erosion and mitigation training records ▪ Soil Management Plan and reviews based on the results of soil monitoring

Principle 9: Water

Principle 9. Biofuel operations shall maintain or enhance the quality and quantity of surface and ground water resources, and respect prior formal or customary water rights.

RSB Criterion and Requirements	Indicators	Compliance	Relevant Information/ Evidence Provided	Evidence required at Audit to Verify Compliance
Criterion 9a. Biofuel operations shall respect the existing water rights of local and indigenous communities. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer Minimum Requirements ▪ The use of water for biofuel operations shall not beat the expense of the water needed by the communities that rely on the same water source(s) for subsistence. ▪ The Participating Operator shall assess the potential impacts of biofuel operations on water availability within the local community and ecosystems during the screening exercise of the impact assessment process and mitigate any negative impacts. ▪ Water resources under legitimate dispute shall not be used for biofuel operations until	9.a.i.1. The participating operator provides objective evidence demonstrating that her/his/its biomass/biofuels operation(s) do not negatively affect (i.e. reduce and/or alter in quality or quantity) the water supply to communities which rely on the same water resource(s), as described in the RSB Screening Exercise (RSB- GUI-01-002-02). This may include objective evidence such as: ▪ identifying the communities which rely on the same water resource(s) as her/his/its biomass/biofuels operation(s); ▪ analyzing the water supply to communities which rely on the same water resource(s); ▪ analyzing whether the water supply to communities which rely on the same water resource(s)is affected in quality or quantity by her/his/its biomass/biofuels operation(s).		▪ FC sector-specific guidelines (IFC, 2007a; IFC, 2007b; IFC, 2007c) ▪ HRS 174-C Part IV defines the formation of a water management and the regulation of the withdrawal and diversion of ground and surface water in the water management area. ▪ HRS 174-C Part III requires the development of a Hawaii Water Plan that indentifies stream inflow requirements and maximum sustainable yield of underground water. ▪ Appurentent rights are protected under HRS-174C.63 and native Hawaiian rights are protected under HRS 174C-101.	▪ The PO should consider if a Water Impact Assessment is required by reviewing criteria presented in the screening exercise completed in accordance with the Screening Guidelines (RSB-GUI-01-002-02). ▪ Community consultation records/ meeting minutes and responses ▪ External reports/ studies relating to community water supply access and demand ▪ Water Management Plan, Wastewater Management Plan, Stormwater Management Plan ▪ Penalties, fines, cleanup notices etc. regarding wastewater discharge affecting local water quality ▪ List of water biofuel project input water requirements and sources

any legitimate disputes have been settled through negotiated agreements with affected stakeholders following a free, prior and informed consent (as described in 2a and its guidance) enabling process. Where the screening exercise has triggered the need for a Water Assessment (RSB-GUI-01-009-01), Participating Operators shall: ▪ identify downstream or groundwater users and determine the formal or customary water rights that exist; ▪ evaluate and document the potential impacts on formal or customary water rights that exist; ▪ respect and protect all formal or customary water rights that exist through the Environmental and Social Management Plan (ESMP) to prevent infringement of such rights. No modification of the existing rights can happen without the Free Prior and Informed Consent (as described in 2a and its guidance) of the parties affected.	9.a.i.2. The participating operator provides objective evidence demonstrating continuous monitoring of the actual and potential impacts of her/his/its biomass/biofuels operation(s) on the availability of water resource(s) within the local community.		▪ RSB-GUI-01-009-01 V2 RSB Water Assessment Guidelines Annex II: Checklists(Water Rights, Human and Ecosystem Needs)	▪ Water mass balance and flow diagram indicating water sources and discharge points ▪ Monitoring records for water use and wastewater discharged ▪ Currency of Permits and licences to use and discharge water
	9.a.i.3. The participating operator provides objective evidence demonstrating that the use of the water resource(s) for her/his/its biomass/biofuels operation(s) is not legitimately disputed by stakeholders which rely on the same water resource(s).	Full compliance	▪ RSB-GUI-01-009-01 V2 RSB Water Assessment Guidelines Annex II: Checklists(Water Rights, Human and Ecosystem Needs)	▪ Records of complaints/ disputes regarding water use
	9.a.i.4. The participating operator provides objective evidence demonstrating that the use of the water resource(s) for her/his/its biomass/biofuels operation(s) has been agreed with free, prior, informed consent by stakeholders which rely on the same water resource(s).	Not Assessed		▪ Community consultation records and minutes
	The following indicators are applicable where the screening exercise has triggered the need for a Water Assessment (RSB-GUI-01-009-01): 9.a.i.5. If the screening exercise indicated any significant potential impacts of biofuel operations on water availability within the local community, the participating operator provides objective evidence demonstrating that a water rights impact assessment has been completed and any actual or potential negative impacts of her/his/its biomass/biofuels operation(s) on the availability of water resource(s) within the local community have been	Full Compliance	▪ RSB-GUI-01-009-01 RSB Water Assessment Guidelines	▪ Community consultation records/ minutes

	mitigated.			
	9.a.i.6. The participating operator provides objective evidence demonstrating that the following steps were undertaken: ▪ identify all stakeholders which rely on the same water resource(s); ▪ identify formal water rights relating to the same water resource(s); ▪ identify customary water rights relating to the same water resource(s); ▪ evaluate and identify measures to fully protect the formal or customary water rights to the same water resource(s) and to prevent infringement and/or compromising of such rights; ▪ ensure that the formal or customary water rights to the same water resource(s) are only modified based on Free Prior and Informed Consent of stakeholders relating to and/or relying on the same water resource(s); and ▪ evaluate and identify measures to continuously monitor and ensure comprehensive implementation of the requirements detailed in indicator 9.a.i.6. as listed above.	Partial Compliance	▪ RSB-GUI-01-009-01 V2 RSB Water Assessment Guidelines Annex II: Checklists(Water Rights, Human and Ecosystem Needs) ▪ HRS 174C-101 preserves customary rights of Native Hawaiians to water	▪ Stakeholder register relating to water rights ▪ All Permits, licences, customary ownership of water resources use for Biofuel project are identified and records current and available ▪ Stakeholders communications relating to consent/agreements ▪ Monitoring records of water usage in accordance with water rights of PO.
	9.a.i.7. The participating operator provides objective evidence demonstrating that the outcomes and agreements resulting from the consultation process detailed under indicator 9.a.i.6. is fully implemented.	Not Assessed	▪	▪ Meeting minutes and communication relating to recommendation and agreements from stakeholder consultation process

Criterion 9b. Biofuel operations shall include a water management plan which aims to use water efficiently and to maintain or enhance the quality of the water resources that are used for biofuel operations. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer 9.b.1 Minimum requirements ▪ Participating Operators shall develop and implement a water management plan and integrate it into the Environmental and Social Management Plan (ESMP). ▪ The water management plan shall be made available to the public, unless limited by national law or international agreements on intellectual property. ▪ The water management plan shall be consistent with local rainfall conditions, not contradict any local or regional water management plans, and include the neighboring areas, which receive direct runoff from the operational site. Any negative impact on these neighboring areas shall be mitigated. ▪ The Participating Operator shall undertake annual monitoring of the effectiveness of the water management plan. 9.b.2 Progress requirements: ▪ The water management plan	9.b.i.1. The participating operator provides objective evidence demonstrating that a water management plan relating to her/his/its biomass/biofuels operation(s) which ensures efficient use of the water resource(s) and that water quality is maintained or enhanced, has been integrated into the ESMP and implemented accordingly.	Full Compliance	▪	▪ Water Management Plan (WMP) describes water sources, discharge, potential runoff from site, description of mitigation measures ▪ Internal external audits of WMP Implementation
	9.b.i.2.The participating operator provides objective evidence demonstrating that the water management plan relating to her/his/its biomass/biofuels operation(s) is available to the public unless this is limited by national law or international agreements on intellectual property.	Non-Compliance	▪ WMP are not publically available	▪ WMP on public website or hardcopy available at library or local government office ▪ Agreements or legal requirement restricting WMP access to the public
	9.b.i.3.The participating operator provides objective evidence demonstrating that the water management plan relating to her/his/its biomass/biofuels operation(s) is consistent with local conditions of rainfall, water storage, water distribution and water treatment.	Full Compliance	▪ HRS 176 Water Resources ▪ HRS 176D Protection of Instream Uses of Water ▪ HRS 177 Ground Water use ▪ HRS 178 Well, Generally	▪ WMP relevant to local conditions and any specific requirements of the area
	9.b.i.4. The participating operator provides objective evidence demonstrating that the water management plan is consistent with any other regional or local water management plans.	Full Compliance	▪ HRS 174C, State water Code ▪ Hawaii Water Plan ▪ Oahu Stormwater Management Program Plan ▪ National Pollutant Discharge Elimination Systems Permit (NPDES)	▪ Reference to any local government WMP's, strategies, tradewaste agreements

shall include steps for reusing or recycling waste water, ▪ appropriate to the scale and intensity of operation.	9.b.i.5. The participating operator provides objective evidence demonstrating that the water management plan includes neighboring areas which receive direct water run-off from her/his/its biomass/biofuels operation(s).	Full Compliance		▪ Water catchment plan which indicates biofuel project site boundaries and runoff flows onto neighboring properties
	9.b.i.6. The participating operator provides objective evidence demonstrating that any negative impacts resulting directly or indirectly from her/his/its biomass/biofuels operation(s) on the water resources of the neighboring areas are mitigated fully.	Not Assessed		▪ Mitigation measures to limit impact on neighboring properties detailed in WMP ▪ Site observation of mitigation control measures installed
	9.b.i.7. The participating operator provides objective evidence demonstrating that the water management plan is reviewed and revised periodically (i.e. at least annually) to assess its effectiveness at achieving its stated objectives.	Full Compliance	▪ Annual Reporting in relation to Permits issued by the Commission on Water Resource Management	▪ Formal review frequency stated in WMP ▪ Updated versions of WMP which increase effectiveness in achieving objectives
	9.b.i.8. The participating operator provides objective evidence demonstrating that best practices measures for reusing or recycling of waste water have been identified and are implemented within three years from initial certification.	Full Compliance	▪ Permits issued by the Commission on Water Resource Management require achievement of water use efficiencies over time	▪ Independent water expert report on wastewater use, mitigation and recycling ▪ Water Saving Plan ▪ Internal/external audits of the implementation of the WMP and reuse recycling initiatives
Criterion 9c. Biofuel operations shall not contribute to the depletion of surface or groundwater resources beyond replenishment capacities. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer	9.c.i.1. The participating operator provides objective evidence demonstrating that her/his/its biomass/biofuels operation(s) does not contribute to exceeding the replenishment capacity of the water table(s), watercourse(s) or water	Full Compliance	▪ Permits issued by the Commission on Water Resource Management specify water use limits	▪ Baseline surveys reflecting the current state of water resources (nature, rights, quantity and quality) prior to biofuel project commencement ▪ Consideration of local and regional hydrologic cycle

9.c.1 Minimum requirements: ▪ Water used for biofuel operations shall not be withdrawn beyond replenishment capacity of the water table, watercourse, or tank from which the water comes. ▪ Irrigated biofuel crops and freshwater-intensive biofuel operations systems shall not be established in long-term freshwater- stressed areas, unless the implementation of: a. good practices or b. an adequate mitigation process that does not contradict other requirements in this standard ensures that the water level remains stable. ▪ Participating Operators shall not withdraw water from natural watercourses to the extent that it modifies its natural course or the physical, chemical and biological equilibrium it had before the beginning of operations. Where the screening exercise has triggered the need for a Water Assessment(RSB-GUI-01-009-01), Participating Operators shall: ▪ Identify critical aquifer recharge areas, replenishment capacities of local water tables, watercourses, and ecosystem needs. ▪ The potential impacts of biofuel operations on any of these aspects shall be evaluated, and any negative impacts mitigated. ▪ Define the use and share of water resources for biofuel	tank(s) at any time during the year.			▪ Monitoring records of water use in comparison to water allocation
	9.c.i.2. Where freshwater intensive biomass/biofuels operations are established in drought prone areas or where irrigated crops are used in drought prone areas, the participating operator provides objective evidence demonstrating that best available practices are used, and that measures are implemented to mitigate changes in water quantity and quality.	Full Compliance	▪ Permits issued by the Commission on Water Resource Management require achievement of water use efficiencies over time	▪ For drought prone areas a Water Savings Action Plan could be developed and implemented that includes control strategies to reduce water use and enhance water quality
	9.c.i.3. In drought-prone areas, irrigation is not used unless the operator can demonstrate objective evidence that the level of the water resource used remains stable.	Not Assessed		▪ Independent water surveys of water resource over time compared to baseline
	9.c.i.4. The participating operator provides objective evidence demonstrating that the use of water from natural water bodies for her/his/its biomass/biofuels operation(s) does not result in a permanent change in its natural course or change the physical, chemical or biological equilibrium the water body had before the biomass/biofuels operation(s) started.	Full Compliance	▪ HRS 176D Protection of Instream Uses of Water	▪ Site Observation ▪ Aerial photography ▪ Water quality sampling results compared to baseline surveys ▪ Records of quality of wastewater discharged from site ▪ Aquatic diversity studies
	9.c.i.5. The participating operator provides objective evidence demonstrating that efficiency of water use has improved within three years of certification through implementation measures to conserve water.	Full Compliance	▪ HRS 176D Protection of Instream Uses of Water ▪ Permits issued by the Commission on Water Resource Management require achievement of water use efficiencies	▪ Water usage monitoring records per unit of production / annual reports ▪ Water Savings Action plan implementation and progress to date

operations in agreement with local experts and the community; any water user committees shall be consulted. 9.c.2 Progress requirements: The Participating Operator shall demonstrate commitment to the improvement of water efficiency over time through the implementation of water-saving practices.			over time	
	The following indicators are applicable where the screening exercise has triggered the need for a Water Assessment (RSB-GUI-01-009-01): 9.c.i.6. The participating operator provides objective evidence demonstrating that critical aquifer recharge areas, replenishment capacities of local water tables, watercourses, and ecosystem needs have been identified and evaluated.	Full Compliance	▪ Water Assessment (RSB-GUI-01-009-01)	▪ Water Management Plan implementation records
	9.c.i.7 The participating operator provides objective evidence demonstrating that any potential negative impacts of her/his/its biomass/biofuels operation(s) on local water tables, watercourses, and ecosystem needs will be mitigated.	Full Compliance		▪ Water Management Plan implementation records
	9.c.i.8 The participating operator provides objective evidence that the use and sharing of water resources for biomass/biofuels operation(s) has been agreed upon with local experts and the community, and that all water user committees have been consulted.	Full Compliance		▪ Water Management Plan implementation records
Criterion 9d. Biofuel operations shall contribute to the enhancement or maintaining of the quality of the surface and groundwater resources. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer 9.d.1 Minimum requirements: ▪ Biofuel operations shall not	9.d.i.1. The participating operator provides objective evidence demonstrating that biofuels are not produced or processed in critical aquifer recharge areas, without official authorization from relevant legal authorities.	Full Compliance	▪ HRS 176 Water Resources ▪ HRS 176D Protection of Instream Uses of Water ▪ HRS 177 Ground Water use ▪ HRS 178 Well, Generally ▪ Permits required from Commission on Water	▪ Independent survey to determine if site processes interact/interfere with groundwater resources ▪ Permits from relevant authority

occur on a critical aquifer recharge area without a specific authorization from legal authorities. ▪ Participating Operators shall implement the best available practices which aim to maintain or enhance the quality of surface and ground water resources that are used for biofuel operations to the level deemed optimal for the local system for sustained water supply, ecosystem functioning and ecological services. ▪ Adequate precautions shall be taken to contain effluents and avoid runoffs and contamination of surface and ground water resources, in particular from chemicals and biological agents. ▪ Buffer zones shall be set between the operation site and surface or ground water resources. Where the screening exercise has triggered the need for a Water Assessment (RSB-GUI-01-009-01), Participating Operators shall: ▪ determine the optimal water quality level required to sustain the system, taking into account local economic, climatic, hydrologic and ecologic conditions. 9.d.2 Progress requirements: For existing operations, degradation of water resources that existed prior to certification and for which the Participating Operator is directly accountable shall be reversed. Wherever applicable, operators (except small-scale operators) shall			Resource Management	
	9.d.i.2. The participating operator provides objective evidence demonstrating that best available practices to maintain or enhance the quality of water resources to their optimal level are implemented in her/his/its operation(s).		▪ Permits issued by the Commission on Water Resource Management require achievement of water use efficiencies and water quality over time	▪ Water Management Plan
	9.d.i.3. The participating operator provides objective evidence demonstrating that sufficient precautions have been taken to contain effluents from her/his/its biomass/biofuels operation(s) and prevent contamination of water resources. This includes treatment and/or recycling of waste water and the establishment of buffer zones.	Partial Compliance	▪ HRS 174C-86 prevents contamination of wells only	▪ Water Management Plan ▪ Emergency Response Plan ▪ Water quality sampling of wastewater discharged from site ▪ Site observation by auditor of buffer zones established
	9.d.i.4. The participating operator provides objective evidence demonstrating that emergency plans and measures are in place, known and implemented in her/his/its operation(s) in case accidental contamination of water resources is identified.	Non-compliance	▪ Emergency plans are not required by Law	▪ Emergency Response Plan/ procedures for wastewater discharge and spills ▪ Emergency drill reports, incident reports
	9.d.i.5. For biomass/biofuels operations where degradation of water resources existed before said operation was accepted as a participating operator or part of a participating operator, the participating operator provides objective evidence demonstrating that within three years of certification measures to reverse the degradation of water resources have been implemented and that the	Full Compliance	▪ HAR 13-168-7 requires water measurement and reporting to State Commission on Water Resource Management	▪ Water usage monitoring records per unit of production / annual reports ▪ Water Savings Action plan implementation and progress to date ▪ Water quality sampling results compared to baseline surveys ▪ Records of quality of

participate in projects that aim to improve water quality at a watershed scale. Waste water or runoff that contains potential organic and mineral contaminants shall be treated or recycled to prevent any negative impact on humans, wildlife, and natural compartments (water, soil).	participating operator has taken part in projects to improve water quality at the watershed level.			wastewater discharged from site ▪ Aquatic diversity studies
	9.d.i.6 The participating operator provides objective evidence that waste water or runoff with organic or mineral contaminants are treated, recycled or properly disposed of within three years of certification.	Non-compliance		▪ Records of quality of wastewater discharged from ▪ Waste management records
	9.d.i.7. The participating operator provides objective evidence that she/he/it has conducted studies to determine the optimal water quality level required to sustain the system, taking into account local economic, climatic, hydrologic and ecologic conditions.	Partial Compliance		▪ Site Observation ▪ Aerial photography ▪ Water quality sampling results compared to baseline surveys ▪ Records of quality of wastewater discharged from site ▪ Fish, Aquatic diversity studies ▪ Independent water surveys of water resource over time compared to baseline

Principle 10: Air

Principle 10. Air pollution from biofuel operations shall be minimized along the supply chain.

RSB Criterion and Requirements	Indicators	Compliance	Relevant Information/ Evidence Provided	Evidence required at Audit to Verify Compliance
Criterion 10a. Air pollution emission sources from biofuel operations shall be identified, and air pollutant emissions minimized through an air management plan. PO's who must comply: Feedstock Processor and Biofuel Producer 10.a.1 Minimum requirements**:** An emission control plan appropriate to the scale and intensity of operations shall be included as part of the Environmental and Social Management Plan (ESMP) that identifies major air pollutants including carbon monoxide, nitrogen oxides, volatile organic compounds, particulate matter, sulphur compounds, dioxins and other substances recognised as potentially harmful for the environment or human health. The plan shall identify all potential air pollution sources and describe their nature. The plan shall describe any air pollution mitigation strategies that are employed, or else the rationale for not utilizing such strategies.	10.a.i.1. The participating operator provides objective evidence demonstrating that an emission control plan is included in the ESMP and implemented, which: ▪ identifies the pollutants released at the biomass/biofuel operations, including carbon monoxide, nitrogen oxides, volatile organic compounds, particulate matter, sulfur compounds, dioxins and other substances recognized as potentially harmful to the environment and/or human health ▪ identifies all sources of air pollutions in the biomass/biofuel operations, and the amount and nature of emissions per point source; ▪ identifies measures implemented to mitigate air pollution, or else provides the rationale for not utilizing such strategies; ▪ monitors the effectiveness of the measures identified and implemented to mitigate air	Full Compliance	▪ HAR 11-60.1-83 and HAR 11-60.1-63 require that all sources of emission are identified for covered source and non-covered source in permit application ▪ HAR 11-60.1-68 and HAR 11-60.1- 90 define reporting requirements for non-covered and covered source permits. HAR 342B-28 is statute defining reporting requirements.	▪ Air Quality Assessment, Emissions modeling and Emissions Control Plan ▪ Site Plan showing air pollution source points including vents, stacks, exhaust, emergency vents ▪ Description of process related to source points ▪ Internal/external audit of air quality emissions and odours ▪ Records of air emissions for the last 4 years ▪ Periodic reporting returns to regulatory authorities including greenhouse gas ▪ Details of best practice pollution control devices fitted at source points or other mitigation strategies adopted) ▪ Meteorological monitoring record ▪ Incidents, permit breaches with respect to air pollution in the last 4 years and corrective

10.a.2 Progress requirements: The Participating Operator shall investigate and, whenever possible in the local context, implement Best Available Technology (BAT) to reduce air pollution, appropriate to the scale and intensity of operation.	pollution;			actions ▪ Internal/External audit of implementation of Emissions Control Plan
	10.a.i.2. The participating operator provides objective evidence demonstrating that Best Available Technology (BAT) to prevent or reduce air pollution and mitigate its effects and associated risks, has been identified and implemented within three years of certification.	Full Compliance	▪ HAR 11-60.1-140 defines control technology requirements for major stationary sources.	▪ Details of best practice pollution control devices fitted at source points ▪ Details of best available practices/technology implemented for diffuse air sources ▪ Internal/External audit of implementation of Emissions Control Plan
Criterion 10b. Biofuel operations shall avoid and, where possible, eliminate open-air burning of residues, wastes or by-products, or open air burning to clear the land. PO's who must comply: Feedstock Producer, Feedstock Processor 10.b.1 Minimum requirements: ▪ A plan shall be put in place to phase out any open-air burning of leaves, straw and other agricultural residues within three years following certification. If workers' health and safety is at stake or when no viable alternative is available or affordable in the local context, if burning may prevent natural fires, or if the cultivation of the crop periodically requires burning for viability in the long term without any equivalent alternatives, limited open-air burning practices may occur. 10.b.2 Progress requirements:	Where open-air burning of residues, wastes or by-products occurs, or where open-air burning occurs to clear the land: 10.b.i.1. The participating operator provides objective evidence demonstrating that a plan is implemented to phase out open-air burning of residues, wastes or by-products and open air burning to clear the land within three years from certification, except in the following cases: ▪ where workers' health and safety is at stake; or ▪ when no viable alternative is available or affordable in the local context; or ▪ if burning may prevent natural fires; or ▪ if the cultivation of the crop periodically requires burning for viability in the long term without any equivalent alternatives.	Partial Compliance	▪ HAR 11-60.1-52 to 11-60.1-58 define agricultural burning regulations and permit requirements. Section 53 states that permits will not be granted to burn waste from land clearing. Section 56 requires record keeping process. Duration of permit is one year. ▪	▪ Company policies and procedures prohibiting/ limiting open air burning ▪ Management plans to reduce and then eliminate open air burning where practicable where exceptions in 10.b.i.1 do not occur ▪ Waste management/disposal records
	10.b.i.2. In the instances listed in	Not	▪ See agricultural burn	▪ Management plans supporting

▪ Open air burning of agricultural residues and by-products shall not occur following the phase-out plan (10.b.1).	10.b.i.1 under which limited open air burning is allowed, the participating operator provides objective evidence demonstrating that no alternatives exist which are socially, environmentally and economically feasible.	Assessed	permit process above.	the use of open air burning for items excepted in 10.b.i.1 and justifications ▪ Trials of alternative methods to open air burning and results
	10.b.1.3. The participating operator provides objective evidence that no open air burning of agricultural residues, wastes or by- products, or open-air burning for land clearing takes place within three years of certification, except under the specific instances described in 10.b.i.1.	Not Assessed	▪ HAR 11-60.1-53 states that permits will not be granted to burn waste from land clearing	▪ Company policies and procedures prohibiting open air burning ▪ Management plans which eliminate open air burning unless excepted in 10.b.i.1 ▪ Waste management/disposal records

Principle 11: Use of Technology, Inputs, and Management of Waste

Principle 11. The use of technologies in biofuel operations shall seek to maximize production efficiency and social and environmental performance, and minimize the risk of damages to the environment and people. Operators who must comply: Feedstock Producer, Feedstock Processor and Biofuel Producer.

RSB Criterion and Requirements	Indicators	Compliance	Relevant Information/ Evidence Provided	Evidence required at Audit to Verify Compliance
Criterion 11a. Information on the use of technologies in biofuel operations shall be fully available, unless limited by national law or international agreements on intellectual property. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer Minimum requirements: When complying with and auditing against this criterion, proprietary technology shall be protected from competitors and intellectual property rights shall be respected The Participating Operator shall disclose technologies with hazardous or potentially hazardous effects when such technology is used, and make this information available to the public upon request.	11.a.i.1. The participating operator provides documented evidence demonstrating that information on the use of technologies in her/his/its biomass/biofuels operation(s) is publicly available (except for information which is protected by national law or international agreements on intellectual property).	Not Assessed		▪ Location of publically available information on the description of process technology used
	11.a.i.2. The participating operator provides documented evidence demonstrating that disclosure of information includes at minimum the actual or potential risks identified, and any actual or potential impacts on human health and the environment.	Non Compliant	EPCRA §311/312,HRS §128E-6(2)(A)-(C), HRS §128E-9,. HAR §11-453-25 to §11-453-30, HAR §11-453-32 (Emergency Planning and Community Right-to-Know that requires reporting of hazardous material on site)	▪ Information this is publically available relates to risks identified in Risk Assessment Register
Criterion 11b. The technologies used in biofuel operations including genetically modified: plants, micro-organisms, and algae, shall minimize the risk of damages to environment	11.b.i.1. The participating operator provides objective evidence demonstrating that a risk assessment in relation to the use of technologies, including GMOs, has been conducted	Partial Compliance		▪ Risk Assessment Register including impacts and control measures ▪ Risk Management Plan

and people, and improve environmental and/or social performance over the long term. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer Minimum requirements ▪ The use of genetically modified organisms shall follow relevant national or international guidelines, laws and agreements, crop-specific stewardship systems, and local and community coexistence agreements or understandings. ▪ For new operations, Participating Operators shall provide evidence that the hazardous technologies they use do not contradict any of the RSB principles and criteria before the beginning of operations. ▪ Participating Operators using GMOs shall take measures to prevent migration of genetically modified material and shall cooperate with neighbors, regulatory and conservation authorities, and local stakeholders to implement monitoring and preventative measures. Crop-specific and technology-specific mitigation strategies shall be utilized. ▪ The Biosafety Clearinghouse established under the Cartagena Protocol on Biosafety, or any other such clearinghouse established by law, shall be consulted before providing information about specific	prior to certification, which: ▪ identifies all technologies of her/his/its operation(s) which actually or potentially pose a social, environmental and/or economic risk to stakeholders, communities, industries, society at large and the environment; ▪ identifies all impacts which these identified technologies actually and potentially have on stakeholders, communities, industries, society at large and the environment; ▪ demonstrates the social and environmental benefits brought by these identified technologies compared to the other alternatives; ▪ identifies measures to avoid and/or mitigate actual and potentially negative impacts of these identified technologies of her/his/its operation(s) on stakeholders, communities, industries, society at large and the environment; and ▪ identifies measures to systematically monitor these identified factors and aspects of the biomass/biofuels operation(s), their actual and potential impacts, as well as the measures identified and implemented to avoid or mitigate associated risks and impacts, and the effectiveness of these measures.			▪ List of site specific technologies ▪ Affidavit from PO that either no GMO's are used or if so which ones. ▪ Environmental Assessment ▪ Internal/external audit against Risk Management Plan ▪ Revision status of Risk Assessment and Risk Management Plan
	11.b.i.2. The identified measures (11.b.i.1.) to avoid and/or mitigate negative impacts of the technologies used in biomass/biofuel operation(s) on stakeholders, communities, industries, society at large and the environment are implemented.	Not Assessed		▪ Consultation of risk management plan to – identify potential hazardous technologies
	11.b.i.3. The participating operator	Full	▪ EPCRA §311/312, HRS	▪ Biofuel project approvals and

GMOs, including related risk and countries' decisions regarding that technology. ▪ For new operations, feedstock producers shall use indigenous crops whenever alternative crops reduce yield and/or environmental and/or social performance compared to indigenous crops.	provides objective evidence demonstrating that any use of technologies identified as potentially hazardous for people or the environment is used in compliance with national laws and internationally accepted scientific protocols and does not contradict any of the RSB Principles and Criteria.	Compliance	§128E-6(2)(A)-(C), HRS §128E-9, HAR §11-453-25 to §11-453-30, HAR §11-453-32	conditions relating to hazards ▪
	11.b.i.4. When using Genetically Modified Organisms, the participating operator provides objective evidence demonstrating that such use follows national or international guidelines, laws and agreements, crop-specific stewardship systems, and local and community coexistence agreements or understandings.	Full Compliance	▪ Federal Plant Protection Act as regulated by the Animal and Plant Health Inspection Service of the U.S. Department of Agriculture regulates introduction of genetically engineered organisms.	▪ Confirmation that no GMO crops are used or that their use is compliant with legal and other requirements
	11.b.i.5. If Genetically Modified Organisms are used, the Operator has implemented measures to prevent migration of genetically modified material outside of the operation site.	Full Compliance	Federal Plant Protection Act as regulated by the Animal and Plant Health Inspection Service of the U.S. Department of Agriculture regulates introduction of genetically engineered organisms.	▪ GMO management plan which includes containment measures
	11.b.i.6. If Genetically Modified Organisms are used, the participating operator provides objective evidence demonstrating cooperation with neighbors, regulatory and conservation authorities, and local stakeholders in the monitoring of the impacts of GMOs and measures to prevent negative impacts on stakeholders, communities, industries, society at large and the environment.	Not Assessed		▪ Stakeholder meeting minutes and correspondence ▪ Complaints and incident reports ▪ Emergency response or containment strategies
	11.b.i.7. If Genetically Modified Organisms are used, the participating operator provides objective evidence demonstrating that the Biosafety	Not Assessed	▪ Biosafety Clearinghouse Cartagena Protocol on Biosafety	▪ List of GMO's used ▪ Records indicating that the Biosafety Clearinghouse

	Clearinghouse established under the Cartagena Protocol on Biosafety has been consulted to identify country specific laws, decisions and declarations that apply to the GMOs in use by the participating operator.			Cartagena Protocol on Biosafety has been checked for GMO's used on site ▪ Copies of Permits and quarantine approvals required for GMO
	11.b.i.8. Operators using non-native crops have documented evidence indicating that an equivalent native crop could not provide the same function with higher yield and/or environmental and/or social performance.	Not Assessed		▪ Comparative studies and trials of substitute native crops
Criterion 11c. Micro- organisms used in biofuel operations which may represent a risk to the environment or people shall be adequately contained to prevent release into the environment. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer Minimum requirements ▪ In no case shall genetically modified micro- organisms or any micro-organisms that pose a risk (pathogenic, mutagenic, contaminant, etc.) to human health or the environment be released outside the processing/production unit. Any such organism used for processing shall be destroyed or adequately neutralised (i.e. loss of any potentially hazardous character) before being disposed of.	11.c.i.1. Participating operators who use any micro-organisms that pose a risk (pathogenic, mutagenic, contaminant, etc.) to human health or the environment provide objective evidence demonstrating that measures have been developed and implemented, and are monitored for effectiveness to: ▪ prevent release of such organisms outside the processing/production unit; ▪ ensure that such organisms are destroyed or neutralized before disposal; and ▪ address any possible emergency and accidental release of such organisms and have measures in place to mitigate, and if necessary, compensate any impacts of accidental release of any micro-organisms that pose a risk (pathogenic, mutagenic, contaminant, etc.) to human health or the environment.	Full Compliance	▪ HRS-150A is statue relating to importation of algae, microorganisms, and plants	▪ Control plan for micro-organisms ▪ Emergency response plan for accidental release of micro-organisms ▪ Operational procedures specifically dealing with microbiological safety ▪ Internal/external audits of the implementation of operational procedures ▪ Containment devices around processing areas are appropriate for site
▪ Participating Operators using	11.c.i.2. The participating operator	Non-	▪ No laws relating to	▪ Training records for staff and

such technologies shall include as part of their ESMP a plan that includes adequate monitoring and an emergency procedure in case of accidental dissemination of any such micro-organisms into the environment.	provides objective evidence demonstrating that personnel involved in her/his/its biomass/biofuels operation(s) have been trained and are experienced in storage, handling, use, disposal and emergency procedures for any micro- organisms that pose a risk (pathogenic, mutagenic, contaminant, etc.) to human health or the environment.	Compliance	competence of personnel for micro-organsims	contractors in emergency response and procedures for storage and handling of micro-organisms ▪ Emergency drills
	11.c.i.3. The participating operator provides objective proof demonstrating that there is no evidence that any micro-organisms that pose a risk (pathogenic, mutagenic, contaminant, etc.) to human health or the environment have been detected outside processing/production units, and/or in areas surrounding her/his/its operation(s).	Not Assessed		▪ For micro-organisms that pose a risk monitoring plan for micro-organisms in water, air or soil on site and surrounding areas
	11.c.i.4 The participating operator provides objective evidence demonstrating that an adequate monitoring plan and emergency procedure in case of accidental dissemination of such micro-organisms is described in her/his/its Environmental and Social Management Plan (ESMP).	Not Assessed		▪ Monitoring plan and Emergency response plan for micro-organisms that pose a risk is in company ESMP
Criterion 11d. Good practices shall be implemented for the storage, handling, use, and disposal of biofuels and chemicals. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer 11.d.1 Minimum requirements ▪ None of the chemicals recorded in the WHO's 1a and 1b lists shall be used. The use	11.d.i.1. The participating operator provides objective evidence demonstrating that there is no storage or use of any chemicals recorded in the WHO's 1a and 1b lists.	Non-Compliance	▪ WHO's 1a and 1b lists	▪ Chemical register and comparison with WHO 1a and 1b lists
	11.d.i.2. The participating operator has listed in the ESMP the type and annual volume used of chemicals listed in the Stockholm Convention or in Annex III of the Rotterdam Convention and provides objective evidence demonstrating that a plan to eliminate	Not Assessed	▪ EPCRA §311/312, HRS §128E-6(2)(A)-(C), HRS §128E-9, HAR §11-453-25 to §11-453-30, HAR §11-453-32 ▪ Stockholm Convention ▪ Annex III of the	▪ Chemical register included in ESMP ▪ Chemical management plan for elimination in 3 years of chemicals listed in the Stockholm Convention

of chemicals recorded in Annex III of the Rotterdam Convention and in the Stockholm Conventionon Persistent Organic Pollutants (POPs) shall be listed (type and annual volume used) and a plan to phase out any such chemical over the three years following certification shall be described in the ESMP. ▪ Manufacturer's safety instructions for the storage, handling, use, and disposal of chemicals shall be followed. ▪ The use of ground or aerial pesticides shall comply with the FAO's Guidelines on Good Practices for Ground and Aerial Applications of Pesticides. Any chemical used in biofuel operations shall be in accordance with the manufacturer's safety instructions. 11.d.2 Progress requirements None of the chemicals recorded in Annex III of the Rotterdam Convention or in the Stockholm Convention on Persistent Organic Pollutants shall be used within three years after certification.	the use of such chemicals within three years following the first certification is and implemented.		Rotterdam Convention http://www.pic.int/Default.aspx?tabid=1132	or Annex III of the Rotterdam Convention
	11.d.i.3. The participating operator provides objective evidence that all staff and contractors involved with chemical use receive training in storage, handling, use, disposal and emergency procedures following accidental spillages.	Non-Compliance		▪ Chemical Register ▪ Training for staff and contractors in storage and handling of chemicals and emergency response ▪ Emergency drills for chemical spills ▪ Waste disposal records
	11.d.i.4. The participating operator provides objective evidence that manufacturer's safety instructions for the storage, handling, use and disposal of chemicals are strictly implemented.	Not Assessed		▪ Material Safety data sheets are current and available on site for all chemicals used ▪ Chemical use records confirming that chemicals are used in accordance with labels ▪ Chemical users are using Personal Protective Equipment ▪ Incident reports relating to storage, handling and disposal of chemicals
	11.d.i.5. The participating operator provides objective evidence that containers for chemicals are washed and disposed of in an environmentally appropriate way.	Not Assessed		▪ Chemical register identifying storage container and volume ▪ Triple rinsing procedure in place in purpose built facility
	11.d.i.6. The participating operator provides objective evidence that chemicals are disposed, recycled or destroyed in a manner that minimizes the risk of accidents and potential negative impacts on human health and on the environment.	Full Compliance	▪ EPCRA §311/312, HRS §128E-6(2)(A)-(C), HRS §128E-9, HAR §11-453-25 to §11-453-30, HAR §11-453-32	▪ Waste management plan identifying method and location of disposal of chemical containers ▪ Records of waste removal by licensed contractor ▪ External/internal audits against waste management plan

	11.d.i.7. The participating operator provides objective evidence that measures are in place to reduce the risk of accidents or spills during transportation of chemicals to and within the operations and applicable health, environmental and safety precautions are implemented. (e.g. safely transported using appropriate equipment).	Not Assessed		▪ All chemical waste contractors/transporters licences/permits on file ▪ Identification of which chemicals are transported within the site and method ▪ Procedures for transporting chemicals within the site ▪ Training records for chemical usage/handling/ transport on site
	11.d.i.8. The participating operator provides objective evidence that the application of pesticides follows the FAO Guidelines on Good Practice for Aerial/Ground Application of Pesticides, or justified equivalent.	Full Compliance	▪ FAO Guidelines on Good Practice for Aerial/ground Application of Pesticides ▪ If PO follows United States Environemtnal Protection Authority Guidelines	▪ Records of pesticides used on site i.e. chemical register ▪ Identification of standards for application of pesticides in the local context ▪ Comparison of current practice against FAO guidelines
	Progress requirement 11.d.i.9. The participating operator provides objective evidence that there is no storage or use of any chemicals listed in the Stockholm Convention or Annex III of the Rotterdam Convention within three years of certification.	Not Assessed		▪ Chemical register and comparison with chemicals listed in the Stockholm Convention or Annex III of the Rotterdam Convention
Criterion 11e. Residues, wastes and byproducts from feedstock processing and biofuel production units shall be managed such that soil, water and air physical, chemical, and biological conditions are not damaged. PO's who must comply: Feedstock Processor, Biofuel Producer	11.e.i.1. The participating operator provides objective evidence demonstrating that a residue, waste and byproduct management plan, which details how wastes and byproducts are to be handled, destroyed and/or disposed of in appropriate containers to prevent environmental contamination and damage to human health, is included in the ESMP and implemented.	Full Compliance	▪ Resource Conservation and Recovery Act ▪ Title 40 Code of Federal regulations 239-299	▪ Waste management policy, plan and procedures ▪ Internal/external audits of waste management plan ▪ Waste register ▪ Waste disposal records ▪ Waste tracking systems operated by service provider

11.e.1 Minimum requirements ▪ A waste and byproduct management plan shall be included in the ESMP to ensure that wastes and byproducts are handled and/or disposed of in appropriate containers and to prevent any environmental contamination and damage to human health. ▪ These products shall not be in direct contact with soils, water sources and air outside the processing and production units unless their innocuousness to the environment and people is officially stated ▪ by manufacturers or the country or regional (e.g. EU, ASEAN, ALENA) guidelines. In all other cases, handling and disposal must follow the manufacturer's recommendation and the country or regional (e.g. EU, ASEAN, ALENA) guidelines. ▪ For new and expanding operations, the design of operations shall integrate the necessary infrastructure for safe burning of processing waste and by-products. ▪ For existing operations, a strategy shall be set to develop the necessary infrastructures for safe burning of waste and by-products. 11.e.2 Progress requirements Measures shall be taken to implement clean and efficient processes for conversion of residues, wastes or by- products into energy appropriate to the scale and	11.e.i.2. The participating operator provides objective evidence demonstrating that residues, wastes and by-products are not in direct contact with soils, water sources and air outside the processing and production units unless their innocuousness to the environment and people is officially stated by manufacturers or the country or regional (e.g. EU, ASEAN, ALENA) guidelines.			▪ Waste management policy, plan and procedures ▪ Internal/external audits of waste management plan ▪ Site observation by auditor ▪ Incident reports
	11.e.i.3. The participating operator provides objective evidence demonstrating that handling and disposal of non-innocuous residues, wastes and byproducts, follows manufacturer's recommendations and the country or regional (e.g. EU, ASEAN, ALENA) guidelines.	Full Compliance	▪ Resource Conservation and Recovery Act ▪ Title 40 Code of Federal regulations 239-299	▪ Waste management policy, plan and procedures ▪ Internal/external audits of waste management plan ▪ Records of waste removal by licensed contactor
	11.e.i.4. The participating operator provides objective evidence demonstrating that all staff and contractors involved with handling, storage, disposal or use of residues, wastes and byproducts receive training in storage, handling, use, disposal and emergency procedures following accidental spillages.	Not Assessed		▪ Training records in procedures for waste management and spill response
	11.e.i.5. For operations started after the 1st of January 2009, there exists the proper infrastructure for the safe burning of any residue, waste and by-product or, for operations started prior to the 1st of January 2009, the participating operator has a strategy in place to develop such infrastructures.	Not Assessed		▪ Confirm that burning of waste, residues and by-products does not occur on site

intensity of operation. Such processes shall always occur in an appropriate facility to minimize air pollution from substances recognized as potentially harmful for the environment or human health. Solid residues from fermentation or burning shall be disposed of such that soil and water conditions are not damaged or according to national regulations. For others than small-scale operators, by- products or wastes shall also be reused by the processing/production unit or transferred to other sectors whenever their use may improve the overall system's energy balance, greenhouse gas emissions, and/or economic viability without impairing the other principles and criteria in this standard.	**Progress requirements** 11.e.i.6. The participating operator provides objective evidence demonstrating that within three years of certification all solid residues from burning or fermentation of wastes or byproducts are disposed of such that soil and water conditions are not damaged.	Not Assessed		▪ Confirm that burning of waste, residues and by-products does not occur on site
	11.e.i.7. The participating operator provides objective evidence demonstrating that within three years of certification residues, wastes or by-products are recycled or processed (e.g. burning, fermentation, gasification, etc.) to produce gas, electricity or heat, or in some other way improve the overall system efficiency, with appropriate license and within an appropriate facility, or transferred to other sectors when their transfer may improve the overall system's energy balance, greenhouse gas emissions, and/or economic viability without impairing the other principles and criteria in this standard.	Not Assessed		▪ Waste management plan in ESMP indicating which residues wastes or byproducts that are recycled or processed ▪ Records of residues, wastes or byproducts that are recycled or processed

Principle 12: Land Rights

RSB Principle				
Principle 12. Biofuel operations shall respect land rights and land use rights.				
RSB Criterion and Requirements	Indicators	Compliance	Relevant Information/ Evidence Provided	Evidence required at Audit to Verify Compliance
Criterion 12a. Existing land rights and land use rights, both formal and informal, shall be assessed, documented, and established. The right to use land for biofuel operations shall be established only when these rights are determined. PO's who must comply: Feedstock Producer and Feedstock Processor, Minimum requirements Where the screening exercise of the RSB impact assessment process reveals a negative impact to existing land rights and land use rights by biofuel operations, the Participating Operator shall conduct a Land Rights Assessment (RSB-GUI-01-012-01). Land under legitimate dispute shall not be used for biofuel operations until any legitimate disputes have been settled through Free, Prior and Informed Consent and negotiated agreements with affected land users.	12.a.i.1. The participating operator provides objective evidence demonstrating that the formal and customary (traditional) land rights and land use rights relating to her/his/its biomass/biofuels operation(s) are not disputed.	Not Assessed	▪ Completion of a cultural impact assessment under Chapter 343 HRS	▪ Recognition of indigenous land rights by PO (agreement between indigenous stakeholders and proponents on display ▪ Consultation records with local indigenous people ▪ PO Land title to confirm ownership ▪ Heritage and or cultural assessment
	12.a.i.2. Stakeholders confirm that the formal and any customary (traditional) land rights and land use rights relating to the biomass/biofuels operation(s) of the participating operator are not disputed.	Not Assesed		▪ Any recorded disputes relating to customary ownership of the land ▪ Consultation records with local indigenous people
	12.a.i.3. The participating operator provides objective evidence demonstrating that land rights and land use rights have been assessed and established during the RSB Screening	Full Compliance	▪ Completion of a cultural impact assessment under Chapter 343 HRS	▪ In the event that land rights/ land use rights have been established, confirmation of agreement (contracts, official recognition)

	Exercise (RSB-GUI-01-002-02).			
	The following indicators are applicable where the screening exercise has triggered the need for a Land Rights Assessment (RSB-GUI-01-012-01): 12.a.i.4. The participating operator provides objective evidence demonstrating that the formal and customary (traditional) land rights and land use rights have been comprehensively assessed, established and documented following the guidelines detailed in the RSB Land Rights Assessment (RSB-GUI-01-012-01).	Not Assessed		▪ In the event that land rights/ land use rights have been established, confirmation of agreement (contracts, official recognition) ▪ Consultation records with local indigenous people ▪ Heritage and or cultural assessment ▪ PO Title to land
	12.a.i.5. Stakeholders confirm that the formal and customary (traditional) land rights and land use rights relating to the biomass/biofuels operation(s) of the participating operator have been established.	Not Assessed		▪ Consultation records with local indigenous people and agreements in place
Criterion 12b. Free, Prior, and Informed Consent shall form the basis for all negotiated agreements for any compensation, acquisition, or voluntary relinquishment of rights by land users or owners for biofuel operations. PO's who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer	12.b.i.1. The participating operator provides objective evidence that all decisions regarding land rights and land use rights related to her/his/its biomass/biofuels operation(s) were and are based on the Free, Prior, and Informed Consent of all stakeholders involved, following the guidance in the Impact Assessment Guidelines (RSB-GUI-01-002-01).	Not Assessed		▪ Consultation with local indigenous peoples
Minimum requirements ▪ No involuntary resettlement shall be allowed for biofuel operations. ▪ The Impact Assessment Guidelines (RSB- GUI-01-002-01) shall be referred to for guidance on Free Prior and Informed Consent.	12.b.i.2. Stakeholders confirm that they had unrestricted access to independent legal, economic, social, environmental and/or cultural advice in support of their Free, Prior, and Informed Consent to decisions regarding land rights and land use rights related to the biomass/biofuels operation(s) of the participating	Not Assessed		▪ A statement/ interview with local indigenous peoples with respect to land rights/ land use rights

▪ Where land rights and land use rights are voluntarily relinquished, and/or acquired on a willing seller-willing buyer basis, local people shall be fairly, equitably and timely compensated. ▪ Compensation for voluntary relinquishment shall include appropriate balancing measures needed to preserve the ability of the persons concerned to sustain their livelihoods in an autonomous and dignified manner. ▪ Independent, qualified land valuation specialists shall be used for valuing all land and asset values. ▪ Where land is to be sold it shall be done on a willing-seller/willing-buyer basis. ▪ Coercion to alter existing land rights or land use rights shall not be allowed in biofuel operations. ▪ where the rule of law is not adequately applied, international and regional legal bodies shall be consulted for rulings and information on disputes. ▪ if there are disputes about the tenure agreements of the land among stakeholders, biofuel operations shall not be approved.	operator.			
	12.b.i.3. The participating operator provides objective evidence demonstrating that there has been no forced or involuntary resettlement or relinquishment of land rights for the purpose of her/his/its biomass/biofuels operation(s).	Not Assessed		▪ History of site uses and ownership
	12.b.i.4. The participating operator provides objective evidence demonstrating that valuing all land and asset values is done by qualified land valuation specialists and that all selling or buying of land by the participating operator is done on a willing-seller/willing- buyer basis (i.e. based on Free, Prior, and Informed Consent).	Not Assessed		▪ History of site uses and ownership ▪ PO Title to land ▪ Land valuation by qualified person
	12.b.i.5. Stakeholders confirm that all relinquishment(s) of land rights and/or land use rights related to the biomass/biofuels operation(s) of the participating operator was/were fairly, equitably and timely compensated.	Not Assessed		▪ A statement/ interview with local indigenous peoples with respect to land rights/ land use rights ▪ Agreements in place with local indigenous peoples
	12.b.i.6. Stakeholders confirm that no coercion to alter existing land rights or land use rights related to the biomass/biofuels operation(s) of the participating operator took place.	Not Assessed		▪ A statement/ interview with local indigenous peoples with respect to land rights/ land use rights
	12.b.i.7. The participating operator provides objective evidence demonstrating that no land rights and/or land use rights disputes related to her/his/its biomass/biofuels operation(s) are pending unresolved.	Not Assessed		▪ A statement/ interview with local indigenous peoples with respect to land rights/ land use rights are not under dispute ▪ Any recorded disputes relating to customary ownership of the land

Appendix C

Case Study: Aloils, Inc.


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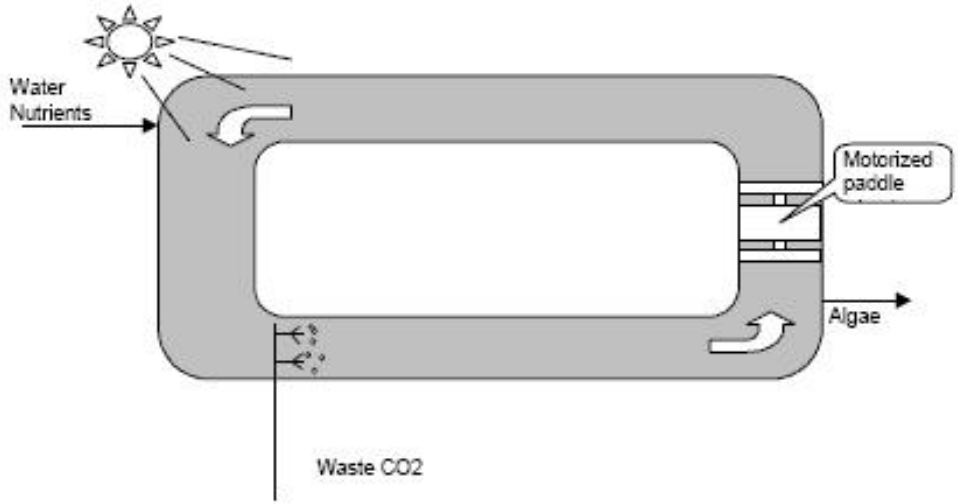
ROUNDTABLE ON SUSTAINABLE BIOFUELS
Case Study:
Aloils Inc. Hawaii
ALOILS
Inc.

Aloils Inc. Hawaii - Background

- Produces biodiesel from harvesting and processing micro-algae
- Located on in Kailua-Kona area
- Operating as a family business since 2007
- Supplies microalgal oil to refineries for further processing into biodiesel

Current Production Process - Inputs

- *Spirulina platensis* algae is grown in open ponds with one foot deep water
- Uses a combination of fresh water from dams/rainfall and waste water from surrounding industry
- Feeds CO_2 from cement factory next door to boost algal growth rate



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Current Production Process – problems

- Currently has 150 acres of pond surface area
- Difficult to maintain temperature
- Infestation of bacteria, vog and other algae species, has limited algal growth
- Expansion will take up more land

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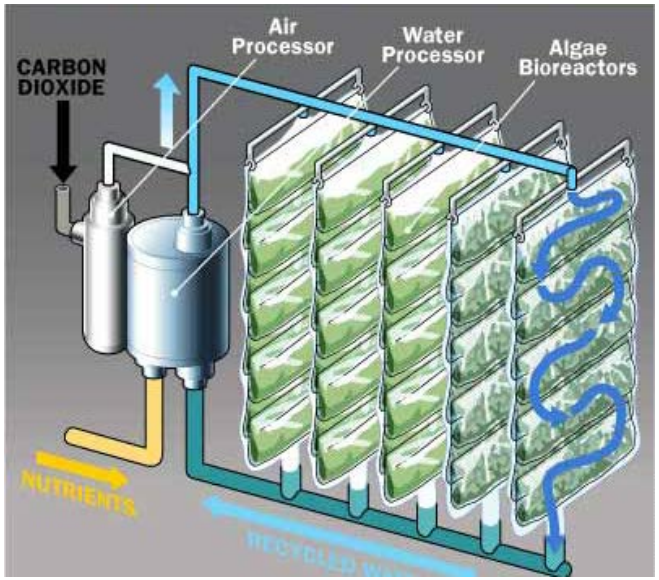
Proposed production process – closed ponds

- Closed pond system – bioreactor system in construction
- Algae placed in large clear plastic bags, exposed to sunlight on both sides
- Less likely to be contaminated
- Requires additional CO_2 input
- Housed in large metal containers



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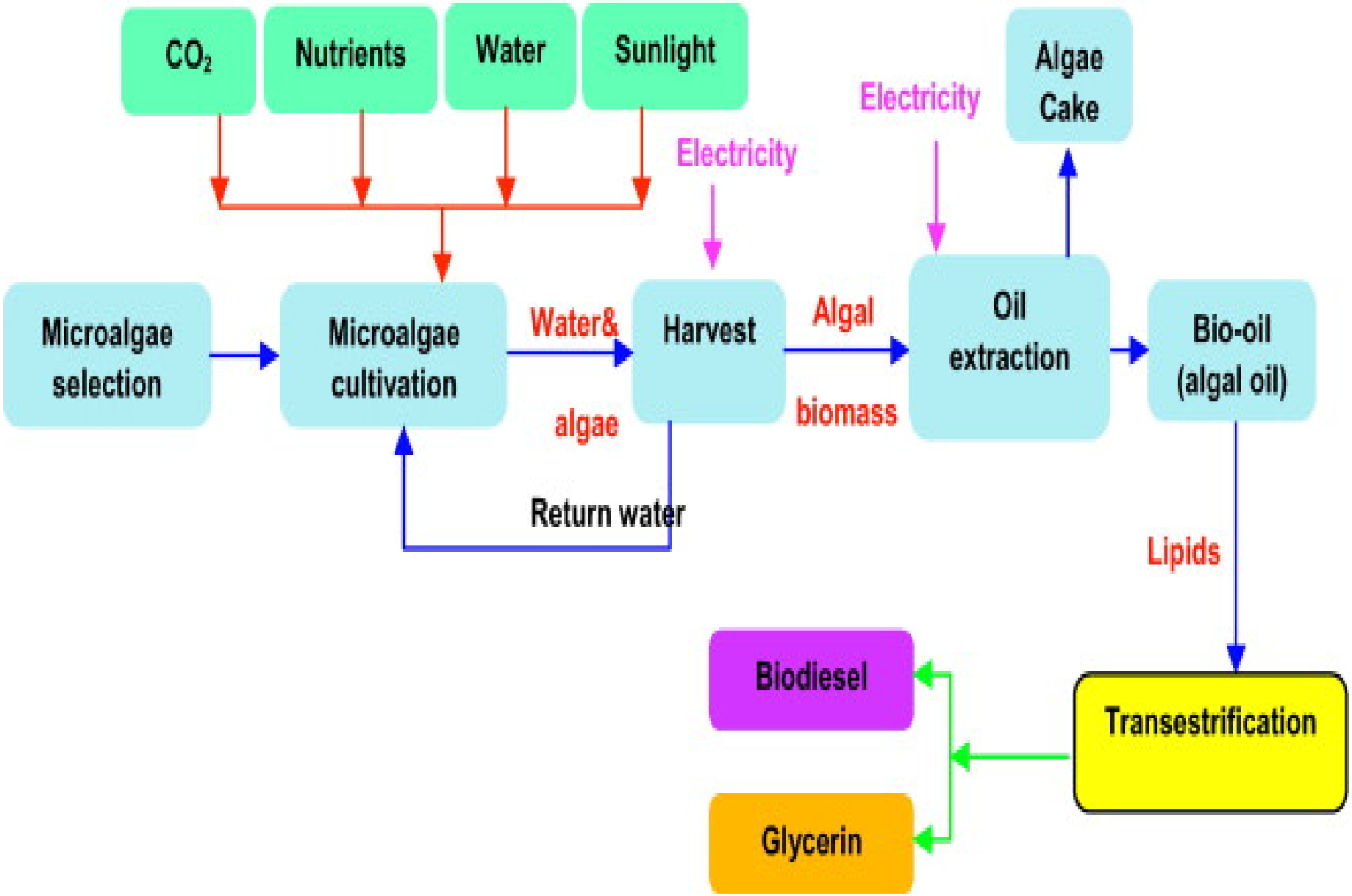
CO_2
Nutrients
Water
Sunlight
Electricity
Electricity
Algae Cake
Microalgae selection
Microalgae cultivation
Water&
algae
Harvest
Algal
biomass
Oil extraction
Bio-oil (algal oil)
Return water
Lipids
Biodiesel
Transestrification
Glycerin

Algae Oil Harvesting – open ponds

- A fraction of the water is harvested each day
- Algae is separated through **froth flotation**
- pH is adjusted and bubbling air is passed through a column to create a froth of algae above liquid level
- Algae is removed by suction

Algae Oil Extraction

Uses a combination of methods:

- **Mechanical Crushing**
  Algae is dried and oil is pressed out mechanically with an oil press
- **Ultrasonic extraction**
  Ultrasonic waves are used to create shock waves that break down the algae cell walls and releases oil into a solvent
  http://www.youtube.com/watch?v=PQCovM3_MPA&feature=related

Aloils Inc. outputs

Current production from open ponds:

150,000 gallons algal oil/year *(= approx 570,000 litres)*

(based on 150 acre surface pond area).

Expected production from expansion project due for completion in 2020 from additional closed system:

750,000 gallons algal oil/year *(= approx 2.83 million litres)*

Note: Use density equivalence for Algal oil at 1 metric tonne = 1,150 litres

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Aloils Inc. Environmental outputs

CH_4 emissions from algae decomposition

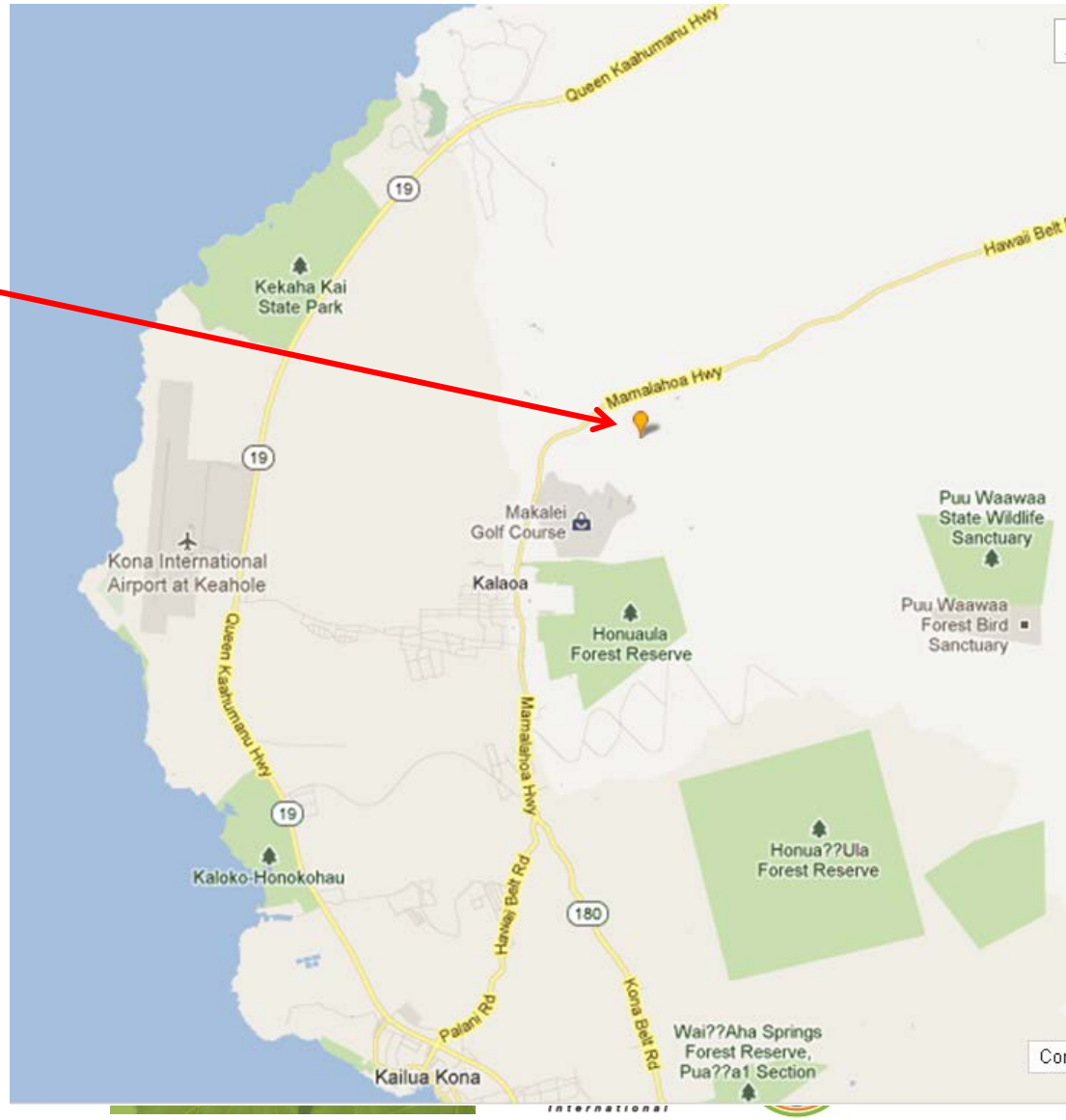
GHG equivalent ~ 2.3 MW natural gas power plant

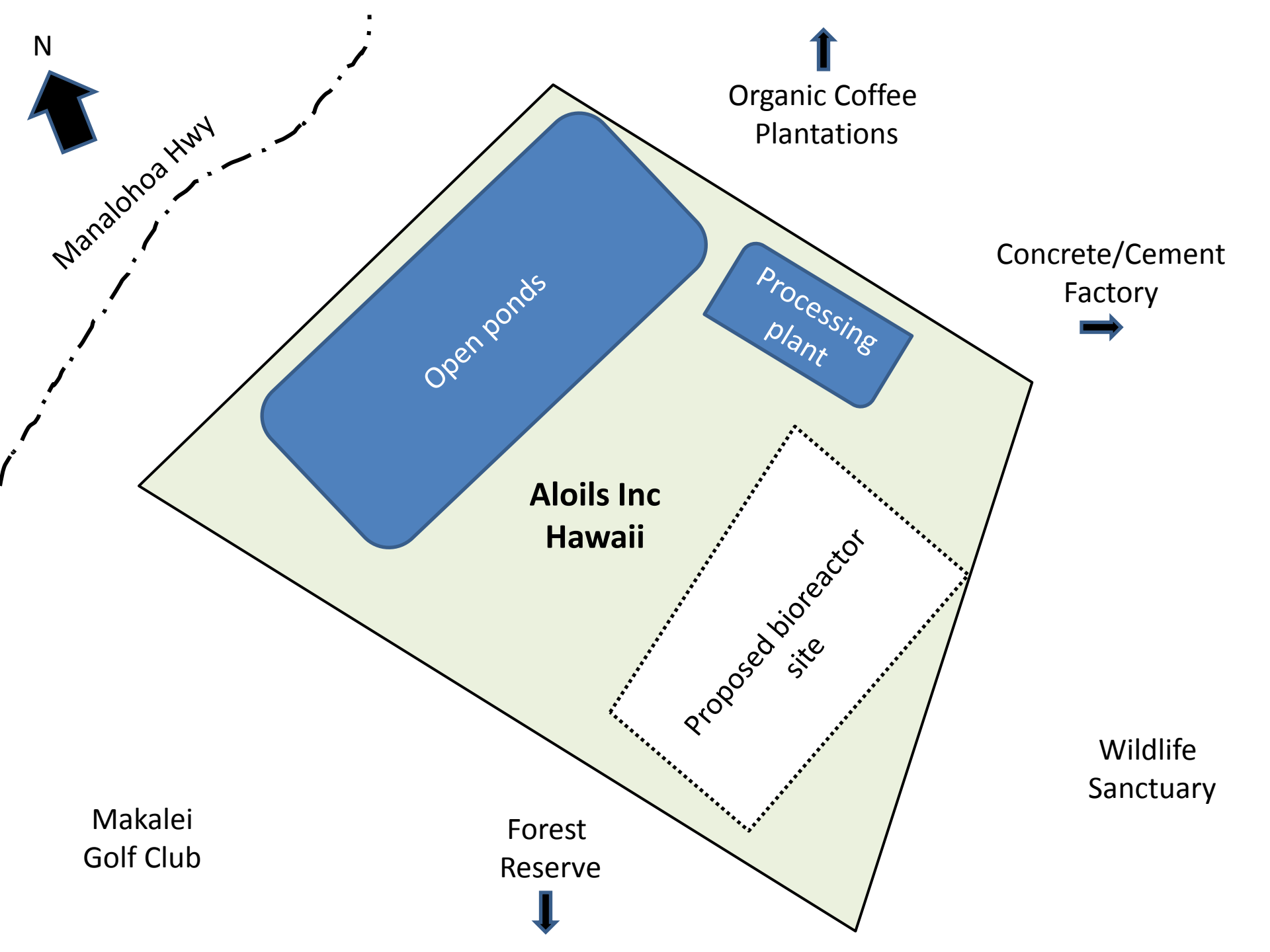
9,000 metric tons of algae/year (dry weight)

Methane electricity value of $1.25 million/year

Aloils Inc Hawaii - Location

Located on 500 acres on west coast of Hawaii
(Big Island)




N
Manalohoa Hwy
Organic Coffee Plantations
Concrete/Cement Factory
Open ponds
Processing plant
Aloils Inc Hawaii
Proposed bioreactor site
Wildlife Sanctuary
Makalei Golf Club
Forest Reserve

Environment – Kailua-Kona area

Climate - tropical, warm temperate all year

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °F (°C)	90.0 (32.2)	90.0 (32.2)	91.0 (32.8)	90.0 (32.2)	92.0 (33.3)	92.0 (33.3)	93.0 (33.9)	95.0 (35.0)	94.0 (34.4)	94.0 (34.4)	92.0 (33.3)	89.0 (31.7)	95.0 (35.0)
Average high °F (°C)	81.9 (27.7)	82.1 (27.8)	82.8 (28.2)	83.7 (28.7)	85.0 (29.4)	86.2 (30.1)	87.3 (30.7)	88.0 (31.1)	88.1 (31.2)	87.2 (30.7)	85.4 (29.7)	82.9 (28.3)	85.0 (29.4)
Average low °F (°C)	66.4 (19.1)	66.5 (19.2)	67.8 (19.9)	69.3 (20.7)	70.9 (21.6)	71.9 (22.2)	73.2 (22.9)	73.6 (23.1)	73.3 (22.9)	72.4 (22.4)	70.4 (21.3)	67.5 (19.7)	70.3 (21.3)
Record low °F (°C)	56 (13)	58 (14)	58 (14)	60 (16)	64 (18)	62 (17)	65 (18)	58 (14)	57 (14)	57 (14)	62 (17)	60 (16)	56 (13)
Precipitation inches (mm)	1.68 (42.7)	0.95 (24.1)	1.23 (31.2)	0.57 (14.5)	0.72 (18.3)	0.53 (13.5)	0.72 (18.3)	0.68 (17.3)	0.72 (18.3)	0.88 (22.4)	1.15 (29.2)	1.34 (34)	11.15 (283.2)

Source: WRCC/NCDC [7]

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Environment (cont'd)

Soils

Volcanic basalt; thin layer of volcanic ash over pahoehoe lava

Water Resources

Limited surface water – no major rivers or streams; groundwater affected by volcanic activity

Mauna Loa and Kilauea Volcanoes are active

Environment (cont'd)

Flora and Fauna

Sparsely vegetated on exposed lava surface. Pockets of Pili grass around property. Closer to coast, coconut, hala and kou trees.

Mongoose is a threat to native ground nesting birds in the area. Hawaiian Hoary Bat only native mammal in area.

Area has problems with managing infestations of foreign (introduced) plant and animal species.

Environment (cont'd)

Local Community

Surrounding land use includes:

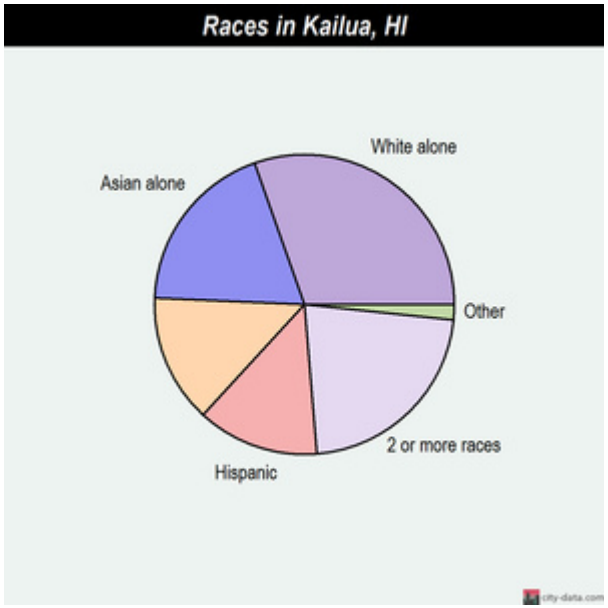
- Golf course
- Forest reserves/state wildlife sanctuary
- Organic coffee farms/plantations
- Cement /concrete factory
- Honey bee farm
- Macadamia farm – activated carbon products
- Local land holders

Historical land use

- There is limited information about historical land use
- A commercial coffee plantation operated on the site for about 25 years but was abandoned in the 1960s
- Native Hawaiian people collect native plants on the site and in the nearby Forest Reserve in the Spring

Demographics of the Region

- Population of region = 11,975
- Under 18 yrs 27.3%
- 18-24 years 9%
- 25-44 years 28.8%
- 45-64 years 24.9%
- 65 years + 10%
- Median age is 38.4 years
- Females = 49.8% Males = 50.2%
- Median household income (2009) = $60,968



2010 figures

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Demographics of the Region

- The UNDP Human Development Indicators World Map has determined the IHDI value for the Unites States of America as 0.771
- The International Food Policy and Research Institute's Global Hunger Index is used to determine if a biofuel project is located in a food insecure region http://www.ifpri.org/tools/2011-ghi-map. There is **no GHI value** for the United States of America since it is not considered to be in a region of food insecurity

Workforce of Aloils Inc Hawaii

Total of 15 employees

- 3 employees are family members of the owner. This includes two children aged 14 and 16 years
- 11 employees are from the local area
- 1 employee is from outside Hawaii county
- 70% of the employees are male

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Exercise 1 – Screening Tool/Impact Assessments

Read through the information about Aloils Inc Hawaii

Using the RSB Screening Tool, identify the impact assessments that would be required for this PO.

Record your answers on the hard copy of the Screening Tool

Exercise 2 – Stakeholder Involvement

Identify the key stakeholders for Aloil Inc Hawaii, including those

- Directly affected
- Indirectly affected
- Responsible i.e. proponent and government regulator/s
- Involved but not essential
- Non-essential
- Nice to have – supportive or can provide assistance
- Interested – concerned but not affected

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Exercise 2 (cont'd)

In your group, describe the following for each stakeholder:

- the interests of each stakeholder
- the method you would use to engage that stakeholder

Stakeholders Identified During Exercise

Stakeholder	Category	Type	Location
Aloils Union representative	Directly Affected	Non-Government Organisation	Local
Biofuel Blender	Directly Affected	Customer	State
Concrete Cement Factory	Directly Affected	Neighbour	Local
Employees of Aloils	Directly Affected	Organsiation	Local
Golf Course Players Assoc.	Directly Affected	Neighbour	Local
Hawaii Biofuels Foundation	Directly Affected	Non-Government Organisation	State
Honey bee farm	Directly Affected	Neighbour	Local
Local Landholders	Directly affected	Neighbour	Local
Makalei Golf Course Owners	Directly Affected	Neighbour	Local
Native Hawaiian People who collect plants	Directly Affected	Indigenous People	Local
Organic Coffee Plantation Owners	Directly Affected	Neighbour	Local
USDI National Park Service	Directly Affected	Federal Government	Federal
Wildlife Sanctuary Owners	Directly Affected	Neighbour	Local
Chemical supplier	Indirectly affected	Supplier	Local
Hawaiian Electric Company	Indirectly affected	Customer	State
Hawaii Cattlemans Council	Interested	Non-Government Organisation	State
World Wildlife Fund	Interested	Non-Government Organisation	Global
Hawaii Tourism Authority	Involved but not essential	State Government	State
Hawaii Invasive Species Council	Nice to have	State Government	State
The Nature Conservency	Nice to have	Non-Government Organisation	State
USDA Natural Respources Conservation Service	Nice to have	Federal Government	Federal
County of Hawaii	Responsible	Local Goverment	Local
Department of Agriculture State of Hawaii	Responsible	State Government	State
Department of Transportation State of Hawaii	Responsible	State Government	State
Office of Hawaiin Affairs	Responsible	State Government	State

RSB Screening Tool Print Out

SUBMISSION #111 | RSB Sustainable Biofuels Tool

Please identify if you are a:
Feedstock Producer
Feedstock Processor

What size are you, including all aspects of the operations within the scope of certification?: Small

SECTION 1: INTRODUCTION

SECTION 2: SOCIAL IMPACTS

Enter HDI/IHDI: 0..77

Country Level Development Indices: no

Are you required to conduct an in-depth Social Impact Assessment?: No

SECTION 3: FOOD SECURITY

Section 3a: Evaluate Food Security at the National Level: no data

Local Food Security Trigger: No

SECTION 4: BIODIVERSITY AND CONSERVATION

Question 1: Are you in a "No-Go Area"?: no

Question 2: Date when agricultural production began: yes

Question 3: Change in use of the land: no

SECTION 4b: Invasive Species (Feedstock Producers Only):

	Yes	no
Is the species in use prohibited in the country of operations? If yes, this species cannot be used. If no, continue to Step 2.		X
Is the species in use recorded in the Global Invasive Species Database as highly invasive under similar climate, local ecosystems and/or soil types? If yes, this species cannot be used. If no, continue to Step 3		X
Did you conduct a Weed Risk Assessment (see below for downloadable example) and did it provide conclusive results? If no, the species cannot be used. If yes, continue to Step 4	X	
Does the Weed Risk Assessment or any other source reveal that the species in use or to be used has high invasiveness potential under the conditions of operation? If yes, the species cannot be used. If no, the species may be used.		X

SECTION 5: ENVIRONMENTAL FACTORS

Soil:

	Yes	no
Are crops to be planted in an area of which 50% or more has an incline gradient		X

of more than 25%?		
Are crops planted on soil that is prone to water or wind erosion?		X
Do the crops require more than the Good Agricultural Practices (GAP) recommended use of pesticides, herbicides or chemical fertilizers?		X
Do the crops require clear cutting and/or mechanical land clearing of the natural vegetation?	X	
Are wastes from the farm or feedstock processing disposed of within the farm?	X	

Did you answer yes to three or more of the above?: N o

Section 5b1: Use of Rainwater: Yes

Section 5b2: Water Rights and Availability (Small, Medium and Large Scale Operators):

	Yes	**no**
Is there any evidence that agricultural or industrial operations have affected (or will affect) water availability for downstream water users with either formal or customary water rights?	X	
Are there any formal (e.g. governmental) restrictions on your water usage?		X
Has the operation resulted in the change of direction of a watercourse in any way?		X
Are there any current water disputes related to your operation pending in a court of law?		X
Are the basic needs of local populations (including drinking, sanitation and cultivation) constrained by water scarcity?		X

Did you answer yes to any two or more of the above?: Yes

Section 5b3: Water Quality and Pollution:

	Yes	**no**
Has there been any evidence that the agricultural or industrial operations have affected the chemical, physical and/or biological equilibrium of nearby water resources?		X
Do/Will agricultural activities include the storage or use of sewage, harmful chemicals or dangerous microorganisms within 100 meters of a surface water resource?	X	
Do/Will industrial activities include the storage or use of dangerous or harmful chemicals (fats/oils, bases, acids, etc.) or harmful microorganisms within 500 meters of a surface water resource?	X	

Open Air Burning:

	Yes	**no**
Do agricultural operations involve the open air burning of leaves, straw or any other agricultural materials or residues?		X
Do agricultural operations involve the open air burning or incineration of trash or waste materials?		X

Do agricultural operations involve the burning of fields or lands as part of land clearing, harvesting, or other crop cultivation practices?	X

Did you answer yes to any of the above questions?: No

SECTION 6: LAND RIGHTS

Involuntary Resettlement of People:

	Yes	no
Has there been any involuntary resettlement or movement of peoples out of their homes against their will as a result of the agricultural or industrial development project?		X

Section 6: Questions:

	Yes	no
Does the project affect indigenous peoples or local communities and individuals with informal or customary land tenures?	X	
Has there been any movement or relocation of peoples or communities as a result of the project development? Has there been any exchange of land or change in the use of land with poor, illiterate or indigenous communities?		X
Does the operation affect the use of land and the subsistence of poor or poorly educated communities?		X
Has there been any public opposition to the development of the project due to concerns over land rights from local NGOs or community members?		X
Are there any current land disputes pending in a court of law or has there been associated violence related to the project development??		X

Did you answer yes to any two or more of the above?: No

SECTION 7: NEXT STEPS

Acknowledgements