



Asia Biomass Holding, Ltd.

HCMC • Phnom Penh • Can Tho

## the company

Asia Biomass Holding Ltd. (BVI), (the Company, Asia Biomass or ABH) is a biomass-to-electricity Independent Power Producer company that employs reciprocal equity positions to its fuel suppliers (rice millers, wood processors, etc.) to assure long-term, win/win collaboration in the generation of clean electricity in the Greater Mekong Sub-region (GMS) specifically including Cambodia, Laos, Myanmar and Vietnam.

With its funding partner (an global equity management company with offices in America, China and Singapore), Asia Biomass pursues licensing opportunities to generate clean electricity wherever it finds engaged fuel suppliers and favorable power generation conditions (allowed foreign-owned Independent Power Producer (IPP) and viable feed-in-tariffs (FIT)). ABH also actively seeks out acquisition targets that fit its business model requirements - committed and long-term fuel suppliers.

The Asia Biomass business model focuses on the fuel supply chain – the single most important aspect for long-term sustainability (both economic and environmental). ABH aligns the fuel suppliers' interests with its own as the most effective means of assuring long-term cooperation and success. ABH has at its disposal several avenues for assuring long-term success – the competitive fuel contract, cooperation on logistical issues, equity participation and the reciprocal delivery of power when possible.

Each distinct ABH power plant's capital structure is tied to that plant's distinct fuel suppliers - the suppliers receiving a portion of equity in return for long-term stability in fuel supply. Logistics of fuel, power delivery and ease of licensing for smaller plants means that the typical ABH power plant is under 30MW - more often in the 5MW to 10MW range.

### Projected financial metrics on single power plant (5.75MW)

Total investment (30% equity - 70% debt)	\$17,568,000
Revenues (at US\$.078/kWh)	US\$8 - US\$12 million (over 20 years)
Expenses	US\$5 - US\$9 million (over 20 years)
Post tax net income (at US\$.078/kWh)	US\$1.8 - US\$3 million (over 20 years)
<b>IRR to Equity, post tax &amp; interest</b>	<b>25.5% (at US\$.078/kWh)</b>
<b>IRR to Equity, post tax &amp; interest</b>	<b>43% (at US\$.10/kWh)</b>

(ABH uses an EC/ASEAN-developed biomass-to-electricity financial model)

Leveraging established country expertise, management resources and project systems to accelerate a repeat of this program, Asia Biomass intends (strictly and with discipline) to replicate its equity-for-fuel strategy with distinct fuel suppliers tied to distinct power plants.

Asia Biomass Holding will retain controlling interest (or at least the right to aggregate the power plants for a combined exit). As ABH approaches a critical mass of combined installed capacity - a group of approximately 40MW to 50MW and US\$108 million in potential revenues annually - preparations for an IPO (or trade sale) will begin (see page 4 for a diagram of the proposed capital structure).

## investment highlights

A business model that focuses on the most important aspect of biomass-to-electricity business: long-term and stable fuel supplies

A powerful multiple-win strategy for ABH's fuel suppliers: a long-term waste disposal plan, stable income from waste products and equity participation

ABH's developed pipeline of fuel suppliers anxious to associate with ABH's long-term fuel-for-equity scheme is halfway to its stated goal of 40MW to 50MW combined capacity

Asia Biomass' principals and lead counsel have decades of experience with authorizing bodies in Ha Noi, Phnom Penh, and Rangoon and assurances from the various Directorates of Energy of a fast-track license applications to address critical shortfalls in electricity generation

For experienced renewable investors frontier markets in the GMS have regulatory framework that offers first movers:

- Best plant locations - close to fuel supplies, highest-margin power purchasers and responsive government bodies
- Partnerships with quality fuel providers - substantial companies and powerbrokers in their province
- Quality PPAs - substantial consumers of electricity that, in search of sustainability credentials, are willing to pay premiums for clean energy
- Easier license application process where ABH team can leverage strong relationships with Provincial Peoples Committees and Central GOV authorities
- Aggregate strategy to scale-up to an IPO/trade sale size on a regional market derives value from scarcity premium and multiples enjoyed by renewable energy companies
- ABM's world-class execution team; poised and ready for a successful license campaign and a corporate governance culture steeped in 'near public' start-ups

### Projected financial metrics of Asia Biomass Holding

Combined installed power	40MW to 50MW
Total equity (30%)	\$33,750,000
Total debt (70%)	\$78,750,000
Gross revenues (US\$.078/kWh)	\$108,000,000
Net income (US\$.078/kWh)	\$39,044,250

At exit, investors in each distinct Power Plant will receive proceeds according to that power plant's contribution to the combined valuation of the exit. Proceeds of an IPO would be used to gain a commanding percentile of the estimated 4,820MW of biomass-fueled power potential in the GMS (Source: Thammasat University).

**The Asia Biomass' project development pipeline already has four sites/equity partners under discussion with potential combined power generation equalling 18.5MW.**



## the investment environment

Renewable energy is currently the world's fastest growing source of energy, with the growth continuing despite the economic downturn. In 2010, the UN Environment Program (UNEP) declared that for the first time ever, investment in clean energy exceeded investment in fossil fuel.

Clean energy is now viewed as critical to the economic future of all major economies. In response to this view, significant growth in the various low-carbon energy sectors continues - especially those with 'drop-in' characteristics: fuels and generation technologies that are commercially viable today.

**In the Greater Mekong Sub-region, biomass-to-electricity is a 'drop-in' renewable energy source - using available agricultural and industrial waste as fuel and mature power generation technologies. This is the opportunity for which Asia Biomass is poised to exploit.**

In addition to existing sources of fuel, the GMS ranks high in all the key growth drivers influencing renewable companies' valuation (source: Ernst and Young):

- High population growth
- Increasing consumption of power
- Emerging middle classes
- Need for energy security
- Rising energy costs

Asia Biomass has an advanced business development program underway in Vietnam and its example is telling of ABH's prospects for growth:

Vietnam, viewed as one of the fastest growing economies in the world had enjoyed a growth in gross domestic product (GDP) at the rate of 8 percent before the Global Financial Crisis. In Vietnam the recovery has consolidated, and ADB expects growth between 7.5 per cent and 8.5 per cent for the years 2011-2015.

Vietnam has a chronic and dangerous shortfall of power generation capacity that is negatively effecting its economic growth - a 3 billion kWh shortfall in 2011 - and cited by businesses as a major constraint to investment or expansion.

Asia Biomass Holding, mirroring a governmental target of doubling renewable energy by 2025, has notified Vietnamese energy officials (the General Directorate on Energy and the Ministry of Industry and Trade) of its power generation plans. Ha Noi has acknowledged with enthusiasm that it desires to see ABH plans come to fruition and even encourages acceleration of those plans.

The potential of rice husk-fired power generation alone in Vietnam is telling as shown by an exhaustive IFC study.

Potential for rice husk-fueled electricity generation in Viet Nam (IFC)		
	Unit	Value
Rice husk generation	mil. ton/yr	7.52
Rice husk used for electricity generation	mil. ton/yr	3.77
Electricity generation	GWh/yr	2,356-2,693
Potential installed power capacity	MW	490-560

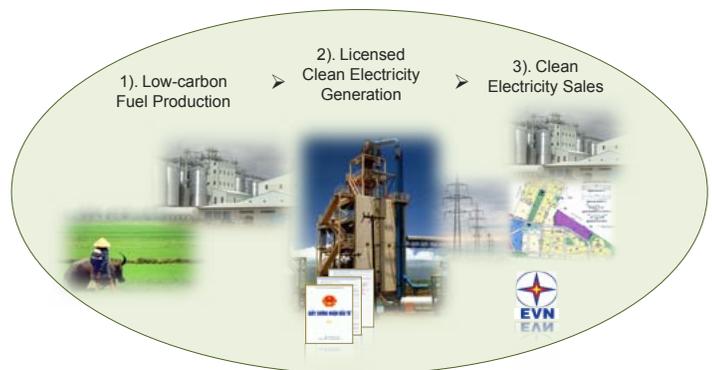
Currently, there are less than 30MW of commercial rice husk-fueled power generation in Vietnam.

Finally, the stability of a fuel supply supported by the world's continuing need for ever higher quantities of food production is a comfort in long-term business plan - "the world is not likely to stop eating rice any time soon". And Vietnam is the world's second largest exporter of rice.

**Thus, the Greater Mekong' Sub-region's extant massive agricultural sector and its commensurate production of agricultural waste (fuel) is the comparative advantage that the Asia Biomass business model exploits.**

## the asia biomass business model – focus on fuel

The generation of thermal electricity (i.e., electricity generated by burning something) is a surprisingly simple business model with three basic aspects: 1). long-term, stable fuel supply, 2). licensed generation of power, and 3). sales of electricity (PPA or FiT).



In the case of biomass-to-electricity all the above is conducted with the overriding imperative of sustainable and reduced carbon emissions - and the most important determinant of this sustainability resides in the type of fuel used.

Aside from the license (a technical government process), the fuel supply is the single most important determinant of a successful biomass-to-electricity business model (assuming economically viable PPAs). The Asia Biomass business model focuses on the fuel supply chain.

To be, and to remain, a successful biomass-to-electricity company, fuel supplies must be regular, known and long-term. ABH believes that aligning the fuel suppliers' interests with ABH's is the most effective means of assuring long-term cooperation and success. ABH has at its disposal several avenues for assuring long-term success. The specific example of rice husk as fuel illustrates the aligned interest of ABH and the fuel suppliers well:

**A long-term rice husk disposal plan, stable income from waste sales (rice husks) to a competent purchaser, clean electricity supply and equity participation in a provincially important company (with potential proceeds from an international IPO) is a powerful multiple-win strategy for these rice milling professionals.**



## the license

ABH has identified Vietnam for its first deployment of capital and expertise in the pursuit of its first license.

Vietnamese regulations for independent power generators under 30MW follow a completely different set of rules than those of larger capacity - which are considered national security issues. This helps ABH immensely in the following ways:

- Under 30MW, the authorizing body is the Electricity Regulatory Authority of Vietnam (ERAV), a unit inside the Ministry of Industry and Trade's (MoIT) where the imperative is the expansion of electricity generation - especially renewable energy.
- The Provincial Peoples Committee's (PPC) Investment Certificate is, in practice, more important than the ERAV's approval (i.e., a clean power generator with explicit provincial support would be very difficult for ERAV to reject). The PPC is concerned with local employment, the local environment and local economic activity. In dealing with PPCs, Asia Biomass' principal has had 100% success in gaining renewable energy-based Investment Certificates in Vietnam. It is also a body that is highly influenced by local powerbrokers (for example rice millers - ABH's equity partners).
- Under 30MW also allows the producer to sell to any customer at any agreeable price - and to the monopoly distributor, Electricity Vietnam (EVN), only if the producer desires. In a country with a business-retarding shortage of electricity this is a powerful conferred right to a seller of clean, stable electricity - even at premiums well above prices from the national grid.

## the deployment strategy

The ABH Information Memorandum (IM) describes the strategy for acquiring biomass-to-electricity power generation licenses (this is simultaneously the general 'Use of Funds' for ABH's successful first round).

Asia Biomass contracts with its 'License Team' (legal, market research, supply chain, environmental, etc. in each market) to pursue the full license dossier - along the way compiling the necessary documentation for a successful application with developmental and/or private equity investors for final capitalization of each power plant.

Asia Biomass' principals and the proposed lead international legal counsel (an American multi-national law firm) have combined decades experience with Ministry-level energy policy and license acquisition in the GMS as well long-term experience negotiating with the local licensing authorities as well - typically the Provincial People's Committees.

Asia Biomass always makes liberal use of purely local legal firms as well, which have decades of experience with Provincial People's Committees in renewable energy sector.

The preliminary pathway to locating a power plant site and then acquiring a power generation license, according to the ABH's strategy, dovetails with the preliminary steps required to access financing.

Thinking in terms of maps is instructional:

Map#1 - ABH will conduct international-standard market surveys on fuel producers (rice millers, bamboo producers, wood processors). This data and ranking is feed to the supply chain engineers for development of the overall fuel supply logistics.

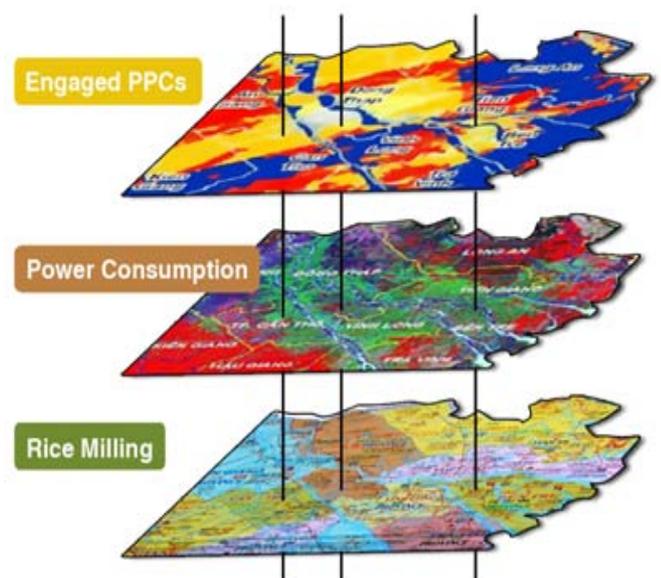
Map #2 - The second market survey is of large-scale electricity consumers. Of course fuel suppliers are included in this sub-set as well, but other respondents include cement factories, manufacturing, Industrial Zones, etc. Data and ranking are compiled and mapped.

Map #3 - In conjunction with local and international legal counsel and after meeting with each potential PPC, ABH will map out the enthusiasm and sophistication of each People's Committees, probability of working in harmony and potential for success with them as well as local Department of Industry or Energy.

Overlaying all three maps will reveal clusters of top ranked fuel providers, with clusters of large consumers of power and enthusiastic PPCs giving a list of locations to approach and a ranking of their priority as ABH develops several power plants over time.

Along this process, the feasibility studies and due diligence of potential locations is writing itself for a full and international standard application for funds to developmental financial investors such as ADB, FMO, FINNFUND and the IFC's Infraventures as well as private equity players.

This also means dramatically declining pre-license costs for subsequent power plant license campaigns (international standard is pre-license development cost at 5% of total costs - a number ABH complies with on even its first and most expensive license).



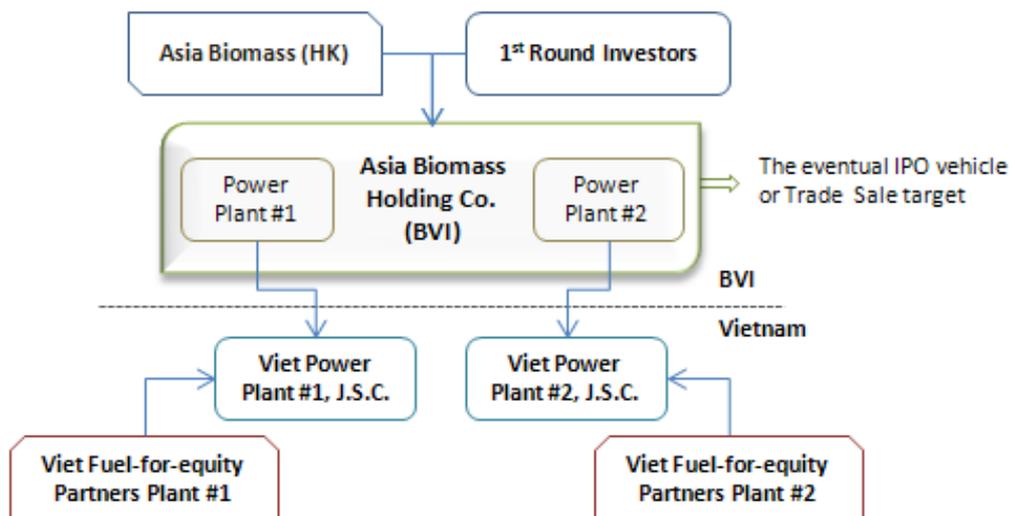


# the asia biomass development pipeline

Without yet conducting market surveys and supply chain engineering, ABH is already in discussions with four potential power plant fuel suppliers in its business development pipeline – totalling a potential 18.5MW of combined capacity (almost half of ABH’s combined capacity goal).

- Mekong Province – The probable first license campaign location. An engaged consortium of rice millers and exporters with combined fuel exceeding 110,000 tons of rice husks per year – equaling about 10MW of power generation. Local businesses are desirous of 30MW of clean power. The consortium’s legal counsel has been authorized to offer ABH land and the possibility of capital to help move the project forward.
- Mekong Province - consortium of rice millers and exporters with combined fuel exceeding 70,000 tons of rice husks per year – equalling about 5.75MW.
- HCMC City – a Scandinavian outdoor furniture manufacturer holding 10% of the world’s outdoor furniture market (FSC-certified wood) produces 2,000 tons of wood biomass waste per month – fuelling a potential 2.75MW of power to be completely consumed by its own operations on-site.
- Mekong Delta – a European-based cement company currently using a large quantity of rice husk for heat generation but does not generate electricity. Potential is considerable - up to 20MW - however, due the early stage of discussions, this project is not included in the pipeline number above.

## Capital Structure



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