



**Mondi Syktyvkar's achievements related to
exclusion of environmental hot spot
Ko-3-1 "Reduction of emission of CO and
specific contaminants" in 2004-2015.**

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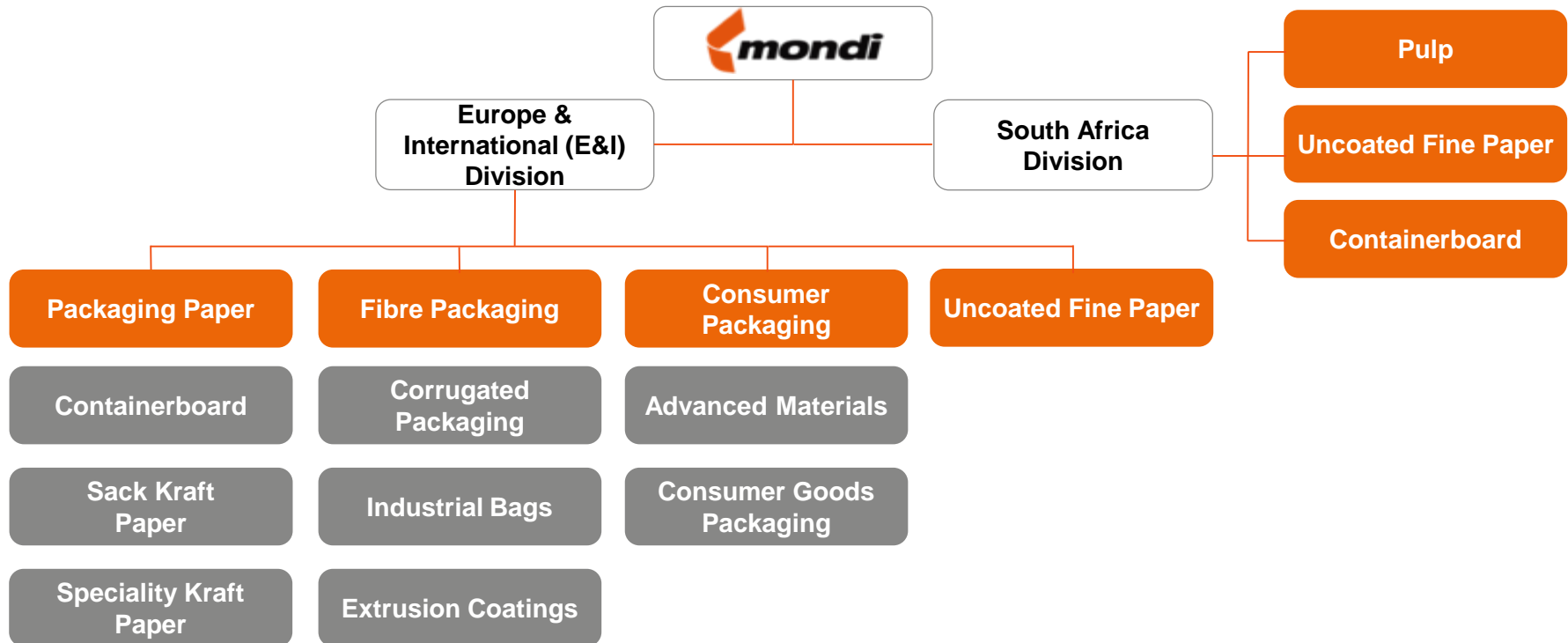
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Mondi Group



We are an international packaging and paper Group, employing around 25,000 people across more than 30 countries.

Our key operations are located in central Europe, Russia, North America and South Africa.



Mondi Syktyvkar in Komi Republic



- **Capital of the Komi Republic:** Syktyvkar
- **Area:** 416 800 km² (forests cover 70% of the territory)
- **Population:** 876 348 (thereof 256 999 in Syktyvkar)
- **Main industries:** oil, gas, coal, pulp & paper, wood processing

Mondi Syktyvkar – Key Figures



Mill site

- Utilized area – 1,126 hectares
- Number of buildings and facilities – 449
- Railway tracks – 60 km
- Roads – 70 km
- Engineering communications – 520 km

MSY is a fully integrated paper and pulp mill

Syktyvkar, RF

Headcount 2014

5,686 employees

Paper Output 2014

UFP: 506,000 tonnes
Newsprint: 202,000 tonnes
Containerboard: 279,000 tonnes

Pulp Output 2014

877,000 tonnes

Market Focus

Office papers: **IQ, Snegurochka, MAESTRO®**
Offset paper: **MAESTRO® Print Syktyvkar**
Board: **Komiwhite, Komipak**
Market pulp: **KOMICELL**



Environmental hot spot Ko-3-1

Assigning the status of the hot spot

- Mondi Syktyvkar is the economic mainstay of Syktyvkar's Ezhva district. It is a major source of emission of pollutants in Syktyvkar
- The mill is one of the biggest pulp-and-paper companies in Russia
- In 2003 it was included into the Barents list of hot spots located in Russia for its emissions of CO and industry specific pollutants



Environmental hot spot Ko-3-1

- The major air pollutants in 2003: carbon oxide and sulfur-containing substances emitted from fiberline, three recovery boilers with dissolving tanks, and lime kilns
- There was no system for collection of diluted non-condensable gases (DNCG). The pollutants were emitted directly into the atmosphere
- Emission of sulfur-containing substances could not be eliminated by means of equipment replacement only, the problem required modifications at the process technology level



Key environmental actions in 2004 – 2015



п/ п	Action	Implemen ted	Costs, RUR mln	Environmental effect
1	Rebuild of the bleaching area, introduction of chlorine-free bleaching	2006	820	Discontinued use of elemental chlorine
2	Construction of the new recovery boiler	2010	4,448	Reduced emission of sulfur-containing substances, suspended solids, and CO
3	System of collection of malodorous gases at Operation Pulp and incineration of such gases in the recovery boiler	2010	5	Reduced emission of sulfur-containing gases
4	Installation of carbon filters	2014-2015	29	Ensured absorption of sulfur-containing substances in malodorous gases
Own costs of these actions exceeded RUR 5 bln (EUR 120 mln)				

The STEP project environmental actions

- To reduce emission of contaminants in 2010 the worn recovery boilers 3U, 4U and 6U with dissolving tanks were replaced by new recovery boiler with dissolving tank equipped with scrubber, flue gases after the boiler are incinerated
- Recovery boilers 3U, 4U and 6U with dissolving tanks and lime kilns 1 and 2 were decommissioned
- The system of collection, transportation and incineration of high-concentration and low-concentration malodorous gases was introduced



Environmental action effect

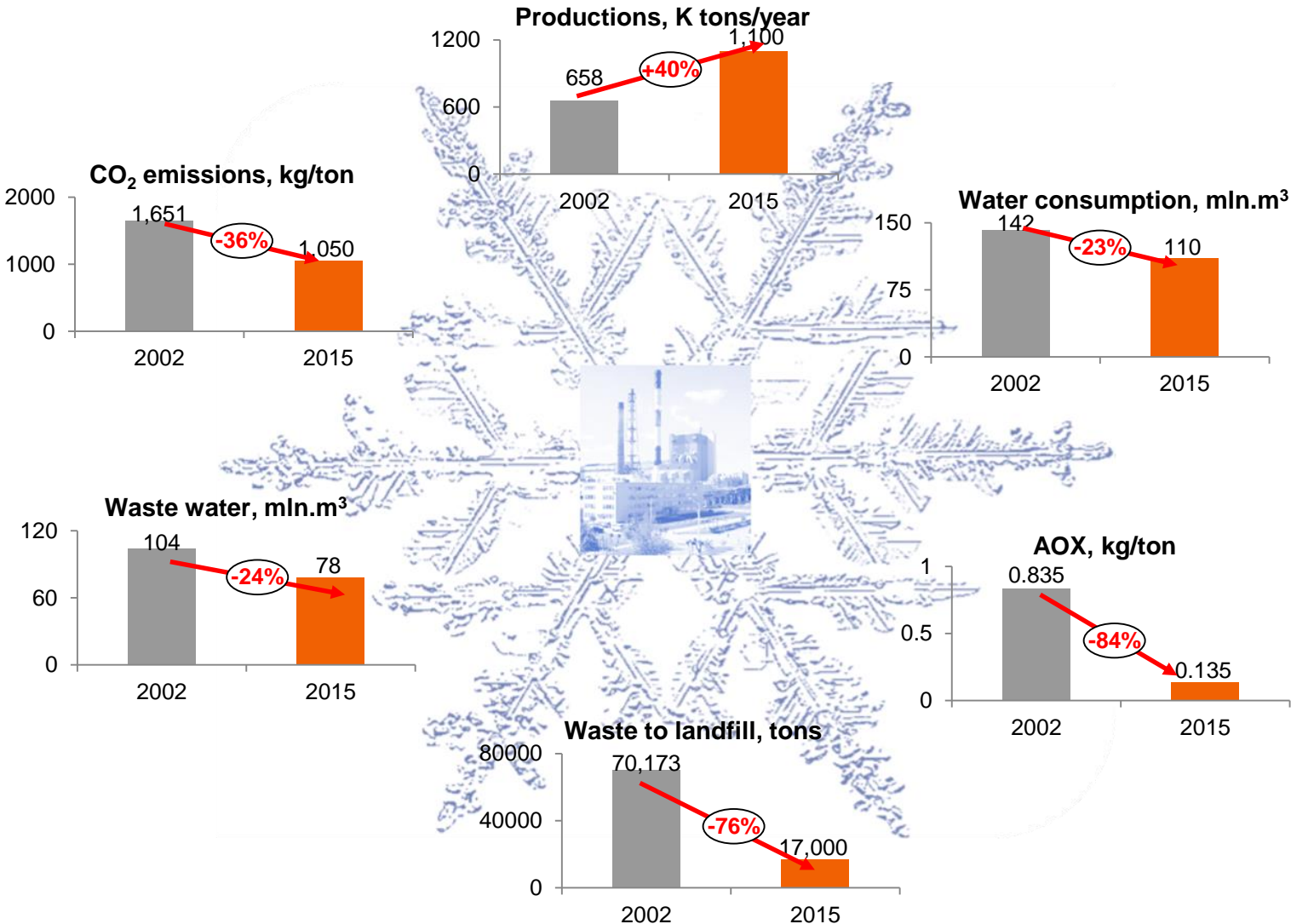
Emissions of CO and industry specific contaminants, ton per year

No	Component	2004	2014	%
1	Total	24 204	13 065	-45%
2	Carbon oxide	17 295	8 161	-52%
3	Dust (solids)	3 084	217	-93%
4	Hydrogen sulfide	141,5	9,6	-93%
5	Mercaptans	86,7	3,3	-96%
6	Sulfur dioxide	849	15,3	-98%



Emissions were reduced multifold, with production output having increased by 24% from 760,000 tons in 2004 to 1,000,000 tons in 2014

Sustainable Development Mondi SY, 2002 vs 2015



- Reducing emissions of CO₂
- reducing water consumption and energy
- Reducing emissions into the atmosphere
- The products are certified by EU Ecolabel
- Compliance with high environmental standards
- ISO14001 certified
- Elemental chlorine free
- FSC certified

Thank you for your attention!



In 2012 Mondi Syktyvkar was acknowledged the most "eco-clear" company of forest sector in Russia according to Interfax-ERA. The environmental and energy rating agency recognized Mondi Syktyvkar as the leader in environmental transparency in the Russian forestry sector. The mill ranks 18th in the list of 3,579 companies from all industries of Russia and a number of CIS countries.



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