

W0. Introduction

W0.1

(W0.1) Give a general description of and introduction to your organization.

Ford Motor Company is a global automotive company based in Dearborn, Michigan with 61 plants and about 196,000 employees worldwide. Our core business includes designing, manufacturing, marketing, financing and servicing Ford cars, trucks, sport utility vehicles (“SUVs”) and electrified vehicles, as well as Lincoln luxury vehicles. The company provides financial services through Ford Motor Credit Company, LLC (“Ford Credit”). At the same time, Ford is pursuing leadership positions in electrification, autonomous vehicles and mobility solutions. Our mobility segment primarily includes development costs related to our autonomous vehicles and our investment in mobility through Ford Smart Mobility, LLC.

Contributing to a better world is a core value at Ford, and our commitment to sustainability is a key part of who we are as a company. Our vision is to create a more dynamic and vibrant company that improves people’s lives around the world while creating value for all stakeholders. We are working to reduce the CO2 emissions from our facilities and our vehicles, in line with the climate targets outlined in the Paris Climate Accord. The risks and opportunities associated with the changing climate are shaping the way we do business, from offering electrified versions of our popular models by investing more than \$11 billion by 2022, to a global carbon reduction strategy focused on powering our facilities with renewable energy. In 2017, we achieved our CO2 manufacturing emissions reduction goal eight years ahead of schedule, reducing our global CO2 emissions from manufacturing operations by 30% per vehicle produced. Through our work in advancing our planet we are contributing to the following UN SDGs – Clean Water and Sanitation, Affordable and Clean Energy, Responsible Consumption and Production, and Climate Action.

Our Aspirational Goals include supporting 100% renewable energy for all manufacturing plants globally by 2035, achieving true zero waste to landfill across our operations, eliminating single-use plastics from our operations by 2030, supporting CO2 reductions consistent with the Paris Climate Accord, aspiring to use only recycled and renewable plastics in our vehicles globally, making zero water withdrawals for manufacturing processes, and aspiring to use freshwater for human consumption only.

For us, mobility is about human progress and making people’s lives better in mature economies and major cities as well as helping solve problems in areas of the world that tend to be under-served by technology advances. We are reimagining what mobility will look like and foresee clean, smart vehicles communicating with each other, as well as the road infrastructure and public transit systems, orchestrated by open cloud-based platforms like our Transportation Mobility Cloud. It is our belief that the freedom of movement drives human progress. Shaped by this belief, we aspire to become the world’s most trusted company, designing smart vehicles for a smart world. Our future is already in motion – we are moving people more efficiently and sustainably. We also promote safer behavior through a range of driver assist and semi-autonomous technologies. We are committed to reducing the environmental footprint with our key suppliers and are working with them to reduce our combined environmental footprint through our Partnership for A Cleaner Environment (PACE) program.

W0.2

(W0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date
Reporting year	January 1 2018	December 31 2018

W0.3

(W0.3) Select the countries/regions for which you will be supplying data.

- Argentina
- Brazil
- Canada
- China
- France
- Germany
- India
- Mexico
- Romania
- Russian Federation
- South Africa
- Spain
- Taiwan, Greater China
- Thailand
- Turkey
- United Kingdom of Great Britain and Northern Ireland
- United States of America
- Venezuela (Bolivarian Republic of)
- Viet Nam

W0.4

(W0.4) Select the currency used for all financial information disclosed throughout your response.

USD

W0.5

(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.

Companies, entities or groups over which operational control is exercised

W0.6

(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Commercial office buildings and facilities not associated with manufacturing.	The use of water in office buildings is excluded because many Ford office buildings are leased and Ford does not have direct control over the water usage. Also, the amount of water used in office buildings is minor compared to the amount of water used in manufacturing plants. Commercial office buildings and facilities not associated with manufacturing are, however, encouraged to independently develop programs to monitor, track, and reduce water usage.
Facilities with 50% or less Ford ownership (or Ford controlling interest) and facilities that consumed 30,000 cubic meters per year or less of water.	The threshold of 30,000 cubic meters is intended to exclude new manufacturing plants that are ramping up and small satellite commercial and testing facilities. New manufacturing facilities that use greater than 30,000 cubic meters per year during the first full year of production after CY2000 will be added to the program. Manufacturing facilities that fall below 24,000 cubic meters per year for two consecutive calendar years will be subsequently excluded from the program. Facilities shall re-enter the program if water use exceeds 30,000 cubic meters in any successive year.

W1. Current state

W1.1

(W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Important	Direct use of freshwater is vital for operations because Ford uses water in many key manufacturing processes, including vehicle painting, cooling towers, and machining of powertrain components as well as for employee use (WASH). Indirect freshwater use is also important to operations. Ford is a large purchaser of materials, parts and components that use water in their manufacture such as aluminum, steel, rubber, and plastics. A lack of good quality freshwater can have an appreciable impact on our direct and indirect operations hence the rating of "vital for operations" and "important". Ford expects that sufficient amounts of good quality freshwater available for use will continue to be vital for direct use in the future, as our core manufacturing processes will be the same. We expect that our suppliers will continue to depend on access to water for operations and that water scarcity concerns will continue to emerge globally, due to the increased demand and variable supply.
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Important	Ford uses water in many key manufacturing processes, and direct use of recycled, brackish and/or produced water is currently important for Ford facilities in water scarce regions to ensure enough water for all production needs without significantly reducing available freshwater. We expect it to continue to be important in the future, and may become vital as water scarcity continues to increase globally. Ford has an ultimate goal of zero water withdrawal for its manufacturing processes, and the availability of sufficient amounts of recycled water will help us achieve this goal. Indirect use of recycled water by our suppliers is important for continuity of supply, especially in water scare regions. Our suppliers report reuse of reverse osmosis reject water for painting operations and treated wastewater for irrigation. We expect water scarcity to increase in some regions in the future, which will keep the ranking as "important". Water recycling will reduce freshwater dependence.

W1.2

(W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	100%	Ford's standard practice is to measure and monitor incoming water at 100 percent of sites. Each Ford manufacturing facility obtains this data from water bills and enters it into a corporate database monthly. Water use is vital for manufacturing operations and community use, therefore it is important to track actual usage as a baseline for water goal setting.
Water withdrawals – volumes from water stressed areas	100%	Ford's standard practice is to measure and monitor incoming water at 100 percent of sites, which would also include water withdrawals from facilities located in water stressed areas. We determine which of our facilities are in water stressed areas through the use of publicly available tools as well as internal knowledge. Water sources include city, surface, well, and gray water (wastewater). It is important to understand the source of the water withdrawal from a watershed impact perspective and as a baseline for goal setting. Each Ford manufacturing facility obtains this data from water bills and enters it into a corporate database monthly.
Water withdrawals – volumes by source	100%	Ford's standard practice is to measure and monitor incoming water at 100 percent of sites. Water sources include city, surface, well, and gray water (wastewater). It is important to understand the source of the water withdrawal from a watershed impact perspective and as a baseline for goal setting. Each Ford manufacturing facility obtains this data from water bills and enters it into a corporate database monthly.
Entrained water associated with your metals & mining sector activities - total volumes [only metals and mining sectors]	<Not Applicable>	<Not Applicable>

	% of sites/facilities/operations	Please explain
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>
Water withdrawals quality	100%	Water used in production processes must meet strict quality standards and therefore it is measured and monitored in all Ford facilities. The frequency of monitoring varies depending on the consistency of the water source, availability of pre-treatment at the plant ,and the criticality of the operation in which it is used. Monitoring frequency can range from daily to monthly to annually. Monitoring is done by sampling and analysis, with TDS and conductivity being commonly monitored.
Water discharges – total volumes	100%	Ford's standard practice is to measure and monitor process water discharge at 100 percent of sites. Process water discharge can be measured or calculated. Discharge data provides a key data point to calculate consumption. Process water discharge volumes are monitored by a combination of continuous flow meters and batch volume determinations. Each Ford manufacturing facility then enters this data monthly into a corporate database. Sanitary is only able to be measured at sites that have sanitary meters.
Water discharges – volumes by destination	100%	Ford's standard practice is to measure and monitor process water discharge at 100 percent of sites. Tracking destination provides data regarding how watersheds may be affected. Process water discharge can be measured or calculated. Discharge data provides a key data point to calculate consumption. Process water discharge volumes are monitored by a combination of continuous flow meters and batch volume determinations. Each Ford manufacturing facility enters this data monthly into a corporate database. Sanitary is only able to be measured at sites that have sanitary meters.
Water discharges – volumes by treatment method	100%	Ford's standard practice is to measure and monitor process water discharge at 100 percent of sites. Process water discharge can be measured or calculated. Discharge data provides a key data point to calculate consumption. Process water discharge volumes are monitored by a combination of continuous flow meters and batch volume determinations. Each Ford manufacturing facility enters this data monthly into a corporate database. Sanitary is only able to be measured at sites that have sanitary meters.
Water discharge quality – by standard effluent parameters	100%	Ford's discharges are subject to many regulatory requirements, therefore we measure and monitor standard effluent parameters and report to the appropriate regulatory agencies as required. Frequency of monitoring and parameters monitored vary by facility depending on discharge permits, ranging from batch to weekly to annual to continuous. Commonly measured parameters are TSD and zinc. and methods are lab analysis or in-line measurement.
Water discharge quality – temperature	Not relevant	Ford's water discharges are generally at ambient temperature, so this is not a relevant metric for Ford. We expect Ford's discharges to be at ambient temperature in the future, therefore we do not expect this metric to be relevant in the future.
Water consumption – total volume	76-99	Ford does not separately calculate consumption at each facility on an ongoing basis. This decision is continually reassessed via the water assessments performed each year. Consumption data is obtained from water assessments performed at select Ford facilities. As of 2018, a third party has conducted water assessments at 80% of all Ford facilities. These assessments indicate that consumption associated with water incorporated into the product is not material.
Water recycled/reused	1-25	We monitor wastewater recycling at least monthly using meters. There are also many other recycle and reuse projects at our facilities. Examples include cooling tower cycles of concentration, paint pit water reuse, reverse osmosis reject water reuse, and cooling tower blowdown reuse. Monitoring of these types of recycling and reuse varies in frequency.
The provision of fully-functioning, safely managed WASH services to all workers	100%	Ford has acknowledged the human right to water and in 2014, became a signatory to the UN CEO Water Mandate. Our Code of Human Rights, Basic Working Conditions, and Corporate Responsibility requires Ford to provide a safe and healthy work environment for all employees at 100% of our sites. At existing facilities, human rights assessments are performed, and these include checking on the provision of WASH services to all workers. Human rights assessments are completed on four facilities per year. For new facilities, the method of ensuring that fully-functioning, safely managed WASH services are provided to all workers is inclusion of this requirement in facility building specifications. Therefore when new facilities are built, WASH services are provided to all workers.

W1.2b

(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, and how do these volumes compare to the previous reporting year?

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	22291	Lower	Total vehicle production for Ford Motor Company decreased from 2017 to 2018, therefore total water withdrawals decreased as well. Ford considers a decrease of 5% to 15% to be "lower". Total withdrawals decreased by about 8% from 2017 to 2018. If production increases and more areas of the world become water stressed, we expect that our future withdrawals may increase.
Total discharges	10263	Lower	Total vehicle production for Ford Motor Company decreased from 2017 to 2018, therefore total water withdrawals decreased as well. Ford considers a decrease of 5% to 15% to be "lower". Total discharges decreased by about 8% from 2017 to 2018. If production increases and more areas of the world become water stressed and we reuse and recycle more water, we expect that our future discharges may decrease. Ford's standard practice is to measure and monitor process water discharge at 100 percent of sites. Process water discharge can be measured or calculated. Discharge data provides a key data point to calculate consumption. Sanitary is only able to be measured at sites that have sanitary meters.
Total consumption	12028	Lower	Total vehicle production for Ford Motor Company decreased from 2017 to 2018, therefore total consumption decreased as well. Total consumption decreased by about 8% from 2017 to 2018. Ford considers a decrease of 5% to 15% to be "lower". If production increases and more areas of the world become water stressed, we expect that our future consumption may increase. Consumption is calculated based on water balance (Consumption = Withdrawals - Discharges).

W1.2d

(W1.2d) Provide the proportion of your total withdrawals sourced from water stressed areas.

	% withdrawn from stressed areas	Comparison with previous reporting year	Identification tool	Please explain
Row 1	18.6	About the same	WBCSD Global Water Tool	We used the WBCSD Global Water Tool to evaluate all of Ford's global manufacturing plants, using latitude and longitude data. Using the output of the WBCSD Global Water Tool, along with internal company knowledge, we determined that there are 14 Ford manufacturing plants in water stressed areas. The number of facilities in water stressed areas only increased by a single facility from 2017 to 2018, so the percent withdrawn from stressed areas is about the same. Ford's Irapuato Transmission Plant had its first full year of production in 2018. These 14 facilities include plants in India, Mexico, Turkey, South Africa, and Spain.

W1.2h

(W1.2h) Provide total water withdrawal data by source.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	481	Much lower	A number of Ford engine and vehicle assembly plants around the globe withdraw fresh surface water, and therefore tracking this source is relevant. Total vehicle production for Ford Motor Company decreased from 2017 to 2018, therefore water withdrawal from fresh surface water decreased as well. Ford considers a decrease of > 15% to be "much lower". Fresh surface water withdrawals decreased by approximately 34% from 2017 to 2018. We expect our future withdrawals of fresh surface water to decrease as this is a focus of our water strategy.
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	Ford withdrew 22,291 megaliters from fresh surface water, groundwater or third party sources in 2018, and did not withdraw from brackish surface water or seawater, therefore this source is not relevant . We do not expect to withdraw brackish surface water/seawater in the future.
Groundwater – renewable	Relevant	2700	Much lower	A number of Ford engine and vehicle assembly plants around the globe withdraw renewable groundwater, and therefore tracking this source is relevant. Total vehicle production for Ford Motor Company decreased from 2017 to 2018, therefore water withdrawal of renewable groundwater decreased as well. Ford considers a change of >15% to be "much lower". Renewable groundwater withdrawals decreased by about 18% from 2017 to 2018. We expect our future withdrawals of renewable groundwater to decrease.
Groundwater – non-renewable	Relevant	2211	About the same	A number of Ford engine and vehicle assembly facilities in Europe withdraw non-renewable groundwater, and therefore tracking this source is relevant. Total vehicle production for Ford Motor Company decreased from 2017 to 2018, therefore water withdrawal of non-renewable groundwater decreased as well. Ford considers a decrease of <5% to be "about the same". Our non-renewable groundwater withdrawals decreased by about 4% from 2017 to 2018. We expect our future withdrawals of non-renewable groundwater to decrease.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	Ford withdrew 22,291 megaliters from fresh surface water, groundwater or third party sources in 2018, and did not withdraw from produced/entrained water, therefore this source is not relevant . We do not expect to use produced/entrained water in the future.
Third party sources	Relevant	16899	Lower	Most of the water withdrawn by Ford engine and vehicle assembly facilities around the globe is from third party sources, therefore tracking this source is relevant. Total vehicle production for Ford Motor Company decreased from 2017 to 2018, therefore water withdrawal from third party sources decreased as well. Ford considers a change of >5% but <15% to be "lower". Our third party withdrawals decreased by about 7% from 2017 to 2018. Third party sources includes both municipal water and wastewater from another organization. We expect to increase our use of wastewater from other organizations in the future.

W1.2i

(W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	12	Much lower	A Ford vehicle assembly facility in Mexico discharges to fresh surface water, and therefore tracking this destination is relevant. Ford considers a change of 15% or more to be "much lower". While discharges to fresh surface water decreased by about 20% from 2017 to 2018, these discharges to fresh surface water are still a very small percentage (0.1%) of total discharges. We expect our discharges to fresh surface water to decrease in the future.
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	Ford discharged 10,263 megaliters to fresh surface water, groundwater or third party destinations in 2018, and did not discharge to brackish surface water or seawater, therefore this destination is not relevant. We do not expect to discharge to brackish surface water/seawater in the future.
Groundwater	Relevant	119	Much higher	A number of Ford engine, transmission, and assembly facilities in Mexico discharge to groundwater, and therefore tracking this destination is relevant. Ford considers a change of 15% or greater to be "much higher". While discharges to groundwater increased by about 19% from 2017 to 2018, these discharges to groundwater are still a very small percentage (1%) of total discharges. We expect our discharges to groundwater to decrease in the future.
Third-party destinations	Relevant	10132	Lower	Ford facilities discharged 10,132 megaliters to third-party destinations in 2018, therefore tracking this destination is relevant. Total vehicle production for Ford Motor Company decreased from 2017 to 2018, therefore water discharge to third party sources decreased as well. Ford considers a change of between 5% and 15% to be "lower". Discharges to third-party destinations decreased by 8 percent from 2017 to 2018. Third-party destinations include municipal wastewater treatment plants. We anticipate increasing our discharges to third-party destinations in the future.

W1.2j

(W1.2j) What proportion of your total water use do you recycle or reuse?

	% recycled and reused	Comparison with previous reporting year	Please explain
Row 1	1-10	Much higher	Ford reuses water from its onsite wastewater treatment plants at several of its facilities worldwide. Ford also reuses externally sourced wastewater (not included here). For example, over 10 years ago in Chihuahua, we began treating externally sourced treated wastewater to achieve 100 percent recycled water for operational uses with potable water for domestic use only. After treating and extracting the recycled water, any final discharge from our recovery system goes to an evaporation lagoon, eliminating any discharge from the site. In 2018, the site was expanded with a new three-pipe water distribution system. This new system uses not only high-quality treated wastewater in production and potable water for domestic use, but also quality treated gray wastewater for use in toilets, which reduces the plant's freshwater demand even further. At Chennai, we utilize wastewater from our own site and treated wastewater from the local supplier park to feed our recycling system. The treated wastewater goes through a three-stage reverse osmosis system, followed by evaporation and crystallization. This maximizes the amount of recycled water we can extract and eliminates any liquid discharge from the facility. Ford continues to introduce recycling and reuse of water as opportunity presents itself with new projects. In the past year, opportunities increased, and therefore the percent of recycled and reused water increased. The Flat Rock Assembly Plant in Michigan has installed a system that allows the plant to reuse their wastewater treatment plant effluent in the paint shop. At full production, this system has the potential to save approximately 60 million gallons of water per year. We expect to increase our percent of recycled and reused water to further reduce our dependence on freshwater.

W1.4

(W1.4) Do you engage with your value chain on water-related issues?

- Yes, our suppliers
- Yes, our customers or other value chain partners

W1.4a

(W1.4a) What proportion of suppliers do you request to report on their water use, risks and/or management information and what proportion of your procurement spend does this represent?

Row 1

% of suppliers by number

1-25%

% of total procurement spend

51-75

Rationale for this coverage

Ford has over 11,000 suppliers so we request selected suppliers to respond to the CDP Supply Chain's Water questionnaire based on the water intensity of their commodities and the location of their operations. In 2018, Ford asked 214 selected production and indirect suppliers to report their water management process and water data through the CDP questionnaire. While these suppliers represent about 2% of the total number of suppliers, this value may be misleading because we work hard to capture those suppliers that contribute the most to our overall water footprint. These 214 suppliers represent about 73 percent of Ford's production spend, 10 percent of indirect spend and 60 percent of our total buy of \$120 billion. We incentivize our suppliers by presenting annual green pillar awards and include CDP response status as a component of our Supplier Relationship Framework assessment.

Impact of the engagement and measures of success

Ford requests information through CDP's Water Security questionnaires including the following data: supplier's corporate and/or site-level water data, supplier requirements, water risk assessment, implications, governance and strategy, targets and initiatives, and compliance. Ford will use the data to determine which suppliers have the largest footprints and the anticipated outcome is to work with them to achieve reductions through the Ford Partnership for A Cleaner Environment (PACE). Ford's internal goal for success of the CDP supplier engagement is to increase supplier response rate each year. We selected this metric because the information that we receive is critical to our understanding of risks and increasing the number of responses each year is necessary to advance this understanding. This year, we exceeded our set goal, as 73% of suppliers responded. We attribute this increase to improved supplier maturity and to technical guidance that we provided.

Comment

W1.4b

(W1.4b) Provide details of any other water-related supplier engagement activity.

Type of engagement

Innovation & collaboration

Details of engagement

<Not Applicable>

% of suppliers by number

<Not Applicable>

% of total procurement spend

<Not Applicable>

Rationale for the coverage of your engagement

Ford has over 11,000 suppliers and we invite selected production and indirect suppliers with manufacturing operations to our internal supply chain sustainability program, the Partnership for a Cleaner Environment (PACE). While our current PACE program engagement captures less than 1% of our supply base we work hard to engage those suppliers that contribute the most to our overall water use. These PACE suppliers represent approximately 40% of our Production spend. Our goal via the PACE program is to teach suppliers about the water savings and water stewardship initiatives we have implemented at Ford, ask them to set reduction targets and annually report their progress to us. We also ask suppliers to report leading practices that they have implemented in their facilities, so that the collaboration comes full circle. We provide technical guidance and feedback to these suppliers and ask them to collaborate with their suppliers to share leading practices throughout the supply chain.

Impact of the engagement and measures of success

<Not Applicable>

Comment

<Not Applicable>

W1.4c

(W1.4c) What is your organization's rationale and strategy for prioritizing engagements with customers or other partners in its value chain?

Ford prioritizes engagement with its employees and the communities where its operations are located. By engaging with employees, we are able to deeply embed Ford's water conservation strategy within each employee's daily tasks. By engaging with local communities where we have operations, we are able to demonstrate our commitment to the human right to water and the provision of WASH services to all. Ford engages with its employees and local communities through the Ford Volunteer Corps and the Bill Ford Better World Challenge, just to name a few. The Bill Ford Better World Challenge is an annual competition which is open to Ford employees around the world who are working with local non-profit organizations. These employees, in collaboration with the non-profits, brainstorm ideas that transform daily life, with water being a particular focus area. Submitted projects are judged by a qualified internal team and funding is awarded to the winning projects. One of the 2018 winning projects is a collaboration of World Vision South Africa, along with the Ford Motor Company Fund and Ford Research and Advanced Engineering. This team has mounted a Watergen GEN-350 atmospheric water generator on a heavy-duty double-axle trailer and attached it to a Ford Ranger. This unit is capable of producing up to 900 liters of water per day, powered by a diesel generator that ensures the system is completely mobile and can be operated in any location. The rig is towed to sites around Nelson Mandela Bay.

Many employee volunteers are also engaged in our community-based efforts to conserve water and promote responsible water stewardship. During Ford's Global Month of Caring in 2018, 336 Ford employees volunteered 3,032 hours on 18 water projects. Ford invested \$54,000 in these projects.

Success is measured by increases in the number of employees involved and the number of projects.

W2. Business impacts

W2.1

(W2.1) Has your organization experienced any detrimental water-related impacts?

No

W2.2

(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

Yes, enforcement orders or other penalties

W2.2b

(W2.2b) Provide details for all significant fines, enforcement orders, and/or penalties for water-related regulatory violations in the reporting year, and your plans for resolving them.

Type of penalty

Fine

Financial impact

5723

Country/Region

Thailand

River basin

Chao Phraya

Type of incident

Effluent limit exceedances

Description of penalty, incident, regulatory violation, significance, and resolution

Fluoride in the water discharge exceeded the limit, due to incorrect analysis by a supplier . A penalty of 5,723 USD was assessed by the regulatory agency. The testing method was corrected and the frequency of testing was increased from monthly to weekly. A change to a chemical with low fluoride was also made.

Type of penalty

Other penalty type, please specify (Notice of Violation)

Financial impact

0

Country/Region

South Africa

River basin

Limpopo

Type of incident

Spillage, leakage or discharge of potential water pollutant

Description of penalty, incident, regulatory violation, significance, and resolution

A bulk antifreeze tank leaked into the on-site surface water storage dam. Authorities issued a Notice of Violation (NOV). Pipework was replaced and alarms were installed. An ecology survey showed that there was no long term impact on surface water quality.

Type of penalty

Other penalty type, please specify (Written warning from authorities)

Financial impact

0

Country/Region

Germany

River basin

Rhine

Type of incident

Spillage, leakage or discharge of potential water pollutant

Description of penalty, incident, regulatory violation, significance, and resolution

The city of Saarlouis identified a non-authorized dry water flow to the city owned sewer which is connected to a small river. Paper and other waste was identified at a water screen at the point of inflow. The plant has taken corrective actions, including cleaning, and is also monitoring the outflow by camera.

W3. Procedures

W3.3

(W3.3) Does your organization undertake a water-related risk assessment?

Yes, water-related risks are assessed

W3.3a

(W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.

Direct operations

Coverage

Full

Risk assessment procedure

Water risks are assessed as part of other company-wide risk assessment system

Frequency of assessment

Annually

How far into the future are risks considered?

>6 years

Type of tools and methods used

Tools on the market

Tools and methods used

Ecolab Water Risk Monetizer

WBCSD Global Water Tool

WRI Aqueduct

WWF-DEG Water Risk Filter

Ceres AquaGauge

Other, please specify (internal company knowledge)

Comment

Ford has reviewed all operations via publicly available tools (Global Water Tool, Aqueduct) to determine which facilities are located in water-scarce regions. Ford also evaluated which operations are projected to be in water-scarce regions by 2025. In response to this analysis, Ford developed a water strategy that is able to prioritize addressing water use, supplier water use and community water issues in these water-stressed regions as directed by Ford's water strategy.

Supply chain

Coverage

Full

Risk assessment procedure

Water risks are assessed as part of other company-wide risk assessment system

Frequency of assessment

Annually

How far into the future are risks considered?

>6 years

Type of tools and methods used

Tools on the market
Databases

Tools and methods used

WRI Aqueduct
Maplecroft Global Water Security Risk Index
Other, please specify (Environmental Audits and Self Assessment)

Comment

200 Ford suppliers were asked to report water management through CDP. These suppliers are selected based on the water intensity of supplied commodities and the location of their operations, especially those in water-stressed regions, as determined from Aqueduct and Maplecroft Water Risk maps. In addition some suppliers undergo environmental audits through the Responsible Business Alliance and we ask selected supplier sites to complete a sustainability self assessment questionnaire.

Other stages of the value chain

Coverage

None

Risk assessment procedure

<Not Applicable>

Frequency of assessment

<Not Applicable>

How far into the future are risks considered?

<Not Applicable>

Type of tools and methods used

<Not Applicable>

Tools and methods used

<Not Applicable>

Comment

W3.3b

(W3.3b) Which of the following contextual issues are considered in your organization's water-related risk assessments?

	Relevance & inclusion	Please explain

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	Water availability at a basin/catchment level is relevant because Ford uses water in many key manufacturing processes, including vehicle painting, cooling towers, and machining of powertrain components as well as for employee use (WASH). Ford's global manufacturing water strategy was updated in 2016, setting a new goal of 30% reduction in water use per vehicle from 2015 to 2020, with an aspirational goal of zero potable water use for manufacturing processes, on the way to the ultimate goal of zero water withdrawal for manufacturing. As part of this strategy update, risks and opportunities were assessed by a global cross-functional team, using many tools, including the WBCSD Global Water Tool and internal company knowledge. Global targets have been cascaded to the regional and plant level, and these metrics are reported regularly to senior management. In order to continuously monitor the current water conditions and attempt to alleviate water issues when possible, Ford's cross-functional global water team meets regularly to apply their local knowledge and experience in combination with the various tools publicly available. All global Ford direct operations have these factors examined and Ford is in the process of including this for supply chain operations. For example, recycled water is important for the successful operation of sites in water-scarce regions such as Chennai and Sanand, India, and Chihuahua, Mexico where 100 percent of industrial wastewater is recycled, and therefore offsets freshwater consumption.
Water quality at a basin/catchment level	Relevant, always included	Water quality at a basin/catchment level is relevant because Ford uses water in many key manufacturing processes, including vehicle painting, cooling towers, and machining of powertrain components as well as for employee use (WASH). All of these uses require high quality water. Ford's global manufacturing water strategy was updated in 2016, setting a new goal of 30% reduction in water use per vehicle from 2015 to 2020, with an aspirational goal of zero potable water use for manufacturing processes, on the way to the ultimate goal of zero water withdrawal for manufacturing. As part of this strategy update, risks and opportunities were evaluated by a global cross-functional team, using many tools including the WBCSD Global Water Tool and internal company knowledge. Global targets have been cascaded to the regional and plant level, and these metrics are reported regularly to senior management. In order to continuously monitor the current water conditions and attempt to alleviate water issues when possible, Ford's cross-functional global water team meets regularly to apply their local knowledge and experience in combination with the various tools publicly available. All global Ford direct operations have these factors examined and Ford is in the process of including this for supply chain operations.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, always included	Ford's global manufacturing water strategy was updated in 2016, setting a new goal of 30% reduction in water use per vehicle from 2015 to 2020, with an aspirational goal of zero potable water use for manufacturing processes, on the way to the ultimate goal of zero water withdrawal for manufacturing. This aspirational goal recognizes that water is a shared resource, and Ford needs to ensure that sufficient water is available to all stakeholders in the community, especially in areas of water scarcity. Water scarce areas are the most likely to have stakeholder conflicts, so these areas are a focus in Ford's water-related risk assessments, which are conducted using many tools, particularly internal company knowledge gained from relationships with local stakeholders. When we first built the Cuautitlán Stamping and Assembly Plant in 1964, it was one of few large industrial manufacturers in the area. Today, Ford is one of many international corporations doing business here. Our neighbors include several global beverage producers and chemical companies that typically require far greater amounts of water than auto manufacturers. In the 1990s, the regional Cuautitlán government recognized that demand for water was outstripping supply. Officials began placing limits on water withdrawals and requiring stricter permitting processes. We began paying much closer attention to our water use at the facility and the risks of potential stakeholder conflicts concerning water resources. Over the years, facility managers have come up with some creative solutions to their natural environmental challenges. One thing we did to conserve water was install dedicated piping for potable water to ensure that we did not use potable water for anything other than human consumption. All other water used at the plant gets recycled. The dedicated piping has improved the quality of water for drinking and for use in food preparation at our plant cafeteria.
Implications of water on your key commodities/raw materials	Relevant, always included	Ford is a large purchaser of water-intensive materials, parts, and components such as aluminum, steel, rubber, and plastics, hence this is relevant and always included. In 2018, 214 Ford production and indirect suppliers reported their water management through CDP Supply Chain's water questionnaire. These 214 suppliers represent about 73 percent of Ford's production spend, 10 percent of indirect spend and 60 percent of our total buy of \$120 billion. Suppliers are selected to participate in the CDP Supply Chain water questionnaire based on a combination of factors including those that supply water-intensive commodities, those with operations in water-stressed areas (as determined using the Aqueduct Water Risk Atlas and Maplecroft tool) and their business relationship with Ford. We repeat our assessment of selected suppliers in light of developments in these three areas on an annual basis. Responding suppliers may state any issues related to implications of water they believe pose a risk on key commodities that could generate a substantive change in their business, operations, revenue or expenditures.
Water-related regulatory frameworks	Relevant, always included	Ford's global manufacturing water strategy was updated in 2016, setting a new goal of 30% reduction in water use per vehicle from 2015 to 2020, with an aspirational goal of zero potable water use for manufacturing processes, on the way to the ultimate goal of zero water withdrawal for manufacturing. As part of this strategy update, risks and opportunities were evaluated by a global cross-functional team. Global targets have been cascaded to the regional and plant level, and these metrics are reported regularly to senior management. Ford's cross-functional global water team meets regularly to apply their local knowledge and experience in combination with various public tools like Ecolab's Water Risk Monetizer and local regulations. All global Ford direct operations have these factors examined. Water-related regulatory frameworks are relevant to Ford because Ford's operations are subject to many local, state, and federal regulations. Ford's Water Futuring Study also examined these factors. Zero liquid discharge is required by regulation for Ford's plants in Chennai, India. Additionally, responding suppliers to CDP Water may state any issues related to current regulatory frameworks they believe pose a risk that could generate a substantive change in their business, operations, revenue or expenditures. Ford uses the following tools in this assessment: internal company knowledge.
Status of ecosystems and habitats	Relevant, always included	Since several of Ford's facilities are located in water stressed regions, the status of local ecosystems is considered as we make decisions on water withdrawals, discharges, and recycling/reuse. Environmental personnel from all regions in which Ford operates serve on the Global Water Team, which meets monthly, and they bring their knowledge of local ecosystems and habitats to these meetings. Ford's Cuautitlán Stamping and Assembly Plant is in a water stressed area, with many competing water users in the local ecosystem. In response to this situation, the plant installed ecological concrete. In 2013, the Cuautitlán, Mexico plant won Ford's Latin America Environmental Leadership Award for this initiative. The facility replaced the asphalt and parking lots within the plant with ecological concrete, which allows rain to reenter the ground. This recharges the aquifer beneath the plant and helps prevent water scarcity in the city, and in surrounding ecosystems and habitats. The plant renovated an area of more than 9,700 square meters with ecological concrete, allowing the absorption of as much as 7.5 million liters of water per year. Not only was the project beneficial for the community, it was also beneficial for Ford's own bottom line. Ford facilities in Dearborn and Louisville are now using ecological concrete as well. Ford's strategy is to continue replicating the use of ecological concrete in other locations where feasible.

	Relevance & inclusion	Please explain
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	Access to fully-functioning, safely managed WASH services for all employees is relevant and always included. Ford has acknowledged the human right to water, and this right starts with our employees. In 2014, Ford became a signatory to the UN CEO Water Mandate. Our internal company standard, The Code of Human Rights, Basic Working Conditions, and Corporate Responsibility requires Ford to provide a safe and healthy work environment for all employees. Facility building specifications include WASH requirements, so anytime new facilities are constructed WASH requirements are considered. The Company also maintains a Global Facilities Forum of company experts which meets monthly to consider facilities-related issues and standards, including WASH. When we built the Sanand Assembly and Engine Plants in India, there was no municipal water supply available. Ford constructed a water bottling plant that treated and bottled water from the Narmada Canal so that employees would have safe water to drink. This project received one of Ford's 2015 President's Health and Safety Awards for "Excellence in Health".
Other contextual issues, please specify	Not considered	N/A

W3.3c

(W3.3c) Which of the following stakeholders are considered in your organization's water-related risk assessments?

	Relevance & inclusion	Please explain
Customers	Relevant, always included	Customers are included in the risk assessment because their purchase decisions significantly impact Ford Motor Company's financial health. We engage with our customers in multiple ways, including in-person focus groups and direct surveying, just to name a few. There is increasing customer pressure to manufacture sustainably. Fleet customers in particular are interested in Ford's water usage and policies, and many require Ford to respond to questionnaires, such as CDP Supply Chain. Fleet customers often ask about Ford' environmental performance, including water use, in their requests for quotes. The Ford F-150 truck is popular with our fleet customers. The change to aluminum in our F-150 decreased the weight of the truck by 700 pounds and improved the fuel economy significantly. Ford recycles as much as 20 million pounds of aluminum stamping scrap per month using the closed-loop system at Dearborn Stamping Plant, which provides parts to build F-150 at Ford's Dearborn Truck and Kansas City Assembly Plants. Recycled aluminum avoids 95 percent of the greenhouse gas emissions associated with primary aluminum production. It uses significantly less energy and water also. Ford Motor Company has taken significant steps to reduce water usage and become an even better steward of the environment.
Employees	Relevant, always included	Employee needs are taken into account during risk assessments. Ford has acknowledged the human right to water and in 2014, became a signatory to the UN CEO Water Mandate. Our Code of Human Rights, Basic Working Conditions, and Corporate Responsibility requires Ford to provide a safe and healthy work environment for all employees. Ford periodically conducts human rights assessments at our facilities and water is one of the topics addressed in these assessments. Facility building specifications include WASH requirements. We provide water saving information to our employees. In May 2013, Ford held a "Water Futuring Workshop" with Ford employees, university researchers, and NGOs. We explored different future scenarios and how these would impact water use in preparation for refining our current water strategy. Water savings strategies were communicated to employees on World Water Day. When we built the Sanand Assembly and Engine Plants in India, there was no municipal water supply available for the 5000 people who would be on site at the start of operations, increasing to an ultimate population of 13,000. Ford constructed a water bottling plant that treated and bottled water from the Narmada Canal so that employees would have safe water to drink. This project received one of Ford's 2015 President's Health and Safety Awards for "Excellence in Health".
Investors	Relevant, always included	Investors are included in the risk assessment because they are crucial to Ford's economic health, as Ford is a publicly traded company. Ford reports to investors through the CEO Global Water Mandate, Ford's Sustainability Report, and CDP Water. Ford's risk assessments help eliminate risks that can interfere with operations as well as help Ford to be a better steward of water. In 2017, Ford became the first automaker to commit to the "Improve Water Security" initiative of the Business Alliance for Water and Climate, in order to publicly demonstrate our recognition of water risks and our commitment to mitigate them. Ford remains engaged with investors through ICCR and Ceres stakeholder events, to communicate our commitment to climate change and water improvements and to better understand the concerns of our stakeholders. Ford's manufacturing facility in Cuautitlán, Mexico, is already subject to water-withdrawal limitations. The Cuautitlán plant produced over 66,000 vehicles in 2018, or 2% of North American production. If Cuautitlán production was stopped due to the unavailability of water, 2% of 2018 North American income before taxes could be lost. This could potentially amount to over \$176 million over the course of a year. This could impact Ford's investors.
Local communities	Relevant, always included	Ford has acknowledged the human right to water and in 2014, became a signatory to the UN CEO Water Mandate. Our Code of Human Rights, Basic Working Conditions, and Corporate Responsibility requires Ford to provide a safe and healthy work environment for all employees, as well as to work constructively with local communities, including implementation of sustainable water strategies. Ford periodically conducts human rights assessments at our facilities and water is one of the topics addressed in these assessments. For all global Ford facilities, Ford factors in local communities' concerns. Our plant environmental engineers live in the local communities surrounding the plants and often volunteer their service on local emergency planning committees and other organizations which allows them to have a good understanding of water risks within the local communities. All manufacturing plants have Community Relations Committees which provide a point of contact for community concerns. Also, when a plant is built or modified, often local communities are offered the opportunity to comment on the proposed changes by the local regulatory agency. As an example, the Sonora River in Mexico was polluted from mining operations, causing a shortage of potable water for the surrounding community and exacerbating the existing water scarcity. Employees at Ford's Hermosillo Stamping and Assembly Plant collected and provided over 10,000 liters of potable water to the surrounding community.

	Relevance & inclusion	Please explain
NGOs	Relevant, always included	Ford uses standards and information from GRI, WRI, WBCSD, and the UN CEO Water mandate to assist in Ford's water strategy development. Ford has worked directly with CERES on Aqua Gauge and with the Interfaith Center for Corporate Responsibility on water issues. In May 2013, Ford held a "Water Futuring Workshop" with Ford employees, university researchers, and NGOs. We explored different future scenarios and how these would impact water use in preparation for refining our current water strategy. It is important that Ford include NGOs in its risk assessment because these bodies develop the standards for water reporting, and water definitions proposed by NGOs may disincentivize water reuse and recycling by facilities, if definitions are not crafted with a knowledge of industrial operations. As an example, GRI has established a category of "third party water withdrawal" which includes "wastewater from another organization". Not being able to separately report wastewater reuse would disincentivize the efforts to move away from using drinking water sources for manufacturing operations. Ford's aspirational goal is to use no drinking water in its manufacturing operations.
Other water users at a basin/catchment level	Relevant, always included	Many of Ford facilities are located in the same water basin/catchment as other industrial water users, and we work to ensure sufficient water is available for all. Ford is a member of the Ertverband, a German non-profit organization which reconciles the different water-related interests of the regional stakeholders in the catchment, which contains numerous tributaries and bodies of water along with the 104 km long river. The organization purifies the sewage produced by approximately 750,000 residents as well as that generated by local trade and industry, which is equivalent to a waste load produced by another 450,000 people. Moreover, the Ertverband looks after a fragile natural region and protects the residential areas from flooding. The reach of the organization goes far beyond the Ert watershed. The entire area of activity comprises over 4,220 km ² , covering the region affected by the brown coal mines of the Rhineland. The Ertverband monitors the complex relationships involving water supply and distribution, oversees groundwater resources, ensures the water supply and protects the numerous wetlands. Ford's Cologne and Merkenich facilities are within the purview of the Ertverband. By cooperating with other users who are members of Ertverband, Ford works to mitigate risks to water availability.
Regulators	Relevant, always included	Ford is committed to compliance with all regulations. We monitor regulations and work with regulators around the globe to ensure minimal impact of Ford's manufacturing operations on the local environment. Ford meets with U.S State Department and other regulators globally to stay updated and well-informed in global regulatory matters in order to continuously reevaluate changing water regulations. With pressures on water supplies expected to continue, government authorities have been requiring manufacturers to achieve zero liquid discharge in their operations, as a way to encourage them to reuse water and reduce their overall water use. Several Ford facilities are located in water stressed areas, so we pay particular attention to assessing regulatory risk in those locations. For example, our Chennai plants in India are required by regulation to have Zero Liquid Discharge, which significantly impacts our Chennai operations.
River basin management authorities	Relevant, always included	River basin management authorities are included in Ford's risk assessments because they control or influence the supply of water, which is critical for Ford's operations. Ford considers current river basin management plans for those facilities located in areas that have river basin management plans, and works directly with river basin management authorities to honor these plans. Ford is a member of the Ertverband, a German non-profit organization which reconciles the different water-related interests of the regional stakeholders in the catchment, which contains numerous tributaries and bodies of water along with the 104 km long river. The organization purifies the sewage produced by approximately 750,000 residents as well as that generated by local trade and industry, which is equivalent to a waste load produced by another 450,000 people. Moreover, the Ertverband looks after a fragile natural region and protects the residential areas from flooding. The reach of the organization goes far beyond the Ert watershed. The entire area of activity comprises over 4,220 km ² , covering the region affected by the brown coal mines of the Rhineland. The Ertverband monitors the complex relationships involving water supply and distribution, oversees groundwater resources, ensures the water supply and protects the numerous wetlands. Ford's Cologne and Merkenich facilities are within the purview of the Ertverband.
Statutory special interest groups at a local level	Relevant, always included	Statutory special interest groups at a local level are included in Ford's risk assessments because they can significantly impact Ford's manufacturing operations in their location. In recent years, Ford has been meeting with a variety of groups – such as the Interfaith Center on Corporate Responsibility, the UN Global Compact, the U.S. State Department, Ceres and the Global Water Challenge – to gain a better appreciation of outside stakeholder perspectives. Ford is a member of the Ertverband. Ertverband can be considered to be both a river basin management authority as well as a statutory special interest group at a local level. Ertverband is a German non-profit organization which reconciles the different water-related interests of the regional stakeholders in the catchment, which contains numerous tributaries and bodies of water along with the 104 km long river. The organization purifies the sewage produced by approximately 750,000 residents as well as that generated by local trade and industry, which is equivalent to a waste load produced by another 450,000 people. Moreover, the Ertverband looks after a fragile natural region and protects the residential areas from flooding. The reach of the organization goes far beyond the Ert watershed. The entire area of activity comprises over 4,220 km ² , covering the region affected by the brown coal mines of the Rhineland. The Ertverband monitors the complex relationships involving water supply and distribution, oversees groundwater resources, ensures the water supply and protects the numerous wetlands. Ford's Cologne and Merkenich facilities are within the purview of the Ertverband.
Suppliers	Relevant, always included	Ford purchases water-intensive commodities such as metals, semiconductors, textiles, rubber and plastics, to name a few. In 2018, 214 Ford production and indirect suppliers were asked to report their water management through the CDP Supply Chain's water security questionnaire and we achieved a 73% response rate. The responding suppliers are about 73% of production spend and about 10% of indirect spend, for a total of about 60% of total spend. When selecting suppliers for participation, we considered the risk that lack of available water may have on their operations. For example, we have supplier sites located in South Africa where a recent drought has reduced local water supplies. Therefore, we selected suppliers in that country, as well as others, on the basis of a combination of their water use intensity, their business relationship with Ford and the geographical footprint of their operations, including those in water stressed areas. Another method of engagement with selected suppliers is through the Ford Partnership for a Cleaner Environment (PACE) program. This supply chain sustainability initiative helps minimize the environmental footprint of Ford and our automotive supply chain. Our goal is to teach our suppliers about the energy, water, waste and air emissions reduction opportunities that Ford has implemented across our own plants, encourage them to set reduction targets and report progress annually to Ford. We encourage our suppliers to implement some of these initiatives in their own manufacturing facilities and to share these best practices with their own suppliers, to amplify the responsibility and sustainability impact further down the supply chain. In addition, third-party environmental audits are conducted through the Responsible Business Alliance's validated audit protocol. We also ask selected supplier sites to complete a sustainability self-assessment.

	Relevance & inclusion	Please explain
Water utilities at a local level	Relevant, always included	Ford personnel engage with water utilities during construction and upgrade of facilities to ensure the water supply is sufficient at all Ford global operations. Sites for further analysis are selected based on location in a water stress/scarcce area. At our Chennai site in India and our Chihuahua Engine Plant in Mexico, we use only potable water for domestic use while using treated non-potable water sources in production. At both facilities, we have developed partnerships with local authorities to invest in infrastructure to facilitate the recycling and reuse of treated municipal wastewater. Over 10 years ago in Chihuahua, we began treating externally sourced treated wastewater to achieve 100 percent recycled water for operational uses with potable water for domestic use only. After treating and extracting the recycled water, any final discharge from our recovery system goes to an evaporation lagoon, eliminating any discharge from the site. In 2018, the site was expanded with a new three-pipe water distribution system. This new system uses not only high-quality treated wastewater in production and potable water for domestic use, but also quality treated gray wastewater for use in toilets, which reduces the plant's freshwater demand even further. At Chennai, we utilize wastewater from our own site and treated wastewater from the local supplier park to feed our recycling system. The treated wastewater goes through a three-stage reverse osmosis system, followed by evaporation and crystallization. This maximizes the amount of recycled water we can extract and eliminates any liquid discharge from the facility.
Other stakeholder, please specify	Not considered	There are no other relevant stakeholders.

W3.3d

(W3.3d) Describe your organization's process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.

Ford has reviewed all operations via publicly available tools (Global Water Tool, Aqueduct) to determine which facilities are located in water-scarce regions. Ford also takes into account internal knowledge through monthly meetings of our Global Water Team, which is composed of personnel from around the globe who have responsibility for facility water programs. Using these inputs, Ford developed a water strategy that is able to prioritize addressing water use, supplier water use and community water issues in these water-stressed regions as directed by Ford's water strategy. Ford prioritizes water reduction actions at its facilities located in water stressed areas. For example, at our Chennai site in India and our Chihuahua Engine Plant in Mexico, we use only potable water for domestic use while using treated non-potable water sources in production. At both facilities, we have developed partnerships with local authorities to invest in infrastructure to facilitate the recycling and reuse of treated municipal wastewater.

For supply chain, Ford annually asks selected production and indirect suppliers to respond to the CDP Water Security Supply Chain questionnaire based on the level of water risk determined by a combination of the following factors: 1) the water-intensity of the commodities supplied, and 2) the location of their manufacturing sites. In reviewing site location, the WRI Aqueduct tool and Maplecroft Risk Atlas database are reviewed for current and predicted future water stress (more than 10 years in the future (e.g., 2030 projections)). At selected supplier sites, third-party environmental audits are conducted through the Responsible Business Alliance (RBA). Ford also asks selected supplier sites to complete a sustainability self-assessment questionnaire to better evaluate the water-related risks within our supply chain. The results of the self-assessment questionnaire are one factor in determining whether an on-site audit should be performed at the supplier facility.

W4. Risks and opportunities

W4.1

(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes, both in direct operations and the rest of our value chain

W4.1a

(W4.1a) How does your organization define substantive financial or strategic impact on your business?

We define substantive financial and strategic impact as a situation or circumstance which compromises our ability to manufacture and sell vehicles, which can include disruptions to Ford's manufacturing operations or our suppliers' manufacturing operations. Our analysis of Ford operations shows that some of our facilities are located in regions where water supplies are already scarce. Global climate change also has the potential to further impact the quality and availability of water. We cannot be certain that we will always have access to water of the quantity and quality that our operations require. Our water strategy puts primary emphasis on our plants located in areas of water scarcity.

Ford is committed to conserving water and using it responsibly. We will address water challenges internally within our own operations and externally in communities where we operate and throughout our supply chain. We have committed to measureable actions to support our global water strategy.

In deciding which facilities and which basins concern Ford, aggregate scores from the Global Water Tool (subwatershed level) were used alongside internal knowledge of specific facilities and local watersheds. If a facility had a high risk or projected risk by the tools, it was listed. The operating facilities listed as "substantive" had to have a high stress or risk and have a production or support production of greater than 1% of global relevant production (vehicle, engines, or transmissions). This definition of risk applies to Ford's direct operations. For example, losing production at a Ford assembly plant, which would amount to greater than 1% of total vehicle production, would be a substantive financial and strategic impact on our business.

For supply chain, we utilized the following methodology to determine water risks that could generate a potential impact to our supply chain. Suppliers are selected to participate in the CDP Supply Chain water questionnaire based on a combination of factors including those that supply water-intensive commodities, those with operations in water-stressed areas (as determined using the Aqueduct Water Risk Atlas and Maplecroft tool) and their business relationship with Ford. We repeat our assessment of selected suppliers in light of developments in these three areas on an annual basis. For this outreach, the threshold for "substantive" is if a supplier supplying greater than 0.1% of production spend has sites located in water stressed areas. In some cases, suppliers who fall below this general threshold may be selected for participation due to other potential risk factors. The ongoing data obtained through the CDP surveys has helped us identify "hotspots" for GHG emissions and water use. These suppliers have been targeted to participate in the Partnership for a Cleaner Environment (PACE) program whereby Ford will share leading practices for water use reductions with these suppliers, work with them to set reduction targets and reduce our collective environmental footprint.

For example, when we built the Sanand Assembly and Engine Plants in India, we recognized that this facility would be in a water-stressed area and that there was no municipal water supply available for employees. Lack of safe water for employees to drink was a substantive potential impact. Ford constructed a water bottling plant that treated and bottled water from the Narmada Canal so that employees would have safe water to drink. This project received one of Ford's 2015 President's Health and Safety Awards for "Excellence in Health".

W4.1b

(W4.1b) What is the total number of facilities exposed to water risks with the potential to have a substantive financial or strategic impact on your business, and what proportion of your company-wide facilities does this represent?

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	14	1-25	

W4.1c

(W4.1c) By river basin, what is the number and proportion of facilities exposed to water risks that could have a substantive impact on your business, and what is the potential business impact associated with those facilities?

Country/Region

India

River basin

Other, please specify (Palar and other sub-basin)

Number of facilities exposed to water risk

2

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

Country/Region

India

River basin

Other, please specify (Sabarmati River)

Number of facilities exposed to water risk

2

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

Country/Region

Mexico

River basin

Bravo

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

Country/Region

Mexico

River basin

Panuco

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

Country/Region

Mexico

River basin

Other, please specify (Yaqui)

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

Country/Region

Turkey

River basin

Sakarya

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

Country/Region

Turkey

River basin

Other, please specify (Kocaeli (Marmara))

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

Country/Region

South Africa

River basin

Other, please specify (South African Coast (Swartkops River))

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

Country/Region

South Africa

River basin

Limpopo

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

Country/Region

Spain

River basin

Other, please specify (Jucar)

Number of facilities exposed to water risk

2

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

Country/Region

Mexico

River basin

Santiago

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

W4.2

(W4.2) Provide details of identified risks in your direct operations with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

Country/Region

Mexico

River basin

Panuco

Type of risk

Physical

Primary risk driver

Increased water stress

Primary potential impact

Reduction or disruption in production capacity

Company-specific description

Ford's manufacturing facility in Cuautitlán, Mexico, is already subject to water-withdrawal limitations. The Cuautitlán plant produced over 66,000 vehicles in 2018, or 2% of North American production. If Cuautitlán production was stopped due to the unavailability of water, 2% of 2018 North American income before taxes could be lost. This could potentially amount to over \$176 million over the course of a year.

Timeframe

4 - 6 years

Magnitude of potential impact

High

Likelihood

Likely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

176000000

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

Ford's manufacturing facility in Cuautitlán, Mexico, is already subject to water-withdrawal limitations. The Cuautitlán plant produced over 66,000 vehicles in 2018, or 2% of North American production. If Cuautitlán production was stopped due to the unavailability of water, 2% of 2018 North American income before taxes could be lost. This could potentially amount to over \$176 million over the course of a year.

Primary response to risk

Adopt water efficiency, water re-use, recycling and conservation practices

Description of response

Ford has undertaken several projects at its Cuautitlan Stamping and Assembly Plant (CSAP) in Mexico over the past five years, in response to increasing water stress in the area. A reverse osmosis (RO) and ultrafiltration (UF) system has been installed. CSAP has completed a project to use RO water in the cooling towers within the plant. Gray water is purchased from other water users in the area, for use in the facility. The plant has also installed a separate piping system for drinking water, so that it is only used for human consumption and not for manufacturing processes within the plant. CSAP has also replaced the asphalt and parking lots within the plant with ecological concrete, which allows rain to reenter the ground. This recharges the aquifer beneath the plant and helps prevent water scarcity in the city. The plant renovated an area of more than 9,700 square meters with ecological concrete, allowing the absorption of as much as 7.5 million liters of water per year.

Cost of response

1725000

Explanation of cost of response

The reverse osmosis and ultrafiltration system accounted for the vast majority of the cost (1.2 million dollars) as this technology is quite expensive. This is a one-time cost. The cost of the ecological concrete was 525,000 dollars. This is also a one-time cost.

W4.2a

(W4.2a) Provide details of risks identified within your value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

Country/Region

China

River basin

Other, please specify (Multiple river basins including Yangtze)

Stage of value chain

Supply chain

Type of risk

Regulatory

Primary risk driver

Regulation of discharge quality/volumes

Primary potential impact

Supply chain disruption

Company-specific description

Recently, China has implemented a strict enforcement of environmental regulations and permits due to national environmental pollution concerns. As a result, a number of companies have had production stoppages. The impact affects Ford's value chain due to the water-intensive nature of some automotive commodities produced by our supply chain. In 2017, there were two instances of Ford sub-tier supplier sites that were affected by the crackdown which had the potential to affect our value chain due to their supplying of automotive parts. The impact was identified through discussions with the Ford Tier 1 supplier who owns the contract with the sub-tier supplier. Immediate reaction by Ford and the Tier 1 supplier protected production at Ford plants.

Timeframe

Current - up to 1 year

Magnitude of potential financial impact

Medium-low

Likelihood

About as likely as not

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

0

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

The potential financial impact is reported for 2017 based on the fact that the supply disruption did not materialize, as production was shifted to other supplier sites.

Primary response to risk

Map supplier water risk

Description of response

As a result of the environmental crackdown, Ford is continuing to develop a risk management strategy which includes information from internal databases, including supplier site location, and externally available data regarding water scarcity, pollution control, among others. Our primary response to this risk is that we use the information from external databases, such as Aqueduct and Maplecroft to map the supplier water risk and identify 'hotspots'. Ford is a member of the Responsible Business Alliance (RBA) and environmental audits are conducted at selected supplier sites to review environmental compliance and mitigate risk involving water quality and stormwater control. Selected supplier sites are also requested to complete a sustainability self-assessment questionnaire. The results of the self-assessment questionnaire are one factor in determining whether an on-site audit should be performed at the supplier facility.

Cost of response

0

Explanation of cost of response

The cost of the response is estimated on the basis of developing a risk management strategy which is included in current staff responsibilities and we expect this to be an ongoing activity.

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes, we have identified opportunities, and some/all are being realized

W4.3a

(W4.3a) Provide details of opportunities currently being realized that could have a substantive financial or strategic impact on your business.

Type of opportunity

Efficiency

Primary water-related opportunity

Improved water efficiency in operations

Company-specific description & strategy to realize opportunity

Ford's global water strategy calls for company-wide actions which include implementation of water efficiency projects. One example of how the company is realizing this opportunity can be found in Ford's work with Nalco Water to cut water consumption in cooling towers and pre-treatment baths at its Chicago assembly plant. Cooling towers consume large quantities of water and have operational challenges like scaling, corrosion, fouling and biological growth — all of which impact water use. Pre-treatment baths are where metal is treated before it is painted — a process that also consumes a lot of water. Ford wanted to continuously monitor water overflow when the baths were refilled. Nalco Water installed 3D TRASAR™ Water Saver Technology, a digital “connected chemistries” solution, to optimize cooling tower performance. The system is continuously monitored by the Ecolab System Assurance Center, which provides real-time resolution of problems. Real-time visibility to water flow data plus instant alerts regarding flow-related issues helps ensure water savings and process efficiency. Previously, problem identification and resolution could take days or even months. Nalco Water is working with Ford to implement technology that will potentially lead to a significant reduction in water use by recycling phosphate rinse water. The plant is developing processes to enable reuse of a portion of the pre-treatment process water.

Estimated timeframe for realization

1 to 3 years

Magnitude of potential financial impact

High

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

186000

Potential financial impact figure – maximum (currency)

667000

Explanation of financial impact

Financial savings from reduced water use is equivalent to more than \$186,000 per year. This savings was calculated using the cost of water in the area. There is potential to save an additional \$481,000 through recycling phosphate rinse water.

W5. Facility-level water accounting

W5.1

(W5.1) For each facility referenced in W4.1c, provide coordinates, total water accounting data and comparisons with the previous reporting year.

Facility reference number

Facility 1

Facility name (optional)

Chennai Assembly

Country/Region

India

River basin

Other, please specify (Palar)

Latitude

12.78124

Longitude

80.01538

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

200.87

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

0

Comparison of discharges with previous reporting year

About the same

Total water consumption at this facility (megaliters/year)

200.87

Comparison of consumption with previous reporting year

Lower

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 2

Facility name (optional)

Chennai Engine

Country/Region

India

River basin

Other, please specify (Palar)

Latitude

12.7792

Longitude

80.01261

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

13.1

Comparison of withdrawals with previous reporting year

Much lower

Total water discharges at this facility (megaliters/year)

0

Comparison of discharges with previous reporting year

About the same

Total water consumption at this facility (megaliters/year)

13.1

Comparison of consumption with previous reporting year

Much lower

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower". Production at Chennai Engine Plant decreased by 48% from 2017 to 2018, resulting in much lower consumption of water.

Facility reference number

Facility 3

Facility name (optional)

Chihuahua Engine

Country/Region

Mexico

River basin

Bravo

Latitude

28.7116

Longitude

-106.126

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

215.26

Comparison of withdrawals with previous reporting year

Much higher

Total water discharges at this facility (megaliters/year)

60

Comparison of discharges with previous reporting year

Higher

Total water consumption at this facility (megaliters/year)

155.26

Comparison of consumption with previous reporting year

Much higher

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 4

Facility name (optional)

Cuautitlan Stamping and Assembly

Country/Region

Mexico

River basin

Panuco

Latitude

19.64512

Longitude

-99.1899

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

73.28

Comparison of withdrawals with previous reporting year

Much lower

Total water discharges at this facility (megaliters/year)

36.03

Comparison of discharges with previous reporting year

Much lower

Total water consumption at this facility (megaliters/year)

37.25

Comparison of consumption with previous reporting year

Much lower

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower". Production at Cuautitlan Stamping & Assembly decreased by 4% from 2017 to 2018.

Facility reference number

Facility 5

Facility name (optional)

Hermosillo Stamping and Assembly

Country/Region

Mexico

River basin

Yaqui

Latitude

29.0133

Longitude

-110.917

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

433.64

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

270.21

Comparison of discharges with previous reporting year

Lower

Total water consumption at this facility (megaliters/year)

163.43

Comparison of consumption with previous reporting year

Lower

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower". Production at Hermosillo Stamping & Assembly decreased by 12% from 2017 to 2018.

Facility reference number

Facility 6

Facility name (optional)

Inonu Engine

Country/Region

Turkey

River basin

Sakarya

Latitude

39.84228

Longitude

30.11987

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

62.79

Comparison of withdrawals with previous reporting year

Much lower

Total water discharges at this facility (megaliters/year)

55.65

Comparison of discharges with previous reporting year

Lower

Total water consumption at this facility (megaliters/year)

7.14

Comparison of consumption with previous reporting year

Much lower

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower". Production at Inonu Engine decreased by 47% from 2017 to 2018..

Facility reference number

Facility 7

Facility name (optional)

Kocaeli Site

Country/Region

Turkey

River basin

Other, please specify (Kocaeli (Mamara))

Latitude

40.7187

Longitude

29.85041

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

894.72

Comparison of withdrawals with previous reporting year

About the same

Total water discharges at this facility (megaliters/year)

224.72

Comparison of discharges with previous reporting year

About the same

Total water consumption at this facility (megaliters/year)

670

Comparison of consumption with previous reporting year

About the same

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower". Production at the Kocaeli site was about the same from 2017 to 2018.

Facility reference number

Facility 8

Facility name (optional)

Port Elizabeth Engine

Country/Region

South Africa

River basin

Other, please specify (South African Coast (Swartkops River))

Latitude

-33.8953

Longitude

25.5789

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

18.45

Comparison of withdrawals with previous reporting year

About the same

Total water discharges at this facility (megaliters/year)

1.3

Comparison of discharges with previous reporting year

Lower

Total water consumption at this facility (megaliters/year)

17.15

Comparison of consumption with previous reporting year

About the same

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 9

Facility name (optional)

Pretoria Assembly

Country/Region

South Africa

River basin

Limpopo

Latitude

-25.7369

Longitude

28.32711

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

478.94

Comparison of withdrawals with previous reporting year

About the same

Total water discharges at this facility (megaliters/year)

269.74

Comparison of discharges with previous reporting year

Higher

Total water consumption at this facility (megaliters/year)

209.2

Comparison of consumption with previous reporting year

About the same

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 10

Facility name (optional)

Sanand Assembly

Country/Region

India

River basin

Other, please specify (Sabarmati River)

Latitude

23.0013

Longitude

72.26167

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

395

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

143.15

Comparison of discharges with previous reporting year

About the same

Total water consumption at this facility (megaliters/year)

251.85

Comparison of consumption with previous reporting year

Much lower

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 11

Facility name (optional)

Sanand Engine

Country/Region

India

River basin

Other, please specify (Sabarmati River)

Latitude

23.0013

Longitude

72.26167

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

18.28

Comparison of withdrawals with previous reporting year

Higher

Total water discharges at this facility (megaliters/year)

0.46

Comparison of discharges with previous reporting year

Much higher

Total water consumption at this facility (megaliters/year)

17.82

Comparison of consumption with previous reporting year

About the same

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 12

Facility name (optional)

Valencia Assembly

Country/Region

Spain

River basin

Other, please specify (Jucar)

Latitude

39.31976

Longitude

-0.41688

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

1212.27

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

630.02

Comparison of discharges with previous reporting year

Lower

Total water consumption at this facility (megaliters/year)

582.25

Comparison of consumption with previous reporting year

Lower

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 13

Facility name (optional)

Valencia Engine

Country/Region

Spain

River basin

Other, please specify (Jucar)

Latitude

39.31976

Longitude

-0.41688

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

59.3

Comparison of withdrawals with previous reporting year

Much lower

Total water discharges at this facility (megaliters/year)

13.52

Comparison of discharges with previous reporting year

Higher

Total water consumption at this facility (megaliters/year)

45.78

Comparison of consumption with previous reporting year

Much lower

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 14

Facility name (optional)

Irapuato Transmission

Country/Region

Mexico

River basin

Santiago

Latitude

20.78511

Longitude

-101.343

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

69.6

Comparison of withdrawals with previous reporting year

Much higher

Total water discharges at this facility (megaliters/year)

22.74

Comparison of discharges with previous reporting year

Much higher

Total water consumption at this facility (megaliters/year)

46.86

Comparison of consumption with previous reporting year

Much higher

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower". 2018 was the first full year of production at Irapuato Transmission.

W5.1a

(W5.1a) For each facility referenced in W5.1, provide withdrawal data by water source.

Facility reference number

Facility 1

Facility name

Chennai Assembly

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

37.8

Produced/Entrained water

0

Third party sources

163.07

Comment

Facility reference number

Facility 2

Facility name

Chennai Engine

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

2.88

Produced/Entrained water

0

Third party sources

10.22

Comment

Facility reference number

Facility 3

Facility name

Chihuahua Engine

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

215.26

Comment

Facility reference number

Facility 4

Facility name

Cuautitlan Stamping and Assembly

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

73.28

Produced/Entrained water

0

Third party sources

0

Comment

Facility reference number

Facility 5

Facility name

Hermosillo Stamping and Assembly

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

89.73

Produced/Entrained water

0

Third party sources

343.91

Comment

Facility reference number

Facility 6

Facility name

Inonu Engine

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

62.79

Produced/Entrained water

0

Third party sources

0

Comment

Facility reference number

Facility 7

Facility name

Kocaeli Site

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

894.72

Produced/Entrained water

0

Third party sources

0

Comment

Facility reference number

Facility 8

Facility name

Port Elizabeth Engine

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

18.45

Comment

Facility reference number

Facility 9

Facility name

Pretoria Assembly

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

478.94

Comment

Facility reference number

Facility 10

Facility name

Sanand Assembly

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

395

Comment

Facility reference number

Facility 11

Facility name

Sanand Engine

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

18.28

Comment

Facility reference number

Facility 12

Facility name

Valencia Assembly

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

1212.27

Comment

Facility reference number

Facility 13

Facility name

Valencia Engine

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

59.3

Comment

Facility reference number

Facility 14

Facility name

Irapuato Transmission

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

69.6

Comment

W5.1b

(W5.1b) For each facility referenced in W5.1, provide discharge data by destination.

Facility reference number

Facility 1

Facility name

Chennai Assembly

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

The Ford Chennai Assembly Plant is a zero liquid discharge (ZLD) facility. A ZLD plant does not discharge any process or sanitary water. Treatment methods vary somewhat but they must all deal with sewage and salts and hence they all have both a biological treatment and a reverse osmosis treatment component. Reuse goes to process equipment.

Facility reference number

Facility 2

Facility name

Chennai Engine

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

The Ford Chennai Engine Plant is a zero liquid discharge (ZLD) facility. A ZLD plant does not discharge any process or sanitary

water. Treatment methods vary somewhat but they must all deal with sewage and salts and hence they all have both a biological treatment and a reverse osmosis treatment component. Reuse goes to process equipment.

Facility reference number

Facility 3

Facility name

Chihuahua Engine

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

60

Third party destinations

0

Comment

All water discharge from the Ford Chihuahua Engine Plant goes to irrigation, and therefore groundwater.

Facility reference number

Facility 4

Facility name

Cuautitlan Stamping and Assembly

Fresh surface water

11.61

Brackish surface water/Seawater

0

Groundwater

24.42

Third party destinations

0

Comment

Facility reference number

Facility 5

Facility name

Hermosillo Stamping and Assembly

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

11.85

Third party destinations

258.36

Comment

Facility reference number

Facility 6

Facility name

Inonu Engine

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

55.65

Comment

Facility reference number

Facility 7

Facility name

Kocaeli Site

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

224.72

Comment

Facility reference number

Facility 8

Facility name

Port Elizabeth Engine

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

1.3

Comment

Facility reference number

Facility 9

Facility name

Pretoria Assembly

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

269.74

Comment

Facility reference number

Facility 10

Facility name

Sanand Assembly

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

143.15

Comment

Facility reference number

Facility 11

Facility name

Sanand Engine

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0.46

Comment

Facility reference number

Facility 12

Facility name

Valencia Assembly

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

630.02

Comment

Facility reference number

Facility 13

Facility name

Valencia Engine

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

13.52

Comment

Facility reference number

Facility 14

Facility name

Irapuato Transmission

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

22.74

Third party destinations

0

Comment

W5.1c

(W5.1c) For each facility referenced in W5.1, provide the proportion of your total water use that is recycled or reused, and give the comparison with the previous reporting year.

Facility reference number

Facility 1

Facility name

Chennai Assembly

% recycled or reused

51-75%

Comparison with previous reporting year

<Not Applicable>

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 2

Facility name

Chennai Engine

% recycled or reused

None

Comparison with previous reporting year

<Not Applicable>

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower". The Ford Chennai Engine facility reuse volumes are included in the Ford Chennai Assembly facility reuse volumes.

Facility reference number

Facility 3

Facility name

Chihuahua Engine

% recycled or reused

26-50%

Comparison with previous reporting year

<Not Applicable>

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 4

Facility name

Cuautitlan Stamping and Assembly

% recycled or reused

51-75%

Comparison with previous reporting year

<Not Applicable>

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 5

Facility name

Hermosillo Stamping and Assembly

% recycled or reused

11-25%

Comparison with previous reporting year

<Not Applicable>

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 6

Facility name

Inonu Engine

% recycled or reused

None

Comparison with previous reporting year

<Not Applicable>

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 7

Facility name

Kocaeli Site

% recycled or reused

None

Comparison with previous reporting year

<Not Applicable>

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 8

Facility name

Port Elizabeth Engine

% recycled or reused

None

Comparison with previous reporting year

<Not Applicable>

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 9

Facility name

Pretoria Assembly

% recycled or reused

1-10%

Comparison with previous reporting year

<Not Applicable>

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 10

Facility name

Sanand Assembly

% recycled or reused

51-75%

Comparison with previous reporting year

<Not Applicable>

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 11

Facility name

Sanand Engine

% recycled or reused

26-50%

Comparison with previous reporting year

<Not Applicable>

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 12

Facility name

Valencia Assembly

% recycled or reused

None

Comparison with previous reporting year

<Not Applicable>

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 13

Facility name

Valencia Engine

% recycled or reused

None

Comparison with previous reporting year

<Not Applicable>

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

Facility reference number

Facility 14

Facility name

Irapuato Transmission

% recycled or reused

26-50%

Comparison with previous reporting year

<Not Applicable>

Please explain

Year-to-year changes of less than 5% were considered "about the same." Year-to-year changes between 5% and 15 % were considered "higher"/"lower". Year-to-year changes over 15% were considered "much higher"/"much lower".

W5.1d

(W5.1d) For the facilities referenced in W5.1, what proportion of water accounting data has been externally verified?

Water withdrawals – total volumes

% verified

Not verified

What standard and methodology was used?

N/A

Water withdrawals – volume by source

% verified

Not verified

What standard and methodology was used?

N/A

Water withdrawals – quality

% verified

Not verified

What standard and methodology was used?

N/A

Water discharges – total volumes

% verified

Not verified

What standard and methodology was used?

N/A

Water discharges – volume by destination

% verified

Not verified

What standard and methodology was used?

N/A

Water discharges – volume by treatment method

% verified

Not verified

What standard and methodology was used?

N/A

Water discharge quality – quality by standard effluent parameters

% verified

Not verified

What standard and methodology was used?

N/A

Water discharge quality – temperature

% verified

Not verified

What standard and methodology was used?

N/A

Water consumption – total volume

% verified

Not verified

What standard and methodology was used?

N/A

Water recycled/reused

% verified

Not verified

What standard and methodology was used?

N/A

W6. Governance

W6.1

(W6.1) Does your organization have a water policy?

Yes, we have a documented water policy that is publicly available

W6.1a

(W6.1a) Select the options that best describe the scope and content of your water policy.

Row	Scope	Content	Please explain
1	Company-wide	Description of business dependency on water Description of business impact on water Description of water-related performance standards for direct operations Description of water-related standards for procurement Reference to international standards and widely-recognized water initiatives Company water targets and goals Commitment to align with public policy initiatives, such as the SDGs Commitments beyond regulatory compliance Commitment to water-related innovation Commitment to stakeholder awareness and education Commitment to water stewardship and/or collective action Acknowledgement of the human right to water and sanitation Recognition of environmental linkages, for example, due to climate change	Ford has a corporate water policy and strategy, which includes its direct operations, supply chain, customers, and employees, to name just some of the affected stakeholders. Ford has water targets and goals for its own operations, and treats regulatory compliance as a minimum requirement. Best practices from Ford's operations are shared with suppliers. Ford is a signatory to the UN CEO Water Mandate and has incorporated the elements of the Mandate into its water policy, with particular attention to transparency. Ford has publicly acknowledged the human right to water, and through the Bill Ford Better World Challenge and the Ford Volunteer Corps, is providing WASH services in projects around the world. Ford is also a signatory to the "Improve Water Security" initiative of the Business Alliance for Water and Climate. Our customers and employees are engaged through social media and internal communications channels, through which Ford shares water-saving ideas.

W6.2

(W6.2) Is there board level oversight of water-related issues within your organization?

Yes

W6.2a

(W6.2a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for water-related issues.

Position of individual	Please explain
Board-level committee	<p>Comprised of 9 Directors, the Sustainability and Innovation Committee meets at least three times a year and evaluates and advises on the pursuit of innovative practices and technologies that improve environmental and social sustainability making water within this committee's purview. The principal functions of the Committee include advising on the development of strategies, policies, and practices that assist the Company in addressing public sentiment and shaping policy in the areas of energy, climate change, emissions, waste disposal, and water use (including water-related climate impacts); maintaining and improving sustainability strategies to create value consistent with the long-term preservation and enhancement of shareholder value and social well-being, including human rights, working conditions, and responsible sourcing; and reviewing trends in global mobility areas such as mobility infrastructure, vehicle ownership and business models, vehicle connectivity, and automation in order to help provide accessible, personal mobility throughout the world. . The Committee is responsible to annually review the Sustainability Report Summary and Company initiatives related to innovation. The Committee reports regularly to the Board (i) following meetings of the Committee, (ii) with respect to such other matters as are relevant to the Committee's discharge of its responsibilities and (iii) with respect to such recommendations as the Committee may deem appropriate. The CSO briefs the Committee.</p>

W6.2b

(W6.2b) Provide further details on the board's oversight of water-related issues.

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - some meetings	Providing employee incentives Reviewing and guiding business plans Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy Reviewing innovation/R&D priorities Other, please specify (Review of Sustainability Report)	<p>(1) Providing employee incentives: The Compensation Committee of the Board of Directors approved the specific performance goals and business criteria to be used for purposes of determining the cash awards for 2018 participants, including executive officers, under the Company's shareholder-approved Annual Incentive Compensation Plan. The Corporate performance criteria and weightings used for 2018 under the plan include climate change related water impacts. (2) Reviewing and guiding business plans. Business plans can have significant ramifications for climate and water (for example, building a new plant), and water-related issues are integrated into this governance mechanism. (3) Reviewing and guiding major plans of action. Major plans of action often have climate and water impacts, and are reviewed by appropriate committees of the Board, including the Sustainability & Innovation Committee. (4) Reviewing and guiding risk management policies. Climate change risks, which also include water risks, are part of the Company's overall risk management, not only within its own operation but also within its value chain. (5) Reviewing and guiding strategy. Climate and water impacts are considered in the development of the Company's strategies, which are reviewed by the Board. (6) Reviewing and guiding corporate responsibility strategy. Ford has a corporate water strategy, which is regularly updated and then reviewed by the Sustainability & innovation Committee. (7) Reviewing innovation/R&D priorities. The Sustainability & Innovation Committee considers product and process innovations, many of which include water saving technologies. (8) Other: Reviewing the annual Sustainability Report. Water use and related water issues are featured prominently in the Company's annual Sustainability Report, and the Sustainability and Innovation Committee reviews this report each year prior to publication.</p>

W6.3

(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).

Name of the position(s) and/or committee(s)

Chief Sustainability Officer (CSO)

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

Quarterly

Please explain

The highest ranking Company Officer directly responsible for water related issues is the Chief Sustainability Officer who is also the Group Vice President, Sustainability, Environment and Safety Engineering (SE and SE GVP). The SE and SE GVP reports to the President, Automotive, who reports to the President and CEO. As the CSO, the SE and SE GVP chairs the Board Sustainability and Innovation Committee (which meets at least three times a year) and coordinates topics for review by the Committee. Topics reviewed by the committee include the Sustainability Strategies, one of which is the corporate water strategy. The corporate water strategy includes targets for supply chain and operations.

W6.5

(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?

Yes, direct engagement with policy makers

Yes, other

W6.5a

(W6.5a) What processes do you have in place to ensure that all of your direct and indirect activities seeking to influence policy are consistent with your water policy/water commitments?

Ford's Environmental Quality Office is responsible for Ford's water policy and water commitments. Any engagements with regulatory agencies on rulemakings related to water use within our operations would be done by personnel within the Environmental Quality Office and thus consistency with the water policy and water commitments is assured.

Ford also engages with external industry organizations such as the Automotive Industry Action Group (www.aiag.org) and Suppliers Partnership for the Environment (www.supplierspartnership.org), in an effort to share water best practices with other automotive manufacturers and suppliers. Environmental Quality Office personnel also support Ford's work with the Automotive Industry Action Group and Suppliers Partnership for the Environment, so consistency with water policy and water commitments is assured.

Ford also engages with GRI, the UN CEO Water Mandate, and other NGOs with a focus on water. It is critical that Ford engage with the NGOs developing the standards for water reporting. There is a risk that water definitions proposed by NGOs may be inconsistent with Ford's water policy and disincentivize water reuse and recycling by facilities, if definitions are not crafted with a knowledge of industrial operations. Ford works with these organizations to make its positions known.

If an inconsistency were discovered, the matter would be taken to the appropriate management and any necessary changes would be made.

W6.6

(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?

No, and we have no plans to do so

W7. Business strategy

W7.1

(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	> 30	Ford has established an aspirational goal of using potable water only for human consumption, on the way to a final aspirational goal of zero water withdrawal for manufacturing processes. These are long term goals (beyond 30 years). These goals are in keeping with Ford's commitment to the UN CEO Water Mandate and our acknowledgement of the human right to water. To help us reduce our water consumption, we're introducing more water efficient processes and technologies such as a data monitoring center to better measure our water use. The Flat Rock Assembly Plant in Michigan has installed a system that allows the plant to reuse their wastewater treatment plant effluent in the paint shop. At full production, this system has the potential to save approximately 60 million gallons of freshwater per year. Ford anticipates increasing water scarcity in the future, so water reuse is vitally important and this also moves Ford closer to its goal of using no freshwater in its manufacturing processes.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	> 30	Ford has established an aspirational goal of using potable water only for human consumption, on the way to a final aspirational goal of zero water withdrawal for manufacturing processes. These are long term goals (beyond 30 years). These goals are in keeping with Ford's commitment to the UN CEO Water Mandate and our acknowledgement of the human right to water. Our strategy to achieve our aspirational goals is focused on those facilities located in water-scarce and water-stressed areas, so as to have the most beneficial impact on Ford's own operations and on water availability in the communities surrounding our operations. To help us reduce our water consumption, we're introducing more water efficient processes and technologies such as a data monitoring center to better measure our water use. The Flat Rock Assembly Plant in Michigan has installed a system that allows the plant to reuse their wastewater treatment plant effluent in the paint shop. At full production, this system has the potential to save approximately 60 million gallons of water per year. Ford anticipates increasing water scarcity in the future, so water reuse is vitally important and this also moves Ford closer to its goal of using no freshwater in its manufacturing processes.
Financial planning	Yes, water-related issues are integrated	> 30	Ford has established an aspirational goal of using potable water only for human consumption, on the way to a final aspirational goal of zero water withdrawal for manufacturing processes. These are long term goals (beyond 30 years). Our strategy to achieve our aspirational goals is focused on those facilities located in water-scarce and water-stressed areas, so as to have the most beneficial impact on Ford's own operations and on water availability in the communities surrounding our operations. We will focus our financial investments on these facilities, as these locations are where we expect the cost of water to increase the most. For example, our Sanand vehicle assembly and engine plants in India, which are located in a water stressed area, have one of Ford's largest and most advanced water and wastewater treatment facilities. After being treated, 30 to 35 percent of gray water from office washrooms, canteen and manufacturing operations is recycled for use in the paint shop and other processes. We have invested in a fully automatic irrigation system, enabling us to use the remainder of the treated wastewater to maintain lawns and planting, further reducing our freshwater consumption. The system irrigates the green spaces at regular intervals depending on the climatic conditions. 100% of treated gray water at our Sanand facility is recycled and reused within the property.

W7.2

(W7.2) What is the trend in your organization’s water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

Row 1

Water-related CAPEX (+/- % change)

Anticipated forward trend for CAPEX (+/- % change)

Water-related OPEX (+/- % change)

Anticipated forward trend for OPEX (+/- % change)

Please explain

Ford does have capital and operating expenditures related to water, however capital and operating expenditures specific to water are not listed separately from other environmental capital and operating expenditures.

W7.3

(W7.3) Does your organization use climate-related scenario analysis to inform its business strategy?

	Use of climate-related scenario analysis	Comment
Row 1	Yes	In June 2019, Ford published a stand-alone climate change scenario report which complements our annual sustainability report and provides stakeholders with Ford's perspective on the risks and opportunities associated with climate change. It addresses Ford's vision of new mobility solutions that will contribute to a low-carbon future. Ford engaged an outside consultant with experience in the oil, gas and automotive industries, and an expert in Scenario Planning and the Ceres Oil and Gas 2 Degree Scenario Analysis Framework, to create scenarios that were diverse, distinct and expansive.

W7.3a

(W7.3a) Has your organization identified any water-related outcomes from your climate-related scenario analysis?

Yes

W7.3b

(W7.3b) What water-related outcomes were identified from the use of climate-related scenario analysis, and what was your organization’s response?

	Climate-related scenario(s)	Description of possible water-related outcomes	Company response to possible water-related outcomes
Row 1	2DS	Water-related outcomes include extreme weather events, natural disasters, rising sea levels, droughts and water shortages.	We also evaluate our water strategy to align with core elements of the CEO Water Mandate, a public-private initiative launched by the United Nations Secretary General in 2007. We developed our strategy to prioritize addressing our water use and community water issues in water-stressed regions. About a quarter of our global operations are located in regions that are now or will be considered at risk for water scarcity by 2025. We have also been adding substantial new water management systems by updating and replacing equipment in areas where water is scarcer. In Pretoria, South Africa, for example, a \$2.5 million capital investment in an on-site wastewater treatment facility at the Silverton Assembly Plant is increasing the amount of water that may be reused by up to 15 percent. Our newest plants are set to use advanced technologies such as membrane biological reactors and reverse osmosis processes to recycle water from our on-site wastewater treatment plants in arid regions such as Chihuahua and Hermosillo, Mexico; Chennai, India and Chongqing, China.

W7.4

(W7.4) Does your company use an internal price on water?

Row 1

Does your company use an internal price on water?

No, but we are currently exploring water valuation practices

Please explain

Ford has used the Water Risk Monetizer, developed by Ecolab in partnership with Trucost and Microsoft, to examine some of its operations. Ford has provided input to Ecolab and Trucost on Water Risk Monetizer developments. Ford continues to look for ways to incorporate the "true cost of water" into its water strategy and decision-making.

W8. Targets

W8.1

(W8.1) Describe your approach to setting and monitoring water-related targets and/or goals.

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Company-wide targets and goals Business level specific targets and/or goals Site/facility specific targets and/or goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	At Ford, we have focused on reducing our water impacts since 2000 when we first began setting year-over-year reduction targets as part of our Global Water Management Initiative. Ford launched its first global manufacturing water strategy in 2010, establishing a goal of a 30 percent reduction in water use per vehicle produced at Ford global manufacturing facilities, from 2009 to 2015. The strategy and target were established by a cross-functional global team including personnel from our plants and central staffs. The team surveyed the global landscape and examined regulations, water stress and many other aspects of the current and future landscape in developing the strategy and targets. Global targets are then cascaded to the regional and plant levels. Progress to targets is reviewed at regular meetings with senior management to ensure progress and accountability. We reached our 2015 target in 2013, two years early. We have established a new water target of 30% per vehicle reduction in water use from 2015 to 2020. Our aspirational goal is to use zero potable water in manufacturing processes, followed by an ultimate goal of zero water withdrawal for manufacturing processes.

W8.1a

(W8.1a) Provide details of your water targets that are monitored at the corporate level, and the progress made.

Target reference number

Target 1

Category of target

Water withdrawals

Level

Company-wide

Primary motivation

Reduced environmental impact

Description of target

Ford has a target of 30% reduction in water use per vehicle produced by 2020, as compared to base year of 2015. The target was determined by a global cross-functional team, which examined the regulatory landscape, risks and opportunities, regional and local water scarcity, and many other influences. The global target has been cascaded to the regional and plant level, and these metrics are reported regularly to senior management. We place particular emphasis on reducing our usage of freshwater because it is the main source of drinking water. We're doing this through a combination of reduced consumption, utilizing non-water-based technologies and tapping into alternative sources such as other companies' wastewater. Our 2020 target, to reduce water use per vehicle produced by 30 percent from 2015 to 2020, represents a significant challenge but it's a vital step forward if we are to manufacture vehicles without withdrawing any drinkable water.

Quantitative metric

% reduction in total water withdrawals

Baseline year

2015

Start year

2015

Target year

2020

% achieved

11

Please explain

In 2015, Ford withdrew 3.87 cubic meters per vehicle produced. In 2018, Ford withdrew 3.74 cubic meters per vehicle produced.

W8.1b

(W8.1b) Provide details of your water goal(s) that are monitored at the corporate level and the progress made.

Goal

Other, please specify (Zero potable water use in manufacturing)

Level

Company-wide

Motivation

Water stewardship

Description of goal

In conjunction with the water intensity reduction target, the company has set a goal to have potable water sources for human use only at new sites in water scarce locations, with a view to eventually expand to all Company locations. This goal is important to Ford because we acknowledge the human right to water. Ford has 14 manufacturing facilities located in water stressed areas. At a number of these facilities, we have developed partnerships with local authorities to invest in infrastructure to facilitate the recycling and reuse of treated municipal wastewater. Ford has set an aspirational goal of zero potable water use in manufacturing processes, on the way to zero water withdrawal for manufacturing processes. We have not set a specific end date for achieving this goal.

Baseline year

2015

Start year

2015

End year

Progress

Our ultimate goal is to use only recycled water in our manufacturing processes. Ford has 14 facilities in water stressed areas, so we focus our recycling efforts on these plants. Our Ford Chennai Assembly and Engine Plants in India and our Ford Chihuahua Engine Plant in Mexico are located in water stressed areas. At these plants, which account for 21% of our facilities in water-stressed areas, we use only potable water for domestic use while using treated non-potable water sources in production. At these plants, we have developed partnerships with local authorities to invest in infrastructure to facilitate the recycling and reuse of treated municipal wastewater. Over 10 years ago in Chihuahua, we began treating externally sourced treated wastewater to achieve 100 percent recycled water for operational uses with potable water for domestic use only. After treating and extracting the recycled water, any final discharge from our recovery system goes to an evaporation lagoon, eliminating any discharge from the site. In 2018, the site was expanded with a new three-pipe water distribution system. This new system uses not only high-quality treated wastewater in production and potable water for domestic use, but also quality treated gray wastewater for use in toilets, which reduces the plant's freshwater demand even further. In 2018, Ford facilities globally re-used 1600 megaliters of water from on-site wastewater treatment plants.

W9. Linkages and trade-offs

W9.1

(W9.1) Has your organization identified any linkages or tradeoffs between water and other environmental issues in its direct operations and/or other parts of its value chain?

Yes

W9.1a

(W9.1a) Describe the linkages or tradeoffs and the related management policy or action.

Linkage or tradeoff

Linkage

Type of linkage/tradeoff

Decreased energy use

Description of linkage/tradeoff

Water and energy are closely linked. Ford uses water in many key manufacturing processes, including vehicle painting, cooling towers, and machining of powertrain components. Energy is required to pump and treat the water used in these processes. By decreasing the amount of water required in a process, the energy required to pump and treat the water is decreased as well. Water use and energy use are both decreased with the implementation of Minimum Quantity Lubrication (MQL) Minimum Quantity Lubrication is a “dry-machining” process, which lubricates cutting tools with a very small amount of oil, rather than the conventional “wet-machining” process that requires large amounts of metal-working fluids and water to cool and lubricate the tools. For a typical production line, dry machining – also known as Minimum Quantity Lubrication (MQL) – can save more than 280,000 gallons of water per year. Energy use decreases by about 30% as compared to traditional wet machining.

Policy or action

Ford’s global manufacturing water strategy requires a 30% reduction in water use per vehicle produced from 2015 to 2020, and implementing best practices such as Minimum Quantity Lubrication helps us achieve that goal. Minimum Quantity Lubrication is now required for all new engine and transmission projects with new tooling. In 2018, Minimum Quantity Lubrication was installed at production lines at engine and transmission plants in the United States, Canada, Mexico, India and the United Kingdom. At full production, these projects result in a savings of 6.4 megaliters of water and 5.4 million kilowatt hours of energy.

W10. Verification

W10.1

(W10.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1d)?

No, we are waiting for more mature verification standards and/or processes

W11. Sign off

W-FI

(W-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

W11.1

(W11.1) Provide details for the person that has signed off (approved) your CDP water response.

	Job title	Corresponding job category
Row 1	President, Automotive oversees global automotive business in North and South America, China, Europe and Intl. Markets Group & reports to CEO.	President

W11.2

(W11.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate’s Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].

Yes

SW. Supply chain module

SW0.1

(SW0.1) What is your organization's annual revenue for the reporting period?

	Annual revenue
Row 1	160300000000

SW0.2

(SW0.2) Do you have an ISIN for your organization that you are willing to share with CDP?

Yes

SW0.2a

(SW0.2a) Please share your ISIN in the table below.

	ISIN country code	ISIN numeric identifier (including single check digit)
Row 1	US	3453708600

SW1.1

(SW1.1) Have you identified if any of your facilities reported in W5.1 could have an impact on a requesting CDP supply chain member?

No, CDP supply chain members do not buy goods or services from facilities listed in W5.1

SW1.2

(SW1.2) Are you able to provide geolocation data for your site facilities?

No, not currently but we intend to provide it within the next two years

SW2.1

(SW2.1) Please propose any mutually beneficial water-related projects you could collaborate on with specific CDP supply chain members.

SW2.2

(SW2.2) Have any water projects been implemented due to CDP supply chain member engagement?

No

SW3.1

(SW3.1) Provide any available water intensity values for your organization's products or services across its operations.

Product name

All vehicles produced globally in 2018

Water intensity value

3.7

Numerator: Water aspect

Water withdrawn

Denominator: Unit of production

vehicle produced

Comment

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	Public or Non-Public Submission	I am submitting to	Are you ready to submit the additional Supply Chain Questions?
I am submitting my response	Public	Investors Customers	Yes, submit Supply Chain Questions now

Please confirm below

I have read and accept the applicable Terms