

The Nexus Between Sustainability and Environmental Management



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**MECC - Chicago
November 2016**

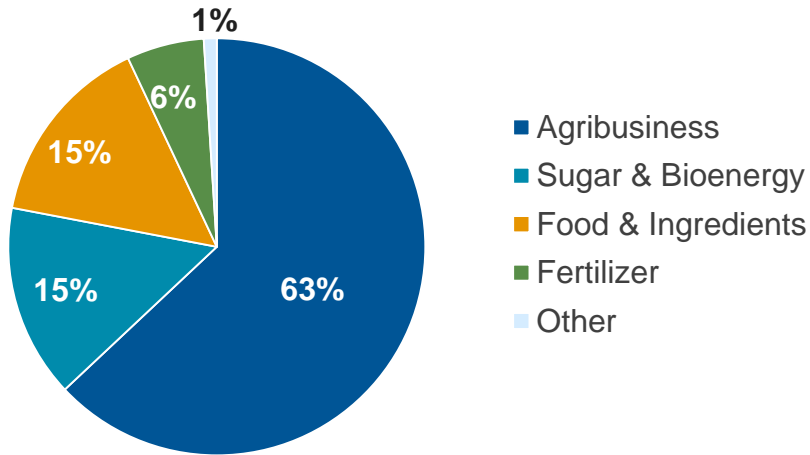
**Loren Polak
Environmental Director
Bunge North America**

Bunge – 200 years and just getting started



Bunge Today

Average Net Operating Assets



NET SALES

\$61 B

EMPLOYEES

~35,000

FACILITIES

~400

COUNTRIES

~40+

AGRIBUSINESS

- A global leader in oilseed processing
- A global leader in grain and oilseed marketing

SUGAR & BIOENERGY

- 21 mmt sugarcane milling capacity producing sugar, ethanol and electricity
- Leader in global trade and distribution

FOOD & INGREDIENTS

- Leading producer of oils, margarines & industrial fats in the Americas and Europe
- Growing oils position in Asia
- Leading corn and wheat miller in the Americas

FERTILIZER

- Fertilizer production and sales in Argentina
- Fertilizer port operations in Brazil

Balanced Global Presence



What We Do — Feeding and Fueling the World

Bunge processes oilseeds, grains, sugarcane and other agricultural commodities to make products and ingredients with numerous applications for customers worldwide.



OILSEEDS



GRAINS



SUGARCANE



FEED FOR ANIMALS



COOKING OILS, MARGARINES
AND SHORTENINGS



INGREDIENTS USED IN CEREAL, SNACKS,
BAKED GOODS, BEER AND OTHER FOODS



FEED FOR ANIMALS



SUGAR



ETHANOL

Commitment to Citizenship and Sustainability

Policy

We strive to be good citizens by contributing to the economic and social development of the communities where we work.

We work to achieve a high level of environmental performance by adopting science-based, culturally sensitive and pragmatic best practices

and by promoting these practices within our supply chain.

We partner with companies and organizations to

promote and apply sustainable practices.

We communicate openly about our activities and maintain a constructive dialogue with stakeholders.

Targets



Reduce our energy consumption per ton of output by 3 percent.



Reduce our greenhouse gas emissions per ton of output by 3 percent.



Reduce our fresh water use per ton of output by 3 percent.

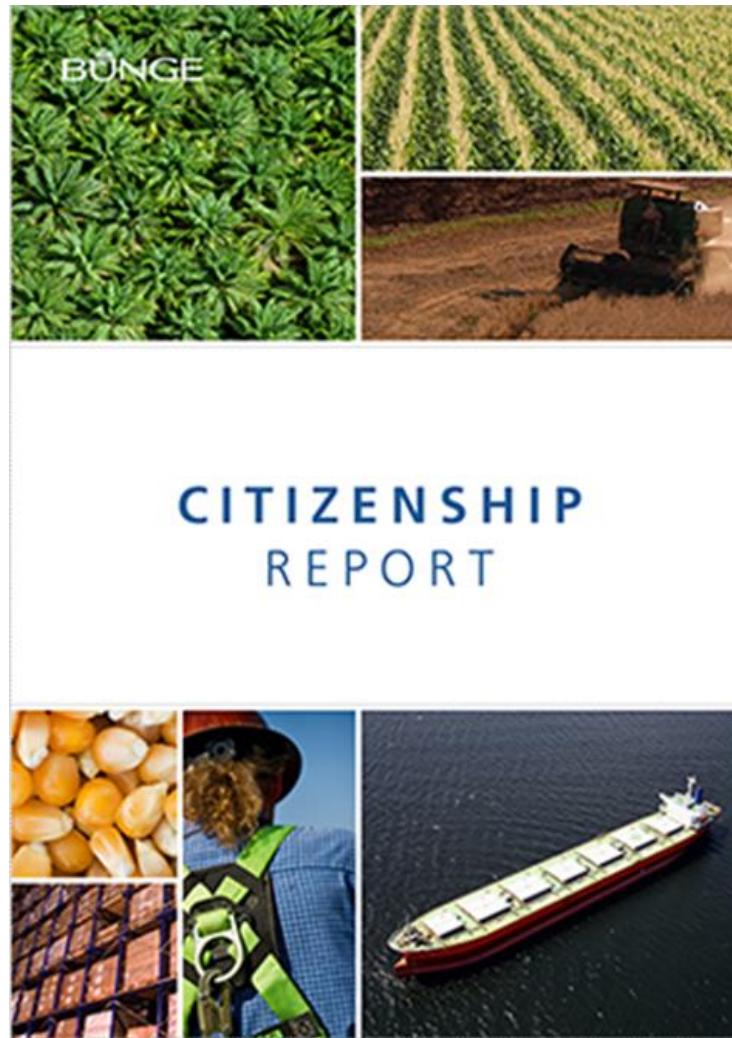


Reduce the total amount of material we send to landfills by 5 percent.

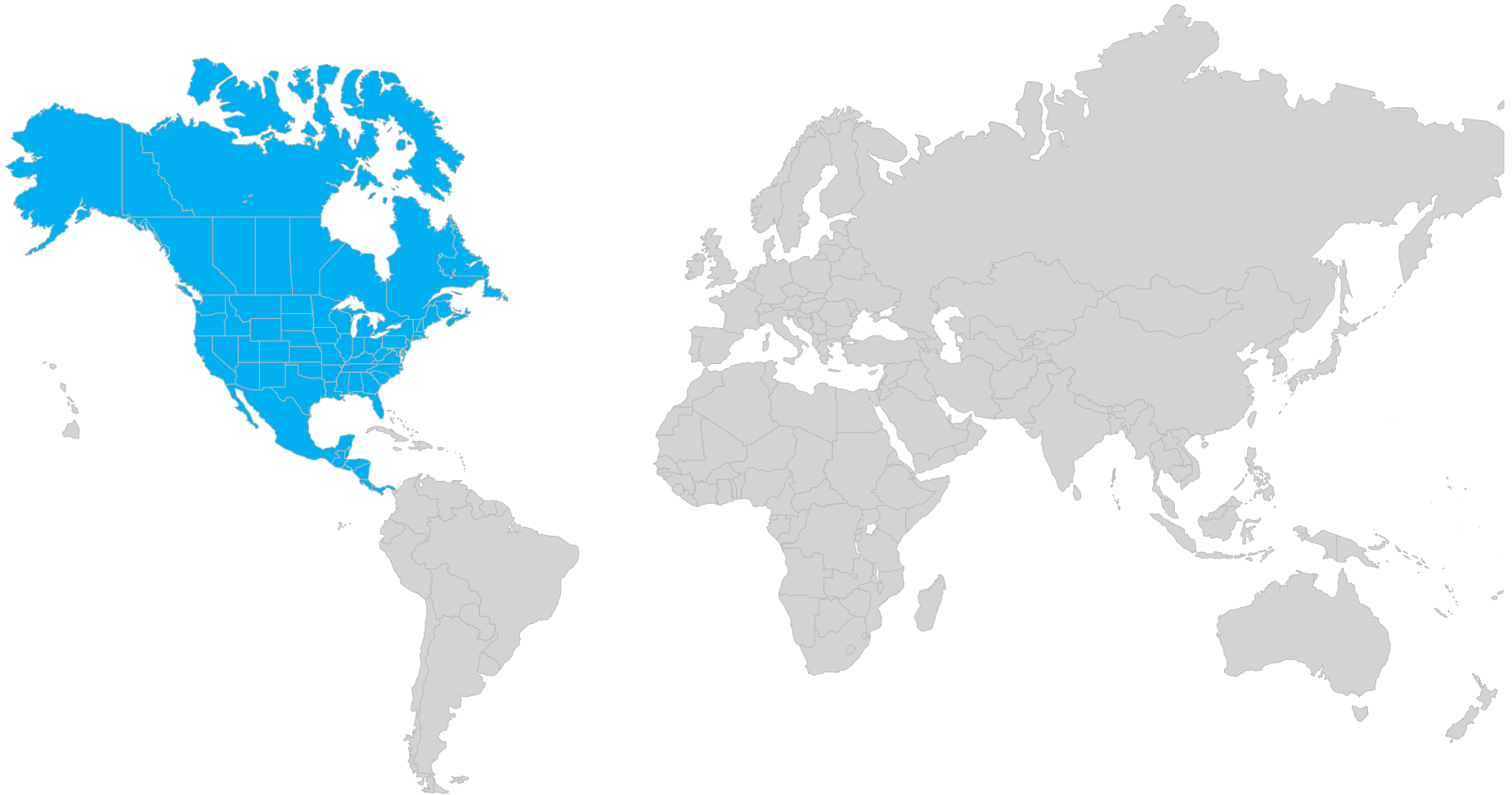
Partners



Commitment to Citizenship and Sustainability



Bunge North America



Bunge North America

Key Facts

Employees: **~4,000**

Facilities: **~125**

Countries: **Canada, Mexico, U.S.**



Agribusiness



- Leading handler of soybeans, corn, wheat, sorghum, canola and rice
- Ports in New Orleans, Brunswick, Longview, Quebec City
- Leading integrated processor in N.A.

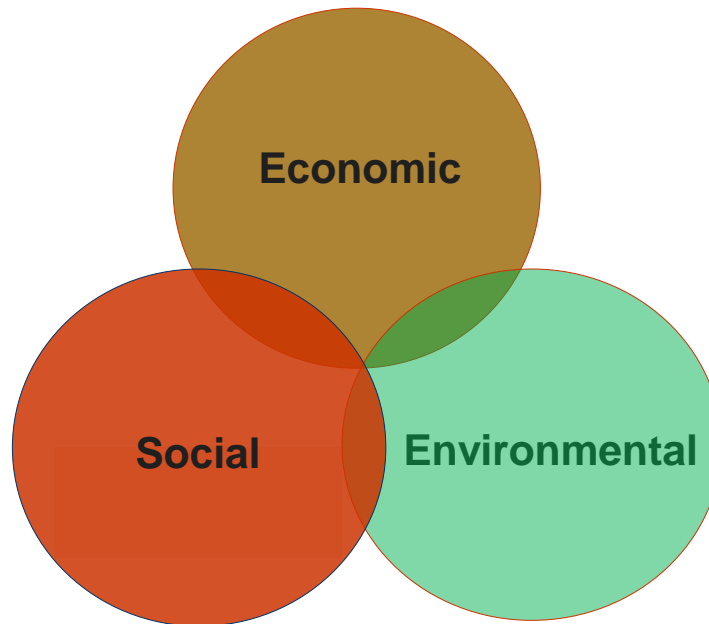
Food & Ingredients



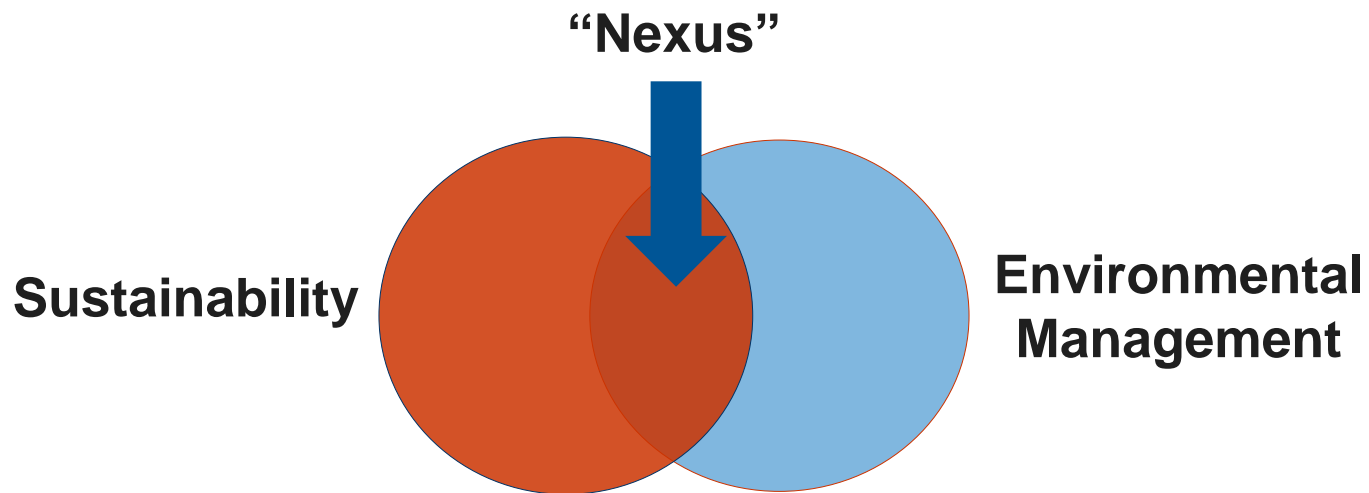
- Leading supplier to foodservice/processor companies
- Largest corn dry miller
- California rice miller
- Mexico wheat miller
- Strong innovation through Bunge Ingredient Innovation Center (BIIC)

Sustainability

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their needs.” (Brundtland Report, 1987)



The Nexus of Sustainability & Environmental Management



Why Have a Sustainability Program?

- **Environmental Management & Compliance Benefits (Nexus)**
 - Compliance Burdens are Lowered by Reducing Air Emissions, Waste Water, and Wastes.
 - Environmental Contamination Risks
- **There's Money to be Saved**
 - Improving Energy Efficiency Lowers Costs
 - Reducing Water Usage and Waste Water Discharge Lowers Costs
 - Reducing Waste Lowers Costs
- **Needed to Meet Customer Expectations**
 - Answering Customer Questionnaires
- **Strengthen Corporate Reputation and Brand**
 - Reporting & Disclosure

What is Within the “Nexus”?

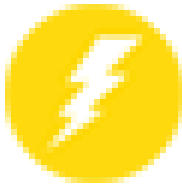
- **Reducing Waste Water can Reduce Discharged Pollutants, which can Improve Discharge Compliance and Reduce Discharge Costs**
- **Improving Energy Efficiency Can Reduce Air Emissions and Can Reduce Emission Charges while Reducing Fuel and Electricity Cost**
- **Reducing Waste Generation Reduces Disposal Costs**
- **This not only makes Environmental Management Sense, it also makes Business Sense.**
- **Improved Sustainability = Improved Environmental Management = Good Business Strategy**

Bunge 2016 Sustainability Goals

(Baseline 2013)



Reduction of GHG Emission Rate by 3%.



Reduction of Energy Rate by 3%.

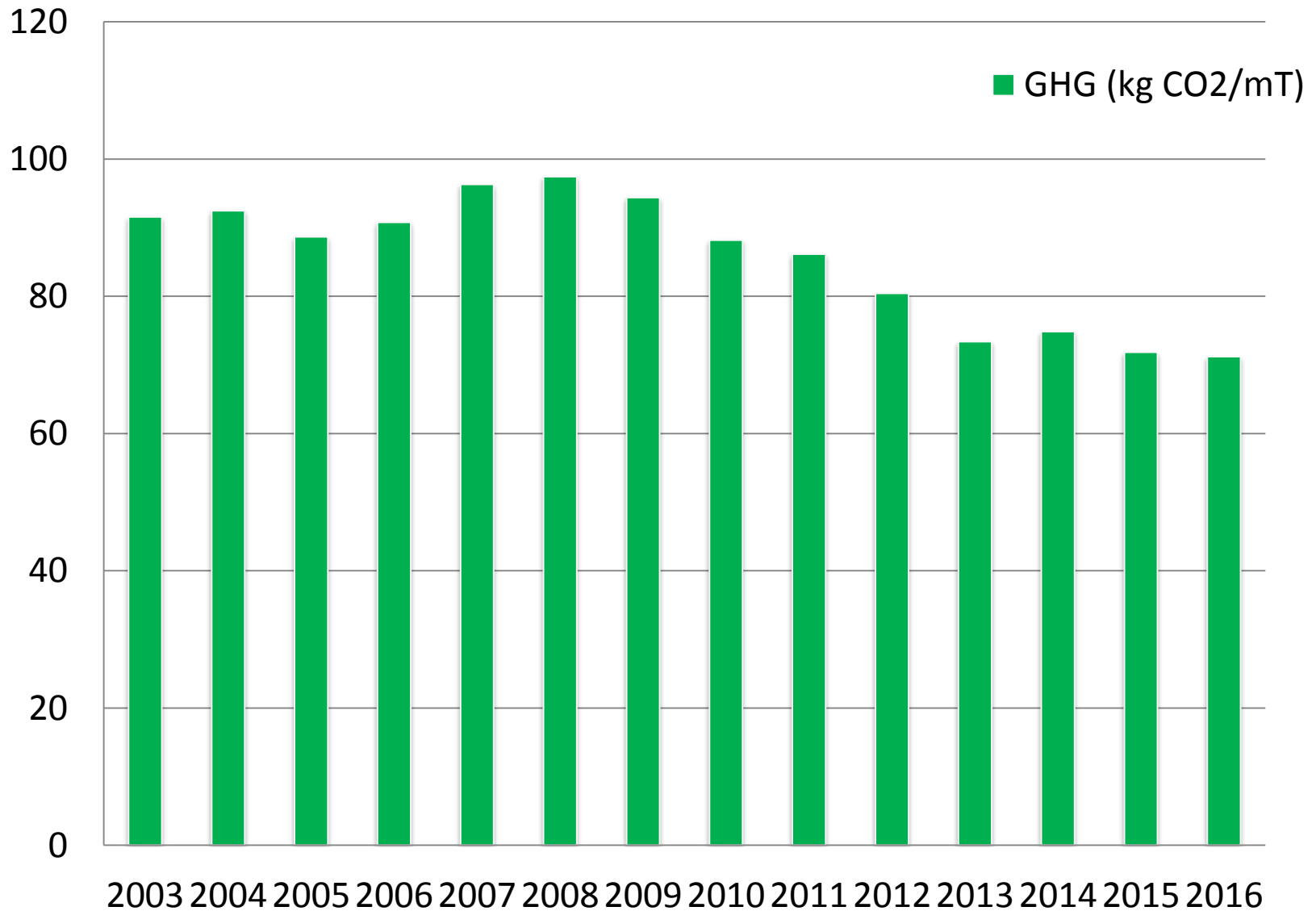


Reduction of Water Use Rate by 3%

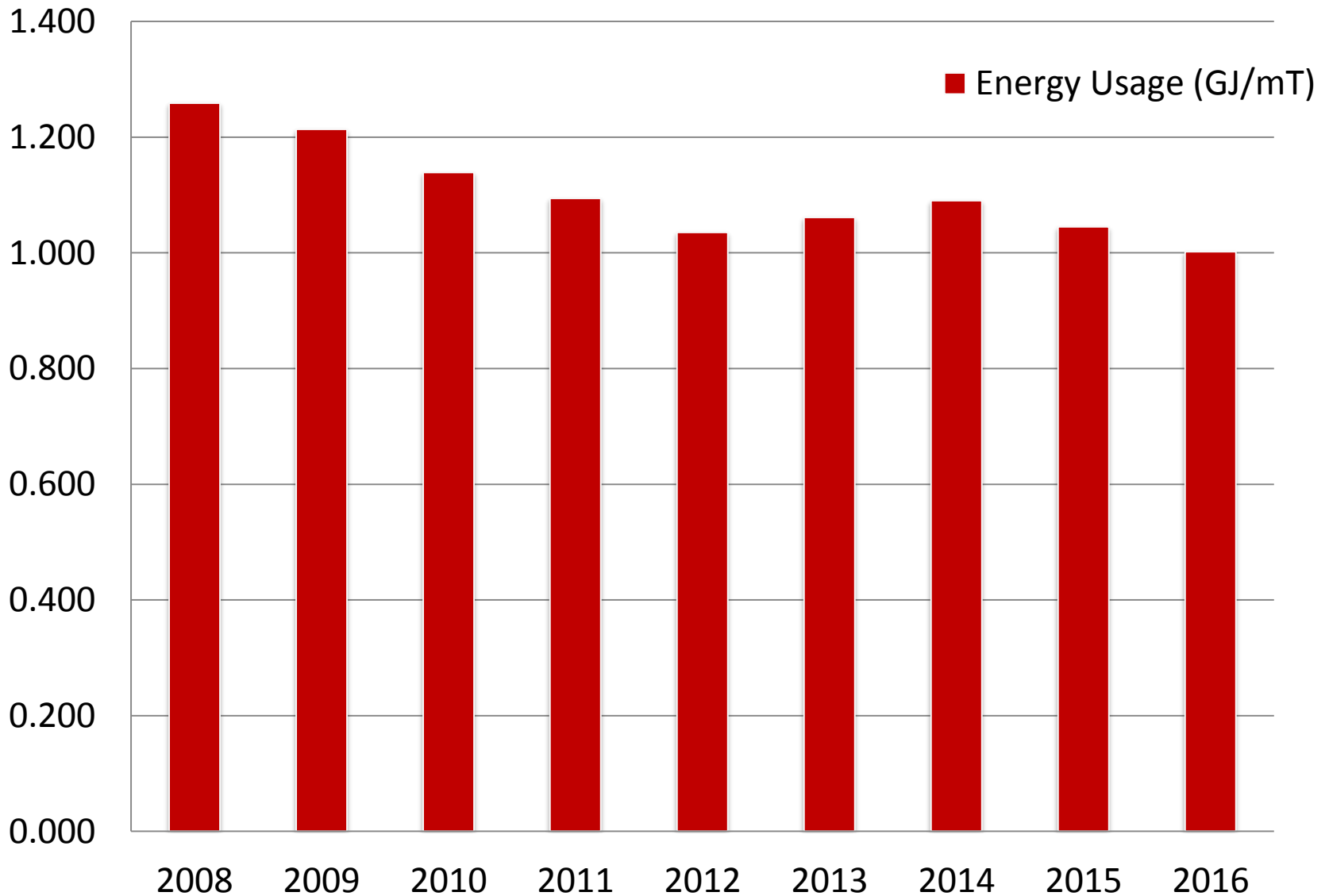


Reduction of Waste Disposal Rate by 5%.

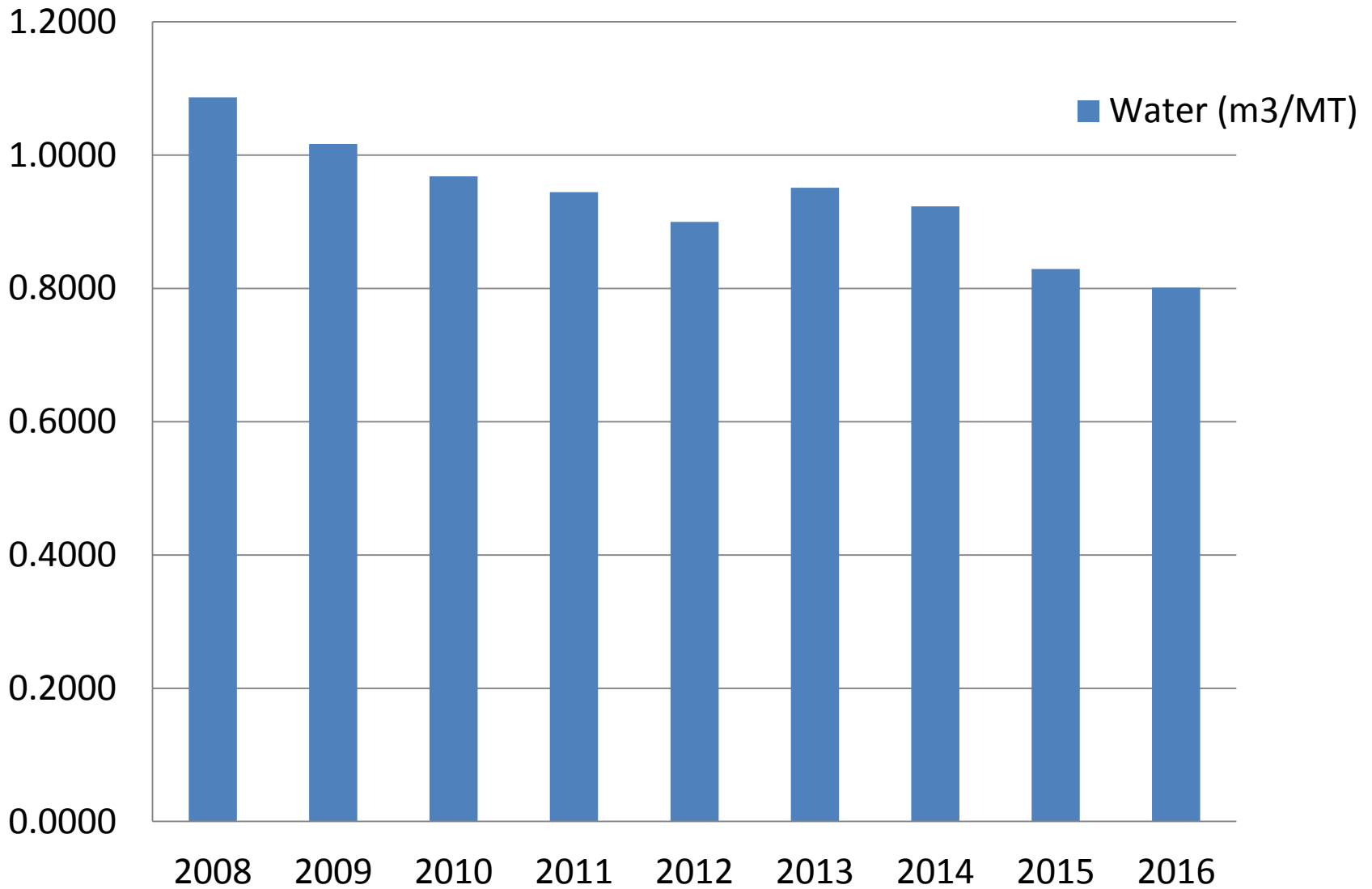
BNA Greenhouse Emission Rate



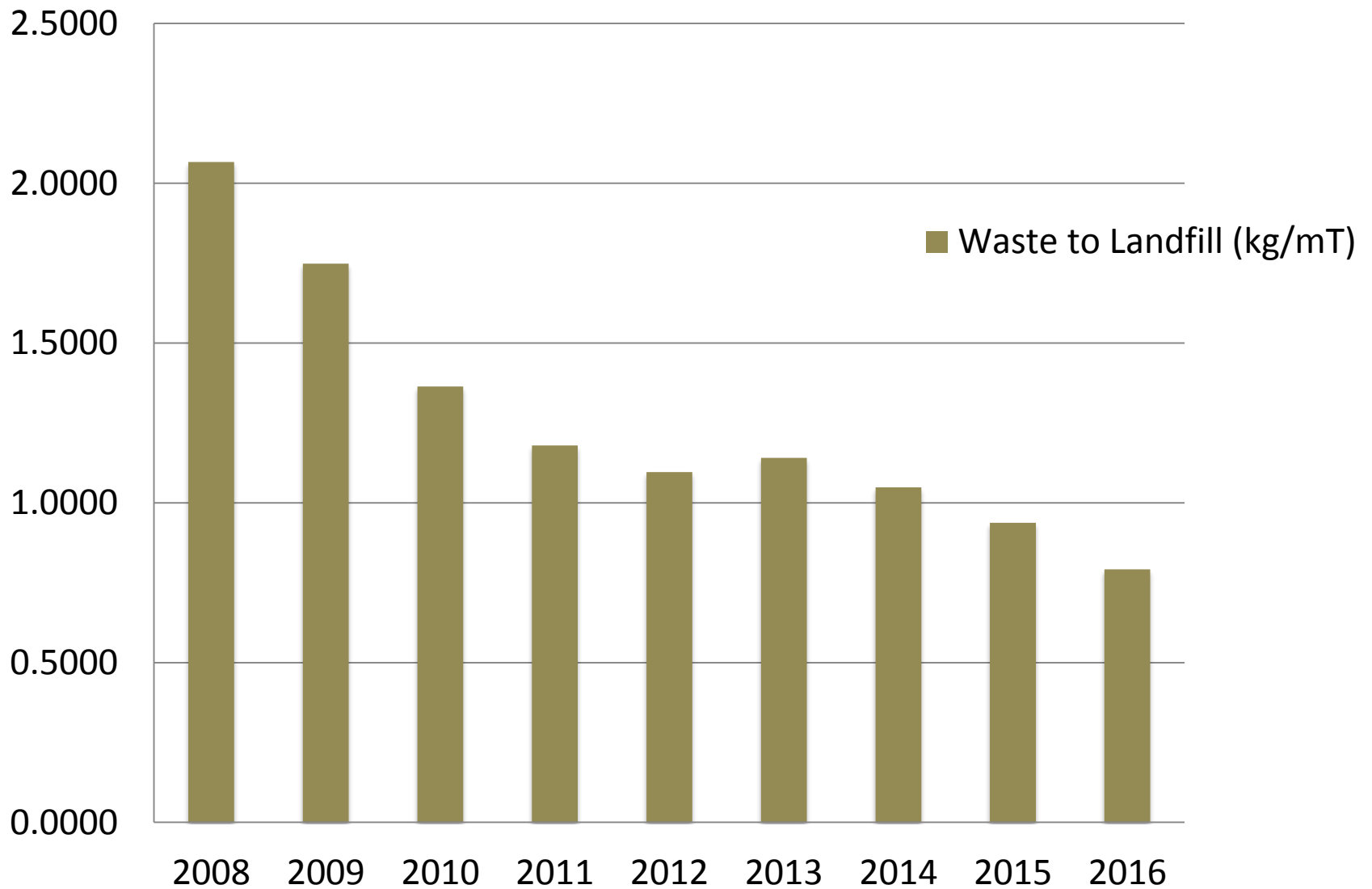
BNA Energy Usage Rate (Fuel & Electricity)



BNA Water Usage Rate



BNA Waste to Landfill



***BNA Sustainability Progress
2008-2016 YTD***



Greenhouse Gas Emission Rate	-27 %
Energy Usage Rate	-20 %
Water Use Rate	-26 %
Waste Disposal Rate	-62 %

Bunge North America's Sustainability Results

➤ **Reduced Environmental Impacts**

- **Greenhouse Gas Reduced by 680,000 metric tons**
(Equivalent to 124,000 cars off the road for one year.)
 - **Water Usage Reduced by 2.1 billion gallons**
(Equivalent to 67 million people eliminating water consumption for one day or 3,190 Olympic size swimming pools.)
 - **Waste Disposal Reduced by 44 million kg**
(Equivalent to the daily household trash from 22 million people.)
- **Reduced Total Annual Waste by 40% and Recycles/Reuses about 47% of the Remaining Waste.**
- **Reduced Sustainability Associated Costs by approximately \$30 million**
(steam & electricity, water & wastewater, solid & liquid wastes)

Bunge North America's Sustainability Improvement Tools

- Continuous Improvement
- Facility Projects
- CapEx Projects
- Environmental Audits
- Employee Involvement
- Green Teams
- Culture/Behavior



How Bunge North America Has Improved Sustainability

▶ **Greenhouse Gas Emission Rate:**

- Implemented Energy Efficiency Improvements to Reduce Steam Losses, Recover Steam Energy, and Reduce Electricity Waste
- Switched from Coal Combustion Boilers to Natural Gas Boilers

▶ **Water Usage Rate:**

- Eliminated Unnecessary Water Use (e.g., Crete, NE corn washing elimination saved 17 million gal/year).
- Implemented Water Recycling & Wastewater Reduction
- Pursued General Water Conservation Efforts

▶ **Waste Disposal Rate:**

- Established Waste Recycling Programs
- Used Coal Combustion Ash as a Cement Admixture

Woodland, CA Facility



Expanded Waste Recycling Program (Receive \$200/ton for Mixed Metals)

Office Renovation - 98% of Material Recovered to Avoid Landfill Disposal



Delphos, OH Facility Energy and Steam Recovery

- **Reduced Water Use by 50%**
- **Reduced Waste Water City Charges by \$120,000/Year and Improved Compliance Performance**
- **Reduced Greenhouse Gases & Other Air Pollutants by over 10,000 tons/Year**



New Veg Oils Packaging Plant Decatur, AL



Greenhouse Gas & Other Air Pollutants Reduced 71%

Water Use Reduced 74%

Landfill Waste Reduced 29%

Hamilton, Ontario Facility Installed High Efficiency Motors



**Replaced low efficiency
motors with high efficiency**



Hamilton Switched to LED / Efficient Lighting



42 W - LED

250W Metal Halide

Hamilton Reduced Water Use 14%

(Reduced by 315 Million Gal/Year)

- Cooling water is recycled and returned to Lake Ontario.
- Use 4500 gallons per minute in summer months & 2700 gallons per minute in the winter months.
- Lowered use by improved energy efficiency.



Morristown, IN - Waste Disposal Reduction

- Plant wide recycling program; co-mingling.
- White paper recycling.
- Reusable water & hot drinks cups
- Eliminated plastic water bottles.
- Wood recycling.
- Battery & light bulb recycling.
- Home recyclables to plant.
- E-scrap recycling.

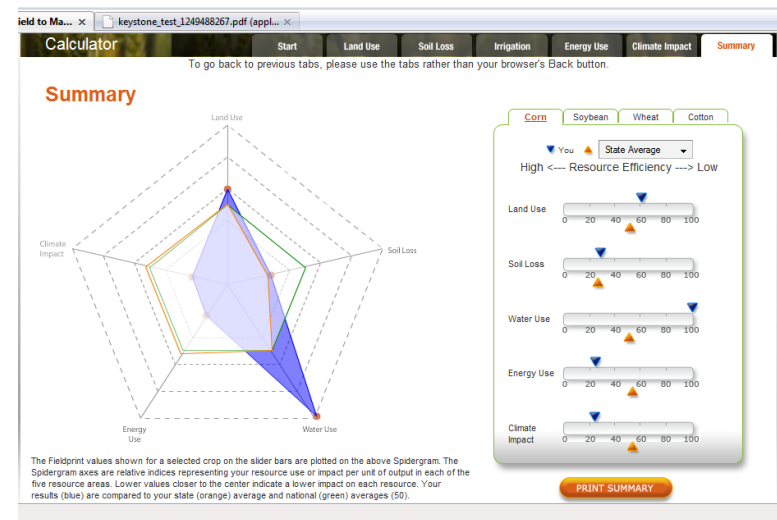


Agriculture Sustainability



“Field to Market”

- Bunge is part of Field to Market, an alliance for Sustainable Agriculture, which includes U.S. grower organizations, agribusinesses, food companies and conservation organizations.
- Multilateral effort to promote sustainability in production agriculture, focusing on water, soil and habitat conservation.
- Fieldprint Calculator helps farmers assess how their operational decisions affect overall sustainability performance – land, energy, water use, GHG emissions and soil loss.



“Field to Market”



Bunge's Core Values

