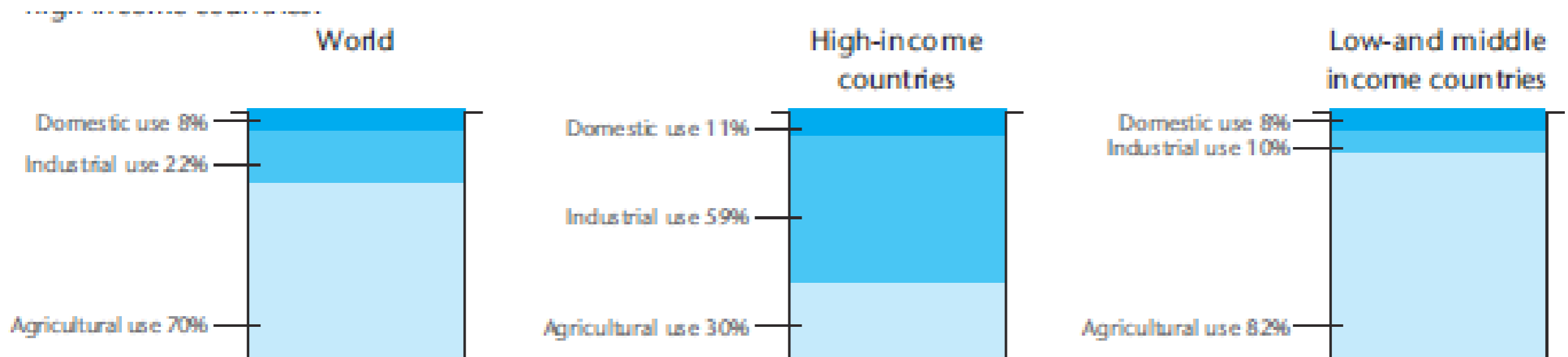


# Environmental Compliance Initiatives of Whirlpool



*Manon Etienney – Mélanie Gillard  
Ambra Fozzi – Mélanie Souleyreau*

- Water use in manufacturing industry

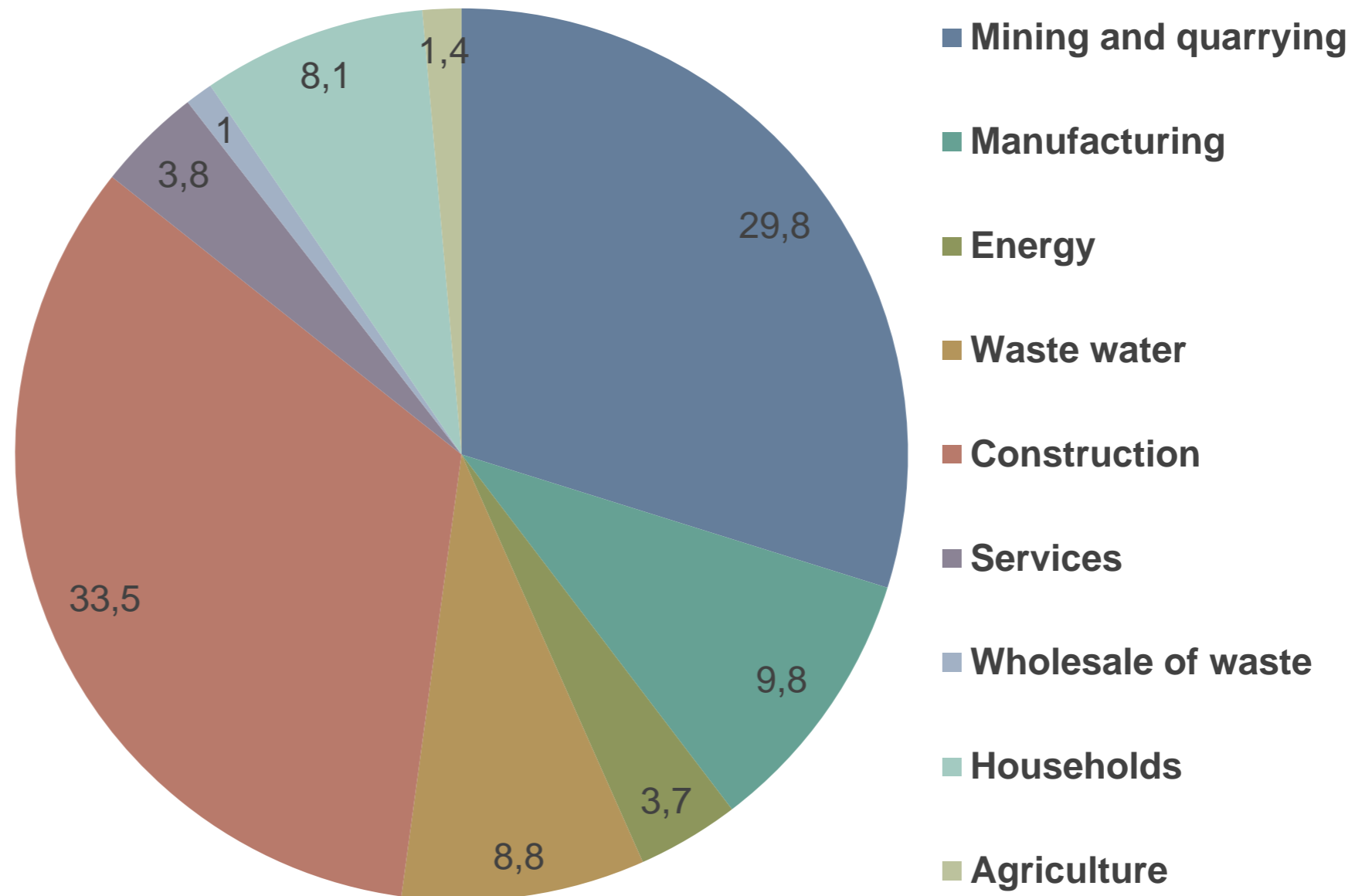


Ref. 6: "Water for People, Water for Life" United Nations World Water Development Report, UNESCO, 2003  
[www.unesdoc.unesco.org](http://www.unesdoc.unesco.org)

## Waste minimization

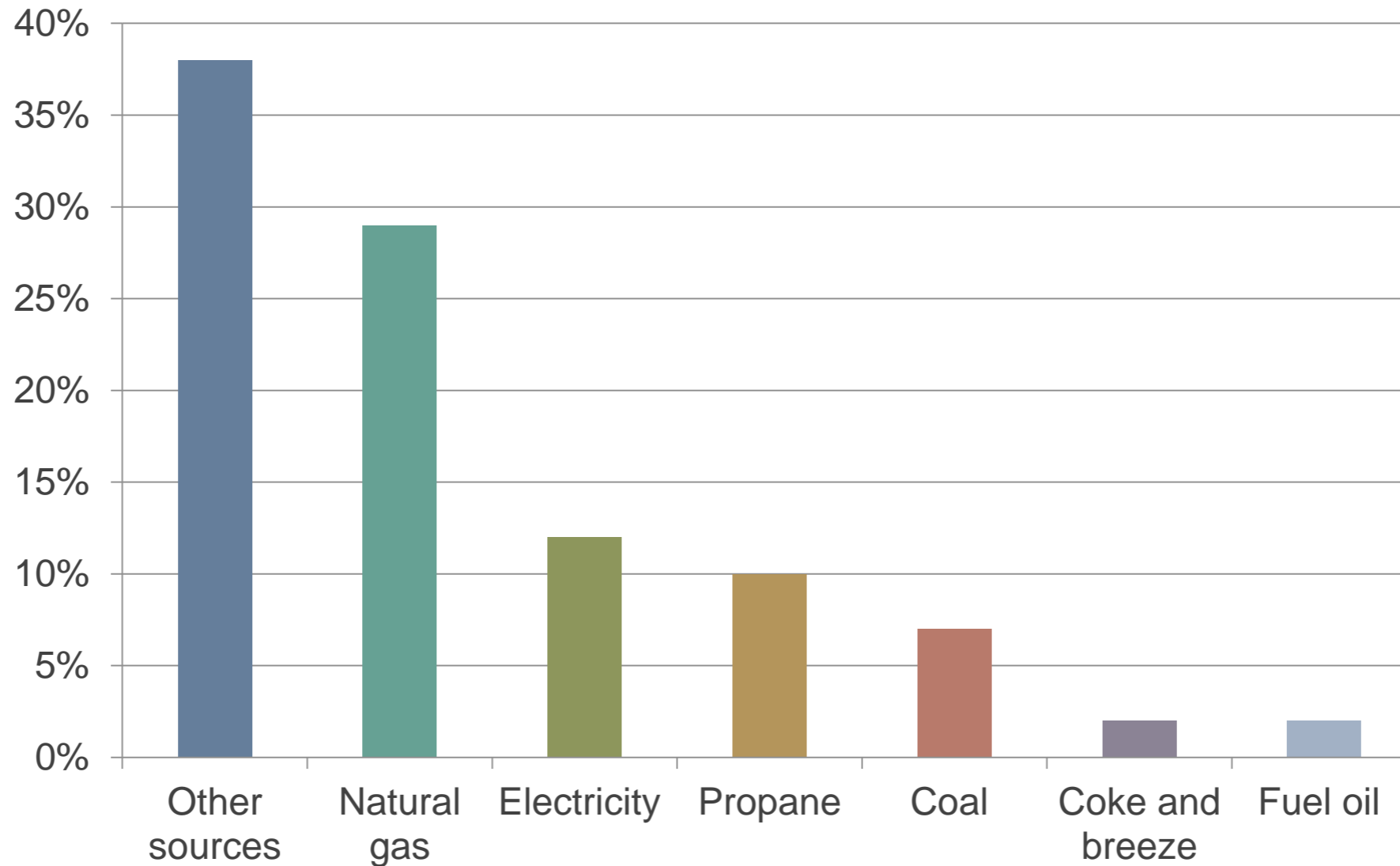
✓ Industrial waste makes up to half of the total amount of waste that the world generates each and every year.

✓ 40% of all industrial waste ends up in landfills every year.

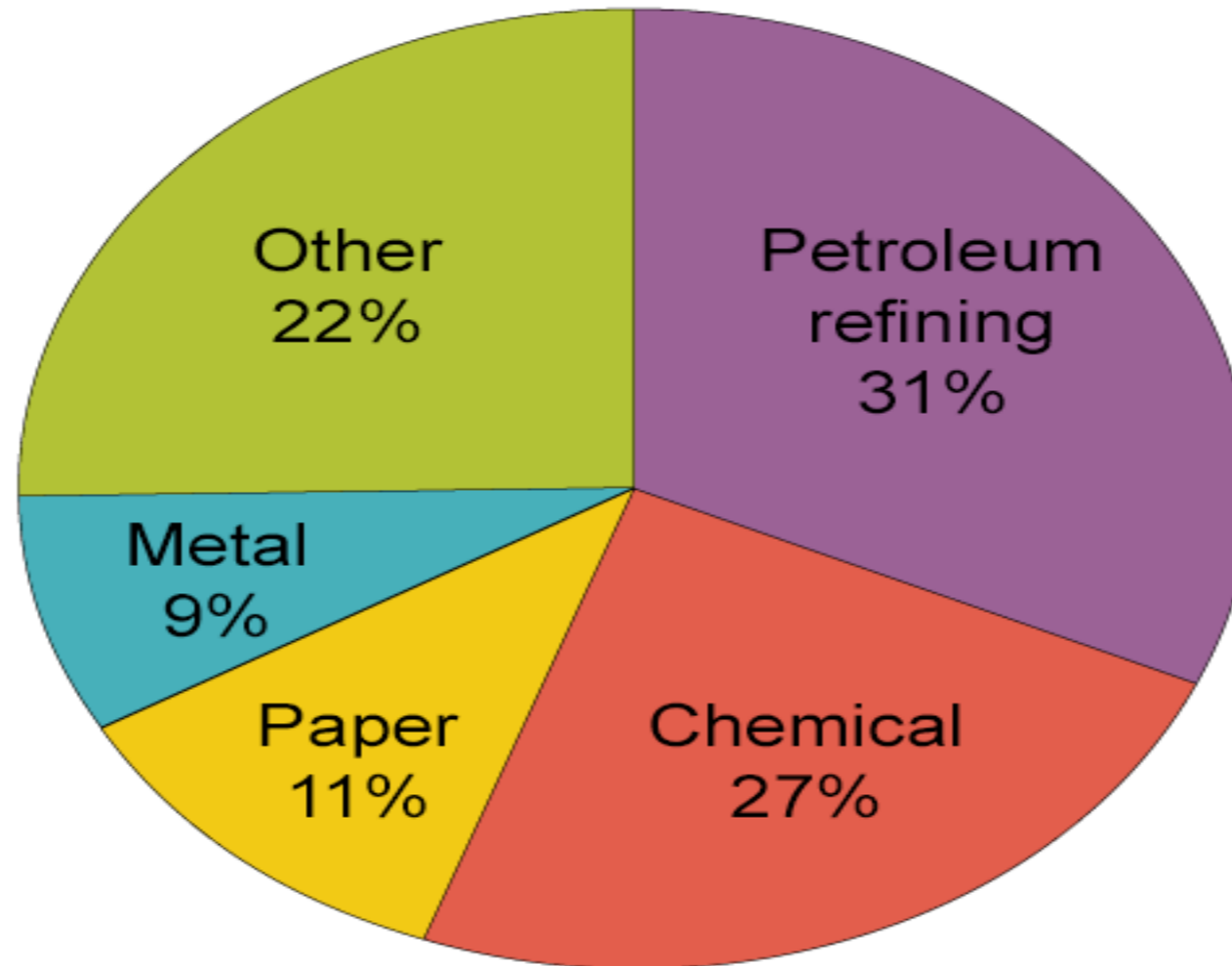


- *Energy use*

Sources of energy used in manufacturing industry



## Energy use by type of industry, 2010<sup>1</sup>



Source: U.S. Energy Information Administration, *Manufacturing Energy Consumption Survey 2010*, Table 1.2 (March 2013)

<sup>1</sup>Includes all use of energy and fuels; excludes shipments of energy sources produced onsite.

- *Human Impacts on the Planet*

- Technological innovations
- Use of fossil fuels
- Growing demand for resources



Global warming

- *Transitioning the global economic system*

Producing better and consuming more wisely

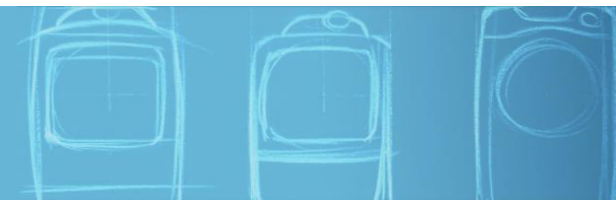
- *Gap between the efforts to reduce the impact of business and industry on nature and the worsening state of the planet*







## Overview of the Brand



American multinational manufacturer and marketer of home appliances created in 1911, headquartered in Benton Charter Township, Michigan, United States

The Fortune 500 company has annual revenue of approximately \$21 billion

93000

Employees Around the World

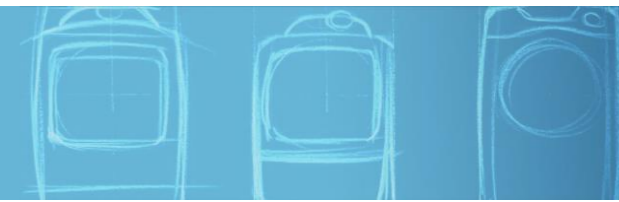
70

Manufacturing & Technology Research Centers





## Brand portfolio



Whirlpool corporation posses a large brand portfolio

*« From cooling to cleaning and preheating to reheating, we believe you should be able to express yourself anywhere in in the home. Our strong portfolio allows you to team up with distinct brands designed for your specific needs and budget »*

Whirlpool

KitchenAid

MAYTAG

i INDESIT

Hotpoint

Consul

BRASTEMP

AMANA

JENN-AIR

Bauknecht

acros

DIQUA 帝度

every drop  
Amana

GLADIATOR  
by Whirlpool Corporation

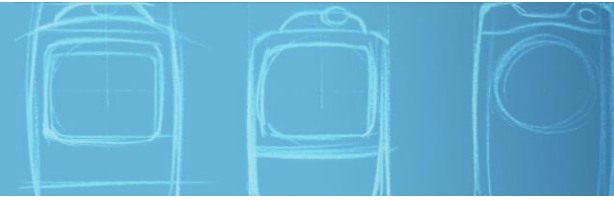
affresh  
SPECIALIZED CLEANERS

SWASH





## Global location

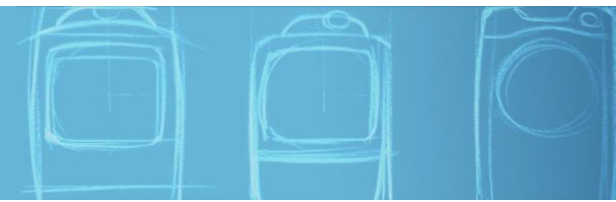


Whirlpool products are manufactured, distributed and sold around the world. They are found in more than 97 million homes.





## Sustainability Strategy



« We incorporate sustainability programs into our products and processes while nurturing the communities where we operate, delivering value to our consumers and reducing our environmental impact. »

90%

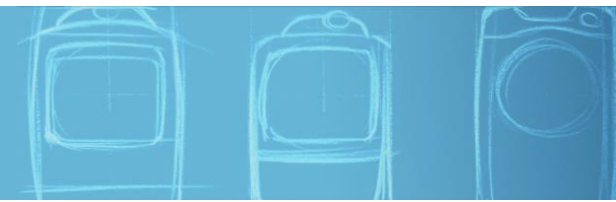
FULL MATERIAL TRANSPARENCY.  
ACHIEVE 90 PERCENT FULL MATERIAL  
TRANSPARENCY ON ALL NEW PRODUCTS  
BY 2020.

15%

REDUCTION OF ENERGY AND  
WATER USE IN MANUFACTURING.  
REDUCE ENERGY AND WATER INTENSITY  
FROM MANUFACTURING BY 15 PERCENT  
FROM 2014 LEVELS BY 2020.

zero

REAFFIRM OUR GOAL OF ZERO LANDFILL  
WASTE FROM MANUFACTURING BY 2022.



# 2015 Performance Scorecard

GRI G4 EC1 EC7

## FINANCIAL

**\$20.9B**

RECORD REVENUES OF  
\$20.9 BILLION.

**\$12.38\***

RECORD ONGOING  
EARNINGS PER SHARE OF \$12.38,  
AN INCREASE OF 9%.

**\$620M\***

STRONG FREE CASH  
FLOW GENERATION.

## ENVIRONMENTAL

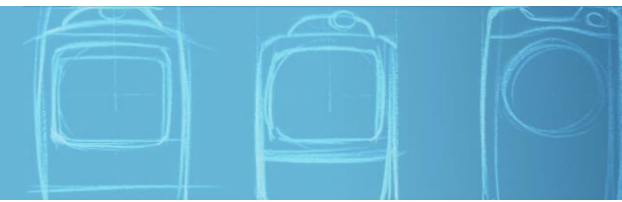
	2011	2012	2013	2014	2015
Energy intensity (megajoules)	215.70	208.90	200.30	194.12	<b>161.40</b>
Water intensity (cubic meters)	0.161	0.150	0.156	0.145	<b>0.107</b>
Greenhouse gas emissions intensity Scope 1 and 2 (metric tons) of CO <sub>2</sub> eq	0.0180	0.0206	0.0170	0.0178	<b>0.0156</b>
Waste intensity (kilograms)	8.37	9.29	9.36	9.19	<b>7.72</b>

*Note: Intensity numbers per major appliances*

*2015 data affected by acquisitions of Hefei Sanyo and Indesit in 2014. Global goals under review to address these acquisitions.*



## Timeline

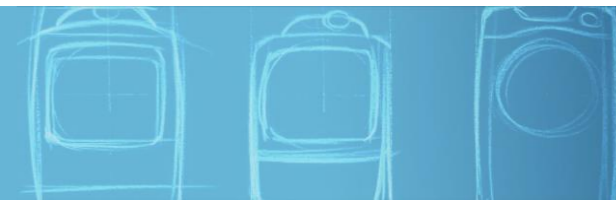


« We have been focused on sustainability since 1969, long before it became the norm, and we continue to integrate sustainability into our everyday work. »

### KEY SUSTAINABILITY EVENTS

2015	<p><b>June</b> — Ground breaking on Whirlpool Corporation's first wind farm</p> <p><b>June</b> — Whirlpool Canada is named 2015 ENERGY STAR® Manufacturer of the Year for the tenth time in the last thirteen years</p> <p><b>September</b> — ReNEWW House, the world's first lived-in, fully retrofitted, net-zero energy, water and waste home achieves near net-zero energy and net-zero water</p> <p><b>December</b> — Achieved net-zero waste to landfill in all Latin America Region (LAR) facilities — manufacturing and offices</p>
2014	<p><b>March</b> — Whirlpool Corporation began full production use of Next Generation Solstice® Liquid Blowing Agent in U.S. refrigerators</p> <p><b>April</b> — Inauguration of the ReNEWW House, an initiative in which Whirlpool engineers are working with Purdue University to be the first to transform an existing home into a net-zero energy, water and waste structure</p> <p><b>September</b> — The Refresh and Recycle Water Filter Program is launched to provide consumers an option for recycling their used refrigerator water filters</p> <p><b>December</b> — Whirlpool LAR achieved zero waste to landfill from all manufacturing operations in Brazil</p>
2013	<p><b>March</b> — Whirlpool brand introduced the first smart-grid enabled appliance suite</p> <p><b>May</b> — AHAM announced new sustainability standards for clothes washers and Whirlpool Corporation had the first front load and top load washer certified to the standard</p> <p><b>November</b> — Whirlpool Corporation converted first refrigerator line to use Honeywell Solstice® Liquid Blowing Agent (LBA) for foam insulation*; the Honeywell Solstice® LBA offers a 99.9% decrease in global warming potential based on the GHG Equivalencies Calculator</p>
2012	<p><b>January</b> — Whirlpool brand announced it will bring connected appliances to the marketplace</p> <p><b>April</b> — Whirlpool Corporation officially opened the LEED Gold-certified Cleveland, Tennessee manufacturing facility that included energy-efficient and technologically advanced manufacturing processes</p> <p><b>June</b> — AHAM announces new sustainability standards for refrigerators; Whirlpool Corporation experts play a key role in development</p> <p><b>August</b> — Whirlpool Corporation and Honeywell announced the development of the most environmentally responsible and energy-efficient insulation available at the time in U.S. to make refrigerators</p> <p><b>December</b> — Whirlpool Corporation officially established a zero waste to landfill goal for all of our global manufacturing facilities</p>
2011	<p>Began partnering with AHAM, UL and CSA to develop the first industry sustainability standards for appliances</p>

\*Based on EPA comparisons of previously used insulation blowing agents, hydrofluorocarbon (HFC) 245fa with global warming potential of 950 and Honeywell solstice liquid blowing agent, a hydrofluoro-olefin 1233zd (e) with global warming potential of 1.



## SIGNATURE CHARITIES

### United Way

**\$4.2M** Employee and retiree United Way® campaign totals in the United States and Canada (including dollar-for-dollar match by Whirlpool Foundation)

### Habitat for Humanity

**87,000** Families helped throughout the globe since 1999

**45** Countries in which Whirlpool Corporation employees have helped provide affordable housing

**170,000+** Donated ranges and refrigerators in the U.S. and Canada since 1999.

### Cook for the Cure

More than \$10 million+ in support from *KitchenAid* brand for Susan G. Komen since 2001

### Boys & Girls Clubs of America

**66,000+** Youth served through the *Maytag* Dependable Club Awards in 2015

**75+** Total *Maytag* Dependable Awards granted since 2010

### Instituto Consulado da Mulher®

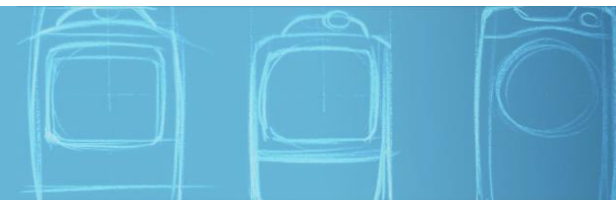
**5,168** People in Brazil who, directly and indirectly, benefit from income generated through the program

**101** Small businesses being advised by Instituto Consulado da Mulher

**16** States in Brazil where small businesses are being advised by the program



## Awards and recognition



# Awards



- ▶ **Innovation Awards at CES 2015** — Our *Whirlpool* brand earned six awards at the International Consumer Electronics Show (CES) 2015 Innovation Awards for the Whirlpool® Front Load Washer and Dryer with Nest Technology, Whirlpool® Double Drawer French Door Refrigerator, Whirlpool® Hybridcare™ Heat Pump Dryer, Whirlpool® Smart Top Load Washer and Dryer, and the SWASH™ system.



- ▶ 2015 *Newsweek* Green Rankings, ranked 108 out of 500 in U.S.
- ▶ Whirlpool Corporation added to Dow Jones Sustainability Index, North America
- ▶ Whirlpool Corporation received a perfect score from the Human Rights Campaign on the 2015 U.S. Corporate Equality Index — this is the 13th consecutive year that we attained a perfect score on the index, the first appliance company to do so



- ▶ Whirlpool Corporation in North America has received 37 ENERGY STAR® Awards since 1998. We are the most awarded appliance manufacturer by both the U.S. and Canadian ENERGY STAR® programs for continued commitment to energy and water efficient products
- ▶ Whirlpool Latin America was named in the top five electro-electronic sector companies in sustainability in the Guia Exame de Sustentabilidade, by Exame magazine, the most prominent sustainability award in Brazil

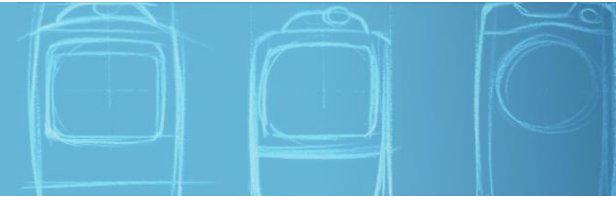


- ▶ Whirlpool Corporation named one of *Corporate Responsibility* magazine's 100 Best Corporate Citizens 12 out of 15 years
- ▶ Whirlpool Corporation has been named to Ocean Tomo 300 Patent Index since its inception in 2005; the equity index is the first based on the value of corporate intellectual property
- ▶ From 2008 to 2015, we have been named one of the Most Respected U.S. Companies by *Forbes* magazine and the Reputation Institute
- ▶ For the fifth year in a row, Whirlpool Corporation has finished first in the Home Equipment, Furnishings industry sector of *Fortune* magazine's World's Most Admired Companies





## Operational Excellence



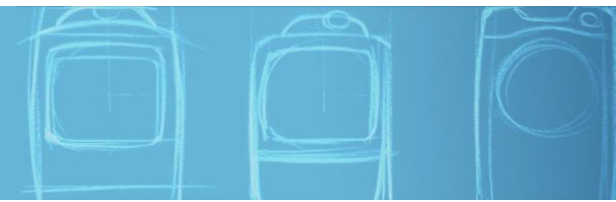
The company Whirlpool pays attention on the environment, that is why for years it aims to reduce water and energy use, greenhouse gas emissions and raw material waste.

### TOTAL ENVIRONMENTAL PROTECTION EXPENDITURES: GRI G4 EN31

	2011	2012	2013	2014	2015
US\$ Millions	31.8	29.5	27.0	30.5	34.9



## Operational Excellence



Global Facility  
Sustainability Program

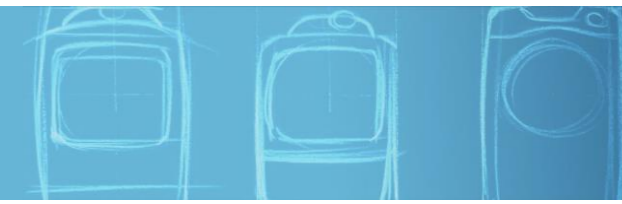
Zero Waste to Landfill

Energy, Environment, Health and Safety (EEHS)

- plants operate within Company standards
- new courses of action are planned when required
- programs and interventions are realigned
- new and more challenging targets are se



# Energy Efficiency



## TOTAL GLOBAL ENERGY (GJ)

	2011	2012	2013	2014	2015
	9,173,683	8,733,477	8,410,302	8,484,279	9,043,762

*2015 data affected by acquisitions of Hefei Sanyo and Indesit in 2014.*

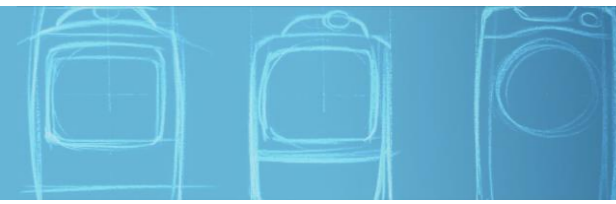
## WIND FARM

Renewable  
Energy  
Installations for  
Manufacturing

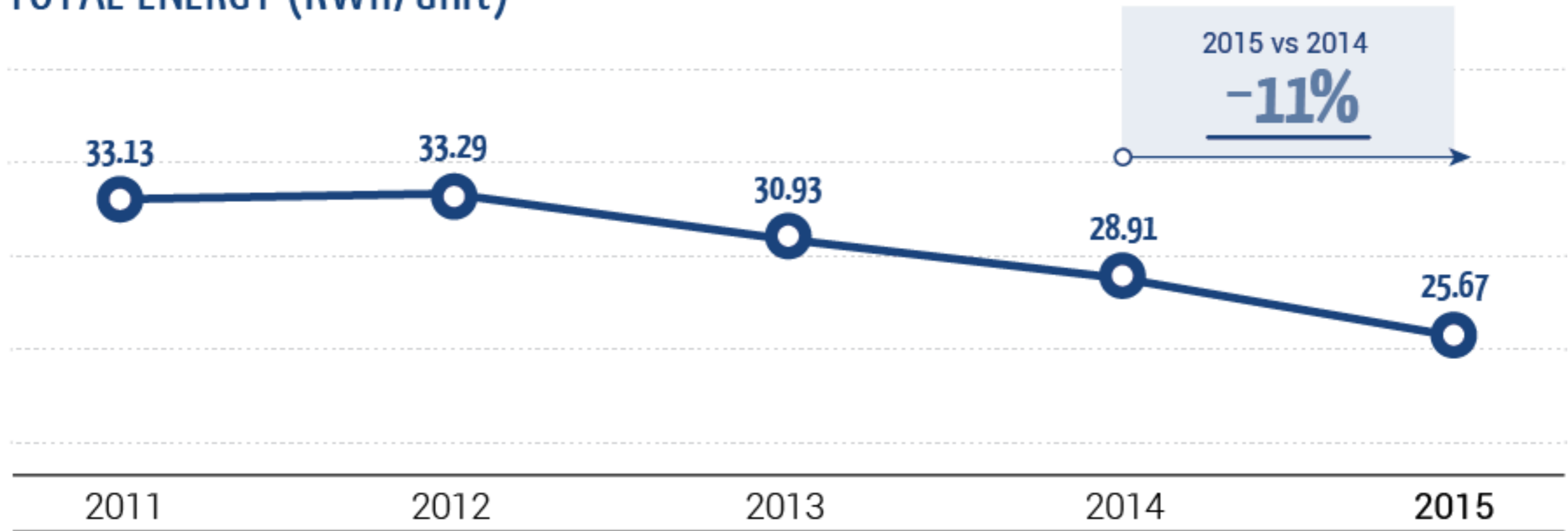




# Energy Efficiency



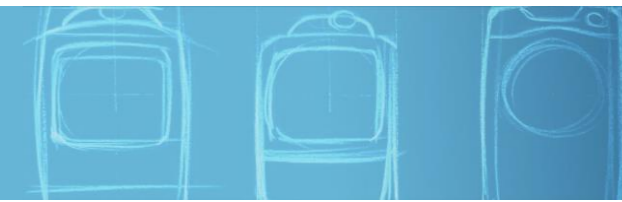
EMEA Region:  
TOTAL ENERGY (KWh/unit)







# Water Efficiency



## TOTAL GLOBAL WATER (m<sup>3</sup>)

	2011	2012	2013	2014	2015
	6,852,426	6,276,939	6,564,730	6,355,661	5,999,780

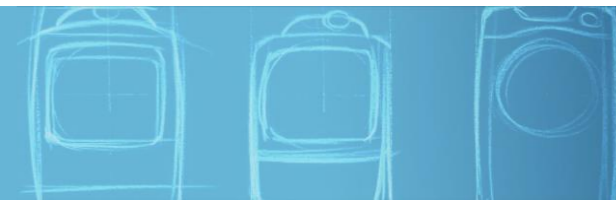
*2015 data affected by acquisitions of Hefei Sanyo and Indesit in 2014. Global goals under review to address these acquisitions.*

**Whirlpool Corporation  
sees water as one of  
the most important  
natural resources  
to be protected**

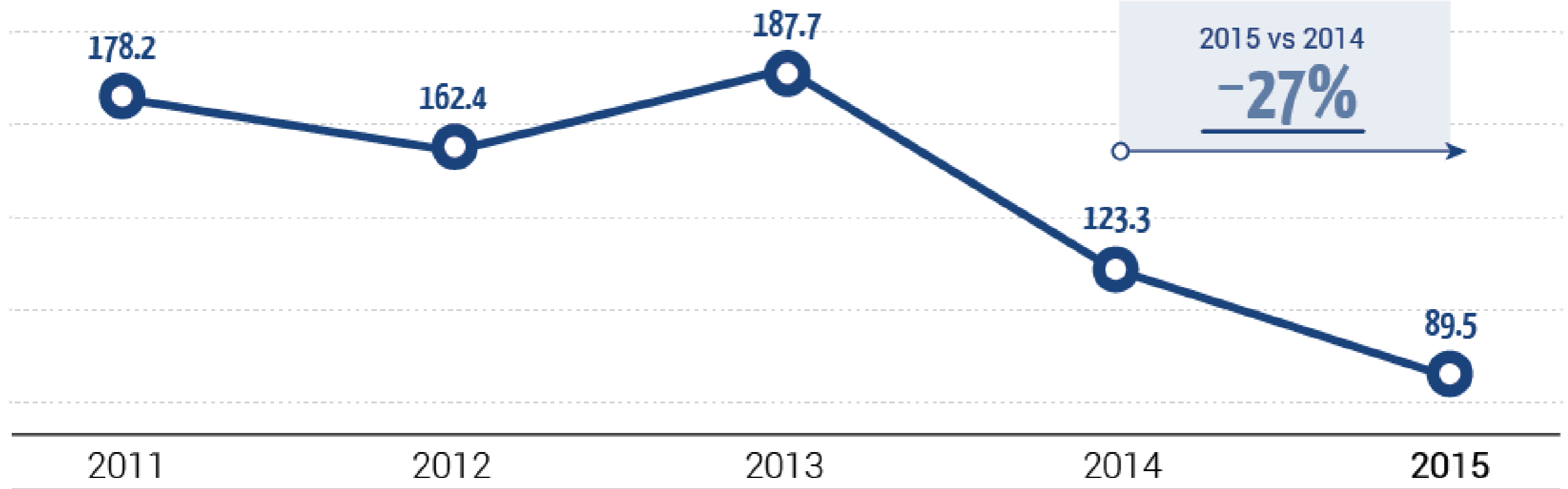




# Water Efficiency



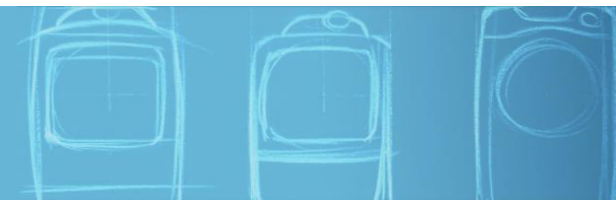
EMEA Region:  
TOTAL WATER (L/unit)







## Air Quality



### GLOBAL SCOPE 1 + 2 (TON CO<sub>2</sub> eq)

	2011	2012	2013	2014	2015
	765,998	862,912	714,825	777,000	873,111

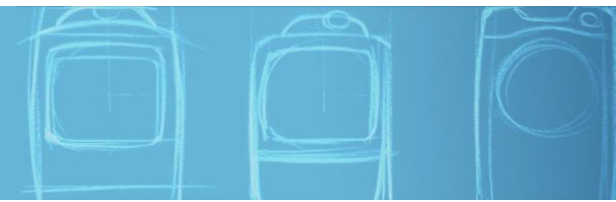
2015 data affected by acquisitions of Hefei Sanyo and Indesit in 2014. Global goals under review to address these acquisitions.

**SmartWay®**

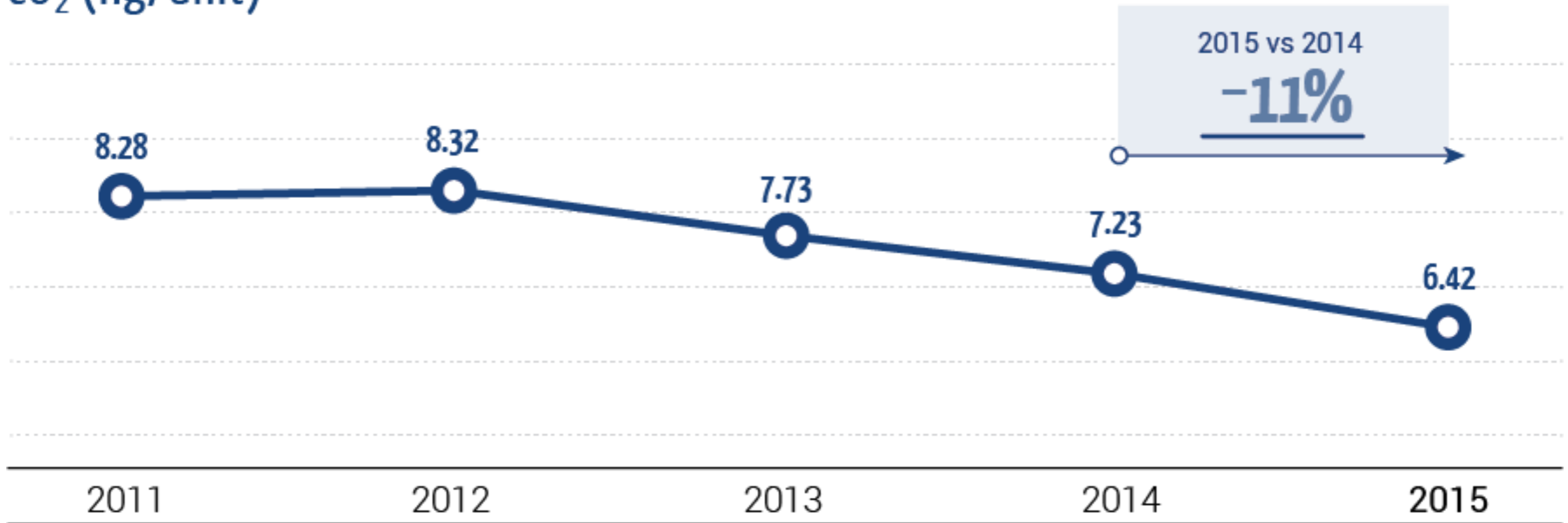
Currently, 99.86% of North American shipments are moved with SmartWay® carriers



# Air Quality



EMEA Region:  
CO<sub>2</sub> (kg/unit)





The Zero Waste to Landfill Program in our Brazilian facilities was initiated in 2011, targeting zero waste from manufacturing by December 2014 and zero waste from non-manufacturing activities (offices, cantinas, toilets) by December 2015.

## ZERO WASTE TO LANDFILL

### 100% SUSTAINABLE BEHAVIOR

**2011**

- Zero Waste to Landfill project launch: aiming to zero wastes to landfill from manufacturing by the end of 2014 and non industrial wastes by the end of 2016;

**2012**

- Manaus Unit reaches the target for both waste flows;

**2013**

- Rio Claro site reaches the manufacturing target;
- USP unit reaches the target for both waste flows;

**2014**

- Joinville site reaches the manufacturing target;

**2015**

- Rio Claro and Joinville sites reach the non industrial wastes target.

**1,100 tons** of non industrial wastes no longer sent to landfills, just in 2015.

#### SITE PROJECTS - HIGHLIGHTS

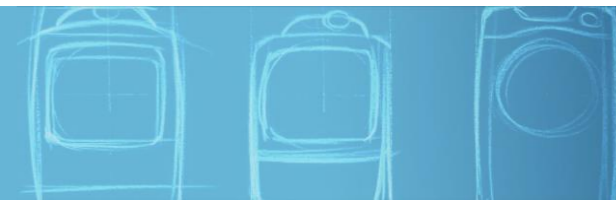
- MANAUS**
  - Organic wastes from the restaurant are reused as animal feed.
- RIO CLARO**
  - General wastes for incineration.
- USP**
  - Construction debris segregation for proper re-utilization.
- JOINVILLE**
  - Rubber made parts re-utilization on soccer artificial grass floor.

All Whirlpool Brazilian sites are Zero Waste to Landfill.

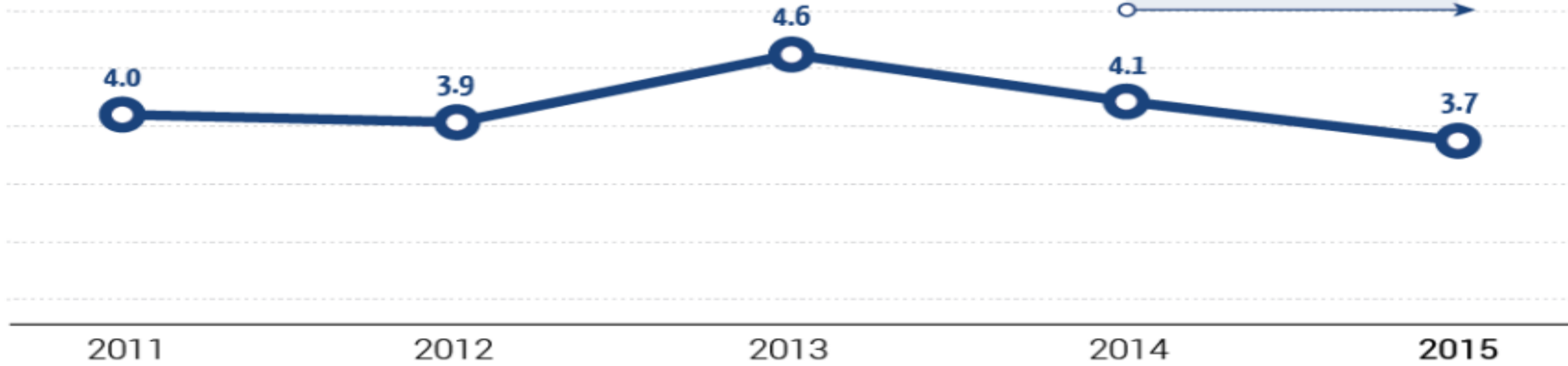
You play an important role in it!



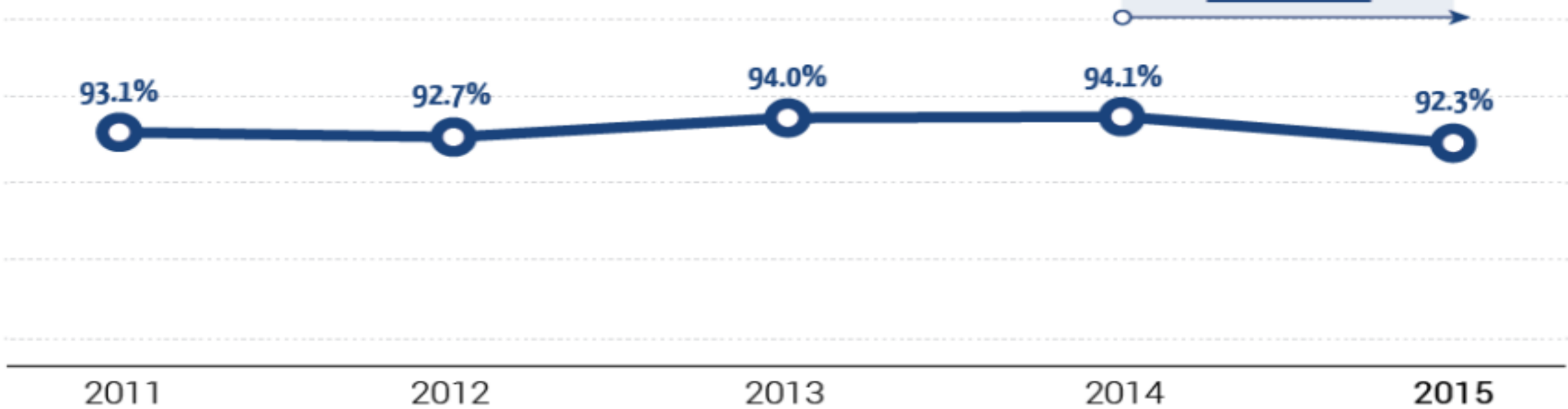
# Materials and Wastes



EMEA Region:  
TOTAL WASTE (kg/unit)



EMEA Region:  
RECYCLED WASTE %





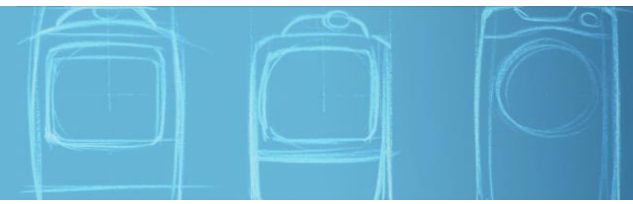
## Conclusion

- Companies can be very well invested for the environment without affecting the result side.
- The « ecological side » is a way of differentiation for the brand.
- **THE RISK:** with all the measures set up by various organisms, may be in a few years the argument of an ecological household appliance becomes a requirement and no longer allows the brand to differentiate itself.





To see a little further



Currently number one of sales before Electrolux, we can wonder: how long the situation will last?

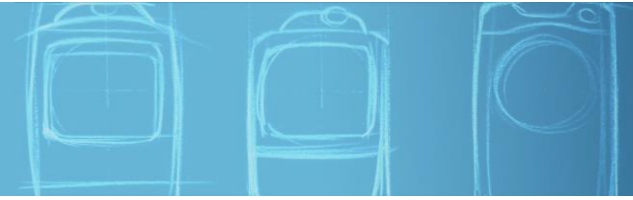
Competitors:







To see a little further



## INNOVATION KEY OF SUCESS

- Innovation and constant renewal of their products.
- VERTICAL INTEGRATION
- Samsung and the “AddWash” laundry line
- RISK: lack of creativity = bad results