

# Reducing our environmental impact in manufacturing

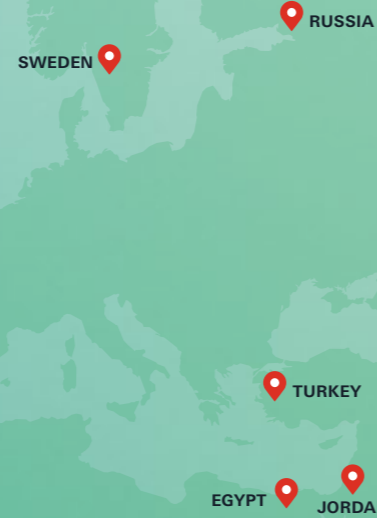
Sustainability is deeply embedded within our manufacturing operations. At our factories around the world, we work to minimize our environmental impact by focusing on energy efficiency, GHG emission reduction, water efficiency, and waste reduction.

In recent years, we have made a concerted effort towards increasing the proportion of our energy that comes from renewable sources, and this has been reflected in our expenditure. Since 2016, we have invested nearly 13 million U.S. dollars in renewable energy.

We are further reducing water usage and improving recycling, enhancing our management of wastewater, and addressing water-related risks to our operations.

In terms of waste, our focus is on improving yield, reducing waste disposal, and decreasing secondary packaging.

Read about our approach to environmental management on page 26.



## 2

### HARNESSING RENEWABLE ENERGY

#### GREEN ENERGY VARGARDA, SWEDEN

The program minimizes CO<sub>2</sub> emissions and energy consumption at the factory by combining green energy alternatives with a range of cost-effective energy-saving projects. The factory is connected to a nearby bio-steam facility, which heats the factory by burning CO<sub>2</sub> neutral woodchips. The factory also uses a steam-to-hot-water conversion system to heat the offices, helping it to achieve a remarkable 67% reduction in CO<sub>2</sub> emissions.

To further reduce energy consumption, the team also plans to rebuild the ventilation system, improve the heating and cooling system, install a better control system, and improve insulation.

#### SOLAR STEAM GENERATION AMMAN, JORDAN

Awarded the “Environmental Stewardship Award” by the Ministry of Environment in Jordan and the World Bank, this is the first tobacco factory in the world to use direct solar steam generation.

A rooftop-mounted collector, steam storage, and a steam-driven absorption chiller provide the site with energy and building heating and cooling. The system covers 85% of the plant’s annual steam consumption, and helps reduce its CO<sub>2</sub> emissions by 12% or 500 tons a year.

The factory’s ultimate ambition is to be 100% carbon neutral.

#### SOLAR ELECTRICITY GENERATION BATANGAS, PHILIPPINES

In the largest self-consumption rooftop solar system in South-East Asia, 17,040 solar panels convert the sun’s energy into usable electricity. The use of solar energy helps prevent approximately 4,000 tons of GHG emissions a year.

## 1

### GHG EMISSIONS EFFORTS IN JAPAN

**JT** is certified as an Eco Rail mark company by the Ministry of Land, Infrastructure, Transport, and Tourism in Japan. This group of companies is reducing GHG emissions through techniques such as modal shift – changing from trucking to container transportation via rail and sea – and improving truck-loading ratios.

The **JT Kansai factory** received two awards from Kyoto City and Kyoto Prefecture government for its excellent emission reduction initiatives. The factory is proactively tackling the reduction of GHG emissions through initiatives such as high efficiency freezer installation and eco-friendly compressor use.



## 3

### WATER

We continue to identify ways to reduce water usage in our factories.


- › Better irrigation processes and timing in **Jordan** and **Iran** have reduced water demand for irrigation by around 40% (around 19,000 m<sup>3</sup> annually).
- › Thanks to improved technology, our **Turkey** factory is now able to reuse the majority of the wastewater from its water filtration process.
- › Our factory in **Egypt** reduced water consumption by over 30% through improved container washing, a mixer project upgrade, and boiler feed water reuse.
- › By reusing recovered water (condensate) for its manufacturing process, our Yelets factory in **Russia** reduced water consumption by 5% (26,400 m<sup>3</sup> per year).

### WASTE


Many of our factories reuse large tobacco packing cases and wooden pallets. This reduces the amount of waste generated.

Our factory in **Iran** has boosted its recycling rate from 48% to 93% by changing its waste management method for tobacco dust and acetate tow. Tobacco dust is used now as agricultural organic fertilizer, and the acetate tow as the raw material for a specific type of packaging production.

Our Environment Program for Markets, which will be launched in 2019, aims to help our office and warehouse locations to raise awareness of our environmental impact, and to develop programs to reduce this impact by sharing guidance and best practices.



**OUR TARGET: GREENHOUSE GAS EMISSIONS**  
We will reduce greenhouse gas emissions from our own operations by 35% and from our direct leaf supply chain by 40%, between 2015 and 2030.



**OUR TARGET: WATER AND WASTE**  
We will reduce water withdrawal by 15% and waste by 20%, in relation to our own operations, between 2015 and 2030.