

Operations:
Greenhouse Gas (GHG)
Emissions, Waste, Water,
Energy

2011-2018

Contents

Overview.....	3
Greenhouse Gas (GHG) Emissions	3
Our Goal.....	3
Progress Achieved.....	3
Year-Over-Year GHG Emissions Reduction Performance (2011-2018).....	4
Scope 1, 2 and 3 GHG Emissions Trends (2011-2018)	5
GHG Emissions by Geography (2011-2018)	6
Total GHG Emissions (Reportable vs. Biogenic) (2011-2018).....	6
GHG Emissions by Business Unit	7
Waste	8
Our Goal.....	8
Progress Achieved.....	8
Year-Over-Year Reduction of Waste Sent to Landfill (2011-2018).....	8
Zero-Waste-to-Landfill Program.....	9
Water.....	10
Our Goal.....	10
Progress Achieved.....	10
Year-Over-Year Reduction of Water Consumption (2011-2018).....	10
Energy.....	11
Our Goal.....	11
Progress Achieved.....	11
Year-Over-Year Reduction of Energy Consumption (2011-2018).....	11
Purchased Electricity (2011-2018):	12

Overview

Clorox's 2020 strategy period (2012-2018) called for 20% reductions in greenhouse gas (GHG) emissions, energy, water and waste-to-landfill of our manufacturing and distribution operations by the year 2020, using 2011 as our baseline. These goals were set on top of having achieved double-digit reductions in GHG emissions, water use and waste-to-landfill between 2008 and 2011, our prior goal period.

This document provides our progress achieved in greenhouse gas (GHG) emissions, energy, water and waste-to-landfill of our manufacturing and distribution operations during this strategy period. For a full list of corporate responsibility highlights achieved, [please visit our 2019 Integrated Annual Report](#).

Greenhouse Gas (GHG) Emissions

Our Goal

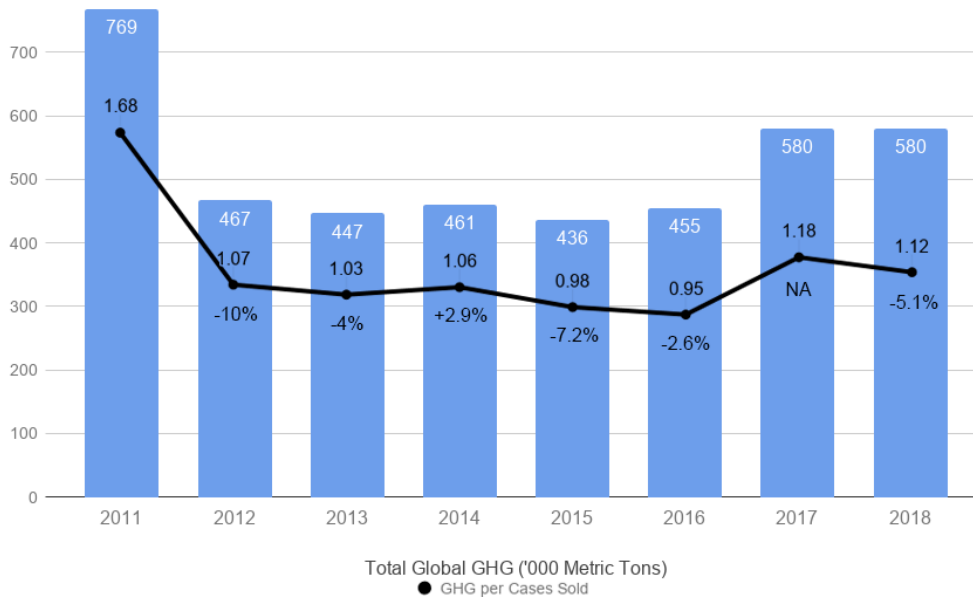
In 2012, we set a goal to decrease our GHG emissions 20% (per case of product sold) by 2020 versus 2011 base year.

Progress Achieved

Since 2011, we have conducted annual third-party independent assurance of our global energy and GHG emissions. This assurance encompasses 100% of our global Scope 1 and 2 GHG emissions, energy consumption and electricity use as well as Scope 3 GHG emissions associated with the distribution of our U.S. finished products and business travel by our employees.

In our 2020 strategy period, with 2011 as our baseline, we exceeded our goal to reduce our GHG emissions by 20% (per case sold versus 2011) by 2020 ahead of plan. As of 2018, when we closed out the 2020 strategy period, we reduced our GHG emissions by 33% on an intensity basis (per case of product sold versus 2011). On an absolute basis, we reduced GHG emissions by 25% in this same period. This represented a reduction of 189,000 metric tons of GHG emissions in 2018 versus 2011. For historical details prior to our 2020 strategy period, [download GHG Emissions 2005-2011](#).

Year-Over-Year GHG Emissions Reduction Performance (2011-2018)



Notes:

Clorox sold its Oakland, California, offices in 2013 and discontinued its Venezuela operations in 2014. Total global GHG emissions for 2011 (the baseline year for our 2020 GHG emissions reduction goal) were recalculated to exclude GHG emissions from these facilities. Data for 2012 and 2013 were not recalculated.

Beginning in 2014, Burt's Bees began accounting for and reporting Scope 3 transportation related emissions. While this information was not included in the 2011 base year data, inclusion of this data in 2014 results in an immaterial impact on the change in reported emissions for 2014. However, due to rounding, reporting these emissions has resulted in a 1% increase in Clorox's overall reported GHG emissions reduction percentage in 2014. For the purposes of our 2020 reduction goal, we have revised the 2011 GHG baseline to include an estimate of Burt's Bees' Scope 3 transportation related emissions, based on Burt's Bees' revenue that year. This increases our 2011 baseline year emissions from 503,043 metric tons CO₂e to 506,366 metric tons CO₂e, against which 2014 and future year comparisons in our 2020 strategy period will be reported. This enables us to accurately compare GHG emissions for 2014 and future years, to the 2011 baseline. We have not revised GHG emissions for 2012 and 2013.

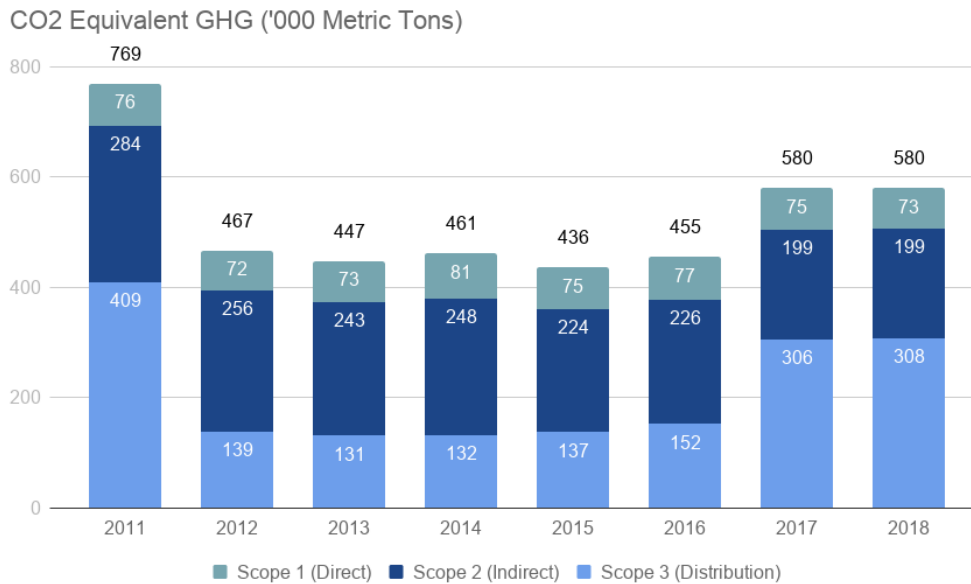
Clorox acquired Renew Life in 2016. Total global GHG emissions for 2011 (the baseline year for our 2020 GHG emissions reduction goal) were recalculated to include estimated GHG emissions from related facilities associated with this acquisition. Data for 2012–15 were not recalculated.

In 2017, we changed our methodology for calculating Scope 3 emissions because the U.S. EPA stopped supporting the methodology we had previously adopted. Scope 3 emissions for business travel are now calculated using 'per vehicle-mile traveled' and 'per passenger-mile traveled' emissions factors from the EPA's Center for Corporate Climate Leadership guidance, published in 2018. Emissions from finished goods transportation are calculated using 'per ton-mile' emission factors, according to the same guidance. In prior years, Scope 3 emissions were calculated based on fuel usage, using the EPA's 'btu/ton-mile' and "GHG emissions per unit of fuel" emission factors. For the purposes of our 2020 reduction goal, we've revised the 2011 GHG baseline to apply the same methodology being adopted in 2017 to the baseline year. This increases our 2011 baseline year emissions from 507,216 metric tons CO₂e to 761,980 metric tons CO₂e, against which 2017 and future years in our 2020 strategy period will be reported. This enables us to accurately compare GHG emissions for 2017 going forward to the 2011 baseline. We have not revised GHG emissions for 2012 through 2016.

In 2018, Clorox acquired Nutranext and at the end of 2017 opened its new Atlanta West manufacturing facility. Total global GHG emissions for 2011 (the baseline year for our 2020 GHG emissions reduction goal) were recalculated to include estimated GHG emissions from related facilities associated with this acquisition and new manufacturing facility. Data for 2012–2017 were not recalculated.

Our 2005-2018 GHG emissions data were collected by an independent third party environmental services firm with detailed knowledge of the operations and air emissions characteristics of the major Clorox manufacturing facilities. This firm utilized source data (electricity, natural gas, fuels and chemicals) to calculate associated emissions, and followed the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) standard protocols in their calculation of Clorox's GHG emissions.

Scope 1, 2 and 3 GHG Emissions Trends (2011-2018)



Notes:

Scope 1, 2 and 3 emissions are defined as follows:

Scope 1 emissions are defined as GHG emissions as a direct result of Clorox operations and equal approximately 13% of Clorox's total manufacturing and distribution GHG impact. We estimate that 77% of Scope 1 emissions are from carbon dioxide (CO₂) and the remainder is from methane (CH₄), nitrous oxide (N₂O) and hydrofluorocarbons (HFCs). The primary source of CH₄ and N₂O is wood pyrolysis at charcoal plants in the U.S. HFC emissions have averaged 155 Metric Tons Carbon Equivalent (MTCE) per year for the period 2005–2011, based on a release of 0.119 tonnes of refrigerant. The primary species of HFC released is R-134a.

Scope 2 emissions are defined as Clorox's indirect emissions from purchased electricity, heat and steam. About 34% of our combined manufacturing and distribution GHG footprint is from our indirect electricity use at our manufacturing plants, distribution centers and corporate office buildings. Our GHG calculations include both the amount of electricity drawn as well as the source of that electricity (e.g., coal vs. gas vs. other types of power plant fuels). Regional electric power emission factors (eGRID data) were used to compute indirect emissions. This is in conformance with the U.S. EPA Protocol and is consistent with the location-based method of the GHG Protocol. The location-based method is used for our 2011 baseline, goal setting and progress reporting. We also began efforts in 2015 to collect Scope 2 emissions in the U.S. using the market-based method as stipulated by the GHG Protocol; however, we were unable to obtain any contractual instruments or supplier specific emission rates in 2015 through 2018, and residual mix factors were not available for the markets in which Clorox operates. As a result, our 2015 through 2018 market-based Scope 2 emissions are identical to our location-based emissions in 2015 through 2018.

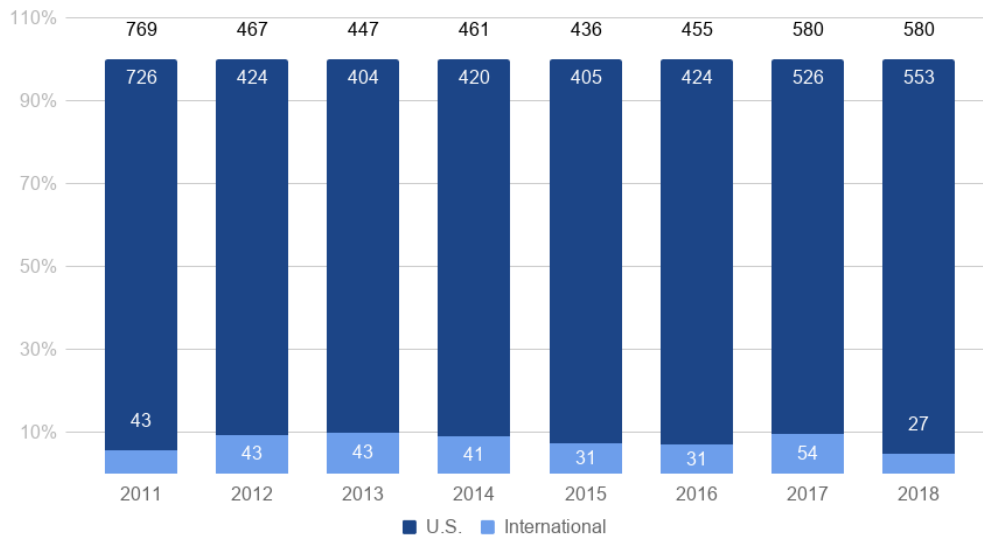
Scope 3 emissions are currently calculated from two sources:

Emissions associated with the distribution of our U.S. finished products by non-affiliated carriers to regional distribution centers and to retailers, account for about one half of Clorox's combined manufacturing and distribution GHG impact. These estimates include all modes of transport (air, water, truck and rail). Scope 3 distribution emissions include travel 1) between our production facilities; 2) from production facilities to our distribution centers; 3) from production facilities to customer distribution centers and 4) from our distribution centers to customer distribution centers.

We also include our Scope 3 emissions from business travel by our employees. This includes all air travel (domestic within the United States as well as international travel) and emissions associated with our use of rental cars.

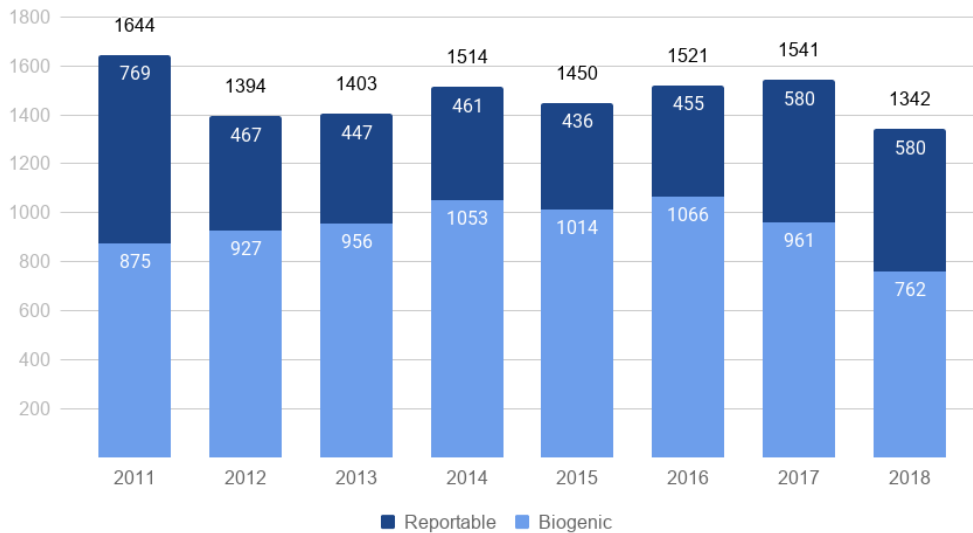
GHG Emissions by Geography (2011-2018)

CO2 Equivalent GHG ('000 Metric Tons)



Total GHG Emissions (Reportable vs. Biogenic) (2011-2018)

CO2 Equivalents GHG ('000 Metric Tons)

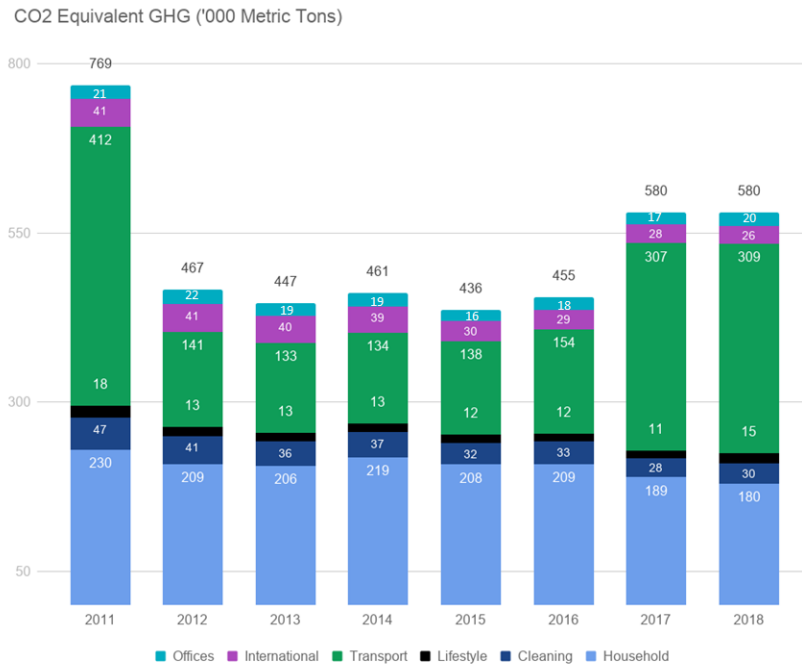


Notes:

Approximately 57% of our greenhouse gas emissions are actually from biogenic sources associated with the use of wood scrap as an energy source in our Kingsford® charcoal manufacturing operations. (CO₂ produced in our Kingsford operations via wood pyrolysis and off-gas combustion is considered biogenic, while the CH₄ and N₂O emissions produced via pyrolysis and off-gas combustion are considered anthropogenic and are therefore included in Clorox's Scope 1 reportable emissions.)

We chose to show this data even though biogenic greenhouse gas emissions (that is, from wood and other biofuels) are considered part of the natural carbon cycle, and are therefore excluded from reportable carbon-footprint calculations.

GHG Emissions by Business Unit



Notes:

Lifestyle = Dressings and Sauces, Water Filtration, Global Natural Personal Care, Dietary Supplements
 Cleaning = Laundry, Homecare, Away from Home
 Household = Bags and Wraps, Charcoal, Cat Litter

Waste

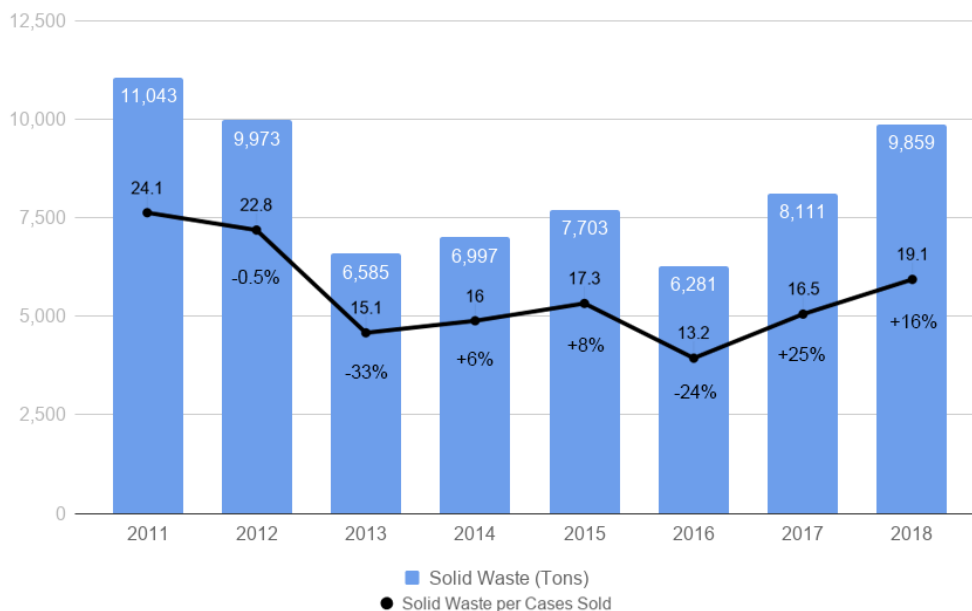
Our Goal

In 2012, we set a goal to achieve a 20% reduction in solid waste to landfill by 2020 (per case of product sold) versus 2011 base year at our facilities worldwide. Also by 2020, we aimed to have 10 zero-waste-to-landfill sites (where at least 90% of solid waste is either recycled or composted with the rest of waste sent to a waste-to-energy facility).

Progress Achieved

In 2018, we reduced our solid waste to landfill by 21% on an intensity basis (per case of product sold) versus 2011. On an absolute basis, we decreased solid waste to landfill by 11% in this same period. This represented a reduction of 1,185 tons of solid waste sent to landfill in 2018 versus 2011, which was the baseline year for our 2020 reduction goal. For historical details prior to our 2020 strategy period, [download Waste Sent to Landfill 2007-2011](#).

Year-Over-Year Reduction of Waste Sent to Landfill (2011-2018)



Notes:

Clorox sold its Oakland, California, offices in 2013 and discontinued its Venezuela operations in 2014. Total solid waste to landfill for 2011 (the baseline year for our 2020 waste reduction goal) was recalculated to exclude solid waste sent to landfill at these facilities. Data for 2012 and 2013 were not recalculated.

Clorox acquired Renew Life in 2016. Total solid waste to landfill for 2011 (the baseline year for our 2020 waste reduction goal) was recalculated to include estimated solid waste sent to landfill from related facilities associated with this acquisition. Data for 2012-2015 were not recalculated.

In 2017, calendar year 2011 baseline value for solid waste-to-landfill was restated to reflect: 1) the removal from the baseline of waste volumes attributed to the Aplicare business, divested by Clorox in calendar year 2017, and 2) the addition of the previously excluded waste stream, cafeteria waste sludge, to the landfill waste volume at our Lima, Peru, manufacturing facility. Data for 2012-2016 were not recalculated.



In 2018, Clorox acquired Nutranext and at the end of 2017 opened its new Atlanta West manufacturing. Solid waste-to-landfill for 2011 (the baseline year for our 2020 waste reduction goal) was recalculated to include estimated solid waste-to-landfill from related facilities associated with this acquisition and new manufacturing facility. Data for 2012–17 were not recalculated.

Zero-Waste-to-Landfill Program

We set a target in our 2020 strategy to achieve 10 zero-waste-to-landfill sites. During that period, we exceeded our target with thirteen of our sites having achieved the designation. In order of achievement, these facilities are:

- Fairfield, California plant
- Orangeville, Ontario, Canada plant
- Rogers, Arkansas plant
- Tlalnepantla (Mexico City), Mexico plant
- Amherst, Virginia plant
- Conghua, China plant
- Quilicura, Chile plant
- San José, Costa Rica plant
- Cartago, Costa Rica plant
- Tultitlan, Mexico distribution center
- Rogers, Arkansas distribution center
- Willowbrook, Illinois R&D facility
- Brampton, Ontario, Canada administrative office

To be designated zero-waste-to-landfill each facility must:

- Have a Zero Waste approach to minimizing all waste streams
- Have processes to Reduce/Reuse/Recycle/Compost/or send to Energy Recovery (WtE)
- Pass a Corporate Audit Guidelines for our zero waste to landfill program were developed to reflect UL Standard 2799, 3rd Edition (03/22/17)

Water

Our Goal

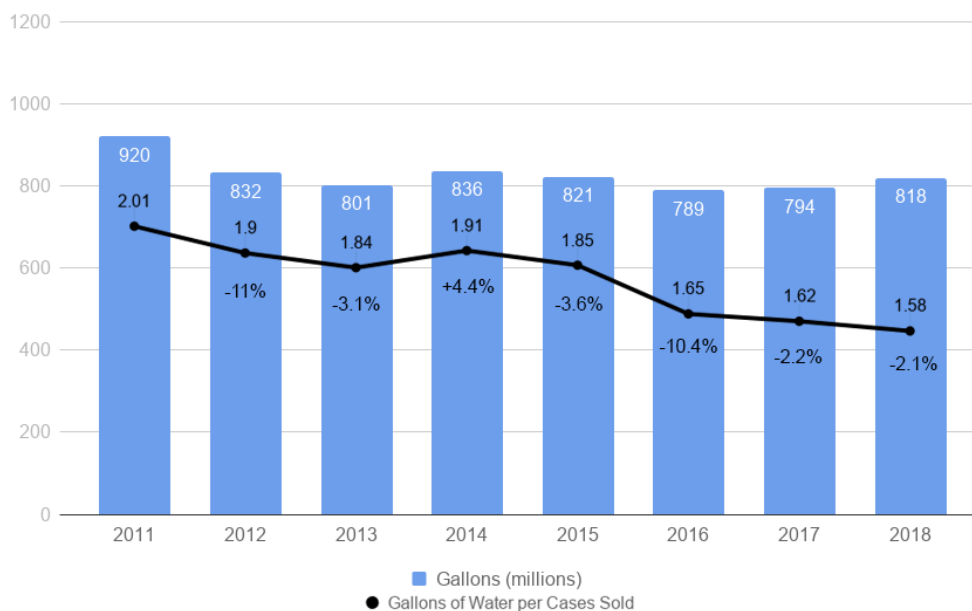
In 2012, we set a goal to cut our water usage another 20% (per case of product sold) by 2020 versus 2011 base year.

Progress Achieved

By 2018, we reduced our water consumption by 21% on an intensity basis (per case of product sold versus 2011). On an absolute basis, we reduced water use by 11% in this same period. This represents a reduction of 102 million gallons of water used in 2018 versus 2011, which is the baseline year for our 2020 reduction goal. For historical details prior to our 2020 strategy period, [download Water Consumption 2007-2011](#).

Since 2014, we've conducted third-party independent assurance of our water use.

Year-Over-Year Reduction of Water Consumption (2011-2018)



Notes:

Clorox sold its Oakland, California, offices in 2013 and discontinued its Venezuela operations in 2014. Total water consumption for 2011 (the baseline year for our 2020 water reduction goal) was recalculated to exclude water consumed at these facilities. Data for 2012 and 2013 were not recalculated. Clorox acquired Renew Life in 2016. Total water consumption for 2011 (the baseline year for our 2020 water reduction goal) was recalculated to include estimated water consumption from related facilities associated with this acquisition. Data for 2012-2015 were not recalculated.

In 2016, Clorox identified a pump calibration error at one of our Kingsford manufacturing facilities that resulted in overstated water use in previous reporting years. Total water consumption for 2011 (the baseline year for our 2020 water reduction goal) was recalculated to correct for this error. Data for 2012-15 were not recalculated. In 2018, Clorox acquired Nutranext and at the end of 2017 opened its new Atlanta West manufacturing facility. Total water consumption for 2011 (the baseline year for our 2020 water reduction goal) was recalculated to include estimated water use from related facilities associated with this acquisition and new manufacturing facility. Data for 2012-2017 were not recalculated.

Energy

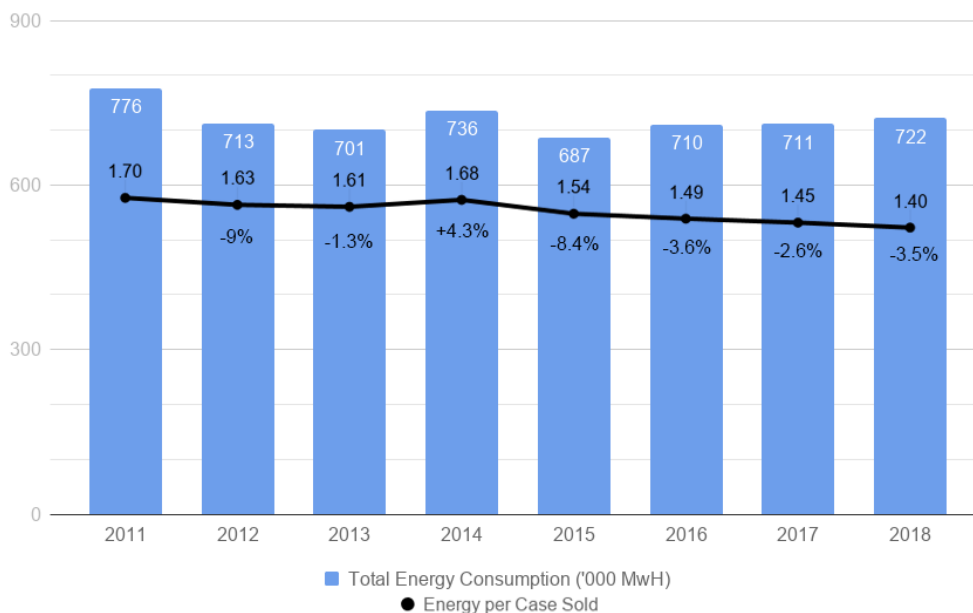
Our Goal

In 2012, we set a goal to decrease our energy use 20% (per case of product sold) by 2020 versus 2011 base year.

Progress Achieved

By 2018, the year we closed out our 2020 strategy period, we reduced our energy consumption by 18% on an intensity basis (per case of product sold versus 2011) and were on track to meet our 20% reduction goal by 2020. On an absolute basis, we decreased energy use by 7% in this same period. This represents a reduction of 54,000Mwh of energy used in 2018 versus 2011, which is the baseline year for our 2020 reduction goal. For historical details prior to our 2020 strategy period, [download Energy Consumption 2007-2011](#).

Year-Over-Year Reduction of Energy Consumption (2011-2018)



Notes:

Clorox sold its Oakland, California, offices in 2013 and discontinued its Venezuela operations in 2014. Total energy consumption for 2011 (the baseline year for our 2020 reduction goal) was recalculated to exclude energy from these facilities. Data for 2012 and 2013 were not recalculated.

Clorox acquired Renew Life in 2016. Total energy consumption for 2011 (the baseline year for our 2020 energy reduction goal) was recalculated to include estimated energy consumption from related facilities associated with this acquisition. Data for 2012-2015 were not recalculated.

In 2018, Clorox acquired Nutranext and at the end of 2017 opened its new Atlanta West manufacturing facility. Total energy consumption for 2011 (the baseline year for our 2020 energy reduction goal) were recalculated to include estimated energy consumption from related facilities associated with this acquisition and new manufacturing facility. Data for 2012-2017 were not recalculated.

Purchased Electricity (2011-2018):

Purchased Electricity ('000 of MWh)			
Calendar Year	United States	International	Worldwide
2011	378	117	495
2012	368	109	477
2013	343	106	449
2014	346	111	457
2015	348	88	436
2016	358	87	445
2017	357	83	440
2018	361	77	438