Module: Introduction - 2012 CDP Water Disclosure

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0.1

Introduction

Please give a general description and introduction to your organization.

Merck is a global health care leader that is working to help the world be well. Merck delivers innovative health care solutions through its prescription medicines, vaccines, biological therapies, animal health and consumer care products, which it markets directly and through its joint ventures.

Merck reported total sales of $48,047 million during 2011 with 86,000 employees worldwide. Further information is available at www.merck.com.

0.2

Reporting Year
Please state the start and end date of the year for which you are reporting data.

Enter the period that will be disclosed.
Sat 01 Jan 2011 - Sat 31 Dec 2011

0.3

Reporting Boundary

Please indicate the category that describes the reporting boundary for companies, entities, or groups for which water-related impacts are reported.

Companies, entities or groups over which operational control is exercised

0.4

Exclusions

Are there any geographies, facilities or types of water inputs/outputs within this boundary which are not included in your disclosure?

No

0.4a

List of Exclusions

Please describe any exclusion(s) in the following table.

Exclusion	Please explain why you have made the exclusion

Module: 2012-Water-Management

Page: 2012-Water-1-ManagementGovernance

1.1

Does your company have a water policy, strategy or management plan?

Yes

1.1a

Please describe your policy, strategy or plan, including the highest level of responsibility for it within your company and its geographical reach.

Country or geographical reach	Description of policy, strategy or plan	Position of responsible person
Global	In April 2011 Merck adopted broad water policy. The policy established water as a Merck business priority because water is critical to the health of people, our planet and our business. The policy commits Merck to achieving sustainable water management at our operations and throughout our supply chain and, through our core business, partnerships, advocacy and our employees, to reduce the impact of water borne illness globally as part of our overall efforts to improve global health.	Other: Merck CEO has endorsed the CEO Water Mandate and personally assumes responsibility for our water program.
Global	Merck has established an environmental management system. The Water, Wastewater and Stormwater program is an element of the overall environmental management system. The water program requires that each site develop an inventory of the sources of all water used at the site, details of how water is used, how and where it is discharged, and specific information about the water shed in which the facility is located. The water management system is being implemented at each site to reflect the specific circumstances, needs and challenges in the local watershed, to assure compliance with all applicable requirements and to assure careful use of water resources.	Officer/manager not directly reporting to the board
Global	Environmental Sustainability is a core element of Merck's Corporate Responsibility Program. Merck's water strategy is one of the key elements of our environmental sustainability strategy.	Officer/manager reporting directly to the board

1.1b

Does the water policy, strategy or plan specify water-related targets or goals?

Yes

1.1c

Please describe these water-related targets or goals and the progress your company has made against them.

Country or geographical reach	Category of target or goal type	Description of target or goal	Progress against target or goal
Global	Direct operations	Merck will reduce water demand by 15% by 2015 and by 25% by 2020 from the 2009 baseline. Water demand is the total amount of water that is brought into our facilities.	Demand for water has been reduced by 9.3 % from the 2009 baseline.
Global	Direct operations	Merck will reduce the COD (chemical oxygen demand) of the wastewater that is discharged from our facilities by 15% by 2015 and by 20% by 2020 from the 2009 baseline. COD is a measure of the amount of pollutants in the wastewater and is an appropriate measure for wastewater generated in Merck operations. COD discharged includes COD of wastewater being sent to municipal or other off-site treatment and COD of wastewater discharged to surface water.	Total COD has been reduced by 49.9% from the 2009 baseline.
Global	Direct operations	Merck will reduce the amount of nitrogen (N) and phosphoros (P) discharged from our facilities by 10% by 2015 and by 15% by 2020 from the 2009 baseline. Excessive nutrients are a common water quality challenge around the world. Nitrogen and phosphoros are constituents in Merck operations. The goal is measured based on total N and total P in Merck discharges. Nutirients are measured in wastewater sent to municipal or other off-site treatment and nutrients discharged directly to surface water.	The total reduction of nutrients in Merck's discharges has been reduced by 12.7% from the 2009 baseline.
Global	Direct operations	To meet the goals Merck has established a fund to improve water and wastewater systems throughout the company. These projects will support our water use and discharge quality goals and address the discharge of active pharmaceutical compounds from manufacturing plants. This portfolio of projects is expected to be completed by 2016.	Approximately, sixteen projects that will improve Merck's water footprint are in progress.
Global	Community engagement	All Merck employees globally are provided 20 hours per year of paid work time to volunteer for non-profit organizations. Employees are specifically invited and encouraged to engage in water related projects.	An employee handbook that includes water data and specific actions employees can take was published in 2011 and continues to be distributed to employees.
Global	Collective	Merck's CEO, Kenneth Frazier, endorsed the CEO Water	Merck has provided financial support to the CDP to

Country or geographical reach	Category of target or goal type	Description of target or goal	Progress against target or goal
	action	Mandate committing Merck to advancing the objectives of the Mandate.	participate in a project with the Alliance for Water Stewardship to development an international water stewardship standard. in additon, Merck staff particiaptes in the CEO Water Mandate project team.
India	Collective action	Merck has committed to work to reduce the impact of water borne illness globally as part of our overall efforts to improve global health through partnerships.	During 2011 Merck became a supporter of Support My School an initiative that provides access to clean water and sanitation facilities to schools in India. This effort is in partnership with The Coca-Cola Company, Pearson Fundation and UN Habitat. Merck supports schools in the Bhopal region.
India	Collective action	Merck has become a partner of the Safe Water Network (SWN). SWN serves as a catalyst for local entrepreneurs in villages or village committees to create locally-owned water stations. SWN provides the seed funding to build the stations, technical equipment, training and outreach support.	Merck has committed financial support to SWN. In addition, Merck has established the Richard T. Clark Fellowship program to assign company employees to apply business skills working with other organizations. Five Fellows have been assigned to work with SWN in the areas of health outcome evaluation, marketing, business development, and other fields.
United States of America	Community engagement	Merck is a member of The Water Environment Research Foundation. WERF is an organization of wastewater utilities, academics and industries that identifies research needs to address water related challenges and sponsors the needed research through joint action.	Merck staff participates on committees assigned to oversee research projects.

1.1d

You may explain here why your company does not have a water policy, strategy or plan and if you intend to put one in place.

1.2

Do you wish to report any actions outside your water policy, strategy or management plan that your company has taken to manage water resources or engage stakeholders in water-related issues?

Country or geographical reach	Category of action	Description of action and outcome

Attachments

https://www.cdproject.net/Sites/2012/65/11765/CDP Water Disclosure 2012/Shared Documents/Attachments/CDPWaterDisclosure2012/1.WaterManagementandGovernance/Merck_Water_Booklet_English[1].pdf
https://www.cdproject.net/Sites/2012/65/11765/CDP Water Disclosure 2012/Shared Documents/Attachments/CDPWaterDisclosure2012/1.WaterManagementandGovernance/Final Public Policy StatementWater.pdf
https://www.cdproject.net/Sites/2012/65/11765/CDP Water Disclosure 2012/Shared Documents/Attachments/CDPWaterDisclosure2012/1.WaterManagementandGovernance/Environmental-Goals-Backgrounder-2011.pdf

Module: 2012-Water-RisksOps

Page: 2012-Water-2-indicators-op

2.1

Are any of your operations located in water-stressed regions?

Yes

2.1a

Please specify the method(s) you use to characterize water-stressed regions (you may choose more than one method).

Method used to define water stress	Please add any comments here:
Environmental assessment Internal company knowledge WBCSD Water Tool WRI water scarcity definition	Implementation of the Water Element of Merck's Environmental Management System requires that each facility evaluate the features of the local water shed and the water related challenges and opportunities faced by the local community. This process develops internal company information that is used in making operational decisions.

2.1b

Please list the water-stressed regions where you have operations and the proportion of your total operations in that area.

Country or geographical reach	Region within country	Proportion of operations located in this region (%)	Further comments
South Africa	Midrand	1 – 10	This evaluation is based on the annual internal renewable water supply per person during 2008 being less than or near to 1700 m3/person/year. In South Africa, it is 902 m3/Year.
Puerto Rico	Barceloneta	1 – 10	This evaluation is based on the annual internal renewable water supply per person during 2008 being less than or near to 1700 m3/person/year. In Puerto Rico, it is 1790 m3/year
Singapore	Singapore	1 – 10	This evaluation is based on the annual internal renewable water supply per person during 2008 being less than or near to 1700 m3/person/year. In Singapore, it is 130 m3/Year.
Belgium	Heist	1 – 10	This evaluation is based on the annual internal renewable water supply per person during 2008 being less than or near to 1700 m3/person/year. In Belgium, it is 1133 m3/Year.
China	Hangzhou	1 – 10	This evaluation is based on the annual internal renewable water supply per person during 2008 being less than or near to 1700 m3/person/year. In China, it is 2092 m3/Year.
Germany	Walthrop	1 – 10	This evaluation is based on the annual internal renewable water supply per person

Country or geographical reach	Region within country	Proportion of operations located in this region (%)	Further comments
			during 2008 being less than or near to 1700 m3/person/year. In Germany, it is 1300 m3/Year.
Netherlands	Oss	1 – 10	This evaluation is based on the annual internal renewable water supply per person during 2008 being less than or near to 1700 m3/person/year. In the Netherlands, it is 665 m3/Year.

2.1a

Please specify the method(s) you use to characterize water-stressed regions.

Method used to define water stress	Please add any comments here:

2.1c

You may explain here why you are not able to identify which of your operations are located in regions subject to water stress and whether you have plans to investigate this in the future.

2.2

Are there other indicators (besides water stress) which you wish to report that help you to identify which of your operations are located in regions subject to water-related risk?

Yes

2.2

Are there other indicators (besides water stress) which you wish to report that help you to identify which of your operations are located in regions subject to water-related risk?

2.2

Are there other indicators (besides water stress) which you wish to report which help you to identify which of your operations are located in regions subject to water-related risk?

2.2a

Please list the regions at risk where you have operations, the relevant risk indicator and proportion of your total operations in that area.

Country or geographical reach	Region within country	Risk Indicator	Proportion of operations located in this region (%)	Further comments
France	Normandy and LePuy	Flooding	1-10	Floods have occurred in France in the region near our plants presenting a risk to transportation and infrastructure
United States of America	Midwest and Florida	Flooding	1-10	Floods have occurred in the USA in the midwest and in Florida near our plants presenting a risk to transportation and infrastructure
Mexico	Mexico City	Inadequate water infrastructure	1-10	

2.2a

Please list the regions at risk where you have operations, the relevant risk indicator and proportion of your total operations in that area.

Country or geographical reach	Region within country	Risk Indicator	Proportion of operations located in this region (%)	Further comments

2.2a

Please list the regions at risk where you have operations, the relevant risk indicator and proportion of your total operations in that area.

Country or geographical reach	Region within country	Risk Indicator	Proportion of operations located in this region (%)	Further comments

2.2b

You may explain here why you do not wish to report or why you do not use other indicators to identify which of your operations are located in regions subject to water-related risk.

2.2b

You may explain here why you do not use or wish to report other indicators to identify which of your operations are located in regions subject to water-related risk.

2.2b

You may explain here why you do not use or wish to report other indicators to identify which of your operations are located in regions subject to water-related risk.

2.3

Please specify the total proportion of your operations that are located in the regions at risk which you identified in questions 2.1 and/or 2.2.

13%

2.3

Please specify the total proportion of your operations that are located in the regions at risk which you identified in questions 2.1 and/or 2.2.

2.3

Please specify the total proportion of your operations that are located in the regions at risk which you identified in questions 2.1 and /or 2.2.

2.4

Please specify the basis you use to calculate the proportions used for questions 2.1 and/or 2.2.

Basis used to determine proportions	Please add any comments here
Number of facilities	Total number of facilities in data base for 2011 is 106.

2.4

Please specify the basis you use to calculate the proportions used for questions 2.1 and/or 2.2.

Basis used to determine proportions	Please add any comments here

2.4

Please specify the basis you use to calculate the proportions used for questions 2.1 and/or 2.2

Basis used to determine proportions	Please add any comments here

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2.5

Do any of your key inputs or raw materials (excluding water) come from regions subject to water-related risk?

Yes

2.5a

Please state or estimate the proportion of your key inputs or raw materials that come from regions subject to water-related risk.

Input or material	Proportion of key input or raw material that comes from region at risk (%)	Unit used for calculating percentage	Further comments
pharmaceutical intermediates	1 – 10		This value is estimated. Some pharmaceutical intermediates are produced in China where significant water volume and water quality challenges exist. Merck is working to establish a system to evaluate the water related risk associated with our global supply chain. This year, as a first step, Merck partnered with Climate Earth to evaluate the amount of water that is associated with our supply chain based on the amount spent in categories of purchased goods and services. We estimate that one tenth of the water withdrawn that is connected with making our products and other aspects of running our business is associated with meeting our fence line water needs. The other 90% is associated with our suppliers'

Input or material	Proportion of key input or raw material that comes from region at risk (%)	Unit used for calculating percentage	Further comments
			operations and supply chains. We conducted this initial evaluation to identify priority categories to target water use reductions and will continue to evaluate opportunities.

2.5b

You may explain here why you are not able to identify if any of your key inputs or raw materials come from regions subject to water-related risk and whether you have plans to explore this issue in the future.

Page: 2012-water-3-riskassess-op

3.1

Is your company exposed to water-related risks (current or future) that have the potential to generate a substantive change in your business operation, revenue or expenditure?

Yes

3.1a

Please describe (i) the current and/or future risks to your operations, (ii) the ways in which these risks affect or could affect your operations before taking action, (iii) the estimated timescale of these risks, and (iv) your current or proposed strategies for managing them.

Country or geographical reach	Risk type	Potential business impact	Estimated timescale (years)	Risk management strategies
Puerto Rico	02. Physical: Flooding	Interruption of production and/or transportation	Current	These facilities have been evaluated in accordance with property insurance engineering and loss prevention guidance to withstand potential storms and flooding events.
Mexico	02. Physical: Flooding	Interruption of production and/or transportation	Current	These facilities have been evaluated in accordance with property insurance engineering and loss prevention guidance to withstand potential storms and flooding events.
Ireland	09. Regulatory: Regulation of discharge quality/volumes leading to higher compliance costs	Increased costs due to enhanced treatment requirements.	Current	Merck has implemented a major program on green chemistry to improve process efficiency. In addition, Merck has established a program to evaluate the environmental fate and effects of its compounds and controls its discharges so compounds are not present in amounts that could result in harm.
India	01. Physical: Declining water quality	Limited economic development resulting from lack of access to water can limit ability of patients to purchase medicines.	Current	Merck has made a commitment to work with other partners to address the underlying causes of water borne illness globally.
Brazil	01. Physical: Declining water quality	Limited economic development resulting from lack of access to water can limit ability of patients to purchase medicines.	Current	Merck has made a commitment to work with other partners to address the underlying causes of water borne illness globally.
Singapore	11. Regulatory: Statutory water withdrawal limits/changes to water allocation	New water which is recovered wastewater is provided for manufacturing water. This water is treated prior to use in manufacturing processes.	Current	Merck has initiated water conservation practices and has provided treatment technology needed to produce manufacturing quality water.
United States of America	Other: 16. Reputational damage	Additional requirements to treat manufacturing discharges or to support enhanced treatment at community owned treatment works.	1 – 5	Merck evaluates the environmental fate and effects of all of its compounds. Disharge of Merck compounds from Merck manufacturing facilities are protective of the environment. We also partner with industry scientists and government agencies to provide data needed to develop good public policy regarding trace amounts of consumer products in the environment.
United States of America	09. Regulatory: Regulation of discharge quality/volumes leading to higher compliance costs	Enhanced wastewater treatment costs and regulatory obligations	Current	Merck has developed practices to reduce the amounts of nitrogen and phosphorous that is discharged globally. We have adopted the goal to reduce the discharge of nutrients by 10% by 2015 and by 15% by 2020.
United States of America	01. Physical: Declining water quality	Depending on the locations, declining aquifers could lead to	1 – 5	Merck is developing an assessment of the water supply to each of its facilities to identify where declining ground water levels

Country or geographical reach	Risk type	Potential business impact	Estimated timescale (years)	Risk management strategies
		salt water intrusions and reduced water quality and/or limited access to the water supply.		could impact our operations.
France	02. Physical: Flooding	Interruption of production and/or transportation	Current	These facilities have been evaluated in accordance with property insurance engineering and loss prevention guidance to withstand potential storms and flooding events.

3.1b

Please explain why you do not consider your company to be exposed to any water-related risks that have the potential to generate a substantive change in your business operation, revenue or expenditure.

3.1c

Please explain why you do not know if your company is exposed to any water-related risks that have the potential to generate a substantive change in your business operation, revenue or expenditure, and if you have plans to assess this risk in the future.

3.2

What methodology and what geographical scale (e.g. country, region, watershed, business unit, facility) do you use to analyze water-related risk across your operations?

Risk methodology	Country or geographical scale
i. The following types of risks are evaluated through an integrated corporate wide risk-management process: strategic, operational including physical risks, compliance related, reputation, regulatory and financial. ii. All risks are evaluated for potential impacts on the entire company and the probability of the risk occurring. iii. Risks at the asset level are evaluated in accordance with property insurance engineering and loss prevention guidance . iv. There is an annual assessment of risks and quarterly monitoring of progress on mitigation plans that have been prepared to address identified risks. v. Prioritization is based on potential impact and likelihood of occurrence of risks. Business judgement is applied by assessing potential of risks to impact company performance as a whole, assessment is qualitative and quantitative. The level of effort to mitigate risks is also evaluated. vi. Reports of risk assessment are reported to the Executive Committee and to the Enterprise Risk Management Committee. After committee review, significant risks are reported to the Board of Directors. vi. Site specific water related risks are evaluated on a site specific basis by evaluation of the local water sources and users, applicable requirements where the facility is operating and potential for Merck operations to impact or be impacted by activities or circumstances in the watershed.	Watershed

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3.3

Do you require your key suppliers to report on their water use, risks and management?

No

3.4

Is your supply chain exposed to water-related risks (current or future) that have the potential to generate a substantive change in your business operation, revenue or expenditure?

Yes

3.4a

Please describe (i) the current and/or future risks to your supply chain, (ii) the ways in which these risks affect or could affect your operations before taking action, (iii) the estimated timescale of these risks and, (iv) your current or proposed strategies for managing them.

Country or geographical reach	Risk type (to supplier)	Potential business impact (to responding company)	Estimate timescale (years)	Risk management strategies (by responding company)
India	Other: 16. Reputational damage	Expanded requirements for registration of new pharmaceutical active ingredients.	Current	Merck assesses the production facilities of any company that is a Merck partner for manufacturing. Merck adheres to the Pharmaceutical Supply Chain Initiative Principles in selecting manufacturing partners.
Ireland	09. Regulatory: Regulation of discharge quality/volumes leading to higher compliance costs	Supply chain interruptions and higher costs for products manufactured by partners.	Current	Merck provides information to our manufacturing partners about our products and their potential for environmental impacts.
India	09. Regulatory: Regulation of discharge quality/volumes leading to higher compliance costs	Higher costs for products made by partners in our supply chain.	1 – 5	Merck has established a goal to reduce the discharge of nutrients from its manufacturing facilties. Our expectation is that our manufacturing partners will have similar values.
China	Other: 03. Physical: Increased water stress or scarcity (leading to e.g. disruption to operations, higher commodity/energy prices)	Limited access to water, higher operating costs, supply chain interruptions	Current	Merck assesses the production facilities of any company that is a Merck partner for manufacturing and is assessing availability of water for manufacturing facilities.
Ireland	08. Regulatory: Mandatory water efficiency, conservation, recycling or process standards	Ireland is addressing the EU Water Framework that requires that all water resources are managed effectively and protected. .	Current	Our Irish plants are assessing additional requirements that may result from this initiative and are implementing needed adjustments.

3.4b

Please explain why you do not consider your supply chain to be exposed to any water-related risks that have the potential to generate a substantive change in your business operation, revenue or expenditure.

3.4c

Please explain why you do not know if your supply chain is exposed to any water-related risks that have the potential to generate a substantive change in your business operation, revenue or expenditure, and if you have plans to assess this risk in the future.

Page: 2012-Water-4-Impacts

4.1

Has your business experienced any detrimental impacts related to water in the past five years?

Yes

4.1a

Please describe these detrimental impacts including (i) their financial impacts and (ii) whether they have resulted in any changes to company practices.

The quality of the water supply at one of our facilities was not adequate to maintain production. Additional water treatment was required to sustain continuing production. There were no financial immediate financial impacts, however, infrastructure is being modified to provide additional water supply.

Flooding in France interrupted production for several days at a plant in France when the local water supply became contaminated and the plant site was surrounded by high flood water and the on-site wastewater treatment plant unable to discharge due to flood waters.

4.1b

Please explain why you do not know whether your business has experienced any detrimental impacts related to water in the past five years and if you have any plans to explore this in the future?

Page: 2012-Water-5-Opportunities

5.1

Do water-related issues present opportunities (current or future) that have the potential to generate a substantive change in your business operation, revenue or expenditure?

Yes

5.1a

Please describe (i) the current and/or future opportunities, (ii) the ways in which these opportunities affect or could affect your operations (iii) the estimated timescale and (iv) your current or proposed strategies for exploiting them.

Country or geographical reach	Opportunity type	Potential business impact	Estimated timescale	Strategy to exploit opportunity
Global	Cost savings	Improved profitability and sustainability of Merck operations.	Current	Merck continues to address water conservation and protection of water quality together with strategies to reduce demand for energy.
Global	Sales of new products or services	Improve profitability by increasing the economic vitality of patients and communities around the world.	Current	Merck has joined several partner organizations including the Global Water Challenge, the CEO Water Mandate, the Coca Cola Company the Safe Water Network to work with others to improve access to clean water. The Merck Company Foundation, the Office of Corporate Responsibility, Global Safety and the Environment and the Global Health Innovation Group will work with other organizations to address the underlying factors contributing to waterborne illness.
Global	Sales of new products or services	Merck will improve profitability through development and sale of products that address water related health challenges.	Current	Merck Research Labs and the MSD Welcome Trust Hilleman Laboratories are conducting important research into life-threatening, water related diseases including rotovirus, malaria and dengue fever.
Global	Increased brand value	Merck's employees can improve efficiency at Merck and in the communities in which we operate and can be advocates for water around the world.	Current	Merck has included employee engagement in its water strategy and has identified volunteer opportunities for employees to engage in locally.

5.1b

Please explain why you do not consider water-related issues to present opportunities to your company that have the potential to generate a substantive change in your business operation, revenue or expenditure or supply chain.

5.1c

Please explain why you do not know whether water-related issues present opportunities to your company that have the potential to generate a substantive change in your business operation, revenue or expenditure.

Page: 2012-Water-6-tradeoffs

6.1

Has your company identified any linkages or trade-offs between water and carbon emissions in its operations or supply chain?

Yes

6.1a

Please describe the linkages or trade-offs and the related management policy or action.

Linkage or trade-off	Policy or action
Merck's energy team has determined that water accounts for 40% of Merck's total cost of energy. Water use includes production of water for processing (water for injection), steam production and pumping and water transfer. Thus there is a positive synergy between reducing water use and reducing carbon emissions.	The energy team addresses water and energy savings holistically including conducting "treasure hunts" that look for opportunities to reduce demand for these resources, designing and selecting equipment that is both energy and water efficient and developing best practices for energy and water systems. This collective action has reduced emissions of greenhouse gases by 10% since 2009 and demand for water at facilities throughout our global network by 9.3% from the 2009 baseline.

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Page: 2012-Water-7-Withdrawals

7.1

Are you able to provide data, whether measured or estimated, on water withdrawals within your operations?

Yes

7.1a

Please report the water withdrawals within your operations for the reporting year.

Country or geographical reach	Withdrawal type	Quantity (megaliters/year)	Proportion of data that has been verified (%)	Comments
Australia	Municipal water	52.1	76-100	Water Data Assurance Attached
Austria	Municipal water	15.3	76-100	Water Data Assurance Attached
Belgium	Municipal water	157.9	76-100	Water Data Assurance Attached
Brazil	Municipal water	62.9	76-100	Water Data Assurance Attached
Brazil	Surface	86.8	76-100	Water Data Assurance Attached
Brazil	Groundwater	47.8	76-100	Water Data Assurance Attached
Canada	Municipal water	90.9	76-100	Water Data Assurance Attached
China	Municipal water	66.8	76-100	Water Data Assurance Attached
France	Surface	26.0	76-100	Water Data Assurance Attached
France	Municipal water	317.6	76-100	Water Data Assurance Attached
France	Groundwater	542	76-100	Water Data Assurance Attached
Germany		175.4	76-100	Water Data Assurance Attached
India	Groundwater	43.1	76-100	Water Data Assurance Attached
Indonesia	Groundwater	25.1	76-100	Water Data Assurance Attached

Country or geographical reach	Withdrawal type	Quantity (megaliters/year)	Proportion of data that has been verified (%)	Comments
Ireland	Surface	975.6	76-100	Water Data Assurance Attached
Ireland	Groundwater	266.2	76-100	Water Data Assurance Attached
Ireland	Municipal water	290.7	76-100	Water Data Assurance Attached
Italy	Groundwater	128.2	76-100	Water Data Assurance Attached
Italy	Municipal water	40.7	76-100	Water Data Assurance Attached
Japan	Groundwater	45.9	76-100	Water Data Assurance Attached
Japan	Municipal water	96.6	76-100	Water Data Assurance Attached
Mexico	Municipal water	101.7	76-100	Water Data Assurance Attached
Netherlands	Groundwater	201.1	76-100	Water Data Assurance Attached
Netherlands	Municipal water	1051	76-100	Water Data Assurance Attached
New Zealand	Groundwater	0.7	76-100	Water Data Assurance Attached
New Zealand	Municipal water	91.2	76-100	Water Data Assurance Attached
Norway	Municipal water	225.9	76-100	Water Data Assurance Attached
Portugal	Groundwater	9.5	76-100	Water Data Assurance Attached
Portugal	Municipal water	8.3	76-100	Water Data Assurance Attached
Puerto Rico	Groundwater	802.2	76-100	Water Data Assurance Attached
Puerto Rico	Municipal water	116.5	76-100	Water Data Assurance Attached
Singapore	Municipal water	902.9	76-100	Water Data Assurance Attached
South Africa	Municipal water	14.8	76-100	Water Data Assurance Attached
South Africa	Surface	108.8	76-100	Water Data Assurance Attached
South Africa	Groundwater	20.2	76-100	Water Data Assurance Attached
Spain	Groundwater	10	76-100	Water Data Assurance Attached
Spain	Municipal water	131.3	76-100	Water Data Assurance Attached
Switzerland	Municipal water	20.9	76-100	Water Data Assurance Attached
United Kingdom	Municipal water	282.5	76-100	Water Data Assurance Attached
United States of America	Municipal water	5687	76-100	Water Data Assurance Attached
United States of America	Groundwater	13704	76-100	Water Data Assurance Attached
United States of America	Surface	6895	76-100	Water Data Assurance Attached
Colombia	Municipal water	36.0	76-100	Water Data Assurance Attached

Country or geographical reach	Withdrawal type	Quantity (megaliters/year)	Proportion of data that has been verified (%)	Comments
Netherlands	Surface	1000	76-100	Water Data Assurance Attached

7.1b

Please explain why you are not able to provide data for water withdrawals.

7.2

Are you able to provide data, whether measured or estimated, on water recycling/reuse within your operations?

Yes

7.2

Are you able to provide data, whether measured or estimated, on water recycling/reuse within your operations?

7.2a

Please report the water recycling/reuse within your operations for the reporting year.

Country or geographical reach	Quantity (megaliters/year)	Proportion of data that has been verified (%)	Comments
Australia	9.2	76-100	

Country or geographical reach	Quantity (megaliters/year)	Proportion of data that has been verified (%)	Comments
Brazil	6.3	76-100	
France	6505	76-100	
India	25.3	76-100	
Ireland	89.1	76-100	
Japan	9.3	76-100	
Mexico	44.2	76-100	
Netherlands	69	76-100	
Puerto Rico	192.9	76-100	
Spain	8.9	76-100	
Singapore	94	76-100	
United States of America	314.9	76-100	

7.2a

Please report the water recycling/reuse within your operations for the reporting year.

Country or geographical reach	Quantity (megaliters/year)	Proportion of data that has been verified (%)	Comments

7.2b

Please explain why you are not able to provide data for water recycling/reuse within your operations.

7.2b

Please explain why you are not able to provide data for water recycling/reuse within your operations.

7.3

Please use this space to describe the methodologies used for questions 7.1 and 7.2 or to report withdrawals or recycling/reuse in a different format to that set out above.

Water taken into all facilities is metered. Wastewater discharge flows are either metered or assumed to be equal to water taken into the plant.

7.3

Please use this space to describe the methodologies used for questions 7.1 and 7.2 or to report withdrawals or recycling/reuse in a different format to that set out above.

7.4

Are any water sources significantly affected by your company's withdrawal of water?

No

7.4a

Please list any water sources significantly affected by your company's withdrawal of water.

Country or geographical reach	Water source	Impact	Company action and outcomes

7.4b

You may explain here why your company's withrawal of water does not significantly affect any water sources.

None of the water supplies from which a Merck facility withdraws water satisfies the GRI definition of significant affect.

7.4c

Please explain why you do not know if any water sources are significantly affected by your company's withdrawal of water.

Attachments

https://webadmin.cdproject.net/Sites/2012/65/11765/CDP Water Disclosure 2012/Shared Documents/Attachments/CDPWaterDisclosure2012/7.WithdrawalsandRecycling/Merck 2011 Water Assurance Review Letter.pdf

Page: 2012-Water-8-Discharges

8.1

Are you able to identify discharges of water from your operations by destination, by treatment method and by quality using standard effluent parameters?

Yes

8.1a

Please explain why you are not able to identify discharges from your operations by destination, treatment method and quality and whether you have any plans to put in place systems that would enable you to do so.

8.2

Did your company pay any penalties or fines for significant breaches of discharge agreements or regulations in the reporting period?

Yes

8.2a

Please describe the location and impact of the discharge that was the subject of the significant breach(es), the associated fines and any actions taken to minimise the risk of future non-compliance.

Country or geographical reach	Impact	Fines and penalties	Company action and outcomes
United States of America	There was no environmental impact,	A fine of $1,200,000 paid at the Danville, Pennsylvania site. A small part of the fine was assessed due to a determination by EPA that spills at the site that were captured in secondary containment or discharged for treatment at the WWTP were evidence of inadequate maintenance at the facility.	Merck does not agree with the interpretation of EPA that spills into containment or discharged to wastewater treatment are an indication of inadequate maintenance. This facility has an excellent compliance record.

8.3

Are any water bodies and related habitats significantly affected by discharges of water or runoff from your operations?

Yes

8.3a

Please list any water bodies and associated habitats which are significantly affected by discharge of water or runoff from your operations.

Country or geographical reach	Water body	Impact	Company action and outcomes
United States of America	Wissahickhon Creek	Merck's discharge is greater than 5% of the total discharge to the Creek. The wastewater is treated at the local treatment plant which discharges in compliance with all discharge permit requirements.	Merck has installed equalization and neutralization facilities to assure that wastewater is discharged to the local WWTP at a consistent flow and load. In addition, sewering of compounds that could impact the performance of the local treatment plant is strictly controlled.

8.3b

You may explain here why your company's discharge of water does not significantly affect any water bodies or associated habitats.

8.3c

Please explain why you do not know if any water bodies and associated habitats are significantly affected by discharge of water or runoff from your operations.

Page: 2012-Water-9-Intensity

9.1

Please provide any available financial intensity values for your company's water use across its operations.

Country or geographical region	Financial metric	Water use type (megaliters)	Currency	Financial intensity (Currency/mega-liter)	Please provide any contextual details that you consider relevant to understand the units or figures you have provided.
Global	Revenue	Withdrawals	USD($)	1.4	Merck revenue is reported for the world. The financial intensity is calculated by dividing the global revenue by water withdrawal. revenue for 2011 is $48, 047 million. Water withdrawals are 34,717 million liters.

9.2

Please provide any available water intensity values for your company's products across its operations.

Country or geographical region	Product	Product unit	Water unit	Water intensity (Water unit/product unit)	Water use type	Please provide any contextual details that you consider relevant to understand the units or figures you have provided.