WATER STEWARDSHIP POSITION STATEMENT

The current situation

Water is an increasingly stressed resource, recognised as one of the key challenges of the 21st century. A third of the global population lives in water-stressed countries[1], and that proportion will rise as populations grow, boosting demand for water in agriculture, industry and communities, with climate change also reducing water availability in some regions[2]. Food production requires adequate water supplies for growing crops, with agriculture being 70% of global freshwater consumption. Our business also depends on the strength of the communities where we manufacture our products, for whom sustainable supplies of safe water are critical.

Although we do not control operations in our extended value chain, we at Mars will play our part in addressing these challenges. We will be a responsible water steward by working to protect and improve water availability and eliminate unsustainable water use throughout our extended value chain. Over 98% of water used in our extended value chain is associated with crops or livestock for raw materials supplied to us, so we've mapped total water use across our extended global value chains to assess whether that water comes from natural rainfall or irrigation. Where our direct and indirect suppliers rely on irrigation, we've assessed whether the watersheds involved are experiencing stress. As a result, we are prioritizing our efforts on crops which we or our suppliers source at large volumes from watersheds where water is especially scarce, such as parts of Australia, India, Pakistan, Spain and the United States.

Mars has adopted the Alliance for Water Stewardship's definition of water stewardship: "*The use of water that is socially equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that involves site and catchment-based actions. Good water stewards understand their own water use, catchment context and shared risk in terms of water governance, water balance, water quality and important water-related areas; and then engage in meaningful individual and collective actions that benefit people and nature.*"[3]

Water stewardship is intrinsically linked with our other sustainability priorities. **Climate change** will impact water scarcity, while agricultural irrigation affects **land use** through its impact on crop yields. The availability of safe water and sanitation is a major issue facing humanity, and those with low **incomes** face increased water related risks.

Our primary focus until now has been on reducing the water our own operations withdraw.

However, simply using less cannot solve the problem, nor can a focus on our operations alone. The impacts of water use vary depending on geography and the water source – water is more precious in the desert than in the rainforest, and treated tap water is more valuable than collected rainwater or reused process water. Our approach to water now reflects this, by seeking to understand the impacts that our operations and those of our raw material suppliers have on both the availability and quality of water, at watershed level. As a result, we are introducing context-based water targets (CBWT) to reduce water impacts from activities in Mars' extended value chain. CBWT are based on science and informed by stakeholder consultation to reflect the varying societal demands and issues affecting the different watersheds our business touches. As there are no accepted methodologies for defining science-based corporate water targets, Mars is contributing to closing this gap[4]. In the meantime, we have defined a water-saving allocation approach using water-scarcity data from WRI's Aqueduct platform. This data has been used to quantify Mars' fair share of the water withdrawal reductions needed to address water scarcity in highly-stressed watersheds where we have activities. The Methodology and Glossary Section below explains our approach.

1 WHO: Ten Facts about Water, March 2009

2 The Copenhagen Diagnosis, 2009: Updating the World on the Latest Climate Science. Allison et al. The University of New South Wales Climate Change Research Centre, Sydney, Australia 2009, pp15-16

3 *AWS International Water Stewardship Standard, V1.0 2014 p6*

4 *WRI/MARS paper: From Doing Better to Doing Enough: Anchoring Corporate Sustainability Targets in Science*.

Our long-term ambition

Mars' water stewardship goal is to **ensure water use in our value chain is within annually renewable levels[5] by watershed.**

We chose this target because it is context-based, and so focuses on playing our part in solving water availability issues in the watersheds we operate in or source from. This is a global target for Mars Incorporated. In support of this overall target, we will work towards individual improvement targets for raw materials such as rice and mint that involve high water usage and are sourced from water-scarce areas. These targets will consider areas such as irrigation water efficiency and evapotranspiration benchmarks. Similarly, we have set intensity targets for our factories located in water-scarce areas.

Over time, we will cascade our water targets to our suppliers. We will encourage them to be transparent about their water impacts, such as through the CDP[6] water disclosure, and to participate in water stewardship initiatives and collaboration platforms.

To achieve our water target, Mars is committed to:

- Acting as an advocate for water stewardship and as a leader for selected crops and locations.
- Considering water impacts in business planning and decision-making.
- Engaging stakeholders, especially Mars Associates, suppliers and other organizations interested in water stewardship in locations where we operate or source materials from.
- Striving to use water efficiently; minimizing water loss; preventing pollution, and promoting water recycling and responsible waste water disposal.
- Setting context-based water targets that recognize individual watersheds as system boundaries, and to regularly communicating progress against these targets.
- Complying with all applicable legal and regulatory requirements.

Our Theory of Change

Mars is not generally the main water user in the watersheds we operate in or source from, and so must work with a wider community of organizations to solve water issues. Transparency and collaboration are essential to collectively play our part in addressing complex watershed issues, as no single company can make meaningful progress alone. Recognizing the need for multi-stakeholder engagement, Mars:

- Joined the UN Global Compact and UN CEO Water Mandate in 2015. As part of these commitments, Mars supports the UN Sustainable Development Goals (SDGs), particularly SDG 6 "Ensure Access to Water and Sanitation for all."
- Participates in the CEO Water Mandate's water stewardship collaboration forums and is a member of the Alliance for Water Stewardship (AWS). The AWS works with companies and NGOs to develop and support the use of the AWS International Stewardship Standard as a global, consistent set of water stewardship principles and a model for good practice.
- Is working with partners like WRI, WWF and the Pacific Institute to advance the standards for context based water target setting.

While collaboration is needed to solve water problems, we believe our approach to reducing our water impacts can set an example for others. We take an "understand, eliminate, reduce, reuse, treat and recycle" approach, as shown in the Table.

[5] See Glossary
[6] CDP are a charity who operate a global environmental impact disclosure system for investors, companies and civil society that is becoming the de facto reporting standard for climate, water and deforestation impacts.

Table: Examples demonstrating Mars' approach to water-use reduction

Strategy	Sourcing Example	Operations Example
Understand	Support or commission research into specific water impacts e.g. to understand potential ecosystem damage (e.g. runoff of nutrients and chemicals from fields into rivers and the sea) from sugarcane cultivation in Australia.	Identify Water Sanitation and Health (WASH) issues impacting people working at our sites. Undertake water stewardship reviews at production sites in water-scarce areas experiencing water issues to identify challenges and opportunities at the site and within its watershed.
Eliminate	Move sourcing of high water-use materials such as sugar, dairy or rice to regions of low water scarcity. Use alternative materials with lower water use or that are sourced from regions of lower water scarcity.	Address (WASH) issues impacting people working at our sites. Replace wet cleaning activities with dry cleaning.
Reduce	Implement more efficient irrigation techniques such as alternate wetting & drying (AWD) for rice, or drip irrigation in high water-stress regions. Promote use of robust water stewardship principles through established platforms such as Sustainable Rice Platform (SRP) and Good Agricultural Practices Compendium for Mint. As a leading SRP member, we support 2,000 basmati rice farmers in Pakistan and India to improve productivity and reduce water use. In Pakistan, we have already seen a 32% increase in farmer income and 30% reduction in water use, and we're working to expand these practices to rice farmers outside our supply chain. In 2016, we sourced all our basmati rice from SRP farmers. Promote use of higher yielding and more water-efficient varieties through R&D and supplier engagement.	Optimize cleaning cycles, improve water treatment techniques to reduce steam boiler and cooling tower blowdown. Mars designs new buildings greater than 1000m2 to LEED certification Silver level, or Gold for office buildings. This helps ensure water-efficient systems are designed for our buildings.
Reuse	Use rain water capture or grey water systems at farm level or in suppliers' manufacturing plants for toilet flushing, cooling towers and irrigation systems.	Recycle water from sterilization retorts. Use rain water capture or grey water systems for toilet flushing, cooling towers and irrigation.
Treat and Recycle	Encourage supplier sites to treat and reuse waste water as grey water.	Treat and reuse waste water as grey water.

If unsatisfied with the progress made using the above strategies, we will consider activities such as landscape restoration to recharge water levels to the level necessary to meet our targets. In preparation for this, we plan to establish principles and a framework for selecting water-recharge activities consistent with CBWT. These principles will govern our approach and guide our engagement with external stakeholders. Our initial thinking is that recharge activities will take place in the same watershed as the Mars operations or supply chains requiring additional water savings to meet their water-balance target. Any water-balance benefits Mars claims from water recharge activities will be independently verified as real and additional.

Short term actions

Mars has established shorter-term targets to encourage process towards our ambition:

- We will halve the gap to sustainable water usage levels** by 2025 from 2015 levels.
- We will improve water intensity (m^3/tonne) by 15% at factories in water-scarce locations** by 2020 (from a 2015 base).
- Twenty Mars factories facing the greatest water-related risks will complete water stewardship reviews in accordance with the AWS International Standard by 2020.

** See Glossary.

The graphic below illustrates our short-term target to "halve the gap to sustainable water usage levels". While the majority of agricultural raw materials in our value chain are rain fed, a small proportion of materials like mint, peanuts, rice and tomatoes require irrigation from surface and or ground water sources. Over 70% of the irrigation water in our value chain is currently used in locations which are not water scarce. However, the remainder is withdrawn from areas where water scarcity is high. Our target is to reduce our usage in these locations by the same proportion that all water users in the watershed must achieve. The Glossary explains this approach. We believe that long-term sourcing of irrigated raw materials from water-scarce areas is more likely to be viable if we eliminate the gap to sustainable water usage levels from our operations and extended value chain.

Mars Water Target

Units = million m³/Year

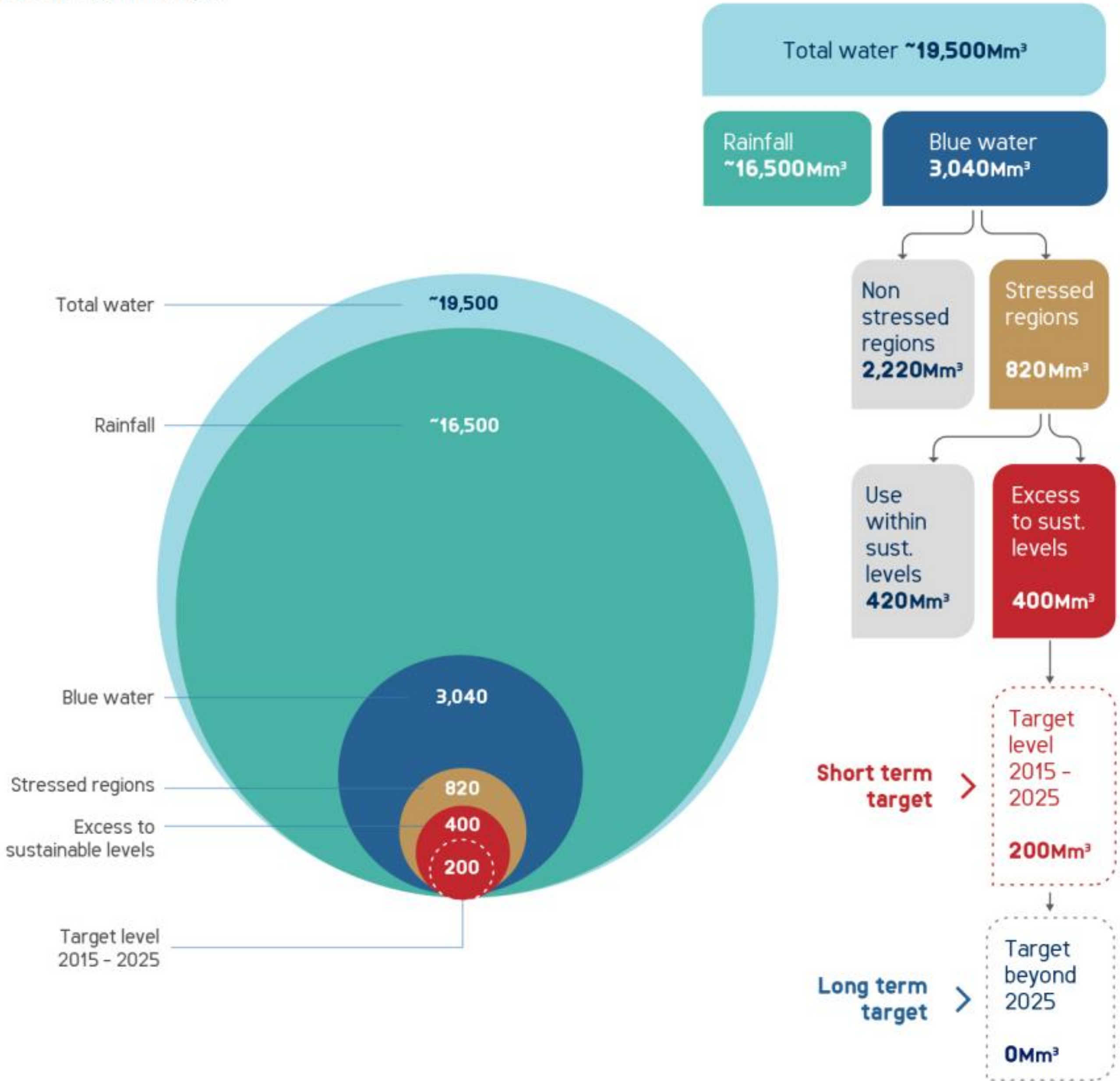

Figure 1: This graphic shows how Mars value chain water target "to halve the gap to sustainable water usage levels by 2025" has been calculated. All the blue water volumes shown are on a withdrawals basis. The calculation methodology is detailed in the Glossary section.

NOTE - We are continually improving the quality of our data on water use and these figures may change as we get even deeper insight into water use within our supply chain.

We report our water performance annually in our Principles in Action Summary and CDP water disclosure. The sustainability pages of mars.com communicate our water position and initiatives. Together, these actions meet our transparency commitment as a member of the UN CEO Water Mandate. Progress against our global target and supporting targets is reported to the Operational and Commercial leadership teams responsible for delivering the targeted improvements.

Mars has committed to purchase a number of our most important raw materials, including rice, from sources that have been certified (e.g. Rainforest Alliance, Fairtrade) or validated (Sustainable Rice Platform) as more sustainable. We recognize that the focus on water varies between certifications and standards. However, some standards, including the Sustainable Rice Platform, can provide a means of improving water stewardship and communicating water-efficiency best practice.

Wind energy has an extremely low water footprint compared with conventional electricity sources such as fossil fuels, biomass or nuclear fission. We have an ambitious, global, renewable electricity program in service of our climate commitments, with national-scale wind farms already providing renewable electricity for our sites in the U.S.A and the U.K, and a further wind project will start providing renewable electricity to our Mexican Operations during 2018. Though this is a potential strategy for reducing water use, the complexity involved in combining CBWT with an extended electricity supply and distribution network presents significant methodological challenges which we will explore in the future.

Where there are direct tradeoffs between water stewardship and carbon savings, such as cooling system design at factories in water-scarce locations, we seek to partner with other businesses and NGOs to establish science-based frameworks for business decision-making.

What's next

We will contribute to the development of the CBWT methodology and build understanding of water use in our supply chain, especially for water-intensive crops like mint, rice and tomatoes.

We will explore water recharge activities, to provide alternate ways to solve water scarcity issues in areas where we cannot close the gap to sustainable water use levels by reducing our own water use.

As our high-risk operational sites complete water-stewardship reviews, we will increase our understanding of the opportunities to address water impacts in our utility and production processes, and their watersheds. Our confectionery, food, and pet care segments are deploying sustainability improvement playbooks to help sites implement the most effective activities for reducing energy and water use.

Mars Food is partnering with the International Rice Research Institute, NGOs such as WWF and UNEP, and industry partners to implement sustainable rice cultivation with basmati rice farmers. We are working with almost 2,000 farmers in India and Pakistan, helping them learn new techniques to improve water efficiency, reduce and safely manage their use of fertilizers and pesticides, and improve farm worker health and safety. This demonstrates the type of multi-stakeholder approach required to address water scarcity and other sustainability challenges within our value chain.

Methodology and Glossary

Term	Definition
Mars usage	To calculate our water use, we map each material in our supply chain to point of origin and use water impact factors from life cycle assessment** to calculate blue water withdrawals** based on tonnes purchased. In time we will migrate, in high-impact locations, to use actual water withdrawal data from suppliers and farmers.
Scope of Mars' value chain water targets	To assess the gap to sustainable water usage levels for Mars, we need information on the amount of water withdrawn throughout our value chain, e.g. for agricultural irrigation or factory operations, and the location where these withdrawals occur. This information allows us to check whether a location is water-scarce, and assess whether our water use is unsustainable. We have this information for production sites and directly-purchased irrigated raw materials, so have calculated whether these activities contribute to water scarcity. However, some raw materials aren't yet included in our water program and targets, as we don't know where the water they need was withdrawn. The main exclusions are: 1. Dairy and meat products from livestock where we don't know the location of the surface water used to grow, or process, the animal feed. These materials represent 12% of Mars' blue water withdrawals for agricultural production. 2. Plastic and aluminum packaging materials where we don't know where the water used to manufacture the base materials was withdrawn.
Watershed Catchment River basin	The area of land from which all surface runoff and subsurface waters flow through a sequence of streams, rivers, aquifers and lakes into the sea or another outlet at a single river mouth, estuary or delta; and the area of water downstream affected by the site's discharge. (AWS std p28)
Blue Water	Fresh surface water and groundwater, in other words, the water in freshwater lakes, rivers and aquifers.
Blue Water Consumption	This represents the net water consumption from freshwater bodies at watershed level. Freshwater consumption is equal to the water withdrawn from freshwater bodies (i.e. municipal water, well water) minus the amount of water returned to the same watershed (i.e. via wastewater). The net difference is the amount of water consumed. Consumption could be due to evaporation, or inclusion of water in finished goods (like a bottled water product). We do not include rainwater/green water or water pollution/grey water into account in this calculation.
Blue Water Withdrawals	This represents the water withdrawn from freshwater bodies at watershed level (i.e. municipal water, surface water, well water).
Life cycle assessment	Where verifiable data is not available from the supplier or supply chain. Life cycle assessment (LCA) is used to calculate the blue water withdrawals** required to grow and process raw materials in different locations (eg. Water needed for irrigation or to make fertilizers and pesticides). LCA is a structured allocation methodology that applies ISO standard 14046 to calculate blue water consumption. Most of the LCA data Mars uses has come from the World Food Lifecycle Assessment Data Base. (https://quantis-intl.com/tools/databases/wfldb-food/). This is a collaboration project supported by many of the world's largest food manufacturers including Mars.
WRI Aqueduct	WRI's Web based water tool is used by Mars to map water scarcity globally. (http://www.wri.org/our-work/project/aqueduct). Mars reference the Aqueduct baseline water stress indicator to identify locations where we operate which are highly stressed and to calculate Mars fair share of water withdrawal reductions required.
Base line water stress (BWS)	The annual water withdrawals divided by the mean of available blue water in a watershed. Baseline water stress measures the level of competition for available water and estimates the degree to which freshwater availability is an ongoing concern. A threshold of 40% water use relative to supply signifies a severely water scarce location. (Aqueduct Water Risk Framework. WRI, 2013)
Water scarce locations	Locations where Aqueduct BWS value exceeds 40%.
"Sustainable water use"	Mars regards its water usage in a watershed to be sustainable if It is operating in a watershed with a BWS < 40%. Or watershed BWS >40% and Mars has reduced its total (supply chain) blue water withdrawals since its 2015 base year, in excess of the ratio that the current watershed BWS exceeds 40%. Or the gap to sustainable water use has been closed in the watershed by a combination of reduced supply chain water use and recharge/replenishment activities.
Gap to Sustainable water use level in a watershed	The Gap to sustainable water use levels in a watershed (000 m^3) = Annual total water withdrawals in watershed (000 m^3) x (BWS - 40%) / BWS where BWS = base line water stress for location from WRI Aqueduct see above.
Total MARS gap to sustainable water use level	Halve the gap to sustainable water use levels by 2025 from a 2015 base Summation of the gap to sustainable water use level in every water scarce watershed that Mars sources raw materials from or operates factories.
Calculation Example	In 2015 Mars water withdrawals = 2000 m3 in the "Styx" watershed with a Baseline Water Stress (BWS) = 75%. Gap to sustainable water use level = 2000 x (75 – 40)/75 = 933 m3 In 2025 Mars water withdrawals = 900 m3 in the "Styx" watershed with a Baseline Water Stress (BWS) = 80%. Gap to sustainable water use level = 900 x (80 – 40)/80 = 450 m3 Unsustainable water use has been reduced from 933 to 450 m3 in the "Styx" watershed = 52% reduction so the 2025 target has been met in this watershed.