

## SUPPORTING FACTSHEET

*13 August 2015 – Progress towards delivering Asia Pulp & Paper Group’s peatland commitments*

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## OVERVIEW

As part of its Forest Conservation Policy (FCP) announced in February 2013, Asia Pulp & Paper Group (APP) committed to new measures on peatland management in support of the Government of Indonesia's target to reduce Greenhouse Gas (GHG) emissions.

Since then, APP has spent the last two years assembling a credible team of peat experts in order to establish a baseline on peatland data and to analyse current peatland management issues and opportunities in APP supplier concessions.

On 13 August 2015, APP made a series of announcements on activity being carried out to support peatland conservation. These included:

- The retirement of commercial plantations on peatlands to cut carbon emissions
- The largest mapping exercise ever carried out on peatland areas using LiDAR remote sensing technology
- The development of a science-based model landscape approach for best practice peatland management, building on the conservation pledges in the Forest Conservation Policy (FCP)

This factsheet provides further detail on the announcements made and includes supporting information.

## APP CONSERVATION MILESTONES

- **February 2013:** As part of its Forest Conservation Policy (FCP), APP and its suppliers committed to implement an immediate moratorium on forest clearance and peatland development:
  1. All natural forest clearance was suspended by its suppliers whilst High Carbon Stock (HCS) and High Conservation Value (HCV) assessments were completed. APP committed to protect all remaining areas of natural forests and other High Conservation Values, including on peatland; and
  2. All new plantation and infrastructure development on peatland was suspended pending recommendations from an independent group of peat experts.
- **April 2014:** APP announced a new conservation initiative which would help enable the protection and restoration of one million hectares of forest, an area equivalent to APP suppliers' established pulpwood plantations in Indonesia

## CONTEXT

### *Indonesia's commitment to greenhouse gas reduction*

- In 2009, the Government of Indonesia committed to reduce its Greenhouse Gas (GHG) emissions from Business As Usual (BAU) projections by 26% by 2020
- Studies<sup>1</sup> show that the single largest source of Indonesia's GHG emissions results from the degradation of the country's carbon-rich peatlands

- As much as 566 Mt CO<sub>2</sub>e/year could be abated by 2030 through the rehabilitation of degraded peatlands, improved fire prevention and water management of these areas<sup>2</sup>

### ***Importance of Indonesian peatland***

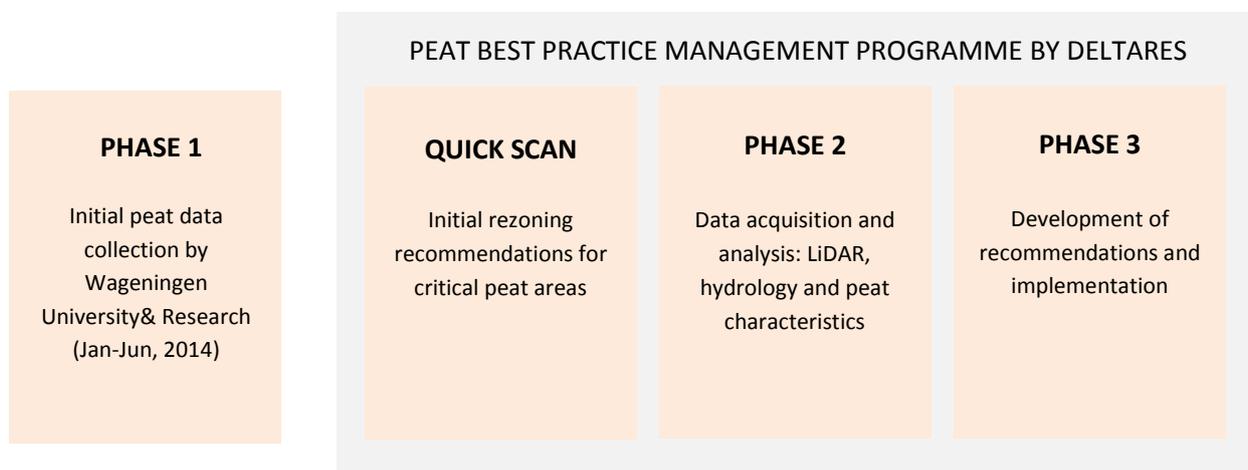
- Indonesia’s peatland areas and their forests store an estimated 40GtC, which is comparable to the Amazon rainforest - the single largest terrestrial-carbon sink in the world
- CO<sub>2</sub> emissions from peatland drainage in Southeast Asia contribute the equivalent of between 1.3% to 3.1% of the global CO<sub>2</sub> emissions from burning fossil fuels
- Over half of Indonesia’s roughly 20 million hectares of forested peatland have now been developed, deforested, drained or burnt; in the three provinces of Sumatra (Riau, Jambi and South Sumatra), only about one fifth of peatland remains forested

### ***Ending business as usual in plantations on peatland in Indonesia***

- High tropical temperatures lead to accelerated decomposition of peatlands that have already been drained for agri-business; these rates are far higher in Indonesia than in agricultural peat lands in temperate climates
- The peatland degradation process results in high carbon dioxide (CO<sub>2</sub>) emissions, production losses through subsidence, and flooding (see Deltares report: [‘Flooding projections for oil palm plantations in the Rajang Delta peatlands, Sarawak, Malaysia’](#))
- The current model of drainage-based peatland development is the root cause of forest loss and degradation, fires, subsidence and emissions. One of the key priorities, therefore, is to prevent further expansion of plantations into forested peatland, while also implementing mitigation measures to reduce the impact of existing plantations on adjoining peat swamp forests

## **PEATLAND BEST PRACTICE MANAGEMENT PROGRAMME (PBPMP)**

- APP’s Peatland Best Practice Management Programme (PBPMP) aims to support the company in delivering its commitments to reduce impacts on peatland forest ecosystems; reduce peatlandCO<sub>2</sub> emissions; and reduce peat subsidence



- **Phase 1:** Results found that current public and company data was incomplete and inadequate for making science-based planning or management recommendations
- **'Quick Scan' analysis:** Rapid assessment, carried out by Deltares (an independent institute for applied research with expertise in hydrology and peatland management in Southeast Asia), using existing land cover and other available data combined with field visits, identified areas inside APP supplier concessions that require urgent interventions; out of this analysis came the first set of concession rezoning recommendations
- **Phase 2:** In December 2014, a team of peat experts led by Deltares was appointed by APP in consultation with Greenpeace to deliver the peat LiDAR, hydrology and peat characteristics data collection and analysis
- **Phase 3:** Technical support to be delivered by Deltares for the implementation of recommendations (for further information see the Deltares summary of 'Peatland Best Practice Management Programme (PBMP)'<sup>2</sup>)

## PBMP RECOMMENDATIONS

### ***Recommendation 1: Retire and restore***

Deltares has initially recommended that six areas of existing acacia plantation covering ~12,000 hectares on very deep peat require either immediate or second-priority retirement, as well as forest restoration. These are:

1. Two areas of existing acacia plantation in the concession of PT Satria Perkasa Agung (SPA) in the Kerumutan peatland landscape, Riau. One critical area is recommended for immediate restoration and another less critical area is recommended for second-priority restoration
2. Four smaller areas of existing acacia plantation in the concessions of PT Tripupa Jaya (TPJ) and PT RimbaHutani Mas (RHM) concessions in Berbak-Sembilang peatland landscape, South Sumatra for immediate restoration to natural forest. This will create a 'retirement' corridor along the Sembilang National Park boundary

Pending further analysis, if continued, the peatland drainage in these areas will cause major and irreversible damage to protected forest areas inside and outside concessions.

APP has agreed to implement the initial recommendation to immediately retire five areas covering ~7,000 hectares, pending field verification to confirm the extent of peat in those locations. These areas include one plantation area in Kerumutan, Riau Province and four areas in the Berbak-Sembilang landscape.

The second priority recommendation for retirement and restoration is an additional acacia plantation area in the Kerumutan landscape in Riau Province (covering ~5000 hectares). Considering the development status of this area, in addition to FPIC, prior consultation with the local authorities,

community and other stakeholders will be required before a decision can be taken on the change of management measures for the area. APP will be able to take further actions once the LiDAR analysis is completed in early 2016.

#### ***APP's FPIC commitment***

To ensure local communities are consulted as per APP's FCP commitment, a Free and Prior Informed Consent (FPIC) process is administered. The first step identifies local communities that may be impacted by the retirement of plantation areas by using conflict mapping data for the areas, as well as LandSat mapping analysis that identifies any new clearance or encroachment.

APP and TFT teams will then conduct field assessments in the relevant locations, commencing a stakeholder engagement process in line with the FPIC and social conflict resolution Standard Operating Procedures.

#### ***Recommendation 2: Use species that require limited drainage or do not require drainage***

Deltares has recommended that in deep peat areas that adjoin other areas of natural forests, APP converts several acacia plantation areas to alternative peatland species that only require limited drainage or do not require drainage at all, adapted to (natural and rehabilitated) peatland conditions. APP has tentatively accepted these recommendations pending studies into alternative cropping systems that are being established jointly by APP, Deltares and Euroconsult Mott McDonald (EMM).

This part of the PBPMP will require a longer time period to implement in order to ensure the right species are selected and trialled prior to implementing on a wider scale.

#### ***Peat in APP's Integrated Sustainable Forest Management Plan (ISFMP)***

All APP supplier concessions are required to complete an ISFMP. The ISFMP will provide the blueprint for the sustainable management of each concession by taking into account environmental and socio-economic pre-conditions, and the status of land rights.

To develop the ISFMP, recommendations from HCV, HCS, social conflict mapping, legal context including land rights, and plantation productivity assessments are combined with recommendations from the peat expert team. Stakeholder input in each landscape is an important part of this process. Once recommendations and inputs are obtained, concession zonings are completed.

#### **PBPMP MITIGATION OPTIONS TO ADDRESS DRAINAGE IMPACTS**

APP is now starting the development of four types of management measures to mitigate the impact of plantation drainage on peatland ecosystems:

- 1. Raising water levels as high as possible throughout all Acacia plantations on peatland to reduce overall subsidence rates, fire, flood risks and carbon loss**
- 2. Planting alternative flood-tolerant species so that water levels can be raised substantially**
- 3. Protecting important areas of natural forests within the peatland landscape from impacts of peatland drainage**
- 4. Establishing buffer zones between plantations and areas of protected forest**

## **PBPMP: RETIREMENT**

### **Criteria**

Following the initial recommendations of the peat expert group, APP has committed to fully retire and restore a number of plantation areas, which total ~7000 hectares, that:

- a) Are mostly surrounded by natural forest (inside and outside concessions)
- b) Are likely to damage an area of natural forest, through continued drainage or production activity, that is similar to or greater than the area of plantation proposed for retirement

### **Restoration process**

- Several approaches will be piloted, ranging from allowing the natural forest to return through natural regrowth in established plantation areas to clearing plantation areas and planting native peat swamp forest species
- Canals will be closed and regulated to rewet the previously drained peatland areas, helping create the conditions for swamp forest species to thrive while suppressing the spread of dry-land species such as acacia

## **PBPMP: NEXT STEPS**

### **Additional work requested by APP of Deltares**

- a) Providing field support to APP's operational staff
- b) Additional in-depth analyses into flooding risks
- c) Analysis on peat carbon budgets and greenhouse gas (GHG) reductions as a result of the FCP and PBPMP
- d) Developing pilot projects for commercial crops of flood-tolerant species that can survive with limited drainage or without the need for peatland drainage
- e) Extending the project beyond 2016, by which time the field monitoring data will be available and additional analysis undertaken and recommendations developed
- f) Options to link the work in APP concessions on peat with other initiatives in the broader peatland landscapes, bringing in more stakeholders and donors

### **Roles and responsibilities for PBPMP - The Peat Expert Team**

- a) Supporting APP in implementing the immediate plantation retirement requirements;
- b) Supporting APP in implementing water level and subsidence monitoring systems across its peatland plantations; and

- c) Analysing and processing the LiDAR data into elevation and peat thickness models, as a basis for further concession zoning recommendations, including field validation surveys

## APP's CONTRIBUTION TO THE REMAPPING OF INDONESIA'S PEATLANDS THROUGH LiDAR

Accurate data on peatland elevation, peat thickness and current conditions is crucial for planning and long-term management of peatlands. APP commissioned the largest mapping exercise ever carried out on peatland areas using LiDAR technology (approximately 25% of Indonesia's total peatlands) to develop a better understanding of the landscape.

### ***What is LiDAR?***

- LiDAR (**L**ight **D**etection **A**nd **R**anging) is a remote sensing technology that uses light in the form of a pulsed laser to measure ranges (variable distances) to the earth; combined with other data recorded by the airborne system or satellite, this generates precise, three-dimensional information about the shape of the earth and its surface characteristics

### ***How will LiDAR data be used?***

- LiDAR data, used with other satellite mapping technologies, allows Deltares to quantify the current conditions and impacts of development on peatlands and their forests covering more than 4.5 million hectares
- The results of the data analysis provide accurate elevation, peat thickness and hydrological maps identifying the impacts that underpin the development of best management practices
- Final LiDAR data analysis will be made available to government and private companies; the work is designed to set a standard for baseline data on which zoning and land use decisions are founded to achieve responsible protection and management of peatland landscapes

### ***Pioneering use of LiDAR data***

- LiDAR data collection for APP's peat project has followed a 'Strip' approach, pioneered by Deltares, where parallel flight lines are spaced two to ten kilometres apart; interpolation, using sophisticated algorithms, is used to characterise the area between them
- This approach has reduced airborne LiDAR data acquisition costs by more than 90%, whilst speeding up the time needed for data acquisition (additional information [here](#))

### ***Project timings***

- Data collection is complete and the processed data has been provided to APP and Deltares
- Initial results from the LiDAR data became available in July 2015 and the full results of the final analysed data will be finalised by 2016

<sup>1</sup> DNPI (2010). 'Indonesia's greenhouse gas abatement cost curve' August 2010. Indonesian National Council of Climate Change (DNPI). Available: [www.mmechanisms.org/document/country/IDN/Indonesia\\_ghg\\_cost\\_curve\\_english.pdf](http://www.mmechanisms.org/document/country/IDN/Indonesia_ghg_cost_curve_english.pdf)

<sup>2</sup> Reducing impact of plantation operations on peatlands in Indonesia: Available at: [www.deltares.nl/en/projects/reducing-impact-plantation-operations-peatlands-indonesia-2/](http://www.deltares.nl/en/projects/reducing-impact-plantation-operations-peatlands-indonesia-2/)