Sample Company
Year Ending 31 December 2008

The Trucost Company Briefing outlines the most significant environmental impacts across Sample Company's operations (direct) as well as those embedded within the supply chain (indirect).

It compares environmental performance and disclosure against a selection of Sample Company's peers and against the assigned benchmark.

1. Key Figures

Business Activities

Revenue (EUR mn)	54,860.99
Sector	**% Total Revenue**
Plastics material and resin manufacturing	24.60 %
Natural gas distribution	11.12 %
Other basic organic chemical manufacturing	11.04 %
Petrochemical manufacturing	10.33 %
Motor vehicle parts manufacturing	8.78 %
Others	34.14 %
	100.00 %

Trucost has created environmental profiles for 464 different business activities. These profiles, the interactions between these activities, along with financial and segmental analysis, enable Trucost to calculate a preliminary environmental profile for an organization and its supply chain. Environmental data that has been put into the public domain or disclosed directly to Trucost is validated and incorporated. Sample Company's business activities apportioned to revenue are defined in the box to the left.

Key Environmental Data

Total Environmental Cost (EUR mn)	3,537.40
Total Environmental Cost to Revenue	6.45%
Total Environmental Cost to EBITDA	34.50%

With consideration to current and future regulations designed to penalize the environmental impact attributable to an organization's activities, Trucost provides proprietary environmental analysis, breaking down the 'damage cost' attributable to each business line.

Sample Company exposure to environmental costs totals EUR **3,537.40** mn for the year to December, 2007.

To enable comparability across organizations of different sizes and geographies, Trucost normalize environmental data to revenue. Sample Company has environmental costs equating to **6.45%** of annual revenue or **34.50%** of operating profit (EBITDA) for the same period.

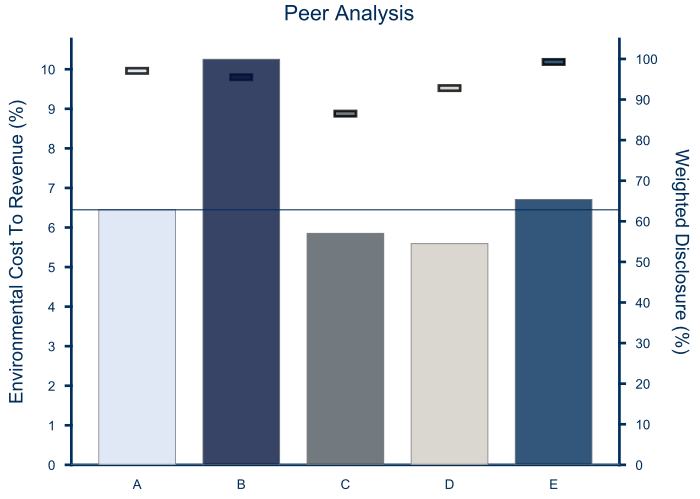
Relative Environmental Performance

Rank in Benchmark:	23 / 63
Benchmark:	Chemicals

Trucost has the world's largest database of environmental impacts covering over 4,500 organizations and including 63 organizations that operate in the Chemicals sector globally. Sample Company has the **23rd highest** exposure to environmental costs against this benchmark.

2. Peer Analysis

Trucost has analyzed Sample Company's environmental performance and levels of environmental disclosure against the four peers below. As can be seen from the left-hand bar on the Peer Analysis chart below, Sample Company has the **3rd highest** environmental costs relative to revenue in



For more detail on this peer group, or to select alternative peers, please contact Trucost.

Environmental disclosure has been weighted according to the percentage of impacts disclosed as a proportion of total direct and indirect impacts. Environmental disclosure is represented on the Peer Analysis chart as floating rectangles. Sample Company has the **2nd highest** environmental disclosure in this peer group. Trucost has many tools to help organizations collect, measure and report both direct and indirect environmental impacts. If you would like more information please contact Trucost.

	Revenue (EUR mn)	Env. Cost (%)	EBITDA (%)
A. Sample Company	54,861	6.45	35
B. Sample Peer One	36,657	10	93
C. Sample Peer Two	20,929	5.85	37
D. Sample Peer Three	20,139	5.59	29
E. Sample Peer Four	12,306	6.71	26

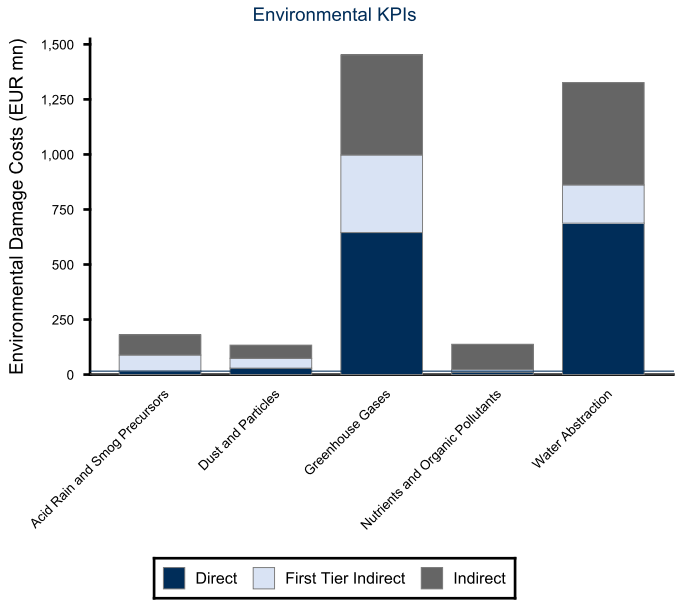
3. Environmental Key Performance Indicators

Trucost measure 744 different environmental impacts which are grouped into Key Performance Indicators (KPIs). Environmental KPIs provide an organization with a quantifiable tool for measurement.

Environmental KPIs may be either direct or indirect impacts. Direct environmental impacts result from a businesses own operations and include greenhouse gas emissions from heating boilers and vehicles, other emissions from any manufacturing operations, and waste produced.

The purchase of finished products, such as electricity and outsourced logistics, results in upstream indirect (supply chain) impacts that are embedded in the products and services supplied.

The chart below shows the five most significant environmental KPIs for Sample Company's direct and supply chain footprint.



Direct and Indirect KPIs

	EUR (mn)	Revenue	EBITDA
Direct Environmental Cost	1,462.84	2.67 %	14.27 %
Indirect Environmental Cost	2,074.57	3.78 %	20.23 %
Total Environmental Cost	3,537.40	6.45 %	34.50 %

Supply Chain impacts are **twice** those of direct operational impacts.

The following pages contain more detail around each of these five KPIs.

4. Greenhouse Gases

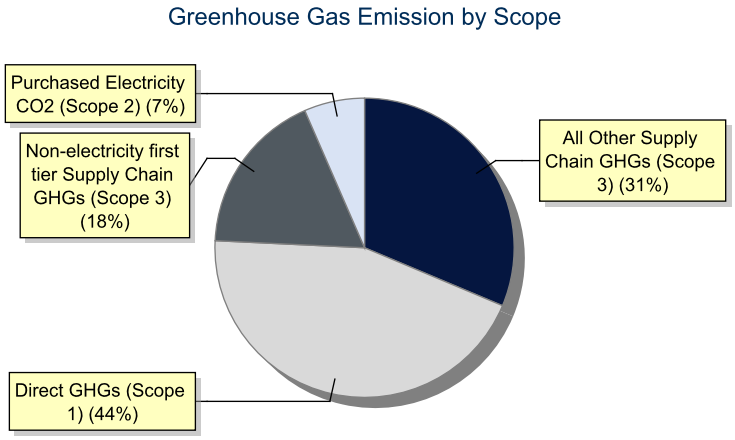
Virtually all business processes emit carbon. The use of electricity, water, heating or transportation, for example, all result in the release of Greenhouse Gases. Greenhouse Gases are described according to the Greenhouse Gas Protocol, which defines three 'scopes' for reporting purposes.

Scope 1: Emission of GHG's from sources directly owned or controlled by the company

Scope 2: Emssions that arise from purchased electricity consumed in owned or controlled equipment or operations

Scope 3: All other GHG emissions including those from business travel and supply chains.

The adjacent chart breaks down GHG emissions for Sample Company by their source, i.e. direct and indirect. Where data has not been disclosed, impacts have been calculated using Trucost's environmental profiling model.



Emission / Resource	Quantity (Tonnes)	Quantity CO2e^ (Tonnes)	Environmental Cost (EUR mn)	Data Source *	Comment
Scope 1 (CO2e) - Direct		**27,514,295**	**645.1**		
Carbon Dioxide To Air	21,433,00	21,433,000	503	AR	
Dinitrogen Oxide (Nitrous Oxide) To Air	19,235	5,962,850	140	ARa	
HFCs To Air	40	96,000	2.25	ARa	
Methane To Air	1,000	21,000	0.492	ARa	
Sulphur Hexafluoride To Air	0.04	956	0.022	ARa	
PFCs To Air	-	-	-	TC	
Other GHGs	3.4	490	0.011	ARa	Website: ammonia to air 3020 t
Scope 2 (CO2e) - Indirect		**4,050,202**	**95.0**		
Purchased Electricity (Scope 2) CO2	4,050,202	4,050,202	95	PC	
Scope 3 (CO2e) - Indirect		**10,969,000**	**257.2**		
Non-electricity first tier Supply Chain GHGs (Scope 3)	-	10,969,000	257.2	TC	
All Remaining Supply Chain Scope 3 Emissions		**19,404,000**	**454.9**		
All Remaining Supply Chain (CO2e)	-	19,404,000	454.9	TC	
Grand Total		**61,937,497**	**1,452.1**		

^ See Definition: Greenhouse Gases below

* See Data Source Definitions in Section 9 of the report.

Definition: Greenhouse Gases

• Greenhouse gases (GHGs) are so called because they contribute towards the greenhouse effect. Virtually all business processes emit these gases. There are six main GHGs regulated by the Kyoto protocol. These are Carbon Dioxide (CO2), Methane (CH4), Nitrous Oxide (N20), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Sulfur Hexafluoride (SF6). The relative contributions are calculated using the Global Warming Potential index published by the Intergovernmental Panel on Climate Change (IPCC) based on radiative properties, modecular weight and lifetime in the atmosphere. These are usually represented as carbon dioxide equivalents (CO2e).

• In response to the FY2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110–161), EPA has proposed a rule that requires mandatory reporting of greenhouse gas (GHG) emissions from large sources in the United States.

• In general, EPA proposes that suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions submit annual reports to EPA. The gases covered by the proposed rule are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulfur hexafluoride (SF6), and other fluorinated gases including nitrogen trifluoride (NF3) and hydrofluorinated ethers (HFE).

• The American Clean Energy and Security Act (H.R. 2454) (Waxman-Markey bill) covers different fields but its main purposes are a cap and trade system, a 20% target for energy from renewable sources (6% in 2012) and a 17% reduction of GHGs emissions bellow 2005 levels by 2020 (42% by 2030, 83% by 2050). Other measures concerning CCS (Carbon Capture and Sequestration), energy-saving standards for building, appliances and industries, clean energy technologies or advanced technology vehicles should also be taken. The cap and trade program aims at covering 95% of industrially-related GHGs emissions. It also covers HFCs under a second cap.

• There are many programs and initiatives under the EPA Greenhouse Gas Reduction Initiatives. For more information visit (http://www.epa.gov/climatechange/policy/neartermghgreduction.html)

Improve Reporting: Greenhouse Gases

• GHG emissions should be reported in metric tonnes emitted per annum individually. GHGs can be measured by recording emissions at source by continuous emissions monitoring or by estimating the amount emitted using activity data (such as the amount of fuel used) and applying conversion factors. For instance, factors can be used to calculate the amount of CO2 emitted as a result of burning a particular quantity of oil in a heating boiler. Use converstion factors recommended by a national environmental body such as The Environmental Protection Agency in the US. Conversion protocols for a number of national and international agencies are available from Trucost.

• Collect kWh electricity use by country.

• Collect fuel type and quantity consumed in building heating and operation and in machinery equipment use.

• Collect, if relevant, fuel type and quantity use for company-owned vehicles.

• Collect data on the type and quantity of refrigerant emissions emitted or leaked.

• In certain industrial sectors, an organization's business operations may give rise to process emissions that need to be measured, such as from cement manufacturing and waste treatment. If this is relevant to your business, there are industry-specific guidelines available to help calculate these process emissions.

Actions to Reduce Greenhouse Gases

• Engage and incentivize employees. Assign a member of staff to monitor procedures; get senior managers involved in energy management and keep staff motivated to help implement energy saving measures and to review progress at regular intervals.

• Computers - switch off computers, monitors, printers, etc when not being used; use laptops instead of desktop computers - they use about 90% less energy.

• Heating - avoid heating unused space like storerooms and corridors; properly maintain heating equipment; check that thermostats are set correctly; turn off or reduce heating outside of working hours.

• Upgrade existing equipment. When you buy equipment, consider buying the most energy efficient option. Energy consumption can vary greatly depending on equipment age, maintenance, model and manufacturer. Consider the long-term energy costs for your equipment - it may save you money in the long run to pay more initially.

• Lighting - use energy efficient, compact fluorescent light bulbs; maximize natural lighting; switch off lights in empty rooms; consider fitting presence detectors.

• Transport - move freight by rail or water instead of road or air; purchase fuel efficient vehicles; reduce business travel - use communication technology like video conferencing.

5. Water Abstraction

Emission / Resource	Quantity (Cubic meters)	Environmental Cost (EUR mn)	Data Source *	Comment
Direct Emissions	**2,066,997,933.00**	**687.84**		
Lake (Process Water)	1,987,998,012	662	AR	
Groundwater (Process Water)	78,999,921	26.3	AR	
First Tier Supply Chain Emissions	**1,152,768,320.26**	**173.54**		
Total First Tier Supply Chain Emissions	1,152,768,320	173.5	TC	
All Remaining Supply Chain Emissions	**2,285,715,450.61**	**464.90**		
All Remaining Supply Chain Emissions	2,285,715,451	464.9	TC	
Grand Total		**1,326.28**		

* See Data Source Definitions in Section 9 of the report.

Definition: Water Use & Abstraction

• Water is an essential resource that is required for survival of plants and animals and is used in the production and provision of numerous goods and services, such as electricity.

• Abstraction of water can have significant local, or more widespread, impacts on the environment. The threat of climate change, resulting in severe droughts, floods, storms, also constitutes a challenge for water resources management. Countries around the world are aware of the need to reduce their level of water abstraction and leakage to ensure availability of the resource in the long-term. To achieve this goal various market and financial instruments have been put in place, such as abstraction charges, effluent consents or pricing mechanisms.

Improve Reporting: Water Use & Abstraction

• Water use (consumption): Metering water consumption is the best way to determine consumption. Measurements can be obtained by automatic meter readings or by periodically reviewing bills provided by water suppliers.

• Water abstraction constitutes a direct impact for the organization abstracting that water. Consuming supplied water or reusing water previously used is classified as an indirect impact, as the organization that supplies the water is directly responsible for the environmental impact of abstracting or collecting the water. The most appropriate way of reporting abstracted or consumed water should be in absolute cubic meters.

• Through the Drinking Water Act, the EPA requires that the states develop programs to carry out assessments of all source waters in the states.

• The National Pollutant Discharge Elimination System permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States.

Actions to Reduce Water Use & Abstraction

• Check your meter readings and pipes regularly and carefully, particularly in cold weather, to ensure you detect any burst or leak.

• Reduce water consumption where possible by fitting water-minimising controls, eg push taps, low-flush toilets, flow regulators or restrictors. Spray taps can reduce water use by 60 - 70% compared with conventional taps.

• Determine where your wasted water is going and if or how you can recycle it in other areas of your business.

6. Acid Rain and Smog Precursors

Emission / Resource	Quantity (Tonnes)	Environmental Cost (EUR mn)	Data Source *	Comment
Direct Emissions	**26,372.55**	**15.44**		
Nitrogen Oxide	15,430	6.32	ENVa	
Sulphur Dioxide	6,650	5.95	ENVa	
Ammonia	3,020	2.99	ENVa	Website: ammonia to air 3020 t
Hydrochloric Acid	316	0.1	TC	
Sulphuric Acid	225.3	0.07	TC	
Carbon Monoxide	731	0.002	ARa	
First Tier Supply Chain Emissions	**134,946.80**	**73.15**		
Total First Tier Supply Chain Emissions	134,947	73.1	TC	
All Remaining Supply Chain Emissions	**168,309.20**	**92.09**		
All Remaining Supply Chain Emissions	168,309	92.1	TC	
Grand Total		**180.68**		

* See Data Source Definitions in Section 9 of the report.

Definition: Acid Rain, Eutrophication, and Smog Precursors

• The most significant acidification precursors are sulfur dioxide (SO2), nitrous oxides (NOx) and ammonia (NH3). Nitrous oxides (NOx) and ammonia are also the most common eutrophication precursors. Both acid rain and eutrophication precursors can have adverse effects on biodiversity. Emissions from industrial activities of these pollutants are heavily regulated, including the Acid Rain Program of the EPA (Clean Air Act).

• Acid rain and eutrophication precursors are emissions to air which, with dispersion, can be transported in the atmosphere over distances of hundreds to thousands of miles, and eventually deposited through precipitation or by direct “dry” processes. The term acid rain refers to all types of precipitation (rain, snow, fog, dew) or dry deposition (fly ash, sulphates, nitrates) that are acidic in nature. Eutrophication is the process by which excess nutrient is added to an ecosystem. Significant inputs of nutrients to water can stimulate the growth of plant life, subsequently affecting other aquatic life by depleting oxygen levels.

• Smog precursors can be a variety of pollutants, including nitrogen oxides, carbon monoxide and a huge range of Volatile Organic Compounds (note that VOC emissions are covered by a separate KPI: VOC emissions to air). When combined with sunlight, these precursors interact in a complex reaction to produce ground level ozone and peroxyacetic nitric anhydride (PAN) which, along with particulate matter, are the main components of photochemical smog. Photochemical smog is a health hazard and, as sunlight is a factor in smog formation, it is usually more severe in summer when light levels are higher. Ground level ozone is also damaging to plant life and can destroy synthetic material if long-term exposure occurs.

Improve Reporting: Acid Rain, Eutrophication, and Smog Precursors

• Producers of nitric acid who utilize the Ostwald process should be able to calculate their emissions of nitrogen oxide based on the efficiency of their process (which can be calculated by comparing the mass of products compared to the mass of reactants). In a 100% efficient process, no nitrogen oxides would be emitted, however it is unlikely that the process would be 100% efficient.

• Although ozone is one of the primary components of smog, it is produced through secondary processes that occur naturally rather than directly from industrial processes or fuel consumption. However, the precursors are primary emissions and can be measured, as can the other primary component of smog - particulate matter. These emissions arise from the consumption of fossil fuels and can be calculated using standard emissions factors, provided the quantity and type of fuel combusted is known, along with the type of boiler or engine.

• SO2, NOx, NH3 and CO should be reported in metric tonnes emitted per annum. If an estimation method has been used this should also be reported.

Actions to Reduce Acid Rain, Eutrophication, and Smog Precursors

• For reducing SO2 emissions, take measures such as using coal containing less sulfur, washing the coal, and using devices called “scrubbers” to chemically remove the SO2 from the gases leaving the smokestack. Power plants can also switch fuels—for example, burning natural gas creates much less SO2 than burning coal

• Similar to scrubbers on power plants, catalytic converters reduce NOx emissions from cars

7. Nutrients and Organic Pollutants

Emission / Resource	Quantity (Tonnes)	Environmental Cost (EUR mn)	Data Source *	Comment
Direct Emissions	**5,357.37**	**11.05**		
Nitrogen	5,278	10.7	ENVa	
Cyanide Compounds	30.9	0.24	TC	
Phosphorus	21.8	0.05	TC	
Sum of VOCs	25.1	0.03	TC	
Dibutyl Phthalate	1.22	<0.01	TC	
Atrazine	0.24	<0.01	TC	
2,4-Dichlorophenol	0.15	<0.01	TC	
Simazine	0.01	<0.01	TC	
Dimethoate	<0.01	<0.01	TC	
Malathion	<0.01	<0.01	TC	
Permethrin	<0.01	<0.01	TC	
Trifluralin	<0.01	<0.01	TC	
First Tier Supply Chain Emissions	**5,853.33**	**12.14**		
Total First Tier Supply Chain Emissions	5,853	12.1	TC	
All Remaining Supply Chain Emissions	**55,287.25**	**114.55**		
All Remaining Supply Chain Emissions	55,287	114.5	TC	
Grand Total		**137.73**		

* See Data Source Definitions in Section 9 of the report.

Definition: Nutrients and Organic Pollutants

• The Clean Water Act (CWA) regulates discharges of pollutants into the waters of the United States. It provides a variety of programs and tools to protect and restore the Nation's waters. Under the CWA, EPA has implemented pollution control programs such as setting wastewater standards for industry as well as water quality standards for all contaminants in surface waters.

• The current PCV regulations were published pursuant to the Toxic Substances Control Act (TSCA), which became under law in 1976.

• Organic matter is commonly found in groundwater and inland waters, and can cause significant pollution and disruption to aquatic habitats. Significant discharges of organic waste into bodies of water can cause river/lake eutrophication (where the growth of plant life is stimulated by excess nutrients, subsequently affecting other aquatic life by depleting oxygen levels).

Improve Reporting: Nutrients and Organic Pollutants

• Discharged organic substances are commonly measured in one of two ways: by determining the concentration of the emitted substances where it is known that specific substances have been emitted (where few of them are emitted or when they are easy to identify in processes) or by assessing the overall quality of the effluent when specific assessments are difficult to make due to the diverse nature of the components of the discharge. For specific measures, standard laboratory tests can be performed to determine the concentration of the contaminant in the water. Water quality measures are more varied. Combined parameters to assess potential eutrophication in water include:

• Organic effluent includes contaminants such as Polychlorinated Biphenyls (PCBs), Polycyclic Aromatic Hydrocarbons (PAHs), Hexachlorocyclohexanes (HCH), Benzene, Toluene, Xylenes, Ethylbenzene and Phenols, as well as general brewing waste and sewage.

• • Biochemical Oxygen Demand (BOD), which refers to the amount of Oxygen that would be used if all the Organic components in water were consumed by bacteria.

• Total Suspended Solids (TSS or SS) are Solids in water, which constitute an indication of high concentrations of bacteria, nutrients or pesticides and can harm the aquatic life / cause problems for the industrial use of water.

• General organic matter concentration can be defined by the following measures:

• Total Organic Carbon (TOC), which measures the Organic content of a sample that can be oxidized to Carbon Dioxide.

• Chemical Oxygen Demand (COD), which reflects the efficiency of a treatment process to remove Organic matter.

• Materials and data collection processes are particular to each one of the methods stated and require more or less costly investments in resources and equipment depending on the technique used. Total discharge of effluents should be recorded in absolute cubic meters per annum, and the content of effluent described. In addition, specific or general water quality measures should be undertaken to assess the impact of these emissions to water.

Actions to Reduce Nutrients and Organic Pollutants

• Investigate ways to reduce output of organic matter discharge. Consider ways of re-using organic matter in other processes.

• For farmers, match the amount of nutrients you apply to the needs of your crops (especially phosphorous and nitrogen) by drawing up a nutrient management plan.

• For farmers, assess all fields on a regular basis for soil nutrient (phosphate and potash) and lime requirements. This allows you to match the amount of nutrient you apply in fertilizers to the need of the crop.

8. Dust and Particles

Emission / Resource	Quantity (Tonnes)	Environmental Cost (EUR mn)	Data Source *	Comment
Direct Emissions	**3,534.24**	**29.24**		
Particulates	3,534	29.2	ARa	
First Tier Supply Chain Emissions	**5,391.35**	**44.61**		
Total First Tier Supply Chain Emissions	5,391	44.6	TC	
All Remaining Supply Chain Emissions	**7,245.23**	**59.95**		
All Remaining Supply Chain Emissions	7,245	59.9	TC	
Grand Total		**133.80**		

* See Data Source Definitions in Section 9 of the report.

Definition: Dust & Particles

• Under the Clean Air Act, EPA sets and reviews national air quality standards for PM. Air quality monitors measure concentrations of PM throughout the country. EPA, state, tribal and local agencies use that data to ensure that PM in the air is at levels that protect public health and the environment. The Clean Air Act established two types of national air quality standards for particle pollution. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against visibility impairment, damage to animals, crops, vegetation, and buildings.

• Dust and particulate matter, alternatively referred to as particulates, aerosols or fine particles, are tiny particles ranging from 10 nanometers to 100 micrometers in diameter. Exposure to particulate matter (PM) is associated with a number of health outcomes including shortened life expectancy, cardiovascular and lung disease. Particles smaller than 10 micrometers (PM10) are small enough to enter the airways and lungs.

Improve Reporting: Dust & Particles

• Particulate emissions arise from the consumption of fossil fuels and can be calculated using estimation methods , provided the quantity and type of fuel combusted is known, along with the type of boiler or engine.

• Particulates should be reported in metric tonnes emitted per annum. If an estimation method has been used this should also be reported.

Actions to Reduce Dust & Particles

• Make sure boilers, especially oil or solid fuel units, are operating efficiently and do not emit excessive smoke.

• Keep equipment that reduces emissions such as filters and cyclones in good working order.

9. Data Source Definitions

Code		Explanation
AR	:	Disclosure from Annual/10-K/20-F Report or Financial Accounts
ARa	:	Derived from company's Annual/10-K/20-F Report or Financial Accounts
ENVa	:	Trucost calculation - derived from company's Environmental/CSR Report or website information
TC	:	Trucost calculation

10. Next Steps

Trucost Peer Analysis http://www.trucost.com/reporting_benchmark_rep.html	Benchmarking, Peer Analysis and Best Practice reports
Trucost Corporate Footprint http://www.trucost.com/corporateFootprint.html	Measurement & Reporting of direct environmental impacts, operational analysis, identification of cost savings and strategy recommendations
Trucost Supply Chain Program http://www.trucost.com/SupplyChainFootprint.html	Measurement & Reporting of supply chain environmental impacts, supplier analysis, identification of 'hot-spots', supplier engagement and strategy recommendations
Trucost Report Services http://www.trucost.com/regulatory.html	Regulatory Review

Find out more about the services Trucost offers by visiting our webiste www.trucost.com or:

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