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HOSPRO policies to support environmental, social, and governance (ESG) criteria

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INTRODUCTION; PATHWAYS TO SUSTAINABILITY

In the past few years global concern over atmospheric carbon load has pushed the need for sustainability to be strongly embraced by small and large corporate interests. Indeed, new laws enacted by the Biden administration require environmental, social and governance (ESG) investing, allowing retirement fund managers to select stocks of companies based on their positions on social and environmental issues. This causes retirement savings to leverage companies to reduce their carbon emissions and establish racial and gender quotas and other social justice criteria. Internationally, ESG was especially supported by both the third Global Sustainability Conference (GSC³ Florida, Nov 3-4, 2022) and the 27th United Nations Conference of the Parties (COP²⁷, Egypt, Nov 6-20, 2022) as a principle that could move the world more quickly toward positive global climate control in support of biodiversity and humanity in general.

Three of GSC³ program themes were especially important to HOSPRO: 1. Resilient Infrastructure concerning energy and transportation; 2. The nexus of resilience and ecosystem restoration with respect to carbon capture and building a circular (bio)economy; and 3. Building innovations in resilient food and agriculture systems for a burgeoning world population.

COP²⁷ examined ESG principles which called for more corporate involvement in sustainability as key to success to reducing global warming, net zero emissions, and byproducts of increasing industrialization. Several of their themes also fit HOSPRO goals including: 1. Recognizing that consumer sentiment on sustainable products is growing and calling for circular approaches; 2. ESG is critical for investment and calls for disclosures and standardization to attract investors; 3. Renewable energy sourcing needs to offset carbon costs from production activity; 4. Greenhouse gas (GHG) emissions must be reduced further; 5. Carbon offsetting, which includes investments in renewable energy developments, carbon sequestration initiatives, or protection of natural resources, must be utilized; 6. Corporations must move from net zero to climate positive; and 7. Corporations must achieve new clean air initiatives.

Big banks are being pressured, mostly under a Biden Administration Order, to reduce greenhouse gases, to make their loan portfolios greener, and to put in place their own operational guidance to becoming green. This Presidential Order related to Financial Risk is being questioned by the 2023 GOP House because of barriers to trade and economic development such policy represents. Regardless, the FTC is getting involved to prevent “greenwashing” which happens when Corporations “...convey by act or practice of making a product, the idea that the product or process is greener than it really is”. (See Merriam-Webster dictionary). Connections between GSC³ and COP²⁷ can be drawn. HOSPRO policies fall naturally into the international parallel goals of carbon capture and building circular economies. So exactly how does HOSPRO fit these parameters, and how will it achieve them?

APPRECIATING THE ESG STRUCTURE

First, we must appreciate the simplicity of ESG's three central factors and why they fall in the public domain. The **Environmental** criteria, examines how a business performs as a steward of our natural environment, which is especially relevant for HOSPRO given the environmental and biodiversity problems associated with the oil palm industry in SE Asia. These ESG criteria focus on waste and pollution, resource depletion, greenhouse gas emission, deforestation, biodiversity loss, and accompanying climate change. The **Social** criteria, which looks at how the company treats people, concentrates on employee relations & diversity, and factors like working conditions including child labor and slavery. Local underserved communities and worker health and safety are included and key to HOSPRO activities in Hawaii. The **Governance** criteria, which examines how a corporation polices itself and is governed, considers tax strategy, executive remuneration, donations and political lobbying, corruption and bribery, and board diversity and structure. These crucial criteria pertain to the trustworthiness and ethical implications of executive and Board actions.

HOSPRO must consider how to address these ESG principles, and the method of operation holds the answer. As a Hawaii cooperative representing many small landholders, HOSPRO will layout operational principles, taking this burden from landholder shoulders, providing a pathway for growers to follow, and monitoring them to ensure criteria are being met. Farmers will participate because their investment growing oil palm will enable a secondary income source from sales of carbon credits. TABLE 1 lays out the criteria and the expected response. A point system based on this can be instituted to measure both grower and HOSPRO compliance and synthesis in GSC³ and COP²⁷ terms. Reduction of global climate warming, and growing endangered species between oil palms, will promote biodiversity as they are planted out by conservationists, thus helping offset the environmental degradation associated with oil palm in SE Asia.

TABLE 1. HOSPRO criteria to enable grower compliance with ESG principles ^{f,h}.

f = farm related activity; h = HOSPRO related activity

ESG Principle	Environmental Criteria (field activities)
waste/pollution	Return wash (gray) water to fields ^{f,h} ; process mill waste to animal feed, ethanol and/or compost ^h ; use geothermal steam for processing ^h .
resource depletion	Build soil with compost and biochar ^f ; use only underutilized agricultural (e.g. former sugar or pineapple) fields ^f ; use cisterns to capture rain from shade houses to rear seedlings ^h .
GHG emissions	Monitor soil, equipment, and tree GHG emissions ^f ; use biodiesel driven. equipment ^{f,h} ; capture carbon via biochar applications in rearing facilities ^h and in the field ^f , utilize bio-oil to cook biochar ^h , promote carbon offtake sales ^h .
deforestation	Not required due to use of underutilized agricultural fields ^f ; displace grass with a lower carbon storage value with palm trees, harvest weedy trees for biochar ^h .
climate change	Bimonthly comparison of GHG uptake in fields with benchmark climatic and soil conditions ^f ; set baseline GHG standards for each grower ^{f,h} ; use geothermal steam as an energy source, for container sterilizations, and for processing fruit ^h .

Social Criteria

employee relations/diversity	Hire to the ethnic ratios in different communities ^{f, h} ; pay at or above a living wage, provide educational opportunities.
working conditions	Follow OSHA standards ^{f, h} ; set employee accepted policies for hours worked, breaks, meals, and overtime ^{f, h} ; workers earn shares for incentive ^h ; visible posted safety and operation posters ^{f, h} ; fire and first aid stations in key locations ^{f, h} ; pay health and medical benefits.
local communities	Build mills ^h and establish distributed grower fields ^f in underserved communities, create jobs to hire locally where possible ^{f, h} .
health and safety	Prioritize health and safety ^{f, h} ; establish repeating mandatory safety and training classes ^h ; follow federal OSHA standards ^{f, h} .

Governance Criteria

tax strategy	HOSPRO is a tax-exempt 501c5 cooperative; workers will have insurance and benefit packages; a share program will require shareholders to be self-tax responsible for-profit sharing ^h ; profits and losses will be passed through to shareholders to use to their advantage ^h .
executive remuneration	This is currently donated time, but when HOSPRO reaches profitability, compensation will be set aside in line with going wage scales ^h ; meeting performance or exceeding production goals will be rewarded ^h .
donations, political lobbying corruption and bribery	HOSPRO will abide by laws regarding donations and political lobbying ^h . Annual audits will be published, and quarterly reports will transparently convey financial activity in the previous quarter ^h ; penalties will be put in place for anyone involved in lawful and unethical activity ^{f, h} .
board diversity, structure	Select HOSPROs Board of ten members drawn from local island communities sympathetic to ethnic subdivisions in island populations. General Manager serves as 11 th member and Board chair. The Board will have agricultural or professional backgrounds in fields relevant to HOSPRO goals with ability to offer sound, relevant counsel to the corporation. Outside expertise may be requested from time-to-time if additional insight is needed. HOSPRO will exercise bias-free choices in selecting native-Hawaiian, minority, and gender-neutral members.

SETTING MILESTONES TO AVOID GREENWASHING

On January 17, 2023, Joel Makower of the online journals *Greenbiz* and *Greenbuzz*, opined that many were suggesting greenwashing was just a way for corporations to get around their responsibilities concerning sustainability and carbon generation. Investigative studies by *The Guardian*, *Die Zeit*, and the nonprofits *SourceMaterial* and *Compensate* (a Finnish company) studying a range of companies producing carbon credits, determined that between 70-90% of credits were invalid and lawsuits will likely soon follow. Purchase of carbon credits, under certain circumstances, for example, might be seen as greenwashing. Other examples might include oil companies that claim to “decarbonize” their products while drilling for more oil, or companies who claim to be using new “bioplastics” but continue to churn out some products wrapped in older forms of plastic as well.

Makower was rightly concerned with the definition of greenwashing and presented 6 of such, ranging from Britannica’s: *"a form of deceptive marketing in which a company, product or business practice is falsely or excessively promoted as being environmentally friendly"*, to Scientific Americans: *"what happens when a hopeful public eager to behave responsibly about the environment is presented with ‘evidence’ that makes an industry or a politician seem friendly to the environment when, in fact, the industry or the politician is not as wholly amicable as it or he might be"*. Hundreds of corporations are moving toward “sustainability”, with 49 percent of respondents to an ESG survey in 2021 reporting that ESG plays a role in their companies’ strategies, while 64 percent reported the same in 2022. Yet many may be accused of not meeting true sustainability standards, e.g. they have no baseline enabling demonstration of an approach to net zero production of carbon.

To avoid greenwashing a company should demonstrate the difference between carbon generation in production runs before and after "going Green." Or it can purchase carbon credits from a company storing verified carbon in the ground and/or in orchard trees. The credit provider must clearly demonstrate carbon removal from the environment. Orchards offer unique opportunities for continual carbon storage over many years. Burying biochar for direct ground storage and soil supplementation will benefit orchards and results in a second way of storing carbon.

For HOSPRO, the latter case applies. HOSPRO can set the baseline as a milestone of available soil carbon prior to planting which enables monitoring of soil storage over time as each palm tree grows. The bulk of the tree trunk and number, size and density of the leaves can yield estimates of carbon stored therein (see TABLE 2). Using biocarbon to promote seedling growth is easily measurable. A very strong estimate of available carbon for credit sales would give purchasing companies a good idea of what their investment dollars are buying in real time, demonstrating a HOSPRO carbon credit truly supports sustainable environmental approaches. In this case, dollars invested = carbon credits earned to offset customer corporate activities.

TABLE 2. Biomass of the Different Oil Palm Parts; C sequestration = 4.55 tC/ha/yr within the range of sequestration for oil palm orchards in Brazil, Sri Lanka, and Sumatra.^a Note that fruit production is a relatively small part of uptake and therefore will have a very low emissions footprint.^a

LOCATION (Philippines)	AGE	BIOMASS (tons/ha)				TOTAL C	
		TRUNK	FRONDS	LEAVES	FRUITS	TOTAL	(tC/ha)
Kadingilan, Bukidnon	2	18.70	3.18	2.39	0.11	24.38	9.72
	4	34.16	4.70	3.94	0.22	43.02	17.30
	6	51.78	5.57	4.15	0.20	61.70	24.99
	7	70.72	6.57	5.47	0.26	83.02	33.76
Montevista, Compostela	2	15.49	3.27	3.00	0.08	21.84	8.63
	7	68.78	7.86	5.61	0.14	82.39	33.61
Mean		42.99	5.285	4.15	0.155	52.57	21.34 ^b

^a Borbon et al, 2020, <https://doi.org/10.1101/2020.04.14.041822>.

^b The final total carbon stored is converted to acres from hectares.

But setting milestones must also account for more than operational and field storage or emissions. Russ Chapman in the June 29, 2022, online journal version of *Climate Change* (What are Scope 1,2,3 and 4 Emissions?) defines Scope 1 emissions as those we described above; direct emissions due to stationary combustion, mobile combustion, fugitive emissions (e.g. vent leaks) or process emissions (extraction and production of vegetable oil). Scope 2 emissions(all GHG emissions released in the atmosphere from the consumption of purchased electricity, steam, heat, and cooling) will be minimal for HOSPRO since we will use geothermal for steam and cooking of nuts, and solar for creating 3-phase power for the mill. Scope 3 emissions, those not within control of HOSPRO (business travel, employee commuting, emissions associated with the downstream use or value chain of a company's product) is briefly covered in the section on extending the ESG value chain and are summarized in TABLES 1 and 3. Scope 4 emissions occur outside the value chain of HOSPRO products during acquisition or use of these products by another. ZOOM meetings with customers or others might fall into this category. Carbon emissions (or storage) would be partitioned to credit all parties participating in the activity. Scope 3 and 4 emissions remain to be quantified.

RELEVANCE OF SOURCES OF INCOME

HOSPRO will have multiple sources of income, each of which will necessarily be examined for derived ESG compliances. The sources are found in TABLE 3. Subcoding each category of sale enables individual actions in each category to be tracked which in turn not only captures individual contributions to carbon emissions but opens each up to refinement and improvement to reduce the emission generated. They can be totaled to determine and track income track income patterns.

Items a. through c. are treated in TABLE 1 as a function of working directly with farmers. Sources d. through k. are functions of HOSPRO activities in Table 3. Items l. through o. have excellent potential as anticipated income sources and remain to be developed after oil production scales high enough to support research into these activities. Products of manufacturing may also have higher emissions. These will depend to some extent on the companies that purchase the base oil palm products enabling their development since federal mandates require downstream companies also have ESG rules in place. In such a case, HOSPRO will work with future industrial, state, or federal partners to integrate the joint rules, synthesize new rules, and/or find solutions to enable response to ESG criteria. Any new criteria will be incorporated into Table 3, which is why this policy document is a living, flexible, adaptive document.

EXTENDING THE ESG VALUE CHAIN

There is already a growing movement that to reduce carbon production in a society, companies must be able to account for all carbon entering and leaving their operations. TABLE 1 reflects the strategy for HOSPRO. To follow the company product until it reaches its destination (scope 4) must be included. Policy considerations driven by U.S. commitments by the Biden Administration at COP ²⁷ and most recently by the Federal Reserve's Pilot Exercise Climate project which will reach the heart of bank funding of corporations, will force compliance. This means that HOSPRO will need to determine additions to its carbon footprint by its suppliers and by its marketing and supply chains. Where it can, HOSPRO will find it useful to integrate partner ESG policies with its own to partition carbon outputs and ownership. In cases where a partner may not have an ESG policy in place, HOSPRO should encourage development of such to be compliant and to promote an equitable partnership.

TABLE 3. Revenue stream codes to signify seedling sales and carbon credits partitioned to different farmers, oil milling charges to different farmers, biochar buyers including palm growers, sales of edible vegetable oil, carbon and biodiversity credit purchasers, consultation types, compost buyers, palm oil buyers, waste to animal feed buyer (one on Hawaii Island), ethanol purchaser (one anticipated), patents of developed vegetable oil buyers or lessors, product development buyers, oil coming from different farms, endangered plant species sold, conservation awards from the state to harvest invasive species for biochar manufacture, and grants received from different agencies for different projects. Each revenue stream will have a different, positive, or negative carbon trail and emission phases to account for and possibly share with partners, customers, and product users. Codes enable tracking to specific sources. Subcodes (β) for carbon may have either positive or negative values after adding across subfields so adding P^N is always subtracted from P^C the amount depending on the nature of the carbon loss.

Subcode (ϕ)	Category	Subcode (β) = $P^C + P^N$ ^a
a. $S_s = S_s^1, S_s^2, S_s^x$	seedling sales, farms 1---x	S_s^C = carbon (C) from seedlings
b. $O_e = O_e^1, O_e^2, O_e^x$	oil extraction charge, farms 1---x	O_e^C = C from extraction
c. $S_b = S_b^1, S_b^2, S_b^x$	sales of biochar, customers 1---x	S_b^C = C frm making & sales
d. $B_c = B_c$	biodiversity credit sales	B_c^C = C frm rearing and sales
e. $C_f = C_f^1, C_f^2, C_f^x$	consultation fees	C_f^C = C frm consulting
f. $P_c = P_c^1, P_c^2, P_c^x$	palm compost sales, customers 1---x	P_c^C = C frm makery and sales
g. $P_s = P_s^1, P_s^2, P_s^x$	palm oil sales, customers 1---x	P_s^C = C frm sales
h. $A_f = A_f$	animal feed sales (one buyer)	A_f^C = C frm makery and sales
i. $P_o = P_o^1, P_o^2, P_o^x$	palm oil HOSPRO farms 1---x sales	P_o^C = C frm operations
j. $E_f = E_f$	EtOH fermentation and sales (one buyer)	E_f^C = C frm waste sales
k. $P_l = P_l^1, P_l^2, P_l^x$	patent licensing sales, patents 1---x	P_l^C = C frm patent sales&licnsing
l. $P_d = P_d^1, P_d^2, P_d^x$	development sales, products 1---x	P_d^C = C prdct devlpmnt & sales
m. $E_s = E_s^1, E_s^2, E_s^x$	ESA plant sales, sp 1, sp 2, sp x	E_s^C = C frm rearing&sales expnse
n. $C_a = C_a^1, C_a^2, C_a^x$	conservation awards, invasive sp 1---x	C_a^C = C state awards inv sp harvst
o. $G_a = G_a^1, G_a^2, G_a^x$	grant awards, projects 1---x	G_a^C = C from fed&state grant dev
$\Sigma \phi = T^i$ = Total Income		$\Sigma \beta = (P^C + P^N) = T^C$ = Total Carbon Credits available

^a P^C = positive carbon credits available; P^N = negative carbon credits to subtract from P^C .

It goes without saying that award and grant activities (p. and q.), are dependent on policy developments at state and federal levels, are developing as this document is being written, and can be applied at any time in the future.

EXTENDING SUSTAINABLE APPROACHES IN ESG

HOSPRO believes its operations can be extended beyond the obvious features of Table 2. For example, HOSPRO facilities are ideally located to take advantage of geothermal heat to cook harvested fruit, make biochar (with steam heat supplemented by burning vegetable oil), and sterilize equipment necessary for sprouting seeds and rearing seedlings. This would make our production systems independent of external energy sources such as power grids or imported fuel, especially if solar, and

biodiesel or steam-driven mini-generators, can also be put in place. HOSPRO believes its operations allow for growing shade-tolerant food crops between oil palms integrating the two processes thus enabling limited land resources to do integrated, double duty. Likewise, oil palms may also provide a *faux* semi-tropical forest for the rearing of listed, endangered plant species for restoration goals of island conservationists. This activity enables HOSPRO to take advantage of the new biodiversity credit now recognized as a truer value to counter biodiversity loss. These activities offer a holistic approach to integrating food growing, production agriculture, and biodiversity that few other agricultural systems offer. Full operability of HOSPRO operations will enable an estimate of just how much reduction of GHG can be obtained, yielding estimates of the difference that we can make in sustaining biodiversity, humanity, and circularity in the Hawaiian islands. Annual reports can then be issued detailing carbon intakes, outputs (emissions) and credits available and sold. Watch this space for results as we continue to develop. ¹

¹ Last edited by Jennifer Sonneborn and William W.M. Steiner, March 26, 2023