

# Land Positive

Our products will enable more land to be saved than is used to grow our bio-based raw materials. Our innovation will help customers to mitigate the impact of climate change and land degradation, increasing the availability of land suitable for growing crops.

## Highlights

# B

CDP Forests score in 2019, recognising our management of our palm oil supply chain in reducing deforestation risk








# Founder 55,000

member of Action for Sustainable Derivatives, working together to increase transparency in our palm oil supply chain

# 230,000

tonnes of CO<sub>2</sub> sequestered during the growth of one of our key bio-based raw materials, as verified by Carbon Smart

## Land Positive by 2030

Objectives	Target	Next steps and definitions	SDGs
<p><b>Land Use:</b> We will save more land than we use. We will increase agricultural land use efficiency, protect biodiversity and improve food security by sourcing sustainably and inspiring innovation in our agrochemical businesses.</p>	<ul style="list-style-type: none"> <li>By 2030, the land area saved through the improved yields and crop resilience as a result of the use of our crop protection ingredients and seed treatment technologies will exceed that used to grow our raw materials</li> </ul>	<ul style="list-style-type: none"> <li>We have calculated our land use footprint attached to the major crops we source and working with key suppliers we shall continue to seek details of yield improvements, protection of biodiversity, soil health, water consumption, GHG data and certification standards where possible (p26)</li> <li>Developing yield enhancement data, we shall calculate land use savings for all new Life Sciences crop, seed enhancement and stimulant technology</li> </ul>	  
<p><b>Crop Science Innovation:</b> We will invest in innovation projects and partnerships to support crop and seed enhancement in mitigating the impact of a changing climate and land degradation.</p>	<ul style="list-style-type: none"> <li>Through to 2030 we will bring an average of two Crop technological breakthroughs to market each year that are in alignment with our SBTs and which help our customers mitigate the impact of climate change and land degradation</li> <li>By 2030, we will have established 3 new partnerships to contribute to the recovery of compromised farmland. We will work with customers, universities and business councils to achieve this</li> </ul>	<ul style="list-style-type: none"> <li>Review current innovation activity to assess technology breakthroughs in our Crop Care pipeline</li> <li>Drive the evolution of our innovation pipeline across our Crop Care businesses</li> <li>Engage with key stakeholders, such as business councils (e.g. WBCSD) and Multinational Corporations (MNCs), to collaborate in projects to recover compromised farmland</li> </ul>	   

# Land Use



Our Land Positive target means we will save more land than we use by increasing agricultural land use efficiency, protecting biodiversity and improving food security by sourcing sustainably.

To help us achieve this we have calculated our land use footprint attached to the major crops we source. This has been achieved through detailed and expert knowledge of our supply chains gained through engagement with our suppliers, ensuring that none are associated with deforestation or in conflict with food security. Protection of biodiversity, soil health and water consumption are also key measures for sustainably sourcing our feedstocks.

## Organic bio-based raw materials

By 2030, over 75% of our organic raw materials by weight will be bio-based. These organic bio-based raw materials deliver a lower carbon footprint. We have already calculated that during 2019, 230,000 tonnes of CO<sub>2</sub> was sequestered during the growth of one of our key bio-based raw materials, as verified by Carbon Smart. In 2019, 63.3% of our organic raw materials were bio-based, already a leading position compared to our peer group, and the rest of the chemical industry, who are primarily using fossil-based raw materials.

Building on our unique position compared with our peer group, our 2030 bio-based raw material target is three times the target the European Chemical industry has set\*, as we continue to lead the transition away from organic fossil/petrochemical feedstocks.

## Sustainable palm oil

Our preference is in using bio-based feedstocks that deliver a lower carbon footprint than fossil-based alternatives. These natural feedstocks are sourced from crops that are well established and widely grown. However, the potential environmental issues of deforestation and loss of biodiversity surrounding palm oil production make end-to-end engagement in supply chains vital to ensure transparency and sustainable practices throughout. RSPO-certified palm is recognised to deliver a 35% lower global warming impact than non-certified.\*\*

We fully support the RSPO, and all our relevant manufacturing sites processing over 99% of our global palm derivative volumes are RSPO Supply Chain Certified. In 2019 we also became founder members of the Action for Sustainable Derivatives (ASD).

\* Published by Dechema, BTG, E4Tech, Nova Institute for Ecology & Innovation

## Domestic Material Consumption

We believe it is increasingly important to source locally and reduce environmental impact by all means available. This is described by the United Nations in the Sustainable Development Goals Report 2019 as Domestic Material Consumption (DMC).

DMC measures the total amount of materials directly used by an economy to meet the demands for goods and services from within and outside a country/region. According to the UN\* the material footprint per capita has increased from 8.1 tonnes in 1990 to 12.2 tonnes in 2017. For high-income countries it's approximately 27 tonnes per person, upper middle-income



\*\* Jannick Schmidt and Michele De Rosa, the LCA consultants, Denmark.

The ASD is co-managed and co-facilitated by BSR (Business for Social Responsibility) and Transitions, organisations with extensive experience and expertise in supply chain sustainability and business collaborations. Together with leading home and personal care companies including L'Oréal, Beiersdorf, The Body Shop and Estée Lauder Companies, the coalition will further develop operational solutions to ensure progress towards fully sustainable and deforestation-free sourcing.

**“The home and personal care industry has made enormous progress in supporting sustainable palm and extending positive influence beyond its own supply chains. The ASD is a perfect example of businesses coming together to complete the industry transformation to sustainable palm and partnering to meet the United Nations Sustainable Development Goals.”**

**Chris Sayner**  
Vice President Customer Alliances,  
Corporate Sustainability

countries 17 tonnes per person and low-income countries 2 tonnes per person. The material footprint of high-income countries is greater than their domestic material consumption, on a per-capita basis. High-income countries rely on 9.8 tonnes of primary materials extracted elsewhere in the world.

We believe DMC will be an increasingly important measure in sourcing sustainably and based on regional usage in Asia, Europe, North America and Latin America, approximately 85% of the volume of raw materials we consume are sourced locally, within the region.

\* The Sustainable Development Goals Report 2019

# Crop Science Innovation



Our Crop Care businesses offer innovative ingredients to help farmers increase yields as well as crop resilience. To increase our contribution to SDG 2, Zero Hunger, we want to invest in

projects and partnerships, using our smart science to support agriculture in mitigating the impact of a changing climate and land degradation.



Above: pictures showing a field treated with Incotec's PaddyRise product at the Kedah facility (left), and without (right).

## Incotec Kedah: improving rice yields in Malaysia

In 2019 we opened a seed enhancement facility in the Kedah province of Malaysia to treat rice seeds with our new PaddyRise™ technology. In Malaysia, imports of rice are 25% higher than the amount the country can produce, meaning fluctuations in price can greatly affect food security.

We have demonstrated that PaddyRise can improve the yield by up to 25%. By increasing the yield of rice, the land area required to grow a tonne of crop is lower, effectively leading to a 'land saving'. This land saving has an associated carbon and water cost. For every tonne of seeds treated, there is the potential benefit to save up to eight tonnes of CO<sub>2</sub>e and 20,000m<sup>3</sup> of water.

Prior to opening the site, a Sustainability Impact Assessment (SIA) was carried out. In this assessment the opportunities for sustainability and their impact on each of the SDGs were established. There were four SDGs that the project was found

to have the greatest impact towards. These include SDG 2, Zero Hunger, SDG 6, Clean Water, SDG 12, Responsible Consumption and Production and SDG 15, Life on Land. The increase in crop yields mean there is more food available, which is especially important in the region where the quality of seeds is low and there is high dependence on the rice crop. Previously, farmers had come into direct contact with the crop protection products during labour intensive treatment of the rice. Coating the seeds minimises the exposure of the farmers to chemicals and reduces pesticide run off into watercourses.

The main findings of our SIA were that the project is inherently sustainable. By opening the facility and providing the seed treatment we are enabling farmers to increase their yields and reduce pesticide spraying, which has a positive impact on the lives of the farmers as well as the environment.

## Plant Impact: more blueberries, less waste, more grower income

Our Plant Impact technologies use biostimulant chemistry to improve the quality and yield of field and horticultural crops globally. As well as helping to improve food security, these products support an increase in grower incomes and contribute to a reduction in food loss and waste.

As an example, our InCa™ foliar spray, based on patented CaT™ biostimulant technology, is significantly increasing the marketable yield of blueberries for growers in Chile. This safe and easy-to-use technology improves the mobility of calcium within the plant, which helps to increase crop and storage quality. In trials led by independent distributor, Hortifeeds International, after 30 days of sea and road transport from Chile to the UK, on average, the blueberry shipments of fruit treated with InCa had 42% less softened berries than a shipment grown without such treatment (softened berries are rejected as they are unacceptable for retail). The calcium content of the treated blueberries was up to 19% higher and it is estimated that their shelf-life was extended by more than

four days. As Chilean growers are only paid for fruit that is saleable, this improvement makes a significant difference to their income, whilst reducing food waste.

According to the Food and Agricultural Organization of the United Nations, around 45% of all fruit and vegetables are lost or wasted between harvest and consumption. We see our biostimulant chemistry as a key tool to help growers and the food supply chain to reduce this shocking statistic.

