



PRIORITY TOPIC: ENERGY & CLIMATE

INCREASING OUR ENERGY EFFICIENCY WHILE SEEKING LOWER CARBON SOLUTIONS.

We deploy energy conservation and alternative energy programs to minimize climate change impacts, reduce greenhouse gas (GHG) emissions from our operations and transform our financial performance.

Our program focuses on:

- Reducing our GHG emissions from our direct emissions from operations (“Scope 1”) and our indirect emissions from utility suppliers (“Scope 2”).
- Evaluating GHG emissions from our upstream and downstream supply chain (“Scope 3”). We have estimated these emissions and are assessing improvement opportunities.
- For additional information, see [10-K](#).

2022 GOAL(S)

20% REDUCTION

**IN ABSOLUTE GREENHOUSE GASES
VERSUS A 2005 BASELINE.**

(Note: Modeling using the Science-Based Targets Initiative’s “Sectoral Decarbonisation Approach” validates that this target is aligned with climate science and is “science-based”).

HOW IMPACT IS ACHIEVED AND MEASURED

- Energy Conservation: Reduce greenhouse gas emissions and total delivered costs through LEAN energy deployment and energy efficiency standard practice adoption across our operations. LEAN Energy engages employees in a culture of conservation to execute process changes which optimize energy efficiency.
- Alternative Energy: Create a step change reduction in greenhouse gas emissions and energy cost by switching to lower carbon emitting fuels (e.g. gas, biomass and renewable energy).
- Energy Supply: Manage energy supply to optimize price and cost predictability across our operations.

**PRIORITY TOPIC:
ENERGY & CLIMATE (CONTINUED)**



2016 PROGRESS

Our 2016 target was to reduce our Scope 1 and 2 absolute greenhouse gas (GHG) emissions by 10.7% over our 2005 baseline. Through deployment of our energy conservation and alternative energy programs, we surpassed this goal and our cost savings targets. Major drivers included:

- Start-up of a biomass boiler and cogeneration facility at our Sitio del Niño plant in El Salvador.
- Start-up of a biomass boiler at our Mogi das Cruzes plant in Brazil.

- Installation of heat recovery and low vacuum blowers at our Villey St. Etienne (VSE) plant in France.
- Upgrading of burner controls in tissue machine hoods at our Papeles de Cauca (PDC) plant in Colombia.

Also since the LEAN Energy Management program inception in 2012, we have deployed LEAN energy at 32 of our manufacturing sites globally.

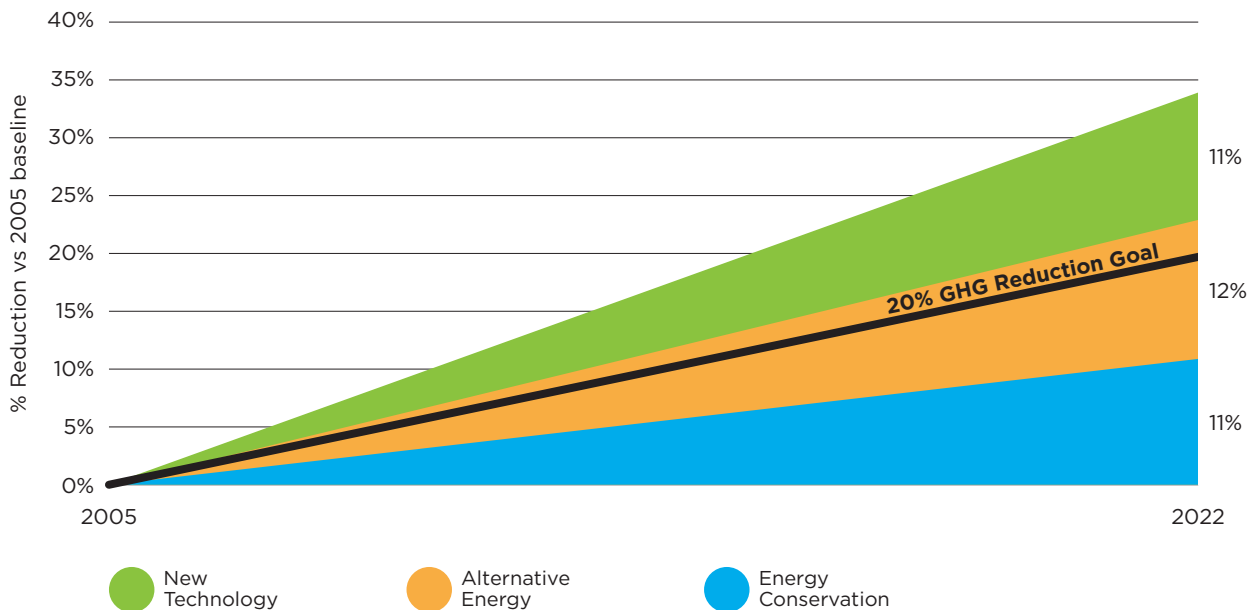
Through these efforts we surpassed our reduction target with an absolute reduction in GHG emissions by 16.8%.

Notably, the Scope 2 grid factors were adjusted to the 2015 United States electricity grid factors, resulting in significant improvements in emissions beyond our direct operations. Going forward, we will report GHG emissions on the latest available emission factors each year.



DRIVING INNOVATION IN ENERGY MANAGEMENT TO CREATE VALUE AND REDUCE GHG EMISSIONS.

\$2022 GHG REDUCTION GLIDEPATH BY STRATEGY





ENERGY CONSERVATION THROUGH LEAN ENERGY MANAGEMENT SYSTEM EXPANSION

Our LEAN Energy Management system is designed to engage mill employees in a culture of conservation, to execute process changes which optimize energy efficiency and to deploy real-time visual tools to make energy overconsumption visible and trigger corrective actions. More than 30 of our manufacturing facilities have adopted LEAN Energy Management.

K-C GOES THE SMARTWAY

We received the U.S. EPA 2016 SmartWay® Excellence Award for Top Environmental Performance in Freight Supply Chain Efficiency. Since joining the SmartWay program in 2006, Kimberly-Clark has more than doubled its use of intermodal transport, saving an estimated 82 million gallons of diesel fuel and reducing greenhouse gas emissions by an estimated 830,000 metric tons – the equivalent of the energy used by 87,000 homes for one year.

[Read - 'K-C Goes the SmartWay' story](#)

FUELING OUR FUTURE

In 2016, we had multiple energy projects to improve efficiency at our manufacturing facilities; contributing to our absolute GHG emissions reduction goal; and had positive financial impacts. Projects at our facilities around the world are making a positive impact on GHG emissions and cost performance while still providing sufficient production needs.

[Read - 'Fueling Our Future' story](#)



ENERGY USE (TRILLION BTU)	2010	2011	2012	2013	2014	2015	2016
Non-renewable energy	60.8	59.8	54.4	53.1	53.1	53.8	51.9
% of total	85%	86%	94%	93%	92.8%	93.6%	92.2%
Renewable energy	10.5	9.6	3.6	4.0	4.1	3.7	4.4
% of total	14.7%	13.8%	6.2%	7.0%	7.2%	6.4%	7.8%
Total Energy Use	71.3	69.3	58.0	57.1	57.2	57.5	56.3
Energy Efficiency (million BTU/MT of production)	14.2	14.7	12.3	12.0	11.5	11.4	11.2

DIRECT ENERGY USE (TRILLION BTU)	2010	2011	2012	2013	2014	2015	2016
Natural gas	29.1	29.6	30.0	29.9	29.7	30.9	31.0
% of total	54.0%	56.8%	73.1%	74.3%	73.2%	75.4%	78.9%
Purchased biomass, purchased liquor	15.5	14.1	3.6	4.0	4.1	3.7	3.9
% of total	28.9%	27.0%	8.7%	10.0%	10.9%	9.0%	10.0%
Coal	7.8	7.3	6.5	5.6	5.5	5.2	4.3
% of total	14.4%	13.9%	15.8%	13.9%	13.4%	12.7%	11.0%
Fuel oil	1.3	1.0	0.9	0.7	0.5	0.3	0.1
% of total	2.4%	2.0%	2.1%	1.7%	1.2%	0.7%	0.2%
Other	-	-	-	-	-	-	-
% of total	-	-	-	-	-	-	-
Total Direct Energy use	53.6	52.0	40.9	40.1	40.0	41.0	39.3

INDIRECT ENERGY USE (TRILLION BTU)	2010	2011	2012	2013	2014	2015	2016
Electricity	17.52	17.21	16.94	16.96	16.59	16.50	15.71
% of total	99.0%	99.2%	99.2%	99.4%	95.1%	94.7%	93.5%
Steam	0.2	0.1	0.1	0.1	0.9	0.9	1.1
% of total	1.0%	0.8%	0.8%	0.6%	4.9%	5.3%	6.5%
Total Indirect Energy use	17.7	17.4	17.1	17.1	17.4	17.4	16.8



INTERMODAL TRANSPORTATION (NORTH AMERICA) ¹	2010	2011	2012	2013	2014	2015	2016
Total Intermodal loads	78,502	87,934	91,353	92,536	95,987	87,517	85,630
Annual change	22%	12%	4%	1%	4%	-5%	-2%
Miles traveled (millions)	109.4	117.8	119.6	120.0	122.0	112.9	111.8
Intermodal cost savings (\$M) vs. over-the-road truck costs	44.2	55.8	60.3	59.2	62.1	56.5	53.9
Estimated fuel use (million gallons of diesel)							
Intermodal	9.1	9.8	10.0	10.0	10.2	9.4	9.3
Comparable truck-only fuel use	18.2	19.6	19.9	20.0	20.3	18.8	18.6
Estimated gallons saved	9.1	9.8	10.0	10.0	10.2	9.4	9.3
Estimated GHG emissions (million pounds - Scope 3)²							
Intermodal	204.7	220.4	223.8	224.4	228.3	211.2	209.2
Comparable truck-only fuel use	409.4	440.9	447.7	448.8	456.6	422.3	418.3
Savings	204.7	220.4	223.8	224.4	228.3	211.2	209.2

(1) All figures are estimates.

(2) Pounds of GHG emissions based on estimate of 22.45 pounds per gallon of diesel fuel.

Note: Drop in 2016 is result of lower diesel fuel prices (16% lower than 2015) which reduced the benefit of shipping certain loads via Intermodal.

GREENHOUSE GAS EMISSIONS (MILLION MT CO ₂ E)	2005 (BASE YEAR)	2010	2011	2012	2013	2014	2015	2016 ¹
Direct (Scope 1)	2.6	2.5	2.5	2.4	2.2	2.2	2.2	2.1
Indirect (Scope 2)	2.9	2.8	2.7	2.7	2.7	2.7	2.7	2.4
Total emissions	5.5	5.3	5.2	5.1	5.0	4.9	4.9	4.6
Change from previous year (%)	N/A	N/A	-1.6%	-2.4%	-2.3%	-1.1%	-0.1%	-7.1%
CO ₂ e per metric ton of production (CO ₂ intensity)		1.05	1.11	1.08	1.04	0.99	0.97	0.91
Specific emissions								
Carbon dioxide (CO ₂)		5.240	5.157	5.048	4.934	4.899	4.879	4.544
Methane (CH ₄)		0.011	0.010	0.006	0.006	0.006	0.006	0.006
Nitrous Oxide (N ₂ O)		0.033	0.031	0.020	0.020	0.021	0.020	0.020

(1) The U.S. emission factors were based on the 2015 U.S. EPA eGRID2012 version 1.0, and the international emission factors used the International Energy Agency Data Services "CO₂ Emissions from Fuel Combustion" (2013 Edition). Reported CO₂e emissions are based on location-based emission factors where available. For further details on location or market-based data, please see our CDP Climate Change Investor Response 2016.

OTHER CRITERIA POLLUTANTS (MT) ¹	2010	2011	2012	2013	2014	2015	2016
NO _x	3,948	3,833	2,915	2,869	2,895	2,562	2,545
SO ₂	4,193	3,031	2,452	1,787	1,776	1,860	1,689

(1) 2010 through 2015 pollutant values were revised to reflect more accurate data from continuous emission monitors compared to previous report responses which were based only on emission factors.