ECONOMIC

Achieving Strategic Growth

29 Creating Business Opportunity
31 Research and Development and Yield Improvement
33 Sustainability Certification Scheme
35 Traceability and Supply Chain
Achieving Strategic Growth

Economic

MATERIAL MATTERS

01
Creating Business Opportunity

02
Research and Development (R&D) and Yield Improvement

03
Sustainability Certification Scheme

04
Traceability and Supply Chain

HIGHLIGHTS

- % of FFB purchased from smallholders

Approximately 12%

NUMBER OF VILLAGES THAT BENEFITED FROM BOUSTEAD COMMUNITY ROAD MAINTENANCE (CRM) PROGRAM

>15 villages at Segamaha and Rimba Nilai Business Units

- Value of projects awarded to local vendors (RM)

>50 million in value of project in 2018

Amount spent on R&D (RM)

15.2 million
Economic : Achieving Strategic Growth

The Group is committed to advancing its business sustainability while propelling the economic growth of the wider community.

Creating Business Opportunity

In our journey to strengthen the economic sustainability of the Group, we have been able to play a part in improving the livelihood of local communities and plantations.

During the year, we encouraged local development through supporting smallholders where approximately 12% of our total external FFB were procured from surrounding smallholders.

Recognising that some of our surrounding communities lack basic infrastructure, we are committed to work in partnership with the communities to provide practical and sustainable solutions to their infrastructure shortfalls.

During the year, we established the Boustead Community Road Maintenance (CRM) Programme. More than 15 villages benefited from this programme near our Segamaha and Rimba Nilai Business Units.

Main access road to Segamaha Business Unit, Lahad Datu, Sabah
**Location Of Villages**
Location of villages benefited by Boustead CRM programme in Rimba Nilai Business Unit.
The Group see innovations as an important driver in our quest for sustainability. As a result of our extensive R&D efforts, we have been able to proactively address challenges to sustainability.

We have developed a cloned using tissue culture to produce ramets with high oil content and FFB yield.

Some of our clonal palms boast a high oil to bunch ratio of up to 34%.

A total of more than 23,000 ha have been planted with clonal oil palms, amounting to 31% of our area under cultivation. As we move forward, all new replanting will utilise our clonal planting material.
Economic: Achieving Strategic Growth

Continuing the journey to ‘produce more with less’, two of our most productive palm oil mills, Segaria Palm Oil Mill and Sungai Jernih Palm Oil Mill boasted some of the highest oil extraction rates (OER) in the country during the year. Our Sungai Jernih Palm Oil Mill received the national level Malaysian Palm Oil Industry (MPOI) Award from Malaysian Palm Oil Board for Highest OER Achievement 2017/2018 while our Segaria Palm Oil Mill received the MPOI Award for Best Palm Oil Mill 2017/2018 for Sabah/ Sarawak.

![Graphs showing OER percentages for Sungai Jernih and Segaria mills over years 2002 to 2018.](image-url)
As part of BPB’s commitment to comply with all relevant laws and regulations, including the National Interpretation of the RSPO Principles and Criteria, we aim to obtain RSPO certification for all our existing business units by 2023. As of 2018, four of our business units comprising four palm oil mills and 15 estates have been RSPO certified.

In line with MSPO standards, we successfully obtained MSPO certification for four of our palm oil mills. We target full certification for all our palm oil mills by 2019.

As a reflection of our strong focus on sustainability, in 2018 we produced over 84,000 metric tonnes (MT) of certified sustainable palm oil, up by 47% compared with the previous year.

BPB is supportive of the decision by the government to make MSPO a mandatory certification and RSPO vision to produce Sustainable Palm Oil a standard practice for the industry. We have embarked this journey to instill sustainability to all levels of workforce in BPB to achieve 100% MSPO certification by 2019 and 100% RSPO certification by 2023.

As of 2018, we have four business units that comprise 4 mills and 15 estates (26,347 Ha) certified with RSPO producing 84,420 MT of Certified Sustainable Palm Oil (CSPO) and 15,964 MT of Certified Sustainable Palm Kernel (CSPK). One business unit will be certified with MSPO and another business unit certified with both RSPO and MSPO in the first half of 2019.

<table>
<thead>
<tr>
<th>RSPO CERTIFIED AREA</th>
<th>MSPO CERTIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 11,525 Ha</td>
<td>2017 1 ESTATE</td>
</tr>
<tr>
<td>2016 11,503 Ha</td>
<td>2018 15 ESTATES</td>
</tr>
<tr>
<td>2017 21,633 Ha</td>
<td>2017 1 MILL</td>
</tr>
<tr>
<td>2018 26,347 Ha</td>
<td>2018 4 MILLS</td>
</tr>
</tbody>
</table>

**BPB SUSTAINABILITY CERTIFICATION SCHEME**

Total land area: **93,325 Ha**

<table>
<thead>
<tr>
<th>Increase in CSPO Produced</th>
<th>Increase in CSPK Produced</th>
<th>Increase in RSPO Certified Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>47%</td>
<td>56%</td>
<td>22%</td>
</tr>
</tbody>
</table>
**Economic**: Achieving Strategic Growth

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**RSPO and MSPO Certification**

- **2017**: 1 Mill, 1 Estate
- **2018**: 4 Mills, 15 Estates

*1 mill and 5 estates have undergone Main Assessment for MSPO Certification and are expected to be certified by the second quarter of 2019.*
We support calls for increased transparency in the palm oil industry. Ensuring traceability is a crucial component on our road to sustainability, one that will enable us to understand our supply chain better.

During the year, we demonstrated our commitment to traceability through the development of our Traceability Monitoring Programme, which has been implemented at all our business units. Our Traceability Monitoring Programme will enable us to trace the origins of the CPO back to the source. To date, four palm oil mills have been certified with RSPO Supply Chain certification.
ENVIRONMENT

Safeguarding the Environment

39  High Conservation Value Areas and Biodiversity
41  Greenhouse Gas Emissions
46  Waste and Effluent Management
Safeguarding the Environment

MATERIAL MATTERS

01. High Conservation Value Areas and Biodiversity

02. Greenhouse Gas Emissions

03. Waste and Effluent Management

HIGHLIGHTS

- HCV Area:
  364 Ha

- 1 Biogas Plant

METHANE CAPTURED

<table>
<thead>
<tr>
<th>Year</th>
<th>Methane Captured</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>461,000 m³</td>
</tr>
<tr>
<td>2018</td>
<td>1,570,000 m³</td>
</tr>
</tbody>
</table>

- Installed

1 Wet-scrubber
Excellence in environmental management is at the heart of our operations. We are fully committed to the implementation of policies and initiatives that mitigate environmental risks wherever possible.

**High Conservation Value (HCV) Areas and Biodiversity**

The Group is conscious that cultivating oil palms in Malaysia, a nation blessed with rich biodiversity, can have significant negative environmental impact unless necessary precautions are undertaken. As part of our effort to contribute to a sustainable palm oil industry, we are committed to preserving HCV areas.

Our management of HCV areas involves engagements with key stakeholders such as local communities and Government. We are committed to preserving HCV areas while reducing the impact on biodiversity as much as possible. We do this through the assessment of HCV areas, management of the biodiversity and quality of the HCV areas in addition to continuous monitoring of the HCV areas to ensure that it remains conserved.

HCV areas constitute of locations that are home to wildlife, rare ecosystems as well as those that are culturally significant, which are found across our land earmarked for development as well as in our existing plantations.
Environment: Safeguarding the Environment

Our HCV assessments are benchmarked against international best practices and are incorporated into management plans for plantation development. Where necessary, we engage external experts to provide input on our HCV assessments. If a HCV area is found in our plantations, we endeavour to enhance its natural value and biodiversity by protecting the flora and fauna, particularly endangered species, through the elimination of threats from illegal activities. Signs are put up to denote that the area has been set aside for conservation while we also limit access through close monitoring of the area.

As of 2018, we have completed HCV assessments for 60% (six business units) of our plantations.

HCV Assessment completed for Boustead Group (Plantations and Mills)

<table>
<thead>
<tr>
<th>Year</th>
<th>HCV Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>40% (4 business units)</td>
</tr>
<tr>
<td>2018</td>
<td>20% (2 business units)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>60% (6 business units)</td>
</tr>
</tbody>
</table>

Our management of HCV areas also involves the rehabilitation of riparian zones that have previously been cleared or planted. During the year, we undertook proactive action by restoring a river buffer zone located in our G&G estate, Lahad Datu, Sabah as well as a jungle pocket in our Bukit Segamah estate also located in Lahad Datu Sabah.

Buffer zone initiatives at G&G Estate, Lahad Datu, Sabah
Greenhouse Gas (GHG) Emissions

2017
- Assess GHG reduction opportunities

2018
- Develop emissions baseline (Calculating our GHG emissions in selected estates and mills)

2019
- Short, medium and long-term reduction targets

Environment: Safeguarding the Environment

Biogas Plant, Telok Sengat Palm Oil Mill, Kota Tinggi, Johor
Environment : Safeguarding the Environment

In recognition of the immense threat of climate change poses to our planet, the Group is committed to monitoring and reducing our potential contribution to global carbon emissions while reporting on our carbon footprint. Our efforts are focused on addressing the main sources of GHG emissions linked to palm oil production.

GHG Emissions

OBJECTIVE
To reduce pollution and emission of GHG that can contribute to climate change.

<table>
<thead>
<tr>
<th>TARGET</th>
<th>ACTION PLAN</th>
<th>TIMELINES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil Nitrous Oxide (N₂O) emissions.</td>
<td>• To utilise various best management practices in estate operations which can reduce GHG emissions and maximize energy efficiencies.</td>
<td>Continuous</td>
</tr>
<tr>
<td>Direct energy use and Carbon Dioxide (CO₂) emissions from tractors, lorry, other machinery.</td>
<td>• To clean up, treat, and inspect diesel skid tanks regularly including eliminating carbon deposits inside the tank to improve diesel particle stability and protect against diesel tank corrosion, removal of residual water and contaminants during microbial contamination, as well as reducing black smoke released into the air from usage of diesel in tractors, lorries, and other machineries.</td>
<td>Continuous</td>
</tr>
<tr>
<td>Nitrous oxide (N₂O) emission from soils treated with nitrogen-based fertilizers.</td>
<td>• To reduce nitrogen emission from fertilizer application, management has adopted Oil Palm Manuring Recommendation from Applied Agriculture Resources Sdn Bhd whereby the fertilizer recommendations are based on Agronomist advice from data obtained from soil and leaf samplings.</td>
<td>Continuous</td>
</tr>
<tr>
<td></td>
<td>• To plant legumes cover crops such as <em>Mucuna bracteata</em> which can recycle Nitrogen back to the soil. In addition, the cover crops reduce soil erosion and water runoff thereby reducing the leaching of nitrates from the soil into waterways.</td>
<td>Continuous</td>
</tr>
</tbody>
</table>
Environment : Safeguarding the Environment

<table>
<thead>
<tr>
<th>TARGET</th>
<th>ACTION PLAN</th>
<th>TIMELINES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Dioxide ($CO_2$) emission from the use of tractor in estate operations.</td>
<td>• To reduce the carbon emission from the tractors in the estate operations, management performs vehicle maintenance at timely manner. For example a 90hp tractor is serviced at intervals of every 200 hours.</td>
<td>Continuous</td>
</tr>
<tr>
<td>Methane ($CH_4$) release from palm oil mill effluent (POME)</td>
<td>• To reduce tillage agriculture (in which preparation of soil by mechanical agitation of various types, such as digging, stirring, and overturning). Examples of human-powered tilling methods used in the estate operations include shovelling, hoeing and raking.</td>
<td>Continuous</td>
</tr>
<tr>
<td>Methane ($CH_4$) release from palm oil mill effluent (POME)</td>
<td>• To adopt management practices that promote soil’s role as a carbon sink. As a sink, soil currently offsets about 15% of agricultural GHG emissions. The ways to boost this capacity is to plant cover crops which can add organic matter that locks in more carbon.</td>
<td>Continuous</td>
</tr>
<tr>
<td>Methane ($CH_4$) release from palm oil mill effluent (POME)</td>
<td>• To construct biogas plant where possible to capture Methane ($CH_4$) formed from the anaerobic digestion of organic solids to reduce pollutions and GHG emissions from POME.</td>
<td>Currently, one biogas plant has been constructed at Telok Sengat Palm Oil Mill</td>
</tr>
</tbody>
</table>
Environment: Safeguarding the Environment

In addition, we have implemented a made-to-order PalmGHG Calculator for all our plantations and mills. The PalmGHG Calculator was developed by the GHG Working Group 2 (GHG-WG2) of the RSPO to allow oil palm growers to estimate and monitor their net GHG emissions. This will aid us in completing our baseline studies, which will then be utilised to design our overall GHG reduction targets and strategies for 2019.

We look to identify crucial areas in our production chain and thereby undertake emission reduction opportunities that are set for the short, medium, and long terms.

2018 GHG Emissions Assessment Project

<table>
<thead>
<tr>
<th>No.</th>
<th>Business Unit (BU)</th>
<th>Location</th>
<th>Description</th>
<th>t CO₂</th>
<th>t CO₂e/ t FFB</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sungai Jernih BU</td>
<td>Pahang and Terengganu</td>
<td>POME (CH₄)</td>
<td>23,569</td>
<td>0.20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fuel Consumption(mills)</td>
<td>1,016</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fuel Consumption (estates)</td>
<td>595</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CO₂ emission from fertilizers</td>
<td>7,732</td>
<td>0.07</td>
</tr>
<tr>
<td>2.</td>
<td>Trong BU</td>
<td>Perak, Kedah, and Penang</td>
<td>POME (CH₄)</td>
<td>8,898</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fuel Consumption (mills)</td>
<td>962</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fuel Consumption (estates)</td>
<td>620</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CO₂ emission from fertilizers</td>
<td>9,300</td>
<td>0.06</td>
</tr>
<tr>
<td>3.</td>
<td>Nak BU</td>
<td>Sandakan, Sabah</td>
<td>POME (CH₄)</td>
<td>10,952</td>
<td>0.14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fuel Consumption (mills)</td>
<td>983</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fuel Consumption (estates)</td>
<td>1,676</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CO₂ emission from fertilizers</td>
<td>8,945</td>
<td>0.10</td>
</tr>
<tr>
<td>4.</td>
<td>Segaria BU</td>
<td>Semporna, Sabah</td>
<td>POME (CH₄)</td>
<td>16,990</td>
<td>0.20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fuel Consumption (mills)</td>
<td>1,037</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fuel Consumption (estates)</td>
<td>1,256</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CO₂ emission from fertilizers</td>
<td>1,723</td>
<td>0.02</td>
</tr>
</tbody>
</table>

* These calculations are part of limited assessment and are representative of the GHG emissions in RSPO-certified business unit.
Environment: Safeguarding the Environment

While we continue to complete and design our overall GHG emission reduction strategy, we have already instituted several emission reduction initiatives.

We estimate that our biogas plant can reduce approximately 70% of operational methane emission.

We identified the key sources of GHG emissions across our estates and mills:

**Methane emission from POME**
- Mills

**Emission associated with fertiliser use**
- Estates

**Emission from fossil fuels**
- Mills and estates

**GHG emissions by output (CPO and PK)**

<table>
<thead>
<tr>
<th>Palm Oil Mill</th>
<th>CPO (t CO₂e/t CPO)</th>
<th>PK (t CO₂e/t PK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sungai Jernih Palm Oil Mill</td>
<td>1.22</td>
<td></td>
</tr>
<tr>
<td>Trong Palm Oil Mill</td>
<td>1.61</td>
<td>1.61</td>
</tr>
<tr>
<td>Nak Palm Oil Mill</td>
<td>1.41</td>
<td>1.41</td>
</tr>
<tr>
<td>Segaria Palm Oil Mill</td>
<td>0.94</td>
<td>0.94</td>
</tr>
</tbody>
</table>

_Biogas Plant, Telok Sengat Palm Oil Mill, Kota Tinggi, Johor_
Environment: Safeguarding the Environment

Waste and Effluent Management

Processing FFB generates a variety of by-products including empty fruit bunches (EFB), fibre, shells and POME. We strictly observe best practices in handling effluent and waste generation in adherence to standards set by the authorities.

Our Biomass management includes a zero-waste strategy, which involves reusing, recovering and recycling various by-products. To this end, we recycle organic by-products into organic fertiliser as well as into a source of energy.

Our nine palm oil mills processed a total of 1,100,400 MT FFB, producing about 400,000 MT of solid biomass and about 700,000 MT of liquid biomass. Solid biomass, which comprises of mesocarp fibres and palm kernel shells are utilised as fuel for biomass boilers. The energy generated propels turbines for electricity production in order to power the plant and its machineries. The steam and electricity generated are more than enough to meet the energy demands of the palm oil mill. At the same time, 210,000 MT of EFB are utilised for mulching.

Liquid biomass comprising POME is converted into biogas through a biological process. This biogas is then captured via a covered lagoon biodigester system at our Telok Sengat Palm Oil Mill. The captured biogas is utilised to generate power through a gas-fired engine and burned in a biomass boiler as boiler fuel. About 1,570,000 m³ of biogas was utilised at the Telok Sengat Palm Oil Mill. As a result, we have been able to reduce our dependency on fossil fuels and minimise GHG emissions as a result of this renewal energy source.
In line with the Department of Environment’s requirements on dust particulate emissions, we installed Wet Scrubbers at our Segamaha Palm Oil Mill in Sabah. We plan to add Electrostatic Precipitator devices at all mills.
SOCIAL

Embracing the Diversity of People

51 Workforce Management
52 Occupational Safety and Health
54 Corporate Social Responsibility and Community Outreach
Embracing the Diversity of People

**MATERIAL MATTERS**

**Workforce Management**

**Occupational Safety and Health**

**HIGHLIGHTS**

**PROMOTIONS**
- Mill: 1 Person

**UPGRADING**
- Head office: 13 Persons
- Estates and Mills: 61 Persons

**LOSS TIME INJURY**

<table>
<thead>
<tr>
<th>Number of injuries</th>
<th>Loss time injury hours</th>
<th>Fatality</th>
</tr>
</thead>
<tbody>
<tr>
<td>228 2017</td>
<td>196 2018</td>
<td>0 2017</td>
</tr>
<tr>
<td>3,763 2017</td>
<td>4,265 2018</td>
<td>0 2018</td>
</tr>
</tbody>
</table>
The diversity of our social ecosystem comprising employees as well as the communities we operate within is an important factor in our continued success.

Our employees are at the core of our growth, undeniably our success would not be possible without the expertise and dedication of each and every one of our employees.

We are committed to ensuring that the rights of our over 9,000-strong workforce is respected through workplace policies and procedures that are grounded in Malaysia's labour legislation and standards.

We are committed to enhancing our workplace through programmes and measures expressly designed to empower employees to achieve their full potential. Employees are offered various talent development and training programmes to aid in increasing opportunities for career advancement within the Group. We believe in investing in our employees, trainings conducted encompassed areas including sustainability certification, environmental protection awareness, safety enhancement and good agricultural practices.

We place emphasis on uniting our people as one team. Encouraging a strong sense of community at our estates is critical to attracting and retaining employees. Employee activities undertaken to improve camaraderie during the year included festive gatherings, celebrations and team building exercises.

In addition, we recognised and rewarded our employees for their contribution to our growth through performance-based rewards, awards, allowances and benefits. A total of 75 employees were promoted during the year.

We support the rights of our employees to form and join trade unions of their choice as well as to bargain collectively in line with industry-recognised collective agreements. In addition, we also provide a medium for employees to voice their grievances.
Social : Embracing the Diversity of People

Occupational Safety and Health

Providing employees with safe working conditions is of paramount importance to the Group.

Our occupational safety and health policy was implemented to safeguard our employees by preventing work-related illness and workplace accidents while creating a safe and healthy workplace to improve efficiency and productivity.

We constantly review and reassess our safety standards to ensure that they are in line with industry best practices, new technologies and scientific advances.

Safety signage at Eldred Estate, Bekok, Johor

Workers safety briefing
We periodically conduct both in-house and external health and safety training programmes for our workforce. In 2018, employees across our plantations and mills attended a number of training sessions including Safety Work Procedure Training, Workplace Inspection Training, First Aider Training, and Accident Investigation Training. We see training and development as an investment that delivers benefits to both employees and the employer.

We are pleased to report that in 2018, we reported no fatalities from our operations.
Corporate Social Responsibility and Community Outreach

We have a range of initiatives in place to create a positive impact on the community. This includes providing transportation facilities for school children at our plantations and establishing crèches, day-care centres where babies, toddlers and children are cared for in a safe and stimulating environment. These facilities enable our women employees to better focus on their work. We also provide formulated milk to all children in our crèches on a daily basis.
Corporate Social Responsibility and Community Outreach

We understand the value of education and in line with this, we established two Humana Schools at G&G Estate and LTT Sabah Estate both in Lahad Datu, Sabah. We also collaborated with the Indonesian Consulate with the approval of the Ministry of Education, Malaysia, to establish a Community Learning Centre at Segaria Estate, Resort Estate, Sungai Segamaha Estate, Bukit Segamaha Estate, Sutera Estate and Sapa Payau Estate.

Apart from education, we also prioritise the healthcare of our workers. We have setup clinic at all estates to provide medical access to our resident and non-resident workers. The clinics are assigned with a qualified Estate Hospital Assistants. This medical facility is also benefit the surrounding communities whereby they can seek medical attention at minimal fee. This is especially important, given that the nearest alternative may be several hours away.
Going Forward

- We have set up a baseline in many areas of sustainability for action. These will be our reference points to monitor our progress going forward.

- The Board has set the tone, strategy to lead us forward on this journey. Our management team is competent and well informed to execute and monitor these efforts.

- With these fundamentals in place, we hope to report improvements in the three core areas of Economic, Environment and Social.
For More Info
Please Contact

BOUSTEAD PLANTATIONS BERHAD
Boustead Estates Agency Sdn Bhd
Planting Advisor Department (Sustainability)
19th Floor, Menara Boustead, 69 Jalan Raja Chulan,
50200 Kuala Lumpur.
03-21452121 ext. 500
www.bousteadplantations.com.my

WHISTLEBLOWING

Our whistleblowing channels are as below:-

1-800-800-2040
alert@boustead.com.my