



Equatorial Palm Oil plcLiberia Rising

16.9p

28 February 2012



Analyst: Doug Hawkins / Yingheng Chen

Tel: +44 (0)207 929 3399

Email: doug@hardmanandco.com

yingheng@hardmanandco.com



28 February 2012

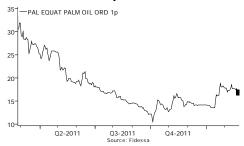
Table of Content

Executive Summary	4
Development of a New Plantation Company	4
Development Chronology	5
Cash Rich Strategic Investor & Joint Venture Partner	5
Assembling A Jigsaw	6
Valuation & Financials	7
The Liberian Concessions	14
Climate Conditions	15
Soil Conditions	16
Palm Bay	16
Butaw	18
River Cess	18
Out Grower Program	19
Development Plan	20
Planting Material	20
Mill Facilities	22
Environmental Responsibility	22
Corporate Social Responsibility (CSR)	23
Logistics	23
Management	24
Capital Structure & Shareholder Analysis	27
Liberia Rising' - Risk & Opportunity	28
The Case For Palm Oil	38



28 February 2012

Share Price: 16.9p



12m High: 34.5p **12m Low**: 10.5p **Market Cap**: £22.0m

Shares in Issue: 124.8m ordinary

NAV/Share: 11.5p Gearing: n/a Interest Cover: n/a

EPIC Code: PAL

Sector: Food Producers and Processors

Market: London AIM

Broker: Mirabaud Securities

Website: www.epoil.co.uk

Description: Developer & operator of oil palm

estates in South Eastern Liberia

Analyst: Doug Hawkins / Yingheng Chen

Tel: +44 (0)20 7929 3399 **Email:** doug@hardmanandco.com

yingheng@hardmanandco.com

Under the leadership of its directors, EPO has laid the cornerstones of a potentially successful & valuable palm oil production platform in Liberia. With potentially 169,000 ha of land in the ideal palm region in the South East of the country, the company is targeting to have planted more than 50,000 hectares by 2020. A small senior and operational management team has been drawn together that includes perhaps the most experienced plantations director in the global palm sector, and in country operating managers with lengthy senior careers in relevant sectors in other demanding frontier environments.

In 2010 BioPalm Energy, a division of the wealthy Siva Group of India, acquired a 26.7% strategic stake in EPO and followed this with the completion of a 50/50 Joint Venture to develop the Liberian palm assets. This financially secure strategic investor and joint venture partner will be able to provide strong support for EPO's development funding program.

The administration of President Ellen Johnson-Sirleaf is striving to set Liberia on a course to become a middle income country by 2020. Under the banner Liberia Rising, the administration is fostering a pro-business, pro-investment climate that is successfully attracting \$ billions in FDI for the development of major industries based on Liberia's abundant natural resources.

That President Johnson-Sirleaf was re-elected in a peaceful election process in late 2011, to serve a second 6 year term, has already improved the political & economic outlook for Liberia. If the Liberia Rising program is successful, it will substantially improve the country's investment status and positively impact the value of Liberian assets.

The two great influences on the value of the immense project that the EPO JV is undertaking are rate of planting and discount rate. If the JV is able to come within 90% of its targeted planting rate, then by end 2020 it could have some 66,000 ha of its concession area planted and perhaps as much as 22,000 ha of out grower plantations also newly planted. This is all possible, but it requires a 'fair wind'. And the more successful the Liberian government is in realizing the goals of the Liberia Rising program, the lower the country risk rate will be, thus pushing up the value of the plantation cash flows. At the positive extreme of our DCF valuation using a discount rate of 10% and terminal growth rate of 1.5% the implied share price would be 116p, conversely a discount rate of 15% and terminal growth rate of 0.5% gives 33.6p.

Y/E	Own Crop	JV Sales	Share of PTB	EPS	P/E ratio	Divi	Yield
December	Tonnes	US \$m	US \$m	c/share		UK p.	%
2010A	-	-	-4.4	-3.5	-	-	-
2011E	5,250	1.0	-1.1	-0.8	-	-	-
2012E	10,500	2.1	-1.9	-1.2	-	-	-
2013E	10,500	2.1	-1.9	-1.1	-	-	-



28 February 2012

Executive Summary

EPO is a relatively new plantations company, founded as recently as 2005, but today it has in place the land, the funding and the execution team to support its objective of having at least 50,000 ha of oil palms planted across 3 counties of South Eastern Liberia by 2020. Founded by Australian resources entrepreneur Michael Frayne the company today boasts a small deeply experienced plantations and frontier markets management team with the necessary mix of essential skills to successfully execute the strategy. Crucially the company has secured the financial support of one of the palm sector's newest entrants, Siva Group of India. EPO has entered into a 50/50 Joint Venture with BioPalm Energy, an investment subsidiary of Siva Group, to develop estates comprising potentially 169,000ha.

Strong execution capability

The south eastern side of Liberia provides ideal growing conditions for oil palm and EPO's estates are all close to Atlantic ports able to serve the important markets of Europe and North America. While execution of strategy will not be helped by the very basic current state of Liberia's transport & logistics infrastructure, EPO's plantations development team is 'premier league'. Because West Africa has a pronounced dry period, unlike the more even rain patterns in the equatorial regions of East Asia, yields on African plantations are not expected to equal those achieved in Malaysia and Indonesia. However with careful selection from the best new planting material, complemented with best agronomy practices, EPO's plantations team, headed by sector veteran Geoff Brown, aims to raise the bar on West African productivity. It hopes to achieve circa 23 mt FFB per ha and oil yields of 4mt – 5 mt.

Setting a new standard in African palm sector productivity

Liberia is a society in transition, from post conflict to growth and development. Sovereign risk has reduced considerably with the peaceful passing of the late 2011 elections, and the government has set a goal of turning Liberia into a middle income nation by 2020.

Liberia targets becoming a middle income country by 2020

Sovereign risk and planting rate, these are the two principal drivers of our valuation model for this project. If the Johnson-Sirleaf administration can firmly set Liberia on course to achieving the 2020 goals of Liberia Rising, then the discount rate for Liberian projects will fall to the lower end of our risk model — 10%, with significant positive implications for the value of Liberian assets. Assuming that management can get within 90% of their ambitious planting targets, then the Joint Venture could enter the next decade with more than 60,000 ha planted over its concessions and a further 19,000ha of out grower plantations. Our financial model suggests that this would enable the Joint Venture to achieve pretax profits in the region of \$16m - \$17m in 2020 rising to \$149m by 2025. There is much that could happen to frustrate this happy outlook, but what is not in doubt is that the company has established already the cornerstones for a successful oil palm plantation company.

Reducing sovereign risk will float all assets in Liberia

Planting rate is

The implied equity value for EPO's 50% share of the JV out turns on our financial model at either £96.1m [discount rate of 12.5%] or £75.9m [discount rate 13.5%]. Translated into an implied share price, these calculations suggest 63.8p or 50.4p on an undiluted basis, or 61.1p and 48.3p on a fully diluted basis. Even using a 15% discount rate with 0.5% growth rate in perpetuity produces an implied share price of 35.0p on an undiluted basis, or 33.6p on a fully diluted basis, which compares with a market price of 16.9p at the time of writing this report.

Development of A New Plantation Company

The company was founded in 2005 with the objective of becoming a low cost producer of sustainable palm oil. Frayne had begun exploring resource based opportunities in Liberia shortly after the end of the 1989-2003 civil war and in August 2006 EPO, then Nardina Resources, was able to announce its intention to acquire Liberian Forest Products Inc (LFP), the owner of rights to the Butaw estate. By December 2007 when the concession for the Butaw estate was agreed by the government of Liberia, EPO had concluded the purchase of LFP and was close also to an agreement for the purchase of LIBINCO, the owner of the Concession for the Palm Bay estates. With control now of some 56,000 ha and an additional 33,000 ha for out growers, EPO sought re-admission to AIM; the company had been originally listed in February 2006 as Nardina Resources, an

Five years to put the pieces together



28 February 2012

investment company. 2008 was not a good year to seek a listing. As the financial crisis stemming from the collapse of Lehman Bros engulfed the world economic system, the listing was abandoned until February 2010, when EPO finally re-listed on AIM and raised £6.5m through a placing of 37.12m shares at 17.5p each. The placing also included a warrant offer comprising 1 warrant exercisable for every 2 shares allotted in the placing, exercisable at 17.5p at any time up to 26th February 2012.

Development Chronology

2005	Company founded	
Feb-06	Company admitted to AIM as Nardina Resources, and investment company	
Aug-06	Company requests suspension of trading on AIM on announcement of agreement to purchase Liberian Forest Products Inc (LFP) owner of the Butaw estate assets	
Apr-07	Company signs Sale & Purchase Agreement for a further 50% of shares in LFP	
Dec-07	Investment Agreement signed between LFP & Republic of Liberia in respect of Butaw Concession	Palm Bay & Butaw
Dec-07	Investment Agreement signed between LIBINCO & Republic of Liberia in respect of Palm Bay Concession including full terms of agreements dating from December 1965 for the development of palm oil cultivation on land situated in the River Cess area.	Concessions secured
Feb-08	Company enters into agreement to buy 100% of LIBINCO from company owned by Joseph Jaoudi - a director of the company	
Jun-08	Company seeks re-admission to AIM, but financial crisis forces abandonment	
Aug-09	Company signs MOU to merge operations with Agriterra Ltd; MOU was terminated September 2009	
Feb-10	Company places 37.12m shares at 17.5p to raise £6.5m and gains re-admission to AIM	Re-admission to AIM
May-10	Company issues 33.33m shares (26.71%) at 15.0p to BioPalm Energy a division of Siva Group, a conglomerate based in Chennai, India, raising £5m.	
Sep-10	Company announces signing of MOU with BioPalm Energy for establishment of \$60m JV company to hold, operate and develop all the Liberian palm oil projects	
Dec-10	Company seeks shareholder approval for the JV Liberian Palm Developments Ltd. BioPalm contributes \$22.5m in cash and agrees to arrange & guarantee an additional \$30m loan facility for Liberian Palm Developments. BioPalm Energy receives an interest of 50% in Liberian Palm Developments. The company contributes \$7.5m to retain 50% of the venture and a founder share.	JV with BioPalm Energy
May-11	President Ellen Johnson-Sirleaf attends inauguration of company's first commercial palm oil mill	
lun 11	Company announces completion of rehabilitation of 3,500 ha on Palm Bay Estate	
Jun-11	First sales of CPO	First new
Dec-11	Company achieves 1,100 ha new plantings at Palm Bay	plantings
Source: Hard	lman & Co. Company	

Source: Hardman & Co, Company

Cash Rich Strategic Investor & Joint Venture Partner

Three months after re-admission to AIM, in May 2010, EPO announced that it was to issue 33.33m shares at 15.0p, raising £5m, to a new strategic investor and partner, BioPalm Energy - a division of the Siva Group based in Chennai, India. Siva is an industrial conglomerate with interests across diverse sectors including palm oil production. BioPalm Energy became the company's largest shareholder with 26.7% of the enlarged equity. As it turned out, this was only step one in the process of building the

Enter Siva Group



28 February 2012

relationship with BioPalm Energy / Siva Group; four months later in September 2010, the parties announced the formation of a joint venture to be known as Liberian Palm Developments Ltd (a private company incorporated in Mauritius). The joint venture agreement provided for an equity investment in Liberian Palm Developments Ltd of \$30m of which EPO contributed \$7.5m and BioPalm Energy \$22.5m. Additionally BioPalm Energy undertook to arrange and to guarantee an additional \$30m debt facility. The result of this transaction was to give BioPalm Energy / Siva Group a 50% shareholding in Liberian Palm Developments, the vehicle now owning all the Liberian palm oil assets and rights. EPO owns the other 50% and a 'founder's share' - giving it voting control. The Directors of EPO considered that investors perceived access to long term funding to be one of the most significant risks for the company. While the Board of EPO believed that it would be able to obtain "some form of debt financing" there was an "absence of clarity on the timing, terms and quantum of the financing". In these circumstances the Directors recommended that shareholders give their consent to the joint venture agreement which would "effectively assure financing and at a level which...could otherwise be difficult to obtain...without a strategic partner".

A JV is established and funding secured for foreseeable requirements

Siva Group describes itself as a US\$ 3bn conglomerate, with operations in Realty, Telecom, Project Engineering, Shipping, Energy, Commodities Trading, Agri Exports and E-education / Software. Siva was an innovative and disruptive pioneer in the Indian pc sector during the 1980s and from this entry point it went on to develop significant businesses in broadband and mobile communications, in addition to developing an important position in the food & beverages sector. Amongst its most significant achievements was the development of the mobile telephony brand Aircel which it divested in March 2006 for more than \$1bn. Since entering the oil palm sector in 2010, Siva Group or its subsidiaries, have made investment commitments of circa \$200m that embrace investments across West Africa, Indonesia & Papua New Guinea. These investments represent interests in some 352,000ha of palms or land suitable for their cultivation, and include stakes of 26.7% in EPO and 8.6% in Feronia Inc.

Siva Group's bold palm strategy

Assembling A Jigsaw

Beginning with the establishment of strong relationships with senior figures within the Liberian Government and political community, the management team has forged the network of business relationships and partnerships which define EPO today, including the strategic partnership with BioPalm Energy. A central piece in this jigsaw was the recruitment of Geoff Brown as Director of Plantations in 2006. Brown is one of the most experienced palm planters in the world with a near 40 year career in the sector that has included senior board roles in some of East Asia's largest producers. In Liberia, Brown has assembled a team of East Asian planters with an experience base to rival his own. Mr Sashi Nambiar, a Malaysian national, is Head of Operations in Liberia. Nambiar has had 32 years experience in the oil palm sector during which time he has overseen the development of more than 100,000 hectares in East Asia.

One of the most experienced plantations directors in the sector

While the River Cess Expansion Area – extending to some 80,000ha and the subject of a Memorandum of Intent between the people of River Cess & their representatives and the company,is awaiting conversion into a Concession by GoL, EPO has accumulated some 55,561 controlled hectares and a further 33,386 out grower hectares, with funding in place for its foreseeable development needs, courtesy of a financially strong strategic partner. The plantation development will be completed by a deeply experienced plantations management & execution resource.

River Cess Mol likely to be converted in 2012

This newly established & developing palm oil production business is supported by a small but competent management team with an acute focus on purchasing, logistics and human resources. These are all critical skills sets for an entity seeking to establish a successful agro-industrial project in a frontier environment such as Liberia.

Critical skills sets



28 February 2012

Valuation & Financials

The East Asian oil palm sector has a capitalisation approaching \$90bn; the 40 or so stocks comprising the sector are listed across 5 regional stock exchanges and London. The sector is widely owned and deeply researched. The virtually continuous productivity and cash generative profile of oil palm plantations from early maturity means that the Discounted Cash Flow valuation model is an established favourite amongst analysts. investors and estate owners. Multiples of profitability are also widely used as too are valuations based on planted hectares. While it is appropriate to use all the same methods when valuing a West African or a Liberian palm plantation, there are today few regional valuation data to benchmark against. The listed African palm plantation companies are, with the exception of Feronia Inc and EPO, majority owned & controlled by European owned & listed plantation holding companies, and listed on African stock exchanges. The market cap/ha measure detailed in the table below, puts EPO at the upper end of the table, but the peer group comparisons are confused by issues surrounding ownership status and the profile of local stock market valuations. Feronia Inc is very much the 'odd man out' in this table, this may reflect a lack of a palm sector focus amongst Toronto investors, and perhaps too, a limited appetite for DRC risk amongst Toronto investors. That the end 2011 election results remain contested in DRC may be a complicating factor also. It should be noted too that Feronia is seeking to develop a mixed agri-production model, with a cash food crop strategy running in parallel with the development of the oil palm operations. EPO conversely is a pure play, just like the other names listed in the table. The highest per planted hectare valuation is accorded to the Wilmar controlled company Benso, based in Ghana, a possible reflection of Ghana's relatively stable political profile and the position of Wilmar as controlling shareholder. The scale of the EPO project in Liberia, the fact of a listing on the London market, with its traditional interests in both the palm oil production sector and Africa related investments, and the reality of EPO's relationship with its well-funded strategic investor, all provide support for EPO's position in the table below. With the exception of Feronia however, the other listed African palm companies, lack the scale of the EPO project, and this suggest that EPO has the potential to justify a premium to this list of regional peers.

Oil palm is a \$90bn sector focused on East Asian operators

EPO in upper quartile of African valuations

EPO's strong **fundamentals**

Market Market Cap Per Stock Planted P/E Company Cap **Planted Hectare** Exchange Hectares \$m \$/ha х 36.37 7,794 Benso Palm Oil Plantation 4,666 6.3 Accra LSE AIM **Equatorial Palm Oil** 34.05 7,401 4,600 Toronto Feronia 58.92 3,686 15,986 Venture Okomu Oil Palm 66.56 6.4 6,823 Lagos 9,755

8.1

4,937

Lagos

11,537

56.96

London investors understand oil palm & Africa

Source: Hardman & Co

Presco

While analysts, investors and corporations can have regard to the valuation data for East Asia, there are important differences with West Africa, and these are rooted in sovereign risk: discount rates are higher in West Africa to reflect national & regional political risk, and commercial debt finance, where it is available, may be charged at more than 3x the lending rate for say Malaysia (6%). Large scale palm projects in West Africa are typically funded by foreign firms with access to the international capital markets or to well-funded corporate partner / investors, or even development banks. The EPO/BioPalm JV is a case in point. This means that debt finance can be provided on terms that reflect less about country / project risk, and more about strategic relationships or a country / regional development agenda. EPO has yet to raise debt finance.

Discounting for sovereign risk

Over time, as these large scale oil palm projects begin to generate revenues and profits and as the countries of West Africa achieve the transition from post conflict to stable growth, then a pattern of commercial lending more typical of stable economies will become established - most likely at higher rates than are available today in Malaysia for example - but nevertheless on commercial terms. When this takes place, the oil palm businesses will begin to make use of local / regional commercial debt finance. A long term business model needs to make assumptions about this in the cost of borrowing

What is cost of debt finance for a Liberian project?



28 February 2012

calculations and this has implications for both the P&L formation and the WACC used in the DCF calculations. We have used a long term borrowing rate of 10% [local finance does not properly exist], we have assumed access to low coupon debt financing from one of the development banks, and other debt at a cost of 6% pa. The guarantee provided to the JV by [ultimately] Siva Group ensures that the cost of debt finance to the JV will be well below the actual cost of commercial debt finance within the region.

With reference to the actual discount rate used we looked at the approach taken by agencies such as the United Nations. The table below details the returns recommended by the United Nations Climate Change group for agri-projects in the countries listed, taking into account the risk profiles of those countries. This implies a range of rates for Liberian risk beginning at 10% and extending to 14.0%. Other organisations / investors use a wider range extending to 20%. The rationale for one rate over another is ultimately subjective. However the essentially peaceful presidential elections in October and November of last year and the accommodation of the main opposition party with President Ellen Johnson-Sirleaf's re-election will surely have reduced country risk in Liberia. Similarly the pledging of perhaps as much as \$20bn in FDI by major international corporations to resource based projects provides strong underpinning for the Government's program to transition Liberia to a the ranks of the middle income countries by 2020 – Liberia Rising. Our discount rate is pitched at 12.5%-15%.

Countries Expected Return on Equity (Agri-Sector) 12.5 Angola Botswana 10.3 Cameroon 12.5 Central African Republic 14 Chad 13.25 Congo 12.5 Côte d'Ivoire 12.75 DRC 14 Equatorial Guinea 10 Ethiopia 14 Gabon 11.25 Gambia 13.25 Ghana 12.75 Guinea 14 Guinea-Bissau 14 Kenya 12.75 Liberia 14 13.25 Madagascar Malawi 14 Mozambique 14 Niger 14 Nigeria 12.5 12.75 Senegal Sierra Leone 14 South Africa 10.4 Sudan 12.5 Swaziland 12.4 Togo 13.25 Tanzania 13.25 12.75 Zambia 12.75 Zimbabwe For reference Malaysia 10.4 Indonesia 12

Source: United Nations – Framework Convention on Climate Change Investment Guideline

Peaceful 2011 Presidential elections argues for a reduction in the discount rate

\$20bn FDI pledged

Discount rate pitched at 12.5% - 13.5%



28 February 2012

The final component driving the DCF valuation calculation is the terminal value. This may be calculated either by use of a terminal multiple, residual asset value or growth rate in perpetuity, (GRiP). We favour the latter driver which we base on long run, real World GDP growth; we set this conservatively at 1.5%. Land tenure can be a complicating factor in plantation valuations where the land is leasehold rather than freehold; Malaysia operates a Torrens land registration system based on the English system which secures tenure similarly to freehold, but in Indonesia and most African countries leasehold is the customary model. The EPO JV holds the Palm Bay and Butaw estates by way of 50 year Concession Agreements / leases. These have a remaining period of 45-46 years; River Cess may be awarded on a slightly longer leasehold – some in Liberia extend to 65 years. These concessions come with an automatic right of renewal, but conservatively it could be argued that the terminal value / GRiP should be lowered for a leasehold project with less than 50 years to run.

Growth rate in perpetuity fixed to long rang global gdp growth

The DCF valuation table below spotlights in red the different outcomes depending on the choice of discount rate and terminal growth rate. In the tables below we have used a range of discount rates [10%-15%] and three growth rates in perpetuity (0.5%, 1%, 1.5%), all representing global long run real GDP growth. The implied share price calculations are based on a fully diluted basis, assuming that existing warrant and option entitlements are all exercised.

A discount rate of 10% would suggest greater economic and social redevelopment in Liberia than is presently the case; at the other end of the scale a discount rate of 15% would have been more applicable this time last year in the run up to the Presidential elections than it is today. The most appropriate applicable rates appear to lie in the range 13.5%-12.5%. Because oil palm is a very long term economic activity the choice of growth rate in perpetuity would typically be set at global long run real GDP growth: 1.5%. The fact that EPO's concessions are based on 50 year leases might argue for a more conservative approach, hence the inclusion for comparison, of the of 0.5% growth rate. However the international norm for agricultural leaseholds is for automatic renewal, provided that the terms of the original concession agreement have been honoured. The EPO concessions come with renewal rights. The enormous pledged FDI commitments that will enable the reconstruction of the resource based Liberian economy are all very long term in nature; in 2058 when the EPO concessions for Palm Bay and Butaw are coming due for renewal, so too will many other resource focused concessions owned by foreign corporations; it seems reasonable to conclude that in these circumstances the Liberian authorities will be conscious of the destabilizing effect on its economy of disputes around extant contractual obligations. On this assumption the use of a 1.5% growth rate in perpetuity is defensible. The implied equity value for EPO's 50% share of the JV out turns on this basis at either £96.1m [discount rate of 12.5%] or £75.9m [discount rate 13.5%]. Translated into an implied share price, these calculations suggest 63.8p or 50.4p on an undiluted basis, or 61.1p and 48.3p on a fully diluted basis. Even using a 15% discount rate with 0.5% growth rate in perpetuity produces an implied share price of 35.0p on an undiluted basis, or 33.6p on a fully diluted basis, which compares with a market price of 16.9p at the time of writing this report. The downside risks in respect of execution largely revolve around planting rate; sovereign risk we have considered in the discount rates used for these calculations.

We argue for use of 12.5% - 13.5%

Implied share price at deepest discount evolves at 33.6p

Implied Market Cap

Terminal Growth Rate

Discount Rate

£m	0.5%	1.0%	1.5%
10.0%	172.0	176.8	182.2
12.5%	92.5	94.2	96.1
13.5%	73.4	74.6	75.9
15.0%	52.7	53.4	54.1

Implied Share Price - Undiluted

Terminal Growth Rate

	p.	0.5%	1.0%	1.5%
	10.0%	114.2	117.4	121.0
Rate	12.5%	61.4	62.5	63.8
Ва	13.5%	48.7	49.5	50.4
	15.0%	35.0	35.5	35.9
	•			



28 February 2012

Implied Share Price - Fully Diluted

Terminal Growth Rate

_	p.	0.5%	1.0%	1.5%
	10.0%	109.4	112.5	116.0
	12.5%	58.9	59.9	61.1
	13.5%	46.7	47.5	48.3
	15.0%	33.6	34.0	34.5

Source: Hardman & Co estimates

Financials

Discount Rate

The early period P&L does not make for very interesting reading as the project is still very much in development until circa 2020. Key points to note however include the almost immediate generation of revenues, courtesy of the 3,500 ha of rehabilitated plantations at Palm Bay. Aside from the small cash flow benefit, this establishes EPO as fully functioning palm oil producer with implications for the value of the Palm Bay asset. The 2015 revenue estimates include a first time contribution from the Butaw estate on which planting will commence in 2012.

Early revenue flow from rehabilitated plantations

Joint Venture Profit & Loss Account

Year-end 31st Dec	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E
\$000										
REVENUE										
CPO Revenue	898	1,870	1,947	2,373	4,362	9,928	21,213	38,835	63,067	92,738
PK Revenue	90	187	195	237	430	978	2,084	3,812	6,184	9,083
Total Revenue	988	2,057	2,142	2,611	4,793	10,906	23,296	42,647	69,251	101,821
Cost Of Sales	-609	-1,348	-1,374	-2,376	-4,038	-8,671	-21,020	-33,045	-46,980	-62,295
Gross Profit	378	710	767	235	755	2,235	2,276	9,603	22,272	39,526
Gross Margin	38%	35%	36%	9%	16%	20%	10%	23%	32%	39%
Depreciation & Amortisation	-313	-673	-673	-1,814	-2,739	-4,748	-7,567	-10,980	-14,779	-17,767
Administrative Expenses	-3,074	-3,105	-3,136	-3,168	-3,199	-3,231	-3,264	-3,296	-3,329	-3,362
Share Options Expenses	-701	-708	-715	-722	-729	-737	-744	-752	-759	-767
Operating Income	-3,710	-3,776	-3,757	-5,469	-5,913	-6,481	-9,298	-5,425	3,405	17,630
Interest	108	105	71	90	125	107	71	-32	-283	-935
Loss Before Tax	-3,602	-3,671	-3,685	-5,379	-5,788	-6,374	-9,227	-5,457	3,122	16,695
Taxation	-25	-51	-54	-65	-120	-273	-582	-1,066	-1,731	-2,546
Net Income	-3,627	-3,723	-3,739	-5,444	-5,908	-6,646	-9,809	-6,523	1,391	14,150

Source: Hardman & Co



28 February 2012

EPO will report using the 'equity accounting method', taking in only its share of the net profits or losses of the JV. Assuming that the development of the plantations is broadly in line with our estimates, then the company will begin to report profits in 2019; for up to 8 years thereafter our model suggests strong double digit growth.

EPO Profit & Loss Account

\$000	2011E	2012E	2013E	2014E	2015E
Share of Operating Loss of JV	-1,813	-1,861	-1,869	-2,722	-2,954
Profit on Disposal of Assets to JV	752	0	0	0	0
Loss Before Tax	-1,061	-1,861	-1,869	-2,722	-2,954
Taxation	0	0	0	0	0
Net Income	-1,061	-1,861	-1,869	-2,722	-2,954
EPS (Basic) p.	-0.9	-1.3	-1.2	-1.7	-1.8
EPS (Diluted) p.	-0.8	-1.2	-1.1	-1.7	-1.8

Our model shows JV becoming profitable in 2019

Source: Published company data / Hardman & Co Estimates

Joint Venture Balance Sheet

Year-end 31st December	2010A	2011E	2012E	2013E	2014E	2015E
\$000						
Non-Current Assets						
Property, Plant & Equipment	3,630	3,570	3,250	13,130	16,790	24,950
Biological Assets	4,679	13,393	33,960	72,736	126,889	196,316
Leasehold Concession	7,245	7,092	6,939	6,786	6,633	6,481
Deferred Tax Assets		2,851	3,968	5,090	6,723	8,495
	15,554	26,906	48,118	97,742	157,035	236,242
Current Assets						
Inventories	508	30	67	69	119	202
Receivables	490	296	617	643	783	1,438
Cash & Equivalents	6,760	14,801	6,126	8,163	9,861	15,061
	7,758	15,128	6,811	8,875	10,763	16,701
Total Assets	23,312	42,034	54,928	106,617	167,798	252,943
Current Liabilities						
Trade & Other Payables	545	61	135	137	238	404
Short Term Borrowing	0	0	0	0	0	0
	545	61	135	137	238	404
Long-Term Liabilities						
Borrowings	0	0	10,000	60,000	120,000	200,000
	0	0	10,000	60,000	120,000	200,000
Total Liabilities	545	61	10,135	60,137	120,238	200,404
Net Assets	22,767	41,973	44,793	46,479	47,561	52,539

Capitalized development costs...

...match build up of debt

Source: Published company data / Hardman & Co estimates



28 February 2012

The JV is planning to develop the business on a thin layer of equity along with a thicker layer of debt finance. Already BioPalm Energy/Siva Group has undertaken to 'stand behind' \$30m of debt. If the JV can also win support from the development agencies / banks active in Sub-Saharan Africa, it may be able to develop the project with a significant element of debt finance. Readers will note the rapid build-up of Biological Asset value within the balance sheet; our estimates suggest that this entry will largely match debt by 2015. The estimated 2015 Biological Asset total of \$196.3m represents capitalized development costs only, and translates to circa \$6,770 p/ha. This asset would represent suitable collateral for debt finance, especially in view of its potentially strong cash generative profile – from 2019 our model suggests operating cash flow becomes strongly positive.

A debt driven development plan

Biological asset values may be important collateral for debt financing

Joint Venture Cash Flow Profile

Year-end 31st December	2010A	2011E	2012E	2013E	2014E	2015E
\$000						
Operating Income	-4,232	-3,710	-3,776	-3,757	-5,469	-5,913
Depreciation & Amortisation	494	313	673	673	1,814	2,739
Share Option Expensed	694	701	708	715	722	729
Share of Operating Loss of JV	0	0	0	0	0	0
Interest Income		108	105	71	90	125
Taxes		-25	-51	-54	-65	-120
Change in W/C	-3099	187	-284	-24	-91	-572
Operating Cash Flow	-6,143	-2,426	-2,626	-2,375	-2,999	-3,011
Purchase of PP&E	-5,001	-100	-200	-10,400	-5,200	-10,200
Investment in JV		-4,658				
Addition to Biological Assets		-8,514	-20,168	-36,376	-48,274	-55,974
Investing Cash Flow	-5,001	-13,272	-20,368	-46,776	-53,474	-66,174
Short Term Borrowings	-1,040	0	10,000	50,000	60,000	80,000
Issue of Ordinary Share Capital	19,960	23,739	4,519	1,588	570	385
Share Issue Costs	-655	0	0	0	0	0
Interest Paid	-169	0	-200	-400	-2,400	-6,000
Financing Cash Flow	18,096	23,739	14,319	51,188	58,170	74,385
Net Increase (Decrease) in Cash	6,952	8,041	-8,675	2,037	1,698	5,200
0.10/5	100				0.150	0.001
Cash B/F	100	6,760	14,801	6,126	8,163	9,861
Effect of Exchange Rate	-292					
Cash in End Balance C/F Source: Published company data / Ha	6,760	14,801	6,126	8,163	9,861	15,061

The cost of development

Source: Published company data / Hardman & Co estimates

The estimated cash flow development above details the increasing build-up of debt finance to fund the development of the plantations. The thin equity layer widens only marginally as warrants and options become exercisable.



28 February 2012

Joint Venture DCF

Readers can easily calculate a value for the estimated future cash flows using the grid below. We have highlighted the same valuation outcomes in this table as discussed above, but readers should note that the table below is expressed in US\$, while the valuation discussion above is expressed in British £. Readers should also note that reducing sovereign risk will have a potentially dramatic impact on valuation; at a discount rate of 10% and using a GRiP of 1.5% the JV could command a valuation of \$572m. On this basis EPO represents a play on Liberian political stability and economic development.

The substantial upside from reducing political risk

Joint Venture DCF

\$m			Terminal Growth Rate								
		-2.0%	-1.5%	-1.0%	-0.5%	0.0%	0.5%	1.0%	1.5%	2.0%	
	10.0%	483	492	503	514	526	540	555	572	591	
	10.5%	428	436	444	453	463	474	487	500	515	
	11.0%	380	386	393	401	409	418	428	439	451	
	11.5%	338	343	349	355	362	369	377	386	396	
Rate	12.0%	301	306	310	315	321	327	334	341	349	
 	12.5%	269	273	277	281	285	290	296	302	308	
Discount	13.0%	241	244	247	251	254	258	263	268	273	
ojsc	13.5%	216	218	221	224	227	231	234	238	243	
	14.0%	194	196	198	201	203	206	209	212	216	
	14.5%	174	176	178	180	182	185	187	190	193	
	15.0%	157	158	160	162	164	166	168	170	172	
	15.5%	142	143	144	146	147	149	151	153	155	

Source: Hardman & Co estimated DCF valuation



28 February 2012

The Liberian Concessions

West Africa is the oil palm's indigenous region, and while the climate & soil conditions do not allow the same productivity achieved on East Asian plantations, this is an environment in which the palm thrives. Flying over the jungle from Monrovia, Liberia's capital city, east to the port of Greenville, and the footprint of this species & other related palm species, both in a wild and in a cultivated state, is a constant presence.

Palm country

Concession	Palm Bay	Butaw	River Cess	Total	
County of Liberia	Grand Bassa	Sinoe	River Cess	Totals	Comments
Date Concession Awarded	Aug-08	Aug-08	Award expected mid-2012. The tribal peoples in the proposed River Cess development area have petitioned the GoL to grant a concession to EPO - this is currently before GoL.		
Term of Concession (Years)	50	50	50 expected		
Rehabilitation Period (Years)	7	7	na		
Remaining Concession Term (Years)	46	46	50 expected		
Concession Area (hectares)	34,196	24,199	80,000	138,395	
EPO Allocation	13,962	8,011	60,000	81,973	
EPO Expansion Area	10,117	8,094	0	18,211	
Out Grower Allocation	10,117	8,094	20,000	38,211	
	34,196	24,199	80,000	138,395	
Additional Area for Expansion	0	30,351	0	30,351	Becomes available when investment in Butaw reaches \$25m
EPO Allocation	0	22,763	0	22,763	
Out Grower Allocation	0	7,588	0	7,588	
Total Potential Controlled Concession Area (ha)	24,079	38,868	60,000	122,947	
Total Potential Out Grower Area (ha)	10,117	15,682	20,000	45,799	
Total Potential Concession Area (ha) Source: Company, Hardma	34,196	54,550	80,000	168,746	

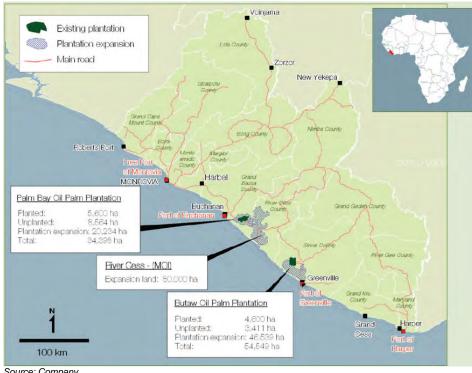
Source: Company, Hardman & Co



28 February 2012

As the map below reveals, the 3 plantation areas are located inland from the Atlantic Coast of Liberia in the South Eastern half of the country.

EPO estates are just inland from the coast



The plantations are close to two ports

Source: Company

Climatic Conditions

The conditions in the coastal regions of Liberia are highly suitable for palm cultivation. The tree grows best in equatorial to tropical climates, with temperatures ranging from 24°C - 28°C with little variance in annual or daily temperatures. At the ends of the ideal temperature range, palms are comfortable from 19°C - 32°C. For higher yields palms need more than 5 hours of sunlight per day.

Palm is indigenous to this region

With latitudes of 4° - 8°, the south of Liberia has an equatorial climate experiencing rainfall throughout the year but the northern area of the country has more of a tropical climate and is strongly influenced by the West African Monsoon. Most of the country has defined wet and dry seasons; the wet season occurs April to October / November, followed by a drier period. Meteorological data confirms that the north western regions of the country are vulnerable to periods of very low rainfall - below 50mm, December through March. The Palm Bay estates are at the edge of this weather pattern - planting was suspended in December 2011 and will not resume until March 2012, due to the relative dryness. Further down the coast at the Butaw estates in Sinoe County, the dry period appears to be very much shorter and less severe. Palms need 100mm per month at least if yield and growth patterns are not to be interrupted. It is likely therefore that yields on the Palm Bay estates will be lower than at either Butaw or River Cess.

A shorter less marked dry season to South **East**

The rainy season is largely driven by the movement of the tropical rain belt which oscillates between the northern and southern tropics over the course of the year. The West African Monsoon occurs when the rain belt is in its northern position and moist air is blown inland by south westerly winds off the Atlantic. During the wet season rainfall can exceed 1,000mm per month along the coastal regions. The dry season lasts from November / December to April. The Harmattan, a cold and dry wind from Sahara, lowers atmospheric humidity. Deforestation along the Sahel, the green southern belt to the Sahara desert, may have strengthened the Harmattan and extended the dry season.

A marked dry season has implications for yield



28 February 2012

Temperatures are generally higher on the coast than inland, ranging from 24°C -27°C during the dry season and 24°C - 25°C in the wet season. Average annual rainfall is estimated at 2,391mm, but the variation across the country can range from 2,000mm to 5,000 mm, Monrovia can experience more than 4,600mm pa. Too much rainfall and cloud cover can reduce flowering, prevent the flight activity of the all important palm flower weevil and thus reduce pollination, and rain can hinder harvesting; a steady 200mm per month is ideal. Relative humidity averages 80.67% annually; 76% is at the lower end. Sunlight hours average 1,662 annually, or 4.55 hours per day. Sunshine hours range from 2.6 per day in August to 6.5 per day in April.

Palm enjoys steady state climatic conditions

Soil Conditions

For high productivity, palms require soils that are well drained, humus rich, fertile and relatively deep with a PH level trending from neutral to mildly acidic. Four types of soil are found in Liberia: Latosols of low to medium fertility occur in rolling hill country and cover about 75% of the country. The EPO concessions will predominately feature this type of soil. Independent survey and analysis commissioned by EPO confirms that the concession soils are of the ferralitic type of latosols: any one of a group of soils that form in the humid tropics as the result of chemical weathering and by the accumulation of humus beneath forest vegetation. Typically these soils are high in aluminum and iron with a low silica content. They are considered highly suitable for the cultivation of rice, coffee trees, rubber trees, cacao, sugarcane, and oil palms. However it is noted that tropical soils in Africa are very old and typically are low in nutrient levels, this is especially true of soils that have been cropped and mismanaged. To achieve commercially viable FFB yields on these soils, it will be necessary to implement a carefully managed fertilizer regime. We were impressed with the quality of top soil we saw on the Butaw estate in particular. The areas of both Palm Bay and Butaw that we saw had good soil structures, being free draining and suitable for active root spread.

Liberian soils are well suited for palm but will need fertilizer

Palm Bay

EPO's Palm Bay estate is a 34,398 hectare concession for the development of oil palms granted under a 50 year mandate by the Parliament of Liberia in 2008. The property is 160 kilometres south east of the Liberian capital of Monrovia and a mere 25 kilometres from the port of Buchanan which has recommenced iron ore shipments as well as export of biomass and timber products. Historically rubber and palm oil were also shipped out of Buchanan and it is EPO's intention to re-establish a tank farm and loading facility at Buchanan for shipment of its palm oil production.

Close to Port of Buchanan

County of Liberia	Grand Bassa
Date Concession Awarded	Aug-08
Term of Concession (Years)	50
Rehabilitation Period (Years)	7
Remaining Concession Term (Years)	46
EPO Allocation	13,962
EPO Expansion Area	10,117
Out Grower Allocation	10,117
Total Potential Controlled Concession Area (ha)	24,079
Total Potential Out Grower Area (ha)	10,117
Total Potential Concession Area (ha)	34,196

Source: Equatorial Palm Oil

The Palm Bay estates were first planted at the end of the 1960s. Getty Marine, a subsidiary of Getty Oil commenced work on the 14,000ha at Palm Bay in 1968. In 1980 a company owned by Mr Joseph Jaoudi, now a director of EPO, acquired the plantations at Palm Bay. Only 3,000 ha had been planted at this point, but by the time the civil war erupted in the region the total planted area had increased to circa 5,000 ha and the

First planted in 1960s



28 February 2012

company was operating a mill with capacity to process 17 mt FFB per hour. The mill was driven by palm biomass and the estates were supported with housing compounds, a medical facility and an elementary school. Today the Arcelor Mittal iron ore project and the LAC rubber plantation are also based in Grand Bassa County. The presence of these two large scale projects will likely have positive implications for regional transport infrastructure.

Prestigious neighbours

The topography of the Palm Bay concession is flat to moderately sloping. This should allow for a relatively high planting rate. The company first moved to rehabilitate any palms still deemed capable of a producing enough FFB to warrant management. Palm agronomy advice was brought in and 3,500ha were selected for rehabilitation and this was completed in the period June 2010-June 2011. Notwithstanding rehabilitation, the yield is expected to be very low: 3mt FFB to 5mt FFB ha / pa, without use of fertilizer. Rehabilitation includes weeding, clearing undergrowth, pruning dead / old fronds from the trunks of the palms.

Low yielding rehabilitated hectares

During 2010 EPO developed a 240,000 seedling nursery at Palm Bay; a similar facility is under completion now at Butaw. We were impressed with the nurseries at both locations, the Palm Bay facility is more mature and professionally laid out complete with irrigation; the quality of seedlings in both facilities was very high: these were healthy strong seedlings with very deep colour.

First class nursery

In 2011 EPO targeted new plantings extending to 1,200 ha; the dry season brought planting to a halt by December at just over 1,100 ha, but this was a solid achievement given that planting was not commenced until June of that year. The shortfall will be completed in March once conditions are again suitable for planting out. The transplanting period is crucial for the future strength and vitality of the palm – it must be planted in conditions that are optimal for root development and growth. Palms do not have secondary diameter growth like broadleaf trees, instead they develop a wide base when young (25cm – 75cm) before they begin to grow upwards which occurs in a range of 20cm-60cm pa. EPO is targeting a planting rate of 3,000 ha pa over each of Palm Bay and Butaw. Geoff Brown, Plantations Director, has demonstrated already that his teams can achieve a planting rate of more than 40ha per week per estate at densities of 143 palms per ha. Constraining factors will include weather, contractor capacity [for land preparation] and funding, but perhaps not labour, if the floating work force can be utilised.

Planting targets compromised by dry period

In 2011 the company installed a new mill on the Palm Bay estate with capacity to process 5 mt of FFB per hour; EPO advises that this is currently Liberia's only commercial oil palm mill. The mill enables the company to generate some early useful cash flow, but it also has strategic importance as a working commercial facility in which workers can be trained up.

Commercial mill & training facility



28 February 2012

Butaw

The Butaw estates were initiated by the GoL in a bilateral co-operation with Cote d'Ivoire in 1975. The focus then was on the provision of technical & other assistance to small holders and on processing. Up until 1989 some \$31m had been invested in the plantation by the EEC, European Banks & GoL. Butaw is some 350km South East of Monrovia and about 20 km from the Atlantic port of Greenville.

A former national asset financed by the EU

Concession	Butaw	Comments
County of Liberia	Sinoe	
Date Concession Awarded	Aug-08	
Term of Concession (Years)	50	
Rehabilitation Period (Years)	7	
Remaining Concession Term (Years)	46	
Concession Area (hectares)	24,199	
EPO Allocation	8,011	
EPO Expansion Area	8,094	
Out Grower Allocation	8,094	
Additional Area for Expansion	30,351	Becomes available when investment in Butaw reaches \$25m
EPO Allocation	22,763	·
Out Grower Allocation	7,588	
Total Potential Controlled Concession Area (ha)	38,868	
Total Potential Out Grower Area (ha)	15,682	
Total Potential Concession Area (ha)	54,550	

30,351 additional hectares

A certain amount of the estate has been planted in palms already, but these will not be retained. The plantations have been pretty much abandoned for 25 years and although the standing palms are supremely healthy, they are beyond the age at which commercial yields can be expected and they will all be felled & replaced.

Entire estate to be replanted

Butaw has a shorter and less marked dry season than Palm Bay, while the soil and topography conditions are clearly ideal for palms given the health and vitality of the post mature and completely untended palms we saw when we visited the estate. With the less prolonged and marked dry season, Butaw is likely to produce higher yields than the Palm Bay estate. Precise rainfall data for Butaw do not appear to exist but it is expected at more than 4,000mm pa with no months recording less than 100mm.

Ideal growing conditions

River Cess

After a field mission to River Cess County in January 2007, a Memorandum of Intent was signed between a subsidiary of EPO and the elected representatives of the county. An application for the grant of the concession has been tabled to the President and the Government by these elected representatives. Allen Yancy, who is a Liberian national, and a member of the senior management team, has conducted the dialogue with the River Cess people and their spokesmen. The application is expected to be approved as the application is fully supported by the local people. Given the priority of getting the employment and other benefits to the rural poor, we would guess that ratifying this Concession is important to the government and on that basis we anticipate formal award of the Concession mid 2012. It will then take a period of 2-3 months to establish basic structures and begin work on the nurseries for this huge piece of land. EPO proposes to

supported by local communities



28 February 2012

establish two nurseries on the estate, each having the capacity to supply plants for 2,000ha of new plantings pa. In our view it is unlikely that planting will begin on River Cess much before January 2014.

Planting expected to begin in 2014

The land on the River Cess Concession area is benefitted from a shorter and less marked dry season as compared with the conditions at Palm Bay and will likely therefore produce higher yields.

Concession	River Cess		
County of Liberia	River Cess		
Date Concession Awarded	Award expected mid 2012. The tribal peoples in the proposed River Cess development area have petitioned the GoL to grant a concession to EPO - this is currently before GoL.		
Term of Concession (Years)	50 expected		
Rehabilitation Period (Years)	na		
Remaining Concession Term (Years)	50 expected		
Concession Area (hectares)	80,000		
EPO Allocation	60,000		
EPO Expansion Area	0		
Out Grower Allocation	20,000		
Total Potential Concession Area (ha)	80,000		

Concession confirmation expected by end of 2012

Source: Equatorial Palm Oil

Out Grower Program

In tandem with its own plantation development EPO will be operating an outgrower program as one of the conditions of the Concession agreements. This program will enable local communities to gain direct ownership within the palm industry while also increasing production of crude palm oil for EPO's milling facilities. The out grower model, developed as satellite activities around agro-industrial plantations, has been successfully demonstrated over many years in both Malaysia and Indonesia, and should prove similarly successful in a Liberian setting, especially as this is a traditional smallholder crop across much of West Africa.

Outgrower plantations provide additional loading for mills

Concession	Palm Bay	Butaw	River Cess	Total
County of Liberia	Grand Bassa	Sinoe	River Cess	
Concession Area (hectares)	34,196	24,199	80,000	138,395
Out Grower Allocation	10,117	8,094	20,000	38,211
Additional Area for Expansion				
Out Grower Allocation	0	7,588	0	7,588
Total Potential Out Grower Area (ha)	10,117	15,682	20,000	45,799
Total Potential Harvestable Area (ha)	34,196	54,550	80,000	168,746
Out Grower Ha % of Total	29.6%	28.7%	25.0%	27.1%

Potentially nearly 46,000 ha of out grower plantations

Source: Equatorial Palm Oil

The out grower program is expected to be financed by organizations such as African aid agencies and development banks and suppliers of micro-finance initiatives. EPO will be responsible for training the out growers in professional palm agronomy techniques and for the provision of enabling services such as land preparation and materials including plants and fertilizer, although the cost of these items is expected to be funded by external agencies.



28 February 2012

Under the terms of the Concession agreements the company is permitted to initiate planting of its controlled areas before commencing the out grower program, but EPO is proposing to run the two programs as far as possible, in tandem. We show the program commencing in 2013 at Palm Bay and Butaw, with River Cess out grower plantings commencing only in 2014. We are assuming a planting rate per estate of 1,000 ha pa. The reasonableness of this assumption will only be proven once the program gets underway.

We expect out grower development to commence 2013

Out Grower Planting Program To 2020

		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Immature	На	0	0	2,000	4,000	7,000	8,000	9,000	9,000	9,000	9,000
Mature	На	0	0	0	0	0	2,000	4,000	7,000	10,000	13,000
Total	На	0	0	2,000	4,000	7,000	10,000	13,000	16,000	19,000	22,000
% Planted		0%	0%	4%	7%	13%	19%	24%	30%	35%	41%
Planted	На	0	0	2,000	2,000	3,000	3,000	3,000	3,000	3,000	3,000

Can out growers plant at a rate of 1,000ha per estate annually?

Source: Hardman & Co

Development Plan

With a land bank of some 169,000 ha (including the River Cess area which we anticipate will be confirmed under a Concession agreement in the course of 2012), EPO's stated target is to achieve over 50,000 ha of new plantings to produce some 250,000 mt CPO/pa – all by 2020. Working on the company's own planting targets: 3,000 ha per estate per year, [which we have shaved to 2,700] and assuming that the out grower program gets under way in 2013 at 1,000 ha planted per estate, then by 2020 it is possible that EPO may have in excess of 88,000 ha planted including 22,000 out grower ha. This is an ambitious program, it is achievable, but it will require a 'fair wind' to come in as indicated by our model. There is much that can frustrate a planting program including weather conditions, logistics and availability of suitable manpower.

JV could potentially have 66,000ha planted by end 2020

Estimated Total Planted Area To 2020

		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Plantations											
Immature	На	1,110	3,910	11,310	20,300	28,600	32,300	33,300	33,300	32,671	32,671
Mature	На	3,500	3,500	3,500	4,610	7,410	14,810	24,910	36,010	47,110	55,510
Total Planted	На	4,610	7,410	14,810	24,910	36,010	47,110	58,210	69,310	79,781	88,181
Hectare Planted	На	1,110	2,800	7,400	10,100	11,100	11,100	11,100	11,100	10,471	11,100

Source: Hardman & Co estimates

Some 560 full time field workers are already employed by the company and this resource is further supplemented with a floating work force of another 500-600. This gives the company scope to flex activity to weather conditions and project requirements. Our financial model is based on an expectation of EPO achieving new plantings of circa 50 ha per week per estate – but there is scope to up this rate with the use of the floating workforce.

A significant work force

Planting Material

EPO is targeting FFB yields in excess of 20 mt / ha which contrasts with the limited data we have been able to amass for historical performances from professionally managed West African estates. Our data suggest that yields even on professional estates have been relatively low at around 12.0 MT/ha FFB with oil extraction rates (OERs) circa 16% - 20%. EPO is targeting OERs of 23% - even up to 25% if it can realize the potential of the Ghana Sumatra seed it is now trialing. Many African estates are post mature and planted with older varieties, so past performances may not be indicative of what can be achieved with high yielding cultivars and improved agronomy techniques. Modern high yielding varieties developed under scientific breeding programs are reported to have produced crops in excess of 20 mt / ha under professional management systems

Planting material holds clues for productivity



28 February 2012

and good climatic conditions. The equatorial climate of Africa differs from that of East Asia because of its tendency to a 'dry' period between December and April, and this is has a limiting effect on FFB yield. Historically African palm cultivation has not included the routine use of fertilizer – and this has a profound impact on crop performance, as has been clearly demonstrated in East Asia. Crop yields in East Asia were up sharply in 2011 – with as much as a 10% gain in productivity attributable to earlier period increases in fertilizer application.

Rain & fertilizer need for optimal FFB yields

The wild oil palm groves of Equatorial Central Africa and West Africa consist mainly of the thick shelled Dura variety of *Elaeis guineensis*. The Dura has a thin mesocarp [fleshy area between shell and seed from which the oil is pressed]. Modern cultivars are expected to have some 80% mesocarp to 20% seed within the shell. Breeding programs have focused on crossing the native Dura with a shell-less variety, the *Pisifera* – this produces the hybrid Tenera palm, whose fruit has a thicker mesocarp and thinner shell than its Dura parent.

It is all about breeding

To achieve optimal productivity per hectare, it is critical to plant with the most suitable cultivars for the conditions of each growing site. EPO is using seeds from a variety of suppliers – all chosen for their ability to resist the African disease, fusarium wilt, and for yield potential. We detail below the suppliers of seed being used by EPO. The company is sourcing from a number of suppliers to trial for best results and to protect against supply interruptions; to achieve targeted planting rates it is critical that seedlings are available at the estate nurseries on time and in sufficient quantities. A dependency on one or two suppliers only could leave the planting program at risk of supply interruption.

Disease resistance

Feronia

EPO first plantings have been sourced from Feronia Inc's breeding station in Democratic Republic of Congo (DRC). The former Plantations Huileries du Congo (PHC) was developed by Unilever (formerly Lever Bros) and has perhaps 100 years of palm related research & development. Feronia's PHC Yaligimba Research Station claims to have led the sector effort to combat fusarium wilt via selected breeding programs. Feronia has acquired elite breeding material from Malaysia, Indonesia and PNG, while its research program has used material from Nigeria, Cote d'Ivoire, Cameroon and DRC. The Feronia material is bred from Dura x Dura and Dura x Tenera [hybrid] and Tenera x Tenera crosses to produce cultivars with high resistance to disease, and in particular Fusarium Wilt, yet still early yielding with strong bunch formation and a big yielding profile.

100 years of African experience

Feronia indicates that this seed is capable of producing 24 mt / ha FFB for oil yields of 5 mt - 5.5 mt. Oil extraction at the upper end of this rate would be equal to current higher end OER levels in East Asia. It is Feronia stock that was planted at Palm Bay in 2011 and which will be first planted at Butaw.

Univanich Palm Oil (PCL)

PCL is a leading palm producer in Thailand having begun operations in 1969. Today Univanich is one of Thailand's leading palm oil producers and the country's largest exporter of crude palm oils and high quality oil palm seeds. From 1983 to 1988 Univanich was managed as part of Unilever's Plantations and Plant Science Group, and the seed being used by EPO derives from what was originally PHC stock out of DRC. The Univanich Research Department is a leading centre for oil palm research with more than 650 hectares under field trials. Univanich runs an internationally recognized oil palm breeding program targeting the production of high yielding hybrid seeds. Univanich seed is produced by cross pollinating pedigree Dura and Pisifera parent palms which have been collected over 30 years from leading breeding programs around the world. To ensure high yields, the progeny of these parent palms have been extensively tested in field trials to select the best hybrid crosses.

High yielding cultivars

Ghana Sumatra

EPO believes that a new planting material [a Tenera x Dura cultivar] from a Ghana based breeding company, Ghana Sumatra is capable of providing yields of up to 25 mt FFB/ha and that it may be possible to achieve 25% OER due to the relatively high oil content of these palm fruit – up to 29%. Plantings from the seed have been under cultivation at other plantations now for some years and the yield / OER data are reportedly consistent with EPO's expectations.

High oil content



28 February 2012

A shorter variety

CIRAD

 ${\sf CIRAD}^{@}$ is a French research centre that works with developing countries to tackle agricultural and development issues. ${\sf CIRAD}^{@}$ focuses on research partnerships to support agricultural development. One area of particular focus has been the oil palm for which it supplies a range of ${\sf CIRAD}^{@}$ branded seeds.

CIRAD® selected oil palm seeds are promoted as guaranteeing high, consistent yields. The organization's website details the characteristics show below for its cultivars.

- FFB yields of 30 t/ha 32 t/ha per year in suitable climates.
- Exceptional oil extraction rates (CPO: 26-28% at mills).

- Very limited vertical growth.
- Low bulk.
- Vascular wilt resistant material available.
- Yield levels less affected by water stress.
- Oil with a high olein content.

Seeds are made available through PalmElit which is based in Cote d'Ivoire.

Mill Facilities

EPO commissioned Liberia's first commercial palm oil processing mill in May 2011 to process FFB gathered from the 3,500 rehabilitated ha on Palm Bay. It is unusual to install such a small mill on a project with the scale proposed for EPO's Liberian venture. The company wished to generate some early cash flow from the best of the post mature plantations it inherited at Palm Bay and yet not expend cash required for plantation development on a mill that would not be used to capacity. This first small mill will later be cannibalized for its parts. The likelihood is that the Palm Bay rehabilitated plantations will yield only up to a maximum of 5 mt FFB per hectare – the company does not intend to use fertilizer on these trees so this first mill will be perfectly adequate if operated on a 2x 6 hour shift basis. The company operates a 6 day week, with Sundays a rest day.

A tiny mill to suit the limited requirements of Palm Bay today

By 2014 the company will require a larger mill at Palm Bay and this will be first commissioned at 45 mt / hr processing capacity with upgrade to 90 mt / hr circa 2017. The same facilities will be required at Butaw in 2015 and 2019 respectively and at River Cess – most likely 2017 and 2020/21.

Environmental Responsibility

In February 2012 EPO appointed Coastal & Environmental Services (CES) to conduct an Environmental and Social Impact Assessment (ESIA) study of the Palm Bay & Butaw plantation projects. The ESIA studies are an important component of the discussions with international development banks whose support is being sought for the Liberian palm project. The resultant study is expected to be completed by mid 2012.

Environmental & social impact assessment

CES will undertake ESIA processes that meet international standards and are compliant with relevant oil palm sector specific guidelines and requirements, as well as the requirements specified in the International Finance Corporation's Performance Standards 1-8, generally regarded as the international benchmark in ESIA best practice. The ESIA study is a continuation of social and environmental assessments already completed by the Company according to international guidelines.

EPO strives for best practice

CES is a highly respected specialist environmental consulting firm. Recently CES completed a study for the Addax Project in Sierra Leone. This is the first biofuel project to be funded by African development banks.



28 February 2012

Corporate Social Responsibility (CSR)

The Liberian government has been concerned to see that the rural poor are benefited from the award of Concessions to foreign owned organizations. In addition to the social responsibilities that it has insisted plantations companies meet, the government has also insisted on a basic daily wage of \$3.56 plus a further 5% (approximately) contribution towards pension & national insurance. Adding the cost of CSR would push the daily minimum rate nearer to \$5.00 – still a long way below the \$12-14 per day paid to plantation works in East Asia – but a big improvement on gdp per capita of \$1.37 per day real or \$0.71 nominal.

Plantation companies take on some of welfare responsibilities of government

Rehabilitation and repair work has been undertaken for a number of priority social infrastructure projects including schools, clinics and housing together with associated water and sanitation facilities. Elementary schools have been established at Palm Bay and Butaw which will provide schooling for between 300-400 children living within the concession area. Similarly medical and first aid facilities have been established on both the Palm Bay and Butaw concession areas. These include drugs store, maternity units complete with delivery room and the establishment of a Malaria & TB Control Unit at the sites as part of a nationwide program spearheaded by the Ministry of Health. Patient numbers treated at the facility average in the region of 500 - 600 consultations per month.

Significant social benefits

Routine security operations are carried out by EPO security personnel in conjunction with the Liberian National Police and aided by the establishment of Magisterial Courts on both concessions as provided for under the terms of the concession agreements signed with the Government. The company reports that security issues are isolated and minor in nature.

Security good

The provision of basic schooling and health supervision is an immediate and tangible benefit for local people living within the Concession areas. The immediacy and high value of these benefits can be expected to build local support for the development of the plantations. We estimate that these benefits are likely to add some 35% to labour costs.

CSR pushes up costs of employment

Logistics

Transportation infrastructure is a critical factor in the development and commercial operation of a large scale palm plantation. The redevelopment of infrastructure in Liberia, a constraining factor on project development due simply to the time taken for transporting machinery and goods by road. As the port facilities at both Buchanan and Greenville are strengthened, then it will be possible to increase freight to these two ports with shorter road haulage then to Palm Bay/River Cess and Butaw respectively.

Infrastructure needs to be strengthened

The Palm Bay plantation is located 160km south east of Monrovia and is accessible first along the main sealed highway between Monrovia and the port of Buchanan and then on a secondary laterite road from Buchanan inland to the plantation. From Monrovia to Buchanan is a drive of around 2 hours and accessible in all weathers, but the quality of the road has been reduced by heavy goods traffic perhaps 80-100 km out of Monrovia. From the plantation to the port of Buchanan is a distance of some 25 km – about 30 minutes driving. Access via the port town of Buchanan is seen to be an important alternative to road access via Monrovia. Buchanan is a working port, but it needs further development to be able to accept large vessels. The Arcelor Mittal railway line, reportedly a \$500m investment, runs from the company's iron ore concessions on Liberia's northern border with Guinea down to the port of Buchanan.

Rich neighbours may produce benefits

Butaw plantation is further along the coast, some 350km from Monrovia. From Buchanan to the port town of Greenville is a distance of some 200km or 8 hours drive. From Greenville inland to the plantation is no more than 40km but represents an hour's drive as the road requires improvement. Sea freight access to Butaw via Greenville is an important alternative to access via either Monrovia or Buchanan – especially during the wet season when road access diminishes. However the port at Greenville needs more development than even Buchanan, beginning with the clearance of vessels sunken during the civil war. This stretch of coast line is quite beautiful and there is potential for Greenville to become both an important commercial port and also an attractive town. The

Proximity to ports



28 February 2012

land comprising the River Cess plantation lies east of Palm Bay and North West of Butaw, closer to Buchanan than Greenville. The roads from the port at Buchanan to the River Cess plantations are adequate but would benefit from further investment.

Management

The company has brought together a mix of skills and experience combining palm plantation development & management, with resident knowledge of Liberia and its governing, legal and social institutions and additionally with frontier economy operating experience. Appropriately for a company in early development phase, there is also a solid team of financial managers with small capitalization, resources focused, AIM listed experience, including capital raising. Each name on the lists below has the ability to bring prior experience and vital knowledge to the task of developing EPO's Liberian palm operations.

Skills mix is well matched to the challenges of developing a major project in Liberia

In total the directors own 12.3% of the equity, of which Michael Frayne's holding amounts to 5.28%.

Directors have strong personal interest in success of the venture

Board of Directors

Michael Frayne

Executive Chairman
Founder of EPO in 2006 who
identified and successfully
negotiated Liberian concessions.
Over 20 years of experience in
the resources sector,
establishing several UK and
Australian listed companies founding director of Asia Energy
plc

Geoff Brown Plantations Director

A pioneer in the oil palm industry with over 40 years of experience in large scale plantation management, with 10+ in Malaysia and 20+ in Indonesia as Managing Director of P.T. London Sumatra Indonesia. Former Chairman of New Britain Palm Oil & Plantations Director of Harrisons & Crosfield plc

Joseph Jaoudi

Non Executive Director
A qualified engineer who owned
and operated the Palm Bay Estate
in Liberia for over 10 years. He also
managed other significant businesses
in Liberia and USA including biomass
power generation

Anthony Samaha

Non Executive Director Chartered accountant ex Ernst & Young, experience in due diligence, capital raising, valuations, and mergers and acquisitions. Anthony is the Finance director of AIM listed, Altona Energy plc

Shankar Varadharajan

Non Executive Director
Representative of SIVA Group, with
over 13 years experience of global
management including senior
positions with Motorola and The Tata
Group. Expertise in executing business
strategy, organising project financing,
capital raisings, mergers and valuations

Senior Management

Liberia

Declan Griffin Head of Country - Liberia

Declan has 30 years experience working in West Africa, Middle East and Central Europe in similar type businesses with focus on finance and administration including Xerox International. He is responsible for all functions in Liberia

Allen Yancy

Manager Corporate Affairs 30 years extensive experience of Liberian business and politics and held senior positions in the Liberian Sugar Corporation for 7 years

Sashi Nambiar

Head of Operations

Involved in the management of large scale palm oil estates for more than thirty years, primarily in Malaysia and Indonesia

Source: Company

London

Sandy Barblett

General Manager - Commercial

20 years experience in senior management roles with public companies. He is a partner at boutique corporate finance firm Ironbridge Capital in London

Tim Daniel

Chief Financial Officer

Qualified chartered accountant and previously worked at KPMG, with clients who mostly in the natural resources and small-cap sectors



28 February 2012

Palm Sector Experience & Know-how

Geoff Brown: With the appointment of Geoff Brown as Plantations Director, EPO ratcheted down the execution risk on this project. Brown is one of the most experienced men in the sector; consider this potted version of his career history:

A lifetime in palm

- Over 38 years experience in the plantation sector.
- Joined Harrisons & Crosfield plc in Malaysia in 1962 where he was employed on various plantations growing oil palm and rubber. (subsumed into London Sumatra)
- 1990 1994 executive director of Harrisons & Crosfield Plc, responsible for the plantation division.
- 16 years Executive Chairman of London Sumatra Indonesia 1982 1998.
 (100,000 ha combined plantations; now Lonsum)

16 years Chairman of Lonsum

- 1999 & 2000 co-ordinated the expansion of oil palm plantations belonging to the Musim Mas Group in Indonesia (60,000 ha)
- 2006 joined EPO as Plantations Director

In Liberia, Brown has assembled a team of East Asian planters with an experience base to rival his own, of which the most senior is Mr Sashi Nambiar. These are men accustomed to working in frontier territories, who understand that physical estate infrastructure has to be robustly constructed to be fit for purpose in tropical environments; that work forces have to be trained and well disciplined if planting schedules are to be met and harvests are to be brought in efficiently. The long term economic viability of an oil palm plantation is determined with its design and implementation; poorly designed plantations will be difficult to work and yields will not be optimized, poorly planted plantations will produce sub-optimal yields and a reduced asset value. Putting the right development teams in place at the inception of the project is critical.

Joined EPO at the start

Complemented by an operational team out of Asia

Brown is a regular presence in Liberia, and acts as Head of Operations when Nambiar is on leave and deputizes for Country Head, Declan Griffin when he too is on leave. Brown is a 'hands-on' manager – watching and guiding from infield. The development of a large scale project of this sort requires that a senior experienced presence is on hand to ensure that the execution of the development plan is achieved and to the required standard – this cannot be done by email from London.

A regular presence in Liberia

Geoff Brown owns some 523,000 shares (0.4%) in the company.

Mr Sashi Nambiar: Mr Nambiar is a Malaysian national, and he has been appointed as EPO's Liberia Head of Operations. Nambar has had 32 years' experience in the oil palm sector during which time he has overseen the development of more than 100,000 hectares in East Asia. Nambiar has the planation managers reporting to him including Mr Gilbert Netto and Mr Kesava Das, also Malaysian nationals who are respectively responsible for the development and operations at Palm Bay and Butaw. Mr Nambiar reports directly to country head, Declan Griffin with a dotted reporting line to Geoff Brown.

100,000 ha to his credit

Mr Shankar Varadharajan: Non-Executive Director Shankar Varadharajan, represents the interests of the Siva Group on the EPO Board; he is also a backward link to Siva's experience in the palm sector. Albeit that Siva is a very recent entry to the sector (2010), it has committed some \$200m to ventures totalling over 350,000 ha of oil palm, much of it in frontier territories. As a large investor and operator in the palm sector, Siva is seeking to gain purchasing synergies across its investors and we understand that this represents an additional benefit to EPO.

Siva is interested in some 350,000ha of oil palm

Experience & Understanding of Liberia

Liberia is a country, a society, which has been damaged by a brutal civil war. It is also desperately poor, notwithstanding its resource wealth, and its people are disadvantaged with low levels of literacy, a dearth of skills, and endemic disease. Moreover Liberia's



28 February 2012

borders are not consistently stable: there is ongoing tension in Cote d'Ivoire on Liberia's eastern border, Sierra Leone on the Western border is also recovering from civil conflict and Guinea, on Liberia's Northern border, suffers from serious tension between the incumbent government and the opposition. In these circumstances it is essential that a business undertaking a major development program with a span of more than a decade, should have strong local knowledge and representation on its board.

A country rebuilding its society in a volatile region

Allen Yancy: with a lifetime of experience in business and politics in Liberia and having maintained a constant presence in the country, even during the civil war, Allen Yancy is widely connected within the country. He brings an acute understanding of the country, its history, institutions and personal knowledge of the country's leaders to his role within the company. Allen Yancy has played a key role in developing a harmonious and supporting relationship with the tribal groups in and around River Cess.

Deep local knowledge and understanding

Mr Joseph Jaoudi: Between 1970 and 1990 Joe served as President & CEO of a number of family & personal trading companies in Liberia. These included wholesale facilities at the Freeport of Monrovia, a chain of supermarkets around Liberia, and the 14,164 ha oil palm concession that now forms the heart of the Palm Bay estate.

Family connections

Operational Experience Frontier & Developing Economies

Declan Griffin – Head of Country: Declan has had a wide range of experience in countries as diverse as Saudi Arabia, Nigeria and Eastern Europe. Liberia is of course different again from any of these countries & regions, but the experience of managing complex projects and large work forces in difficult environments will bring very appropriate skills and insights to EPO's operations. Procurement and logistics are just two of the key issues facing any large scale project in an early phase development environment like Liberia. Ensuring that materials and equipment arrive on site on time and on budget is one of the first challenges of a country manager in Liberia. Ensuring that local laws and sensitivities are not offended is another critical task and oversight of a large, diversified, multi-national work force adds to the complexity of this role.

Used to managing in difficult environments

As Head of Country, Declan is supported by the local experience of Allen Yancy and the international experience of both Dennis Driscoll and Geoff Brown.

Dennis Driscoll – Human Resources Advisor: Before taking up his present role with EPO in February 2011, Dennis had worked across Central America, Africa and the Pacific region. He has been mandated to establish an HR function, to design an industrial relations policy (Liberian work forces are commonly unionized), to design and implement a corporate social involvement policy and to support the company in the architecture of its organisation hierarchy, newly established jobs and associated terms and conditions of employment.

EPO is designing an industrial relations policy framework

Dennis brings to this function wide management experience from the agro-industrial sector, gained from 35 years plus in the sugarcane plantation industry. He served as the General Manager / CEO of Mumias Sugar Company, the largest sugar plantation & processing facility in Kenya, as the parastatal corporation was privatised through an IPO and listing in Nairobi. In recent years, he has worked as a consultant to sugarcane and oil palm plantations in Guyana, Belize and Papua New Guinea.

Formerly CEO of one of Africa's largest sugar producers

The recent history of Liberia and the poor standards of water supply, health and education, in rural communities make it a practical necessity for large-scale employers, like EPO, to provide housing with utilities, clinics and schools plus basic social services and adult training. This comes at a not insignificant cost to employers – we estimate that it inflates basic wages by some 35%. A large pool of healthy workers with at least basic skills, drawn from the local communities who may have released some of their traditional land rights to the plantation, is critical for the success of large-scale agro-industrial projects like oil palm plantations. In the absence of adequate state provision, it is incumbent upon the plantation employer to invest in projects that contribute to a gradual and sustainable improvement in the daily lives of the local people, while not generating excessive and unsustainable operating costs. In these circumstances, it is important that experienced management is available to develop appropriate policies and procedures that support the provision of social services and the process of training and developing the local work force.

The criticality of an adequate pool of labour & good community relations



28 February 2012

Financial & Corporate Development Experience

Both Michael Frayne and Sandy Barblett are from Western Australia. Perth has spawned a generation of resource focused entrepreneurs, and both Frayne and Barblett are from this mould. We comment elsewhere in this report that EPO is very much the creation of Frayne who has brought together a network of complementary skills and experiences to form a solid management base for this project.

Resource sector entrepreneurs

Sandy Barblett: has a strong corporate finance background which has thrust him into heading up the effort to build a dialogue with the capital markets. Sandy's input is complemented by the roles and experiences of:

Capital markets experience

• **Tim Daniel:** Chief Financial Officer, ex-KPMG, and familiar with small cap natural resources enterprises and

KPMG trained

 Anthony Samaha: Non-ex Director, ex Ernst & Young and experienced with AIM listed companies.

Capital Structure & Shareholder Analysis:

Shares In Issue (m)	After Re-Admission To AIM February 2010	Issued To BioPalm Energy May 2010	Issued To A Milne Between October 2010 - Feb 2011 under Investor Subscription Letter	Issued on Exercise of Warrants Oct 2010 - May 2011	Other	Total
	81.42	33.33	6.56	3.32	0.18	124.81
Warrants Outstanding (m)						30.68
Options Outstanding (m)						9.77
Shares In Issue + Outstanding Warrants & Options						165.26
Potential Dilution For Outstanding Shares in Issue						-24.5%

Dilution will depend on % of warrants exercised

Source: Company data

Warrants lapsed 26th February 2012 and were exercisable at 17.5p. The option allotments to the management team are linked to project development milestones; we see no reason why the options will not vest on this basis. Full take up of the options would produce dilution of some 5.3% for existing holders.

Name	Number of Ordinary Shares	% of Issued Capital
BioPalm Energy	33,333,333	26.71%
JP Morgan Asset Management	8,058,966	6.45%
Michael Frayne	6,595,948	5.28%
Joseph Jaoudi	6,509,500	5.22%
Schweco Nominees	4,080,000	3.27%

The most significant of the interests in EPO is of course the investments made by BioPalm Energy in both the equity of EPO and in the Joint Venture vehicle – Liberian Palm Developments which owns 50% of the entire oil palm operations in Liberia. Looked at another way Siva Group through its subsidiary vehicle BioPalm Energy is interested in some 63.35% of the Liberian palm assets.

BioPalm Energy / Siva Group is EPO's single largest shareholder...

...followed by JP Morgan and Michael Frayne



28 February 2012

'Liberia Rising' - Risk & Opportunity

With GDP little more than \$1bn, Liberia is still a desperately poor society (GDP per capita: \$500 ppp), as the state of accommodation confirms; large numbers of people live in the most basic of structures without running water or electricity, yet this is a vibrant, energetic society with a high birth rate. Monrovia, the capital, is still war scarred. It is a '3rd world city', complete with shanties and barefoot poverty – but clogged roads into & out of the centre during the morning & evening rush hours confirm that businesses are working and money is flowing. For international visitors there are a number of very reasonable hotels, the airport works efficiently, roads around Monrovia are good and when travelling in the country we felt safe enough to go out in the evening to half a dozen restaurants serving very good food. The new US embassy is said to be that country's largest in all of Africa – it certainly is imposing! The EU has a substantial embassy around the corner and in a different part of the city, China too has an impressively large embassy; there is no shortage of international interest in this country. The hotels enjoy a noticeably high occupancy rate, with international business people and investors forming an obvious demographic.

A country in transition

We have travelled from Monrovia eastwards along the coast to the port of Buchanan and then on to the port of Greenville in Sinoe County. Apart from the sheer beauty of the coast line, we were struck by the commercial activity around the port of Buchanan. For the developers of major projects along this coast line, these Atlantic ports are ideally suited for the inward passage of key materials and for the export of commodities – especially to Europe and North America. The ports do need additional investment however, as does the road system connecting them to Liberia's capital and other important towns. In addition to the strong global demand for resources including iron ore, rubber, gold and palm oil, Liberia has the potential to serve a free trade area on its borders that embraces 16 countries & 220m people, having a combined GDP of \$565bn. Of course political stability is not a given in many of these countries as we are witnessing in Nigeria and Cote d'Ivoire, but Liberia's post war example gives a reason for some optimism.

Good ports – but they need upgrading

A free trade area of 220m people

With only 3.8m people and a land mass equal to circa 46% the size of the UK, the potential for the development of large scale resource projects including rubber & oil palm plantations, is considerable. Palm is a big employer of rural labour, and the model being pursued by the Liberian Government is established around both agro-industrial development and social investment. Schools, health clinics and adult training are all either mandated in concession agreements or enforced by necessity, but along with secure employment, these facilities/services provide a solid underpinning for a more stable society.

Sparsely populated

Steps towards a more stable society

History

Liberia was established on land acquired for freed US slaves. The first colony was established in 1821 and the name Liberia was given to the territory in 1824. In 1847 with the proclamation of independence, Liberia became a sovereign country. For the next 142 years Liberia was to enjoy relative calm, but in 1989 that was to change.

1847 a sovereign country

It is said that Liberia's civil war claimed the lives of nearly 6% of the population, caused widespread upheaval, and destroyed a once-viable economic infrastructure. The conflict also caused instability on Liberia's borders and a slowing of the democratization process that had been developing across West Africa during the later decades of the 20th Century. The First Liberian Civil War was an internal conflict in Liberia running from 1989 until 1996. The conflict killed over 200,000 people and eventually led to the involvement of the Economic Community of West African States (ECOWAS), and of the United Nations. The peace did not last long, and in 1999 the Second Liberian Civil War broke out.

A cathartic civil conflict

1989 - 1996: The First Civil War

In 1980 Samuel Doe led a coup d'état that overthrew the elected government. Doe's was a popular coup, it established as President for the first time a person from one of the indigenous Liberian tribes instead of an Americo-Liberian. But instead of building an



28 February 2012

inclusive administration, Doe sought to eliminate all opposition. In 1985 Doe held elections that were widely considered fraudulent. A coup attempt that was supported by tribes in the North of the country sparked the subsequent years of conflict. The vicious mistreatment of the Gio and Mano tribes from Nimba County, was to fuel the simmering ethnic tensions in Liberia, caused at least in part by Doe's preferential treatment of his own tribe, the Krahn.

Ethnic tensions

After the unsuccessful attempt by the northern rebels to topple Doe, former government minister Charles Taylor and a group of rebels, many being members of the harassed Gios and Manos tribes, (who later became known as the National Patriotic Front of Liberia (NPFL)), and Prince Johnson with his forces, invaded the country in December 1989 from neighbouring Cote d'Ivoire. Taylor's NPFL soon controlled much of the country, while Johnson took most of Monrovia. Doe was killed by Johnson & his forces in September 1990. Now both Taylor and Johnson claimed power; Taylor attacked Monrovia in 1992, but with outside intercessions a coalition government was formed in August 1993. A tentative ceasefire in 1995, sponsored by foreign intercessions, paved a fractious path to national elections in 1997 when Charles Taylor was elected as President. It was hoped that peace would now be established but the violence continued to bubble up. Taylor was accused of backing rebel movements in neighbouring countries and of misusing state revenues from diamond mining.

Warring political factions

1999-2003: The Second Civil War

Opposition formed around the Liberians United for Reconciliation and Democracy (LURD) and in 1999 fighting began in Lofa County, In 2003 the UN and US military forces intervened to stop the rebel siege on Monrovia and exiled Charles Taylor to Nigeria until he was arrested in 2006 and taken to The Hague for trial. By the conclusion of the final war, more than 250,000 people had been killed and nearly 1 million displaced. Ellen Johnson Sirleaf was first inaugurated as President in January 2006, the first female head of state in Africa. She has presided over a reconstruction process that is steadily, if slowly, bringing new hope for the people of Liberia.

The emergence of President Johnson-Sirleaf

Liberia Today

Liberia is a country of contrasts, rich in natural resources, yet nominal GDP per capita is barely \$270 pa, and reported real GDP per capita of \$500 means that people live on only \$1.37 per day. Before the 14 year long civil war that devastated the economy over the period 1989-2003, Liberia was an important source of iron ore, the commodity generated 50% of the country's export earnings – but today it is rubber that is the mainstay of export earnings, accounting for 61%. In post conflict Liberia agriculture remained as pretty much the only surviving economic activity and now it makes up 61% of GDP and accounts for approximately 70% of jobs – mostly in the informal sector and often including women and children. The administration of President Ellen Johnson Sirleaf, now just entering its second 6 year term, is credited with laying the foundations for a more stable, fairer and more prosperous society. In particular the government has encouraged foreign investment for exploitation of Liberia's abundant resources, enacting a slew of reforms aimed at improving the business climate.

Rich in resources

Rubber is major export...today

An investment focused administration

GDP growth projected at 7%-10%

Big name investors

On a tide of rising Foreign Direct Investment (FDI) and buoyant commodity prices, the economy has been enjoying the sort of annual growth in GDP that has made Sub-Saharan Africa a new investment destination. The IMF is anticipating growth in the range 7.0%-10% for the 2011/12 fiscal year with inflation moderating from a little over 7% in 2010/11 to circa 3%. These conditions and an enduring if fragile peace, have been encouraging some of the world's largest corporations to invest in Liberia: Chevron is exploring for oil off Liberia's Atlantic coast, BHP Billiton, Arcelor Mittal, China Union, Vedanta and others have ventures or investments in the recovery of Liberian iron ore; Firestone operates the largest rubber plantation in the world in Liberia alongside a group of at least four other significant rubber producing estates, and from the oil palm sector, Sime Darby, the world's largest producer of palm oil, Golden Agri, and Equatorial Palm Oil have each begun or partially sponsored, enormous projects which in total will result in more than half a million hectares of palm estates for a total investment of \$3bn - \$4bn. If Chevron finds oil in the course of its exploratory drills, it too could be on course to invest billions of US dollars in the country. Meanwhile the iron ore projects represent collective investment proposals in excess of \$10bn.

Tel: +44(0)20 7929 3399



28 February 2012

The administration is now focused on steering Liberia through the transition from post conflict reconstruction to sustainable development – and for this it is seeking to draw in all sections of the society and all the different political currents into the process. The social welfare provisions built into resource concessions are aimed at delivering real benefits to the rural poor immediately.

A path to sustainable development

With strong support from the USA and the ongoing support of the Economic Community of West African States (ECOWAS) Liberia has not only its own rich assets to draw upon, but it is a member of a free trade area embracing 220m people with a combined GDP of \$565bn. Admittedly Liberia occupies a troubled neighbourhood, bordering Cote d'Ivoire is a destabilising force, but this notwithstanding, ECOWAS is an important platform to support economic growth in the region and also it can be a force for increasing political stability. Formed in 1975, ECOWAS was established to promote co-operation and integration of West African countries. It currently comprises fifteen Member States: Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo. Its mission is to promote economic integration in "all fields of economic activity, particularly industry, transport, telecommunications, energy, agriculture, natural resources, commerce, monetary and financial questions, social and cultural matters..." In effect it seeks to emulate the achievements of the EU - without the mistakes surrounding the creation of the Euro. The region accounts for a population of some 220m and combined GDP of circa \$565bn - although 60% is contributed by Nigeria. The ECOWAS area thus represents an important open market for businesses based in Liberia.

US support

ECOWAS for trade expansion

Stability

The security situation is generally stable, but it will take time and economic progress before this society can completely consign the events of 1989 – 2003 to the history books. A sizeable United Nations Mission in Liberia (UNMIL) remains to support the government in maintaining stability. UNMIL was established September 2003 to support the implementation of the ceasefire agreement and the peace process; protect United Nations staff, facilities and civilians; support humanitarian and human rights activities; as well as assist in national security reform, including national police training and formation of a new, restructured military.

UN peace keeping force remains

Some 3,500 West African troops who had been serving with an initial peace keeping force in 2003 were "re-hatted" as United Nations peacekeepers. The Governments of Benin, Gambia, Ghana, Guinea-Bissau, Mali, Nigeria, Senegal and Togo have contributed to UNMIL alongside the United States.

Government & Politics in Liberia

Liberia has a bicameral legislature consisting of 64 representatives and 30 senators mostly with 6 year terms of office. Party structures are said to be weak and politics is still driven by tribal loyalties & personalities. Political power at the local level flows from the historical chieftain system, mayors and district commissioners. The country is divided into 15 counties with county superintendents and city mayors appointed by the President.

A developed democratic structure

The judicial system has been the focus of considerable international effort aimed at improving its capacity and independence. The Supreme Court represents the highest judicial authority with courts of first instance, magistrates' courts, and justices of the peace beneath it. In rural areas traditional & lay courts continue to operate.

Judicial system is still evolving

General Election October / November 2011

The 2011 Liberian general election was held on 11 October 2011, with a presidential runoff election held on 8 November 2011. The presidency, all seats in the House of Representatives, and half of the seats in the Senate, were all up for election. The election was overseen by the National Elections Commission (NEC). The results of the legislative elections and first-round presidential election were released on 25 October 2011. In the legislative elections, the Unity Party maintained its plurality in both the House and the Senate, but as in the previous election, no party secured a majority in either chamber.

Fragmented vote



28 February 2012

Incumbent retention was low; only two of the fourteen incumbent senators seeking to retain their seats won re-election, while only twenty-five of the fifty-nine House incumbents running were re-elected.

In the first round of the presidential election, incumbent President Ellen Johnson Sirleaf of the Unity Party led the presidential field with 43.9% of the vote, followed by Congress for Democratic Change (CDC) candidate Winston Tubman with 32.7%. As no candidate received an absolute majority, Sirleaf and Tubman stood in a run-off election held on 8 November 2011. Tubman alleged that the first round had been rigged in Sirleaf's favour and called on his supporters to boycott the run-off, resulting in a turnout of 38% as compared to the 71.8% turnout in the first round. The NEC declared Sirleaf the winner of the run-off on 15 November 2011 with 90.7% of the vote.

No clear winner in round one

In a statement in early January Winston Tubman was reported by Front Page Africa to have said "Liberia is all we have and so, we cannot afford to fail to reconcile our differences and work together...the CDC is very committed toward the consolidation of the fledging peace and stability in Liberia. I therefore challenge...the Unity Party-led government to...enhance the cause of forging ahead in the best interest of our country and people."

An 'olive branch' was extended

The wounds inflicted by the 14 year civil war, are clearly still raw, but the essentially peaceful passing of the October / November 2011 Presidential elections tends to confirm what ordinary Liberians told us when we visited the country in late January 2012 — they just want to move on. In that context the attendance of Winston Tubman & his 'presidential ticket' running mate, George Weah, at Ellen Johnson-Sirleaf's inauguration as President (16th January), was a truly encouraging sign. Messrs Tubman and Weah have assured Liberians that they will work with Mrs Johnson-Sirleaf in her second six-year tenure, for peace and progress in the country. It should be noted that Hilary Clinton was amongst the foreign guests at the Presidential Inauguration 16th January, a powerful reminder of America's commitment to this country.

A successful Presidential Inauguration



28 February 2012

Liberia: Key Statistics

Facts About Liberia		Comment
Land Area - Square Kilometres	111,369	Circa 46% of UK; 8x size of Belgium
Population (m)	3.79	16 ethnic groups
Population Growth Rate (Annual)	2.60%	
Christian	85%	
Muslim	12%	
Literacy Rate	58%	
Life Expectancy	57 years	
Official Language	English	16 Indigenous languages
Employment	As % of Working Population	
Formal Sector		125,000 in 2009
Informal Sector		570,000 in 2009
Agriculture	70%	
Industry	15%	
Services	2%	
Economy		
GDP (2010)	\$984m	61% agriculture
GDP Per Capita	\$260	
Real GDP Per Capita	\$500	
GDP Growth Rate	5% - 10%	Historic & IMF forecast
Inflation Rate	7.5% (2011)	
	3.0% - 5.0% (2012F)	
Trade		
Exports	\$207m (2010)	61% rubber
Imports	\$551m (2010)	29% rice; 29%machinary
Natural Resources	Iron ore; Plantations; Timber; Gold; Offshore Oil Possibly	Liberia has 40% of rain forest in West Africa

Diverse ethnicities

We question if this is correct

Centrality of Agriculture

Rice a main import

A wealth of resource assets

Source: US State Department; IMF

Liberian Economy

Prior to the 14 year civil war (1989-2003) the economy was centred on mining of iron ore and the export of natural rubber. During the two decades up to 1989 the recovery of iron ore accounted for more than 50% of the country's export earnings. The civil war destroyed the economy and sharply reduced the living standards for the population. Today Liberia's earnings are largely from rubber [61% of export earnings] and revenues from maritime registry — Liberia's shipping & corporate registry includes over 10% of the world's ocean going fleet.

Iron ore exports are to be resumed

The Liberian authorities encourage foreign investment and reforms aimed at improving the business climate helped to encourage more than \$100m of new investment in the first half of 2009 alone. However productive capacity and the potential for growth are constrained by low levels of literacy, poor health amongst the population, corruption and chronic unemployment. Basic infrastructure and services also need upgrading. Concerns about corruption in the major extractive sectors including agriculture are unsettling to investors and will have acted as a brake on development.

A pro-business environment



28 February 2012

However, in an assessment of the Liberian economy 16th November last year, the IMF concluded:

- GDP growth is brisk, boosted by rubber production and a restart of iron-ore exports:
 - o GDP growth is expected to be in the range 7%-10% for 2011/12;
 - Inflation is expected to decelerate from circa 7.5% to nearer 3% based on moderation in international food & fuel prices;
 - Timber shipments have picked up;
 - o Infrastructure bottlenecks remain a limiting factor;
 - Off shore drilling by 3 international companies has begun;
 - The outlook is vulnerable to downside risks from global economic weakness and in particular from falling prices for the commodities produced by Liberia.
- The FY2012 fiscal program incorporates realistic revenue projections while appropriately balancing macroeconomic & development objectives:
 - The program remains anchored by the authorities' debt management strategy with external borrowing substantially below the maximum level consistent with long-run debt sustainability[this is set at 3% of GDP in NPV terms];
 - In line with policy priorities expenditure is planned to be concentrated in health, education & infrastructure;
 - Together health & education are budgeted to account for 25% of core spending;
 - Budget funded project spending will be concentrated on priorities including port facilities, the electricity and road sectors.
- Monetization is ongoing, with a rapid expansion in deposits and private sector credit:
 - Private credit & deposits have grown rapidly;
 - In parallel with broad money growth commercial bank deposits have increased at more than 30% pa;
 - o The banking system is now well capitalised & highly liquid;
 - But a substantial portion of the loan portfolio is rated non-performing & bank profitability is low.
- A medium term growth strategy is now in development as a successor policy to the Poverty Reduction Strategy:
 - The Government's goal was to resuscitate an economy and society devastated by conflict;
 - Crucially the development of country's resources and the generation of national wealth is intended to be spread equitably across Liberian society;
 - Inequality and extreme poverty are understood to have fueled the tensions that produced civil conflict and only through the alleviation of these conditions can the peace and security of the country be permanently secured.

Critics of President Ellen Johnson-Sirleaf's first administration argue that it did not make sufficient progress in alleviating poverty and rebuilding the economy & national infrastructure, but the IMF report reads more positively and in her new second term in office after the largely peaceful elections in November 2011, the President and her administration have the opportunity to further develop the economy and to rebuild the

Moderating inflation

Infrastructure bottlenecks

Value added processing will be important to protect against commodity price volatility

Social welfare a priority

Development of a functional banking system

Equitable outcomes

Liberia Rising...



28 February 2012

national infrastructure. The administration recognizes that the process of economic revitalization has to be widely inclusive; the prime objective of Liberia Rising - 2030 is that Liberia becomes a middle-income country by 2030, characterized by sustainable & inclusive economic growth and improved quality of life for each citizen. The ability of the administration to attract significant Foreign Direct Investment (FDI) to the country for the development of its abundant natural resources is critical to the realization of this goal.

...will be underpinned by development of resource sector

Major Resource Projects

International and African business and agencies are all active in Liberia. Non-African countries are mainly active in the private sector and extractive industries, including iron ore and palm oil plantations. The map below details some of the major resources projects under development in the country.

Liberia a focus for international investment



A Who's Who of major resource companies

Source: Equatorial Palm Oil

China is one of the country's largest country donors giving an estimated \$20m pa, mainly in the form of tied aid. This aid - which is primarily bilateral - is being used to build infrastructure, and to improve healthcare and education. Chinese road building teams are much in evidence on the highway linking Monrovia to the port of Buchanan. China is also an observer on various donor co-ordination frameworks and is a member of the country's Economic Management Team, the highest body that reviews development projects managed by the Ministry of Planning and Economic Affairs. In terms of African emerging partners, Nigeria leads the group.

China is an important investor

Chevron Offshore Oil Project

President Sirleaf signed a 3 year exploration deal with Chevron for offshore oil in 2010. The possibility that oil deposits may exist was first raised when oil was found off Sierra Leone in 2009. Liberia's coastline is on the oil-rich Gulf of Guinea and both of Liberia's neighbours – Sierra Leone and Cote d'Ivoire – have found offshore oil reserves.

Looking for oil

Chevron indicated that if exploration proved successful it would be investing "billions of dollars" according to Karl Cottrell, the Liberia country manager for Chevron. Chevron is reported to have said that it has a 25% - 30% probability of success. "Between now and when we might foresee oil production on any exploration success, is roughly eight to 10 years". Chevron has agreed to explore three deep-water blocks covering a combined area of 3,700 square miles. Chevron will hold a 70% interest in the concessions.

Putu Iron Project

The Mineral Development Agreement (MDA) granted late 2010 covers a 425km² exploration tenement located in south-east Liberia, Grand Gedeh County, for a period of twenty-five years and includes a two year extension for exploration until 30th September



28 February 2012

2012. The Agreement set the fiscal regime and social contributions and includes provisions such as no free carried interest for the Government, a royalty rate of 4.5% and a corporate tax rate 25%. The project is approximately 320 km to the south-east of the capital city of Monrovia and 100km from the Atlantic coast and is jointly owned between the Afferro Mining Inc (38.5%) and Severstal (61.5%). The first production is expected to start in 2016. In February 2011 the parties announced an updated resource estimate to 2.37 billion tonnes graded at 34.1% iron from the initial estimate of 1.08 billion tonnes at 37.6% iron.

2016 for first production

BHP Billiton Iron Ore Project

BHP Billiton signed a \$3 billion deal with Liberia to develop a large-scale iron ore project in June 2010. The mineral development agreement (MDA) will allow BHP Billiton to continue exploring for iron ore at Goe Fantro, Kintoma, St. John River South and the Tolo Range, National Investment.

\$3bn deal

Western Cluster Iron Ore Project

August 2011 President Sirleaf signed the Western Cluster Mining Agreement. The President described the project as very important for the economy and infrastructure of the western region. Over US\$2 billion of expected investment is expected to create more than two thousand jobs during the 25-year operations of the project, with an initial workforce of 200 personnel. The agreement is expected to provide key benefits, including upfront payments estimated at US\$40.5 million to government; construction of a railway from Monrovia to Bomi County; development of the old NIOC/Bong Mines Pier at the Freeport of Monrovia; job training for Liberians; adequate housing, modern public health facilities, water and sanitation. The agreement also calls for the pavement of a two-lane highway from Tubmanburg to Mano River and more than US\$2 million annually toward the counties' Social Development Fund.

Development of national infrastructure

Sesa Goa will be responsible for all operations of the Western Cluster project. Sesa Goa, which is reportedly India's largest producer and exporter of Iron ore, has a market capital of US \$2.6 billion. Its parent company, Vedanta, is listed in the London Stock Exchange (LSE) and is India's largest and mining company.

A Vedanta backed project

Arcelor Mittal

In September 2011 Arcelor Mittal, the world's largest steelmaker, shipped its first iron ore from Liberia. The company's operations were described by President Sirleaf as "a boost to the Liberian economy, especially in the area of employment". The company plans to spend \$1.5 billion in its Liberia operations. Annual output is seen at 4 million tons. The company has spent \$800 million to repair roads and other infrastructure including a hospital, a school, a railway and refurbishment of the port at Buchanan.

\$1.5bn pledged

Impressive railway from Quinea border to port of Buchanan

China Union

April 2010 President Sirleaf welcomed the visit to Liberia by a Chinese delegation, headed by the Vice Minister of Commerce, Fu Ziying in connection with the US\$2.6 billion China Union (Liberia) Bong Mines Investment.

\$2.6bn investment

The Government of Liberia and the People's Republic of China signed six agreements aimed at boosting cooperation between the two countries. They included agreements on economic and technological cooperation. Liberia and China also exchanged letters for a Technical Cooperation Project with the Liberia Broadcasting System. China has also agreed to provide medical equipment to the China-Liberia Malaria Prevention and Treatment Center, and to help the Liberian Government purchase medicines to treat malaria.

National infrastructure commitments

Chinese Minister Fu recalled that since the resumption of ties between the two countries, "there has been great improvement both in recovery and reconciliation; this makes us want to do more." He added that over US\$700 million worth of aid has already been made to Liberia since the country switched bilateral ties from Taiwan to the People's Republic of China under President Johnson Sirleaf.

Reduction in country risk



28 February 2012

Palm Oil Sector In Liberia

Agriculture is the mainstay of the Liberian economy, accounting for some 61% of GDP [2009/10] and approximately 70% of all jobs – mostly in the informal sector. In character it is dominated by the smallholder subsistence model, but with the model of the industrially scaled Firestone Rubber Plantations in mind (after more than 80 years of investment, the plantation complex covers almost 200 square miles / 52,000 ha and is claimed to be the largest single natural rubber operation in the world), the Government has detailed the Agri-sector as one of the cornerstones for national economic redevelopment.

70% of jobs in agriculture

Chief amongst the Government's goals is the provision of food security, improved nutrition and inclusive opportunities for employment and poverty reduction, and food security for the rural poor is still border line for a some 38% [Ministry of Agriculture 2009] of households. Rice is the main staple with some 200,000 mt produced annually – but imports are still in the order of \$160m pa. While the Government has strengthened the Ministry Of Agriculture and driven a raft of programmes to improve productivity across the Agri-sector with some success, much has yet to be achieved. In order to accelerate job creation and economic activity in the sector, the Government has also championed the development of industrial scaled agri-projects in rubber and oil palm and in the process it has entered into agreements and partnerships with an array of international companies including in the oil palm sector, Sime Darby, Golden Veroleum and Equatorial Palm Oil and SIFCA.

Food security & rural poverty are policy priorities



28 February 2012

Table: Palm Oil Concessions Granted In Liberia

Company	Project Name (if known)	Land Bank	Concession Agreement Date	Period of Concession	Planted Area	Proposed Planted Area	Proposed Finish Date for Planting	County Located	Nearest Port	Shareholders	Partners
		Ha		Years	Ha	На					
Equatorial Palm Oil	Butaw	54,549	Aug-08	50	4,600	-	-	Sinoe	Greenville	Siva Group (BioPalm Energy Ltd); Directors	Siva Group
	Palm Bay	34,398	Aug-08	50	5,600	-	-	Grand Bassa	Buchanan	JP Morgan Asset Management	
	River Cess	80,000	-	-	-	-	-	River Cess	Buchanan	Chase Nominees	
			50,000 Aug-10	65 (with an option to extend to 99 years)	-	220,000	End 2023	Sinoe	Greenville	Verdant Fund LP	Golden Agri- Resources
								Grand Kru			
Golden VerOleum		350,000						Maryland			
								River Cess			
								River Gee			
SIFCA	LAC Rubber / Decoris Palm Plantation	9,000	Mar-11	25	-	-	-	Maryland	Harper		Michelin / Olam
Sime Darby		220,000	2009	63			2030	Grand Cape Mount Bomi Bong	. Monrovia		
					<u> </u>			Gbarpolu			

Source: Hardman & Co



28 February 2012

Community Relationships

While international investment into large scale agri-projects can produce significant benefits for the rural poor, it is nevertheless critical for harmonious local relations and social cohesion that local people should be consulted and their concerns be reasonably answered. It is important to conserve sites of high cultural value and of high biodiversity and it is essential to protect community rights. By working within RSPO guidelines, local environmental protection rules and by engaging with and respecting local communities, palm developers are able to advance their project objectives and produce important benefits for local communities. EPO has worked assiduously to build a mutually respectful dialogue with local communities, it has invested in crucial social facilities such as schools, health clinics, housing and local facilities including a covered market place for local women.

EPO has prioritized development of strong community relationships

The Case For Palm Oil

Palm oil has had a staggered career: for many centuries it was a crop specific to the nations of West Africa but its diverse uses drew it to the attention of the European colonial powers during the late 19th and early 20th Centuries. West Africa, the indigenous region of the oil palm, was the first centre for production of the oil but the region was to be shortly eclipsed by East Asia, and in particular by Malaysia and Indonesia. From the mid 1970s to the present day palm oil has undergone a remarkable progress - from a relatively minor crop focused on local demand to the world's most important vegetable oil worth some \$50bn pa to producers. The reasons are numerous: on 7.8% of the land allocated to oil seed crops globally, palm provides nearly 33% of the entire global production of vegetable oil. Gross margins per hectare are the highest in its class and no other crop in the oil seed complex provides so much revenue per hectare, nor can be produced more economically. In the middle of the first decade of the 21st Century palm oil broke out of a trading range that had maintained for over a quarter of a century, a development driven by two global forces: the rise of the two big Asian economies, China & India, and the growth in demand for biofuels. A highly suitable feed stock for biofuels and for biodiesel in particular, palm oil is now a vitally important global commodity: as a dietary component, as an industrial material and crucially, as a feed stock for the biodiesel, which has led to a close link between the price of crude oil and the price of palm oil.

West Africa is the home of the oil palm and the original centre of production

Palm the most profitable of the vegetable oil crops

Asian demand & bio-fuels drive pricina

Since the beginning of this century global demand for palm oil has seen production **Production has** double from some 23m mt pa to circa 47m mt in 2010, averaging growth in output of doubled since the more than 10% pa - and all the time the stock to use ratio has fallen from over 15% to start of the 8%. In the middle of the decade the disruptive influence of Asian GDP growth and rising Millennium demand for biofuels ruptured the predictable 25 year trading range of the commodity and it lurched into a new trading range. The upper and lower levels of this new range are not

> We model with \$900 base price

The 2005/06 rupturing of the historical trading range for palm oil may have been largely attributable to the rising demand for biofuels; global production of biofuels; from 2004 to 2010 tripled. In the process a pricing link with crude oil has been established. With heightening political tension in the Middle East and with only stuttering progress to stability in the aftermath of the Arab Spring, expectations of a rising crude price in 2012 are running high. Additionally the return of the La Nina weather pattern in the Southern Hemisphere threatens a reduced soya crop across South America. Such 'ill winds' augur well for the price of palm oil for the next 12 months.

yet clearly established: \$1,200 to \$1,400 / mt at upper end of the range has been achieved in both 2008 and 2010, the low end of the range was set in 2009 at

circa \$600 / mt. Our financial models are based around \$850 as an average traded value

What is bad for production of soya is good for price of CPO

over the next 12 months.

28 February 2012

Figure 1 presents a compelling case for palm oil as a component in the vegetable oil complex and as an agricultural investment.

Figure 1 - Major Vegetable Oil Analysis

vegetab	IE OII AII	aiyəiə				
					Total	Palm Oil
	Palm	Soya	OSR	Sub-total	Edible	as % of
					Oils	total
МТ	17 07	/11 97	22.65	112 /0	1/6 27	32.8%
1411	47.37	41.07	22.03	112.49	140.57	32.6/6
MT	46.8	41.8	23.2	111.8	146.92	31.9%
IVII						
MT/ba	4.4	0.5	0.7			
IVII/IIa	4.4	0.5	0.7			
¢/ha	4 9 4 0	1,058	825	Soya & Rapeseed include value of		
۶/IId	4,840			meal per he	ectare	
¢/ha	1 276	EEG	220	Crush sost	ĆOE / NAT	
۶/IId	1,276	330	220	Crush cost \$35 / WH		
0/	7/10/	170/	720/			
70	74%	47%	75%			
%	26%	18%	39%			
Ha (m)	16.9	103.5	32.5	152.9	216.1	7.8%
	MT MT/ha \$/ha \$/ha %	Palm MT 47.97 MT 46.8 MT/ha 4.4 \$/ha 4,840 \$/ha 1,276 % 74% % 26%	MT 47.97 41.87 MT 46.8 41.8 MT/ha 4.4 0.5 \$/ha 4,840 1,058 \$/ha 1,276 556 % 74% 47% % 26% 18%	Palm Soya OSR MT 47.97 41.87 22.65 MT 46.8 41.8 23.2 MT/ha 4.4 0.5 0.7 \$/ha 4,840 1,058 825 \$/ha 1,276 556 220 % 74% 47% 73% % 26% 18% 39%	Palm Soya OSR Sub-total MT 47.97 41.87 22.65 112.49 MT 46.8 41.8 23.2 111.8 MT/ha 4.4 0.5 0.7 \$/ha 4,840 1,058 825 Soya & Rap meal per head pe	Palm Soya OSR Sub-total Total Edible Oils MT 47.97 41.87 22.65 112.49 146.37 MT 46.8 41.8 23.2 111.8 146.92 MT/ha 4.4 0.5 0.7 Soya & Rapeseed include meal per hectare \$/ha 1,058 825 Soya & Rapeseed include meal per hectare \$/ha 1,276 556 220 Crush cost \$35 / MT % 74% 47% 73% % 26% 18% 39%

33% of vegetable oil production

Oil palm the most productive vegetable oil crop

Source: FAO, Hardman & Co estimates

With average gross margins of over 70% and CPO per tonne production costs [fully allocated] in the region of \$378 [depending on per ha productivity], the commodity can be produced profitably down to \$450 per mt, a level not seen since the Lehman financial crisis of 2008, when it traded at a monthly average price of \$433 in November of that year.

Cheapest to produce





Breakout!

Price & Demand Drivers

In 2006/07 CPO broke out of its 26 year trading range of \$200 - \$600 mt as shown above. The breakout was dramatic in its suddenness and steepness of ascent; the commodity looks to have been propelled into a new trading range with \$400 mt as the



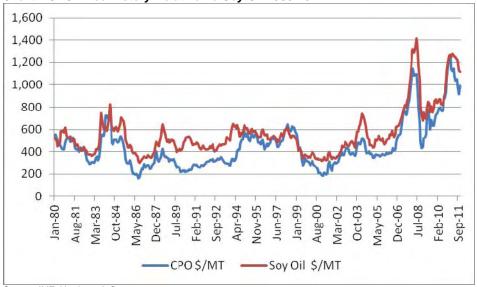
28 February 2012

floor. Within the sector there is a belief that in fact the floor is now even higher than \$400 – with \$600 – the top line resistance point during the previous long term trading period, seen as the more likely new support level. Underlying this shift in the price performance of the commodity are two key influences: economic growth in the emerging economies and the proliferation of biofuels mandates. The close relationship between palm oil and soya oil also provides another price floor for CPO; with a \$562 production cost per mt of soya oil, palm oil is unlikely to trade below the cost of the number two global vegetable oil. As the chart below reveals, soya has traded at a variable premium, but in close alignment with the CPO price for over 30 years and since 2005/06 the correlation in the traded price of the two commodities looks to have tightened.

\$600 / mt the new floor?

Soya's higher production costs support CPO price

Chart 2:CPO Price History Relative To Soy Oil 1980-2011



Correlation appears to tighten

Source: IMF, Hardman & Co

The tightening correlation between the traded price of the two most important vegetable oils can be seen in the chart below. While the correlation is close even in the period 2000-2009, it has subsequently narrowed further.

Chart 3: CPO Price History Relative To Soy Oil 2000-2011



Closely linked today

Source. IIII , Hardman & Go

Soya has enjoyed a traditional premium to palm oil but it has traded in a wide band – from \$15/mt to \$375/mt over the past 10 years. Margins on soya oil production are very much tighter than for palm oil [see Figure 1] and production costs are estimated at some

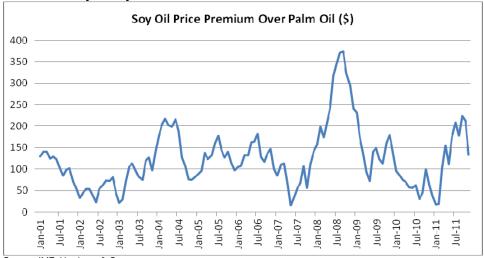


28 February 2012

\$180/mt higher – excluding land opportunity cost from the production cost of both commodities. The chart below details the historic variation in the premium over the past 10 years; there is a pattern of \$15 / mt bottoms and strong resistance at \$200/mt – but much of the activity takes place in the narrower band of \$100-150/mt. The link between the premium and the extra cost of production per mt compared with palm oil could be stronger – but allowing for the fact that our \$378 / mt production cost for CPO is based on producers in the top quartile of efficiency, then the link between the premium and the additional cost of production of soya oil over palm oil is perhaps quite closely correlated.

\$100-\$150 / mt typical premium

Chart 4: History of Soy Oil Premium Over CPO 2001-2011



Source: IMF, Hardman & Co



28 February 2012

Production Cost Comparison: CPO versus Soy Oil

Production Cost Compariso	n: CPO versus So	oy Oil	
Per Hectare Production Costs	Upper Quartile Semi-mature Indonesian Palm Oil Producer (2011 data)	USA Soya Production USDA (2008 Data)	
Fresh Fruit Bunch (FFB) Yield Per ha (mt)	24	2.92	Beans mt per ha
Oil Extraction Rate (OER) per	22.50%	17.10%	OER at 95% of oil content
MT CPO per ha	5.40	0.50	Soy Oil mt per ha
% Palm Kernels per mt FFB	0.0457	2.34	soy meal mt per ha
Palm Kernel OER	40.07%		
Palm Kernel Oil (PKO) per mt FFB	0.02		
Mt PKO per ha	0.44		
Total CPOe produced per ha	5.84		
Annual Cash Cost Per Ha of Mature Oil Palm	\$	\$	Per ha Cost of Production Soya Beans
Weeding	58.4	109.6	Seed
Fertiliser	420.4	62.1	Fertiliser
Crop Protection Chemicals	17.5	38.9	Crop Protection Chemicals
Irrigation	0.0	0.3	Irrigation
Infrastructure Maintenance	116.8	48.1	Equipment Maintenance & Other
Harvesting & Collection FFB	338.7	46.6	Labour
Processing of FFB	157.7	102.3	Milling Costs
Diesel, Gasoline & Transport	262.8	49.9	Fuel, machine oil & electricity
Interest on Operating Capital	22.0	6.9	Interest on Operating Capital
Estate Overheads	192.7	199.2	Includes depreciation & insurance
Of which labour	434	47	
Direct Cash Cost Of Production	1587.0	663.8	
Central Overhead	619.0	35.3	General Farm Overhead
Estimated Total Cash Cost per ha	2206.0	699.1	Total Cash Cost per ha yield milled providing 2.34 mt meal & 0.5 mt soy oil
Cost per tonne CPOe	378	562	Soy oil cost per mt at 40.2% allocation
		818.0	\$ Value of 2.34 mt meal
		549.5	\$ Value of 0.5 mt soy oil
		1367.5	Total \$ Value per ha production
		40.2%	Soy Oil as % per ha revenues

Palm oil producers central overheads inflated by cost of listing & group structures

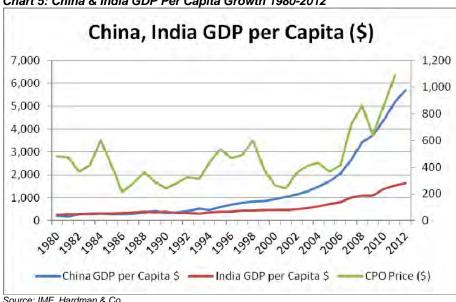
Source: Hardman & Co; USDA



Asian Demand

Chart 5 details an unmistakable correlation between the CPO price and Chinese GDP per capita development, beginning around 2001 and then tracking steeply around 2006/07. The same trend is evident also in Chart 6.

Chart 5: China & India GDP Per Capita Growth 1980-2012



A strong correlation

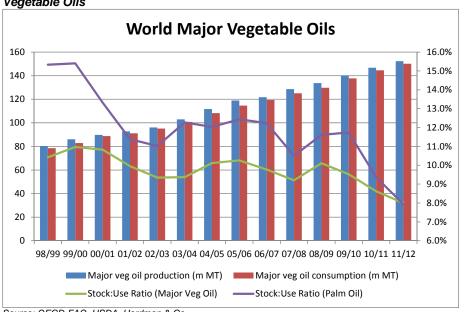
Source: IMF, Hardman & Co

India is the single largest national consumer of palm oil, accounting for some 15% of global consumption versus China's 13% and the impressive but less steep evolution of Indian growth also underpins the spike upwards in the CPO price in the first decade of this century. The steep correction in the CPO price in 2008 reflects the shock to commodities pricing from the financial crisis that followed the collapse of Lehman Bros. There is real concern that commodities prices including CPO could sustain significant further erosion if the crisis in the Eurozone deepens. The 2008/09 correction was short lived once Asian demand reasserted pressure on the stock:use ratio.

India is single largest national consumer

Eurozone risk?

Chart 6: Stock:Use Ratio Formation Relative To Growth In World Production Vegetable Oils



A steep reduction in reserve stocks

Source: OECD-FAO, USDA, Hardman & Co



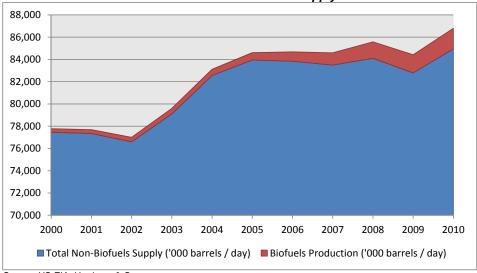
Chart 6 reveals that notwithstanding the steady growth in vegetable oil production over the first decade of this century, demand pressure driven by expansion of the big Asian economies in particular, has grown more rapidly, and this has reflected in a steady reduction in the stock:use ratio. At the end of the 20th Century the CPO Stock:Use ratio stood at a comfortable 15.5% but after lurching down to 11% circa 2002 it has continued to fall, converging with the vegetable oil complex at around 8% and this is likely to reflect increased use as a feedstock for biofuels as well as a dietary component.

Impact of bio-fuels demand

Biofuels Production

Chart 7 starkly illustrates the steep growth in the production of biofuels since the Millennium. Also note the parallel growth of biofuels & mineral oil supply since 2009.

Chart 7: Growth in World Production of Biofuels vs Supply of Crude Oil



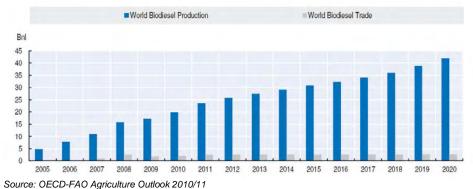
Bio-fuels come of age

Source: US EIA, Hardman & Co

Chart 8 details the OECD-FAO projections for the development of world biodiesel production out to 2020. During the period 2005-2008, world production trebled from 5bnl to 15 bnl. This rapid growth in biodiesel production coincides with the development of a new trading range for CPO and the near halving of the stock:use ratio.

Bio-diesel production trebled during 3 years to 2008

Chart8: World Production Biodiesel (Billions of Litres)



In considering the impact that the growth in use of biofuels has had on agricultural activity the data presented below reveal a marked difference between the big grain crops and those other crops including oil seed crops boosted by demand from the biofuels production sector. While the grain crops have seen a 5.6% contraction in area under cultivation in the period 1989-2009, the oil seed crops & maize areas under cultivation have expanded by over 100m hectares for a near 38% increase in area.

Crops suitable for bio-fuels gain hectares



28 February 2012

Figure 2: Global Area Under Cultivation Major Grains & Oil Crops

Major Grains; World Harvested ha (m)	1989	1999	2009	Increase/ (Decrease) 1989 - 2009 ha (m)
Wheat	226.787	217.338	225.623	-1.16
Change		-4.2%	3.8%	
Rice	148.933	156.807	158.3	9.37
Change		5.3%	1.0%	
Barley	73.658	53.321	54.06	-19.60
Change		-27.6%	1.4%	
Sorghum	44.768	41.574	39.97	-4.80
Change		-7.1%	-3.9%	
Millet	37.928	36.072	33.692	-4.24
Change		-4.9%	-6.6%	
Rye	17.142	9.473	6.559	-10.58
Change		-44.7%	-30.8%	
Total Area (ha m)	549.216	514.585	518.204	-31.01
Change		-6.3%	0.7%	-5.6%
Biofuel Feedstock Crops & Substitutes; World Harvested ha (m)	1989	1999	2009	Increase/(Decrease) 1989 – 2009 ha (m)
Maize	131.783	137.22	158.629	26.85
Change		4.1%	15.6%	20.4%
Soyabeans	58.65	72.053	99.501	40.85
Change		22.9%	38.1%	69.7%
Cottonseed	32.275	32.683	30.431	-1.84
Change		1.3%	-6.9%	-5.7%
Oil Seed Rape	17.267	27.604	31.121	13.85
Change		59.9%	12.7%	80.2%
Sugarcane	16.536	19.206	23.778	7.24
Change		16.1%	23.8%	43.8%
Sunflower Seed	15.209	23.812	23.717	8.51
Change		56.6%	-0.4%	55.9%
Oil Palm	5.857	9.396	14.921	9.06
		60.4%	58.8%	154.8%
Change		00.170		
Change Total Area (ha m)	277.577	321.974	382.098	104.52

Barley loses out

Soya is a big gainer

Oil seed rape a big gainer

Oil palm the biggest winner

On a hectare basis barley has been the biggest loser amongst the grains, while soya has gained nearly 41m ha. But for the largest percentage growth in area under cultivation it is oil palm which stands out with growth of circa 155% in planted area to become the leading vegetable oil by volume and by international trade.

Palm the leading vegetable oil

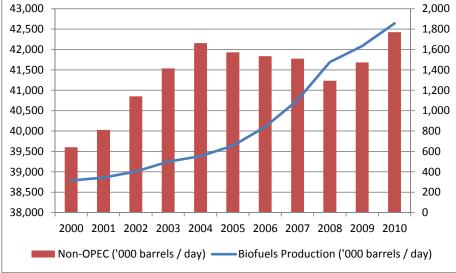
28 February 2012

Correlation with Crude (Mineral) Oil

As demand pressure squeezes the price of crude oil upwards, so production becomes profitable in more difficult drilling / recovery environments with higher associated recovery costs. The rising production cost of oil encourages users of the commodity to explore more competitive options. The chart immediately below details the growth of non-OPEC oil supplies over the first decade of the century alongside the growth in production of biofuels over the same period. Readers will note that all the usage & production charts in this document demonstrate that in the period 2005/6 there was a significant uptick in demand for biofuels and this coincided with CPO breaking out of the trading range that had endured for more than a quarter of a century. Readers should refer to charts 2 & 5 to see both the upward spike to the CPO price in 2006 [Chart 2] and its apparent correlation with the growth in Chinese GDP per capita [Chart 5]. This is also the point at which the production of biofuels begins a period of strong growth as shown immediately below.

CPO trading range correlates with upsurge in demand for bio-

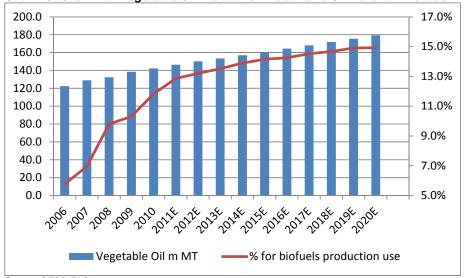




Source: US EIA, Hardman & Co

Chart 10 tracks the steep increase in usage of vegetable oils for biofuel production – from a level of some 6% of global vegetable oil production absorbed by the biofuels sector in 2006, it had reached 13% in 2011.

Chart 10: Growth of Vegetable Oil Production Relative to Off Take for Biofuels



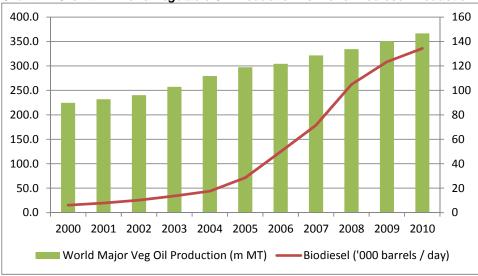
Demand impact from bio-fuel sector

Source: OECD-FAO

28 February 2012

Again the steepest growth occurred in the period 2005/6 as the chart immediately below reveals – which also coincides with a steep rise in Chinese GDP per capita (Chart 5).

Chart 11: Growth in World Vegetable Oil Production vs World Biodiesel Production



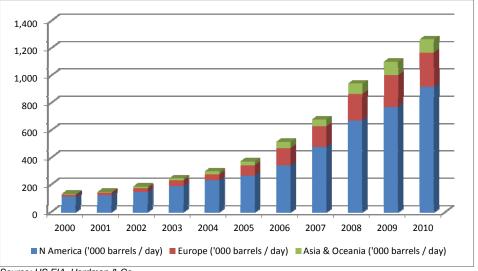
Bio-fuel demand growth could squeeze prices higher

Source: USDA, US EIA, Hardman & Co

The influence of US demand for biofuels is starkly illustrated in the chart below showing the steep rise in North American production of biofuels over the first decade of the 21st Century – but the steepest growth again occurs in the second half of the decade as the US began to divert an increasing % of its domestic corn [maize] crop for the production of ethanol. Not surprisingly over the period 1999-2009 the area down to maize cultivation increased by 20.4% for a gain of nearly 27m hectares. See Figure 2 for growth in Global Cultivated Area by major grains and biofuel feed stocks including the oil seed crops.

US demand for ethanol leads to expansion of maize crop

Chart 12: Biofuels Production by Region 2000-2010



North America leads the way in bio-fuel production

Source: US EIA, Hardman & Co

The International Energy Agency (IEA) concluded back in 2010 that global production of mineral oil that can be recovered easily using drills and wells is near or already at its peak, and that an increase in production of the commodity from unconventional sources, including oil shale and oil sands, is now required to maintain the economic supply of oil. Per barrel costs for production & supply from oil shale are estimated to be in the range of US \$60 per barrel which would take the cost per metric tonne to something in the region of \$438. With CPO production costs in the region of \$378 / mt, this vegetable oil is

Unconventional mineral oil recovery costs up to \$438 / mt

28 February 2012

strongly competitive with unconventional mineral oil as fuel feed stock. As crude mineral oil becomes more costly to recover or its traded price moves higher as a function of demand or perhaps geo-political tension in the producer regions, then vegetable oils including palm oil, will likely experience increased demand from the biofuel producing sector. While demand for vegetable oil as a feed stock can have security & political drivers, most industry commentators expect relative pricing to remain the primary driver of demand; as vegetable oils become expensive relative to the price of diesel, then demand from the biofuels sector will weaken.

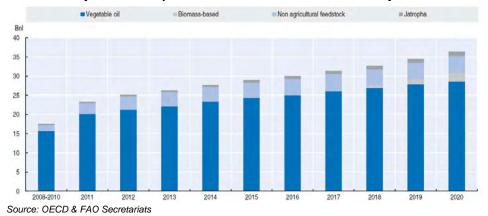
Crude Oil Supply Insecurity

Supply interruption and price inflation are strong reasons for oil consuming nations to consider alternatives; some 18% of Brazilian automotive transportation is now powered by ethanol derived from sugar bagasse – a domestic product. With Iran threatening to close the Strait of Hormuz in retaliation for the imposition of further sanctions aimed at curbing the nation's presumed nuclear ambitions, oil could be pushed up further damaging fragile economic activity. Instability across the Middle East and renew terrorist outrages in Nigeria provide abundant evidence of the vulnerability of the oil importing economies to supply interruption and price volatility. This is a powerful driver for importing nations to consider more secure alternatives which of course confirms the price linkage between the vegetable oils, including palm oil, and crude mineral oil. Javier Blas, of the Financial Times' Commodities section, noted in the paper's December 31st edition "...the world will suffer very high [oil] prices in 2012 owing to geopolitical turmoil" citing the impact of a possible oil embargo on Iran. If the link with crude oil holds – then this will provide important underpinning for palm oil when the prices of other commodities may be weighed down by fears of a slowdown in the Chinese economy.

Upside risks from political shock

For the period to 2020, the vegetable oils are expected to remain the dominant feed stock for biofuels production (see chart immediately below) and as we have shown in Figure 1, palm oil is the most productive of the oil crops on a per hectare basis [4.4 mt / ha on average while the top East Asian estates are achieving up to 7.0mt / ha] and it remains also the cheapest to produce at down to \$286 p/mt, all costs included, for the most efficient estates.

Chart 13: Projected Development of Global Biodiesel Production by Feedstocks



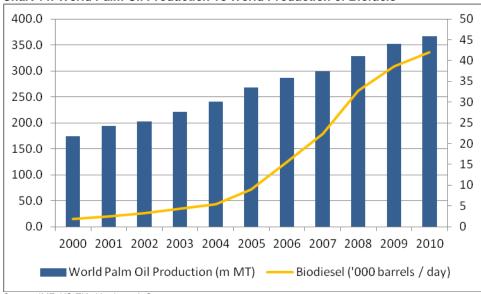
Vegetable oil remains dominant feed stock

Chart 14 portrays a close relationship between the growth in biodiesel production and increased production of palm oil with the growth curve for biodiesel production rising sharply in the pivotal 2005/6 period. The sharp uptick in the CPO price in 2006 (Chart 2) which disrupted over 25 years of trading history, was accompanied by both a steepening growth curve for Chinese GDP per capita (Chart 5) and by a steepening growth curve for global production of biodiesel as shown immediately below. The evidence suggests that as the biofuels sector has increased its draw down from the vegetable oil producers so this marginal demand has had a disproportionate impact on pricing – but the growth in Chinese and Indian consumption of palm oil as a dietary component has supported a doubling in production output over the first decade of this century.

Marginal demand from bio-fuel sector may have disproportionate impact on price of CPO

28 February 2012





Steep growth in production of biofuel

Source: IMF, US EIA, Hardman & Co

Postscript

The palm oil sector has grown rapidly from a very small base since the end of the 1970s. Then global production was little more than 2 million mt p.a. – today it is approaching 50m mt annually. US consumers, who have not provided demand for the commodity historically, are now also getting the palm habit – not least for its health advantages over animal fats. Malaysian exports of palm oil to the US increased from some 182,000 mt in 2000 to reach a whisker under 1.048m mt by 2008 – an increase of 5.8x in a mere 8 years. Redevelopment of West Africa's 8m ha of 19th and early 20th Centuries plantations, coupled with expansion in the Americas and other parts of Asia would suggest that the oil palm sector is at the dawn of a new period of expansion. These trends are attracting the interest of global food producers, commodities traders and supply management companies. Production of palm oil has become a globally important industry and globally scaled industrial companies are now beginning to move upstream to acquire the assets of that production. The historic reliability of the crop, the favourable economics of production, and its increasing importance as the world's leading vegetable oil, are attracting new investment and new investors to the crop.

Growth in US demand

A crop of global importance attracts new investors

Bunge Agribusiness Singapore Pte, a wholly owned subsidiary of Bunge Ltd announced early November 2011 that it had formed a joint venture with PT Bumiraya Investindo (BRI), the Indonesian palm plantation subsidiary of PT Tiga Pilar Sejahtera Food Tbk (TPS Food). The Bunge subsidiary proposes to acquire a 35% minority stake in BRI. This would be Bunge's first investment in the palm oil industry. Bunge Asia's CEO commented "it is a natural fit through which Bunge can leverage its core capabilities and experience in a complementary value chain that represents over 30% of global vegetable oil production". TPS Food entered the palm sector only 2 years ago — marking a tendency for commodities traders and downstream food manufacturers to move upstream into palm oil production. This will be seen as a strategic move by Bunge to gain security over supply of an increasingly important global commodity. Bunge generated revenues of \$81bn for 12 months to end June 2011.

Commodities traders go upstream

In September 2011, Archer Daniels Midland (ADM) announced that it was to invest in sustainable palm oil production in Brazil. Over a 5 year period ADM is to develop 12,000 ha in the state of Para; operations are expected to commence 2016. ADM Chairman & CEO Patricia Woertz commented "ADM's strategy for profitable palm diversifies ADM's feedstock options for biodiesel production in Brazil. ADM's sustainable palm and biodiesel production will form a component of Brazil's 'Social Fuel Stamp program' that provides incentives for biodiesel producers to purchase feedstock from small family farms. As part of this program, ADM will contract with approximately 600 family farms for

Bio-fuel demand in Brazil brings in ADM



28 February 2012

6,000 hectares of palm production and provide them with technical assistance focused on sustainable agricultural practices. ADM claims to operate the world's premier crop origination and transportation network, connecting crops and markets in more than 60 countries. Net sales for the fiscal year ended June 30, 2010, were \$62bn.



28 February 2012

Management	Major Shareholders				
For earlier Oheimone Michael Forms	BioPalm Energy	26.71%			
Executive Chairman: Michael Frayne	JP Morgan Asset Management	6.46%			
Plantations Director: Geoffrey Brown	Michael Frayne	5.28%			
Non-Executive Director: Shankar Varadharajan	Joseph Jaoudi	5.67%			
Non-Executive Director. Shankar varadharajan	Schweco Nominees	3.19%			
Non-Executive Director: Anthony Samaha					
Non-Executive Director: Joseph Jaoudi					
Key Dates	Key Milestones				
April 2012: Final Results	First Admission To AIM: February 2006				
June 2012: AGM	Re-admission To AIM & Placing: February 2010				
September 2012: Interim Results	Placing to BioPalm Energy of 33.3m shares: May 2010				
	50/50 JV with BioPalm Energy: December 2010				
	Inauguration of first mill: May 2011				
	1,100 ha of new plantings: December 2011				



28 February 2012

Disclaimer

The conclusions and opinions expressed in the investment research accurately reflect the views of the first named analyst. Hardman & Co provides professional independent research services and the companies researched pay a set fee in order for this research to be made available. While the information in the research is believed to be correct, this cannot be guaranteed. There are no other conflicts of interest.

Neither Hardman & Co nor the analysts responsible for this research own shares in the companies analysed in this research note. Neither do they hold any other securities or derivatives (including options and warrants) in the companies concerned. Hardman & Co does not transact corporate finance and therefore does not earn corporate finance fees. It does not buy or sell shares, and does not undertake investment business either in the UK or elsewhere

Hardman & Co does not make recommendations. Accordingly we do not publish records of our past recommendations. Where a Fair Value price is given in a research note this is the theoretical result of a study of a range of possible outcomes, and not a forecast of a likely share price.

Our research is issued in good faith but without legal responsibility and is subject to change or withdrawal without notice. Members of the professional investment community are encouraged to contact the analyst concerned.

This research is provided for the use of the professional investment community, market counterparties and sophisticated and high net worth investors as defined in the rules of the regulatory bodies. It is not intended to be made available to unsophisticated individuals. In the UK, any such individual who comes into possession of this research should consult their properly authorized professional adviser, or undertake one of the 'self certified' sophisticated investor tests that are available.

This research is not an offer to buy or sell any security.

Past performance is not necessarily a guide to the future and the price of shares, and the income derived from them, may fall as well as rise and the amount realised may be less than the original sum invested. For AIM and PLUS shares, it is the opinion of the regulator that risks are higher. Furthermore the marketability of these shares is often restricted.

This document must not be accessed or used in any way that would be illegal in any jurisdiction.

In some cases research is only issued electronically and in some cases printed research will be received by those on our distribution lists later than those receiving research electronically.

The report may be reproduced either whole or in part on condition that attribution is given to Hardman & Co, and on condition that Hardman & Co accepts no liability whatsoever for the actions of third parties in this respect.

Hardman & Co is not regulated by the Financial Services Authority (FSA).

© Hardman & Co.

Hardman & Co

4-5 Castle Court London EC3V 9DL United Kingdom

Tel: +44(0)20 7929 3399 Fax: +44(0)20 7929 3377

www.hardmanandco.com

