# **Due Diligence and Valuation Report**

Arrowhead Code:	102-01-01	
Coverage initiated:	03 04 2014	
This document:	03 04 2014	
Fair share value bracket	: MXP18.78 to MXP21.48 <sup>i</sup>	
Share price on date:	MXP10.90 <sup>11</sup>	
Analyst Team		
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#### **Market Data**

52-Week Range:	MXP10.85 – MXP13.00 <sup>iii</sup>
Average Daily Volume:	3,223 <sup>iv</sup>
Market Cap. on date:	MXP 2,638.0MM <sup>v</sup>

#### Estimated Blended Value per share (in MXP)

Value Bracket	DCF	Replacement Value	EV/ EBITDA	Weighted value/Share
Low	20.50	17.14	16.98	18.78
High	23.72	19.14	19.34	21.48

#### Fiscal Year (FY)

Jan 1 - Dec 31

#### Summary

Proteak Uno, S.A.B. de C.V. (Proteak) is a Mexico-based forestry company focused on plantation, processing and marketing of timber products. It is the largest timber company in Mexico, with over 17,000ha of plantations. The company operates in Teak and MDF segments.

The teak segment is a revenue generating unit, and revenues from teak round-wood sales doubled to MXP 115.7MM in FY13. The segment has a vertically-integrated structure, wherein the entire process from the plantation of seeds to distribution of products is carried out by the company itself without third party intermediaries.

Proteak has over 8,000ha of teak plantations in Mexico, Costa Rica and Colombia. The harvest from the plantations is sold as teak round-wood, primarily to south-east Asian markets. The company's clientele is concentrated in India and China; however it is diversifying into newer markets such as Vietnam.

The company has significantly invested in land preparation and clone development techniques which has resulted in high productivity from its plantations (IMA of 7-18m<sup>3</sup>/ha), thus reducing the rotation cycle. It plans to plant 1,200 ha





Company:	Proteak Uno SAB de CV
Ticker:	BMV:TEAKCPO
Headquarters:	Mexico City, Mexico
Chairman:	Hector Bonilla
Website:	http://www.proteak.com

annually with 800-1,200 trees per ha, and aims to cover 100% of its acreage through clones.

In 2013, Proteak ventured into the production of MDF boards for domestic market to diversify its operations. Currently, a bulk share of the MDF demand in Mexico is met through imports, which presents a potential opportunity for domestic production. In 3Q13, it acquired FOMEX- with over 8,000ha of FSC certified eucalyptus plantations mostly in Tabasco, Mexico. It has also entered into turnkev contract а with Dieffenbacher for construction of a 200k m<sup>3</sup> MDF plant, and plans to start operations from 2H15. Like the Teak segment, the MDF business will have a vertically integrated structure which is expected to result in significant cost advantages.

The total capex for the MDF project is estimated to be USD175MM. To fund its capex plans, the company raised MXP USD 75MM in 3Q13 through share issue, and has also signed an agreement to secure USD91.2MM debt financing in 1Q14.

Proteak's teak segment operates in a low-volatile, high-potential market, which guarantees capital preservation. We believe that the MDF production will complement its teak business, given the differentiated business model and target markets. We also believe that Proteak's MDF unit will be able to gain a good market share due to competitive cost advantages compared to imports. Proteak has ensured supply of certified wood from its own plantations located close to the MDF plant, as well as energy from its own cogeneration plant, thus lowering production, logistics and distribution costs. Further, the company can also generate additional income from the sale of carbon credits.

Given due diligence and valuation estimations based on a blend of Discounted Cash Flows, Replacement Value and EV/EBITDA multiple, we believe that Proteak's fair share value lies between MXP 18.78 and MXP 21.48.

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# **Company Presentation**

Proteak Uno, S.A.B. de C.V. (Proteak) is a Mexico-based forestry company focused on the plantation of trees, and processing and marketing of timber products. With over 16,000ha of plantations, Proteak is the largest timber company in Mexico, and currently exports its products to over 15 countries across Asia, America, and Europe. The company operates in two business segments – Teak and MDF.

Proteak's teak segment derives revenue from sale of teak round-wood obtained from harvest. The company holds over 8,000 has of teak plantations in Mexico, Costa Rica and Colombia. During 2013, sales from teak round-wood doubled to MXP 115.7MM, driven by exports to south-east Asian markets.

The company also plans to manufacture MDF boards to diversify its operations. In August 2013, it acquired Forestaciones Operativas de México, S.A. de C.V. (FOMEX) from KUO Group for a consideration of USD 30.6MM. FOMEX's key assets include over 8,000ha of FSC-certified eucalyptus plantations in Mexico to supply raw material to the MDF plant. The company plans to install the MDF plant in 2014, and expects to commence production by 3Q15.

The MDF project will be financed through a combination of debt and equity. In July 2013, Proteak raised MXP 971.2MM (USD 75MM) through the issue of 80.93MM Ordinary Participation Certificates (CPO). In January 2014, it also secured a US\$91.2MM (EUR 66.8MM) loan from Ausfuhrkredit-Gesellschaft bank.

During 2013, the company's assets have increased 77%yoy to MXP 2,426MM, driven by the acquisition of FOMEX. (2012: MXP1, 374MM).

#### **Portfolio and Premiums**

*Opportunity to gain share into import-dominated MDF market through competitive costs:* Though the local MDF production in Mexico has increased over the years, it is insufficient to meet the domestic demand. As a result, a bulk of MDF consumed (~88%) is met through imports. The significant demand supply gap presents a potential opportunity for domestic production, which is further boosted by the cost benefits. We believe that Proteak can effectively leverage on this, and will be able to sell MDF at competitive pricing compared to imports, due to lower production, logistics and distribution costs. This will enable the company to rapidly increase its market share, as the MDF plant becomes operational.

*MDF* production will complement Teak sales through diversification and reduced risk profile: We believe that production of MDF will complement the teak round-wood business, given the mutually exclusive business model and target markets. As a significant share of the teak round-wood sales are derived from exports, sales from MDF boards will strengthen its position in the domestic market – providing a cushion against volatility in external economic conditions and exchange rates. MDF segment is also expected to provide a higher degree of certainty to the company's income in the medium term due to relatively shorter cycles (Eucalyptus plantations have relatively shorter rotation cycles of 5-7 years, compared to teak which has rotation cycles of 20-40 years).

*Vertically integrated business model ensures availability of raw materials and cost-optimization:* Proteak operates a vertically integrated business model, which enables it to improve and integrate processes across the value chain, resulting in cost optimization and increase in margins. In the teak segment, the plants are produced at its own nurseries, the company carries out the maintenance and harvesting, and the round-wood is distributed and marketed without reliance on intermediaries. It also ensures the continuous supply of raw materials, as the company has flexibility to decide the harvest time from its plantations as per business needs. The MDF business will also have a vertically integrated structure through supply of raw materials from eucalyptus plantations, a facility for resin production, and a cogeneration plant to ensure electricity and heat supply.

High plantation yield due to cloning and land preparation reducing rotation cycle: Proteak has extensive experience in land preparation techniques, and has the ability to plant in acidic soils. It also operates two nurseries for clone development and research to ensure growth in the fields, leading to high yields from its plantations (Mean annual increment of up to  $18m^3/ha$ ). The company plans to plant 100% of its acreage through genetically superior clones (45% of the area planted by Proteak up to 2013), to further increase the yield and reduce the rotation cycle by 3 years.



*FSC certification ensures credibility of products amidst increasing regulations:* Proteak's teak plantations are certified by Forest Stewardship Council (FSC) for Forest Management and Chain of Custody, verifying that the company has sustainable operations as per FSC guidelines, and ensuring traceability to its source. As almost all major teak markets have banned the export of natural teak, the FSC certification becomes more relevant, as this ensures that the company's products are obtained from responsibly and sustainably managed forests. Further, FOMEX, acquired by Proteak in 3Q13, is also certified by FSC. In addition to FSC certification, Proteak's operations comply with the International Finance Corporation's applicable operating standards.

Potential revenue stream from sale of carbon credits: Sale of Certified Emission Reductions (CER), also known as carbon credits, can be a lucrative additional income source for Proteak. A product of Kyoto Protocol (2005), carbon credits aim at controlling greenhouse gas emissions. The company has developed a Process Design Document along with  $CO_2$  Solutions, and approval for carbon credit transaction in the near term. The company estimates that plantations from its teak projects alone can capture 315.7kT of  $CO_2$  equivalent by 2017 (2012: 95.3kT of  $CO_2$  equivalent). Based on the project characteristics and risk profile, the prices range between US\$3-9 per carbon credit (equivalent to  $1T CO_2$  mitigated).

#### Portfolio and Risks

*Illiquidity of assets:* Plantation industry has a long-term horizon with rotation cycles of over 20 years, and does not generate any substantial cash flow till maturity. This exposes the company to liquidity risk, which is partially mitigated by the company's maturity profile (Teak: >15%, Eucalyptus: >90%).

*Fluctuations in exchange rate can materially impact revenue:* Currently, a substantial portion of the company's revenue is generated through sales from India and China – the world's largest teak markets. The concentration of revenue in a few countries exposes the company to fluctuations in exchange rate, and can have a material impact on the company's revenue.

*Increasing regulations:* The regulations in the forest sector are increasing due to increasing focus on the protection of natural forests. However, the company's FSC certification ensures that the company's wood is obtained from legal and sustainable plantations, thus mitigating risk.

Dependency on Indian markets: India is the largest market for teak from plantations, and hence teak prices are susceptible to the demand and market situation in India – and a slowdown in the Indian economy and demand can result in downside risk to teak prices. To mitigate the risk, the company is increasing its presence in markets such as China, and is exploring new markets such as Vietnam – these have helped the company to reduce India's share of the teak market to 26% in 4Q13 (2Q13: 65%).

For a detailed risk assessment, please refer to the <u>*Risk profile analysis*</u> section.

### **Corporate Strategy**

*Diversification into MDF boards production:* Along with its current business of teak round-wood sales, Proteak plans to venture into MDF boards production as part of its new strategy. It has acquired FOMEX in 3Q13 to supply of eucalyptus wood for the MDF Plant. The construction for the MDF plant is expected to be completed in 2014, and the company expects the production to commence in 3Q15. The MDF and Teak segment will have different target markets – while the teak segment is concentrated in Asian markets, the company will produce MDF for the domestic market. This will also reduce the concentration risk for the company, while simultaneously diversifying its income source.

*Strengthening presence in new markets:* Till 1H13, exports to India accounted for more than half of the total round-wood sales, which exposes the company to volatility in Indian market and exchange rate fluctuations. To reduce the risk, the company is leveraging its extensive distribution network to increase its presence in China, Vietnam and domestic markets, while simultaneously exploring for new markets.

*Divestment of non-strategic assets:* Proteak is divesting its non-strategic assets in Costa Rica (primarily Acacia plantations) to focus on its Teak and MDF business. During 3Q13, the company sold 10 properties for MXP 27MM, and plans to sell the remaining assets worth MXP 119MM. In 4Q13, the company also transferred the operations of its manufacturing plant in Lerma, to focus on its core business.

## News

- Proteak signs US\$91.2MM loan agreement: On January 21, 2014, the company signed a US\$91.2MM (EUR 66.8MM) loan agreement with Ausfuhrkredit-Gesellschaft bank. The credit will be disbursed in US dollars, with a 50% risk-participation of Commerzbank Aktiengesellschaft and the guarantee of the German Federal Government through Euler Hermes. The proceeds will be used to purchase machinery for Proteak's MDF plant in Tobasco, Mexico.
- Proteak renews FSC certification: On January 10, 2014, the company reported renewal of Forest Stewardship Council (FSC) certification for Forest Management and Chain of Custody on company's teak plantations in Mexico and Costa Rica. The certification signifies that the company has implemented the practices and procedures as per the Principles and Criteria of FSC forest in all its activities and integrated social and environmental considerations to achieve a sustainable operation within the forestry sector.
- Proteak begins construction of MDF plant with Dieffenbacher: On November 14, 2013, the company reported it has entered into a turnkey contract with Dieffenbacher for a MDF plant to process wood from its eucalyptus plantations. The MDF plant will have a capacity of 600 m<sup>3</sup> per day and will be constructed near Huimanguillo in Tobasco, Mexico. The plant is expected to be operational in 2015. Post the delivery of the plant, the company and Dieffenbacher will operate together for the first 18 months to ensure efficiency and productivity. The plant will be partly financed by Commerzbank.
- Appointment of senior management personnel: On September 27, 2013, the company announced additions to its management team as it enters into the MDF market with a new production facility. Nacif Omar was appointed as Vice-president, Panel Division, and will be responsible for the industrial process and marketing of the division. Ingrid Cerwinka was appointed as Executive Director, Planning and Institutional Relations. Enrique Espinosa, currently the Operations Director, will assume the additional role as Deputy General Manager in charge of Teak Operations.
- FOMEX acquisition completed: On September 5, 2013, the company reported that the acquisition of Forestaciones Operativas de México (FOMEX) was completed through its affiliate Pro-Eucalyptus Holding. The acquisition was for a consideration of US\$30.6MM. The transaction was funded partly through the share placement, the proceeds of which will also be used to establish a MDF plant in Tabasco with an annual capacity of 200,000m<sup>3</sup>.
- Consolidation of forestry projects: On July 20, 2013, the company announced it is taking steps to consolidate its forestry projects which include an MDF production plant in Tobasco. It reached a definitive agreement to purchase the shares of Forestaciones Operativas de México (FOMEX) from Grupo KUO. The company and Grupo Kuo expect to complete the transaction by August 30, 2013.
- Proteak announces capital increase: On July 12, 2013, the company announced increasing its capital by issuing 80,933,750 Ordinary Participation Certificates (CPOs) at 12.00 pesos per CPO. The shares issued will be offered to the shareholders for subscription and payment at the rate of 1 new CPO for 2 existing titles.
- Proteak reaches preliminary agreement to purchase eucalyptus plantations: On April 12, 2013, the company announced reaching an agreement with Grupo Kuo. The agreement was reached on terms and conditions regarding carrying out the sale of shares of Grupo Kuo's subsidiary FOMEX. The companies expect to sign definitive agreements soon and close the transaction within next nine days.



# **Listing Information**

Proteak Uno, S.A.B. de C.V is listed on the Mexican Stock Exchange (Bolsa Mexicana de Valores, BMV) since 2010 (Ticker: TEAKCPO)

## Contacts

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## **Management and Governance**

Proteak's management personnel have wide experience across different verticals of forestry business, thus providing strong project execution.

Personnel	Designation	Current and total experience
Hector Bonilla	Founder and Chairman	Hector Bonilla founded Proteak in 2001, and is the Chairman of the Board of Directors. Prior to Proteak, he founded Capital Consulting wherein he was a consultant for various companies across the food, retail, construction, and energy sectors. He is also the founder and Chairman of the Board of Mercury Data, which offers file storage and digitization of physical and electronically. He worked for 5 years with the Boston Consulting Group. He holds an MBA from Stanford University.
Gaston Mauvezin	Director-General	Gaston Mauvezin is the Director General of Proteak since its share placement in 2010. Prior to joining Proteak, he was Chief Financial Officer of Atlas, a housing developer, wherein he was responsible for institutionalization of the company. He also served in Allied Domecq, and Booz Allen. He holds a degree in industrial engineering from University of Buenos Aires, and MBA from Harvard University.
Enrique Espinosa	Vice President, Teak Operations Chief Operations Officer	Enrique Espinosa joined Proteak in 2012. He is responsible across processes such as harvesting, processing, logistics, distribution and marketing. Prior to Proteak, he was the Director General of Grupo Mexicano Lignum, a manufacturer of wooden furniture. He also served as Director of Grupo Elektra Furniture as head of its business unit in Mexico and Latin America. He holds a degree in law from the Panamerican University in Mexico City.
Omar Nacif	Vice President, Boards	Omar Nacif joined Proteak in 2013. Prior to joining Proteak, he spent 10 years in the fitness industry, including 6 years as CEO of Sports World, achieving over 300% growth, reaching 1,000 employees and raising capital through a private equity firm. Previously, he served as Director of e-commerce for Grupo Elektra and Financial Advisor for BBVA. He holds an Economics degree from UNAM.
Ingrid Cerwinka	Executive Director, Strategic Planning and Institutional Relations	Ingrid Cerwinka joined Proteak in 2013. She has extensive experience in the banking sector. Prior to joining Proteak, she held several management positions, including Deputy General Director of Financiera Rural wherein she oversaw all credit operations. Ingrid holds an MA in International Relations from Yale University.
Jurgen Stock	Executive Director, Forestry	Jurgen Stock joined Proteak as Research Manager in December 2007, and is currently the Director of Forestry. Prior to joining Proteak, he was Research Manager, Forestry Division of Smurfit Carton de Venezuela. He has worked on developing successful clonal propagation programs for forest species which increased the company's productivity by 40%. He has extensive experience in plantation management. He holds a degree in forest engineering and Master of Science from the University of the Andes in Merida, Venezuela.
Adolfo Fuentes Franco	Executive Director, Administration and Finance	Adolfo Fuentes Franco joined Proteak in 2012. He has extensive experience in finance companies, audit firms, agribusiness and retail. He is a CPA degree holder from the Ibero-American University, and MBA from IPADE.
Diego Alcázar	Director, Business Development	Diego Alcázar joined Proteak in 2009. He is responsible for developing the trading and commercial projects and consolidating strategic operations. Before joining Proteak, he worked in New Ventures Mexico where he was responsible for identifying sustainable companies with high potential. He holds a degree in Natural Resource Management and Development from the Ibero-American University and the University of Chicago.



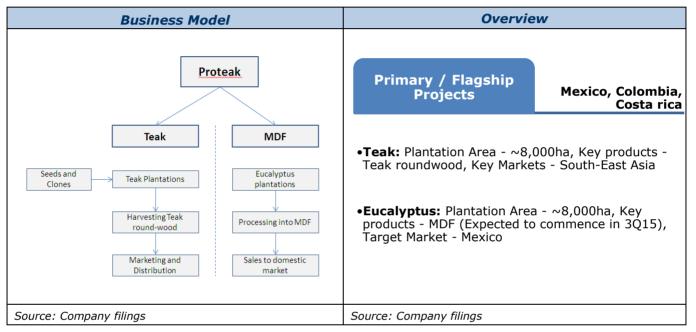
## **Business Segments and Assets**

### **Overview**

Proteak operates in two business segments – Teak and MDF. The company's teak segment has over 8,000 has of plantations in Mexico, Costa Rica and Colombia, and exports its products to over 15 countries in Asia, America and Europe.

In 3Q13, Proteak acquired over 8,000ha eucalyptus plantations to diversify its operations into the production of MDF boards. It expects to commence MDF production in 2H15, and aims to achieve 20% market share.

#### **Company's Segments**



### Teak

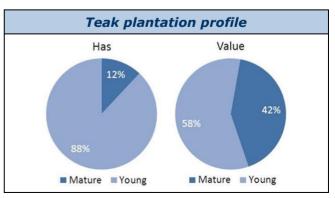
**Summary:** Proteak's teak business is involved in plantation and sales of teak round-wood. It is divided into two segments – Forestry and Trading. The forestry segment operates teak plantations in Mexico, Costa Rica and Colombia. The trading segment is involved in marketing and distribution of teak round-wood to over 15 countries, (mainly south-east Asian countries).

During 2013, the company's revenue from teak sales doubled to MXP 115.7MM, despite economic slowdown in one of its key markets – India. The increase in sales is driven by increase in teak round-wood volume and the company's strategy to increase its presence in newer markets.

The teak business has a vertically integrated structure. Seeds and clones for the plantations

are supplied through its clonal gardens. Marketing and sales is carried through its own sales network and is not dependent on intermediaries.

**Asset Profile:** As of 4Q13, the company has  $\sim$ 8,000 ha of teak plantations in Mexico, Costa Rica and Colombia, with an estimated value of MXP 908MM.





### Forestry

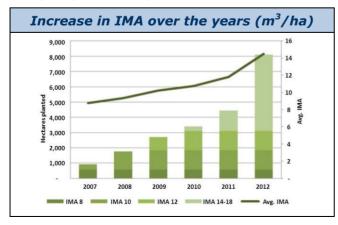
**Summary:** The segment involves management and development of teak plantations across all stages from site selection to harvesting. The company's plantations are spread over 8,000 ha, and are located primarily in Mexico. It plans to increase its plantation profile 1,200 ha annually, with average density of 800-1,200 trees per ha.

Over the years, Proteak has gained experience in land selection, acquisition and preparation. To improve the yield from plantations and reduce rotation cycle, the company aims to plant 100% of its acreage (currently 50%) through clones.

**Supply of Raw Materials:** The key raw materials for the forestry segment are seed and clones for plantation. Currently, the company uses a mix of seeds and clones for plantation; though it is increasing the share of clones for plantation, which are genetically superior.

- 1. Seeds: The company has its seed orchard which has reduced its dependency on external suppliers. During 2012, the company sourced its seeds from Costa Rica based Seeds and Enhanced SA Forests of Guanacaste.
- 2. Clonal Garden: The company developed a clonal garden in 2011 through the acquisition of *Ecodirecta* and purchase from Brazil-based *Forest LTDA PROTECA*. This enables it to develop superior genetic material while simultaneously ensuring the supply of seeds.

**Recent Developments:** The company plans to increase its plantation acreage by 1,200 ha annually in Mexico. It has also developed the ability to plant in acidic soils, thus increasing the acreage of land available for plantations. Over the years, it is increasing the share of clones for plantation (2012: 50%, Target: 100%), resulting in higher yields from plantation.



**Plantation phases:** The forestry business segment involves the following phases:

**Site Selection:** In this phase, the company evaluates potential areas through a multi-factor analysis of key variables, and then analyzes the soil quality and expected return to identify, and acquire the suitable land for development.

Historically, the company's was able to acquire land below its budget price, demonstrating its experience and capability in site selection.

**Land preparation and planting:** This phase involves soil preparation through intensive mechanization to maximize effective plantation area and optimize conditions for surface planting and uniform growth.

To ensure growth in the fields, Proteak operates two advanced nurseries with a combined 4m+ plants capacity, responsible for clone development and plant care. The seedlings are then transferred to the field for plantation.

*Combined with appropriate preparation techniques, the selected gene can generate Mean Annual Increment (IMA) of up to 18m<sup>3</sup>/ha/year.* 

**Maintenance and Control:** In the early years of plantation, this phase involves cleaning the plantation area and controlling the weeds and pest level to ensure optimal growth. In the later years, maintenance involves pruning to ensure high quality and form logs.

**Thinning:** This process is carried out to maintain the required separation between trees through reduction in the tree density.

The company carries out 3 to 5 thinnings between years 5 and 20 in a 25 year cycle, where it removes between 5% and 30% of the trees, depending on the specific plantation characteristics. Post the thinning, on average 16% of the initial plantation remains available for final harvest.

**Harvesting and Shipping:** After cutting, the trees with highest growth potential are allowed to mature for harvest. Proteak has the flexibility to time the harvests based on growth projections, market prices and business cycles.

Proteak has established reliable logistics operations in all three countries in which it operates. Additionally, it has developed specific tools for maximizing logging value and a unique identification system to trace its logs from field to end-customer.

Mature teakwood fetches premium due to increased diameter and heartwood content, and contributes ~70% of the plantation revenue.

#### Trading

**Summary:** This primary activity of this segment involves marketing and distribution of teak round-wood from the harvests to over 15 countries.

Until 1H13, the company's sales were primarily generated in India; however it is actively seeking to increase its presence in other markets such as China, and to diversify into newer markets in south-east Asian countries such as Vietnam.

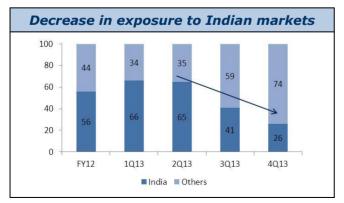
#### Products: Teak Round-wood

**Supply of Raw Materials:** Mature teak wood is the primary raw material for the segment, which is provided by harvesting the plantations. To ensure the supply of timber, the company makes an annual sales plan which drives the logging plan.

**Distribution channel:** Proteak has developed a network of customers and distributors in Mexico and other countries to market its products.

During 4Q13, the company exported teak roundwood at an average rate of 16 containers per week. The company is currently focusing on selling the teak wood to end-customers, thus resulting in reduced cost and reducing dependency on intermediaries.

**Key clients:** The company's clientele is concentrated in Asia, and over 50% of the business was generated from India during FY12 and 1H13. However, the company is steadily reducing its concentration to India through diversifying its customer base into China and Vietnam. As a result the exposure to Indian markets declined from 65% in June 2013 to 26% in December 2013.



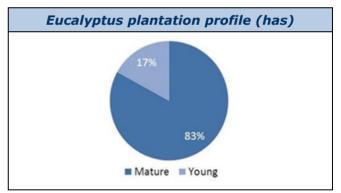
### MDF

**Asset Summary:** Proteak plans to venture into the production of MDF boards for domestic market due to the demand-supply gap and huge market potential. It has acquired Forestaciones Operativas de México, S.A. de C.V. (FOMEX) in 3Q13, which has over 8,000 hectares of eucalyptus plantations.

The company has commenced the construction of an MDF plant with an annual processing capacity of 200,000 m<sup>3</sup>. It plans to commence the operations MDF plant in 2H15. The company aims to achieve 20% market share.

Like the Teak segment, the MDF business will have a vertically integrated structure through supply of raw materials from plantations, a production facility for resin, and a cogeneration plant to ensure supply electricity and heat.

**Asset Profile:** In 3Q13, the company completed the acquisition of FOMEX for a consideration of USD 30.6MM. The key assets acquired include ~8,000 hectares of eucalyptus plantations in Mexican states of Tabasco, Veracruz and Oaxaca. Its other assets include a nursery garden, offices and other forestry assets.

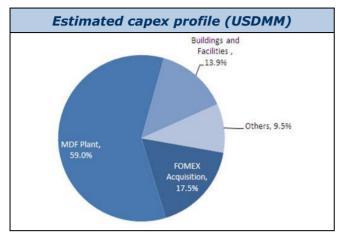


**Supply of Raw Materials:** The raw material for MDF will come from the eucalyptus plantations, acquired by Proteak in 3Q13.

Eucalyptus is a moderately coarse textured hardwood known for its strength, hardness and durability. Eucalyptus is a suitable raw material to manufacture MDF due to its high cellulose content (up to 48%), and relatively shorter rotation cycle of 4 to 7 years.

**Capital Expenditure:** The total capex for the project is estimated to be USD175MM. The project will be financed through a combination of equity (51%) and debt (49%). The company has

completed the purchase of FOMEX for USD 30.6MM in 3Q13.



**MDF Plant:** In November 2013, the company began pre-construction of a MDF plant with a capacity of 600 m<sup>3</sup> per day (200,000m<sup>3</sup> annually). The plant will be based out of Tabasco, Mexico, and will be built by Dieffenbacher through a turnkey contract. The plant is scheduled to commence on 2H15. Dieffenbacher will also

operate the plant along with Proteak during the first 18 months of operation.

The project will also comprise the following:

- Cogeneration plant to supply heat and energy to the MDF plant – the 25MW plant will use a 12MW gas turbine, supplemented by waste from woods.
- Resin production facility and utilization of an EVOjet M system, which will process 25T fiber per hour.
- 3. Supply chain operations.

**Project Schedule:** The company aims to commence MDF production in 3Q15, and plans to achieve 100% capacity by 2016.

Project Schedule		
Acquisition of plantations	3Q13 (Completed)	
MDF and Cogeneration Plant installation	2014	
Testing	1H 2015	
Production commencement	2H 2015	



# **Products and Markets**

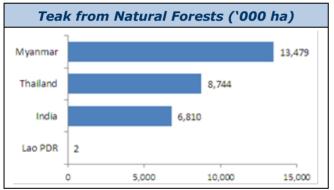
### Teak<sup>vi</sup>

Teak is one of the most valuable industrial roundwoods due to its durability, visual appeal, and water and dust resistance. Teak is used in luxury markets and heavy-duty applications such as ship and yacht building, high-end furniture, and construction of wagons and railroad ties.

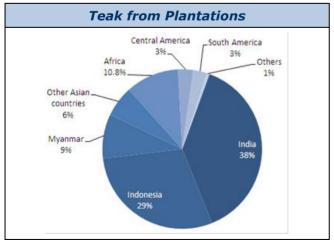
#### **Sources and Production**

Teak is primarily concentrated in tropical regions, particularly Asia, which has 95% of the world's natural and planted teak resources and 83% of the planted resources.

*Natural Forests:* FAO estimates 29.035MM ha of natural forests in India, Lao PDR, Myanmar and Thailand – the only countries with natural teak forests. However, these countries have banned the export of natural teak logs.

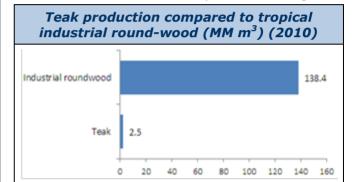


*Teak from Plantations:* FAO estimates 4.346MM ha of teak plantations, of which more than 75% is located in India, Indonesia and Myanmar.



As per studies by FAO and ITTO, teak forests cover  $\sim 0.6\%$  of the total natural forest area, while teak plantations represent  $\sim 6.4\%$  of the total tropical commercial plantation.

**Production:** As per estimates from FAO, global teak production was 2-2.5MM m<sup>3</sup> in 2010, of which 1.5-2MM m<sup>3</sup> was harvested from plantations. Global teak production represents  $\sim 2\%$  of the tropical industrial round-wood production in terms of volume; however the share of teak in terms of value is expected to be higher.



**Demand:** Teak demand is driven by imports from Asian countries, particularly India, which is the largest importer of teak, and China. A significant demand for teak also exists in Europe and USA.

Due to increased deforestation in the past decade and efforts to preserve natural forests, the teak supply from natural forests have become negligible. As a result, teak demand is met by supply from plantations from Africa and Latin America, despite relatively lower quality. Teak is imported from these countries as round-wood, and then processed in the local markets.

In the long-term, teak demand is expected to increase as it substitutes other industrial round-woods less apt for plantation.

#### **Teak: Prices and drivers**

Teak prices are driven by the quality of wood and supply in the market. Teak from the plantations is of relatively lower quality due to low heartwood content, difference in texture and shorter plantation cycles of 20-25 years (compared to natural teak with cycles of more than 40 years).

Teak from natural forests fetches a significant premium in the market, which is further enhanced due to its limited availability. ARROWHEAD

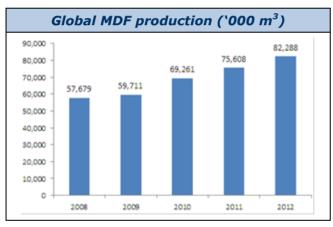
Prices for natural teak averages around US\$700/m<sup>3</sup>; and higher quality wood may fetch up to USD 2,000-3,000/m<sup>3</sup> in the market. Teak prices from plantations are relatively lower, between US\$200-800/m<sup>3</sup>.

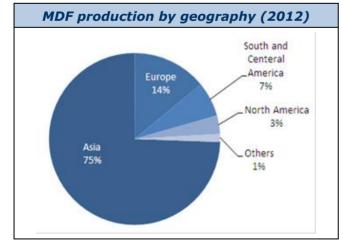
### MDF

*MDF* (Medium Density Fiberboard) consists of cellulosic wood fibers glued under heat and pressure. It has density between 33-50lb/ft<sup>3</sup>. The surface of MDF is flat, smooth, uniform, dense and knot-free. MDF is primarily manufactured from Eucalyptus and Pine wood.

#### Sources and Production<sup>vii</sup>

MDF production is concentrated primarily in Asia, which contributes 75% to the global production. MDF production has increased at a CAGR of 9.3% from 2008-12 to reach 82.3MM m<sup>3</sup> at 2012. Of this, production from China was 50.2MM m<sup>3</sup> accounting for ~60% of global production.





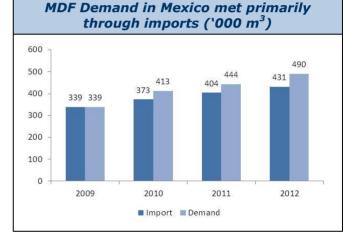
As per a report by BIS Sharpnel, the global MDF production is expected to increase to 99.1MM  $m^3$ 

by 2017. China is expected to account for more than 50% market share by 2017.

#### **MDF Market in Mexico**

**Demand and Supply**<sup>viii</sup>: MDF accounts for ~25% share in the Mexican wood panels market. MDF consumption in Mexico has increased at a CAGR of 13% from 2009-12 to reach 490,000m<sup>3</sup> in 2012.

The bulk of MDF demand in Mexico is met through imports which represents more than 85% of the total consumption in 2012. MDF is primarily imported from Chile and USA, which together account for ~80% of total imports.



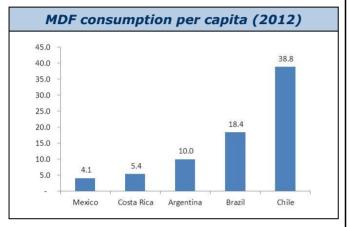


**Opportunity for domestic production:** Due to the existing demand supply gap and reliance on imports, there exists a potential opportunity for domestic production. Though local production has increased over the years, it is insufficient to meet the increasing MDF demand. This has prompted several players to install MDF plants. Proteak, which owns FSC certified teak plantations in



Mexico and is one of the major Teakwood exporters, is now diversifying into MDF production. During 2013, Masisa, one of the key exporters of MDF to Mexico, also announced an investment of US\$132MM to install a 200k m<sup>3</sup> MDF plant.

**Per capita MDF consumption:** Compared to other Latin American countries, Mexico has one of the lowest MDF consumption per capita.



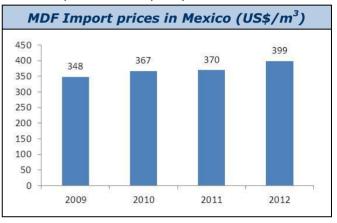
We believe that the MDF consumption in the medium term will increase, driven by growth in the Mexican economy and the rise in disposable

income, which will result in increased demand from furniture and housing.

#### **Prices and drivers**

MDF prices in Mexico are driven by import prices, which constitute a significant share of supply. Since 2009, the average MDF import prices have increased at a CAGR of 4.7% to reach US\$399/m<sup>3</sup> in 2012.

We believe that MDF price will rationalize in the near-to medium term due to expected increase in domestic production capacity.



# **Project Risk Profile Analysis**

We believe that Proteak has a LOW risk profile. Our analysis is driven by the company's established business, low financing risk, experience in plantation business, and a strong and experienced management team.

### **Teak and MDF project**

#### Project Stage Risk – LOW

- The company's has ~8,000 has of teak plantations and ~8,000ha eucalyptus plantations. Over 15% for teak plantations and over 90% of the company's eucalyptus plantations are mature plantations
- Teak is a revenue-generating segment, with established distribution network and clients.
- The MDF plant is being constructed by Dieffenbacher – an industry leader in the field
   providing certainty on the efficiency and timelines. Though some risk still remains till the MDF project becomes operational.
- Considering the maturity of plantations and the revenue generating teak segment, we believe the company to have LOW project stage risk.

#### Financing/Capex Risk – LOW

- Apart from its established teak business, the company ventured into MDF production, and is scheduled to be operational from 2015.
- The company has already secured the requisite financing for the MDF project through USD 75MM capital raise in 3Q13, and has signed an agreement for USD91.2MM debt financing in 1Q14.
- Further, the capex volatility risk for MDF plant is mitigated by the *turnkey* agreement with Dieffenbacher.

 Based on the above factors, we consider the company to have a LOW financing risk profile

#### **Operational Risk – LOW TO MEDIUM**

- The firm has extensive experience in land acquisition, preparation and maintenance, which has resulted in higher yields from its plantations. The company has also developed the ability to plant in acidic soils.
- The teak business has a relatively long-term horizon, with cycles of over 20 years, and does not generate any substantial cash flow till the plantations become mature.
- To remove uncertainty due to relatively long business cycle, the company has ventured into MDF production from eucalyptus plantations, which have relatively short maturity period.
- The company's teak sales are exposed to exchange rate risk, due to its export-oriented business. To mitigate this, the company is diversifying its customer base into newer markets.
- The company's biological assets are not insured, and are prone to natural hazards.
- We consider the company to have a LOW to MEDIUM operational risk. We believe the operational risk will reduce as the MDF plant becomes operational.

#### Key Personnel Risk – LOW

- The company has a strong management team to support the execution of its Teak and MDF projects.
- Proteak has 8 independent directors in its 9member Board of Directors, thus strengthening its corporate governance. We believe Proteak has a LOW key personnel risk.

# **Risk Parameters – Definition**

### **Project Stage Risk**

The different stages in a plantation project are:

- Stage 1: Feasibility analysis. The company conducts a feasibility study to identify the type of wood suitable for plantation, and cost benefit analysis to project the Internal Rate of Return (IRR). This stage also involves creation of the detailed business plan for the company's assets and projects.
- Stage 2: Land acquisition, preparation and building scale of operations. Once the company determines the feasibility and economics of the project, it acquires land for plantation as per the business plan, and establishes the processes and procedures for preparation, plantation, land and maintenance. This stage also involves planting the trees, and performing regular maintenance and thinning till trees attain the required heartwood content and diameter.
- Stage 3: Harvesting and Marketing. The trees are harvested as they attain maturity as per the rotation cycle. The trees harvested are sold as roundwood directly, or are processed into higher-margin, value-added products.

We consider a project to have a lower risk profile if the trees from the plantations have reached maturity and are ready to be harvested; as this reduces the uncertainty regarding the sustainability of the project.

#### **Project Financing Risk**

Every project requires a huge capital investment during its initial stages. Usually, the plantation projects have very long maturity cycles, and it may take upto 25-30 years after the feasibility study for the project to generate cash, depending on the business cycle and operational parameters. During this period, the company's invested capital is locked and does not generate any cash flow.

If the company already has other projects which are generating good cash flows, then it has an option to utilize those funds towards other projects and rely less on extremal sources of funds to meet its working capital requirements.

We consider a project to be of lower risk profile if the company has secured the funds for its projects, or has existing projects generating cash flows which it can use to fund the new projects.

#### **Operational Risk**

The most important assets of the plantation firms are its biological assets, which are exposed to various risks. While some of the risks caused by natural hazards such as floods, fire and unfavorable weather conditions are difficult to predict and control, other risk factors such as pest infection, illegal harvesting can be mitigated through proper checks and maintenance.

We consider a project to be of lower risk profile if the company has established proper checks, control, technology and procedures to increase the yield from plantations, and mitigate the other risks described above.

#### **Key Personnel Risk**

The company is run by a management who brings prior experience and knowledge to the table. Also, it is important that a company does not depend heavily on very few individuals who have vast experience in the field.

We consider a project to be of lower risk profile if the management team is highly qualified, has good number of years of experience in plantation and forestry field and has lower key employee dependence.



# Value

The Fair Market Value for Proteak's shares stands between MXP 4,544.9MM and MXP 5,198.1MM.

The Fair Market Value for one of Proteak's Certificados de Participación Ordinaria, CPO's (publicly traded shares) stands between MXP 18.78 and MXP 21.48.

## Proteak Uno, S.A.B. de C.V. – Balance Sheet Forecast

CONSOLIDATED	
BALANCE SHEET	

all figures in MXP '000, unless stated differently

Low bracket estimates

year ending December 31	2014E	2015E	2016E	2017E	2018E	2019E	2020E
Total Current Assets	534,457	721,432	817,570	1,151,838	1,559,960	2,093,400	2,580,622
Total Non-Current Assets	2,703,334	2,971,703	2,894,757	2,773,949	2,658,806	2,550,889	2,459,709
TOTAL ASSETS	3,237,791	3,693,135	3,712,327	3,925,787	4,218,765	4,644,290	5,040,331
Total Current Liabilities	119,865	268,665	149,423	159,911	171,154	172,650	181,162
Total Non-current Liabilities	1,243,333	1,428,406	1,312,850	1,177,905	1,031,076	877,777	737,898
TOTAL LIABILITIES	1,363,198	1,697,071	1,462,273	1,337,816	1,202,230	1,050,427	919,060
Total Shareholders Equity	1,874,592	1,996,063	2,250,052	2,587,970	3,016,535	3,593,862	4,121,270
TOTAL LIABILITIES and EQUITY	3,237,790	3,693,134	3,712,326	3,925,786	4,218,764	4,644,289	5,040,330

## Proteak Comparables

The comparable multiple valuations use peers' operational performance, market information and assets to arrive at the fair share valuation for Proteak. The peers have been identified on the basis of similar industry and region.

The valuation is done by obtaining an estimate of the implied multiple by analyzing the market value of the company in relation to its operational performance and assets. The multiple is then applied to the underlying variable to estimate the implied market value of the company.

Ticker	Company	Enterprise Value <sup>ix</sup> (MXP MM)	Market Cap. (MXP MM)	Revenue <sup>x</sup> (MXP MM)
DTEX3:BZ	Duratex SA	107,048.0	87,855.2	51,119.7
CMPC:CI	Empresas CMPC SA	109,762.0	71,759.2	65,656.8
EUCA4:BZ	Eucatex SA Industria e Comercio	7,204.6	6,601.3	18,151.3
MASISA:CI	Masisa SA	13,817.8	5,140.1	19,892.4
WY:US	Weyerhaeuser Co	293,479.6	232,429.6	112,582.8
DEL:US	Deltic Timber Corporation	12,254.9	11,093.3	2,636.1

## Important information on Arrowhead methodology

The principles of the valuation methodology employed by Arrowhead BID are variable to a certain extent, depending on the sub-sectors in which the research is conducted. But all Arrowhead valuation researches possess an underlying set of common principles and a generally common quantitative process.

With Arrowhead commercial and technical due diligence, the company researches the fundamentals, assets and liabilities of a company, and builds estimates for revenue and expenditure over a coherently determined forecast period.

Elements of past performance such as price/earning ratios, indicated as applicable, are mainly for reference. Still, elements of real-world past performance enter the valuation through their impact on the commercial and technical due diligence.



We have here presented the discounted cash flow estimate approach for FCFE valuation. We have also presented here the comparable method valuation based on the Enterprise Value per unit of EBITDA and Enterprise Value per unit of replacement value of peers. The fair value bracket is built on the basis of these three methods.

## Arrowhead BID Fair Market Value Bracket

The Arrowhead Fair Market Value is given as a bracket. This is based on quantitative key variable analyses such as key price analysis for revenue and cost drivers or analysis and discounts on revenue estimates for projects, especially relevant to projects estimated to provide revenue near the end of the chosen forecast period. Low and high estimates for key variables are produced as a valuation tool.

In principle, an investor comfortable with the high brackets of our key variable analysis will align with the high bracket in the Arrowhead Fair Value Bracket, and, likewise, in terms of low estimates. The investor will also note the company intangibles to analyze the strengths and weaknesses, and other essential company information. These intangibles serve as supplementary decision factors for adding or subtracting a premium in investor's own analysis.

The bracket should be taken as a tool by Arrowhead BID for the reader of this report and the reader should not solely rely on this information to make his decision on any particular security. The reader must also understand that while on the one hand global capital markets contain inefficiencies, especially in terms of information, on the other, corporations and their commercial and technical positions evolve rapidly. This present edition of the Arrowhead valuation is for a short to medium-term alignment analysis (one to twelve months). The reader should refer to important disclosures on page 20 of this report.

#### **Information on the Proteak valuation**

**Proteak Valuation Methodology:** The Arrowhead fair valuation for Proteak is based on the blended price of the Comparable Valuation method (EV/EBITDA and EV/Replacement Value) and Discounted Cash Flow Valuation Method (DCF).

**Time Horizon:** The Arrowhead fair valuation for Proteak is based on a DCF method. The time period chosen for the valuation is 2014E-2050E. While revenue is expected to ramp up significantly during 2015-2016 once the MDF plant becomes fully operational, the later years are heavily discounted and have a marginal effect on valuation, which are included primarily to present a full project cycle situation.

**Underlying Business Plan:** The company operates in two business segments – Teak and MDF. Proteak's teak segment has over 8,000 acres of plantations in Mexico, Costa Rica and Colombia, which is sold as round-wood, primarily to Asian Markets. The company is also planning to manufacture MDF boards from eucalyptus plantations. The company plans to install the MDF plant in 2014, and expects to commence production by 3Q15.

**Terminal Value:** Terminal Value is estimated to depend on a terminal growth rate of 2%, representing the maturity, technology change and prospective competiveness in the business.

**Prudential Nature of Valuation:** This Arrowhead Fair Value Bracket estimate is a relatively prudential estimate, as it discounts the eventuality of the company acquiring and producing from projects other than Teak and MDF business segments.



## Key variables in Proteak revenue estimations

#### Variable 1 – Hypothesis for Teak revenue

We have estimated the teak production based on the plantation profile of the company and its agedistribution. While prices of teak roundwood depend largely on the maturity and the heartwood content, we have also used a low and high bracket in determining teak prices. While our teak prices during the forecast period average around US\$380/m<sup>3</sup> in the low bracket, we have used a premium of 5% in teak prices for our high bracket estimate.

Change in teak price sensitivity	2014E
Low	0%
High	5%

#### Variable 2 – Hypothesis for MDF revenue

We have estimated the MDF plant to commence during 3Q15. While the annual utilization during the first year will be relatively lower, we have assumed significant ramp-up in utilization from 2016 onwards. We have used a low and high bracket to determine the MDF price. We have estimated MDF prices based on a discount to the current MDF prices which will enable the company to increase its market share, and will be achievable due to lower costs from domestic production.

MDF price (US\$/m <sup>3</sup> )	2015E
Low	360
High	370

#### Variable 3 – Exchange rate

We have estimated the US\$/MXP exchange rate based on the current and expected economic conditions.

US\$/MXP	2014E
Low	12.5
High	13.5



# **Analyst certifications**

I, Vishal Pasari, certify that all of the views expressed in this research report accurately reflect my personal views about the subject security and the subject company.

I, Mohanarangam Purushothaman, certify that all of the views expressed in this research report accurately reflect my personal views about the subject security and the subject company.

### **Important disclosures**

Arrowhead Business and Investment Decisions, LLC received fees in 2014 from Proteak Uno SAB de CV (Proteak) for researching and drafting this report and for a series of other services to (Proteak), including distribution of this report and networking services.

Aside from certain reports published on a periodic basis, the large majority of reports are published by Arrowhead BID at irregular intervals as appropriate in the analyst's judgment.

Any opinions expressed in this report are statements of our judgment to this date and are subject to change without notice.

This report was prepared for general circulation and does not provide investment recommendations specific to individual investors. As such, any of the financial or other moneymanagement instruments linked to the company and company valuation described in this report, hereafter referred to as "the securities", may not be suitable for all investors.

Investors must make their own investment decisions based upon their specific investment objectives and financial situation utilizing their own financial advisors as they deem necessary. Investors are advised to gather and consult multiple information sources before making investment decisions. Recipients of this report are strongly advised to read the information on Arrowhead Methodology section of this report to understand if and how the Arrowhead Due Diligence and Arrowhead Fair Value Bracket integrate alongside the rest of their stream of information and within their decision taking process.

Past performance of securities described directly or indirectly in this report should not be taken as an indication or guarantee of future results. The price, value of, and income from any of the financial securities described in this report may rise as well as fall, and may be affected by simple and complex changes in economic, financial and political factors.

Should a security described in this report be denominated in a currency other than the investor's home currency, a change in exchange rates may adversely affect the price of, value of, or income derived from the security.

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Arrowhead Business and Investment Decisions, LLC is not responsible for any loss, financial or other, directly or indirectly linked to any price movement or absence of price movement of the securities described in this report.

# Valuation

### WACC

Risk-free rate	6.3%	xi
Beta	1.00	xii
Risk premium	4.5%	xiii
Additional Risk Premium	2.5%	xiv
Cost of Equity	13.3%	
Terminal Growth Rate	2.0%	xv

	Teak	MDF	Exchange rate				
Max value	Please	Please refer to the Key Variable Section					
Min value	1100001						

#### FCFE (High) Time Period

	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E
Net cash from operating activities	(75,436)	97,800	421,162	545,246	617,961	763,865	763,483	880,295
Capital Expenditure	(1,094,453)	(423,072)	(56,708)	(2,160)	-	-	(11,138)	(4,050)
Net Debt Addition	1,004,452	199,454	(124,480)	(143,869)	(156,419)	(162,889)	(149,469)	(175,469)
Free Cash Flow to Equity	(165,437)	(125,819)	239,974	399,217	461,541	600,975	602,876	700,776
Discount Factor	0.88	0.78	0.69	0.61	0.54	0.47	0.42	0.37
Present Value of FCF	(146,033)	(98,034)	165,049	242,367	247,338	284,284	251,733	258,290
FCFE (Low) Time Period								
	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E
Net cash from operating activities	(77,731)	90,048	370,897	485,253	548,156	671,971	662,940	756,174
Capital Expenditure	(1,170,375)	(425,375)	(52,508)	(2,000)	-	-	(10,313)	(3,750)
Net Debt Addition	1,092,399	170,106	(115,556)	(134,946)	(146,829)	(153,299)	(139,879)	(164,101)
Free Cash Flow to Equity	(155,707)	(165,221)	202,833	348,308	401,327	518,672	512,749	588,323
Discount Factor	0.88	0.78	0.69	0.61	0.54	0.47	0.42	0.37
Present Value of FCF	(137,444)	(128,735)	139,504	211,460	215,069	245,352	214,100	216,842

In the model, the valuation is continued to the year 2050, from which point the terminal value is established. For all data see reference table below:

ARROWHEAD FAIR VALUE BRACKET – DCF				
	High	Low		
Terminal Value (TV)	38,969,347	33,820,773		
Present Value of TV	385,406	334,487		
Present Value of FCF + TV	5,605,463	4,825,841		
+ Net Cash	134,739	134,739		
Equity Value Bracket	5,740,202	4,960,580		
Shares Outstanding (in '000)	242,019	242,019		
Fair Value Bracket (MXP)	23.72	20.50		
Current Market Price (MXP)	10.90	10.90		
Current Market Capital (MXP MM)	2,638.00	2,638.00		
Target Market Capital (MXP MM)	5,740.20	4,960.58		

## **Replacement Value Multiple Valuation**

ARROWHEAD FAIR VALUE BRACKET – Replacement Value				
	High	Low		
Replacement Value <sup>xvi</sup>	3,747,840	3,648,840		
EV/Replacement Value Multiple <sup>xvii</sup>	1.2x	1.1x		
Implied EV	4,497,408	4,013,724		
+ Net Cash	134,739	134,739		
Equity Value Bracket	4,632,147	4,148,463		
Shares Outstanding (in '000)	242,019	242,019		
Fair Value Bracket (MXP)	19.14	17.14		
Current Market Price (MXP)	10.90	10.90		
Current Market Capital (MXP MM)	2,638.00	2,638.00		
Target Market Capital (MXP MM)	4,632.15	4,148.46		

## **EV/EBITDA Multiple Valuation**

ARROWHEAD FAIR VALUE BRACKET – EV/EBITDA				
	High	Low		
EBITDA – FY16E	649,327	567,878		
EV/EBITDA Multiple <sup>xviii</sup>	7.0x	7.0x		
Implied EV	4,545,291	3,975,149		
+ Net Cash	134,739	134,739		
Equity Value Bracket	4,680,030	4,109,888		
Shares Outstanding (in '000)	242,019	242,019		
Fair Value Bracket (MXP)	19.34	16.98		
Current Market Price (MXP)	10.90	10.90		
Current Market Capital (MXP MM)	2,638.00	2,638.00		
Target Market Capital (MXP MM)	4,680.03	4,109.89		

## ARROWHEAD BLENDED FAIR VALUE BRACKET

Value Bracket	DCF Valuation (MXP)	Replacement Value (MXP)	EV/EBITDA (MXP)	Value/ Share (MXP)
Low	20.50	17.14	16.98	18.78
High	23.72	19.14	19.34	21.48



## **Notes and References**

- i Arrowhead Business and Investment Decisions (ABID) Fair Value Bracket. See information on valuation on pages 17-22 of this report and important disclosures on page 20 of this report
- *ii* Bloomberg as on 02-Apr-2014
- iii Bloomberg as on 02-Apr-2014
- *iv* 3-month average daily volume from Bloomberg as on 02-Apr-2014
- v Bloomberg as on 02-Apr-2014
- vi FAO: http://faostat3.fao.org/faostat-gateway/go/to/home/E
  ITTO: http://www.itto.int/
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- viii SIAVI

vii

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- http://www.masisa.com/medios/archivos/info-
- financiera/comunicados/2012/Masisa%20S\_A\_%20Presentaci%C3%B3n%20de%20Resultados%203Q2013%20a%20Inversionistas%20Ing\_%20final.pdf
- ix As on 7-Mar-2014
- x T12M. As on 7-Mar-2014
- xi Bloomberg as on 7-Mar-2014
- xii Bloomberg as on 7-Mar-2014
- xiii Bloomberg as on 7-Mar-2014
- xiv Arrowhead Estimate
- xv Arrowhead Estimate
- xvi Replacement value is defined as the sum total of current and non-current biological assets, fixed assets and sales from one year of production at 100% capacity
- xvii Estimated based on analysis of peer multiples
- xviii Estimated based on analysis of peer multiples