

Welcome to your CDP Water Security Questionnaire 2019

W0. Introduction

W0.1

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

Owens Corning is a global leader in insulation, roofing, and fiberglass composite materials. Its insulation products conserve energy and improve acoustics, fire resistance, and air quality in the spaces where people live, work, and play. Its roofing products and systems enhance curb appeal and protect homes and commercial buildings alike. Its fiberglass composites make thousands of products lighter, stronger, and more durable. Owens Corning provides innovative products and solutions that deliver a material difference to its customers and, ultimately, make the world a better place. The business is global in scope, with operations in 33 countries. It is also human in scale, with 20,000 employees cultivating local and longstanding relationships with customers. Based in Toledo, Ohio, USA, the company posted 2018 sales of \$7.1 billion. Founded in 1938, it has been a Fortune 500® company for 64 consecutive years. For more information, please visit www.owenscorning.com.

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.

- Belgium
- Brazil
- Canada
- Chile
- China
- Czechia
- Finland
- France
- India
- Italy
- Lithuania
- Mexico

Netherlands
Poland
Republic of Korea
Russian Federation
Singapore
Spain
Sweden
United Kingdom of Great Britain and Northern Ireland
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
Leased real estate, including warehouses and small offices are not included. Note: All manufacturing locations, major research and development sites and corporate headquarters are included in reporting.	These are very small facilities with low water use. Water used in these locations is for sanitary purposes for a small number of employees. The volume is a small fraction of Owens Corning's total water consumption and is not considered material in our reporting boundaries.

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	Important	Important	<p>Direct- Sufficient quantity and quality of fresh water is necessary as many of our plants require water for processing and cooling, so we selected important rating. Our 2020 goal focuses on high usage plants. We reduce water consumption and consider any potential contaminations from use and disposal of product. Quality water is critical in our process. In most cases, we maintain quality above specified minimums. Indirect- We conduct annual supplier assessments to determine water risks. Many of our suppliers are in the extraction industry and require water to remove minerals from the earth. Given the importance of water to our suppliers' processes, we selected the use rating of important. Through our annual assessments, we track whether our Tier 1 supplier base has environmental goals, including water. We have determined crude oil extraction as a hotspot for water use in our supply chain. We do not expect a change in future dependency for direct/indirect since supplier processes and ours will remain similar.</p>
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Important	<p>Direct- Recycled water must meet standards for different processes. Using recycled water reduces fresh water consumption. Four percent of the water withdrawn is recycled; total water re-circulated is 1511%. Recirculated water is used in our cooling systems while reused water has a variety of uses including irrigation and in our processes, which is why we selected the important rating. Since the initiation of our water goal in 2002, we have continually looked for ways to increase water recycling and re-circulation. Indirect- It is difficult to track recycled water in our supply chain; however, we influence our suppliers to set environmental goals and improve recycling standards to reduce freshwater use. Mining operations in particular have a large opportunity to use recycled water in their processes, which is why we chose the use rating of important. We do not expect a change in future dependency for</p>

			direct/indirect since supplier processes and ours will remain similar.
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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%	100% of sites are monitored on a monthly basis for withdrawal data by total volume through a combination of municipal and Owens Corning meters in place.
Water withdrawals – volumes from water stressed areas	100%	Volume of water withdrawn is monitored monthly at 100% of sites, including water-stressed areas identified during our risk assessment, through a combination of municipal and Owens Corning meters in place.
Water withdrawals – volumes by source	100%	Data is collected for 100% of sites on a monthly basis by sources: municipal water (utility bills); Onsite wells (estimated or pump meters); Water purchased from commercial third party (invoices); Surface water bodies (pump meters); Storm water (pump meters and estimations based on the collection methods).
Water withdrawals quality	76-99	Our facilities comply with national, state, and local regulations and permits regarding water withdrawals and wastewater discharges. The majority of our water withdrawal is sourced from municipal suppliers which has historically not required ongoing quality monitoring by us, as the municipalities monitor water quality according to local regulations. For other sites where withdrawal is not sourced from municipalities, we monitor water quality. Our well water withdrawals are monitored for water quality on an ongoing basis using a variety of measures including PH, TDS, BOD, and COD. Samples are taken and tested both on-site and by independent labs.
Water discharges – total volumes	100%	100% of sites are monitored on a monthly basis for discharge data by total volume through discharge meters, calculations, and estimation.

Water discharges – volumes by destination	100%	100% of sites are monitored on a monthly basis for discharge data by destination: Water discharges to a municipality (standalone facility) - through sewer bills and city meters where installed; Water discharges to a municipality (Multi-tenant building)- estimate of sanitary sewer discharge based on total sewer discharge for building and number of tenants in building; Water discharges to an offsite surface water body- an estimate of process water discharged based on site specific calculations.
Water discharges – volumes by treatment method	100%	100% of sites are monitored on a monthly basis for discharge data by treatment method based on estimations, invoices, and meters and methodology used for treatment.
Water discharge quality – by standard effluent parameters	100%	100% of relevant sites are monitored on a monthly basis for water discharge quality. The majority of our water discharge is through publicly owned treatment works (POTW) which monitor water quality according to local regulations. Water discharge quality effluent monitoring is on a site-by-site basis. Where necessary, sites are monitored on a monthly basis for water discharge quality data – by standard effluent parameters (BOD, COD, TSS) through sampling and laboratory analysis. Water discharge quality is reported using Resource Advisor which tracks performance at the site level. Discharge quality monitoring is irrelevant at our zero discharge facilities.
Water discharge quality – temperature	51-75	Our facilities comply with national, state, and local regulations and permits regarding water withdrawals and wastewater discharges. Where required our facilities monitor the temperature of discharge water on an ongoing basis through sampling. This is not a requirement at the majority of our facilities. Discharge temperature monitoring is irrelevant at our zero discharge facilities.
Water consumption – total volume	100%	100% of sites are monitored on an annual basis. Consumption is calculated as total water withdrawal less total water discharge. These calculations are completed on an annual basis

		using monthly water withdrawal and water discharge data.
Water recycled/reused	1-25	While the majority of our sites recycle and/or re-use water our method for quantifying the amount recycled/reused is dependent on site specific calculations. These calculations have only been completed for some of our facilities, mainly our insulation facilities where reused and recycled water is more relevant to the processes. These calculations are completed on an annual basis using monthly monitoring data from meters and invoices.
The provision of fully-functioning, safely managed WASH services to all workers	100%	100% of sites providing fully-functioning WASH services to all workers measured on an ongoing basis. We discuss our commitment to WASH services annually in our sustainability report. As part of our formal EHS assessment process our assessors check the status of WASH services during their on-site assessments using targeted questions and observations. Each site is targeted for an assessment every 3 years to verify ongoing measurement.

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	11,318.08	About the same	Our absolute water withdrawal was about the same as compared to the previous reporting year. We consider the 'About the same' threshold to be a +/-5% change. At the same time, our water withdrawal intensity increased slightly, by about 1%, which can be attributed to a lower level of production for 2018. We expect water withdrawals to increase in future years as production requiring water use increases.
Total discharges	6,003.56	About the same	Our absolute water discharge was about the same as compared to the previous reporting year. We consider the 'About the same' threshold to be a +/-5% change. At the same

			time, our water discharge intensity increased 4%, which can be attributed to a lower level of production for 2018. We expect water withdrawals to increase in future years as production requiring water use increases, and as water use increases, our water discharge does as well.
Total consumption	5,314.52	About the same	Our total water consumption was about the same as compared to the previous reporting year. We consider the 'About the same' threshold to be a +/-5% change. Consumption is calculated by subtracting total water discharge from total water withdrawal. Total consumption decreased 2% which can be attributed to a lower level of production for 2018. We expect water withdrawals to increase in future years as production requiring water use increases, and as water use increases, our water consumption does as well.

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	19	Much higher	WRI Aqueduct	Owens Corning leverages the WRI Aqueduct Water Risk Mapping Tool to screen our sites for high baseline water supply stress. In 2018, our baseline water stress analysis identified that 19 of our sites that were active in 2018 were in areas classified by WRI as having the highest level of baseline water stress, accounting for 19% of our overall water withdrawal in 2018. This is much higher compared to in 2017 in which we had identified 8 sites as being in water stressed areas accounting for 2% of total water withdrawal. The reason for this increase is due to a change in methodology. In previous water risk assessments for our sites, Owens Corning has historically used WRI's "overall water risk"

			<p>index value from its Aqueduct Water Risk Mapping Tool. In 2018, WRI updated the tool, thus we have switched from WRI's "overall water risk" metric to WRI's "baseline water stress" metric, which WRI describes as a strong proxy for all aspects of water risk to business operations. While this is a considerable change in both sites and water volumes that have been identified in our assessment when compared to last year, we feel this new approach is a better fit for our risk assessments, and will be the best metric for our needs going forward.</p> <p>Operations at a few plants require a significant quantity of water. Therefore, water related risks have the potential to cause substantial change in direct business operations. Depending on severity and the likelihood of water challenges derived from the watershed/basin, it might impact local business units as well as revenue or expenditure at global level. We cross reference those sites identified as having "extremely high" baseline water stress from the Aqueduct Tool with our water use and production levels at each of those sites. To be considered significant the total amount of production from those sites within the basin must be above 3%. Once plants cross both the extremely high risk rating and 3% production in the basin threshold they are considered to have the potential of substantive change on our business.</p> <p>Owens Corning is striving to be more conscious of our potential to impact (and be impacted by) the water conditions in our locations around the world, and in support of this heightened awareness, we are currently developing site-specific "context-based targets" for water, which we plan to integrate into our upcoming 2030 sustainability goals.</p>
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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	410.3	Lower	<p>Water withdrawal from this source is relevant to Owens Corning as all of our production processes require some amount of water use. However, only a small number of sties utilize fresh surface water sources which include rainwater, ponds, and rivers. Use of this source decreased as production also decreased.</p> <p>Since all our production processes require some amount of water use, as we grow our business and increase production we expect this water source to increase as well. We will continue to focus on efficiency to decrease our water use intensity.</p>
Brackish surface water/Seawater	Not relevant			<p>This source is not relevant to Owens Corning as we do not use brackish surface water/seawater in our operations. We do not anticipate using this source of water in the future.</p>
Groundwater – renewable	Relevant	3,016.3	About the same	<p>Water withdrawal from this source is relevant to Owens Corning as renewable groundwater is our second highest source of water</p>

				<p>withdrawal following municipal sources. We use renewable groundwater when available, thus, managing this source is important to reducing our overall water usage. Use of this source was about the same as compared to the previous reporting year as production at the sites that utilize this source did not significantly change. We consider the 'About the same' threshold to be a +/- 5% change.</p> <p>Since all our production processes require some amount of water use, as we grow our business and increase production we expect this water source to increase as well. We will continue to focus on efficiency to decrease our water use intensity.</p>
Groundwater – non-renewable	Not relevant			This source is not relevant to Owens Corning as we do not use non-renewable groundwater in our operations. We do not anticipate using this source of water in the future.
Produced/Entrained water	Not relevant			This source is not relevant to Owens Corning as we do not use produced water in our operations. We do not anticipate using this source of water in the future.
Third party sources	Relevant	7,891.48	About the same	Water withdrawal from this source is relevant to Owens Corning as the majority of

				<p>our water use is third party water - specifically municipal sources. Ensuring we properly manage our municipal water intake has the biggest impact on our total water usage. Use of this source was about the same as compared to the previous reporting year, only slightly decreasing as production also decreased. We consider the 'About the same' threshold to be a +/-5% change.</p> <p>Since all our production processes require some amount of water use, as we grow our business and increase production we expect this water source to increase as well. We will continue to focus on efficiency to decrease our water use intensity.</p>
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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	1,203.86	Much higher	<p>This destination is relevant to Owens Corning as this is our second largest discharge destination. Discharge to fresh surface water accounts for about a 5th of our water discharge, therefore, this is a key factor in our waste water management strategy.</p> <p>The amount of discharged water</p>

				<p>to fresh surface water increased in 2018 compared to 2017. This is primarily due to a breakdown of a treated waste water system at a site in North America. Therefore, municipal water intake increased, which resulted in increased wastewater to fresh surface water.</p> <p>As production increases in the future we expect discharge to increase as well. However, we will continue to focus on water efficiency and recycling/reuse.</p>
Brackish surface water/seawater	Not relevant			<p>This destination is not relevant to Owens Corning as is not available in most of our facilities and not the preferred discharge destination where it is available. Therefore, it is not relevant to our wastewater management activities. We do not anticipate using this destination in the future.</p>
Groundwater	Not relevant			<p>This destination is not relevant to Owens Corning as is not available in most of our facilities and not the preferred discharge destination where it is available. Therefore, it is not relevant to our wastewater management activities. We do not anticipate using this destination in the future.</p>
Third-party destinations	Relevant	4,799.7	About the same	<p>This destination is relevant to Owens Corning as third-party destinations, specifically POTW, is our most common discharge destination. The amount of water discharged to third-party destinations was about the same as compared to the previous reporting year, only slightly decreasing as production also decreased. We consider the 'About the same' threshold to be a</p>

				<p>+/-5% change.</p> <p>Since the majority of our wastewater is discharged to 3rd party destinations, it is critical we manage this destination as part of our management strategy.</p> <p>As production increases in the future we expect discharge to increase as well. However, we will continue to focus on water efficiency and recycling/reuse.</p>
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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	About the same	<p>The proportion of recycled water compared to total water withdrawal was about the same as compared to the previous reporting year. We consider the 'About the same' threshold to be a +/-5% change. Our total withdrawal slightly decreased as did our total recycled water. Increasing the recycling and reuse of water is part of our strategy to increase our water use efficiency through decreasing the amount of required freshwater intake. At the site and corporate level, we continuously look for new technologies and opportunities to increase our water recycling/reuse. Requirements at certain facilities demand that we meet a certain percentage of reuse. As a result, we have and are working to install additional water treatment processes that allow us to recycle or reuse additional water. As water use increases, we continue to invest in water efficiency. As reuse requirements increase, we expect water reuse to increase as well.</p>

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

76-100

Rationale for this coverage

Utilizing an internal segmentation tool, we separate our suppliers into 4 quadrants based on risk & impact. Each supplier is scored using 6 questions on impact & 10 on risk, resulting in 4 classifications. An example segment is Collaborative (low risk/high impact) suppliers which are significant to Owens Corning in a variety of ways including innovative products, cost savings, or competitive advantage. The suppliers identified through the tool account for the top 85% of spend and are analyzed for risk impact to prioritize engagement & active management. We also conduct a supplier survey which includes questions on water risks, use, & management. We utilize these assessments to award suppliers for outstanding environmental performance during our annual supplier week celebration. No supplier can be nominated without answering the survey, thus an incentive to complete the survey and take steps to increase water management. The awards ceremony is held at our WHQ ensuring a large audience.

Impact of the engagement and measures of success

We annually send these suppliers a 25-question survey that addresses performance in safety, environmental, productivity, labor and human rights policies and adherence to our supplier code of conduct, including if they have water intake/discharge goals & if they report to CDP. The results from the 2018 survey were based on 455 responses: 77% reported having set goals for environmental aspects; 37% reported that they have goals for water use reduction; 6% submit reports to CDP Water; and 34% reported that they have goals for wastewater discharge and/or pollution reduction. Questions in the survey are used in the segmentation tool and assist us in measuring a suppliers' risk. Based on the level of risk, corrective actions are established to reduce the risk, which could include the supplier establishing missing goals. The results are used to ensure they are meeting our CoC requirements. We have a goal for 100% of suppliers in compliance with our CoC, of which more than 95% are.

Comment

W1.4b

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

Type of engagement

Incentivizing for improved water management and stewardship

Details of engagement

Water management and stewardship is featured in supplier awards scheme

% of suppliers by number

76-100

% of total procurement spend

76-100

Rationale for the coverage of your engagement

Our annual supplier week celebration connects suppliers with employees to share ideas and discuss how to work even closer together to achieve our shared sustainability goals. During Supplier Day, we announce the winners for two key awards - Owens Corning Sustainability Award and Supplier of the Year Award. Sustainability performance, including water, is a factor in the determination of both awards. As we want to influence the sustainability performance of all our suppliers, any supplier can attend supplier week and all suppliers are eligible for both awards, regardless of how critical the supplier is to our business. Through the awards scheme, our intention is to challenge and inspire our suppliers to engage with us proactively and to continue to improve their sustainability performance, which helps their business and ours.

Impact of the engagement and measures of success

The impact of the engagement is for our suppliers to understand our sustainability strategy including water. The measure of success is the number of suppliers nominated for the Owens Corning Sustainability Award. The Award ceremony on Supplier Day is an opportunity to share our sustainability goals and initiatives as well as best practices from award winners. We also measure success by a reduction in risk. One way to measure risk is if our suppliers have and/or report on environmental goals. We track this information through our annual supplier survey. Our goal is a year over year increase in the percentage of suppliers that have a sustainability related goals. Our 2018 survey found that 77% of suppliers have sustainability related organizational goals and policies, up from 69% in 2017. As a result of this engagement we have established ongoing relationships with these suppliers around sustainability topics, including water when relevant.

Comment

W1.4c

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

As part of our 2020 goals related to product sustainability, we committed to evaluate, and be transparent about, our core products' impacts throughout their life cycles. We have adopted the following two-part methodology to calculate and show the full cradle-to-grave environmental impacts of our core building products: • We conduct a life cycle assessment (LCA) according to the ISO 14040, 14044, and 14025 standards, followed by an external, third-party review and verification on products sold to our customers; • We develop an environmental product declaration (EPD) from the LCA, and implement continuous and measurable improvements related to those impacts. EPD data is public and shared with our customers to show them the amount of water used in our products during the manufacturing phase. One measure of success is by allowing our customers to make a more informed decision and measure the impact of our products in their value chain. Certain customers request specific information or targets related to the environmental impacts of the products we sell to them. We provide cradle-to-gate LCA results to our composite customers, which they can incorporate into their own LCAs for the development of an EPD for LEED credit achievement. Additional credit can be achieved in instances where subsequent EPDs demonstrate optimization through impact reductions, e.g. by reducing water-related environmental impacts such as eutrophication. In these instances we work with our customers to meet these transparency and impact targets. By providing EPDs this ensures that Owens Corning is an optimal choice for customers that are engaged in green building programs and seek LEED certification. The ultimate measures of success for this engagement are increased sales and new customers interested in the benefits from using our LCAs.

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?

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 a standalone issue

Frequency of assessment

Annually

How far into the future are risks considered?

>6 years

Type of tools and methods used

Tools on the market
Enterprise Risk Management
International methodologies
Other

Tools and methods used

WRI Aqueduct
Environmental Impact Assessment
Life Cycle Assessment
Internal company methods
External consultants
Other, please specify
Annual plant level survey

Comment

Supply chain

Coverage

Full

Risk assessment procedure

Water risks are assessed as a standalone issue

Frequency of assessment

Annually

How far into the future are risks considered?

>6 years

Type of tools and methods used

- Tools on the market
- Other

Tools and methods used

- WRI Aqueduct
- Internal company methods

Comment

Comment
 Given the large number of suppliers we have, performing a risk analysis on each supplier is not feasible nor valuable. According to our annual segmentation process, suppliers are ranked using various criticalities and risk-based questions, then weighted and scored on impact and risk, resulting in 4 classifications. The suppliers identified through the segmentation tool account for the top 85% of spend and are analyzed for risk impact to prioritize engagement and active management. For these suppliers we also perform a risk analysis using the WRI Aqueduct Tool and supplier surveys. This allows us to effectively manage the process and results in an impactful manner.

Other stages of the value chain

Coverage

None

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	Water availability at the basin/catchment level is relevant and always included in our water risk assessments as many of our manufacturing processes require sufficient quantities of high-quality water. Our manufacturing processes, specifically our composites division, require water of a certain quantity and quality. If our quality and quantity parameters cannot easily be met in a given area, it can require significant investment, thus this is an essential part of our water risk assessments. In 2012 we partnered with World Resources Institute to test the improved WRI Aqueduct Risk Map and still currently use

		<p>the tool to evaluate the baseline water risk of all our facilities. We use the results of this tool to get an understanding of what the water risk is at each of our sites based on location. We combine that with our water use and production levels at both site and basin level to determine which sites pose a high level of risk to our company and their communities based on water risk. Out of all our facilities assessed 4 were found to have high levels of water stress risk that could substantially impact our business.</p> <p>Our life cycle assessments identify the amount of water used during production, use, and end of life for our products. This knowledge helps us identify potential water risks in our supply chain and processes. Our annual plant level surveys collect local knowledge about water availability at the basin level.</p>
Water quality at a basin/catchment level	Relevant, always included	Water quality at the basin/catchment level is relevant and always included in our water risk assessments as many of our manufacturing processes require sufficient quantities of high-quality water. Through our annual plant level surveys and the WRI Aqueduct Tool we assess water quality risk at the water basin level. Our assessment looks at current water risk as well as anticipated future risk for the building materials industry. When determining if a water risk has the potential to substantially impact our business we look at all plants in the basin. Our site level surveys gather local knowledge about sensitive species, regulatory risk, future rate changes, and any upcoming changes that are expected around water use from our 100+ facilities.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, always included	Stakeholder conflicts concerning water resources at a basin/catchment level is relevant and always included in our water risk assessments as stakeholder engagement is necessary to stay abreast of current and future water risks, especially reputational risk and regulatory risk in particular. Our sites are expected to engage directly with stakeholders at the basin and local level. We proactively engage with local stakeholders during new builds, during our materiality assessments, and on an as needed basis. The knowledge gathered through internal company methods is used in our water risk assessments. Our materiality process, completed over several years, was benchmarked against the most recent generation of Global Reporting Initiative (GRI) guidelines – GRI-Standards, which emphasize stakeholders as the primary driver for materiality. Through this initiative,

		<p>we aim to report the positive and negative impact of all our business operations on the economy, environment, and society. Our process consisted of four steps: Revisiting old materiality grid, redefining materiality and aspect identification, aspect prioritization, and DMA maturity assessment. In 2015 we gathered stakeholder feedback and conducted both internal and external stakeholder interviews to identify material aspects impacting our performance and that of our stakeholders. Internal stakeholders included vice presidents of various departments, top management, and employees. External stakeholders included customers, suppliers, investors, and NGOs. Identified material aspects, including water, were based on the feedback received through 54 interviews conducted between 2014 and 2015. We are currently in the process of updating our materiality assessment.</p>
<p>Implications of water on your key commodities/raw materials</p>	<p>Relevant, always included</p>	<p>Implications of water on key commodities/raw materials is relevant and always included in our water risk assessments as it could affect operational cost. Owens Corning conducts detailed life cycle assessments for its building material product lines, which also enables the derivation of the virtual content of water in products. Risk assessment results are overlapped with virtual water content to estimate the impact on water intensive products and associated increase or decrease in revenue. This internal company knowledge gained from the LCAs informs our risk assessment. We also request information from our suppliers on their environmental performance, including water goals and if they disclose water information to CDP. We utilize these assessments to award suppliers for outstanding environmental performance during our annual supplier week celebration and no supplier can be nominated without answering the survey.</p>
<p>Water-related regulatory frameworks</p>	<p>Relevant, always included</p>	<p>Water-related regulatory frameworks are relevant and always included in our water risk assessments as they could affect operational cost. Regulatory requirements regarding water are tracked by Owens Corning's corporate law department and business unit environmental experts and also handled at the plant level with oversight from these departments. Annually, each plant is required to complete a site-level survey that includes questions about current and future water regulatory or rate changes. This information is combined with knowledge from our corporate law department to provide a complete view from high to local levels. This is the internal company method used for this</p>

		<p>aspect of our risk assessment. Environmental impact assessments are completed for all new builds and acquisitions. In alignment with our growth strategy we have had several acquisitions globally as well as new builds in the US. These assessments include local water regulations we need to follow in our operations.</p>
<p>Status of ecosystems and habitats</p>	<p>Relevant, always included</p>	<p>Status of ecosystems and habitats are relevant and always included in our water risk assessments as Owens Corning is committed to preserving and enhancing biodiversity and the natural habitats that surround our operations around the world. We recognize the importance of ecosystems and habitats and seek to manage the impact that our operations may have on biodiversity, demonstrated by the principles laid out in our public biodiversity statement. We conduct regular evaluations of all our facilities to determine proximity to sites listed as ecologically sensitive or of significant importance related to biodiversity using RAMSAR Convention on Wetlands, Natura 2000, and UN Biosphere Sites. The WRI Aqueduct Tool also gives us a baseline of our risk associated with protected areas and threatened amphibians at the river basin level. This data is reported internally to all at risk sites and externally to interested stakeholders. In 2015 we also began a partnership with Wildlife Habitat Council. In 2015 they completed habitat assessments on two of our sites. In 2016 they assessed one additional plant and we achieved Gold Level certification at our Ohio R&D facility. In 2017 we achieved Gold Level certification at our WHQ. Environmental impact assessments are completed for all new builds and acquisitions. In alignment with our growth strategy we have had several acquisitions globally as well as new builds in the US. These assessments include local ecosystems and habitats and the potential impact of operations on them.</p>
<p>Access to fully-functioning, safely managed WASH services for all employees</p>	<p>Relevant, always included</p>	<p>Access to fully-functioning, safely managed WASH services for all employees is relevant and always included in our water risk assessments as employees are integral in our operations. To improve health and hygiene of all employees, it is critical for Owens Corning to provide fully functioning WASH services at all our facilities. Where these services have been found to be lacking through our internal company methods (for example internal due diligence and safety assessment processes), they are installed at not only our facilities, but also into the surrounding communities as well where these services are also lacking, such as near our plants in Mexico, India, and China. In these areas we have</p>

		built kitchens and washrooms to provide access to clean cooking and bathroom facilities.
Other contextual issues, please specify		

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 relevant and always included in our water risk assessments as they have significant impact on the success of our business. Through our composites business, we are an input material provider and have worked with several customers to assist them with life cycle assessments to determine their water use/risk. LCAs give customers an idea of potential hotspots of water use in their value chain. Through LCAs on our own products we are able to determine the water impacts from use and disposal of our products. Additionally, through our materiality study we interviewed and surveyed customers on a range of topics, including our environmental impacts and performance. Water was found to be a material aspect during this assessment.
Employees	Relevant, always included	<p>Employees are relevant and always included in our water risk assessments as they have direct impact on water use in operations and drive our overall water management strategy. We provide training to employees to improve water efficiency within the facilities. In facilities with high water-risk additional training is provided.</p> <p>Our 2018 Sustainability Summit, which was open to all Owens Corning employees, included presentations on progress updates on our 2020 water goal, best practices for reducing water use, and water risk and CDP Water. Our employees at the corporate level and plant level are responsible for identifying and managing certain aspects of water risk. Environmental impact assessments identifying potential water-risk at new sites is done by our regulatory law employees at the corporate level. Local leadership is responsible for identifying local water risks including regulatory and pricing changes as well as potential issues with local community members and organizations. Employees were also included in our materiality study, which surveyed them on the importance of environmental impacts and</p>

		performance, including water, to Owens Corning. A focus group has been created to establish our next generation long-term sustainability goals.
Investors	Relevant, always included	Investors are relevant and always included in our water risk assessments as they are increasingly concerned with environmental performance, including water-related issues. We report our water risks in Dow Jones Sustainability Index, GRI report, CDP submissions, on our sustainability website, and through other investor requests sent directly to us. Many of our investors use these reports and rankings as a tool to determine continued investment in Owens Corning. Through our materiality study we interviewed and surveyed investors on a range of topics, including our environmental impacts and performance. The study specifically asked them to rate the importance of a variety of topics to Owens Corning, including water.
Local communities	Relevant, always included	Local communities are relevant and always included in our water risk assessments as they have significant impact on the success of our operations and reputation. Through our plant leaders and site EHS leaders Owens Corning is committed to establishing relationships with stakeholders, including community members, NGOs and neighbors. Through these interactions we have developed site-based processes to engage our local communities. The methods of engagement are determined on a site-by-site basis depending on what is most effective in a given community, but commonly include community meetings and attendance at local forums and NGO hosted events. To improve health and hygiene in areas where fully functioning WASH services are lacking, these services are installed at not only our facilities, but also in some of the surrounding communities. In recent years we have made improvements of this kind in the communities in which we operate around the world.
NGOs	Relevant, always included	NGOs are relevant and always included in our water risk assessments as they have significant impact on the success of our operations and reputation. Given the global nature of our business and the varying needs of the communities in which we operate, our engagement with NGOs is often local in nature. Through our partnership with United Way we perform local needs assessments and partner to meet the identified needs in a given community. Through our materiality assessment and our day to day business Owens Corning is committed to understanding topics raised by NGOs as well as partnering with these stakeholders where relevant. Through our 2015

		<p>materiality assessment we surveyed and interviewed several NGOs. In parallel with the development of our next generation of 2030 goals, we are updating our materiality assessment.</p> <p>In 2018, we continued our formal partnership with the Wildlife Habitat Council (WHC), further developing our site-level biodiversity initiatives with WHC guidance and best practices. Through this partnership, we have created valuable native habitats at various Owens Corning sites, and maintained our Wildlife Habitat Council Gold Certification for our Granville, Ohio, (certified in 2016) and Toledo, Ohio, (certified in 2017) locations. Our Granville location is up for recertification in 2019 and we are planning to recertify.</p>
Other water users at a basin/catchment level	Relevant, always included	Other water users at a basin/catchment level are relevant and always included in our water risk assessments as water is essential to our processes. It is in our best interest – and is our responsibility – to ensure water systems are maintained in our areas of operation. Our water risk assessments are done at the basin level, taking into account water stress from other users in those basins. Through our involvement with initiatives such as the Kansas Water Office's 50-Year Water Vision Plan, which addresses water use throughout the state of Kansas, we interact with other major water users at the local level.
Regulators	Relevant, always included	Regulators are relevant and always included in our water risk assessments as any regulatory change can have a significant impact on our business strategy. All our facilities must comply with national, state and local regulations and permits regarding water withdrawals and wastewater discharges. Through meetings and calls with regulators our plant leaders and site EHS leaders are establish relationships with regulators that keep us up to date on current and future regulations relating to water.
River basin management authorities	Relevant, always included	River basin management authorities are relevant and always included in our water risk assessments as access to sufficient quantity and quality of water is essential to our processes. We become aware of river basin management plans and their goals through interactions with our stakeholders (sometimes during our materiality assessments) and through local knowledge at the facility level. Examples of this include: our French facilities that are involved in techno-economic analysis with relation to the European Water Framework Directive and our Kansas City, Kansas, U.S. facility which has been very active with the 50-Year Water Vision Plan proposed by the Kansas Water Office. Through these engagements our sites participate in speaking

		<p>engagements, sharing of best practices, and coordinated effort within their communities. River basin management plans are targeted at specific areas with specific goals in mind. Therefore, a more localized approach to establishing relevant partnerships with local organizations and stakeholders is effective. Local leadership often has the most knowledge of local needs and the best way to meet them.</p>
<p>Statutory special interest groups at a local level</p>	<p>Relevant, always included</p>	<p>Statutory special interest groups at a local level are relevant and always included in our water risk assessments as access to sufficient quantity and quality of water is essential to our processes. We become aware of local special interest groups and their goals through interactions with our stakeholders (sometimes during our materiality assessments) and through local knowledge at the facility level. Examples of this include: our French facilities that are involved in techno-economic analysis with relation to the European Water Framework Directive and our Kansas City, Kansas, U.S. facility which has been very active with the 50-Year Water Vision Plan proposed by the Kansas Water Office. Through these engagements our sites participate in speaking engagements, sharing of best practices, and coordinated effort within their communities. Given the local nature of these groups, a localized approach is most effective.</p>
<p>Suppliers</p>	<p>Relevant, always included</p>	<p>Suppliers are relevant and always included in our water risk assessments as they have a significant impact on the success of our operations. A supplier list is generated from a spend analysis and the suppliers on this list rated by each commodity leader on various criticality and risk-based questions. The suppliers are then weighted and scored on impact and risk, resulting in 4-quadrant segmentation. This group of suppliers is also assessed annually using a 25-question survey that addresses performance in safety, environmental, productivity, innovation, labor and human rights policies, and adherence to our supplier code of conduct. We utilize these assessments to award suppliers for outstanding environmental performance during our annual supplier week celebration and no supplier can be nominated without having provided answers to the survey. The results from the 2018 survey were based on 455 responses: 77% reported having set goals for environmental aspects; 37% reported that they have goals for water use reduction; 6% submit reports to CDP Water; and 34% reported that they have goals for wastewater discharge and/or pollution reduction.</p>

Water utilities at a local level	Relevant, always included	Water utilities at a local level are relevant and always included in our water risk assessments as access to sufficient quantity and quality of water is essential to our processes. Our supplier risk assessment also includes local water utilities/suppliers that are critical to our operations. In addition to the supplier risk assessment we establish relationships at the local level with our utilities. These relationships are important to ensure our quality and quantity requirements can be met, that we maintain a positive relationship with them, and that we remain within our permit levels.
Other stakeholder, please specify		

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.

Given the global nature of our business and our need for significant amounts of high quality water for our processes, particularly our composites business, we chose to use the WRI Aqueduct Water Risk Atlas Tool to conduct a detailed water risk assessment and stress mapping for direct operations and supply chain. Geographical water risk was measured based on local-level water risk indicators in addition to physical water availability. We have surveyed our sites and used the tool to screen our sites, as well as the suppliers who account for the top 85% of our supplier spend, for high baseline water-supply stress, future projections of water-supply stress changes (year 2025), frequency of drought, and upstream water quality. We also track our facilities in high stress areas or where supply issues may arise. Our segmented suppliers were analyzed for risk and impact and asked to provide an annual self-assessment. In 2014, we updated our supplier segmentation process to deploy a more transparent and detailed assessment of suppliers that should be “actively managed.” Given the large number of suppliers we have, this strategy allows us to focus our efforts where we can have the biggest impact. The supplier list generated from the spend analysis is ranked by each commodity leader, who rates the supplier on various criticality and risk based questions. The suppliers are then weighted and scored on impact and risk resulting in 4-quadrant segmentation. In addition to the centralized approach using the aqueduct tool we also use site-level surveys, LCAs, external consultants, environmental impact assessments, and a variety of other methods to assess water risk locally continually and as needed. The results of these assessments allow us to both identify and address water-related risks within our direct operations and value chain. We integrate our risk mapping and our suppliers’ survey responses to identify which of our suppliers are proactively addressing their water-related risk, and which ones are not. This helps us better understand our supply chain’s sustainability aspects and thus our own water risk inherent in our supply chain. With this knowledge, we have integrated environmental data, including water use, into our sourcing scorecards and internal decision-making process. This

assessment informs the development of water management plans to optimize water efficiency at facilities in water-stressed regions with high water demand.

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, only within our direct operations

W4.1a

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

Operations at a few plants require a significant quantity of water. Therefore, water related risks have the potential to cause substantial change in direct business operations. Depending on severity and the likelihood of water challenges derived from the watershed/basin, it might impact local business units as well as revenue or expenditure at a global level. For example, if water quantity and/or quality were to decline, we could face raising costs due to increased intake and disposal costs, reducing operational revenue. To determine the potential at-risk facilities, we first identify all sites listed as having "extremely high" baseline water stress from the Aqueduct Tool. Baseline water stress measures the ratio of total annual water withdrawals to total available annual renewable supply, accounting for upstream consumptive use. We then cross reference that with our water use and production levels at each of those sites. To be considered significant the total amount of production from those sites within the basin must be above 3%. Once plants cross both the extremely high risk and 3% production in the basin threshold they are considered to have the potential of substantive change on our business. We use our supplier segmentation process to identify those suppliers that are critical to our operations based on a variety of risk factors including availability of substitutions and level of spend. Based on the results of the segmentation process suppliers representing 85% of our spend go through additional water risk assessments including the Aqueduct Tool.

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	3	Less than 1%	

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

United States of America

River basin

Ca

Number of facilities exposed to water risk

1

% company-wide facilities this represents

Less than 1%

% company's total global revenue that could be affected

1-25

Comment

Country/Region

United States of America

River basin

Mississippi River

Number of facilities exposed to water risk

2

% company-wide facilities this represents

1-25

% company's total global revenue that could be affected

1-25

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

United States of America

River basin

Mississippi River

Type of risk

Physical

Primary risk driver

Declining water quality

Primary potential impact

Increased operating costs

Company-specific description

The largest water risk in this basin that meets our threshold of substantive impact is declining water quality. The WRI Aqueduct tool identifies this area as having a high return flow ratio which indicates a higher dependency on treatment plans and potentially poor water quality in areas that lack sufficient treatment infrastructure. It also indicates groundwater stress which could affect groundwater availability. As our processes require high quality water, we have identified two facilities (one within Insulation and one within Composites) located in the South Central region of the U.S. that could potentially be impacted. Depletion of groundwater volumes results in higher contents of dissolved solids which requires further water treatment investment. At this time, we are able to use intake water with our currently available processes to meet our quality standards, but should this change additional investment in water processing equipment will be required. This would increase our initial capital costs as well as ongoing maintenance costs and effort.

Timeframe

4 - 6 years

Magnitude of potential impact

Medium

Likelihood

Likely

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

1,000,000

Potential financial impact figure - maximum (currency)

5,000,000

Explanation of financial impact

Estimated cost of process upsets due to declining water quality. The cost depends on the extent of the poor water quality and products impacted.

Primary response to risk

Adopt water efficiency, water re-use, recycling and conservation practices
Reuse/reuse/recycle water when possible

Description of response

Our top priority has been to increase our water use efficiency through leak detection and repair, process improvements, and water reuse and recycling. Our composites site in this basin has implemented reverse osmosis, while the insulation site has increased water reuse and recycling. Furthermore, both sites have increased employee awareness of water conservation. We realize for both facilities that increasing our water efficiency ensures that we are able to best use natural resources and reduce operating costs. Improved water efficiency results in better product yield. In sites where we need to treat water prior to use, it is in our best interest (financially and maintenance related) to minimize the amount of water that needs to be treated by minimizing the amount of water we use. Owens Corning continues to research opportunities to reduce our water consumption while also increasing water that is recycled and reused throughout our processes.

Cost of response

4,000,000

Explanation of cost of response

Estimated cost of installing and maintaining additional water intake treatment processes so water meets the quality necessary for our processes, based on past water treatment projects. This would be a one-time cost separate from ongoing process costs. The cost depends on the extent of the poor water quality requiring varying technology to treat the water to quality standards.

Country/Region

United States of America

River basin

Ca

Type of risk

Physical

Primary risk driver

Increased water scarcity

Primary potential impact

Increased operating costs

Company-specific description

A secondary water risk that has the potential to substantively impact our business is increased water scarcity. The WRI Aqueduct tool identifies this area as having extremely low upstream storage indicating lower storage capacity and more susceptible to variation in water supply. As our manufacturing processes require sufficient amounts of water, we have identified a Roofing and Asphalt facility located in southern California that could potentially be impacted. Declining water quantity could disrupt our water supply which would cause production delays, require us to find alternative suppliers, or pay an increased price for our current supply. We currently do not have conflicts with our communities or local stakeholders in relation to water. However, if water scarcity becomes a larger issue where we do business, we would expect an increase in the likelihood of local conflicts over water availability.

Timeframe

4 - 6 years

Magnitude of potential impact

Medium-low

Likelihood

Likely

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

100,000

Potential financial impact figure - maximum (currency)

500,000

Explanation of financial impact

Increased cost of trucking in water from a third party rather than the municipal supply for one year. Cost is based on our knowledge of current water delivery costs which depend on depend carrier, distance, and additional infrastructure required.

Primary response to risk

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

Reuse/reuse/recycle water when possible

Description of response

Our top priority has been to increase our water use efficiency through leak detection and repair, process improvements, and water reuse and recycling. The roofing and asphalt site in this region is aware of the potential impact and has undertaken water efficiency measures such as a sand separator to remove sediment, allowing for reuse of water to ultimately reduce dependency on the local municipal water supplier. Increasing our water efficiency ensures that we are able to best use natural resources and reduce operating costs. Improved water efficiency results in better product yield. In sites where we need to treat water prior to use, it is in our best interest (financially and maintenance related) to minimize the amount of water that needs to be treated by minimizing the amount of water we use. We regularly monitor our intake water to stay abreast of any potential quantity issues. Our system is designed so that we can shift production to unaffected plants to avoid delays if an issue arises.

Cost of response

500,000

Explanation of cost of response

Estimated cost of installing additional water treatment processes and efficiency improvements to increase the amount of water reused and recycled so water meets the quality necessary for our processes, based on past water treatment projects. This would be a one-time cost separate from ongoing process costs.

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	We evaluate water risk throughout our supply chain on an annual basis through our supplier survey and using the WRI Aqueduct Tool. Based on the results of the survey and these tools, while there are water risks identified (flooding, declining quality, and quantity) at this time we do not anticipate substantive impacts associated with any water risks. The results of our 2018 analysis indicate that 17% of our segmented suppliers fall into the highest risk category. Of these suppliers identified, 5% fall into our 'critical' segmentation quadrant, accounting for less than 1% of total spend. Through our risk analysis, supplier survey, and relationships with suppliers we are confident in the ability of our suppliers to properly manage any water risks should they arise. Both our supplier survey and Aqueduct tool analyses will be repeated for 2019 and 2020.

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

Cost savings

Company-specific description & strategy to realize opportunity

Our management strategy enables us to optimize and reduce water consumption through proactive measures such as recycling/reuse of water and leak detection and repair. By focusing on improving our water use efficiency we are able to lower costs for plant operations and reduce dependency on local or regional water sources. Since 2010, we have considerably increased our water recirculation and recycling percentages. By increasing the recycling/recirculating ratio at plants, we have reduced fresh water purchases resulting in financial benefits. Additionally, water efficiency programs including leak detection, meter installation, and water mapping have increased water efficiency at many of our plants. Decreased water use not only decreases intake costs, but also decreases costs associated with treating water to meet our quality standards and discharging costs.

With a focus of improved efficiency and water reuse/recirculation, we installed a new process water reuse system in one of our Composites sites in India in 2018. This state of the art system technology allows us to treat wastewater to an extremely high quality that can be reused in the plant in many more applications. The system puts the water back into the main process water makeup for the plant, thus reducing withdrawal from city water. Our long-term strategy is to use this system as a model for future installations across the portfolio. Expected water intake cost savings from this project amount to over \$12K annually.

Estimated timeframe for realization

1 to 3 years

Magnitude of potential financial impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

5,200,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

Using our 2010 water efficiency rate and 2018 production levels we estimate that we have saved over 12.3 million cubic meters of water since 2010. Using our estimated average cost of water this has saved us over \$9 million. In the next 3-year period our estimated savings from water conservation efforts is approximately \$5.2 million from intake savings alone. Decreased water treatment and discharge costs would increase these savings.

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)

Country/Region

United States of America

River basin

Mississippi River

Latitude

35.120334

Longitude

-101.806001

Total water withdrawals at this facility (megaliters/year)

746.9

Comparison of withdrawals with previous reporting year

About the same

Total water discharges at this facility (megaliters/year)

258.7

Comparison of discharges with previous reporting year

About the same

Total water consumption at this facility (megaliters/year)

488.1

Comparison of consumption with previous reporting year

About the same

Please explain

There were no significant changes to water withdrawal or water discharges from the previous year as production levels stayed about the same. Thus, consumption was also about the same as the previous year.

Facility reference number

Facility 2

Facility name (optional)

Country/Region

United States of America

River basin

Ca

Latitude

33.905699

Longitude

-118.223899

Total water withdrawals at this facility (megaliters/year)

43.1

Comparison of withdrawals with previous reporting year

Much higher

Total water discharges at this facility (megaliters/year)

32.7

Comparison of discharges with previous reporting year

About the same

Total water consumption at this facility (megaliters/year)

10.4

Comparison of consumption with previous reporting year

Much higher

Please explain

Water consumption differs from the previous reporting year due to a change in methodology at the site level. A more refined methodology for evaporation rate was applied based on specific product. Water withdrawal increased while water discharges stayed roughly the same, thus consumption increased from the previous year.

Facility reference number

Facility 3

Facility name (optional)

Country/Region

United States of America

River basin

Mississippi River

Latitude

37.942199

Longitude

-96.751099

Total water withdrawals at this facility (megaliters/year)

320.3

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

7

Comparison of discharges with previous reporting year

Much lower

Total water consumption at this facility (megaliters/year)

313.3

Comparison of consumption with previous reporting year

About the same

Please explain

Water withdrawal differs from the previous year due to decreased production. Water discharge differs from the previous reporting year due to process control improvements implemented in 2018. The plant was more efficient with water recirculation, thus less discharge compared to the previous year. Although discharge is much lower than the previous year, total volume is much less than withdrawal, thus water consumption slightly decreased compared to the previous year.

W5.1a

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

Facility reference number

Facility 1

Facility name

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

746.9

Comment

Facility reference number

Facility 2

Facility name

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

43.1

Comment

Facility reference number

Facility 3

Facility name

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

320.3

Comment

W5.1b

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

Facility reference number

Facility 1

Facility name

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

258.7

Comment

Facility reference number

Facility 2

Facility name

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

32.7

Comment

Facility reference number

Facility 3

Facility name

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

7

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

% recycled or reused

Not monitored

Comparison with previous reporting year

Please explain

Our recycled and reused water monitoring is based on site specific calculations. These calculations have not yet been developed for every facility. So while water is recycled/reused it is not yet monitored at 100% of our facilities.

Facility reference number

Facility 2

Facility name

% recycled or reused

Not monitored

Comparison with previous reporting year

Please explain

Our recycled and reused water monitoring is based on site specific calculations. These calculations have not yet been developed for every facility. So while water is recycled/reused it is not yet monitored at 100% of our facilities.

Facility reference number

Facility 3

Facility name

% recycled or reused

1-10%

Comparison with previous reporting year

Higher

Please explain

Percentage of water reused was higher as compared to the previous reporting year due to process control improvements implemented in 2018.

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

76-100

What standard and methodology was used?

AA1000

Water withdrawals – volume by source

% verified

76-100

What standard and methodology was used?

AA1000

Water withdrawals – quality

% verified

76-100

What standard and methodology was used?

AA1000

Water discharges – total volumes

% verified

76-100

What standard and methodology was used?

AA1000

Water discharges – volume by destination

% verified

76-100

What standard and methodology was used?

AA1000

Water discharges – volume by treatment method

% verified

76-100

What standard and methodology was used?

AA1000

Water discharge quality – quality by standard effluent parameters

% verified

76-100

What standard and methodology was used?

AA1000

Water discharge quality – temperature

% verified

Not verified

What standard and methodology was used?

NA

Water consumption – total volume

% verified

76-100

What standard and methodology was used?

AA1000

Water recycled/reused

% verified

76-100

What standard and methodology was used?

AA1000

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.

	Scope	Content	Please explain
Row 1	Company-wide	Description of business dependency on water Description of business impact on water	Owens Corning's water policy is company-wide and is incorporated within group policies. Our Environmental, Health, Safety and Product Stewardship Policy, Supplier Code of Conduct, and Climate Change Statement share our commitment to water stewardship. These policies are available publicly on our website. Our policies include commitments to stakeholder involvement. We have mapped our commitments to the SDGs most relevant to

		<p>Description of water-related performance standards for direct operations</p> <p>Company water targets and goals</p> <p>Commitment to align with public policy initiatives, such as the SDGs</p> <p>Commitments beyond regulatory compliance</p> <p>Commitment to stakeholder awareness and education</p> <p>Commitment to water stewardship and/or collective action</p> <p>Recognition of environmental linkages, for example, due to climate change</p>	<p>us. Our Environmental Management System (EMS) is a framework for setting and reviewing environmental objectives and targets, including water. We also have internal governance documents providing guidance on how to manage and reduce water within our business units and processes.</p> <p>Within all three of our business lines, water is a necessary resource to production. Water is a valuable resource becoming increasingly scarce in many geographic locations. When water scarcity increases, cost of water also increases, impacting operating costs. Reduction of overall water usage therefore reduces our footprint and operating costs. In order to reduce water usage, we must understand the water balance of the entire company. Owens Corning's 2020 sustainability goals include a 35% intensity reduction in water consumption. As we have made public sustainability commitments, we felt making our formal policies publicly available would increase accountability and transparency.</p>
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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
Chief Executive Officer (CEO)	<p>The complete Board of Directors, including the CEO, approved Owens Corning's sustainability goals, monitors progress against the goals, and have overall responsibility for ensuring we meet these goals. We have a 2020 water goal of reducing water intensity by 35% from 2010 levels. This goal is stated and reported on publicly. Our CEO and board approved the water goal, monitors progresses, and reviews water strategy. Sustainability is embedded in the company from the products we make to the actions we drive within the communities we operate. The directors'</p>

	code of conduct states that directors are expected to provide oversight, guidance, and direction on sustainability issues and opportunities that have potential impact on the reputation and long-term economic viability of the company. The Audit Committee of the Board of Directors also has accountability for sustainability. The CEO receives regular updates from the Chief Sustainability Officer on our sustainability progress, goals, and strategy.
Director on board	The complete Board of Directors monitors Owens Corning’s progress against sustainability. Sustainability is embedded in the company from the products we make to the actions we drive within the communities we operate. The directors’ code of conduct states that directors are expected to provide oversight, guidance, and direction on sustainability issues and opportunities that have potential impact on the reputation and long-term economic viability of the company. The Audit Committee of the Board of Directors also has accountability for sustainability. We have a 2020 water goal of reducing water intensity by 35% from 2010 levels. This goal is stated and reported on publicly. Our CEO and board approved these goals and have overall responsibility for ensuring we meet these goals.

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 Overseeing acquisitions and divestiture Overseeing major capital expenditures Providing employee incentives Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding major plans of action	The complete Board of Directors monitors Owens Corning’s progress against sustainability including water use. Sustainability is embedded in the company from the products we make to the actions we drive within the communities we operate. The directors’ code of conduct states that directors are expected to provide oversight, guidance, and direction on sustainability issues and opportunities that have potential impact on the reputation and long-term economic viability of the company. Water reduction is one of our 2020 sustainability goals. The board oversees our performance related to these goals, was part of the CSR strategy that set them, and approves annual financial incentive of high level employees including those tied to sustainability goals. Major acquisitions, capital projects, business strategy and plans, and innovation are all reviewed by the board. By overseeing acquisitions and divestiture, the board considers the impact of changes to the portfolio. As

	Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy Reviewing innovation/R&D priorities Setting performance objectives	part of the due diligence of potential new acquisitions the due diligence team reviews the potential impact on our footprint and on our sustainability goals, including water, energy, emissions, and waste. Impact on our CSR strategy is considered in each of these areas through our product stewardship review process. The audit committee is responsible for risk management policies including those related to potential water risk, such as regulation changes.
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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

Our VP and CSO reports directly to the CEO and is accountable for our company’s sustainability strategy and compliance with both legal and company requirements related to the environment, safety, health, and sustainability matters including water reduction, compliance with water related regulations, and managing our water risk. The CSO heads a sustainability organization of approximately 40 employees that is charged with product stewardship; product, supply chain, and environmental sustainability; reporting and analytics; and safety, medical, health, and wellness at the enterprise level. This team works with the sites and business units on water reduction and compliance projects. The board is briefed on sustainability issues and opportunities, including water, on a quarterly basis. This brief includes progress on our 2020 water goal, major changes, and if there were to be any major issues, they would be covered here as well.

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, trade associations
 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?

Our climate policy is stated on our sustainability website and states our commitment to reducing water use. Our policy work and engagement with trade groups is focused on these same goals – to help consumers and industry professionals employ water efficiency practices. in conjunction with Owens Corning or using Owens Corning's expertise and products. In addition, “expanding our impact through sustainability” is a company value. Our company values underpin our company operations, and all decisions are made through the lens of those corporate values, including sustainability. When engaging with policy makers, our government affairs team controls all aspects of our communications and ensures that these activities are aligned with our climate policy. If they are not, we reconsider the engagement with the possibility of ending it if an acceptable resolution cannot be met. We regularly review language and activities with both external affairs and sustainability and conduct legal reviews of all external communications including letters, testimony and activities with outside advocates or NGOs.

W6.6

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

No, but we plan to do so in the next two years

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	16-20	The results of our materiality study identified water as significant to both stakeholders and Owens Corning. Continuing to monitor, report, and responsibly manage our water usage is an important part of meeting company and stakeholder expectations. As a result,

			<p>water-use goals were included in our most recent set of 10-year sustainability goals. Water was also included in our first set of 10-year sustainability goals. Our business and financial objectives are to implement practices and technologies that reduce water use and provide financial performance which, at a minimum, provides a neutral return on the investment. We have installed reverse osmosis and other water treatment technologies at several plants to increase recycled water amounts, thus reducing water intake demand. This strategy has worked well for us over our last two sets of sustainability goals, as is evident in our ambitious goals and reported attainment. We are in the process of developing our next generation of long-term goals, with a target year of 2030, along with updating our materiality assessment.</p>
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	16-20	<p>Owens Corning is committed to improving water-use efficiency for our direct operations. The results of our materiality study identified water as significant to both stakeholders and Owens Corning. Continuing to monitor, report, and responsibly manage our water usage is an important part of meeting company and stakeholder expectations. We have a long-term strategy to drive down our consumption of water through employee engagement, focus, conservation, recycling/reuse, treatment, process innovation, and product design. Our strategy is delivered by setting ambitious long-term (10-year) goals, achieving them and then setting new goals. We are currently developing site-specific “context-based targets” for water. We are also participating in the U.S. DOE’s Water In-Plant Training program to identify water efficiency improvements while sharing the learnings across our global network. In 2018, we continued to make progress beyond our goal, with a 42% reduction against the base year. We are in the process of developing our next generation of goals, with a target year of 2030, along with updating our materiality assessment.</p>
Financial planning	Yes, water-related issues are integrated	16-20	<p>Expenses associated with water use, treatment, & discharge are standard operating costs of our manufacturing processes. To accurately plan for financial requirements, we need to include water-related costs. Our business and financial objectives are to implement practices & technologies that reduce water use & provide financial performance which, at a</p>

		<p>minimum, provides a neutral return on the investment. Water projects are included with all capital budget reviews and allocated by business. This review process includes business impact, payback, ROI, risk, sustainability impact, & metering opportunities. Individuals from each plant, finance, & sustainability evaluate potential projects such as chiller upgrades, wash-water system upgrades, & implementation of wastewater treatment facilities. For example, we installed a new process water reuse system in 2018 allowing water to be reused in more applications. Our long-term strategy is to use this system as a model for future installations across the portfolio, ultimately reducing withdrawal amounts & costs. Throughout the year, each project is tracked through a stage-gate process to ensure the project is yielding the expected deliverables. This strategy has worked well for us over our last two sets of sustainability goals, as is evident in our ambitious goals and reported attainment. We are in the process of developing our next generation of long-term goals, with a target year of 2030, along with updating our materiality assessment.</p>
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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)

-31.7

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

15

Water-related OPEX (+/- % change)

9.2

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

10

Please explain

Our water related CAPEX varies year to year based on necessary replacements, upgrades, and acquisitions. The decrease from 2017 to 2018 is primarily attributable to a large wastewater system treatment project completed in 2017. We expect higher

water-related capital expenditure in 2019 as compared to 2018.

Our OPEX is dependent on production and cost. Given our growth strategy and recent acquisitions, we expect OPEX to grow from 2018 to 2019.

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	

W7.3a

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

No

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

We are evaluating what benefit an internal price of water would have on our businesses as well as the feasibility of implementing one.

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	The results of our materiality study identified water as significant to both stakeholders and Owens Corning. Continuing to monitor, report, and responsibly manage our water usage is an important part of meeting company and

	<p>Site/facility specific targets and/or goals</p> <p>Country level targets and/or goals</p>	<p>Goals are monitored at the corporate level</p>	<p>stakeholder expectations. Our 2020 goals were set based on this stakeholder feedback for the company as a whole. Several of our global locations have implemented site specific targets which align with our corporate goals and reduce impact on the local water basin. While we track and monitor water use at the site level, this data is rolled up to the corporate level to be tracked against our company wide corporate goals.</p>
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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

Product water intensity

Level

Company-wide

Primary motivation

Reduced environmental impact

Description of target

Reduce company-wide water intensity (cubic meters of water per metric ton of production) by 35% by 2020 from 2010 levels. Since our production volumes can vary significantly year to year an intensity target allows us to separate production impacts from our water goal. We do not want to meet our water reduction goal by simply reducing production.

Quantitative metric

% reduction per unit of production

Baseline year

2010

Start year

2012

Target year

2020

% achieved

100

Please explain

In 2018, we continued to maintain progress beyond our goal with a 42% reduction against the baseline year.

W8.1b

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

Goal

Providing access to safely managed Water, Sanitation and Hygiene (WASH) in local communities

Level

Country level

Motivation

Shared value

Description of goal

In India and China, where many rural families migrate to urban centers to find work, many migrant families and their children live in villages and communities surrounding our plants. The children trail their peers academically and face a variety of challenges including lack of basic sanitation and clean water. It is our goal to partner with local communities and organizations to ensure the communities in which we operate have sufficient access to sanitary water by providing employee volunteerism and financial donations and through the Owens Corning Foundation. As access to safe WASH services is a more country specific need, this goal is set at a country level - targeting India and China. Our measure of success for this goal is to see an increase in the number of communities with access to WASH services year over year. This is an ongoing goal that is re-evaluated annually - once a project is installed we need to ensure it is maintained and as our company grows, the communities in which we operate and their needs will grow as well. Through acquisitions we are expanding into new areas with new needs. Our company is committed to high standards at all our facilities, globally. This includes high quality WASH services for our employees and their communities even where this may not be the norm.

Baseline year

2012

Start year

2013

End year

2030

Progress

In India, the Owens Corning Foundation partnered with United Way Mumbai in 2013 to complete community needs assessments for our facilities in that country. Since that time, Owens Corning has been highly active in these communities in India, where our efforts are aligned with United Nations Sustainable Development Goal #3, Good Health and Wellbeing and Goal #6, Clean Water and Sanitation. In fact, our India operations are among the most active and engaged facilities in all of Owens Corning. The Owens Corning Foundation has worked with India Habitat for Humanity, United Way Mumbai, and the HOPE Foundation to provide basic health services, clean water facilities, and basic sanitation in villages and schools. In 2016, a total of 800 people in these communities in India benefited directly from our sanitation facilities, more than 2,000 gained access to clean water. In 2017, a total of 550 students in these communities gained access to basic sanitation facilities and to clean water. Four families received toilet facilities as work began providing residents with sanitation. The program also provided communication and education regarding appropriate toilet use and positive hygiene practices for those families. Our threshold for success is to continuously increase WASH access in our communities based on local needs. In 2018, our efforts continued as we worked with Habitat for Humanity to install 50 toilet facilities in villages near our 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

Tradeoff

Type of linkage/tradeoff

Increased energy use

Description of linkage/tradeoff

Owens Corning's requires high quality water for our processes, particularly in our composites business. Substandard intake water quality can have a negative reaction with chemicals in our processes, impacting product quality. Treating water to meet the quality specifications increases energy use. Such treatment is needed for makeup

water, and also to prepare process water for reuse (which ultimately reduces water intake demand). Increased energy consumption can also lead to higher emissions. The portion of emissions associated with wastewater treatment is minor compared to our overall portfolio, accounting for less than 2% of scope 2 emissions.

Policy or action

Our EHS & Product Stewardship policy requires that all new products and significant process changes go through a product review process that identifies sustainability gains and losses (including water and GHG emissions). This allows people to take these tradeoffs into account when making decisions. At the corporate level we have engineers focused on making our water treatment processes as efficient and effective as possible. They assist our sites whenever necessary with data, research, planning, and conduct onsite visits to ensure the water treatment processes will work with as little maintenance and cost as possible. Our sustainability reporting metrics allow users to model the impact a change will have on water and emissions performance relative to our goals and determine if it should be implemented or not.

We manage this tradeoff by investing in energy efficiency measures. In parallel, we are increasing the portion of renewable energy purchases throughout our portfolio. Improving both energy efficiency and water-use efficiency makes our production more cost effective. We have not seen any significant changes in the measured impact of this tradeoff as water treatment levels stayed roughly the same from 2017 to 2018.

Linkage or tradeoff

Tradeoff

Type of linkage/tradeoff

Increased wastewater treatment

Description of linkage/tradeoff

By increasing the amount of water recycled in our processes, we are able to reduce water intake volumes. However, this also requires us to increase the level of wastewater treatment required at our sites. While there is a significant amount of water that is reused within the same closed-loop cycles, water that has been used in our processes contain chemicals that must be removed in order for the water to be recycled and put back into our processes. On-site process water treatment systems require up front construction and investment costs, as well as ongoing maintenance and operational costs. We estimate the cost of installing and maintaining additional water treatment processes to be about \$4 million. The more water we recycle, the higher the treatment costs and maintenance levels. Costs associated with ongoing wastewater treatment make up a large portion of our overall water related costs.

Policy or action

Our EHS & Product Stewardship policy requires that all new products and significant process changes go through a product review process that identifies sustainability gains

and losses (including water). This process allows people to take these tradeoffs into account when making decisions. At the corporate level we have engineers focused on making our wastewater treatment processes as efficient and effective as possible. They assist our sites whenever necessary with data, research, planning, and conduct onsite visits to ensure the wastewater treatment processes will work with as little maintenance and cost as possible. Our sustainability reporting metrics allow users to model the impact a change will have on water and emissions performance relative to our goals and determine if it should be implemented or not.

We manage this tradeoff by trying to minimize the amount of chemical treatment required through using biological treatment methods and optimizing our processes. Additionally, by improving water-use efficiency, we are able to reduce water intake volumes. In 2018, savings from water intake costs alone amounted to nearly \$2M.

W10. Verification

W10.1

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

Yes

W10.1a

(W10.1a) Which data points within your CDP disclosure have been verified, and which standards were used?

Disclosure module	Data verified	Verification standard	Please explain
W6. Governance	Owens Corning’s materiality processes and systems for stakeholder engagement. Tested mechanisms by calling and interviewing staff and contractors responsible for collecting and responding to stakeholder concerns. Material performance data collected at the corporate and site-levels to identify any material misstatements or process calculation errors. Conducted interviews of relevant managers and process owners at the company; and reviewed the Sustainability Report for material	AA1000AS	SCS Global Services’ (SCS) responsibility was to carry out a moderate level of assurance on the report in adherence to AccountAbility’s Principles of Inclusivity, Materiality and Responsiveness. A Type 2 Assurance Engagement was performed to evaluate Owens Corning against the AA1000 Principles to a moderate level.

	misstatements and its alignment to the requirements of the Global Reporting Initiative (GRI) Standards.		
W3. Procedures	Data to measure and calculate water usage for high risk facilities, as described in the CDP water use framework.	AA1000AS	SCS Global Services evaluated to a moderate level of assurance the reasonableness of the data that Owens Corning has prepared in order to measure and calculate their water usage for high risk facilities, as described in the CDP water use framework.
W4. Risks and opportunities	Data to measure and calculate water usage for high risk facilities, as described in the CDP water use framework.	AA1000AS	SCS Global Services evaluated to a moderate level of assurance the reasonableness of the data that Owens Corning has prepared in order to measure and calculate their water usage for high risk facilities, as described in the CDP water use framework.
W7. Strategy	Owens Corning's water management strategy includes evaluating several factors, including regional water scarcity, limited water availability, and rising water costs, pose risks for our operations and business expansion plans. We use water management tools and systems to accurately track our water usage and identify potential risks and environmental impacts. This information supports the development of robust strategies to mitigate risks associated with water use. Our management strategy enables us to optimize and reduce water consumption through proactive measures such as the recycling and reuse of water, and leak detection and repair.	AA1000AS	SCS Global Services evaluated to a moderate level of assurance the reasonableness our water management strategy included in the Report.

W8. Targets	Data to measure and calculate water usage for our facilities and progress against goals, as described in the CDP water use framework.	AA1000AS	SCS Global Services evaluated to a moderate level of assurance 2018 water usage performance data and 2018 progress towards 2020 sustainability goals included in the Report.
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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	Brian Chambers, President and Chief Executive Office	Chief Executive Officer (CEO)

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