# YOKOHAMA

# **CSR Report of Onomichi Plant**

Business activities: Total site area: Number of employees: Location:

Production of tires for off-road construction vehicles 193.000 m<sup>2</sup> 339 (as of March 2010) 20 Higashi-Onomichi, Onomichi City, Hiroshima 722-0051, JAPAN Tel: +81-848-46-4580 Technical Contact: Plant Control Section Tel: +81-848-46-4580 Fax: +81-848-46-4579

Message from the General Manager



The Onomichi Plant produces tires exclusively for large construction and mining vehicles. We are committed to utilizing production resources effectively and reducing and recycling industrial waste in order to minimize the environmental impact of our operations and earn the respect of the local community. Last year, we managed to achieve our longstanding goal of 100% recycling and reuse of resources. We will continue to pursue environmentally friendly operations, in particular by reducing industrial waste output and eliminating energy wastage in our quest to

become a top-level environmentally responsible enterprise by 2017, the

centenary anniversary of Yokohama Rubber

We are committed to engaging with and contributing to local

communities through initiatives such as public open days of the Dinosaur Park facility at the factory; guided tours of the factory for students and the citizens of all ages; participation in local cultural and sporting events; and environmental conservation programs such as the YOKOHAMA Forever Forest project.



OR tires

## **Business Activities**

The Onomichi Plant is one of only a handful of production facilities in the world dedicated exclusively to OR (off-road) tires. We produce tires for large construction vehicles and also supply high-performance OR tires to markets throughout the world. We have been producing OR radial tires since 1997. Exports account for a significant proportion of our production.

Tire manufacturing consists of five main processes. The first is mixing, where we blend various types of rubber, each with different properties, to create

the base rubber for tire production. Next is stock preparation, whether we combine the rubber with other material elements such as wire and thread. The tire assembling process is where the combined materials are assembled into the basic shape, known as the green tire. Vulcanization involves inserting the green tire into a metal mold under intense heat and pressure to give the rubber greater elasticity and create the tread pattern. Finally, the finished tire is subject to a stringent quality inspection process.

## **Environmental Initiatives**

# **Environmental Policy in FY 2010**

Yokohama Rubber aims to be a top-level environmentally responsible enterprise.

- (1) We are committed to environmentally responsible operation predicated on incorporating environmental considerations into all aspects of corporate activity
- (2) We will strengthen our environmental management systems and work to prevent pollution and help improve the environment in order to earn the respect of the local community.
- (3) We provide training and education programs to ensure that all employees understand this Policy and put it into practice. We will work to improve the environment by harnessing the experience and expertise of our employees.
- (4) In order to minimize the environmental load of our operations, we will strive to reduce energy consumption and industrial waste output and maintain 100% recycling and reuse of resources on an ongoing basis.
- (5) We will maintain total zero emissions on an ongoing basis.
- (6) We will formulate specific goals and targets together with implementation schedules based on this Environmental Policy. These will be reviewed annually.
- (7) We strive to comply with all applicable laws, regulations and agreements. We pursue environmental conservation in harmony with local communities.
- (8) We remain committed to the YOKOHAMA Forever Forest project. By creating a key disaster prevention facility and permanent forest in the region, we will contribute to environmental protection in the Seto Inland Sea area.
- (9) This Policy is made available to the general public upon request.

#### PRTR substances

						(Unit: tons /year			
						Safety Evaluation: VIII-5			
	Desig- nated No.	Specified chemical substance	Amount to treat <sup>*1</sup>	Emission *2	Transfer *3	Toxicity Rank (effect on people)	Annual Converted Emissions (effect on people)	Toxicity Rank (effect on ecosys- tem)	Annual Converted Emissions (effect on ecosystem)
	115	N-cyclohexyl-2- benzothiazolesulfenamide	28.807	0.000	0.165				
	198	Hexamethylenetetramine	3.348	0.000	0.084				
	282	N-(tert-butyl)-2- benzothiazolesulfenamide	45.521	0.000	0.147				
		Total	77.676	0.000	0.396				

\*1: Amounts of 1 ton or more are listed (excluding dioxin). As for substances designated as Class 1 Specified Chemicals such as benzene, amounts of 0.5 tons or more are listed

\*2: Emission = Air + public water + soil \*3: Transfer = Waste + public sewage

## Combined greenhouse gas emissions and their indices (base years = 100)

GHG emissions fell in FY2009 in annual terms due to a decrease in production volumes.



- \* Base year is defined as 1990 except for HFC, PFC and SF6, where the base year is 1995 as per the Kyoto Protocol.
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  \* Greenhouse gases (GHG) calculated in accordance with the Calculation and Reporting Manual for Greenhouse Gas Emissions (Ministry of the Environment, Ministry of the Economy, Trade and Industry). Note that GHG emissions associated with purchased power in FY2009 were calculated using the table of Emission Coefficients by Power Company (Ministry of the Environment). Calorific heating values and emission coefficients have been revised in accordance with March 31, 2010 amendments to the Act on the Promotion of Global Warming Countermeasures.
- \* From FY2009, the power emissions coefficient for Onomichi Plant was replaced by an actual emissions coefficient.

# Waste output

Total zero emissions has been achieved since FY2004.

100% recycling and reuse of resources was attained in FY2009.



# Air-quality-related data (major facilities)

Facility	Substance	Regulation	Self- imposed	FY2009 result			
Facility			control value	Average	Maximum	Minimum	
Onomichi	Sulfur oxide emissions(m <sup>3</sup> N/h)	5.0	0.34	0.17	0.20	0.15	
Plant Boiler	Nitrogen oxide density (ppm)	200	123	110	110	100	
1	Soot and dusts density(g/m <sup>3</sup> N)	0.10	0.011	0.002	0.002	0.001	
Onomichi	Sulfur oxide emissions(m³N/h)	2.5	0.340	0.078	0.081	0.078	
Plant Boiler	Nitrogen oxide density (ppm)	145	123	11	12	11	
1	Soot and dusts density(g/m³N)	0.10	0.011	0.002	0.002	0.002	

\* According to the Air Pollution Prevention Law and the Environmental Pollution Prevention Agreement with Hiroshima Prefecture and Onomichi City.

Incinerators were phased out in September 2002.

#### Water-quality-related data (major facilities)

Drain	Substance	Regulation	Self-imposed control value	FY2009 result Average Maximum Minimum		
Onomichi Plant	PH BOD density (mg/l) SS density (mg/l) Oil density (mg/l)	5.0 - 9.0 600 600 30	6.0 - 8.7 	7.6 2.6 12 ND	8.6 — — —	6.8 — — —

\* Not subject to regulatory values (voluntary measurement). Regulatory values are based on the Onomichi Sewage Ordinance. Again no violations of regulations in FY2009.

## Use of water



# **Safety Initiatives**

## **Occupational safety and Health**

We are working to eliminate hazards and toxic dangers via the Occupational Safety and Health Management System (OSHMS) and stringent risk assessment procedures.

## Outcomes

KYT Trainer course (25 participants) Practical drills sessions (once per month)

#### Response

- OSHMS activities launched
- Risk reduction through risk assessment
- KYT programs on being alert to potential hazards

## Earthquake and fire emergency response drills

All Onomichi Plant employees and affiliated on-site contractors took part in an emergency evacuation drill conducted by the Onomichi Fire Department. The drill was based on the scenario of an earthquake or fire and involved the employees in fire-fighting exercises. Forty-five employees also attended a course on basic first aid.



Disaster response training drill for the entire plant



First aid course



Fire-fighting exercise

#### Community feedback and our response

We have received no complaints in over five years.

The Onomichi Plant presented a panel display on the environmental initiatives of Yokohama Rubber at the Onomichi Environment Festival run by the City of Onomichi. Visitors to our booth were presented with bush seedlings raised at the Onomichi Plant as part of our effort to promote the YOKOHAMA Forever Forest project.



4th Onomichi Environment Festiva

## **Education programs**

In response to a request from the Energy Education Schools program, we provided a plant tour for 15 students from Years 3 and 4 at Harada Elementary School, which included a discussion of energy-saving and environmental initiatives at the Onomichi Plant.

#### **Traffic safety officers**

As part of our commitment to traffic safety in the region, employees acted as traffic safety officers providing commuters and schoolchildren with guidance at the Onomichi East intersection during National Traffic Safety Week, which occurs three times per year.



Environment education session for students from Harada Elementary School



Traffic safety guidance at Onomichi East intersection



November 14, 2009 was Day 2 of the second phase of planting in the YOKOHAMA Forever Forest project at the Yokohama Rubber tire production plant in the city of Onomichi in Hiroshima prefecture. The second phase was split into two days. On Day 1, (Saturday June 20, 2009), 170 employees and their families planted 2,487 seedlings. Day 2 saw another 3,840 seedlings planted by 160 participants. The basic concept of the project is to create an entire forest by our own hands. To this end, around 70% of the seedlings planted in the second phase were raised by employees here at the Onomichi Plant.





#### Employee perspective: Mitsuru Manabe

Planting trees and touching soil for the first time in a while brought back memories for me and allowed me to experience the pleasure of achieving something with other people. Let's all participate in building "forests of life" and take control of building the global environment for our future!