Forests for the Future
New Forests for Africa

March 17th, 2016
“As part of our commitment to fully incorporate renewable energy into our supply mix, a number of solar, wind, tidal wave and biomass projects are being pursued.

The African Plantations Limited project under which thousands of hectares of eucalyptus trees are being planted as fuel would eventually generate one hundred and twenty megawatts of power. It will also provide employment opportunities for our farmers and technicians.”

President Mahama,
State of the Nation Address
February 26th, 2015
1. Introduction

- The project has to date been sponsored by Mr Erling Lorentzen, a Norwegian citizen resident in Brazil

- Mr Lorentzen, founder of Aracruz Cellulose, was one of the first to optimise the link between forest plantations, rural employment and large scale green-field industrial project

- Having witnessed the employment and development benefits of large scale sustainably managed plantations in Brazil, Mr Lorentzen wishes to transfer the benefits of his knowledge to Africa
2. The APSD Ghana Ltd Project

- Mr Lorentzen founded APSD Ghana Ltd in 2007 with the goal of promoting rural agro-forestry development in Ghana, alleviating poverty by creating employment for large numbers of people and maximising the local value added for Ghana as a nation.
- Having determined that Ghana is in urgent need of electric infrastructure, APSD decided to focus on base-load electricity generation from fast growing plantations in 2009.
- The company has secured access to about 82,000 ha of land in the Atebubu and Sene East and West districts for plantation development.
- The region has the forestry development potential to supply fuel for 600 MWe of generating capacity, all based on a local, renewable energy source.
- The first phase of the project currently under development foresees the installation of 60 MWe of generating capacity for start-up in 2020.

- APSD is developing the project in strict compliance with international best practice, IFC Performance Standards, Equator Principles and a strict no-corruption policy.
3. APSD – Current Development

• APSD has planted more than 7,000ha to date. This represents roughly 12 million planted trees
• The company currently has some 1,000 employees, the large majority of which is from the local villages. About 50% of the employees are women
• To date, 55 million USD have been invested in Ghana in the form of infrastructure, equipment as well as plantation development
• APSD’s current nursery has the capacity to produce roughly 25 million seedlings per year. A clonal program has been started and is expected to increase in size over the course of 2016
• APSD is implementing an agro-forestry concept to support local artisanal agricultural production in the vicinity of the project
• Furthermore, APSD is engaged in a project involving sustainable production of charcoal based on dedicated Acacia plantations run by and for the benefit of local villages, with seedlings donated by APSD
4. Project Location

- APSD does not intend to displace any of the current residents in the concession areas
12 Months

15 Months
• The images below show the same area in 2010 and 2015 in the Wiase concession.
• The images show the development of the nursery, accommodation area as well as prospective power plant site.
• Aerial images of the plantation development on an area of roughly 1,000ha
## 5. The APSD Project in a Nutshell

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<thead>
<tr>
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<th>First Phase</th>
<th>Medium Term</th>
<th>Long Term</th>
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<tbody>
<tr>
<td>Net area developed</td>
<td>25,000 ha</td>
<td>100,000 ha</td>
<td>180,000 ha</td>
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<tr>
<td>Generating capacity</td>
<td>60 MWe</td>
<td>300 MWe</td>
<td>600 MWe</td>
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<td>Direct employment</td>
<td>2,500</td>
<td>5,000</td>
<td>10,000</td>
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<td>Total CAPEX MUSD</td>
<td>400</td>
<td>1,800</td>
<td>3,000</td>
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6. The APSD Project – Financing

• To date APSD is 100% funded by private equity
• Based on unavailability of equity/debt from DFIs and/or development banks at this stage, APSD is forced to continue to rely on private equity and possible development funding from power sector partners
• APSD is looking to achieve financial close within 12 months based on suitable local documentation (PPA, PCOA)
• APSD is looking at raising 350MUSD of senior debt and 50MUSD of mezzanine debt in total
• Based on the current funding schedule, equity will be fully subscribed by the time of financial close
7. The APSD Project – ESG

- APSD is following international best practice in its project development, including IFC PS and Equator Principles
- The company is looking at FSC certification purely as a management tool given that there is no market driven demand for the certification
- Alternatively, APSD is also considering the use of ISO standards to achieve the same aim
- ESG are an integrated part of the operations with distinct H&S, Environmental and Community Liaison departments working along detailed ESAPs
- These are underpinned by detailed studies conducted on HCV, biodiversity, local livelihood, water and air quality
- Furthermore APSD adheres to a strict no-corruption policy
8. Indicative Timeline until Commercial Operation

- Q1 - 16
- Q2 - 16
- Q3 - 16
- Q4 - 16
- Q1 - 17
- Q2 - 17
- Q3 - 17
- Q4 - 17
- Q1 - 18
- Q2 - 18
- Q3 - 18
- Q4 - 18
- Q1 - 19
- Q2 - 19
- Q3 - 19

- Plantation Development
- PCOA approval process
- GRIDCo agreement
- Project financial close
- Power plant construction
- Grid connection
- Commercial operations