

Celanese 2017 Sustainability Metrics



Safety

Total Recordable Incident Rate (Total)	0.31	Number of OSHA recordable injuries per year, per 100 employees and contractors working a 40-hour work week.
Total Recordable Incident Rate (Employees)	0.37	Number of OSHA recordable injuries per year, per 100 employees working a 40-hour work week.
Total Recordable Incident Rate (Contractors)	0.18	Number of OSHA recordable injuries per year, per 100 contractors working a 40-hour work week.
Lost Time Incident Rate (Total)	0.13	Number of injuries per year resulting in lost time from work, per 100 employees and contractors working a 40-hour work week.
Lost Time Incident Rate (Employees)	0.15	Number of injuries per year resulting in lost time from work, per 100 employees working a 40-hour work week.
Lost Time Incident Rate (Contractors)	0.08	Number of injuries per year resulting in lost time from work, per 100 contractors working a 40-hour work week.
Accidents (Total)	36	Number of accidents resulting in harm to employees or contractors. Includes all accidents and not just those that resulted in lost time.
Accidents (Employees)	29	Number of accidents resulting in harm to employees. Includes all accidents and not just those that resulted in lost time.
Accidents (Contractors)	7	Number of accidents resulting in harm to contractors. Includes all accidents and not just those that resulted in lost time.
Fatalities (Total)	0	Number of employees, contractors, or third parties who have died at a Celanese facility or as a result of Celanese operations.
Fatalities (Employees)	0	Number of employees who have died at a Celanese facility or as a result of Celanese operations.
Fatalities (Contractors)	0	Number of contractors who have died at a Celanese facility or as a result of Celanese operations.



Social

Employees (Worldwide)	7,731	Individuals employed on a continuing basis at Celanese as of December 31, 2017.
Employees (North America)	3,618	
Employees (Europe)	2,913	
Employees (Asia)	1,068	
Employees (Rest of World)	132	
Women in Workforce	23%	Number of women employed at Celanese as a percentage of the total number of employees.
Employees Unionized*	19%	Number of employees at Celanese belonging to labor unions as a percentage of the total number of employees. Includes unionized employees not covered by collective bargaining agreements.
Employee Average Age	42.6	Average age in years of individuals employed on a continuing basis at Celanese.
Employee Turnover	7.9%	Number of employees that left Celanese during 2017 as a percentage of the average total number of employees.
Charitable Donations (\$M)	\$3.65	Charitable donations made by Celanese and its employees through the Celanese Foundation, in millions of U.S. dollars.
Charities Served	1,050	Non-profit organizations which benefited from financial or time donations by Celanese and its employees.
Volunteer Projects Completed	12,432	Community volunteer opportunities coordinated by Celanese or its employees.
Hours Volunteered	171,159	Total hours donated by Celanese employees and guests participating in volunteer projects.
Employee Volunteer Engagement (%)	56%	Number of Celanese employees who participated in a volunteer project as a percentage of the total number of employees.

* As of December 2017



Environmental

Greenhouse Gas (GHG) Emissions (Scope 1)	1,820.5	Scope 1 GHG emissions are those emitted from sources that are owned or controlled by Celanese, in thousands of metric tonnes.
GHG Emissions (Scope 2)	1,027.1	Scope 2 GHG emissions are those emitted as a consequence of the activities of Celanese, but occur at sources owned or controlled by another entity, in thousands of metric tonnes.
Total GHG Emissions (Scope 1 + 2)	2,847.6	The total of Scope 1 and Scope 2 GHG emissions, in thousands of metric tonnes.
GHG Intensity (MT/MT)	0.34	Intensity based metric expressed as the aggregate metric tonnes of Celanese Scope 1 and Scope 2 GHG emissions divided by metric tonnes of production.
Volatile Organic Compounds (VOC) Emissions	2.0	Total amount of VOCs emitted by Celanese, in thousands of metric tonnes.
VOC Intensity (MT/MT)	0.23	Intensity based metric expressed as the metric tonnes of Celanese VOC emissions divided by metric tonnes of production.
Total Waste	118.0	Total amount of waste Celanese discarded including both hazardous and non-hazardous waste, in thousands of metric tonnes.
Hazardous Waste	50.4	Total amount of hazardous waste Celanese discarded, in thousands of metric tonnes.
Non-Hazardous Waste	67.5	Total amount of non-hazardous waste Celanese discarded, in thousands of metric tonnes.
Waste Recycled	54.4	Total amount of waste Celanese recycled, in thousands of metric tonnes.
Waste Sent to Landfills	41.3	Total amount of Celanese waste sent to landfills, in thousands of metric tonnes.
Solid Waste Intensity (MT/MT)	0.013	Intensity based metric expressed as the aggregate metric tonnes of Celanese hazardous and non-hazardous waste divided by metric tonnes of production.
Renewable Energy Used	86.6	Amount of energy consumed that was generated by a renewable energy source, in thousands of megawatt hours (MWh). This includes REC (Renewable Energy Certificates) amounts purchased as well.
Renewable Energy Certificates	0	Amount of bundled and unbundled energy attributes purchased in the form of tradable certificates from an official registry, in thousands of megawatt hours (MWh).
Power Purchase Agreement	0	Capacity, in megawatts (MW), of power purchase agreements (PPAs) which are used to procure renewable electricity. Includes all signed and/or operational PPAs during the year.
Total Energy Consumption	14,131.7	Includes energy directly consumed through owned manufacturing assets including combustion, steam, and electricity, in thousands of megawatt hours (MWh).
Electricity Used	1,067.6	Total amount of electricity used by Celanese in thousands of megawatt hours (MWh).
Self-Generated Renewable Electricity	20.7	Amount of renewable electricity generated for direct use at Celanese-owned on-site or off-site installations, in thousands of megawatt hours (MWh).
Energy per Unit of Production	0.0007	Energy intensity metric expressed as the megawatt hours (MWh) of energy consumed per pound of production.
Energy Intensity (MBTU/lb)	2.46	Intensity based metric expressed as the total energy consumption in thousands of British thermal units (MBTU) divided by pounds of production.
Fuel Used (Coal/Lignite)	0.0	Total mass amount of coal used as fuel by Celanese, in thousands of metric tonnes.
Fuel Used (Natural Gas)	835,270.0	Total volume of natural gas used as fuel by Celanese, in thousands of cubic meters.
Fuel Used (Crude Oil/Diesel)	0.598	Total volume of crude oil and its distillates used as fuel by Celanese, in thousands of cubic meters.
Energy Council Site Conservation Projects	152	Total number of energy reduction projects executed by Celanese in 2017.
Sustainable Cost Savings (\$M)	\$10	Measured sustainable cost savings associated with energy council conservation projects, in millions of U.S. dollars.
Total Water Withdrawal	104,282	Amount of water diverted for use by Celanese from all sources, including but not limited to surface, ground, saltwater, and municipal, in thousands of cubic meters.
Total Water Discharged	109,394	Total volume of water discharged by Celanese, inclusive of wastewater and cooling water, in thousands of cubic meters.
Water per Unit of Production	-573.83	Water consumed by Celanese, in liters per metric ton of production.
Number of Sites	33	Number of locations Celanese owned and operated at year-end.
ISO 14001 Certified Sites	16	Number of sites Celanese owned at year-end that are certified by the ISO 14001 environmental management standards.
% Sites Certified	48%	Percentage of Celanese's total worksites certified by the ISO 14001 environmental management standards.
Major* & Significant** Environmental Releases	2	Number of environmental releases which exceeded 15% of the Celanese Reportable Quantity (CERQ) within a 24-hour window.
Loss of Primary Containment	0.10	Number of Tier 1 and Tier 2 process safety incidents per year, per 100 employees and contractors working a 40-hour work week.

* Major: quantity of chemical which enters the environment and reaches 100% of the Reportable Quantity within any 24-hour window.

** Significant: quantity of a chemical which enters the environment and reaches 15% of the Reportable Quantity within any 24-hour window. In the table above, Significant environmental releases is inclusive of Major environmental releases.

Notations:

- During the 2017 reporting period, Celanese experienced multiple merger and acquisition transactions which resulted in a one-third increase in total manufacturing plant sites globally. These additional manufacturing plant sites contributed to certain stewardship metrics increases in the year-over-year reporting period. While these manufacturing plant sites were adjusted EPS accretive, they also contributed to certain stewardship increases in [Safety](#), [Social](#) and [Environmental](#) metrics in the year-over-year reporting period.
- With regard to the previously reported 2016 data point identified as [Water per Unit of Production](#), Celanese has amended the data point to now be reported as **-190.69 liters per metric ton of production**.

Numbers are estimates and may be based on assumptions.