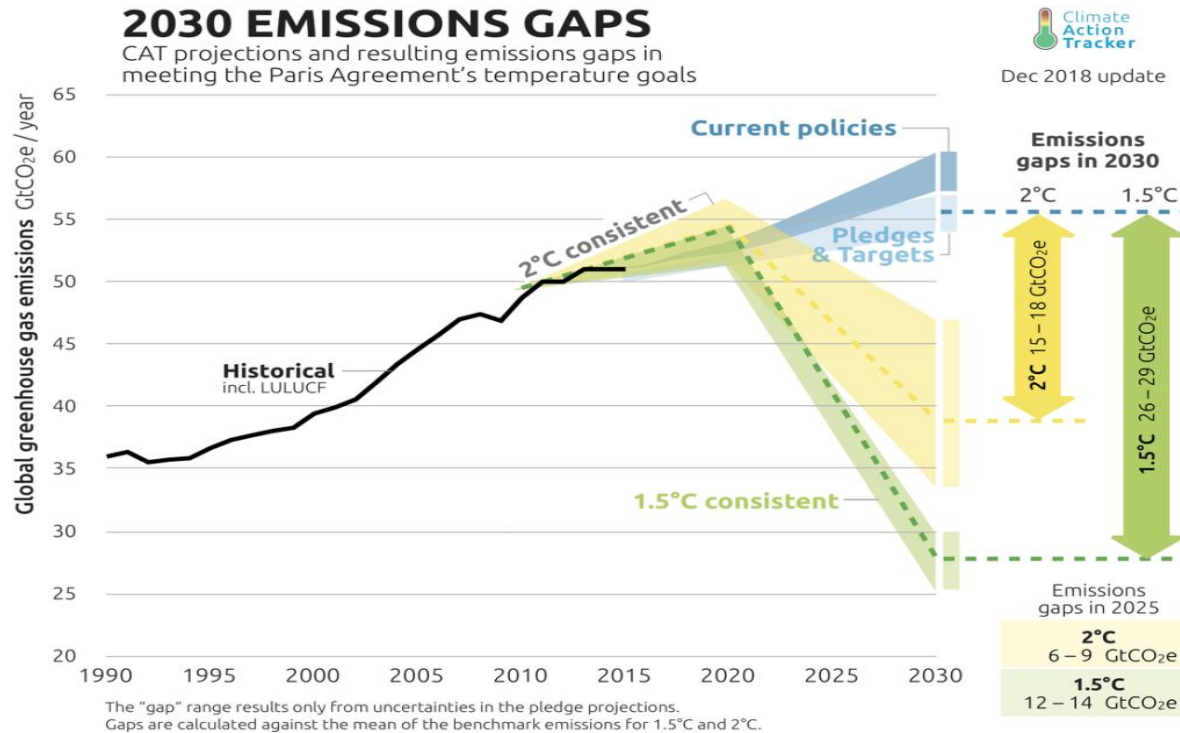




## **APP Forest Conservation Policy: Estimation of Carbon Impact**

Stakeholder Advisory Forum 8  
14 March 2019

# Global Context – The Climate Crisis



## GoI Target:

- “ 29% emission reduction independently and 41% with international aid
- “ Forestry and Agriculture emission reduction is 60% of the target.

Global Forest Watch analysis has found tropical deforestation to be the **third-biggest carbon emitter** in the world, responsible for **8%** of the world's annual carbon dioxide emissions

## Forests: both the problem and solution

Problem	Solution
Land conversion	Carbon sequestration
Peat degradation	
Forest fires	

### What can be done about it?

- “ Protect standing forests
- “ **Prevent forest fires**
- “ **Restore peat**
- “ **Invest in emissions mitigating activities** in agriculture and forestry
- “ Enhance natural carbon sequestration

“Stopping deforestation and restoring damaged forests could provide **up to 30 percent of the climate solution.**“

<https://onetreepanted.org/blogs/news/trees-climate-change-reforestation>

## Addressing the issues and advancing solutions



Problem	APP Solution
<p><b>Forest fires:</b></p> <ul style="list-style-type: none"><li>“ Issues interlinked with community livelihood (culture, poverty, knowledge)</li><li>“ Natural phenomenon (climate change, el nino, dry season)</li><li>“ Commitments and coordination between different stakeholders (businesses, local government, other parties)</li><li>“ Peatland drainage</li></ul>	<ul style="list-style-type: none"><li>“ ZERO burning policy since 1996</li><li>“ Investment in tech and equipment forest fire prevention</li><li>“ Community engagement through MPA and IFFS</li><li>“ Improve water management in peatland</li></ul>
<p><b>Peat:</b></p> <ul style="list-style-type: none"><li>“ Peat decomposition</li><li>“ Absence of best practice guidelines</li><li>“ Lack of landscape approach</li></ul>	<ul style="list-style-type: none"><li>“ Lidar mapping, canal blocking for peat rewetting, retirement, alternative species, rehabilitation efforts</li><li>“ Peat restoration</li></ul>

## Assessing APP's FCP on avoiding emissions

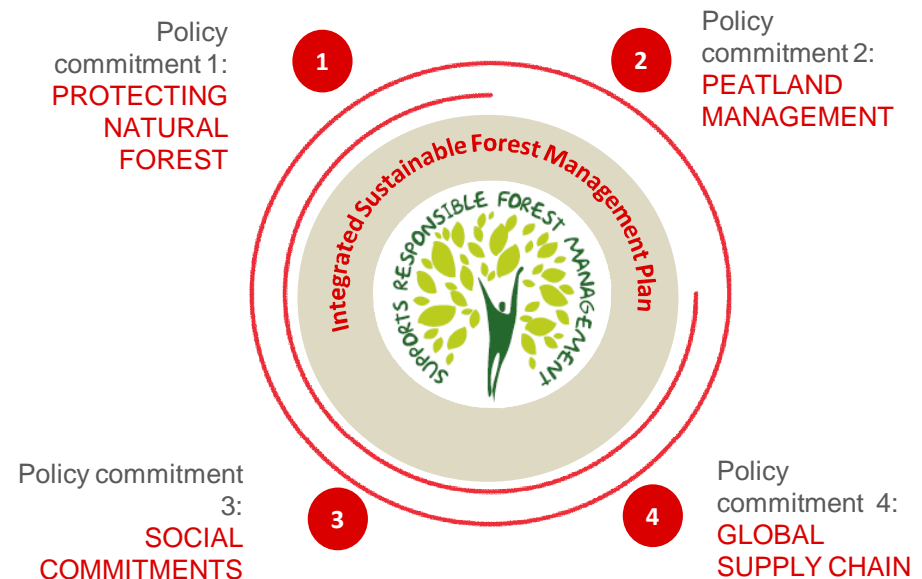


APP launched its Forest Conservation Policy in 2013.

In 2018, we engaged with Ata Marie in an **objective and independent assessment of the policy's carbon impact.**

The assessment conducted review of:

- 1. How much carbon emission has been avoided** by the implementation of APP's FCP since its inception in February 2013
- 2. Projection of long term carbon emission avoidance** as APP continues to implement the FCP in all its components



## FCP activities explored through Ata Marie study



APP activity	Carbon mitigation
Integrated Fire Management Program (IFM)	<i>Reduce fire risk</i>
Integrated Sustainable Forest Management (ISFMP)	<i>Protect HCS areas and restore degraded area, reduce fire risk</i>
Integrated Forestry and Farming System (IFFS)	<i>Reduce land conversion and fire risk</i>
Improved peat land management including canal blocking, permanent retirement of selected peatland areas and restoration program	<i>Mitigate peat decomposition Reduce fire risk</i>

## Ata Marie modelling methodology



In the assessment, two scenarios of land use change (area and rate) are modeled. These are based on **BAU** and **FCP**.

Three models were then developed:

<b>Model 1:</b> Land use change	Estimates the change in areas and associated biomass for natural forest and scrub
<b>Model 2:</b> Plantation model	Estimates standing biomass of plantation
<b>Model 3:</b> Peatland	Changes in peatland management

Ata Marie's methodology was peer reviewed on two occasions. **Before** the project started and **after** calculations were made.

The peer review included renowned experts:

"Dr. Susan Page

"Dr. Haruni Krisnawati

"Mr. Mark Belton

## Assumptions for BAU Scenario

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- ❑ Land development continues following the management plan (RKU) existing at year end 2012
  
- ❑ Protection of natural forests existing within the concession is limited. Uncontrolled land conversion by third parties (predominantly local communities) continues at the historic rate that existed prior to 2013 (6%/year)
  
- ❑ Conversion of peat land for expansion of the plantation forest estate continues in the area allocated for production plantations (tanaman pokok)
  
- ❑ Fire prevention and control systems are weak and loss of forest area due to fire continues at the documented historic rates

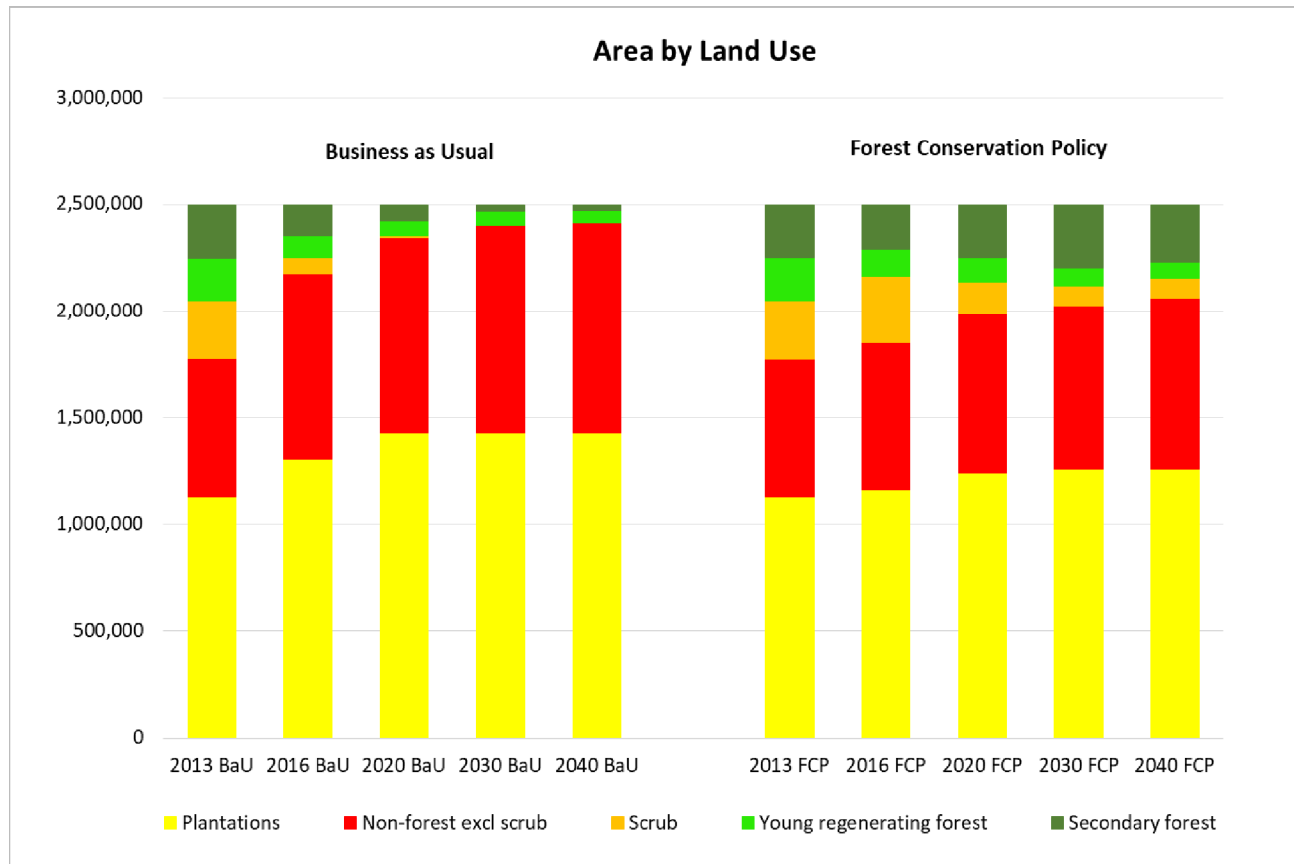


## Assumptions for FCP Scenario (2013 – 2040)

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- ❑ Permanent protection of all remaining primary, secondary and young regenerating forest including all HCS and HCV designated areas (around 600,000 ha)
- ❑ Conservation areas remain protected and rehabilitated. Within the conservation zone, young regenerated forests will be rehabilitated into secondary forest, and scrub and bare land will be converted into permanent secondary natural forest
- ❑ Communities are allocated lands for management within the concession relevant to ISFMP agreement
- ❑ Rewetting of all peatlands to 40cm depth and retirement of some peatland
- ❑ APP will continue to implement Integrated Fire Management (IFM) that will reduce but not eliminate forest fires. The rewetting of peatlands should also virtually eliminate the occurrence of peat soil fires
- ❑ Many of the parameters including emission factors are using default values → more research required to reflect actual conditions

# BAU vs FCP Impact on Land Cover



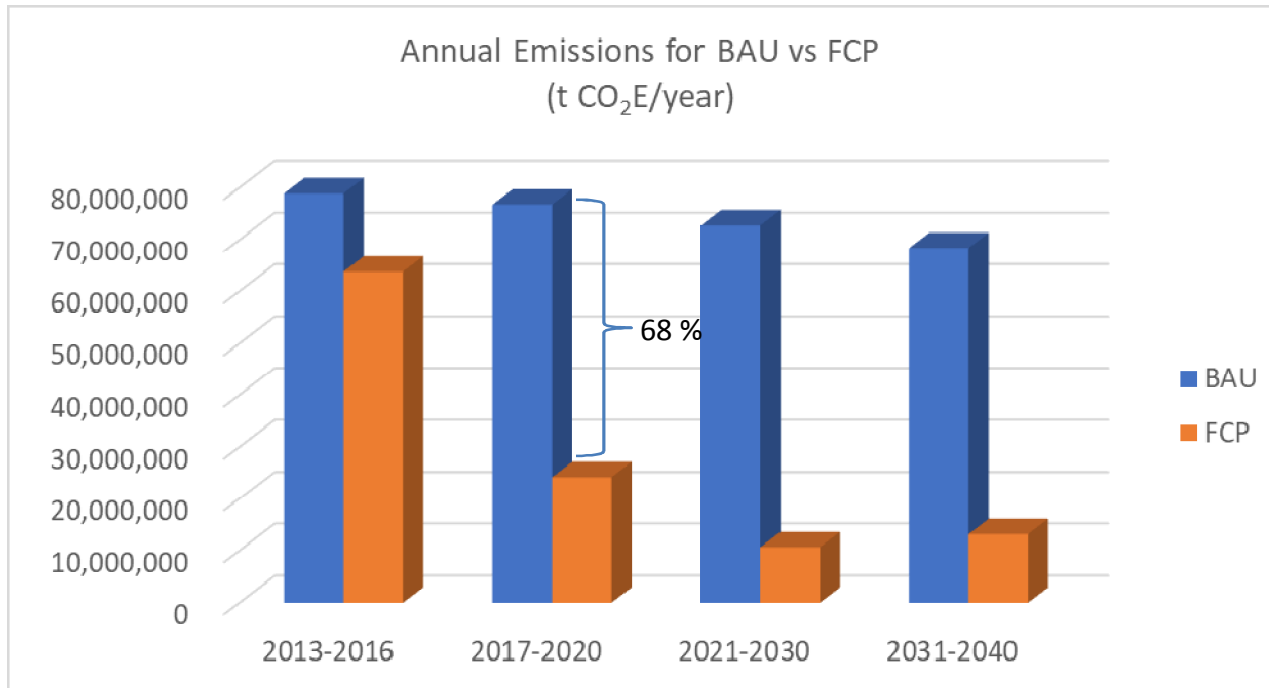
## Carbon Balance



The GOI's emissions reductions towards it's NDC commitments are measured in terms of **carbon avoidance**. APP calculates its impact working towards this goal through the below equations.

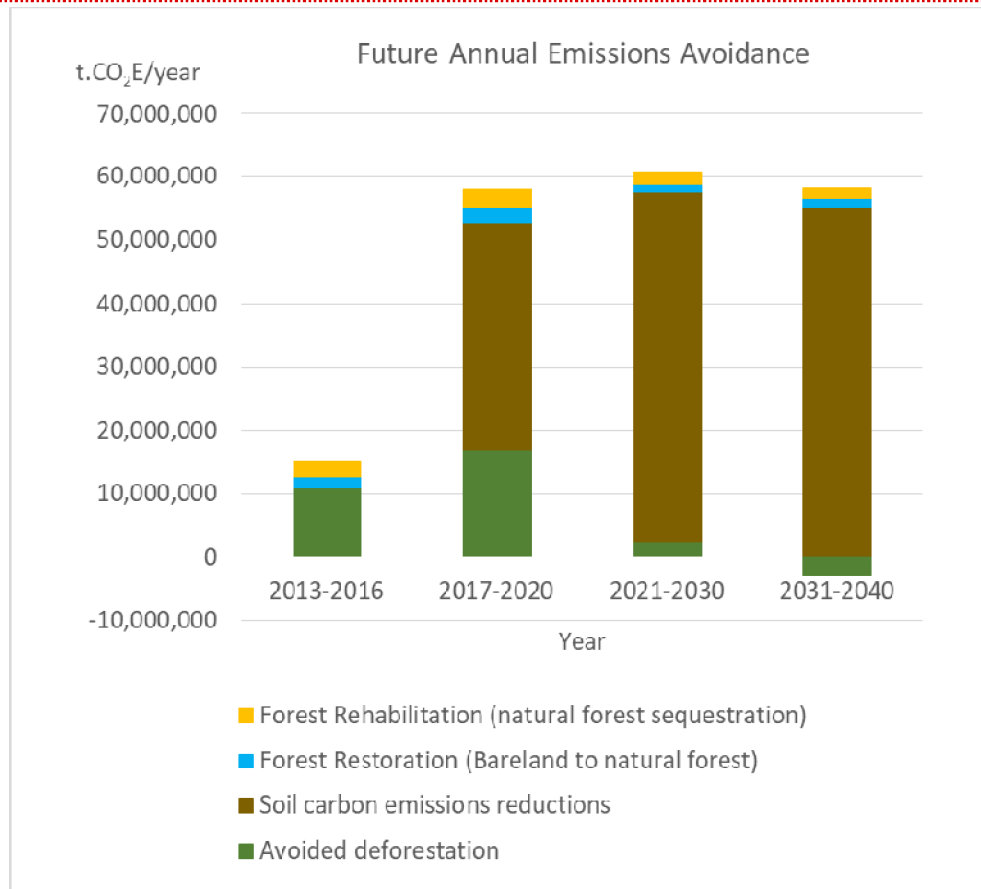
Emission source	Sequestration
<ul style="list-style-type: none"> <li>- Fires</li> <li>- Peat degradation</li> <li>- deforestation</li> </ul>	<ul style="list-style-type: none"> <li>- Rehabilitation</li> <li>- SFM for plantation</li> </ul>
<b>Equation 1: Net Carbon Balance</b>	Emissions - Sequestration
<b>Equation 2: Carbon avoidance</b>	$\frac{\text{Net Carbon Balance}}{\text{BAU}} \text{ versus FCP}$

# Annual Emissions Estimates



- 2013-2016 reduction in emissions is primarily due to the no deforestation policy.
- The impact of the integrated fire management program starts from 2017 onwards. This results in reduced emissions from land use change and peat soil fires.
- The impact of the peatland management program starts from 2019.
- These estimates include the carbon sequestered in plantations.

Note: The result is currently within the peer review process



- The major long-term savings are from peatland rewetting and reduction of fire in peatland area.
- There are initially significant emissions reductions from no deforestation but these reduce over time
- The graph excludes changes in plantation biomass.

## Future plan

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Despite significant emission avoidance as the result of our FCP commitment, a number of challenges remain:

- “ Managing third party deforestation
- “ Achieving best practice in peatland rehabilitation
- “ Alternative species development
- “ Continuous innovation in forest fire prevention and response

### What do we do next?

1. Continue to monitor and measure climate mitigation impact to assess the effectiveness of our efforts
2. Underline the importance of fire management to ensure that these activities don't lapse and we continue to make them more effective
3. Strengthen APP's commitment toward zero deforestation
  - “ Within vision 2030
  - “ Within updates to the FCP



THANK YOU

[www.asiapulppaper.com](http://www.asiapulppaper.com)