

In this section

Environmental management > P.39

Energy and GHG emissions > P.40

Resource efficiency – waste and water > P.42

Biodiversity > P.44

05 Environment

Environmental protection is a critical part of our responsibility to society. We work hard to identify, understand, and reduce our environmental impacts, going beyond strict legal minima. We do this not only because it is the right thing to do, but also because it delivers business and cost benefits.

Our commitment to environmental protection is reflected in the JT Group Environment Charter and Environmental Policy. Our commitment is wide-ranging and focuses on our whole value chain, from the procurement of raw materials to production, distribution, and sales.

To deliver improvements across the business, we have set targets in four key areas: prevention of global warming by reducing greenhouse gas (GHG) emissions, protection of water resources through sustainable water use, protecting biodiversity, and prevention of waste and promoting recycling along with effective resource use. Our newly developed Long-term Environmental Plan outlines initiatives that aim to deliver these goals by 2020.

Environmental management

Three critical factors drive our commitment to reducing the environmental impacts of our business: our legal obligations, our business performance, and our responsibility as a corporate citizen.

Compliance with all relevant laws and regulations is our baseline everywhere we operate. Beyond compliance, there are sound business reasons for effective environmental management. By reducing consumption of resources such as energy and water, as well as avoiding waste, we minimize our impacts while also reducing costs. We also recognize our obligation to preserve resources and protect the environment so that future generations can enjoy the same opportunities that we benefit from today.



Management approach

Environment Charter and Environmental Policy

The JT Group Environment Charter and Environmental Policy provide the foundation for our commitment to environmental protection. They require that we reduce our environmental impacts in every country that we operate in and across our entire value chain, from raw materials procurement to production, distribution, and sales. Our Environmental Policy applies to all operations and covers the following areas:

- Management systems: establish effective environmental management systems and continually improve them
- Compliance: comply with environmental laws and regulations everywhere that we operate
- Products and services: reduce environmental impacts of our products and services in their development phase, taking into account potential impacts on biodiversity
- Process and supply chain: reduce environmental impacts and optimize the use of natural resources at all stages of our activities, taking into account potential impacts on biodiversity. We encourage suppliers to understand and abide by our Environment Charter
- Environmental education: develop environmental awareness among employees through education and training, and encourage them to take personal responsibility for the environment
- Environmental communication: openly communicate our environmental performance and engage with our stakeholders to build trust

The JT Group Long-term Environmental Plan

To support our Environment Charter and Policy, in 2014 we developed a Long-term Environmental Plan to 2020. The Plan outlines medium- and long-term improvement targets and initiatives in four key areas:

- Prevention of global warming by reducing GHG emissions
- Protection of water resources through sustainable use of water

- Protection of biodiversity through sustainable stewardship of the natural environment
- Prevention of waste and promoting recycling along with effective resource use

The Plan also aims to enhance our environmental management approach on a global basis and deliver improvements in environmental data reporting.

Environmental responsibilities

Responsibility for environmental management rests with JT's Executive Deputy President. The head of each operating division controls environmental management within their division and relevant Group companies. The Group Executive Committee monitors performance and developments in environmental management.

Environmental management systems

The JT Group's environmental management system (EMS) is based on the ISO 14001 environmental management standard. Using a formal EMS ensures that our processes are consistent and systematic across the business and that we continually improve our environmental performance.

All manufacturing sites are encouraged to obtain ISO 14001 certification. Non-manufacturing sites, such as research and development facilities and distribution centers, can seek formal certification or implement their own ISO 14001 compliant EMS. Smaller sites and offices use simplified versions. By using different levels of EMS, we manage environmental impacts according to the nature and scale of an individual operation. In 2013, 100% of our Japanese domestic tobacco factories and 78% of our international tobacco business factories were certified to ISO 14001. Recent acquisitions in our international tobacco business explain the lower figure, and we are working towards all manufacturing sites becoming certified to ISO 14001.

Energy and GHG emissions

As a company that uses agricultural commodities as a key component in many of our products, climate change poses a potential long-term risk to our operations. Temperature changes, shifting weather patterns, and water scarcity could all have an impact on agricultural growing patterns and productivity, affecting the security of our supply chain. As a result, we have set long-term targets to measure, manage, and reduce our GHG emissions.

Managing emissions

We started measuring our energy and GHG emissions in 1995. All of our sites are required to produce action plans with quantified energy and/or emissions reductions targets that include details of investments required and the payback period for investments. In this way we have a continual focus on monitoring our performance and identifying opportunities for improvements.

Measuring emissions across our value chain

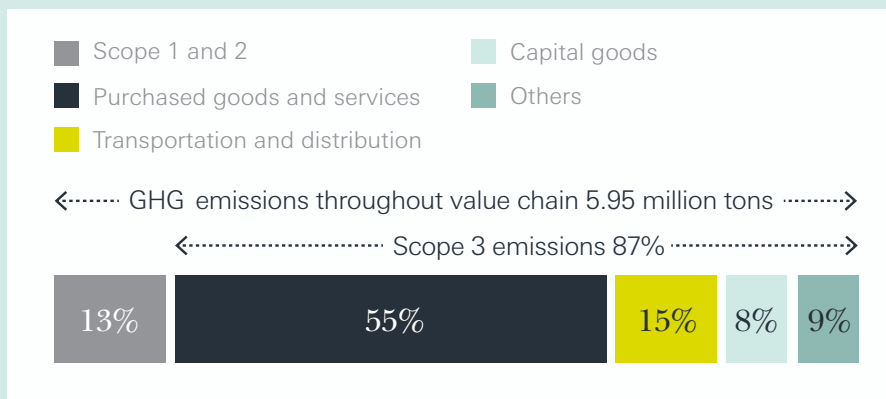
In addition to direct (Scope 1) emissions from fuel use at our sites and indirect (Scope 2) emissions from the electricity we

purchase, we have been monitoring GHG emissions for the JT Group's entire value chain (Scope 3) since 2011. Although these Scope 3 emissions are outside the direct control of the JT Group, this process allows us to identify the areas responsible for the greatest emissions and to examine the most effective way to reduce them.

In 2013, approximately 87% of the total GHG emissions of the JT Group came from Scope 3 sources, with 13% coming from Scope 1 and 2. The main sources of Scope 3 emissions are the products and services we purchase (55%) and transport and distribution of our products (15%).

GHG emissions across the JT Group value chain (2013)

All of our Scope 1 and 2 emissions are externally verified. Currently, some of our Scope 3 emissions are externally verified, including emissions from purchased non-tobacco materials in our Japanese domestic tobacco business and tobacco leaf for both Japanese domestic and international tobacco businesses. Scope 3 employee travel data in our international tobacco business is also externally verified.



Targeted reductions

We have set long-term GHG targets for 2020:

- To reduce the JT Group GHG emissions (Scope 1 and 2) by 20% by 2020 compared to 2009
- To reduce GHG emissions from our tobacco business per million cigarettes equivalent by 20% by 2020 compared to 2009
- To monitor GHG emissions through the JT Group's entire value chain (Scope 3 emissions) and to establish an effective way to reduce these emissions

We will deliver these targets through focused efficiency programs, including an ongoing, comprehensive energy survey

in our production facilities. We are also targeting fuel efficiency and emissions from our vehicle fleet. For example, we provide eco-efficient driver training and run high-stack loading of trucks.

Performance

The tables show our performance on Scope 1 and 2 emissions for the whole JT Group. Our Scope 1 and 2 emissions have steadily decreased over the past few years as a result of increased focus on monitoring and improvement measures. With a reduction of 11.5% in emissions over 2009, we are well on track to achieve our emissions reduction target for 2020.

GHG emissions (Scope 1 and 2)^{*A}

	2009	2010	2011	2012	2013
Total Scope 1 and 2 GHG emissions (1,000 tons)	903	880	836	830	799

GHG emissions intensity (Scope 1 and 2)^{*A}

	2009	2010	2011	2012	2013
GHG emissions intensity for tobacco business (tons / million cigarettes equivalent)	0.73	0.76	0.73	0.75	0.73



Carbon Disclosure Project

In the last two years that the JT Group has been reporting to the Carbon Disclosure Project (CDP), on a Group-wide basis, we have seen improvements in our disclosure score for effective emissions management. Our disclosure score has risen from 83 in 2012 to 96 in 2013.

Initiatives to reduce emissions



Energy saving vending machines

Vending machines are a key sales channel for our beverage business in Japan, and we focus on reducing their energy use. Energy efficiency measures include installing low-energy LED lighting (49% of our vending machines have LED lighting) and optimizing lighting hours. 59% of our beverage vending machines have energy-efficient heat pumps and 100% have peak cut systems, where the refrigeration compressor is shut down during peak load hours in summer to save power.



Supply chain partnership

Our international tobacco business is actively developing a supply chain carbon management strategy. As part of this, we have partnered with 23 of our leading international suppliers to focus on emissions reduction in areas outside our direct control. We are also working with directly contracted farmers to reduce emissions from fertilizers and tobacco curing, the two main sources of GHG emissions in our tobacco supply chain. For more details on initiatives in our supply chain, see pages 30–37.



Promoting eco-driving

We undertake a variety of eco-driving training across the JT Group. In our international tobacco business, this has included training fleet drivers to reduce fuel consumption and emissions. In our beverage subsidiary, sales representatives took part in an eco-driving contest between August 2013 and January 2014. The contest involved the whole sales fleet of more than 100 vehicles and aimed to improve fuel efficiency as well as prevent accidents.



Investing in saving

In 2011, we conducted an energy survey covering 20 factories in our international tobacco business. The survey identified 100 energy saving capital-investment projects with a combined investment of US\$17 million. Senior management provided full backing for the investment, which will be delivered between 2011 and 2015. The result of these projects should be a 7% net reduction in energy consumption by 2015 with a similar reduction in carbon emissions.

One of the highlights of the survey, and the biggest single saving, came at our Yelets factory in Russia. In 2013, we replaced evaporators used in the production of tobacco sheet with new

evaporators that are eight times more efficient. This single change is expected to reduce energy consumption across our international manufacturing sites by 2.4%.

The survey also highlighted that ongoing review of energy efficiency opportunities is essential. As a result, factories will continue to review their operations annually to build on the survey findings and maintain a pipeline of energy efficiency improvements beyond 2015.

Resource efficiency - *waste and water*

As a business with significant global manufacturing operations, using resources efficiently is a high priority across the JT Group. Our main areas of focus are reducing waste and increasing recycling, and using water efficiently and responsibly. This not only provides environmental benefits, but also delivers cost savings and drives efficiency in our operations.

We project waste generation and water use at each of our sites as part of the planning cycle at our operations. We also assess our processes and equipment to identify and implement waste reduction and water efficiency programs.

Waste

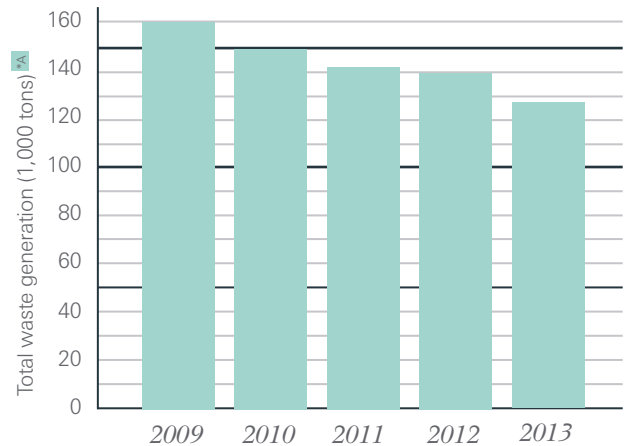
Our Long-term Environmental Plan prioritizes waste prevention through continuous promotion of the 3R waste hierarchy – Reduce, Reuse, Recycle.

Our factories are the main source of waste generation across the JT Group, and we started to monitor and record waste data in 1995. The challenge we face is to improve the detail of our waste monitoring in order to identify improvement initiatives and enable good practice sharing between operations. We remain focused on this challenge and anticipate continued improvements in this area.

The waste recycling rate in 2013 was 75% across the business, stable since 2012.

Performance

Our total waste generation has steadily reduced since 2009. In 2013, we achieved a reduction of around 8% in overall waste generation over 2012.



Sustainable waste management practices in Malawi

Initiatives to reduce waste



Photo by Natsuki Yasuda / studio AFTERMODE



Reducing packaging weight

The JT Group's beverage business is reducing the weight of cans and PET bottles used for its beverages, and TableMark, our processed food subsidiary, is also reducing packaging materials where possible. Changing the base paper used in containers for some of our beverages, from 170g/m² to 160g/m² resulted in a reduction of 148 tons of packaging in 2013.

Support the food bank 'Second Harvest Japan'

The JT Group's beverage and processed food subsidiaries support Japan's first food bank, Second Harvest Japan (<http://2hj.org/english>). Through Second Harvest Japan, products with cosmetically damaged packaging that are within their sell-by date and have no safety concerns are donated to welfare and support organizations such as orphanages, women shelters, and shelters for people without homes. This support has the dual benefit of helping people in need at the same time as stopping products that cannot be sold commercially from becoming waste. According to the Ministry of Agriculture, Forestry and Fisheries of Japan, approximately 17 million tons of food is destroyed every year in Japan.

Halving waste in Jordan

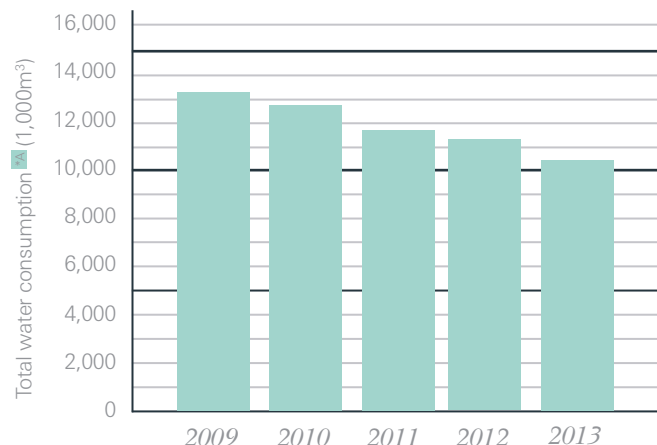
In 2013, our factory in Jordan produced five and a half billion cigarettes while delivering a 48% reduction in waste. With a specific focus on non-tobacco packaging materials and raw material packaging, the factory worked with employees and external suppliers to reduce waste through a commitment to reducing, reusing, and recycling. Actions included reusing steel and plastic drums as water containers for agriculture, or as chemical mixing containers for chemical companies, and the creation of furniture from items such as aluminum foil, wooden covers, and plastic containers.

Sustainable water use

Many of our products are made from natural components; thus, we consider the conservation of water resources as one of the most important environmental issues for the JT Group. Our Long-term Environmental Plan includes a goal to conduct a water risk assessment for all our businesses and to establish appropriate protective and remedial measures in the coming years. The risk mapping process will involve assessing water scarcity and availability forecasts up to 2050, as well as flood, regulatory, and reputational risks.

Performance

Our global water consumption has steadily decreased since 2009. In 2013, we achieved a reduction of around 8% in total water consumption over 2012.



Wastewater treatment plant in Malawi

Until recently, our tobacco processing plant in Malawi discharged its wastewater to a municipal treatment facility. To ensure wastewater at the site is properly treated prior to release, our international tobacco business has built an on-site treatment plant for all wastewater. The plant will ensure that wastewater is processed and re-used on-site when it becomes fully operational in 2014.

Biodiversity

Biodiversity plays an important part in natural processes that are critical to agricultural productivity, such as crop pollination. Linked to this, tobacco is usually grown in biologically diverse areas, so we collaborate with our supplier farmers to minimize biodiversity impacts in our tobacco supply chain.



Our approach

We do not currently have a uniform approach to biodiversity across the JT Group. It is, however, a focus of our Long-term Environmental Plan. This outlines our commitment and approach towards biodiversity to 2020 and establishes a goal to assess the impact of our worldwide operations on biodiversity. Once we understand our impacts better, we can establish

measures to protect biodiversity in a way that responds to the needs and challenges in our operating locations. We launched a program to assess our biodiversity impacts in 2014, and we expect to complete this in the next two years.

Biodiversity in our supply chain

Our approach is to focus on aspects of biodiversity where we can make a difference directly or have a positive influence on those working in the tobacco supply chain. This includes:



Agrobiodiversity

Agrobiodiversity relates to biodiversity on farms. A key factor in this area is including tobacco growers in the process of managing biodiversity on their tobacco farms. Our aim with agrobiodiversity is to establish tobacco production systems that are economically viable, socially acceptable, and environmentally sustainable. Our developing approach to agrobiodiversity is currently being monitored and studied in our agro-research center in Brazil (ADET) through several baseline studies in tobacco growing areas in collaboration with local universities and NGOs.



Tree planting

Growing and planting trees is central to our sustainability approach and serves two purposes. Agroforestry is our main focus, and is designed to ensure an adequate and sustainable supply of wood for tobacco curing. But we also reforest areas where trees have been cut down for use as timber and firewood. Please see page 37 for further details.

Good agricultural practices and integrated pest management

We aim to promote agricultural practices that support sustainable tobacco production and meet our requirements, at the same time as improving productivity and returns for farmers.



Integrated pest management helps farmers with pest control and ultimately reduces the use of pesticides, which may risk threatening biodiversity.

A large part of our approach is assessing and tackling social and economic factors that lead to biodiversity depletion and unsustainable natural resource use, in particular deforestation. A large part of this is working with, and educating, growers on the benefits of considering and managing biodiversity on their farms and promoting the adoption of best practices.



Protecting endangered forests in Brazil

In Brazil, we are supporting a project with the Brazilian NGO SPVS (Society for Wildlife Research and Environmental Education) to avoid deforestation in Paraná State. Through the project, we have adopted a 100-hectare area of the endangered Araucaria forest for a period of five years. Protecting the forest for this period allows time for environmental improvements to be made to the land based on a conservation plan developed and monitored by SPVS.