



International
Tourism
Partnership

Water Stewardship For Hotel Companies

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**BUSINESS
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International Tourism Partnership

The voice for social and environmental responsibility in the hotel industry

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Executive Summary

Water crises have become a global concern in recent decades, to the point that 40% of the world's population now suffer water shortages for at least a month every year.

Countries forecast with the highest water stress in the coming years are also amongst those with the greatest tourism growth, putting hotel companies at the forefront of current and future water challenges (water scarcity, pollution, access to clean water, extreme weather events, governance).

Whilst being a global concern, water resources can only be managed at a local level, making corporate water management very complex for multinational hotel companies. This ITP guidance aims at bridging the gap between local water issues and company-wide water policies by recommending 6 steps essential to any corporate water stewardship strategy. Water stewardship in hotels addresses physical, health, regulative, reputational and financial risks hotel companies will increasingly face but also offers several opportunities to:

- Act responsibly and demonstrate leadership
- Protect the company's reputation
- Ensure a social licence to operate.
- Reduce costs and improve economic performance.
- Develop resilience to water scarcity

- Develop resilience to extreme weather events
- Respond to investor expectations
- Support government policy, comply with legislation prepare for future changes
- Demonstrate your contribution towards achieving SDG 6
- Ensure long-term resilience through valuing water as a natural capital

The steps set out below provide a reference for hotel companies working towards better water stewardship. They focus on strategic management practices and actions they can take to **embed water stewardship programmes across their portfolios**:

1. Understand your relationship with water

Quantify your current and future water use, identify its sources, impact and dependencies and share that information through reporting and engagement with local stakeholders.

2. Set targets and create a plan of action

Prioritize areas where the best impact can be made and define long-term targets based in science and local contexts. Set indicators for progress with trackable metrics and transparent performance indicators that each property can report against.

3. Manage water sustainably in your operations

Identify water efficiencies at property level, ensure adequate wastewater treatment, reduce your pressure on freshwater resources by recycling water and involve your staff and guests to support your water stewardship measures.

4. Work with suppliers on water

Analyse products and services of highest spending and engage with suppliers regarding their water stewardship to better identify and address your indirect impacts on water in basins where they are operating.

5. Build resilience to extreme events and water shortages

A water stewardship strategy should include procedures and provisions to provide immediate relief effort, address recovery needs and help mitigate against future occurrences of extreme weather events. Properties should focus on improving their resilience to floods, manage their freshwater supply and protect local communities when disaster strikes.

6. Collaborate on sustainable water management

Any hotel operating in a catchment can potentially impact on the quality of water and on other water users. Understand the local water risks and opportunities, engage with existing water initiatives, share information with the public sector and other water users, support access to clean water sanitation and hygiene (WASH).

Why this report?



In 2017 the International Tourism Partnership (ITP) set its “Vision” and “Goals” for the hotel industry to make a positive contribution to the United Nations Development Goals (SDGs), including SDG 6.4: By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

ITP’s goal is to “support increased water-use efficiency, sustainable withdrawals and supply of freshwater to address water scarcity and reduce the number of people affected by water scarcity by embedding water stewardship programmes across hotel portfolios”. This report is intended as a practical resource to define “water stewardship” in the hotel industry to help companies manage their water use and impacts better through six steps.

Water issues such as scarcity, pollution and community access to clean water are intrinsically linked to their local context which makes them complex to address by companies operating in hundreds of locations around the world. Rather than providing a “blanket approach”, these six steps explain the importance of looking after water in the hotel industry and what actions hotels can take to embed water stewardship programmes across their portfolios.

Current water issues; the big picture

Water crises have been identified as the 3rd most impactful global risk by the 2016 World Economic Forum Global Risk Report. By 2030, global demand for water is expected to grow by 50%¹

Water scarcity

The impact of growing human activity, population and climate change mean that over a billion people lack access to improved water². 2.7 billion (40% of the world’s population) suffer water shortages for at least a month each year. The Organisation for Economic Co-operation and Development (OECD) estimates that 4 billion people could be living in water scarce areas by 2050. According to the World Water Council, 80% to 90% of the scarce water in many of the world’s arid and semi-arid river basins is already being used, and over 70% of the world’s major rivers no longer reach the sea.

Water quality

Water scarcity is only a part of the equation as the current pollution and lack of water treatment currently makes 12% of the world population lack clean drinking water. 4,500 children die every day due to lack of access to clean water, and water-related diseases account for 3.5 million deaths each year, far more than car accidents and AIDS combined³.

Many hotels around the world operate in areas where local wastewater infrastructure is either non-existent or of limited capacity (e.g. India: 9% of wastewater treated, Vietnam: 4% of wastewater treated⁴), which increases the risk of direct discharge of wastewater into local river basins and oceans without treatment. This creates ecological damage, health and safety issues

¹ UNHABITAT (2016), World Cities Report 2016: Urbanization and development: <http://wcr.unhabitat.org/wp-content/uploads/sites/16/2016/05/WCR-%20Full-Report-2016.pdf>

² WEF (2016) [The Global Risks Report 2016, 11th edition](#)

³ Source: [World Water Council](#)

⁴ Source: Asia Development Bank, 2016

for local populations and decreases the attractiveness of such destinations. Severe water pollution can also put at risk hotels' own water supply safety.

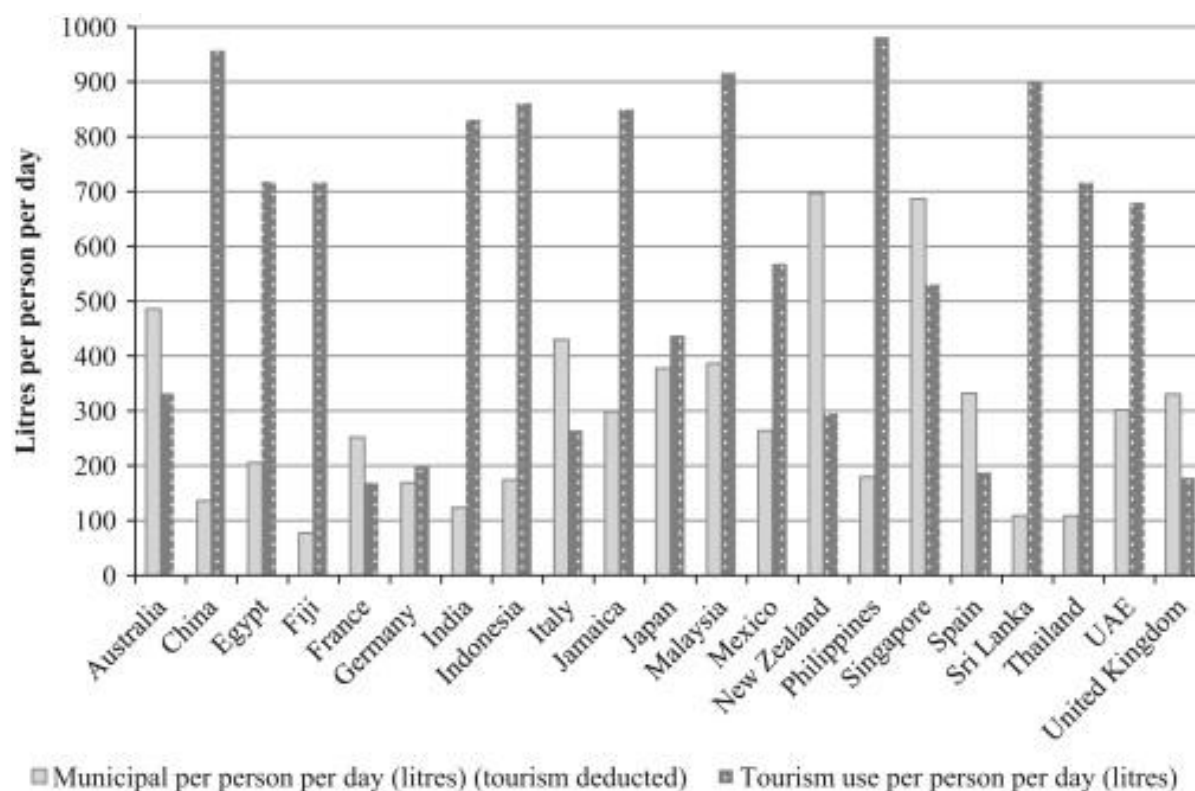
Access to clean water for guests, staff and communities

Access to clean water for local staff and communities is closely linked to water scarcity. Luxurious and water intensive features offered in hotels (swimming pools, golf courses, landscaping, etc.) create significant contrast between water availability for guests and that for surrounding populations in water scarce areas. As an example, tourism uses on average 8.3 times more water per person per day than locals in Sri Lanka, 7 times more than locals in China, and 5 times more than locals in Indonesia. In 2017, 844 million people still lacked a basic drinking water service, and 263 million people spent over 30 minutes per round trip to collect drinking water⁶.

Future threats to water access, sanitation and hygiene will potentially cause disruption at property level if staff members (or their families), suppliers and local communities are affected by water-related illnesses caused by water scarcity and the use of dirty water.

Local authorities already enforce water use restrictions during periods of droughts to ensure an equitable share of freshwater between different local users. These regulations will increase in water scarce areas (e.g. California) which directly impacts hotel operations and guest experience.

Figure 1: Comparison of municipal and tourism water use per person per day⁷



⁵ Source: S. Becken, <http://www.sciencedirect.com/science/article/pii/S2212371714000341>

⁶ Source: [World Health Organization \(WHO\) and the United Nations Children's Fund \(UNICEF\), Progress on drinking water, sanitation and hygiene: 2017](http://www.who.int/news-room/fact-sheets/detail/sanitation-and-hygiene-2017)

⁷ Source: S. Becken, <http://www.sciencedirect.com/science/article/pii/S2212371714000341>

Extreme weather events

The current water crisis and influence with climate change means companies and communities should be able to handle both “too little” (droughts) and “too much” water (storms). As the frequency and severity of extreme events is increasing (extremes that previously occurred every 1,000 days are now happening 4 or 5 times more often⁸), flood/storm resilient networks, infrastructure and management systems will be required to face low and peak times of consumption and contribute to SDG 11.5⁹ and 13.1¹⁰.

Water governance

Water issues affect all users of a water catchment and good governance requires mechanisms to ensure that water is managed equitably as a resource. This implies political, social, economic and administrative systems to be in place to ensure the delivery of water services at all levels of society. Water governance challenges throughout the world prevent addressing other water issues (e.g. scarcity), often due to low transparency, lack of coordination between public and private entities, and insufficient financing mechanisms to develop and maintain infrastructure¹¹.

Why water is crucial to hotels



No hotel can run without water. Water plays a major part of everyday operations and hotels rely on its availability with adequate quality for their service delivery and their development. It is used and consumed by every person working or staying in a property, may it be in back of house or in guest and meeting rooms.

Our 2013 risk assessment and stakeholder engagement in 2014 and 2016 confirmed the importance of water issues in the hotel sector. Water has consistently been placed as a top priority issue when ITP has consulted with experts and hotel companies about material sustainability issues. Many hotels exist to support tourism around a water feature (e.g. lake, coast, river) and could

be out of business if it was to be altered or polluted.

The value of water exceeds its current price. Water often falls outside of hotel companies' priority action in their approach to sustainability, in most cases because of its low price. It is hard for hotel operators to demonstrate a business case when the payback period of any investment in water infrastructure is counted in several years. Yet water crises in many parts of the world are already severe and as we heard it during ITP's 2016 stakeholder dialogue in Asia-Pacific: *“if you don't have water in a hotel, you don't have a hotel”*. WWF and the International Finance Corporation (IFC) have demonstrated how water connects to shareholder value using financial accounting methods¹². To better account for the actual value of water, their approach revisits financial statements such as balance sheets and income statements to detail how many of their categories (e.g. assets, liabilities) can be affected by water. Annexes 1 and 2 of this document provide examples of this approach. The [Ecolab Water Risk Monetizer](#) also offers an innovative way to link water risk with monetary value in large businesses.

⁸ Source: [Nature Climate Change](#) (2015). E. M. Fischer & R. Knutti: Anthropogenic contribution to global occurrence of heavy-precipitation and high-temperature extremes

⁹ SDG 11.5: By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

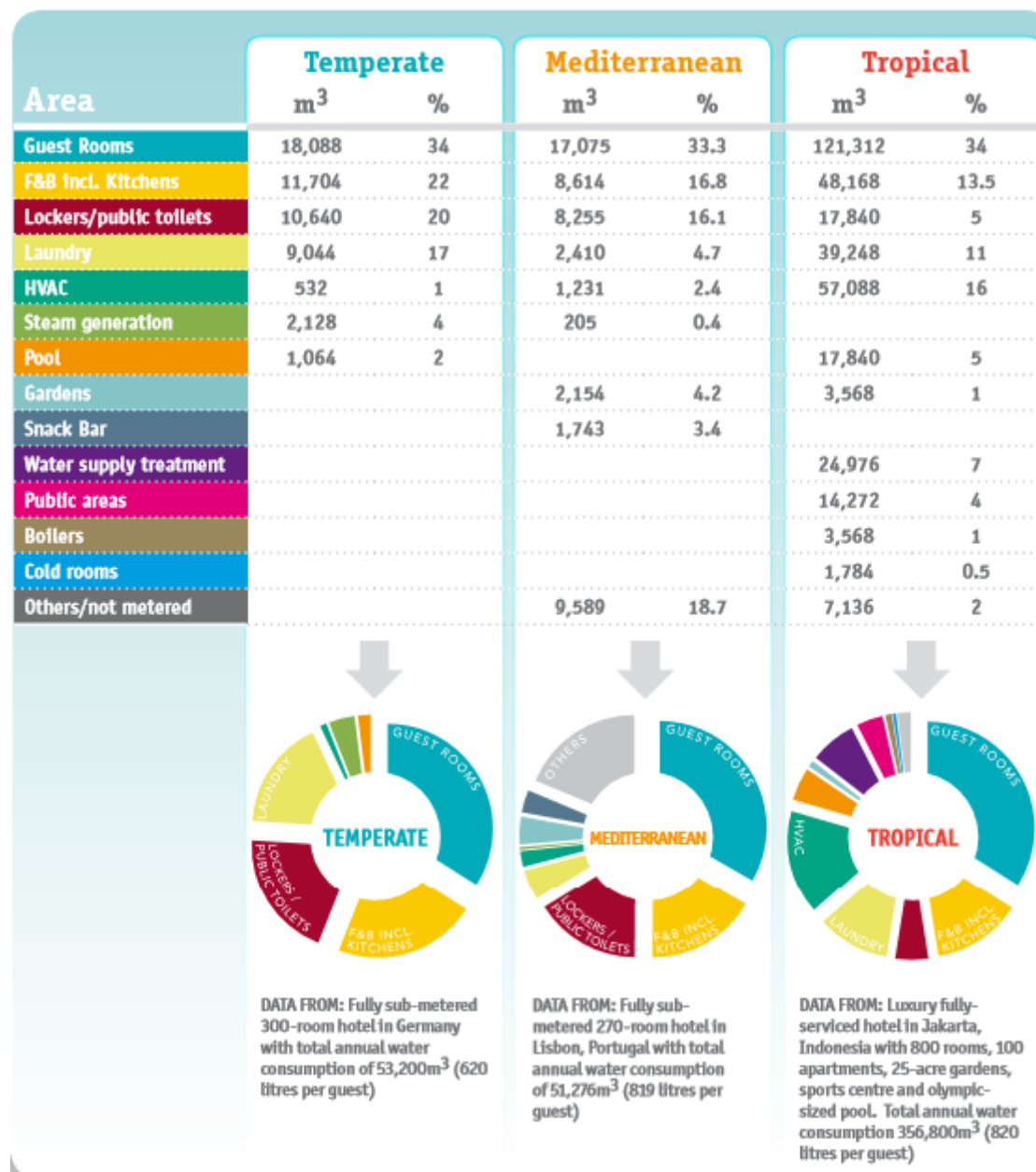
¹⁰ SDG 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

¹¹ See Pacific Institute : [Global Water Governance in the 21st Century](#), July 2013

¹² Source: WWF, IFC: [The value of water: A framework for understanding water valuation, risk and stewardship](#), Discussion Draft, August 2015

Resilience and dependency on water is particularly important when looking at hotel development in the coming years. The sector’s growth in water scarce countries such as China (where hotel development continues at a pace that would see at least three new 150+ room hotels open every day for the next 25 years) or India calls for careful planning and water risk assessments to avoid depleting or polluting water resources and to ensure water supply in years to come.

Figure 2: Areas of direct water consumption in hotels (source: Green Hotelier)¹³



NB: This figure doesn’t include the water footprint of purchased goods and services, described in step 4

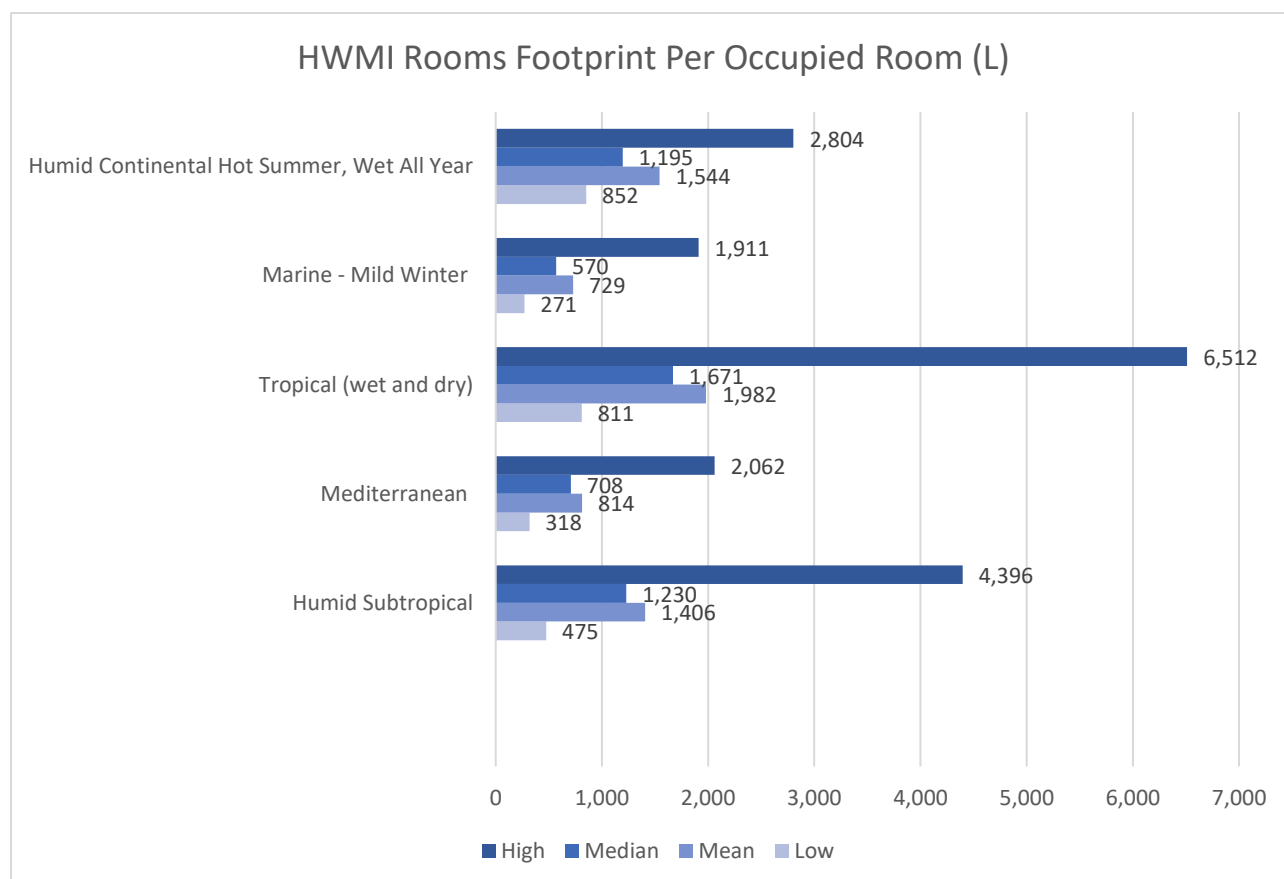
¹³ Source: <http://www.greenhotelier.org/category/our-manuals/environmental-management-for-hotels/>

Water risks in the hotel sector

Water can represent significant physical, health, regulative, and reputational risks for hotel companies. Internal programmes have largely focused on guest-facing initiatives such as incentives to reduce towel replacement or on-site water bottling. Although they can be efficient for awareness raising, they ultimately don't address water security¹⁴ in the long term and issues such as pollution or local scarcity risk.

Physical risk: A hotel room can consume up to 1,500 litres per occupied room (using the Hotel Water Measurement Initiative - HWMI to measure water use). This includes all on-site operations and services as well as outsourced laundry. Such a high consumption per room can amount to hundred thousands of litres used by a single property every day and puts hotels in a situation of high dependency to local water supply and potentially as significant contributors to local water resources consumption. Water shortages can impact operations directly (e.g. in [India](#) and [California](#) in recent years: droughts led to water restrictions leading hotels to resort to expensive water tankers from private suppliers), but also limit the capacity of local suppliers to operate.

Figure 3: High, median, mean and low HWMI rooms footprints per occupied room in different climates, illustrating the contrast of water use between properties in the same climate zone (source: Cornell Hotel Sustainability Benchmark 2017)



Health risk: water pollution is a form of water scarcity as it makes freshwater resources improper for use and consumption. Sometimes the largest water related risk for a hotel can come from deficient supply systems delivering unsustainable water access, sanitation and

¹⁴ Water security is the availability of an acceptable quantity and quality of water for health, livelihoods, ecosystems and production, coupled with an acceptable level of water-related risks to people, environments and economies. See [Wateraid's Water Security Framework](#) for more information.

hygiene (WASH). Domestic supply is always the top priority during pollution-related scarcity events and hotels may need to shut down some of their most consumptive services such as swimming pools in that period.

Regulatory risk: Droughts, water shortages and pollution lead local governments to take increasingly stringent action to limit water consumption and ensure access to water to businesses and communities. These regulations are both seasonal (e.g. California, see above) and long term (e.g. Chinese “Water Ten Plan¹⁵”). “Soft” regulation is also an incentive to invest towards better water stewardship as new building standards emerge (e.g. Three Star System in China¹⁶, ASTM Standard E2728 – 11¹⁷, ILO WASH@work handbook¹⁸). Stricter regulation may lead to hotels to have their own wastewater treatment systems in place to be compliant.

Reputational risk: hotels can be targeted by local stakeholders for their impact on water scarcity (for the large amounts they use and the contrast between guests and local communities’ consumption) and on water quality, when wastewater is released into rivers or coastal areas without or with poor treatment. Tourism Concern highlighted some cases of water pollution by hotels in India, the Gambia and Bali in 2012. Pollution affects local populations but also hotels in a more visible way than scarcity: polluting a popular beach or pristine coral reef or protected area can have direct impacts on customer choices.

Financial risk: Water risks are materializing into financial risks through the increasing demand from investors to report on detrimental impacts related to water. Frameworks such as the CDP Water Questionnaire provides robust information about the cost of these risks:

In 2016, disclosing companies reported US\$14 billion in water-related impacts, a five-fold increase from the previous year. Over a quarter of companies have experienced detrimental impacts from water in 2016, and companies expect over half (54%) of the 4,416 water risks they identified to materialize within the next six years¹⁹. Costs can materialise from direct (e.g. infrastructure leakage) or indirect impacts such as contaminated water making local staff (or their families) unable to work in a hotel.



¹⁵ See: http://english.gov.cn/policies/latest_releases/2015/04/16/content_281475090170164.htm

¹⁶ Source; <http://www.chinabusinessreview.com/chinas-green-building-future/>

¹⁷ See: <https://www.astm.org/Standards/E2728.htm>

¹⁸ See http://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/publication/wcms_535058.pdf

¹⁹ CDP (2016): Thirsty business: Why water is vital to climate action. [2016 Annual Report of Corporate Water Disclosure](#)

10 reasons why hotel companies should take action

<p>1. Act responsibly and demonstrate leadership</p> <p>Hotel companies have a responsibility and interest in managing water sustainably in the areas they operate in and buy from. Water is a shared resource yet very few corporations have taken ownership of this issue. Hotel companies have an opportunity to lead the way on water stewardship and inspire others by example.</p>	<p>2. Protect reputation</p> <p>Reputational risk around water issues is already high in water scarce areas. The amount of water used in hotels tends to exceed local consumption by far therefore exposing them to public criticism. This risk will be aggravated in the coming years due to the increasing number of extreme weather events.</p>
<p>3. Ensure a social licence to operate.</p> <p>At catchment level, hotels need to ensure that they are not taking an unfair share of water, or polluting local ecosystems, and potentially creating grievances. ITP’s stakeholder dialogues on water highlighted that the industry could potentially “place luxury next to misery” if it didn’t improve its water stewardship.</p>	<p>4. Reduce costs and improve economic performance.</p> <p>Despite the low price of water in most locations, cost savings can be made by improving water consumption and disposal. Water infrastructure is also powered by energy and better water management can be paired with energy savings. Water can also affect performance when shortages or pollution impact staff.</p>
<p>5. Develop resilience to water scarcity: secure your own supply</p> <p>No hotel can run without clean water. Increasingly frequent and severe drought periods and water shortages lead public authorities to restrict usage, impacting the guest experience and local suppliers. Ultimately, securing water supply is about making sure a hotel can still be in business in 20 or 30 years.</p>	<p>6. Develop resilience to extreme weather events</p> <p>Understanding the risks arising from extreme weather events where a hotel operates is crucial to avoid large-scale damage. Hotels can play an important role in disaster relief and must make sure they are prepared to provide shelter for surrounding communities.</p>
<p>7. Respond to investor expectations</p> <p>Investors are increasingly concerned about the threats that poorly understood and managed water risks pose to the future performance of their investments. Through CDP, a large and growing number of institutional investors are holding companies accountable and are asking how they are addressing their water impacts and associated risks and opportunities.</p>	<p>8. Support, comply and anticipate government policy</p> <p>Water related regulation can impact your bottom line in the short term (e.g. use restrictions during droughts) and in the long term through utility pricing and legal requirements on water quality (e.g. EU directive on urban waste-water treatment²⁰), efficiency and construction standards²¹</p>
<p>9. Demonstrate your contribution towards achieving SDG 6 and ITP Water Goal</p> <p>Companies can contribute towards SDG 6 by supporting ITP’s Goal on water “to embed water stewardship programmes, to reduce the number of people affected by water scarcity; also improve water-use efficiency and identify ways to address water scarcity”.</p>	<p>10. Ensure long-term resilience through valuing water as a natural capital</p> <p>The cost of purchased water is often low, but how much can a water shortage or pollution cost your hotel? Putting a value on the services your company draws from water (e.g. landscaping, wildlife, sports) will enable more informed investment decisions.</p>

²⁰ See: [EU Water Framework Directive](#)

²¹ See: http://english.gov.cn/policies/latest_releases/2015/04/16/content_281475090170164.htm

6 recommended steps for a water stewardship strategy

The steps set out below provide a reference for hotel companies working towards better water stewardship. They focus on strategic management practices and actions that can be applied across entire portfolios, rather than technical solutions at property level. These steps are interconnected and may be followed sequentially, in a different order or all at the same time.

ITP recommends including them in a water stewardship strategy but there is no fixed formula for action. Individual and collaborative efforts are needed to address challenges and water policies should be tailored to suit each company and the needs of the catchment.

1. Understand your relationship with water



Understanding your relationship is a crucial step of any water stewardship strategy and enables to undertake further steps with the necessary information. It means understanding the local context where hotels operate in depth. In practice, hotel companies leading on this issue have mapped their entire portfolio and pipeline hotels against water risks to tailor property-specific and context-based action plans.

Water sourcing and wastewater treatment is often done in a different river basin, especially for large cities. Hotels may find out that their operations are in no-risk areas, when in fact their water may be coming from or discharged at a water stressed region. Following the 5 steps below will help you address water issues that are most relevant:

- **Quantify your current water use:** water use in a hotel can vary greatly between properties in various locations and climate zones. Recent benchmarking data shows that hotel water usage per occupied room can range from 250 litres to more than 5,000 litres²². Quantifying the water used in all properties is crucial as a first step and allows benchmarking and prioritization among properties in your portfolio. ITP created the [Hotel Water Measurement Initiative \(HWMI\)](#) in 2016 to provide a consistent way of measuring and reporting water use.
- **Identify the sources, impact and dependencies of your water use:** the impact of a hotel on local water resources doesn't only depend on *how much* it consumes. As an example, high water use in a water-rich location can have minor impact whereas an average water use in a water-scarce area can significantly affect local water resources. To avoid depleting local basins they rely on, companies need to analyse where their water is coming from (i.e. which catchment is being used: river, lake, groundwater...), potential use-conflicts, when to use more or less of it (e.g. wet/dry season), and what infrastructure exists to treat wastewater and ensure access to freshwater to local populations²³. As part of your water risk assessment, WASH provision and potentially related risks should also be assessed within the workplace, in the communities where you operate and in the hotel supply chain.
- **Report your water use:** ITP encourages hotels and hotel companies to participate in and submit data confidentially to the annual Cornell Hotel Sustainability Benchmarking Index (this data is displayed in ITP's [Hotel Footprinting Tool](#)). Reporting and sharing information about your current impact on water helps benchmarking and identifying collective challenges in addressing water issues in the hotel sector. Participating in wider reporting frameworks

²² Cornell University Centre for Hospitality Research - [Hotel Sustainability Benchmarking Index 2016](#): Energy, Water, and Carbon

²³ See 2015 Beverage Industry Environmental Roundtable concept paper on performance in watershed context for a step by step description of water "[performance, dependencies and impacts](#)"

such as the [CDP Water questionnaire](#) improves the transparency of your water impacts and strategy for investors and stakeholders.

- **Share information on water with local stakeholders:** Water issues are often a result of shortcomings in public sector management, largely because of lack of resources or a responsibility so wide that it is difficult to fulfil without support from users. Companies applying a water stewardship approach can learn a lot in a short time by speaking to their local experts, who are usually public-sector offices. Sharing information about your water use and impacts will also enable local authorities to make better decisions when defining use rights (e.g. in times of droughts) and when upgrading or extending infrastructure.



Useful Tools, guidance and initiatives

EarthCheck – EarthCheck is a leading scientific benchmarking certification and advisory group for travel and tourism. Their white paper '[From Challenges to Solutions - Providing the business case](#)' provides the tourism industry with evidence-based data on water stress and scarcity.

Ecolab Water Risk Monetizer - Developed by Ecolab in partnership with Trucost and Microsoft, the Water Risk Monetizer provides actionable information to help businesses understand water-related risks and quantify risks in financial terms to inform responsible decisions that enable growth. See www.WaterRiskMonetizer.com

ITP Hotel Footprinting Tool - The [Hotel Footprinting Tool](#) allows users to search the range of carbon emissions and energy usage among hotels around the world. The tool will be updated in the second half of 2018 to include water use in properties worldwide.

ITP Hotel Water Measurement Initiative (HWMI) - HWMI is the hotel industry's first standardised methodology and tool for water sources and uses, allowing hotels of any size anywhere in the world to measure and record their water footprint per room, stay or meeting in the same consistent way. You can [learn more about HWMI here](#).

ITP – SIWI Global Water Risk Assessment - With a focus on the hotel industry, the [report](#) details water risk issues in key development areas - Rio de Janeiro, Beijing and Shanghai, India's Golden Triangle and Dubai.

UN Global Compact CEO Water Mandate – A public-private initiative designed to assist companies in the development, implementation and disclosure of water sustainability policies and practices. www.unglobalcompact.org

WRI's Aqueduct tool – Online global database of global-level water risk indicators and tool for measuring and reporting geographic water risk. www.wri.org/our-work/project/aqueduct

WWF Water Risk Filter tool – Online water risk tool that provides the ability to explore, assess, value and respond to basin and operational water risk. Version 5.0 (to be released August 2018) of the Water Risk Filter will draw on basin and operational water risk data to recommend customized site or portfolio actions (i.e., a tailored water stewardship action plan for each property or a suite of properties according to their context). It will also have a new valuation calculator and additional high-resolution data sets for 10 countries. <http://waterriskfilter.panda.org/>

WASHdata.org is a global data set for WASH including subnational data.

2. Set targets and create a plan of action



Creating a plan of action with clear targets and milestones to track progress is the next step. Most company water policies on operational water efficiency and should be broadened to address the full range of impacts and risks identified in step 1. To do so, good practice is to define targets and implementation plans according to the following elements:

- **Tie in your targets with UN SDGs and ITP Goals:** Global and sector initiatives such as the SDGs²⁴ and ITP Goals were designed to help businesses focus their efforts on the most pressing environmental and social issues by

providing a clear horizon and scale for change to happen by 2030. Tying your corporate water targets with these frameworks will be a clear demonstration of your contribution towards achieving these goals.

- SDG 6.4: “By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity”.
- ITP goal on water: “ITP commits to support increased water-use efficiency, sustainable withdrawals and supply of freshwater to address water scarcity and reduce the number of people affected by water scarcity by embedding water stewardship programmes across hotel portfolios.”

- **Make your targets and action relevant at global and local level:** A thorough water risk assessment (step 1) should highlight your global impact as well as areas of highest water risk and opportunities. Any property in your portfolio should manage water to the best of its capacity, which is why setting a **company-wide long-term strategy** with goals, milestones and directions for each department and region of the business is important. However, water risk is by essence a localised issue, which calls for the development of tailored **property-level stewardship action plans** in the priority areas identified in your risk assessment.
- **Address your current and future impact:** the growth of the tourism industry (By 2030, UNWTO forecasts international tourist arrivals to reach 1.8 billion, compared to 1,235 million in 2016²⁵) implies a large-scale development of hotel portfolios in the coming years which will add pressure on local water resources. When setting water targets for the company, it is crucial to **take future developments into account** to assess future related risks.

Certain characteristics of properties can strongly influence future water use. Research conducted by EarthCheck shows that having pool facilities can raise water use up to 30% per guest night depending on the number of pools. Having an extra dining or bar facility increases average per guest night water use by 6%²⁶.

²⁴ See SDGs 6.1, 6.4, 6.6, 11.5, 13.1, 17

²⁵ [UNWTO Tourism Highlights 2017](#)

²⁶ EarthCheck Research Institute, 2nd White Paper Tourism and Water: From Challenges to Solutions, Providing the Business Case, March 2014

- **Explore the use of contextual & context-based targets:** water risks faced by hotels worldwide are most often created by shared water challenges in the basins in which they operate. In 2017 six leading water organisations (CDP, CEO Water Mandate, The Nature Conservancy, Pacific Institute, World Resource Institute, WWF) collaborated to define best practice for corporate water targets²⁷. They recommend 'context-based targets' as the preferred pathway to setting meaningful corporate targets on water and define 3 main criteria to set them:
 - Use science as a foundation for water targets
 - Take local public policy into account
 - Account for the needs and perspectives of local stakeholders
- **Show commitment and achieve recognition through seeking certification** (e.g. Alliance for Water Stewardship (AWS) Standard, European Water Stewardship (EWS) Standard, ISO14046, achieving an A-rating in CDP's water questionnaire, focusing on investor expectations (using Ceres Aqua Gauge Tool²⁸) or entering awards (e.g. Green Hotelier Awards and BITC's Responsible Business Awards).



Case studies from ITP members



California Hyatt hotels Water Conservation Initiative

In the context of ongoing droughts in California and following the State Governor Executive Order directing the State Water Resources Control Board to achieve a 25% reduction in potable urban water in less than a year, Hyatt's Americas office sent a requirement to General Managers at managed hotels to develop property-specific Water Conservation Plans.

As part of this requirement, a template for developing a plan, and a detailed list of specific opportunity areas supported by potential for water savings was distributed to hotels. The idea behind this was that while hotels had been working on various projects when possible, they would benefit from taking a step back, prioritizing investments where needed, and documenting operational procedures that would help their hotels conserve water.

As a result of putting more organization and planning behind water conservation, the group of California managed full-service hotels were able to achieve a 12% reduction in water consumption per guest night in just one year. In 2016, these hotels operating since 2014 reached an 18% reduction per guest night. Helping hotels organise their water initiatives by near-term, mid-term, and long-term priorities, then requiring planning was a no-cost approach to ensure steps were put in motion in a strategic way.

²⁷ CDP, CEO Water Mandate, The Nature Conservancy, Pacific Institute, World Resource Institute, WWF International: [Exploring the case for corporate context-based targets](#), April 2017

²⁸ See <https://www.ceres.org/resources/tools/ceres-aqua-gauge-comprehensive-assessment-tool-evaluating-corporate-management>



Hilton's multi-year water stewardship strategy

Hilton has a global partnership with the World Wildlife Fund (WWF) to develop a multi-year water stewardship strategy. Through this collaboration, Hilton is evaluating its entire value chain to identify regions that are exposed to high water risk, as well as the communities that are increasingly exposed to water stress. Working with its partner businesses, vendors and suppliers, Hilton will take steps to reduce water usage and enhance and protect clean water resources in the areas surrounding its hotels, and share best practices across the hotel industry.

Hilton's water strategy focuses on measuring water consumption through its corporate responsibility management system, LightStay, and translating the data into relevant metrics that team members, owners and management groups can use to drive decisions and set goals to improve performance and long-term value. Consumption data helps uncover best practices that can be leveraged to develop global tools, processes and training to support hotels. The company requires its hotels to set goals and complete improvement projects based on their local operating context and environment.



Hyatt sets more stringent targets in water stressed areas

Hyatt hotels around the world are working towards water efficiency goals: a 25% reduction per guest night by 2020 compared to a 2006 baseline in each of Hyatt's regions (Hyatt Americas, Asia Pacific, Europe Africa Middle East & Southwest Asia); with a 30% goal in water stressed areas. Properties have been assigned customized goals based on their performance relative to similar hotel sets, WRI water risk ranking, and other considerations.

Useful Tools, guidance and initiatives

Alliance for Water Stewardship's (AWS) Standard – An international standard that defines a set of water stewardship criteria and indicators for how water should be stewarded at a site and catchment level. The standard can be used as a water stewardship framework, and is also accompanied by extensive water stewardship guidance. www.allianceforwaterstewardship.org

CDP Water Programme – Provides a water disclosure framework for companies to address their water-related impacts, risks and opportunities. The questionnaire supports companies along their journey towards better water stewardship in addition to communicating with investors and large purchasing organisations. www.cdp.net

Ceres Aqua Gauge - a flexible Excel-based tool and associated methodology that allows investors to scorecard a company's water management activities against detailed definitions of leading practice. [More information here.](#)

ISO14046 – Specifies principles, requirements and guidelines related to water footprint assessment of products, processes and organisations based on life cycle assessment. www.iso.org/iso/catalogue_detail?csnumber=43263

Sustainable Development Goals (SDGs) Knowledge Platform – summarizes information, progress and indicators on each goal. An essential reference when setting corporate targets on water. [See SDG6 here.](#)

3. Manage water sustainably in your operations



Sustainable water management in your operations can be achieved by implementing the action plan defined in step 2 at property level, ensuring the water strategy is disseminated across all operations with a focus on high-risk areas. This relies on identifying where efficiencies and pollution reduction actions can be achieved, improving direct and indirect impacts and engaging with internal stakeholders (e.g. F&B, engineering, etc.).

The range of possible actions to improve water management at property level is extensive, and thoroughly described in [ITP's Environmental Management Manual for Hotels and EarthCheck's white paper on tourism and water](#). Key action focus for hotels are:

- **Identify water efficiencies:** water use efficiency is an area with numerous low-hanging fruits in terms of potential savings and progress. Leaks in infrastructure (pipe system), insufficient metering and water-intensive processes (e.g. laundry) can be addressed through an environmental management system and in collaboration with hotel owners.
- **Reduce the load of pollutants going into wastewater:** A thorough list of actions to reduce your impact is described in [ITP's environmental management for hotels manual on water](#).
- **Ensure wastewater treatment** to prevent any threat to human health (through spreading of diseases) in the surrounding communities and polluting local ecosystems. Treatment can be done by local water agencies/companies or on-site when infrastructure is insufficient. Hotels should ensure their wastewater goes through primary, secondary and tertiary levels of treatment²⁹. Wastewater treatment offers an opportunity to save water by reusing the treated water for irrigation of the hotel grounds or returning it to a grey water recycling plant.

Research done by Megan Epler Wood and her team at Harvard Extension School and published this year in "[Sustainable Tourism on a Finite Planet](#)" shows that preventing water pollution can also bring economic opportunities for hoteliers. Hotel properties who invested in innovative treatment levels such as [constructed wetlands](#) managed to treat their wastewater at a lower cost both in the short term (those systems cost 50% less than conventional systems to install and operate) and the long term. The payback periods of such systems were between 2 and 3 years for a 350 rooms property through avoiding local sewer and water fees (representing over \$650,000 annual savings).

- **Water recycling and alternative sources:** Hotel properties can address water scarcity and reduce their costs by making use of alternative sources instead of relying fully on supplied freshwater. Hotels can mainly use three types of alternative sources: rainwater, greywater, and salt water. Rainwater and grey water recycling can bring significant efficiency and cost savings at a moderate capital cost and quick payback period (less than 1 year in some cases³⁰).

²⁹ See ITP's environmental management for hotels manual for a full walkthrough on wastewater treatment in hotels.

³⁰ See EarthCheck Research Institute, 2nd White Paper Tourism and Water: From Challenges to Solutions, Providing the Business Case, March 2014

- **Saltwater** is used by hotels in high water scarcity areas through desalination plants, and saltwater cooling systems. Whilst desalinated water is highly energy intensive, using sea water in cooling systems can bring considerable energy and water savings³¹.
- **Staff training and guest engagement:** Engaging employees is a fundamental part of sustainable water management – from raising awareness about conserving water and preventing pollution, training on water saving practices and devices, responsibility for monitoring activities, to employee involvement in clean-up activities. Case studies on these services are available in [ITP's environmental management for hotels manual on water](#).
- **Guest awareness** also plays a significant role which properties can leverage through communication programmes, towel-reuse schemes and incentives to moderate water use and report leaks. See our [Green Hotelier Know How Guide](#) for further guidance.



Guests can be powerful allies to check and avoid water waste, for example reporting a leaking toilet, which can waste over 16,000 litres of water per year, 44 litres per day (source: EarthCheck).

Case studies from ITP members



IHG water conservation kit

In 2014 IHG sent all California hotels a water conservation kit that saved IHG properties 7 million gallons of water annually. 6 properties completed a broader bathroom refresh, replacing toilets and showerheads, and collectively will save 2.4 million gallons of water and \$13,000 on water costs per year.



Seawater air conditioning at the InterContinental Bora Bora Resort & Thalasso Spa

The InterContinental Bora Bora Resort & Thalasso Spa uses a unique and innovative system to cool the property. Through the installation of a 2km pipeline at a depth of 900 meters, seawater at a temperature of 50°C is piped to a titanium heat exchanger. The hotel's 15kW seawater pump provides cooling that would otherwise consume 300kW of electricity. Through the circuit the seawater is returned back to the sea, thus limiting the hotel's impact on the environment³².

³² See <https://www.youtube.com/watch?v=rcquycxC5iq> for case study on seawater air conditioning at the Bora Bora Resort and Thalasso Spa (InterContinental Hotel Group).



Lowering laundry water and carbon impact at the Radisson Blu Dubai Deira Creek

The [Radisson Blu Hotel, Dubai Deira Creek](#) agreed to work with the [Diversey Care](#) team on a 4-month trial using the Clax Advanced system in its laundry operations. Compared with traditional methods, Clax Advanced allows laundries to maintain the same level of cleaning while eliminating one rinse cycle and washing at a lower temperature. This leads to less water consumption, energy and steam consumption and less labour time. This hotel was chosen due to its location, size and willingness to try the laundry solution. It also has in-house laundry, a requirement for this pilot in the UAE, where water usage averages around 360L per person/day and 70% of water comes from costly desalination.

The benefits are highly impactful and result in less water consumption, less chemicals discharged, less labour time and lower water temperatures which result in less steam and electricity used. Results for this pilot hotel were successful enough to decide the solution should be implemented in other properties:

- Water consumption reduction: 26% (a hotel can save up to two Olympic swimming pools of water per year)
- Steam consumption reduced: 23%
- Energy consumption reduced: 6%
- Wash cycle time reduced: 10% (1086 hour p/y)
- Effluent consumption reduced: 26%
- CO2 emission reduced: 54T CO2e
- Linen lifetime extension: 30%



Taj Hotels

Taj deployed a strategy of educating staff and encouraging them to identify best practices for water saving that are specifically relevant to their own properties and contexts. Using a competition format, teams were asked to implement water-saving initiatives and submit case studies to demonstrate real savings. The top 5 hotels with the most effective water savings were invited to share their project methods and outcomes with the rest of the company.

Simultaneously, a set of 73 hotels with the most significant impact to business were identified. These hotels are also part of a third-party assessment and monitoring programme through EarthCheck. For the first time, a baseline for water intensity (per guest night) was set for each of these hotels, based on their performance of the preceding 3 years. Accordingly, targets for reducing water intensity were set for each hotel. Hotels with higher intensities were set more ambitious targets, with an overall company target of 5% reduction in water intensity.

The contextual assessment and project design were carried out by the corporate sustainability team and deployed across hotels. Within hotels, engineering teams were the key actors, with the GM as the project owner and teams from various other verticals as collaborators. At a company level, the project was anchored by the corporate sustainability team.

As a result, Taj's overall water intensity in litres per guest night reduced by 6% in 2016-17 compared to the previous year 2015-16. Target-setting initiatives indicated the most effective practices that can be easily implemented in order to generate water savings. Staff training, equipment maintenance and equipment maintenance were identified and the most effective practices. All of these are actions that can be easily implemented and scaled with limited financial investment. Therefore, an opportunity to scale and replicate was identified.



Recycling Water at the Radisson Blu Kigali

The Radisson Blu Kigali recycles both rain and grey water. The hotel installed a system capturing the water used in showers and toilets to send back into the property after treatment for non-potable purposes such as flushing toilets and irrigation network. Rain water is collected and used only in closed systems such as irrigation and toilets. Grey and rain water are mixed in the same tanks with a total volume of 2600m³. The system produces 15 to 36m³ of grey water per hour. Since the hotel began its operations in 2016 this system has produced 87.7% of the hotel's total water usage, and 100% of toilet flushing uses recycled water.

Useful Tools, guidance and initiatives

EarthCheck – The [WaterCheck Worksheet](#) published by EarthCheck and Ecolab can be used by any property to identify areas for potential improvement in water management practices and discover hands-on solutions, strategies and plans for action.

Green Hotelier Know How Guide on Communicating Sustainability to Guests. [This guide](#) is designed to help you avoid some of the common mistakes and get your message to your guests more effectively.

ITP's Environmental Management Manual for Hotels - examines the fundamental issues concerning hotel use of water. It provides detailed guidance on how to use less water, how to keep it free from contamination during use and how to ensure responsible treatment of wastewater at property level. [Access the manual here.](#)

Kuoni Water Management Manual for Hotels: provides a clear approach to water management and details ways to collect data, define action plans, monitor and train staff. See: http://cr.kuoni.com/docs/water_manual_hotels_thailand_0_0_4.pdf

WWF – WWF has published various guidance documents for companies on water stewardship. See here for a full list: http://wwf.panda.org/what_we_do/how_we_work/our_global_goals/water/water_management/



4. Work with suppliers on water

Engaging with suppliers regarding their water stewardship enables hotel companies to better identify and address their indirect impacts on water in basins where products and services they purchase are manufactured.

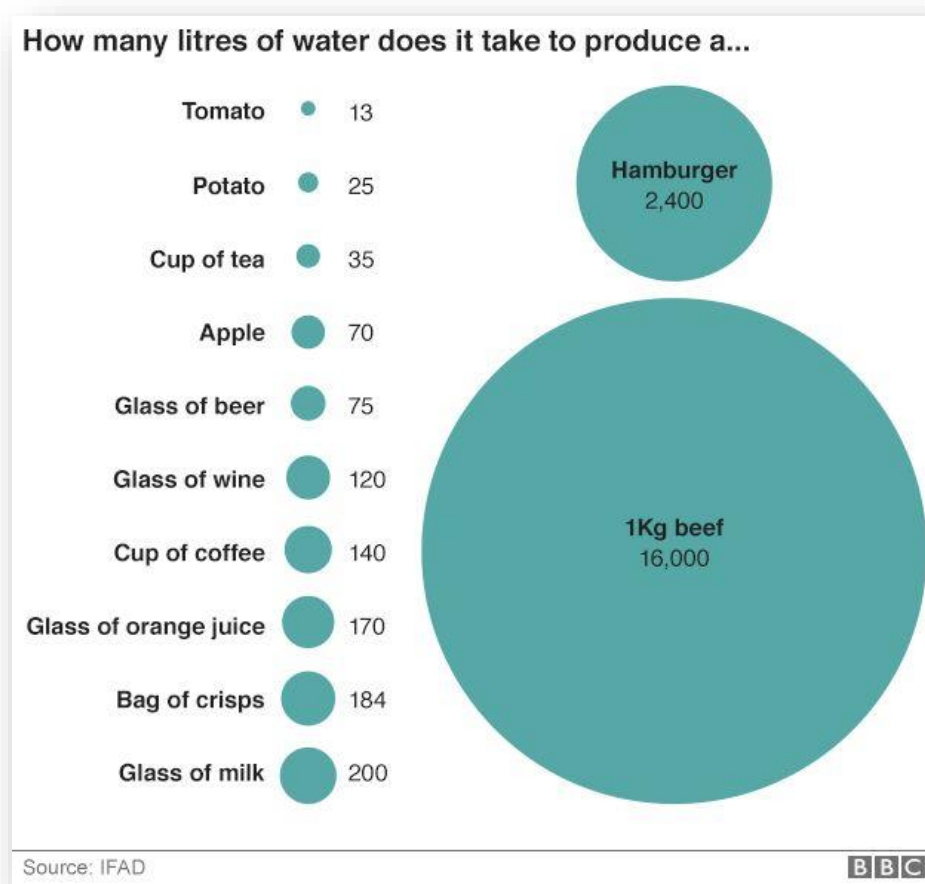
What are the most water-intensive products?

Agricultural products such as food (meat in particular) and linen can typically have a high-water footprint in their production area. Laundry services providers are also key suppliers to engage with on water use.



The chart below gives a picture of the water footprint of different food and beverage products commonly consumed in a hotel³³.

Figure 3: Embedded water use in common food products (source: IFAD)



The provenance of products also affects the water content of products. The UK organisation WRAP and WWF studied the external water footprint of food products in relation to water stress

³³ See [Water Footprint Network study](#) for full list of products.

around the world³⁴ and found that Egypt, Israel, Pakistan, India, Thailand and Spain were the most affected countries.

- **Where to start?** Good practice is to list the commodities of highest spending and assess their water footprint using available tools such as the [Product Water Footprint Assessment Tool](#) of the Water Footprint Network.
- **To go further:** Engage with your key suppliers about their current impact on water (e.g. using Ecovadis, Sedex or CDP responses, WBCSD WASH pledge) and share information and advice about water risks in the areas where they operate as well as your tools and lessons learnt. Train your procurement teams to develop incentives for suppliers to support your water strategy (e.g. through brand procurement standards, premium prices, longer-term contracts). See [WWF report on water stewardship in agricultural sustainability standards](#).



Useful Tools, guidance and initiatives

Standards – In addition to the [WWF report on water stewardship in standards](#), [Standardsmap.org](#) provides an overview of over 210 standards, which can be explored for their self-reported coverage on water.

Supplier sustainability rating – Platforms such as [Ecovadis](#) and [Sedex](#) provide in depth information for buyers about suppliers through reporting, cross-sector supply chain information and ratings.

Water Footprint Network – the WFN [Product Water Footprint Assessment Tool](#) helps businesses to measure the resource efficiency of the production of their products and use water footprint benchmarks to set targets for water footprint reduction, incorporating these into their corporate water strategy.

WRAP – leading organisation on waste in food, textiles and waste as a resource. WRAP published a [study](#) with WWF on the external water footprint of food products in UK households which largely applies to most food products provided in hotels.

5. Build resilience to extreme events and water shortages

Extreme weather patterns can affect businesses as well as their supply chain, whether through a surplus (storms, floods), or a shortage (droughts) of water. A water stewardship strategy should include procedures and provisions to provide immediate relief effort, address recovery needs and help mitigate against future occurrences.

- **Improving properties' resilience to floods:** Hotel groups need to build resilience to flood events to ensure that they are prepared to respond quickly. This might involve simple measures such as protecting premises from the risk of flooding and moving essential kit such as emergency generators and business records above flood lines, as well as laying sustainable drainage systems (e.g. permeable surfaces in car parks) to contain and treat site runoff at times of excessive rainfall.

³⁴ WRAP, WWF, [The Water and carbon footprint of household food and drink waste in the UK](#), 2011, p17

- **Managing fresh water supply:** Hotels can improve their resilience and support their surrounding communities by identifying alternative water sources (e.g. recycled rainwater) and developing increased capacity for water storage (through built infrastructure such as storage tanks and infrastructure such as wetlands and storm water retention ponds).
- **Protecting local communities when disaster strikes.** Hotels have a key role to play to support communities through large scale natural disasters. Water is a vital resource for affected populations and central to the different areas of disaster relief response³⁵:



Case studies from ITP members



Radisson Hotel Group's responsible water usage in Cape Town, South Africa

Radisson Hotel Group continues its commitment to preserve the remaining water in Cape Town with the intention of delaying “Day Zero”, when taps will run dry and residents will have to collect water from specific sites in the City. Each of its six hotels in the region has been actively embarking on operational changes and continuously implementing new initiatives to save as much water as possible since the commencement of the water crisis.

All six hotels have removed the large flush option from the dual flush systems and the automatic flush from their urinals, removed all the bath plugs and have installed aerators to reduce water flow from all taps. To restrict water usage in the bathrooms and public areas, the hotels provide hand sanitisers. To reduce the amount of laundry, guests are encouraged to reuse their towels as part of the ongoing [Just A Drop](#) initiative which assists in providing children around the world access to safe drinking water. In addition, the linen is changed every three days or upon request.

Properties have also implemented their own initiatives such as collecting rainwater (Park Inn by Radisson Cape Town Foreshore), providing guests with buckets to catch their shower water and the installation of a tank to catch the bathroom basin water which will be reused in the garden (Radisson Blu Le Vendome Hotel), filling the swimming pool with filtered seawater only (Radisson Blu Hotel Waterfront) and installing a climate control system that uses ocean water for heating and cooling processes (Radisson RED Cape Town).

Useful Tools, guidance and initiatives

BITC Global Relief and Resilience Hub - developed by BITC with support from Price Waterhouse Coopers and the UK Department for International Development. This Hub generates opportunities for businesses to engage with NGOs to create new partnerships. Designed to be used from both the office and the field, it matches humanitarian needs with business offers. <https://www.bitc.org.uk/news-events/news/announcing-launch-our-global-relief-and-resilience-hub>

³⁵ See <http://www.bitc.org.uk/our-resources/report/business-unique-contribution-international-disaster-relief>

BITC guidance for business: Addressing International Disaster Relief and Resilience - [This publication](#) is designed to support you in developing a strategy for your organisation, including guidance on leveraging all the relevant tools at your disposal from cash, core skills and competencies, to products and services, to help address the disaster management cycle.

Business Emergency Resilience Group (BERG) – An initiative of His Royal Highness The Prince of Wales, BERG helps businesses and communities across the UK to prepare for, respond to and recover from emergencies such as flooding, cyber-attacks and civil unrest. www.bitc.org.uk/programmes/business-emergency-resiliencegroup-berg

6. Collaborate on sustainable water management



No matter how sustainably one business manages its water use and minimises its impact, it is dependent on the other users in the catchment doing the same. Hotels therefore need to understand the catchment-level risks and opportunities for their properties and local suppliers.

By supporting sustainable water use initiatives at the local level, they can protect not only their direct water use, but also their employees' health and safety, and their supply of local products and services.

What can hotels do beyond their own walls?

Hotel companies can engage with external stakeholders to address water risks through a variety of means including:

- **Sharing data and information with local water agencies and users to improve public water management**
- **Collaborating with local and neighbouring hotel properties** to share solutions and local knowledge on water supply. Water shouldn't be a competitive issue.
- **Contribute to public water infrastructure** expansion, upgrades and management with financial and technical resources (e.g. private/public match funding). Engaging the public sector is crucial in regions where its resources and management capacity are limited³⁶.
- **Using internal facilities to meet local water supply and treatment needs** (e.g. providing water, sanitation and hygiene (WASH) solutions for employees and local communities (e.g. on-site water filtration and bottling systems, see resources below for examples).
- **Advocating for efficient, equitable and ecologically sustainable water policies** and practices at local, national and international levels.
- **Supporting local non-profits and humanitarian organisations'** action on water (e.g. recycling bathroom amenities by donating to organisations such as [Clean The World](#), [WaterAid](#) and others (see [Green Hotelier's environmental management for Hotels](#) for more examples).

³⁶ See: CDP (2017): [When water isn't wasted. Water reuse and recycling in America's public and private sectors](#).

Examples of local partnerships around the world

- **The UK Government's** [Catchment Based Approach \(CaBA\)](#)
- The [California Water Action Collaborative \(CWAC\)](#)
- CEO Water Mandate's [Water Action Hub](#)
- USAID's [Sustainable Water Partnership](#)

Case studies from ITP members



Deutsche Hospitality finances drinking water plants in the Egyptian Desert

As part of its Sustainability Programme, Deutsche Hospitality financed the construction of two water treatment plants in the Egyptian desert, which has low quality drinking water with an extremely high iron and manganese content. Since 1 March 2016, the hotel company has been running a website campaign entitled “1x1”, for which it makes a donation of one euro per online booking made via the website received to support water treatment. A five-figure sum has already been made available. The project is being implemented by the climate protection organisation Atmosfair in conjunction with the American University of Cairo.

Innovative and multi-award winning “SunMeetsWater” technology filters out all heavy metals and disinfects the water, which then meets the standards laid down by the World Health Organisation. Technical operations are monitored by an inhabitant of El Kefah, who has undergone special training to perform this role. This means that the water treatment plant is also helping to create local jobs as well as reducing the risk of disease. The first plant, which was completed in 2016 in the small town of El Kefah, is already supplying up to 10,000 litres of clean water a day. This is enough to meet virtually all the inhabitants' requirements.

Useful Tools, guidance and initiatives

Clean the World - collects and recycles soap and hygiene products discarded every day by the hospitality industry. Through the distribution of these and other donated products to impoverished people, [the programme](#) prevents millions of hygiene-related deaths each year, reduces the morbidity rate for hygiene-related illnesses, and encourages vigorous childhood development.

Reporting frameworks: [CDP Water Questionnaire](#) and [GRI 303](#), can be used by hotel companies to disclose their environmental impacts to investors and customers.

WaterAid – WaterAid works strategically with corporate partners to deliver long-lasting sustainable solutions to support delivery of clean water, decent toilets and good hygiene whilst working in collaboratively with key stakeholders. WaterAid is part of an initiative called [WASH4Work](#) which is driving business action to address WASH challenges in the workplace, in communities where workers live, and across supply chains. www.wateraid.org

WaterHealth International (WHI) have developed a solution to provide clean, safe and affordable drinking water to underserved communities across India, Ghana and Nigeria via its decentralised water purification plants, known as [WaterHealth Centres \(WHC\)](#) through which raw water is treated through a six-stage purification process. WHI won [BITC's Unilever Global Development Award](#) in 2017.