

United Technologies Corporation - Water 2018

W0. Introduction

W0.1

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

United Technologies is a diversified company with world wide operations that provides a broad range of high-technology products and services to the global building systems and aerospace markets. We are the world's largest (total revenue) building systems provider, and our UTC Climate, Controls and Security (CCS) business offers Carrier (air conditioning, heating and refrigeration, building energy management and food transport cold chain equipment) and Chubb and Kidde brand products (fire safety and suppression and security systems equipment). Our building systems business also includes the Otis (elevators and escalators) organization. UTC's aerospace businesses are also leaders in their respective market sectors, and include Pratt & Whitney (aircraft engines) and UTC Aerospace Systems (aircraft and aerospace components). The corporation also operates a central research organization that focuses on the development of new product technologies as well as those that will improve the performance, energy efficiency and cost of current UTC products and processes.

UTC senior leadership identified the business value associated with longer term, more sustainable performance in 1992, when our first group of environmental and safety performance goals were established. The program identified water conservation and security as a business imperative in 1997, and since that time we have maintained operational water use efficiency goals. In 2015, we added an additional water risk mitigation goal requiring over 350 manufacturing facilities to implement water best management practices consistent with the short and long term water availability risk profile for their geographic location.

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 2017	December 31 2017

W0.3

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

Australia

Brazil

Canada

China

China, Hong Kong Special Administrative Region

Côte d'Ivoire

Czechia

Denmark

Finland

France

Germany

Greece

Hungary

India

Indonesia

Israel

Italy

Japan

Kyrgyzstan

Mexico

Morocco

Netherlands

New Zealand

Philippines

Portugal

Russian Federation

Rwanda

Singapore

South Africa

Spain

Taiwan (Province of China)

Turkey

Ukraine
United Kingdom of Great Britain and Northern Ireland
Egypt
Ireland
Poland
Puerto Rico
United States of America

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
Small sales/service offices, remediation sites and warehouses with combined annual energy and water spend less than \$100,000 US. These water volumes are minimal and represent local use of sanitary water by small locations.	Small sales/service offices, remediation sites and warehouses with combined annual energy and water spend less than \$100,000 US. These water volumes are minimal and represent local use of sanitary water by small locations. UTC's water inventory includes water use data for all manufacturing sites and all non-manufacturing sites with an annual energy and water spend greater than \$100,000. UTC does not collect water consumption data for small sales offices and warehouse. These small sites are not material users of water in their local water supply areas, and since primarily used only for sanitation, water is not a critical component of daily operations at these locations.

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	UTC facilities must have sufficient amounts of good quality water for use in processing and treatment of metal parts, product coating, equipment and facilities cooling, sanitation and hygiene, fire suppression systems and grounds maintenance and irrigation. UTC manufactures many technologically complex products, including jet engines, building refrigeration and heating systems, elevators and escalators, and complex aerospace components. We include parts and components from thousands of suppliers into our finished products, and many of our suppliers have an equal or even more critical need for sufficient amounts of good quality freshwater. While UTC does not use water in many products (excepting foam and liquids contained in fire suppression products) we fully recognize the importance of water to our operations and surrounding communities. The business criticality of this natural resource can be seen in UTC's aggressive water conservation goals, first initiated in 1997.
Sufficient amounts of recycled, brackish and/or produced water available for use	Vital	Important	An increasing amount of UTC's manufacturing operational water use is supplied by recycled or other gray water sources, including facility closed looped capture and recovery systems and publicly supplied recycled water such as the Singapore NEWater municipal water recycling system. As with the use of freshwater, thousands of UTC suppliers have similar needs for use of recycled or other gray water, and it is an important water source for their operations on our behalf.

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	76-99	On a quarterly basis, UTC manufacturing facilities are required to report site water use into a centralized EH&S data management system. At the summary level, UTC compares total volumes used to total volume targets established for business units and the corporation as a whole. We also use these data at the site level to compare it to formal site goals and targets. Sites and business units use the data to assess specific site water use performance in comparison to prior periods, and to identify

	% of sites/facilities/operations	Please explain
		water use trends that indicate anomalies and opportunities to conserve. Water efficiency is also measured and used to compare sites with similar business missions and products to identify best performers and identify opportunities for water use improvements.
Water withdrawals – volumes from water stressed areas	76-99	UTC tracks quarterly water withdrawals and use from over 350 manufacturing facilities around the world. The water stress/scarcity designation for each site, as identified from the World Business Council for Sustainable Development water and WWF water risk tools, is tracked for each site. Consequently, UTC tracks total water use by each water stress area type (extreme scarcity, scarce, water abundance, etc.)
Water withdrawals – volumes by source	76-99	As part of their quarterly reporting, sites must provide the volume of water provided by various sources, including municipal and commercial providers, on-site wells, municipal gray water providers, and surface waters. UTC maintains water source risk profiles for all sites, as classified by the WBCSD Water Risk Tool, and assess water withdrawal source data against risk profiles. Sites that meet a size and risk profile characterization are required to implement up to 10 water use best management practices to mitigate the water source risks at the site.
Produced water associated with your metals & mining sector activities - total volumes	<Field Hidden>	<Field Hidden>
Produced water associated with your oil & gas sector activities - total volumes	<Field Hidden>	<Field Hidden>
Water withdrawals quality	76-99	UTC has entered each of our over 350 manufacturing sites into an online database maintained on the WWF Water Risk Filter. The tool identifies water quality for each site based on local water supply databases. Consequently, UTC is able to track the amount of water used in each of the various WWF Water Risk Filter water quality classifications.
Water discharges – total volumes	76-99	Sites are required to monitor and report all water discharges by destination or receiving body. In many cases this is mandated by site water discharge permit requirements, and sites are also required to quarterly report discharge data to the UTC EH&S database. UTC aggregates and assesses total discharge volume data as a quality assurance step to ensure the balance of water in/water out is consistent with our best engineering performance expectations.
Water discharges – volumes by destination	76-99	UTC and permit requirements sites are required to monitor and report all water discharges by destination and receiving body. Sites are required to quarterly report discharge data to the UTC EH&S database. UTC uses these data, along with written requirements for site water engineering, to assess our program performance and make any modifications needed to guarantee best-in-class water management and stewardship.

	% of sites/facilities/operations	Please explain
Water discharges – volumes by treatment method	76-99	As part of their water discharge data requirements, sites must identify the water treatment method used to treat each volume of discharged water. Treatment method data are included in site quarterly reporting to UTC. We use these data to assure that our pollution prevention objectives are met, and that opportunities for improvement are identified. This process has recently resulted in the implementation of closed looping at over 20 UTC Aerospace Systems sites, which had previously identified water discharges to public and privately owned treatment facilities.
Water discharge quality – by standard effluent parameters	76-99	Water pollution control and engineering at UTC sites is governed by our Standard Practice 011, which includes a list of maximum standard effluent parameters. Sites are required to keep all discharges below these levels, even if a site permit allows a higher effluent level. Sites are required under their permits to keep onsite effluent parameter compliance data for all permitted discharge sources, and to report these data to regulatory agencies in keeping with permit requirements. For sites without discharge permits, UTC's compliance/assurance audit program checks for the presence of SO 011 effluent discharge parameter compliance during each biannual site audit.
Water discharge quality – temperature	Not monitored	In some instances, regulated water discharge permits at UTC facilities require the monitoring of water discharge temperatures. These sites comply with those regulations and monitor applicable discharge temperatures, but UTC does not collect these data values as part of our centralized water data collection and reporting program.
Water consumption – total volume	76-99	UTC is able to calculate water consumption by comparing total water source data and total water discharge data for our sites and business operations.
Water recycled/reused	76-99	As part of their water discharge data requirements, sites must identify the water treatment method used to treat each volume of discharged water. Treatment method data are included in site quarterly reporting to UTC. We use these data to assure that our pollution prevention objectives are met, and that opportunities for improvement are identified. Water recycling and/or reuse are treatment methods included in the required treatment method reporting list, and UTC is consequently able to identify the amount of total recycled and/or reused water from our sites around the world.
The provision of fully-functioning, safely managed WASH services to all workers	76-99	UTC requires full compliance with all laws and regulations wherever we operate, and fully functioning WASH services are required at all of our facilities by both local regulation and UTC Health and Safety program requirements.

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	5521	Lower	UTC withdrew 361 megaliters less water in 2017 vs. 2016, which represents a 7% reduction
Total discharges	4955	Lower	UTC discharged 350 megaliters less water in 2017 vs. 2016, which represents a % reduction. The reductions were attributable to closed looping projects at various UTC manufacturing facilities
Total consumption	566	Lower	Comparing 2017 water withdrawals and discharges with 2016 data, UTC consumed approximately 25% less water in 2017 vs. 2016. The improvement was attributable to a lower volume of water withdrawals and improvements in our water use and closed looping efficiency.

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	32	About the same	WBCSD Global Water Tool	2017 withdrawals from the 3 WBCSD "stressed" categories (extremely scarce, scarce, and stressed) totaled 471 million gallons vs. total withdrawals of 1.459 billion gallons. Respective 2016 figures were 498 million gallons and 1.554 billion gallons. In both years the % withdrawn from stressed areas was 32%

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	499	Please select	Prior year was 652 megaliters withdrawals from fresh surface water, a reduction of 153 megaliters or -24% ($153/652 = 24\%$) compared to 2016.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Brackish surface water/seawater	Not relevant	<Field Hidden>	<Field Hidden>	UTC sites do not use brackish surface water or seawater as a source
Groundwater – renewable	Not relevant	<Field Hidden>	<Field Hidden>	UTC sources do not use groundwater (other than that provided by 3rd party municipal suppliers) as a source
Groundwater – non-renewable	Not relevant	<Field Hidden>	<Field Hidden>	UTC sites do not use non-renewable ground water sources
Produced water	Relevant but volume unknown	<Field Hidden>	<Field Hidden>	UTC does not track the volume of produced/process water at our 350 manufacturing facilities. In pursuit of our mandatory 5% annual reduction in total water use, an increasing number of our facilities have employed the capture and reuse of process water in daily operations.
Third party sources	Relevant	5022	Lower	In 2016, UTC used 5,230 megaliters of 3rd party and/or municipally supplied water. The 5,022 megaliters used from these sources in 2017 represent a decrease vs. 2016 of 208 megaliters for a 4% reduction ($208/5230 = 4\%$) vs. 2016 use

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	628	Much lower	UTC discharged 298 megaliters less to fresh surface water in 2017 than we did in 2016, representing a 32% decrease ($298/628+298 = 32\%$)
Brackish surface water/seawater	Not relevant	<Field Hidden>	<Field Hidden>	UTC does not discharge to brackish surface water/seawater
Groundwater	Please select	<Field Hidden>	<Field Hidden>	UTC does not discharge to groundwater
Third-party destinations	Relevant	1869	Please select	UTC discharged 177 megaliters less to 3rd party treatment in 2017 than we did in 2016, representing a 9% decrease ($177/177+1869 = 9\%$)

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	11-25	Higher	UTC's manufacturing sites are required to report quarterly water withdrawals and discharges. While required to measure and report these volumes with accuracy, they are also requested to identify the treatment methods used for water management. While we can identify the number of sites that employ recycling and reuse of water through the site identification of those treatment methods, we don't require the sites to identify the amount of water that is processed by a specific method. Consequently, we are only able to provide a conservative estimate of the total % of our water use attributable to recycling and reuse.

W1.4

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

Yes, our suppliers

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

1-25

Rationale for this coverage

UTC has established 2020 Supplier goals where key suppliers (who are in the Supplier Gold program) must reduce their absolute use of water or increase their water use efficiency each year, as compared to the prior year. Between now and 2020 our goal is to expand our total procurement spend with Supplier Gold suppliers to 25% of our total spend. Supplier Gold suppliers must report their progress against the water use requirement (along with other Supplier Gold requirements) every two years, via UTC's Supplier Health Assessment questionnaire.

Impact of the engagement and measures of success

UTC does not ask suppliers for data on water use reductions or efficiency improvements taken as a result of our requests for better water stewardship.

Comment

W1.4b

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

W2. Business impacts

W2.1

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

Yes

W2.1a

(W2.1a) Describe the water-related detrimental impacts experienced by your organization, your response, and total financial impact.

Country/Region

United States of America

River basin

Other, please specify (Rio Juayas)

Type of impact driver

Physical

Primary impact driver

Drought

Primary impact

Reduction or disruption in production capacity

Description of impact

The UTC Aerospace Systems (UTAS) facility in Santa Isabel, Puerto Rico worked closely with water supply authorities in the southern part of the island during 2016, to closely monitor an increasingly threatening water supply limitation due to drought. Luckily, just prior to a curtailment in site water supply, a series of storms broke the drought and improved water supply in the area.

Primary response

Engage with local communities

Total financial impact

10000

Description of response

UTC's response strategy whenever we encounter local drought impacts includes both water efficiency investments and broader engagement with other water users in the community. UTC mandates the use of 10 water management best practices (BMPs) at large (annual water use > 1 million gallons) facilities operating in water scarcity or drought areas. The BMPs have proven extremely effective in reducing water use wherever they are implemented.

Country/Region

Singapore

River basin

Other, please specify (Singapore)

Type of impact driver

Physical

Primary impact driver

Rationing of municipal water supply

Primary impact

Reduction or disruption in production capacity

Description of impact

UTC's Pratt & Whitney jet engine manufacturing business has 10 facilities in Singapore, and island republic with water supply resources classified as Scarce by the WBCSD Water Risk Tool. Singapore's primary water supply flows from across the country's border with Malaysia, and the potential uncertainty of that supply coupled with high urban density and growth makes every drop of water extremely precious. Constrained water supply (and other natural resources) is a constant state in Singapore. The republic's growth will place increasing pressure on water supplies for the foreseeable future.

Primary response

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

Total financial impact

2000000

Description of response

Engagement with community Engagement with public policy makers Engagement with other stakeholders in the river basin Engagement with suppliers Infrastructure investment Infrastructure maintenance Increased investment in new

technology Promote best practice and awareness Strengthen links with local community Establish site-specific targets Water management incentives UTC's response strategy whenever we encounter local drought impacts includes both water efficiency investments and broader engagement with other water users in the community. UTC mandates the use of 10 water management best practices (BMPs) at large (annual water use > 1 million gallons) facilities operating in water scarcity or drought areas. The BMPs have proven extremely effective in reducing water use wherever they are implemented. UTC's response strategy emphasizes site self-reliance and use of water management efficiency technology and best management practices. Since 2010 our Singapore sites have reduced their potable water use by 15 million gallons through initiatives including the use of Singapore's NEWater grey water infrastructure, cooling tower optimization and water use closed looping. By 2018 all sites will have closed looped and hooked-up to the NEWater system, which will drive even further reductions in potable and other water use.

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?

No

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 an enterprise risk management framework

Frequency of assessment

Annually

How far into the future are risks considered?

6 to 10 years

Type of tools and methods used

Enterprise Risk Management

International methodologies

Tools and methods used

COSO Enterprise Risk Management Framework

Other, please specify (WWF Water Risk Filter tool)

Comment

UTC's formal business planning process includes an assessment of all factors that could influence the operation and growth of our businesses. An assessment of water as a resource, and potential risk, is conducted at two parts of the process: at the individual plant level (as part of the site's annual ERM process) and at UTC's EH&S headquarters group, which reviews water supply and quality risks for each of our manufacturing sites using the WWF Water Risk Filter.

Supply chain**Coverage**

None

Risk assessment procedure

<Field Hidden>

Frequency of assessment

<Field Hidden>

How far into the future are risks considered?

<Field Hidden>

Type of tools and methods used

<Field Hidden>

Tools and methods used

<Field Hidden>

Comment**Other stages of the value chain****Coverage**

None

Risk assessment procedure

<Field Hidden>

Frequency of assessment

<Field Hidden>

How far into the future are risks considered?

<Field Hidden>

Type of tools and methods used

<Field Hidden>

Tools and methods used

<Field Hidden>

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
Water availability at a basin/catchment level	Relevant, always included	Each UTC site conducts an annual enterprise risk management (ERM) review that includes water supply risks. Since water supply is in almost all locations dependent on local resources, the ERM review includes an assessment of water availability at the local (basin/catchment) level.
Water quality at a basin/catchment level	Not relevant, included	UTC's manufacturing water quality needs are typically met by local water supply with no additional filtration or quality concerns. While our sites review the quality of water available to us at the basin level, water quality has not historically presented a relevant concern.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, sometimes included	UTC typically uses relatively small amounts of water at the majority of our 350 manufacturing facilities. In a handful of locations both the amount of water that is used and local conditions, including water supply constraints and comprehensive government management of water supply, combine to have local UTC management engage with other basin/catchment stakeholders to ensure we remain a good neighbor and fair water steward.
Implications of water on your key commodities/raw materials	Not relevant, explanation provided	UTC products and operations do not rely on any commodities that are dependent on significant amounts of water for their production or availability.
Water-related regulatory frameworks	Relevant, always included	UTC's EH&S and Government Affairs groups use the Enhesa and Cyberregs regulatory subscription services, and consultant briefings to monitor emerging water related regulatory changes and updates that may impact manufacturing operations. Additionally, site EH&S and operations managers are required to be fully cognizant of local water regulations and costs, and factor those into annual site operational planning.
Status of ecosystems and habitats	Not relevant, explanation provided	UTC is not a large water user and doesn't withdraw or discharge water in ways that impact local ecosystems and habitats. Site EH&S and operations managers are responsible for monitoring all local issues and potential

	Relevance & inclusion	Please explain
		community impacts, and should any aspect of our operation potentially impact local ecosystems or habitats, mitigation of the impact would be required under our annual business planning practices.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	UTC sites follow all local code compliance regulations that require adequate sanitary facilities for employees. Additionally, UTC workplace health and safety standards require the provision of fully functioning WASH services at all UTC locations.
Other contextual issues, please specify	Please select	

W3.3c

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

	Relevance & inclusion	Please explain
Customers	Not relevant, explanation provided	UTC products do not typically rely on the availability of water for operation.
Employees	Relevant, always included	Adequate supply of clean water for use by our employees is a requirement for all UTC locations around the world.
Investors	Relevant, always included	UTC's enterprise risk management process is designed to protect UTC's operations and financial performance from the negative impacts of all business risks. As shareowners our investors might bear the brunt of an unforeseen or mismanaged risk, including those associated with our use of water.
Local communities	Relevant, sometimes included	UTC typically uses relatively small amounts of water at the majority of our 350 manufacturing facilities. In a handful of locations both the amount of water that is used and local conditions, including water supply constraints and comprehensive government management of water supply, combine to have local UTC management engage with other basin/catchment stakeholders to ensure we remain a good neighbor and fair water steward.
NGOs	Relevant, sometimes included	UTC uses the WWF Water Risk Filter tool as part of our water risk management strategy. The tool includes WWF identified weighting for the potential impacts of various water supply and quality issues. UTC includes those weightings in our risk analysis, so in the case of WWF we engage with an NGO on water issues. In a handful of locations we also engage with local NGOs in community water improvement and water allocation an planning projects.
Other water users at a basin/catchment level	Not considered	

	Relevance & inclusion	Please explain
Regulators	Relevant, always included	UTC requires 100% compliance with all regulatory requirements in place or emerging at our sites around the world. Consequently, we engage directly with water regulators in those locations where water regulations apply to our site and operation.
River basin management authorities	Not relevant, explanation provided	UTC's water use never rises to a level where it is a material concern in the management of the local river basin, and consequently we don't consider river basin management authorities in our risk management planning.
Statutory special interest groups at a local level	Not relevant, included	UTC requires full compliance with all local laws and participates in conservation programs worldwide. This includes working directly with any local special interest group, such as a water utility district afforded special consideration by statute.
Suppliers	Relevant, sometimes included	UTC suppliers are formally assessed for potential business disruption risks once every 2 years. Included in the analysis are water supply and other risks that might result in business disruptions. All potential disruption risks, including any associated with water, must be addressed by suppliers through the development and implementation of risk mitigation plans.
Water utilities at a local level	Relevant, always included	UTC maintains direct contact with local water utilities as part of our supplier relationship management process and, when applicable, water risk management assessment program.
Other stakeholder, please specify	Please select	

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.

UTC's formal business planning process includes an assessment of all factors that could influence the operation and growth of our businesses. An assessment of water as a resource, and potential risk, is conducted at two parts of the process. Our annual Enterprise Risk Management process identifies business disruption risks at each level of the business, and from multiple perspectives (engineering, regulatory, legal, supply management, etc.) Water supply, flood and storm risks are included in the long lists of items assessed. All risks require a mitigation plan, and mitigation plans address the risk in both the immediate, short and long range terms. Additionally, short and long term water supply and potential flooding and storm risks are included in the assessment of acquisitions or other major investments in siting and construction of new facilities. All of these risks are considered for potential impacts and disruptions to both day to day operations, and the respective business unit longer term sales and growth objectives.

Included in our risk management process is a requirement to identify the actions that will be taken to mitigate the risk in the short term, and to eliminate or substantially reduce the risk over the longer term. For example, during the Southern California drought of 2009 - 2016, our sites in the region identified short term water supply and quality risks and plans for ensuring adequate water supply for the upcoming 12 months. Additionally, the sites identified and implemented substantial investments in water management infrastructure that permanently reduce the amount of water required by the sites.

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?

No

W4.1a

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

UTC uses the "substantive" definition included in CDP guidance and defines a substantive impact to our businesses to be those events that have a significant impact on UTC's overall corporate performance. This would include events that resulted in a substantial impact to sales revenue, total company profit, corporate reputation and strategic plans.

W4.2b

(W4.2b) Why does your organization not consider itself exposed to water risks in its direct operations with the potential to have a substantive financial or strategic impact?

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	UTC has 350 manufacturing facilities and 4,500 total facilities world wide, annual sales of \$60 billion and 225,000 employees producing over 100,000 products serving global aerospace, energy efficient building and transport refrigeration customers. We use relatively limited amounts of water at the majority of our sites, and have included closed looping and water recycling at the majority of sites where water is used in the manufacturing process. Our review of water risks has identified occasional localized concerns about drought and water supply limitations that could potentially result in disruptions to our manufacturing operations or supply chains. We have occasionally seen water related risks impact our operations at the local level, but none of these rose or arguably could rise to a level that would impose a substantial or strategic impact. Our recent experience with the Southern California droughts provides an excellent example of the limited scale of a water impact which was meaningful at the site level but not substantive in the overall corporate sense. Because of the California drought, we implemented water best management practices and invested \$10

	Primary reason	Please explain
		million in local water efficiency and management equipment and infrastructure. These actions were taken across five facilities in the region. To rise to the level of a substantive risk, water risks would have to impact UTC simultaneously at several large facilities around the world, and those facilities would have to had eliminated the water management practices and infrastructure we've already put in place. Base on our experience and modeled water risk impacts, we don't believe that such an extensive event has such a probability of occurrence to qualify water risks as substantive.

W4.2c

(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	UTC's supply chain includes over 50,000 suppliers feeding into over 350 UTC manufacturing facilities around the world. These suppliers are in many instances subject to the same potential business and performance disruptions as are our UTC sites. To rise to the level of a substantive impact at the UTC corporate level, a large number of suppliers, each dependent on water for its uninterrupted operations, would have to simultaneously be impacted by water issues. Additionally, those suppliers would have to be sole or key sources of supply to UTC facilities with enough aggregated disruption to qualify as substantive when considering UTC's corporate scale. As with disruptions to our own operations, we do not believe that a realistic likelihood exists for such a large number of simultaneous and intertwined events could occur at supplier sites around the world as to make supply chain water risks substantive. Additionally, UTC's products do not require water to be used in any substantive amounts in order for the products to meet their performance specifications. Consequently, we don't believe water risks present substantive concerns to our customers use of our products.

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?

No

W4.3b

(W4.3b) Why does your organization not consider itself to have water-related opportunities?

	Primary reason	Please explain
Row 1	Opportunities exist, but none with potential to have a substantive financial or strategic impact on business	UTC uses the definition included in CDP guidance and defines a substantive impact to our businesses to be those events that have a significant impact on UTC's overall corporate performance. This would include events that result in a substantial impact to sales revenue, total company profit, corporate reputation and strategic plans. Our review of potential supply chain, direct operations and customer water related opportunities has not identified any opportunity with the potential to be substantive. As noted, UTC does not find any substantive water related risks in our supply chain,

	Primary reason	Please explain
		operations or customers, so by definition the elimination of those risks we do see would not qualify as an opportunity for substantive improvement. Since 2006 we have reduced our global water use by over 50% at a cost of approximately \$7 million, and the estimated costs of continuing reductions and 100% recycling of all water used do not rise to a level that qualifies as substantive when measured against UTC's corporate financial resources. Within our primary market sectors - aerospace, elevators/escalators,refrigeration and fire and security technology - no current or proposed products are so related to water as to present substantive opportunities.

W6. Governance

W6.1

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

Yes, we have a documented water policy, but it is not publicly available

W6.1a

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

	Scope	Content	Please explain
Row 1	Company-wide	Company water targets and goals Commitments beyond regulatory compliance Description of water-related performance standards for direct operations	UTC has had a clear and evolving water strategy since 1997, when water use was first formally identified as a corporate priority. The strategy includes corporate water management requirements, as defined in Standard Practice 009 "Water Pollution Management and Control"; mandated site reporting of quarterly water data including sources, uses and discharges; a mandatory 5% annual reduction in site water use; implementation of water best management practices; management focus on sites located in water scarcity areas; inclusion of water in business risk management assessments and planning; and a requirement that key suppliers annually improve their use of water. UTC's Pratt & Whitney and Aerospace Systems (UTAS) business units have also formalized a strategy of close-looping of water use at their large locations worldwide, regardless of water scarcity condition.

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) of the individual(s) on the board with responsibility for water-related issues.

Position of individual	Please explain
Director on board	The UTC Board of Directors is the highest governing body for our organization, and assigns strategic and program management responsibility for corporate functions and activities to applicable board committees. The Board has assigned ultimate responsibility for UTC's water management program direction and management, including our formal water reduction and improvement programs, to the Committee on Governance and Public Policy (GPP). The GPP receives semi-annual updates on UTC's water program progress and water project investments. The GPP is chaired by a board member.

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	Monitoring implementation and performance Reviewing and guiding annual budgets Reviewing and guiding risk management policies Setting performance objectives Reviewing and guiding corporate responsibility strategy	The UTC Board of Committee on Governance and Public Policy (GPP) meets twice each year, and includes discussion of UTC water resource management and use reduction progress in each meeting.

W6.3

(W6.3) Below board level, provide the highest-level management position(s) or committee(s) with responsibility for water-related issues.

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

Other, please specify (UTC Vice President EH&S, Sustainability)

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

Half-yearly

Please explain

Per UTC's Corporate Policy 23, UTC's Vice President of Environment, Health and Safety and Sustainability is the senior most UTC executive responsible for UTC's water resource and risk management and water use reduction program. Each of UTC's over 350 manufacturing sites quarterly reports its water use, water best practice implementation and water efficiency/infrastructure investments to a central database. These water program data are analyzed and progress against all water program requirements and objectives are assessed and reported to the VP of EH&S and Sustainability. Twice each year the VP of EH&S and Sustainability presents overall EH&S program status, including applicable aspects of our water program, to the UTC Board of Directors Committee on Governance and Public Policy.

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?

No

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	5-10	UTC has had formal water management goals since 1992, and considers water management and stewardship to be a permanent business objective. Our current UTC 2020 facility sustainability goals include two water related goals: a 5% annual reduction in water use, and implementation of up to 10 water best management practices (depending on size of site and presence in a WBCSD Water Risk Tool defined water scarcity area.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	Please select	UTC has had a clear and evolving water strategy since 1997, when water use was first formally identified as a corporate priority. The strategy includes corporate water management requirements, as defined in Standard Practice 009 "Water Pollution Management and Control"; mandated site reporting of quarterly water data including sources, uses and discharges; a mandatory 5% annual reduction in site water use; implementation of water best management

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
			practices; management focus on sites located in water scarcity areas; inclusion of water in business risk management assessments and planning; and a requirement that key suppliers annually improve their use of water. UTC's Pratt & Whitney and Aerospace Systems (UTAS) business units have also formalized a strategy of close-looping of water use at their large locations worldwide, regardless of water scarcity condition.
Financial planning	No, water-related issues were reviewed but not considered as strategically relevant/significant	5-10	UTC's cost of water management, including ongoing mitigation of local water risks and investment in water efficiency equipment and infrastructure are too small to be considered strategically relevant.

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?

	Water-related CAPEX (+/- % change)	Anticipated forward trend for CAPEX (+/- % change)	Water-related OPEX (+/- % change)	Anticipated forward trend for OPEX (+/- % change)	Please explain
Row 1	0	0	-5	-5	UTC has an annual target of a 5% reduction in absolute water use year over year. Since the annual reductions are identified in 5 year increments, CAPEX budgeting within each of the 5 years typically remains unchanged during any given year. The OPEX funding trend typically goes down each year, as the amount of water and costs of management declines commensurate with the overall water reductions resulting from CAPEX investments.

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	UTC has used a variety of climate change scenario models to assess the potential impacts of climate change on our business. The 2DS, and its reliance on energy efficiency as a means to meet national climate change commitments made per the Paris Climate Accords most accurately reflects

	Use of climate-related scenario analysis	Comment
		UTC and our customer segments reliance on energy efficiency as a climate impact mitigation strategy. 2DS does not provide any water related forecasting or scenarios. In addition to 2DS, UTC uses the WWF Water Risk Filter, which includes 30 and 50 year drought and climate related water impact estimates. We include those future drought scenarios along with other WWF modeled impacts to develop overall water risk profiles for each of our over 350 manufacturing sites. The risk profiles are included in the development of site water management action plans, with those plants having a higher risk profile also having more actions required to mitigate their water related risks.

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	Other, please specify (WWF Water Risk Filter)	30 and 50 year drought trend forecasting	UTC recognizes the inaccuracy of long range meteorological and climatological forecasting. That said, WWF Water Risk Filter long range drought risks are one of many Filter risk factors included in a UTC water risk profile. Sites with riskier profiles are required to implement more water best management practices than sites with lesser risk profiles.

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

UTC uses the actual cost of water when assessing water management costs and potential savings from water impact reduction projects. We are currently investigating peer and other company uses of a "true cost of water" that reflects both the cost of water supply plus the costs of pumping it, treating it, heating/cooling it and regulating it through a permit. If we can find an accurate "true cost" we intend to use that cost instead of the current supplied price when assessing the cost/benefit of water use reduction investments

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	Targets are monitored at the corporate level	Since 1997, UTC has established five year sustainability goals. Water efficiency and/or absolute water reductions and implementation of water best management practices have been included in each five year goal set. Our process includes the measurement of a baseline year value representing all water used and discharged at each of our manufacturing sites, and identification of numeric reduction targets. Numeric targets are based on the cost-effective opportunities to reduce found at our sites, our historic progress in annual reductions and UTC's assessment of best in class water reduction programs found at UTC peer and sustainability leading companies.

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

25% absolute water use reduction by 2020 when compared to a 2015 baseline of UTC site water use. Annual reduction targets of 5% are established for each year of the five year goal period.

Quantitative metric

Absolute reduction in total water withdrawals

Baseline year

2015

Start year

2016

Target year

2020

% achieved

71

Please explain

UTC's 2015 water use baseline = 1,771,400,905 gallons 2020 target @ -25% of baseline = 1,328,550,679 gallons Total absolute reductions 2020 vs. 2015 = 442,850,226 gallons UTC 2017 total water use = 1,458,571,336 Reduction vs 2015 baseline = 1,771,400,905 - 1,458,571,336 = 312,829,569 % of total 2016 - 2020 reduction achieved as of 2017 = $312,829,569 / 442,850,226 = 71\%$

Target reference number

Target 2

Category of target

Other, please specify (Water best management practices)

Level

Company-wide

Primary motivation

Reduced environmental impact

Description of target

UTC has identified ten manufacturing site water management best practices that we believe represent best in class water use management. Sites must implement up to 10 water best management practices (BMPs) by 2020. The number of BMPs that must be implemented is based on whether the site is a "large" (\Rightarrow 1 million gals annually) or "small" ($<$ 1 million gals annually), and its location water scarcity designation using the WBCSD risk tool: Large sites in water scarcity areas = 10 BMPs Large sites in water abundant areas = 7 BMPs Small sites in water scarcity areas = 7 BMPs Small sites in water abundant areas = 2 BMPs

Quantitative metric

Other, please specify (% required BMPs implemented by 2020)

Baseline year

2015

Start year

2016

Target year

2020

% achieved

80

Please explain

On a quarterly basis UTC measures the number of best management practices that must be implemented at each site, and the implementation of each. At the end of 2017, 80% of the water BMPs that had to be implemented were reported as complete.

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

UTC Environmental and Facility engineers understand the strong correlation between water use and energy consumption in industrial settings, as the pumping, heating, cooling and treating of water all require energy. Consequently, reducing water use has a direct linkage to reduced use energy used to manage water and the greenhouse gases emitted from non-renewable energy generation.

Policy or action

UTC has mandatory annual water and GHG use reduction requirements for our facilities. Each goal program includes the measurement of our use of the resource, and includes investment in site engineering and other projects that lead to reduced resource use. In many instances, water use reduction projects provide significant energy use reductions as well since the eliminated water no longer has to be pumped or treated. Through our participation in US Department of Energy manufacturing facility energy efficiency programs, UTC has volunteered to work with the US DoE to evaluate and promote water management best practices in industrial facilities.

Linkage or tradeoff

Tradeoff

Type of linkage/tradeoff

Increased wastewater treatment

Description of linkage/tradeoff

The closed looping and reuse of site process water results in the generation of sludge and other wastes

Policy or action

UTC has mandatory site waste reduction goals, and the pursuit of our water use reduction goals are sometimes at odds with our waste goals. UTC's policy is for all sites to attain all of their goals, and proposed impact reduction projects are assessed for their contribution towards goal and financial return on investment. In some cases, water use reduction projects provide more overall benefit than the burden they pose to our waste goals (they save more water than they generate waste sludge), and are approved for implementation. Historically, UTC has always attained our site environmental goals and while some projects include trade-offs our overall program has been proven to work.

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 do not currently verify any other water information reported in our CDP disclosure

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	UTC Executive Vice President of Environment, Health and Safety and Sustainability	Chief Sustainability Officer (CSO)

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)].

No