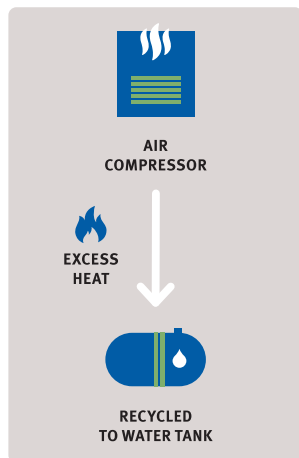


# Bright Idea Leads to Energy Savings

What can we do with that extra heat? How can we use it? How can we innovate? According to **Victor Medina**, Sherwin-Williams Plant Engineer, those questions led the maintenance and engineering team to an innovation at Global Supply Chain's Engineered Polymer Solutions plant in Hendrik-Ido-Ambacht, Netherlands. A routine equipment upgrade became an opportunity to realize huge savings on gas and electricity.

The team planned to replace an old air compressor system with new machines, but they had to fit in a very small room, which created challenges. "We figured out a way to install them," says **Hans Mulder**, Sherwin-Williams Maintenance and Engineering Manager, "but we were concerned that they might overheat in the tight space. The easiest solution was to put in a fan to blow the heat out, but that wasn't really sustainable." They didn't want to waste the heat because the plant requires a lot of it in the production process, where chemical reactions occur at very high temperatures.

The solution began to unfold once they realized there was a steam-heated water tank in the room next door. "There's a lot of energy going into that tank," explains Hans. "What if we feed the excess heat from the air compressors into the tank, so that we don't have to have the boiler heating it?"



Over the course of a year, the team engineered, tested and refined a solution to do just that. They significantly reduced the steam needed to heat the water as well as the gas that generates the steam. Their efforts saved the plant more than 36,000 cubic meters of gas — enough to heat 21 Netherlands households.\*

They are conserving electricity as well, thanks to a smart control system that regulates the new air compressors to maximize efficiency and uses less power, which makes a big difference in the plant's electric bill and helps reduce the site's carbon footprint. "Generating air is one of your most expensive utility costs," according to Hans.

"We really had a choice to do it our way — and our way is the sustainable way," says Hans.

This success has sparked a new sustainability project for the team, adds Hans. "We're looking at other areas in the production process where excess heat could be recovered and recycled, leading to more savings."

For Hans, the commitment to sustainability goes beyond work. "I have two beautiful daughters and I want them to have a good place to live. We have to pass it on. It's good to consider the environment. And if the Company gets a benefit from it, that's a win-win situation."

\* Data per Energiesite.nl

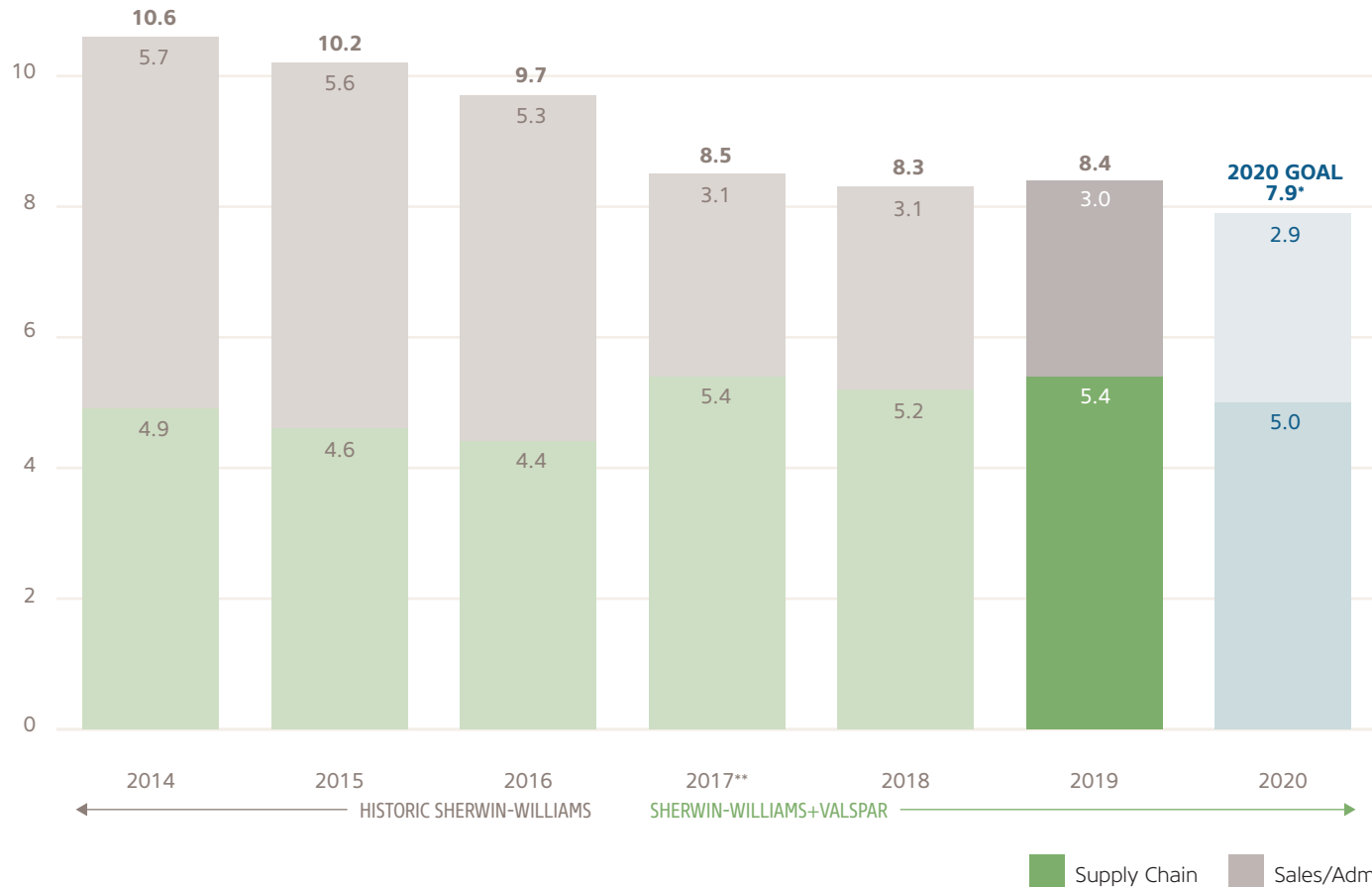


From Left: Hans Mulder, Victor Medina

# Electricity Consumption Rate

## Performance – Global Locations

kWH per 100 lbs of Production



Across all global locations in 2019, we consumed 8.4 kilowatt hours of electricity per 100 pounds of total production.

The electricity consumption rate is essentially flat year over year. While the Company had projects to reduce energy consumption and increase efficiency, our global footprint and facility count continues to grow. The Company intends to continue to drive improvements with this important metric and its correlation to carbon emissions. (See page 50)

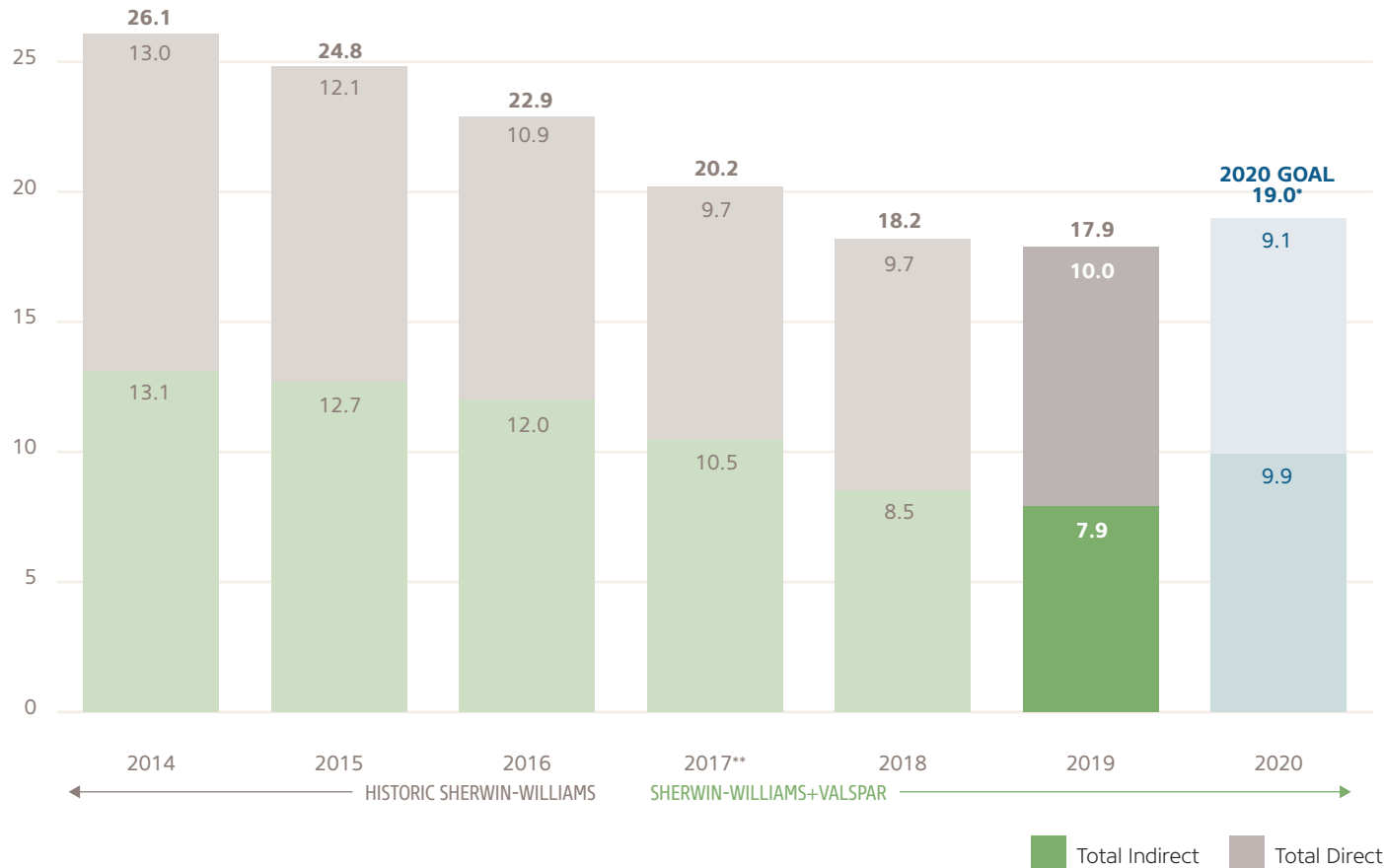
\* The 2020 goal is based on a 2.5% annual reduction from the 2017 baseline value.

\*\* Sherwin-Williams acquired Valspar on June 1, 2017.

# CO<sub>2</sub>e Emission Rate

## Global Performance

Pounds per 100 lbs of Production



Across all global locations in 2019, including global supply chain, sales and administrative, we emitted 17.9 pounds of CO<sub>2</sub>e per 100 pounds of total production.

An error was discovered with the Scope 1 emissions for the 2017 and 2018 reporting year that overstated carbon emissions. The past data have been corrected and incorporated into this graph including the corresponding goal from 2017 base-line year.

In 2019, we exceeded the 2020 goal that was set in 2017.

\* TGoal 2.0% reduction per year from 2017 baseline

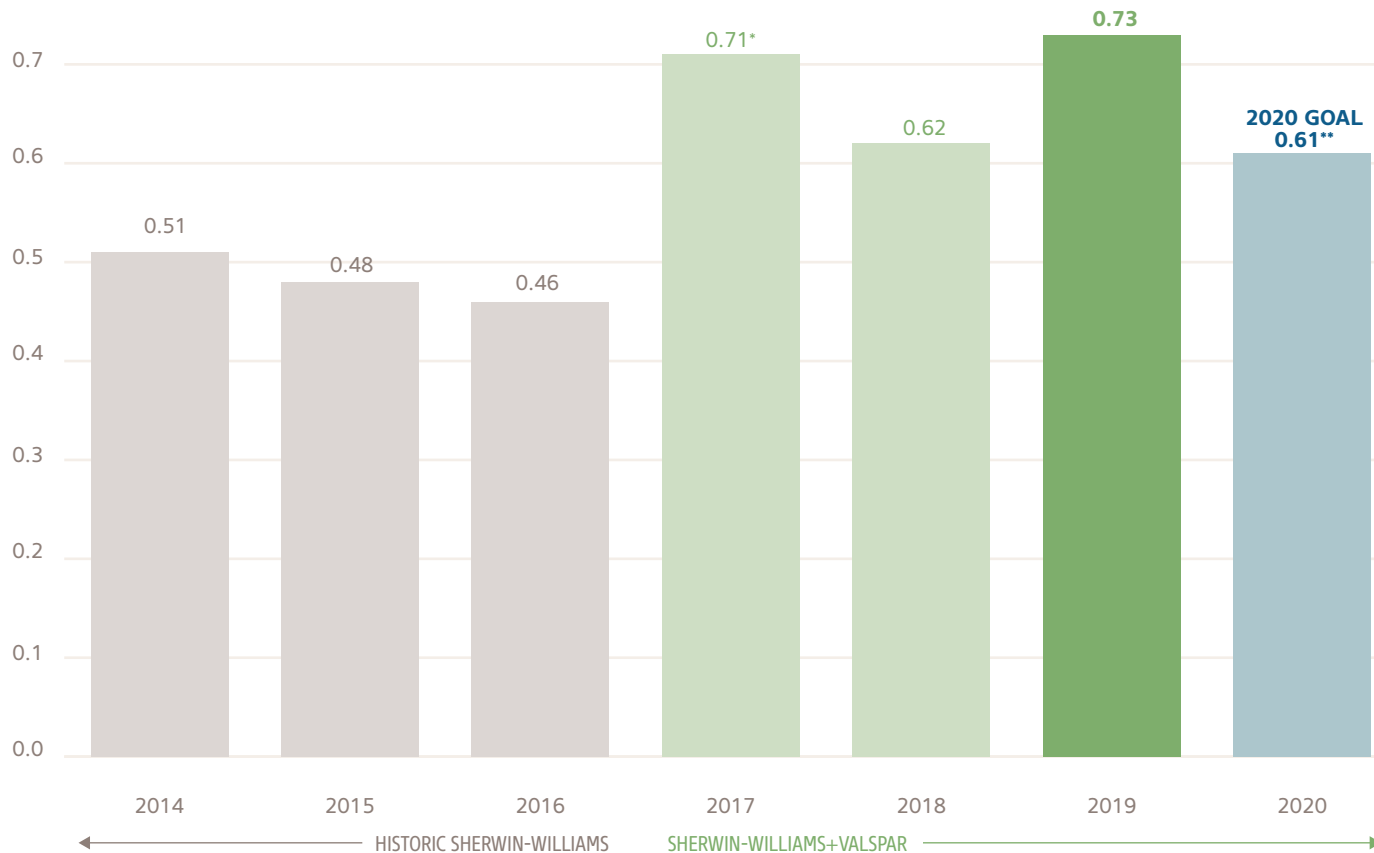
\*\* Sherwin-Williams acquired Valspar on June 1, 2017.

† US Indirect CO<sub>2</sub> emissions calculations based on EPA eGRID2016, February 2019 factors for 2019, EPA eGRID2010 Version 1.0, March 2011 for 2013 – 2017

# Non-Hazardous Solid Waste

## Off-Site Treatment & Disposal Rate

Pounds per 100 lbs of Production



Within our Global Supply Chain in 2019, we treated and disposed 0.73 pounds of non-hazardous solid waste per 100 pounds of total production.

The solid non-hazardous waste generation rate is up since the Valspar acquisition. The Company made significant progress in reducing non-hazardous solid waste generation and increasing recycling for many years. Valspar sites have had a different level of recycling and reuse. In addition, the current recycling and reuse markets have experienced a downturn. This has caused an increase in the waste generation and a decrease in recycling and reuse of materials, Company-wide, negatively affecting the Company's solid waste generation performance.

Our goal is to reduce non-hazardous solid waste to 0.61 pounds per 100 pounds produced through waste elimination, reuse and recycling.

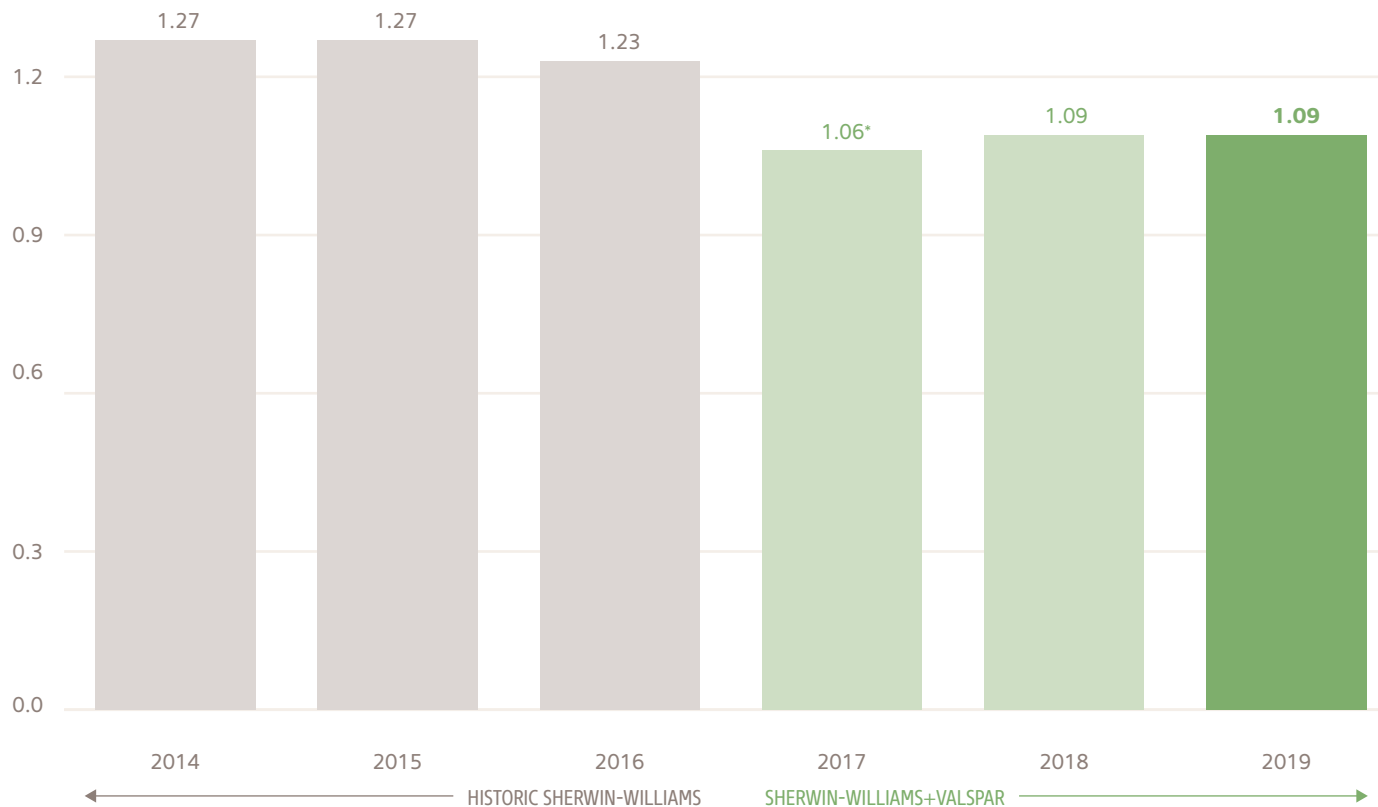
\* Sherwin-Williams acquired Valspar on June 1, 2017. Non-Hazardous solid waste data from all GSC facilities were included.

\*\* The 2020 goal is based on a 5% annual reduction from the 2017 baseline value.

# Non-Hazardous Solid Material

## Reuse & Recycle Rate

Pounds per 100 lbs of Production



Within our Global Supply Chain in 2019, we prevented 1.09 pounds of non-hazardous solid material per 100 pounds of total production from treatment/disposal through recycling and beneficial reuse.

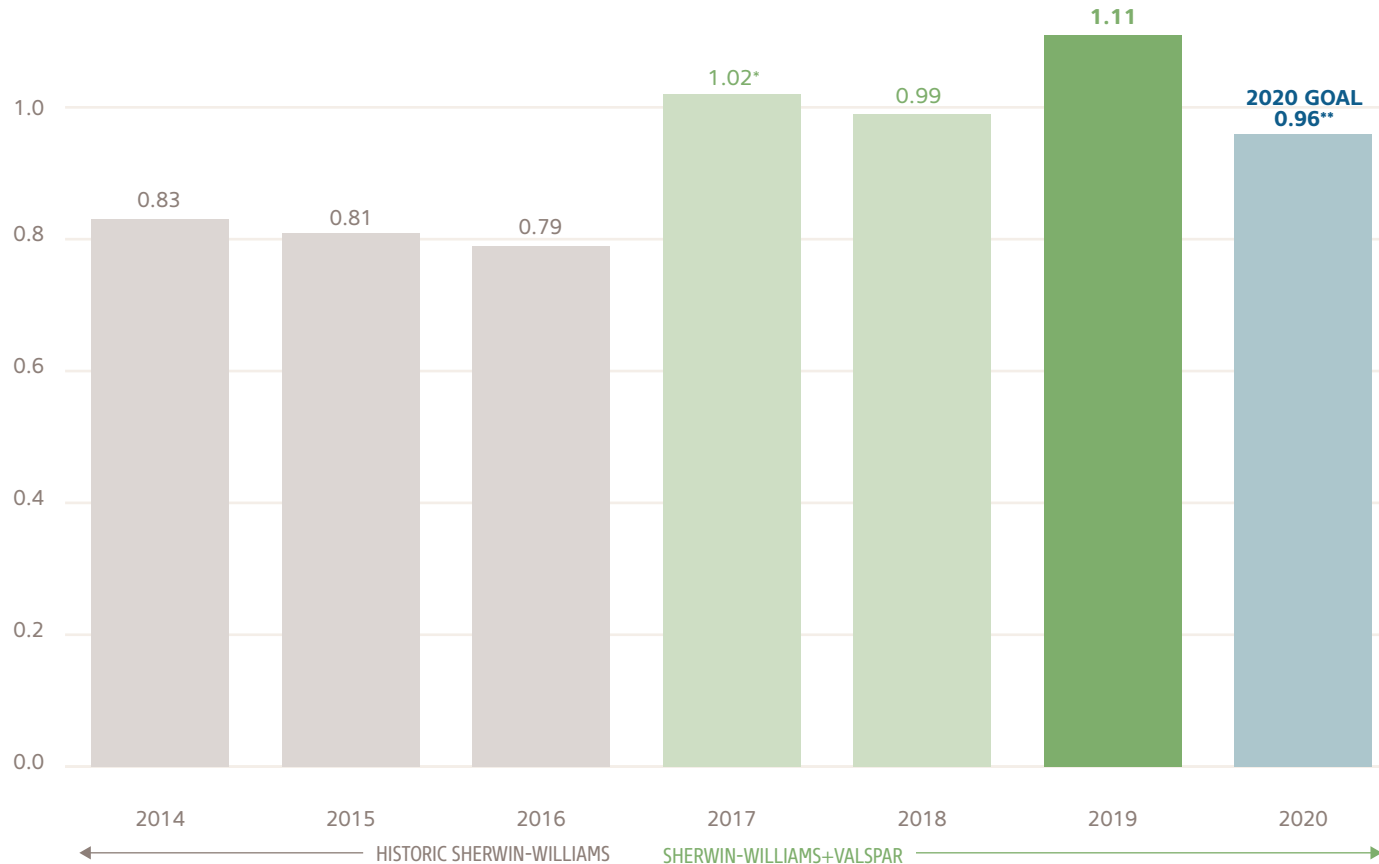
The Company will continue to seek to reduce solid waste generation by identifying waste avoidance opportunities (such as reusable packaging), recycling-reuse opportunities, and alternative manufacturing and treatment approaches.

\* Sherwin-Williams acquired Valspar on June 1, 2017. Non-Hazardous solid material data from all GSC facilities were included.

# Non-Hazardous Liquid Waste

## Off-Site Treatment & Disposal Rate

Pounds per 100 lbs of Production



Within our Global Supply Chain in 2019, we generated 1.11 pounds of non-hazardous liquid material per 100 pounds of total production.

The trend for liquid non-hazardous waste is up since the acquisition of Valspar. This is attributed to the following factors: changes in reformulation of products that put pressure on the ability to reuse wash water; rapid increase in production with new major customer and reuse or treating systems not keeping pace. The Company was forced to dispose of more wash water and reuse less.

Our goal is to recycle or reuse non-hazardous liquid waste to 0.96 pounds per 100 pounds produced.

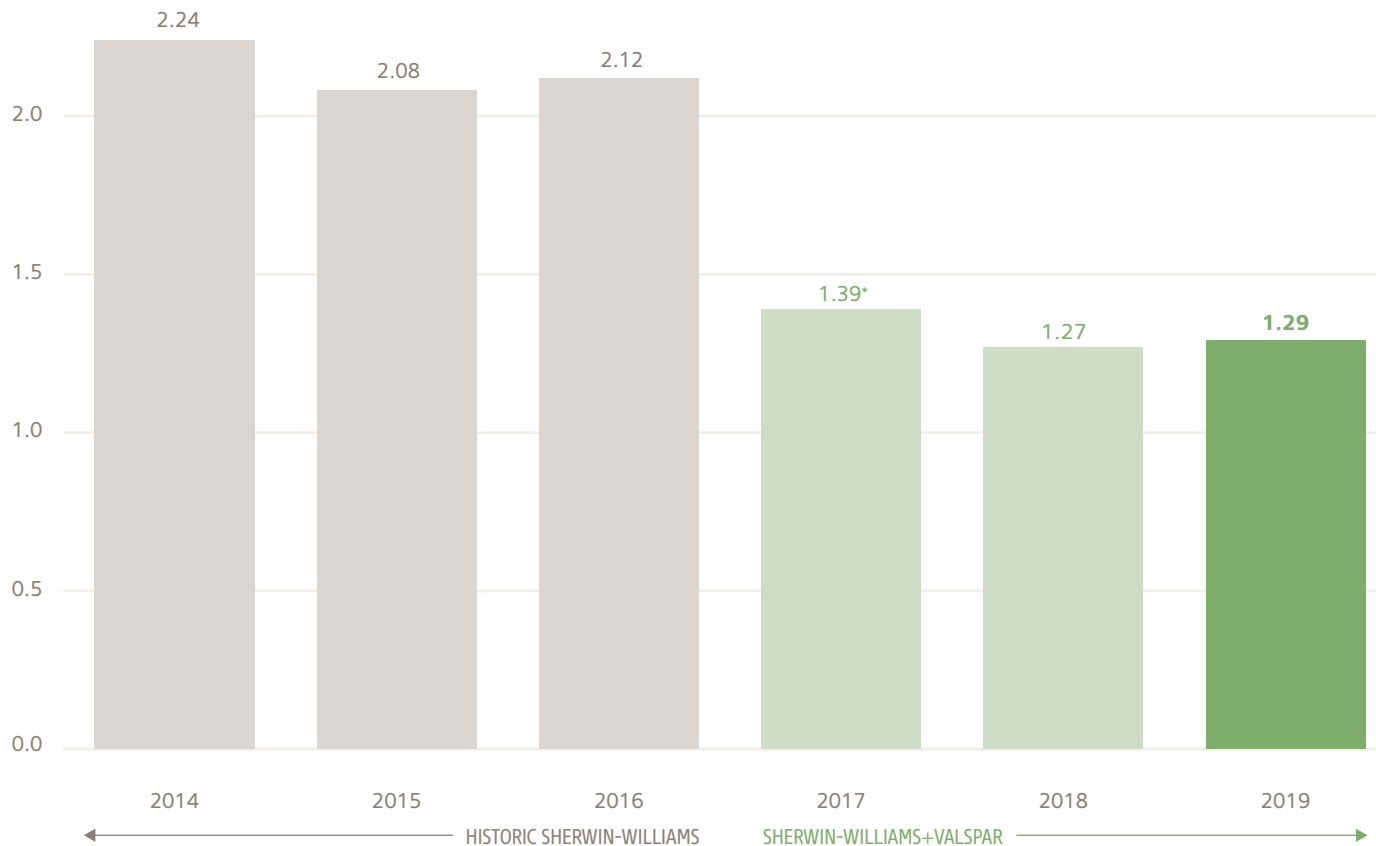
\* Sherwin-Williams acquired Valspar on June 1, 2017. Non-Hazardous liquid waste data from all GSC facilities were included.

\*\* The 2020 goal is based on a 2.5% annual reduction from the new 2017 baseline value.

# Non-Hazardous Liquid Material

## Reuse & Recycle Rate

Pounds per 100 lbs of Production



Within our Global Supply Chain in 2019, we recycled or reused 1.29 pounds of non-hazardous liquid material per 100 pounds of total production.

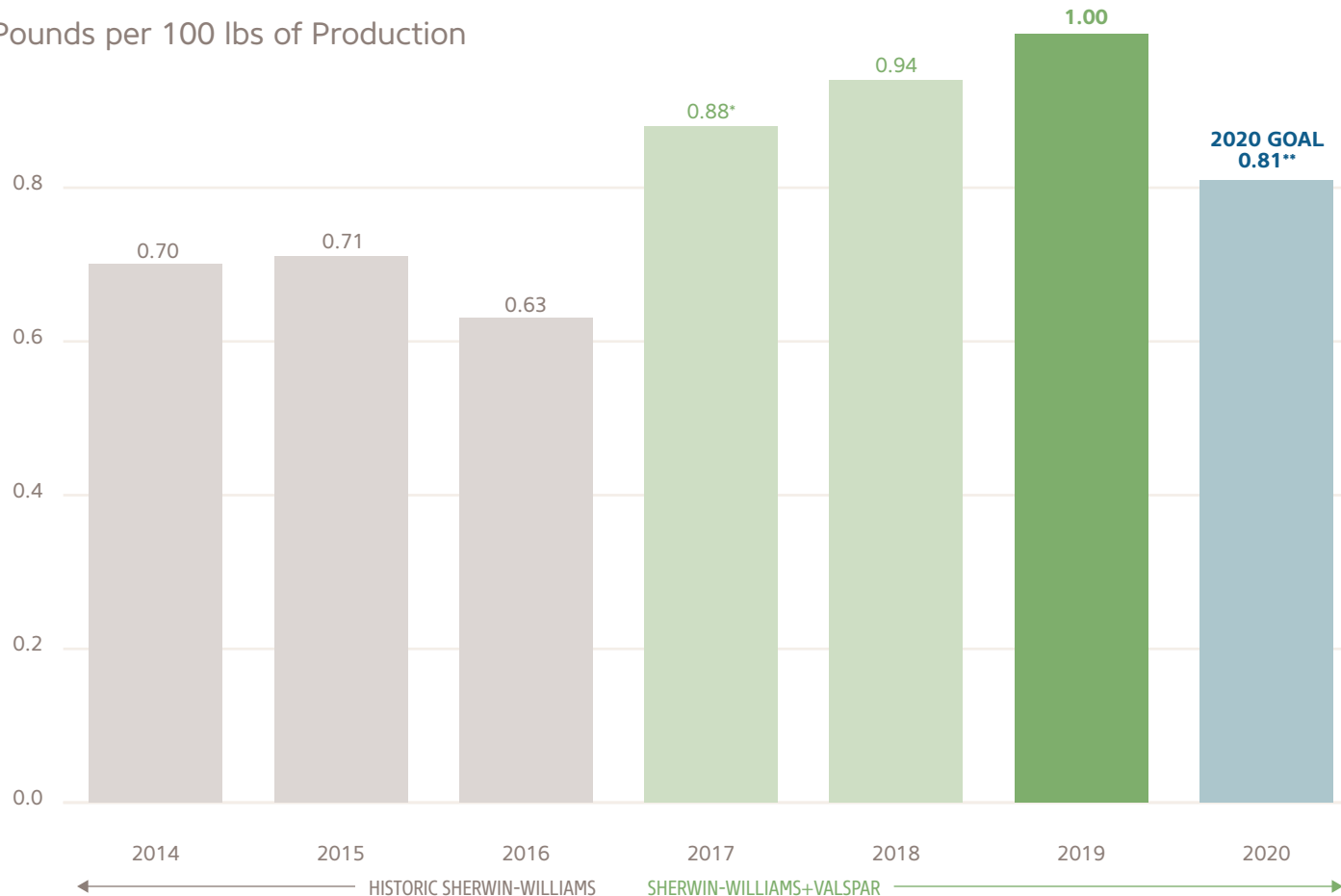
The Company will continue to set lower liquid waste generation targets by identifying waste avoidance opportunities (such as efficient cleaning processes), installing additional wash water reuse systems and recycling water-based products.

\* Sherwin-Williams acquired Valspar on June 1, 2017. Non-Hazardous liquid material data from all GSC facilities were included.

# Hazardous Waste

## Off-Site Treatment & Disposal Rate

Pounds per 100 lbs of Production



Within our Global Supply Chain in 2019, we generated 1.00 pounds of hazardous waste per 100 pounds of total production.

The hazardous waste generation rate has increased while the recycling and reuse rate has decreased over the last three years. This shift is primarily attributed to changes in the product mix resulting from the Valspar acquisition, optimizing product manufacturing locations, and reductions in the available recycle and beneficial use markets.

Our goal is to reduce hazardous waste to 0.81 pounds per 100 pounds produced through waste elimination, reuse and recycling.

\* Sherwin-Williams acquired Valspar on June 1, 2017. Hazardous waste data from all GSC facilities were included.

\*\* The 2020 goal is based on a 2.5% annual reduction from the new 2017 baseline value.