

# Celanese 2016 Sustainability Metrics



## Safety

Total Recordable Incident Rate (Total)	0.170	Number of OSHA recordable injuries per year, per 100 employees and contractors working a 40-hour work week.
Total Recordable Incident Rate (Employees)	0.172	Number of OSHA recordable injuries per year, per 100 employees working a 40-hour work week.
Total Recordable Incident Rate (Contractors)	0.167	Number of OSHA recordable injuries per year, per 100 contractors working a 40-hour work week.
Lost Time Incident Rate (Total)	0.06	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)	0.07	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)	0.05	Number of injuries per year resulting in lost time from work, per 100 contractors working a 40-hour work week.
Accidents (Total)	20	Number of accidents resulting in harm to employees or contractors. Includes all accidents and not just those that resulted in lost time.
Accidents (Employees)	13	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)	7,293	Individuals employed on a continuing basis at Celanese as of December 31, 2016.
Employees (North America)	3,540	
Employees (Europe)	2,634	
Employees (Asia)	997	
Employees (Rest of World)	122	
Women in Workforce	22%	Number of women employed at Celanese as a percentage of the total number of employees.
Employees Unionized*	33%	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	43	Average age in years of individuals employed on a continuing basis at Celanese.
Employee Turnover	7.5%	Number of employees that left Celanese during 2016 as a percentage of the average total number of employees.
Charitable Donations (\$M)	\$3.2	Charitable donations made by Celanese and its employees through the Celanese Foundation, in millions of U.S. dollars.
Charities Served	~750	Non-profit organizations which benefited from financial or time donations by Celanese and its employees.
Volunteer Projects Completed	8,503	Community volunteer opportunities coordinated by Celanese or its employees.
Hours Volunteered	121,209	Total hours donated by Celanese employees and guests participating in volunteer projects.
Employee Volunteer Engagement (%)	40%	Number of Celanese employees who participated in a volunteer project as a percentage of the total number of employees.

\* As of December 2016



## Environmental

Greenhouse Gas (GHG) Emissions (Scope 1)	1,916.9	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)	1,396.7	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)	3,313.6	The total of Scope 1 and Scope 2 GHG emissions, in thousands of metric tonnes.
GHG Intensity (MT/MT)	0.37	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	2.3	Total amount of VOCs emitted by Celanese, in thousands of metric tonnes.
VOC Intensity (MT/MT)	0.26	Intensity based metric expressed as the metric tonnes of Celanese VOC emissions divided by metric tonnes of production.
Total Waste	110.6	Total amount of waste Celanese discarded including both hazardous and non-hazardous waste, in thousands of metric tonnes.
Hazardous Waste	48.5	Total amount of hazardous waste Celanese discarded, in thousands of metric tonnes.
Non-Hazardous Waste	62.1	Total amount of non-hazardous waste Celanese discarded, in thousands of metric tonnes.
Waste Recycled	24.0	Total amount of waste Celanese recycled, in thousands of metric tonnes.
Waste Sent to Landfills	25.6	Total amount of Celanese waste sent to landfills, in thousands of metric tonnes.
Solid Waste Intensity (MT/MT)	0.012	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	87.4	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	15,128.8	Includes energy directly consumed through owned manufacturing assets including combustion, steam, and electricity, in thousands of megawatt hours (MWh).
Electricity Used	980.5	Total amount of electricity used by Celanese in thousands of megawatt hours (MWh).
Self-Generated Renewable Electricity	20.4	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	0.0008	Energy intensity metric expressed as the megawatt hours (MWh) of energy consumed per pound of production.
Energy Intensity (MBTU/lb)	2.61	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)	851,138.0	Total volume of natural gas used as fuel by Celanese, in thousands of cubic meters.
Fuel Used (Crude Oil/Diesel)	0.619	Total volume of crude oil and its distillates used as fuel by Celanese, in thousands of cubic meters.
Energy Council Site Conservation Projects	180	Total number of energy reduction projects executed by Celanese in 2016.
Sustainable Cost Savings (\$M)	\$17	Measured sustainable cost savings associated with energy council conservation projects, in millions of U.S. dollars.
Total Water Withdrawal	108,350	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	110,063	Total volume of water discharged by Celanese, inclusive of wastewater and cooling water, in thousands of cubic meters.
Water per Unit of Production	-721	Water consumed by Celanese, in liters per metric ton of production.
Number of Sites	23	Number of locations Celanese owned and operated at year-end.
ISO 14001 Certified Sites	11	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	0.09	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.

Numbers are estimates and may be based on assumptions.