Hotel Water Measurement Initiative (HWMI)

Methodology Standard 2.0

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https://sustainablehospitalityalliance.org/resource/hotel-water-measurement-initiative/

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1.0 Introduction

1.1 Background

The World Sustainable Hospitality Alliance (WSHA) unites hospitality companies to address global challenges and promote sustainability and inclusivity. Recognizing water scarcity as a critical issue, particularly for the hotel industry operating in water-stressed regions, WSHA developed HWMI and first published it in September 2016 (v1.0), with a further published update in June 2020 (v1.1). Version 2.0 builds on those earlier editions.

Updates in this version include:

- New water sources.
- Optional measurement of recycled/reused water.
- Water scarcity as a recommended calculation within HWMI using the World Resources Institute (WRI)'s Aqueduct Water Risk Atlas.
- Encouragement for Users with sub-metered water data to input specific data.
- New discussion of treatment for third-party laundry water withdrawal.
- New calculations showing the share of water withdrawal from estimated data to help review data quality.
- New check for reviewing outlier data against benchmarks.
- Strengthened review and audit-readiness processes to support compatibility with future assurance and verification arrangements.

1.2 Purpose

HWMI is a Methodology Standard that specifies how to measure and report total water withdrawal within defined reporting boundaries, and the amount of water withdrawn per occupied room-night (ORN) (and per guest night, where data are available), and per area of meeting space per hour.

The purpose of this Methodology Standard is to specify the measurement methodology to enable hotel companies and individual properties to measure and report water withdrawal within defined reporting boundaries in a consistent and comparable way. It aims to provide comparable water intensity metrics supporting benchmarking, performance tracking, and decision-useful disclosures across portfolios. HWMI defines boundaries, minimum data inputs, calculation rules, and disclosure expectations to support audit-readiness. It does not in itself assess performance, substantiate sustainability claims, or certify or assure results. Use of this Methodology Standard does not constitute certification, endorsement, validation, verification, or assurance by WSHA. Any statement about independent assurance of HWMI results may only be made where such assurance has been completed in accordance with WSHA's published assurance system, with the assurance provider, reporting period, and scope of assurance clearly disclosed.

The HWMI methodology has historically been supported by an Excel-based calculation tool. A supporting calculation tool aligned with this Methodology Standard is under development and will be made available via the official HWMI webpage when released.

1.3 Transition Period

In order to ensure consistency in calculations for stakeholder comparisons, HWMI v2.0 is implemented with a transition period. Calculations for reporting year 2026 will be the first to use HWMI v2.0 methodology, which will be the standard for future years. Where the final version is published after the start of the 2026 reporting year, Users may apply HWMI v2.0 retrospectively to the full 2026 reporting year.

1.4 Forthcoming enhancements to HWMI

As international regulations and disclosures evolve, subsequent versions of the HWMI methodology will be revised to ensure best practice is followed. WSHA will maintain ongoing conversations with its members and other stakeholders to identify potential options for HWMI enhancements.

WSHA will review this Methodology Standard at least every five years and may update it sooner, when relevant, to reflect material changes in best practice or external requirements.

1.5 Relation to other WSHA Programmes

HWMI underpins WSHA's Net Positive Hospitality Framework by providing a consistent methodology to measure and track hotel water withdrawal over time. This standardized data enables WSHA and its members to establish a comparable baseline, identify hotspots, prioritise high-impact actions, and monitor progress alongside other WSHA programmes and metrics.

HWMI also supports WSHA's Universal Sustainability Key Performance Indicators (KPIs) by translating hotel operational data into a consistent and comparable water metric across properties and portfolios. By standardizing boundaries, calculation rules, and outputs, HWMI is intended to strengthen the credibility and comparability of reported data across geographies and ownership types, and to enable integration alongside other core KPIs, subject to the boundary, disclosure, and data quality requirements of this Methodology Standard.

For clarity, HWMI is a measurement and reporting methodology and does not in itself assess performance or substantiate claims such as "low or zero water building", "sustainable" or similar; any such statements, if made, shall be substantiated and communicated separately in line with applicable requirements and WSHA's published claims and assurance arrangements.

2.0 Key Information

2.1 Overview of the document

This document is split into the following sections:

- **Key information** – essential points of note and assumptions necessary to implement the Methodology Standard accurately.
- **Overview of the methodology and calculation steps** – provides a summary of calculating water withdrawal metrics following the HWMI Methodology Standard.
- **Appendices –** Appendix 1 describes the processes undertaken to develop the methodology; Appendix 2 provides an introduction to water scarcity and tools to assess scarcity; and Appendix 3 provides claims guidance.

2.2 Who should use this methodology?

The methodology is designed to be applied by any hospitality property worldwide. The methodology has been designed in partnership with major hotel groups; however, it applies to individual hospitality properties regardless of the type of amenities offered.

2.3 Relationship with other water reporting frameworks

ISO14046[1]: HWMI was designed to be consistent with the principles of ISO 14046:20141 and includes requirements for determining boundaries, quantifying water withdrawal , and reporting data at the individual hotel level. HWMI, however, does not provide a full ISO 14046-compliant water-footprint assessment, require hotels to disclose specific activities aimed at improving water management, or provide guidance on the quality management of the water-footprint assessment.

HWMI v2.0 is designed to be compatible with external verification for hotel water withdrawal data, which was not present in earlier versions, which only recommended an internal review process. Any external verification should follow WSHA's published assurance system (where available).

Throughout this document, HWMI is consistent with the International Organization for Standardization (ISO) guidance in the use of the following terms:

- **"Shall"** reflects mandatory requirements within the standard.
- **"Should"** indicates recommendations.
- **"Can"** indicates actions that are feasible, but are not required or necessarily recommended.
- **"May"** indicates actions that are allowed but not required.

ISEAL:[2] HWMI v2.0 was developed with reference to the ISEAL Code of Good Practice for Sustainability Systems (the ISEAL Code).[2] The ISEAL Code outlines the components for developing and assessing a standard, including assurance, monitoring & evaluation, and claims.

HWMI is designed specifically for the hospitality industry and tailored to reflect the operations of hospitality properties. The methodology aims to strike a balance between ease of implementation and accuracy, and to produce consistent and comparable water-related metrics within the defined reporting boundaries and data quality requirements of this Standard.

[1] ISO 14046 is an international standard against which water footprint assessments are voluntarily verified.
[2] ISEAL Alliance is an international organization developing standards for sustainability systems.

2.4 Overview

HWMI is a Methodology Standard to specify how to measure and report total water withdrawal within defined reporting boundaries and the amount of water withdrawn per occupied room-night (ORN) (and per guest night, where data are available) and per area of meeting space per hour.

The diagram below provides an overview of how the methodology works and outlines the key inputs and outputs for each stage:

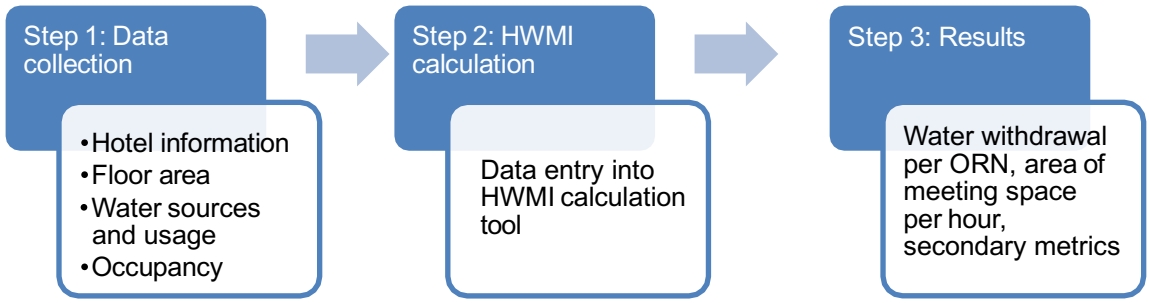


Figure 1: Overview of methodology

Step 1

Users of the methodology will need to identify water withdrawn within the defined reporting boundaries and from what sources and calculate water and floor space data. For further details on definitions, boundaries, and water sources, please see Tables 1-3.

Step 2

Following data collection in Step 1, Users will need to calculate water withdrawal. Please see the Methodology Overview section for a walkthrough of the methodology and calculation.

Step 3

HWMI produces the following core outputs:

- Water withdrawals per ORN; and
- Water withdrawals per area of meeting space per hour.

HWMI produces the following secondary outputs:

- Water withdrawals per guest night, where data is available;
- Water withdrawals for a specific client event/meeting (if required);
- Absolute water withdrawal volume for guest rooms, meeting rooms, and the entire property;
- Recycled water share (optional);
- Estimated water share (optional); and
- Water risk score.

2.5 Definitions

The following definitions are used throughout the methodology:

Table 1: Definitions

Term	Definition
Water footprint	Metric(s) that quantify potential environmental impacts related to water. **HWMI calculates only water withdrawal within defined reporting boundaries, not a full water footprint.**
Water withdrawal	It is recognised that there are differences in definitions for water use, consumption, and withdrawal between leading water reporting bodies such as Global Reporting Initiative (GRI), CERES, WRI, and the Carbon Disclosure Project (CDP). For the purposes of this methodology, we have used CDP's definition of water withdrawal, which is adapted from the GRI definition. **Water withdrawal: The sum of all water drawn into the boundaries of the reporting organisation from all sources (including surface water, groundwater, on-site desalinated water, and municipal water supply) for any use over the course of the reporting period. Water withdrawals should include both water that was withdrawn directly by your company and water withdrawn through intermediaries (e.g., water utilities).**
Baseline Water Stress (BWS)	The ratio of total water demand to available renewable surface and groundwater supplies. Water demand includes domestic, industrial, irrigation, and livestock uses. Available renewable water supplies include the impact of upstream consumptive water users and large dams on downstream water availability. A higher value indicates more competition among users.
Guest Room Space	The area of the hotel that is available for occupancy by hotel guests.
Meeting room/space	Area of the hotel to hold on-site meetings/events.
Guest night	One guest who rents or occupies an overnight accommodation for one night.
Occupied room-night (ORN)	One night at one hotel room rented by paying guests. ORN includes complimentary rooms but excludes no-shows for the reporting period.
Private space	Areas which are not related to the hotel (e.g., the hotel leases a floor to a third-party) and not accessible to hotel guests or conference attendees (e.g., private apartments). On-site staff accommodation is also considered private space. Back of house areas, concessions, or public spaces are not considered private space.
All other areas	Any other part of the hotel which is used by guests or staff as part of the service delivery, e.g., back of house, kitchens, pool, spa, lobby, etc.
Reporting period	This should be a 12-month period defined by hotel management and generally in line with other reporting requirements, as detailed below.
User	Any individual, organization, or entity that accesses, uses, or interacts with the HWMI Standard.
Disclosure period	The 12-month period directly following the disclosure of data from the reporting period.
Intensity metric	Metrics to support benchmarking of water withdrawal. Water withdrawal per guest night and water withdrawal per ORN.
Conditioned space	The area of a hotel that is conditioned by any heating, ventilation, and air conditioning (HVAC) equipment.

3.0 Reporting boundaries

Table 2 provides an overview of the reporting boundaries for water sources (i.e., what is included in and what is excluded from the water withdrawal), as agreed by the Working Group. Further details regarding the background for determining these water sources can be found in Appendix 1.

Table 2: Reporting boundaries for water sources

Boundaries	Rationale
Inclusions	
All activities within the hotel premises (i.e., direct building uses and ancillary activities including restaurants, laundry, meeting spaces, casinos, golf courses, spas, garden space, fitness centres, and back of house).	• Consistency with HCMI boundaries. • Informed by GRI and Water Footprint Network (WFN) water accounting concepts for boundary and scoping. These facilities and the irrigation of grounds may be significant contributors to the total water withdrawal and are part of the hotel service and operation, so they should be included.
Other inclusions: **Water purchased from municipality/suppliers** • Municipal (mains) water • Delivered water • Recycled water from external sources **Water extracted or harvested on-site by the property** • Ground and surface water (e.g., water from wells or boreholes) • Desalinated water • Harvested rainwater **Other water** **Outsourced laundry**	• For desalinated water, the output of the desalination process should be included (i.e., the freshwater output). • If a hotel is sourcing reclaimed water or other non-potable water from an external source (e.g., recycled water network in the San Francisco Bay Area), or is harvesting rain or well water, then it should be counted. These sources (even if non-potable) are extracting from water cycles and therefore should be accounted for. • The "other water" category can be used for water sources drawing from the environment or external supply not listed here or excluded. • Outsourced laundry is a material contributor and should be included.
Exclusions	
• Private space • The activities of suppliers outside of the hotel's premises (except laundry facilities) • The guests' travel to and from the hotel and employees' business travel • Embedded water in products and food purchased by the hotel • Off-site facilities (that guests have access to) that the hotel does not operate (i.e., facilities are operated by a third-party, such as an off-site gym) • Water withdrawn at corporate offices • Municipal wastewater treatment • Shared facilities which benefit the hotel, which contributes through a service charge (e.g., water fountain in a multi-purpose building) • Water recycled on-site by the property • Water discharges • Bottled water • District chilled water • Make-up water withdrawn in the district chilled water process	• Private space is separate from the hotel's operations and should be excluded from the calculations. • All other sources of a hotel's indirect water withdrawal (i.e., embedded water in purchased products, activities of suppliers other than outsourced laundry, travel, and head office support functions) should be outside of the scope of HWMI to keep the methodology practical. • Water recycled by the hotel within its building (e.g., re-using wastewater for landscape irrigation) can be reported optionally, but is excluded from intensity metrics on the basis that the total water withdrawal for a hotel which recycles water will be lower than a hotel that does not. • Water withdrawn to run cooling towers outside of the hotel and provide the hotel with chilled water is excluded as this information is unlikely to be accessible by hotels. This was agreed by the Working Group during the 2020 HWMI review.

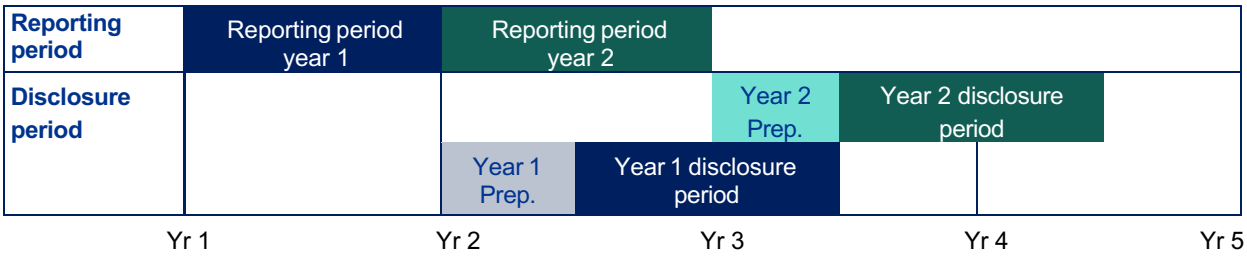
4.0 Reporting Period

4.1 Annual Calculation Cycle

The calculations are required to be performed once a year. The methodology includes an element of standing data, which is unlikely to change year over year, and information that should be updated annually (e.g., water withdrawals and occupied room-nights (ORN)). Total water withdrawals should be calculated using a 12-month data set, but the 12-month period can be defined internally by each hotel or company (e.g., calendar year or financial year).

4.2 Reporting and Disclosure Periods

- Data is collected and reported for a 12-month period (the reporting period). From the end of the reporting period, hotels have a maximum of six months to gather data and carry out the water withdrawal calculations. After the calculations have been completed, the water data is valid for 12 months (the disclosure period). Therefore, HWMI data is up-to-date within 18 months during normal operations.
- The diagram below shows how the reporting and disclosure period interact:



4.3 Interruptions to Operations

The methodology calculates water withdrawals during “normal operations”. Initial operations for new builds in the first months prior to stabilized occupancy, or interruptions to operations due to refurbishments or other factors (pandemic, geopolitical unrest, etc.) during the reporting year, may distort results, which aim to show a normal operating position.

If abnormal circumstances alter the water withdrawals by +/- 20% compared to a standard reporting period, then hotels shall use the most recent period of data that reflects close to normal operations (and disclose this fact alongside impacted HWMI metrics when communicating externally). Although the data will be outside of the standard period in Section 4.2, it is more likely to be a more accurate reflection of the hotel water withdrawals during normal operations.

4.4 Seasonality

We recognise that hotels' water withdrawal varies by season. However, to preserve comparable outputs, variations in water withdrawal during the year are not taken into account. Hotels are asked to provide only one water withdrawal figure per year, which is averaged out over the 12-month period.[3]

3 Hotels may collect data quarterly to report WSHA’s Universal KPIs, but it is best practice to calculate a single annual value for HWMI output metrics.

5.0 Data Requirements

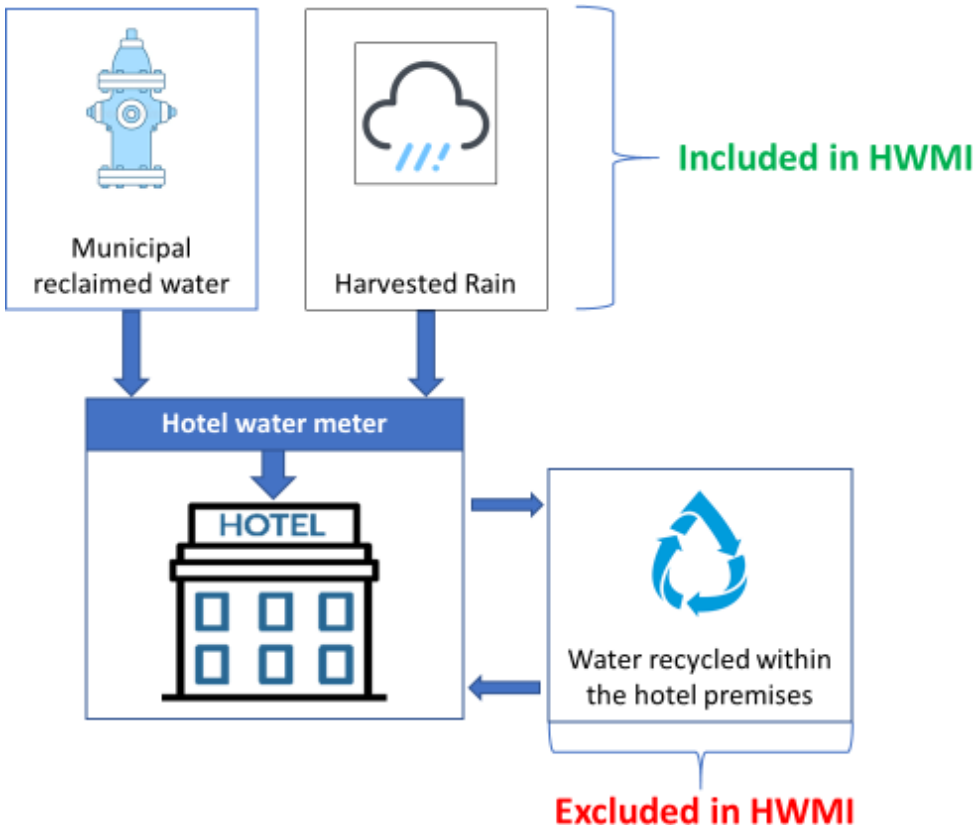
5.1 Understanding how to account for recycled water in HWMI

The purpose of HWMI is to measure and report the amount of water withdrawal (within defined reporting boundaries) by a hotel. Water coming from these external sources can, in principle, be metered or estimated as it feeds into the hotel water system. Following this logic, hotels should account for additional water withdrawals from external sources such as:

- Reclaimed, non-potable water from local networks, e.g., the San Francisco Recycled Water Ordinance.
- Harvested rainwater, regardless of its harvest location (including the hotel's premises).

On the contrary, water recycled by the hotel within its building (after having gone through water meters, e.g., re-using the building's wastewater for irrigation) is excluded to prevent double-counting water that only enters the hotel's boundary once; total water withdrawals for a hotel that recycles water will be lower than a hotel that does not.

The figure below helps illustrate the reporting boundaries for recycled water.



HWMI v2.0 introduces an optional recycled water metric which allows Users to input the volume of water recycled or treated and reused on-site. This value should not be added to the HWMI intensity metrics, but separately shows on-site recycled water divided by total water withdrawals as a percentage

5.2 Water Sources

Table 3 outlines which water sources should be included in the HWMI calculation and recommended data sources. All data sources should match the defined reporting boundary.

Table 3: Water sources and recommended data sources

Water sources	Recommended data sources
Water purchased from municipality and/or suppliers	
Metered municipal (i.e., mains) water	Invoices or meter readings. Sub-meter readings are preferred over whole building meter readings for all metered water sources.
Unmetered municipal water	Request an estimate from the local authority or install a water flow meter.
Delivered water (including recycled water from external sources)	Purchasing records.
Water extracted or harvested on-site by the property	
On-site desalinated water	Freshwater output from the desalination process.
Rainwater	Freshwater output from the rain harvesting or estimates/extrapolations.
Ground/surface water	Records of withdrawals from wells or water bodies.
Other water	Records of any water sources not incorporated elsewhere.
On-site recycled or treated water (Optional, excluded from intensity metrics)	Meter readings, output from treatment processes.
Water withdrawn in outsourced laundry	
Water withdrawn in outsourced laundry	See the estimation method below.

HWMI recommends using tracked water withdrawals when available, but estimated data can be used if necessary. Common estimation methods for water withdrawals are shown in Table 4. All data sources (e.g., invoices, meter records) and estimation methodologies shall be maintained to facilitate internal or external review.

Table 4: Estimation methods and recommended data sources

Estimation methods	Recommended data sources
Estimations based on utility expenses	Utility invoices or expense reports.
Estimating using withdrawals at the same property in the prior year or an alternative 12-month period	Invoices or meter readings from the tracked period.
Estimations based on internal portfolio averages for similar properties	Calculation files showing average calculation.
Regional, national, or international water withdrawal intensities multiplied by hotel area	Source files or links for intensities.

6.0 Methodology Overview

6.1 Assumptions

In order to draft this methodology, a number of key assumptions have been made based on the following sources of information:

- Consultation with the Working Group;
- Original HCMI Water and Waste Sub-group research findings and recommendations; and
- HWMI Water Methodologies Review.

The assumptions outlined below were based on relevant findings and research available at the time of HWMI's v2.0 publication.

Apportionment of water withdrawal between guest room use and all other uses

Water is used in guest rooms for showers/baths and toilets. Outside of guest rooms, water is also used in pools, kitchens, back of house areas, public restrooms, etc.

Research by the HCMI Water and Waste Sub-group and benchmark data from our Environmental Management for Hotels Manual[4] indicate that a significant amount of water is consumed within guest rooms, i.e., shower and toilet.

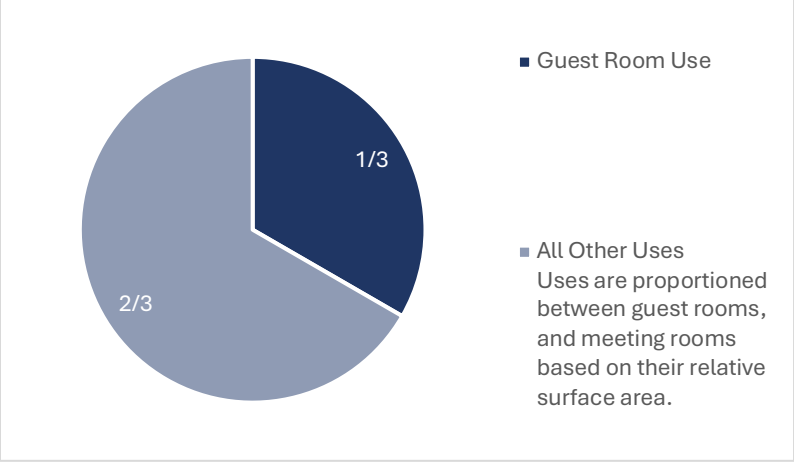
On the basis of this research, HWMI has applied the following split of water withdrawal between guest room use and all other uses:

- Guest room use = one third (i.e., 1/3)
- All other uses = two thirds (i.e., 2/3)

Allocation of water withdrawal from 'all other uses' between guest rooms and meeting space

HWMI apportions water withdrawal from 'all other uses' between guest rooms and meeting space. The Working Group agreed that floor space should be used as the basis of this allocation. While it is acknowledged that the number of guests is a significant driver of water withdrawal, many hotels and hotel companies do not currently capture data on the number of guests or meeting/event attendees. See Figure 2 for a schematic representation of this apportionment.

Figure 2: Apportionment of total water withdrawals between guest room use and all other uses (including outsourced laundry and unmetered sources, where relevant)



[4] See Environmental Management for Hotels, Chapter 3: Water, page 7, section 3.2.4, Figure 3.2

HWMI v2.0 adds the optional ability to input data by sub-metered area. When hotels can sub-meter their water withdrawal, water sub-metered for guest room or meeting room use should be assigned to the appropriate space, and water withdrawal that is not sub-metered or for shared spaces should be allocated between guest and meeting rooms based on surface area. The water ratio for sub-metered hotels may not match the 1/3 to 2/3 split shown in the graphic above.

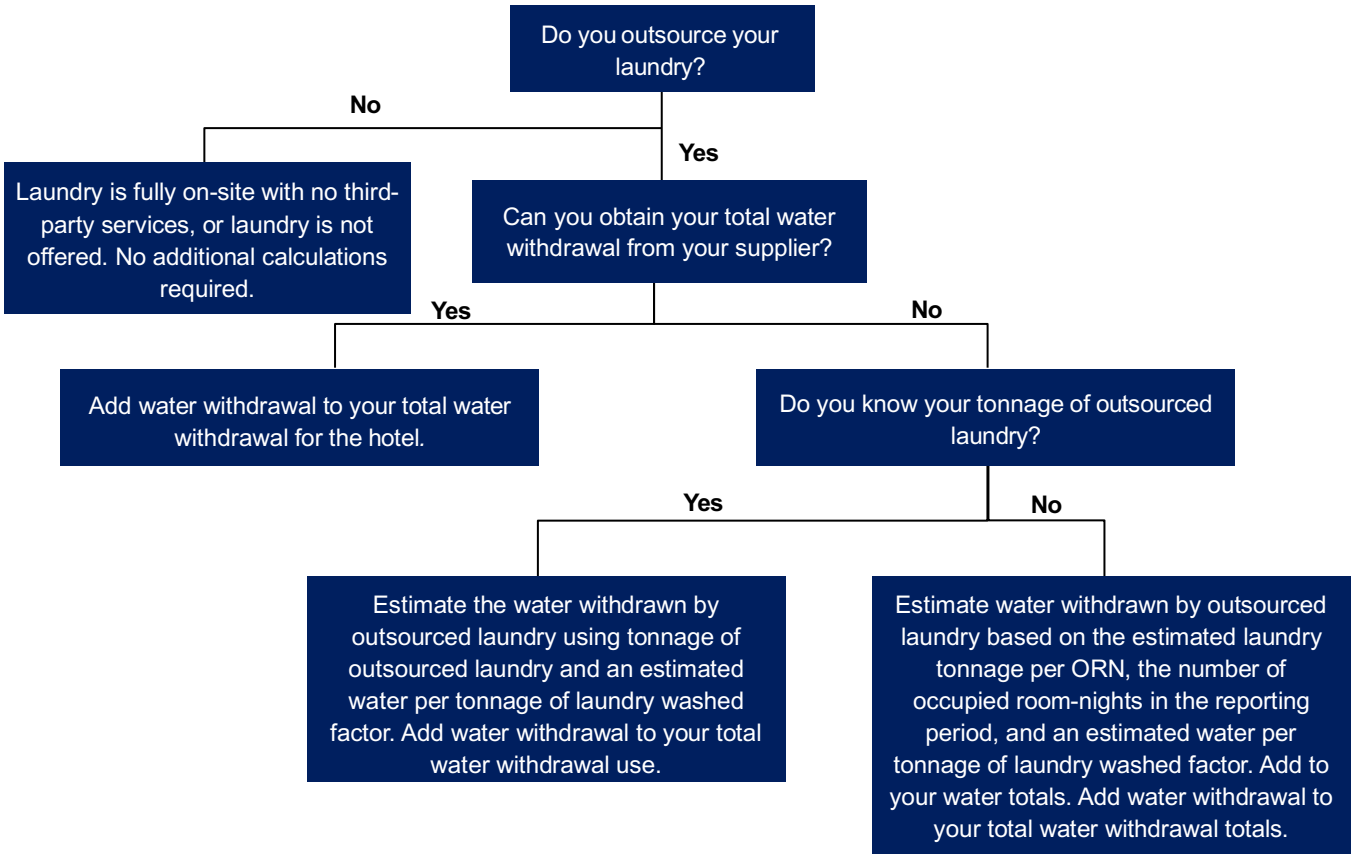
HWMI metrics are still provided only for guest rooms and meeting rooms, but hotel groups can use sub-metered water data for additional spaces (e.g., pools) to examine the largest drivers of water withdrawal for individual hotels in their portfolio.

6.2 Outsourced laundry

Water withdrawn for laundry can make up a significant portion of a hotel's overall water withdrawal. Laundry has been a high-profile item in hotels' environmental activities for years, and most hotels encourage their guests to reuse towels during their stay. However, many hotels outsource some or all of their laundry activity. Water withdrawal from outsourced laundry operations shall be included in a hotel's overall withdrawal in order to assist with the comparability of different hotels' overall withdrawal.

Laundry undertaken internally is captured within the methodology. Water withdrawn by outsourced laundry should be included in the hotel's water withdrawal using the decision tree below.

Figure 3: Outsourced laundry decision tree



Where a hotel outsources its laundry, the laundry supplier may be able to provide the amount of water withdrawn. Supplier water records should be maintained for documentation where available.

Where the total water withdrawn is not available from the supplier, the total water can be calculated based on an assumption that 20,000L of water is used to wash 1 tonne of laundry; this is based on average figures provided by the HWMI Working Group. If the total tonnage of laundry is unknown, it

can be estimated based on an assumption of 0.00512 tonnes (or 0.00504 imperial tons) of laundry per ORN *(source:* Laundry Today).

The calculation for outsourced laundry is as follows:

- 20,000L (or 706 $cubic\ feet$, 4,399 $imperial\ gallons$, 5,283 $US\ gallons$) $water\ used\ per\ tonne\ of\ laundry$
    - $washed\ x\ Total\ tonnes\ of\ laundry\ washed\ for\ the\ reporting\ year$
- If laundry is measured in imperial tons, use the following for water withdrawn per ton of laundry: (20,321L, 717 cubic feet, 4,470 imperial gallons, and 5,368 US gallons).

If a hotel in-sources laundry (washes laundry delivered from other hotels), laundry-related water withdrawal for third parties can be excluded from HWMI by apportioning water withdrawal between the hotel and third parties by tonnage of laundry. All adjustments to water withdrawal for in-sourcing shall be thoroughly documented via invoices to third parties.

6.3 Unmetered ground and surface water

The HWMI Working Group agreed that where unmetered sources of ground and surface water (e.g., rainwater or well water) are used, this is typically for sanitation operations and hotel grounds maintenance (i.e., plant watering). As these sources are unmetered, estimation techniques have been developed to calculate their contribution to total water withdrawals.

The methodologies outlined in Table 5 should be used to determine the total water withdrawn by the hotel.

Unmetered sources do not need to be calculated in the total water withdrawal if they represent less than 5% of the hotel's total water withdrawals. If unmetered water sources represent 5% or less of the total water withdrawals, they can be treated as immaterial, or a simple percentage uplift can be applied to the total water withdrawals, provided that documentation for the share of water withdrawals that is unmetered is provided. Assuming there is no change in the hotel's operations, the same percentage may be used for three consecutive years, after which it should be recalculated to ensure accuracy.

Table 5: Unmetered ground and surface water

Source	Methodology (where >5% total withdrawal)	Methodology (where <5% total withdrawal)
Sanitation	Estimate the daily water withdrawal through the equation: • $Number\ of\ toilets\ using\ unmetered\ water\ *\ *\ toilet\ capacity * estimated\ number\ of\ flushes$ This estimate should then be extrapolated annually, assuming the hotel is open 365 days of the year. The number of flushes should be based on the specific operations within the hotel. Based on information provided by the HWMI Working Group, an expected range for the number of flushes (per day) is 4-6. Toilet capacity refers to the water withdrawn by each flush. If this is unknown, an estimate of 13L *(or 0.46 cubic feet, 2.86 imperial gallons, and 3.43 US gallons)* per flush can be used for the purpose of this methodology. *Source: www.waterwise.org.*	Apply a percentage uplift to the total water withdrawal. *Note: This calculation assumes no change in the hotel's operations during the year. The same percentage can be used for three years, after which point it should be recalculated to ensure its accuracy.*
Ground maintenance/ water features	Determine whether water withdrawal due to ground maintenance/water features is material to the total water withdrawal based on; • Garden/grounds size relative to the total hotel withdrawal (at a ground level only). Where a hotel has a "small" (<5% of total hotel area) grounds, this water source can be ignored. If the grounds are greater than 5% of the total hotel area, the estimate can be calculated as follows: • *Hotel area * number of weeks irrigation used * average water withdrawal per m^2 (or square foot (sqft)) of grounds per week* ○ *If reporting in m^2, water withdrawal per week per m^2 is as follows: 31 Litres/1.09 cubic feet/6.81 imperial gallons/ 8.19 US gallons* ○ *If reporting in sqft water withdrawal per week per sqft is as follows: 2.88 Litres / 0.10 cubic feet / 0.63 imperial gallons / 0.76 US gallons per sqft per week* *(Source: www.irrigation tutorials.com).*	

6.4 Private space

Private space refers to areas which are not accessible to hotel guests or meeting attendees (e.g., private apartments and private clubs) and are not related to the hotel (e.g., the hotel leases a floor to a third-party). Note that the back of house is not a private space, as it is part of the hotel service delivery. If water withdrawal from such areas is included in the hotel's water bills, this should be excluded from the water calculations. This is calculated by either:

- Subtracting sub-metered water withdrawn by private space (if all water used in the private areas is sub-metered); or
- Subtracting a percentage of total water withdrawn based on an area apportionment of private space to the total hotel floor area.[5]

If a hotel owns space that is accessible by both guests and the general public (e.g., a spa or restaurant), hotels should allocate water withdrawal from that space by the portion of use attributable to hotel guests to HWMI metrics and exclude withdrawal for non-guests (e.g., by using the percentage of spa appointments booked by guests). If this allocation cannot be performed, all water withdrawal in this space should be treated as 'all other uses' and allocated between room and

[5] Users can use a combination of sub-metered data and area apportionment if data is partially available.

meeting intensity metrics. All evidence used for this allocation should be retained for review.

6.5 Water scarcity

Both the HWMI Working Group and Stakeholder Panel recognise the need to assess the level of water scarcity for a given water withdrawal in a given location. A thorough approach to corporate water stewardship requires not only a sound methodology to measure water withdrawal (which HWMI provides), but also an assessment of local water issues in the area the business operates. This is a key step for any hotel to align its water withdrawal with its location's environmental capacity and to protect access to clean water for other users, particularly local communities.

Assessing water scarcity risks at the local level requires the use of separate indicators. Many HWMI Working Group members already assess water scarcity in the areas where they operate, and it is strongly recommended that any hotel using HWMI complement its approach by measuring scarcity risks.

HWMI v2.0 integrates WRI's Aqueduct Water Risk Atlas data to provide basin-level water stress context alongside hotel water withdrawal performance metrics. The WRI Aqueduct tool was highlighted by the methods review as one of the more effective third-party tools that determine water scarcity and risk. The only input required is the address or geographic coordinates of the hotel. Based on this information, the tool will provide an overall water-stress rating. This rating can then be considered alongside the water withdrawal as a separate indicator.

HWMI relies on Aqueduct's published outputs to ensure methodological consistency. To obtain the current Baseline Water Stress metric within HWMI, Users provide basic property information, including the hotel's name and either the address or the geographic coordinates. Hotel locations are geocoded and spatially mapped to Aqueduct's hydrological basin grid, and the corresponding basin-level stress classification is assigned (1-5 score labelled as Low(1), Low-Medium(2), Medium-High(3), High(4), or Extremely-High(5)). Properties within the same basin receive the same water stress value. The water stress value should be displayed with HWMI results, but is not incorporated into the HWMI intensity metrics outlined above. All Aqueduct input data, the Aqueduct data version or release used, and the date the water stress metric was retrieved shall be retained for review to allow replication of the calculations.

Additional water scarcity tools are listed in Appendix 2 for Users interested in a deeper understanding of property or portfolio-level water impacts and risks. These tools do not form part of HWMI's standard requirements.

6.6 Internal review

HWMI data inputs should be reviewed by internal sustainability leaders before being publicly shared. HWMI v2.0 supports internal review by introducing benchmarking and an estimated data score.

6.7.1 Benchmarking

This benchmarking check is for internal review only and does not form part of the normative reporting outputs. Where used, the benchmark source, geography/class mapping, and review outcome should be documented and applied consistently across reporting periods, as data outside of this benchmark may reflect missing data entry, unit conversion errors, or unusual water withdrawal configurations.

6.7.2 Estimated data score

Data derived from an estimate by the hotel, a supplier, or a public authority shall be treated as an estimate unless it is based on direct metered or invoiced consumption. Data entered into the Outsourced Laundry or Unmetered Sources sections is treated as estimated or tracked based on

responses in those sections. The weighted average of estimated data for all water sources is displayed with the HWMI outputs, and can identify properties with data gaps. Reporting HWMI data that is fully estimated is not recommended.

6.7 External review

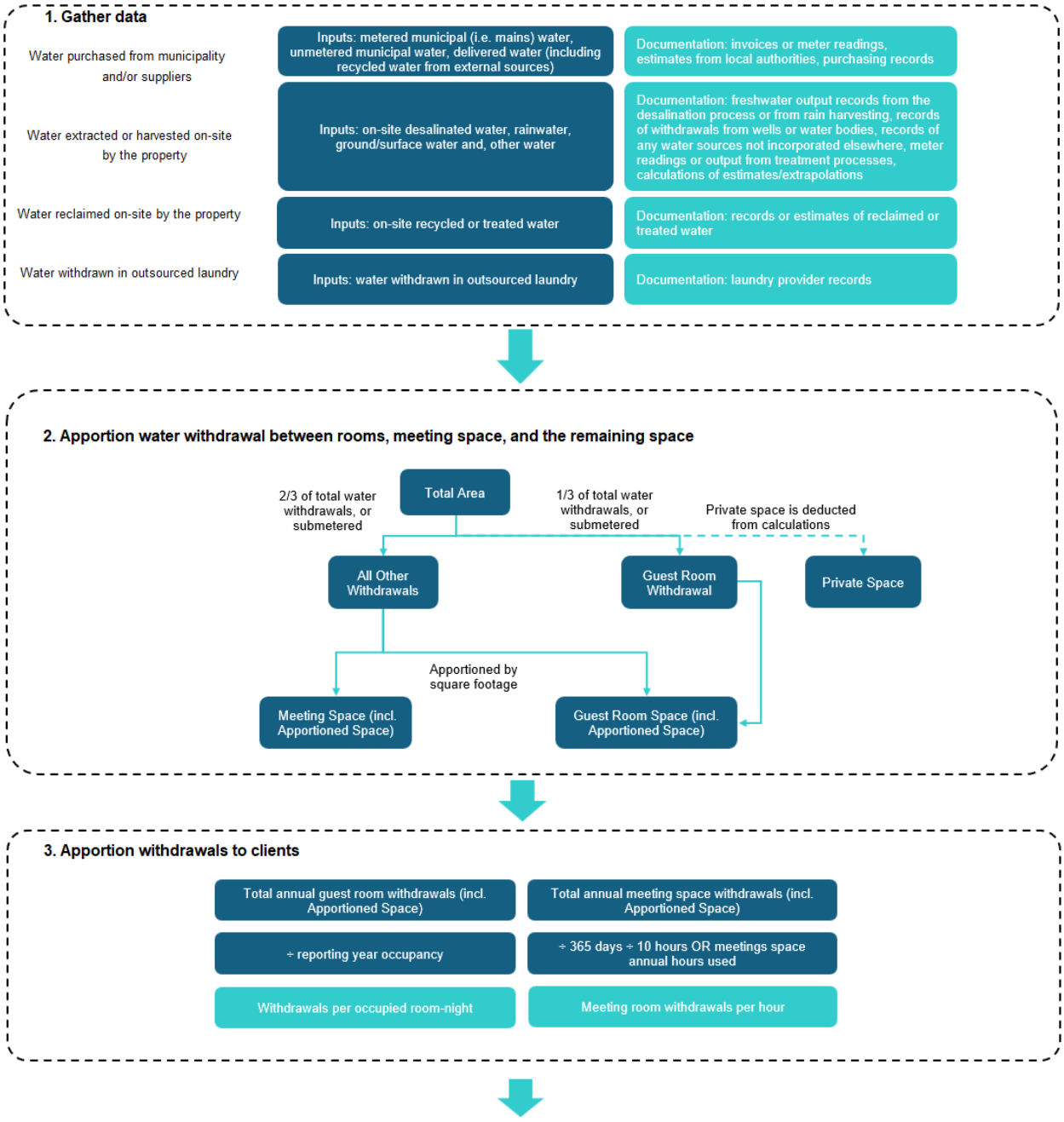
External review of sustainability data by a qualified third-party assurer can support internal reviews and strengthen the credibility and accuracy of the data. External review is a key component of regulatory frameworks and voluntary standards. WSHA is developing an assurance system, and external review (where applied) should follow WSHA's published assurance requirements and maintain assurance documentation. HWMI results will otherwise be treated as self-reported and unassured.

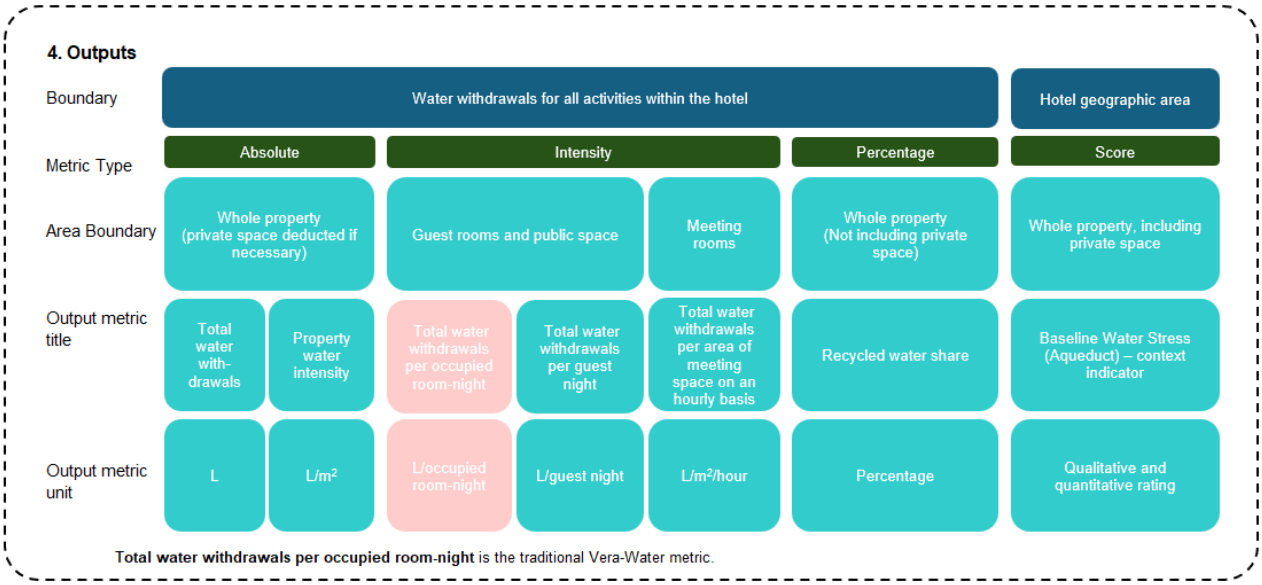
7.0 Example calculation

7.1 Overview

This section is informative and illustrates one possible application of the methodology. In the event of any inconsistency, the normative requirements in Sections 1-6 prevail. The methodology has been devised to help hotel companies and individual properties measure and report water withdrawal consistently.

Additional detail regarding the development of this methodology can be found below:





** All data must align with the reporting period.*

7.2 Methodology Walkthrough

A walkthrough of the methodology for an example hotel is provided below. The assumptions and boundaries used within the worked example are outlined in detail in the introduction and methodology development sections of this document.[6]

Individual hotel properties may choose to use the HWMI calculation tool. Hotels and hotel companies with their own systems may use the formulae below to adapt their system.

The methodology walkthrough is based on Hotel A. In this example, Table 6a outlines the floor space information required for this calculation.

Table 6a: Hotel A floor space

Information	Hotel A
Total hotel floor area (hotel's total surface is based on its total conditioned area, for consistency with HCMI)[7]	50,000 m^2
Total number of guest nights (annual)	120,000
Total number of guest rooms	400
Number of occupied room-night (ORN) (annual)	105,000
Total floor area of guest rooms	35,000 m^2
Total floor area of meeting rooms	500 m^2
Total floor area of private space	500 m^2[8]

Step 1A – Data requirements

In order to calculate the total water withdrawal for Hotel A, data should be gathered as per the water sources listed below:

- Metered water (see Table 3 for details on data collection).

[6] All values in this example are rounded to the nearest whole number, unless only a single digit.
[7] It is understood that non-conditioned space still contributes to water withdrawal, conditioned space is only used for internal reference and for comparison against area-based benchmarks, but does not impact HWMI metrics.
[8] Based on the values entered here, the remainder of the hotel's area (14,000 m^2) is assumed to be shared space, e.g. lobby and corridors.

- Unmetered municipal water (see Table 3 for details on data collection).
- Delivered water (see Table 3 for details on data collection).
- Outsourced laundry (see Assumptions section for details on data calculation).
- Ground and surface water (see Table 5 for details on data calculation).
- Other water (see Table 3 for details on data collection).
- Private space (see Assumptions section for details).

Table 6b provides the total water withdrawn for each water source by Hotel A, and the relevant calculations.

Table 6b: Hotel A water withdrawal

Water source	Data source	Calculation	Total (L)
Water purchased from municipality/suppliers			
Metered municipal (mains) water	Invoice/meter readings	Sum for the reporting year	240,000,000
Unmetered municipal water	Email from local authority	Sum for the reporting year	61,795,600
Delivered water	Invoice	Sum for the reporting year	200,000
Water withdrawn in outsourced laundry			
Outsourced laundry *(Note: figures are given for illustration. Only one option should be followed for this calculation step, depending on data availability. Bolded option is used in the rest of the calculation).*	Option A: Total water from supplier	Sum for the reporting year	5,500,000
	Option B: Total tonnage from supplier	**Total tonnage * 20,000L (industry average)** - **320 tonnes * 20,000L**	**6,400,000**
	Option C: Estimation	Estimated tonnage: 0.00512 tonnes per ORN: - 105,000 * 0.00512 = 537.6 tonnes - 537.6 * 20,000L	10,752,000
Water extracted or harvested on-site by the property			
On-site desalinated water	Freshwater output from the desalination process	Total output from the desalination process for the reporting year	0
Ground/surface water	Option A: Total ground/surface water withdrawn If unknown, use option B below for estimation		Unknown
Estimated ground/surface water (sanitation)	Option B: Number of toilets and known information	Number of unmetered toilets, 10: - Number of flushes per day = 7 - Water withdrawn per flush = 8L - (10 * 7 * 8) * 365 days	204,400

Estimated ground/surface water (irrigation)	Estimation	Outside space irrigated * 31L (industry average) * No. of weeks irrigated during reporting year; - Outside space = 1,000m^2 - Weeks irrigated = 8 - 1,000m^2 * 31L * 8 weeks	248,000
Other water	N/A	No additional sources	0
Total water withdrawal			***308,848,000***
On-site recycled water (excluded from intensity calculations)	Meter readings		2,500,000

Note: For Hotel A, we have used Option B for outsourced laundry and Option B for unmetered ground/surface water (sanitation).

Step 1B – Private space

Hotel A has 500m2 of private space. If a hotel has private space and water withdrawal associated with this area is included in the hotel bills/metering, it needs to be deducted from the hotel. This can be worked out in the following ways:

- Option A: Sub-meter (i.e., meter reads).
- Option B: Estimation based on the ratio of private space to total hotel floor area (see Assumptions sections for details).

For Hotel A, Option A has been selected (i.e., sub-meter reads), equating to 10,000L. This 10,000L is deducted from the total water withdrawal of 308,848,000L, equating to a total of 308,838,000.

Step 2 – Guest room use vs. all other uses

As detailed in the Assumptions section (page 16), water withdrawal associated with guest room use is assumed to account for 1/3 of the total water withdrawn by a hotel. The other 2/3 is all other use. Based on a total public space water withdrawal of 308,838,000L for Hotel A, this lends to the following split:

- Guest room use = 102,946,000L
- All other uses = 205,892,000L

Step 3 – Apportionment of all other uses

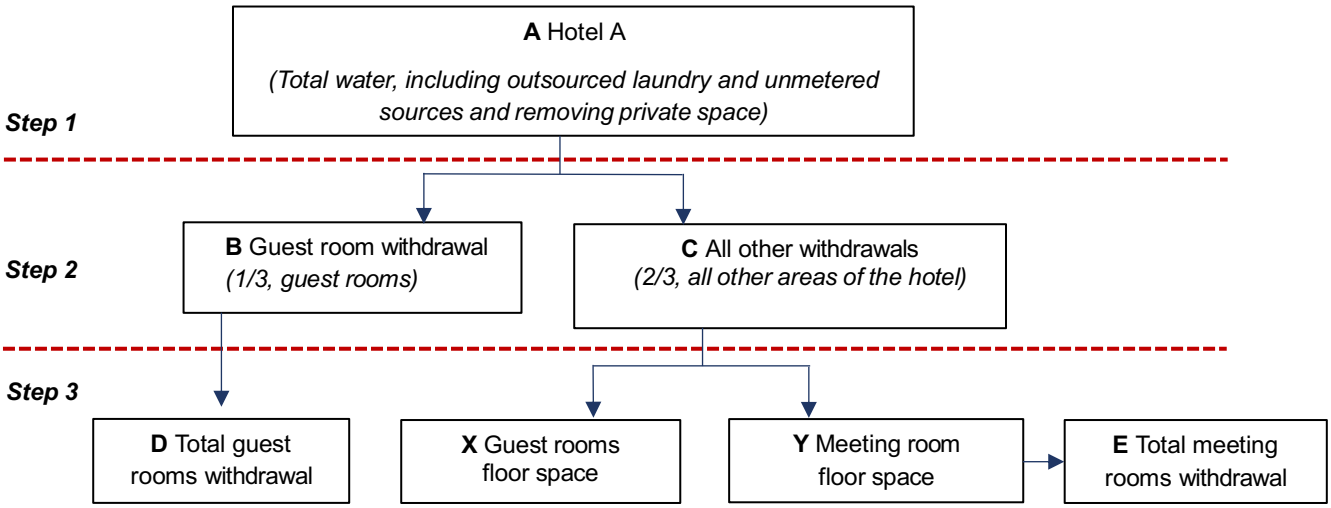
Based on the information in Table 6a, the floor space in Hotel A is split between guest rooms and meeting rooms. The total water withdrawal associated with uses other than from guest rooms of Hotel A is 205,892,000L.

The 205,892,000L of water needs to be split between guest rooms and meeting rooms based on the ratio of floor space.

Figure 4 below shows how water is apportioned between the relevant uses.

Figure 4: Water withdrawal apportionment

Where: X = guest room floor space; Y = meeting room floor space; A = Total water withdrawal; B = Guest room use (i.e., 1/3); C = All other uses (i.e., 2/3); and D = Total guest room use.



Steps 2.1 to 2.2 within Table 6c below explain how the total water withdrawal has been apportioned for Hotel A.

Table 6c: Water withdrawal apportionment

Step	Equation
Step 2.1: Total guest room withdrawal	$((C/(X+Y) * X) + B = D$ $((205{,}892{,}000\text{L}/(35{,}000+500) * 35{,}000) + 102{,}946{,}000\text{L} = D$ $305{,}938{,}113\,L$
Step 2.2: Meeting room withdrawal	$((C/(X+Y) * Y) = \text{E}$ $((205{,}892{,}000\text{L}/(35{,}000+500) * 500) = \text{E}$ $2{,}899{,}887L$

Step 4 – Working out water withdrawal per occupied room-night (ORN)

The total water withdrawal of guest rooms within Hotel A is as follows (see Table 6c for details):

- $305{,}938{,}113L$

Based on a total number of occupied room-nights (ORN) of 105,000, the total withdrawal per ORN, can be calculated as follows:

- Total per ORN = $305{,}938{,}113L/105{,}000 = 2{,}914L\,per\ ORN$

Should the hotel wish to calculate the total water withdrawal per guest night, this can be calculated as follows:

- Total per guest night = $305{,}938{,}113L/120{,}000 = 2{,}549L\,per\ guest\ night$

Step 5 – Working out water withdrawal per area of meeting space

The total water withdrawal of meeting rooms within Hotel A is as follows (see Table 6c for details):

- $2{,}899{,}887\text{L}$

Based on a total area of 500m^2, the total use per m^2 of meeting room space (annually and per day, assuming the hotel is open 365 days each year and the meeting rooms are used every day for 10

hours)[9] can be calculated as follows:

- Total per m^2 of meeting space (per hour, based on a 10-hour working day) = $2{,}899{,}887L / 500 / 365 / 10 = 1.59L/m2\text{-hour}$

Should it be requested by a client or required for internal reporting, HWMI allows the total water withdrawn to be calculated for a specific event/meeting. In order to calculate the water withdrawn by a specific event/meeting, the following information is required:

- Number of occupied room-nights required for the meeting/event;
- Meeting space occupied for the meeting/event; and
- Hours of meeting/event.

Based on an event requiring 57 occupied room-nights and 500 m² of meeting space for 10 hours at Hotel A, the following can be calculated:

- Client guest room water withdrawal: $57\ occupied\ room\text{-}nights * 2{,}914\ \text{L}\ per\ occupied\ room\text{-}night = 166{,}098L$
- Client meeting water withdrawal: $500m2\ meeting\ room * 10\ hour\ meeting * 1.59L/m2\text{-hour} = 7{,}950L$
- Total client meeting water withdrawal: $166{,}098L + 7{,}950L = 174{,}048L$

Step 6 – Recycled water share (optional)

Because the hotel has water recycling, the share of total water withdrawal in the year that is recycled can be determined as follows:

- Total recycled water share: 2,500,000L / 308,838,000L = 0.81% (reported as 0.8%)

Note that water withdrawal in private space is not included in this calculation.

Step 7 – Estimated water share (optional)

- Total estimated water: (61,795,600L + 6,400,000L + 204,400L + 248,000L) / 308,838,000L = 22.2%

Note that water withdrawal in private space is not included in this calculation.

Step 8 - Determine Water Stress

To determine a hotel's water stress, the hotel's address or geographic coordinates are entered into the WRI's Aqueduct tool.

Hotel A's Address – 1324 Main Street, Houston, Texas 77002

The water stress for Hotel A is determined by using the 'Baseline' tab in the WRI Aqueduct tool and selecting the annual temporal resolution and Water Stress indicator. Hotel A's address or geographic coordinates are then entered in the Analyze section, allowing Aqueduct to map Hotel A's location to the relevant major basin, minor basin, and aquifer, and assign the corresponding basin-level water stress risk. Under current annual conditions, Hotel A is classified as having a Medium-High (20-40%) water-stress risk.

[9] Hotels with more detailed data on their own annual meeting room usage can enter their own average hours/day instead of the default. Hotels that are not operating during the full year should use their days open, instead of 365. This data should be maintained as part of the verification process.

Appendix 1: Original methodology development

This section gives brief historical context for the original HWMI development process and updates made for v2.0.

Overview of approach

To develop the methodology, the following steps were originally taken:

- A questionnaire was developed and distributed to members of the Working Group to collect information on current approaches relating to water withdrawal measurement, data collection, and reporting methods;
- Key principles of existing water measurement methodologies and datasets that could be applied to HWMI were identified through research and analysis;
- The principles of the Global Reporting Initiative (GRI) and World Resources Institute (WRI) were integrated into the overall methodology for the HWMI to provide a robust and consistent framework for the industry; and
- Engagement with key stakeholders and research into relevant data and information sources to define the boundary, scope of activities, and the key metrics that form the basis for the calculation tool.

Questionnaire

The first step in developing the methodology was collecting information on water metric measurements from the Working Group via a questionnaire.

Key findings

A summary of the key findings that informed the design of the HWMI methodology is presented in Table 7 below.

Table 7: Summary of key findings from the questionnaire

Area	Summary of finding
Metrics and request for information	All respondents measured total water withdrawal and use per ORN with varying methodologies. Other intensity metrics included: water withdrawal by total square footage; number of rooms; built hotel; and turnover.
Reporting boundaries	No respondents measured the water consumed in outsourced laundry at the time of the questionnaire. However, some did include water withdrawn by 'non-core' facilities (i.e., spas, golf courses, etc.).
Internal processes	Respondents were using internal systems to report water data. However, issues were raised regarding the accuracy of the data in these systems.
Data accuracy and completeness	Estimations were used by 78% of respondents to fill data gaps (e.g., extrapolating withdrawal data from other hotels or excluding hotels without metered supplies from reporting). Unmetered supplies and other water sources (e.g., grey water or rainwater) were generally either not measured or not used.
Developing and applying HWMI	Data availability and questions over accuracy were the main challenges to developing and applying HWMI presented by respondents. Other challenges included setting boundaries, staff training, and the perceived low value of water.

Next steps

Where necessary, these findings were followed up directly with respondents to clarify any gaps and seek further details on answers provided. Following this, the findings were used to inform the review

of several current water reporting methods, frameworks, datasets, and research.

Methods review, research, and analysis

A review of water method calculations, tools, questionnaires, white papers on the subject, and relevant global datasets (hereafter referred to as “methods”) was conducted to identify common approaches and themes within existing water measurement methodologies.

The methods review included those identified by the Working Group members in response to the questionnaire, in addition to internal insights and tools recommended by CDP and GRI.

Work conducted by the HCMI was also considered during this stage of the initiative and used to help develop a set of recommendations for the development of a draft HWMI methodology.

Metrics and boundaries

The results of the questionnaire and additional research highlighted that defining key metrics and boundaries was integral to establishing a consistent tool for calculating water withdrawal. Each topic was discussed by the Working Group in separate meetings to establish an agreed upon approach that would be effective at meeting the goal of HWMI.

Metrics

Defining the metrics used within the methodology is essential to ensuring a consistent approach that could be applied across the hotel industry. Both the metric scope and the resulting intensity metrics were discussed and agreed upon by the Working Group.

The tables below provide a summary of the metric scopes and intensity metrics agreed by the Working Group, along with their relevance to the water withdrawal calculation.

Table 8: Agreed metric scope

Metric scope	Outcome	Notes
Water withdrawal: • Water withdrawn: all water drawn into the boundaries of the organization from all sources (GRI); or • Water consumed: amount of water that is used but not returned to its original source (CDP).	Consistency with the GRI/CDP.	Definitions agreed during Working Group call #4, 22/07/15.
Water sources: • Water brought into the boundaries of the hotel (including outsourced laundry facilities).	All water sources drawn into the boundaries of the hotel should be reported. Outsourced laundry is a material source of water withdrawal. Consistency with HCMI.	Definition agreed during Working Group call #4, 22/07/15.
Harvested rainwater (i.e., rainwater accumulated for use on-site rather than allowed to run off).	If a hotel is harvesting rain, then it should be counted. This source (even if non-potable) is extracting from water cycles and therefore should be accounted for.	Definition agreed with the Alliance members during HWMI update in May 2020.
Internal recycled water (i.e., previously used water that is treated for reuse within the hotel premises).	Recycled water is not taken into account in the calculations. Hotels would not need to measure the amount of water recycled within their premises but could choose to do so and disclose this information separately. Hotels that recycle water would benefit from a lower HWMI withdrawal as less water would be needed from other sources.	Definition agreed during Working Group call #4, 22/07/15. Optional inclusion added based on conversations during the Working Group call 08/12/25.

Table 8 continued: Agreed metric scope

Metric scope	Outcome	Notes
Water discharges (i.e., entry to surface water of controlled waters).	Water discharges are excluded. Water discharges should be considered by hotels in line with local regulations, but do not form part of a hotel's water withdrawal and could be considered in future refinements to the HWMI methodology.	Definition agreed during Working Group call #4, 22/07/15.
On-site desalination (i.e., freshwater produced with desalination facilities operated by and for the hotel).	On-site desalinated water is included on the basis that: Many members report under CDP and GRI Water is a resource that needs to be measured from all sources. Reporting on on-site desalinated water gives a truer picture of a property's water withdrawal and will facilitate easier benchmarking. On-site desalination is not always seawater; it is, on occasion, used for treating poor-quality groundwater.	Definition agreed during Working Group call #10, 04/08/15.
Ground and surface water.	Ground and surface water should be counted in HWMI metrics. Like with rainwater, use of ground and surface water is extracting from water cycles and therefore should be accounted for.	Ground and surface water has been included since HWMI 1.0, but its inclusion was clarified during the Working Group call 08/12/25.
Apportionment of total water withdrawal to guest rooms and meeting spaces.	HCMI Water and Waste Sub-Working Group suggested that water withdrawal is allocated between occupied guest room use, meeting rooms, and all other uses. An occupied guest room accounts for 1/3 of total water withdrawal, with all other uses accounting for 2/3. Recommended apportionment method for the HWMI is sourced from the Alliance's Environmental Management for Hotels Manual and is based on: • An average water withdrawal per person per day; and • An estimate of kitchen water withdrawal for meals prepared for non-guests meeting attendees.	Methodology agreed during Work Group call #5, 08/09/15.

Table 9: Agreed intensity metrics

Intensity metric	Rationale	Notes
Water withdrawal per occupied room-night (ORN).	Consistency with HCMI. Matches the request from the Global Business Travel Association (GBTA) and requirements of meeting planners. ORN is a more commonly used metric than number of guests (based on questionnaire and methods research, which suggested water withdrawal per guest is not always possible).	Metric agreed during Work Group call #4, 22/07/15.
Water withdrawal per guest night.	May be calculated by hotels if requested by stakeholders. Hotel Groups may also use guest nights (instead of occupied rooms) as a metric to benchmark their hotel's performance (where the average number of guests per room varies between hotels).	Metric agreed during Work Group call #4, 22/07/15.

All unchanged metrics from HWMI v1.0 were confirmed during the Working Group call on 08/12/25 as part of the v2.0 update process and are aligned with the Alliance's Universal KPIs.

Water withdrawal boundaries

The questionnaire and research findings highlighted the importance of clear boundaries for water sources, which effectively captured the correct data and excluded activities not related to the hotel.

The hotel's boundaries in terms of water sources are as follows:

- All activities within the hotel premises and outsourced laundry, excluding 'private space'.

The above is consistent with HCMI. Further detail on the specific water inclusions and exclusions can be found in Table 2 within the 'Key information' section of this document.

HWMI – 2026 update: Key changes

In 2026, the HWMI methodology was revised based on Members' recommendations regarding challenges with its use. A brief summary of the changes is captured in the table below.

What	Revised
Water sources	Provided a clearer option to enter ground/surface water, "other water" field added.
Recycled/reused water	Optional ability to enter quantity of water recycled or reused to highlight progress in this area. Recycled/reused water is still excluded from the intensity metrics.
Water scarcity	Water scarcity is now a recommended calculation within HWMI. WRI Aqueduct is the recommended tool for calculating water scarcity. To ensure consistency, water scarcity is determined using the WRI Aqueduct 'Baseline' tab with the following selection: **Temporal resolution:** Annual **Indicators:** Water Stress
Output metrics	Output metrics now display in both per occupied room-night (ORN) and per guest night as the denominator, to align with WSHA's Universal KPIs.
Sub-metered water	Users with sub-metered water data are now encouraged to input specific data to improve tracking of main water withdrawals on-site.
In-sourced laundry	New discussion of treatment for laundry that is done at a hotel for third-party customers.
Estimated data share	New calculation showing share of water withdrawal from estimated data to help review data quality.
Outlier data	New check for reviewing outlier data against benchmarks.
Verification	HWMI language and data requirements updated for optional audit-readiness and compatibility with WSHA assurance (where applied).

Appendix 2: Water scarcity tools

There are various third-party tools available that allow properties to understand their water withdrawal in the context of water scarcity. Based on the results of the methods review, the following tools have been highlighted as the easiest and most pragmatic tools available. However, it should be noted that the examples are provided for reference only; there are other tools available that have not been referenced below.

WRI Aqueduct

The WRI Aqueduct is a framework to assist Users in understanding and managing their water withdrawal. **WRI Aqueduct is used in HWMI v2.0 for water-stress metrics, as noted above**.

WRI's Aqueduct evaluates water risk at the property level by mapping each location to its corresponding hydrological basin. Using spatial analysis, Aqueduct assigns basin-level water risk indicators to a property based on its geographic location. The tool assesses a range of physical, regulatory, and reputational water risks. For consistency and comparability, this analysis will focus solely on Baseline Water Stress (BWS).

Aqueduct provides forward-looking projections for multiple time horizons and scenarios (2030, 2050, and 2080, modeled under three different scenarios: optimistic, business as usual, and pessimistic). For HWMI v2.0's methodology, current annual water stress conditions are used instead of future projections or monthly data. Aqueduct is expressed using a standardized qualitative scale: Low, Low to Medium, Medium to High, High, and Extremely High. This scaling allows for direct comparison across assets and regions.

To obtain this metric in the Aqueduct tool, Users will navigate to the *Baseline* tab within the tool and maintain the *Annual* selection for temporal resolution and select *Water Stress* for indicators. Under the *Analyze* dropdown, Users will then enter geographic coordinates or a property address, which Aqueduct will then convert into latitude and longitude coordinates. These coordinates are overlaid onto Aqueduct's hydrological basin grid to identify the applicable basin and assign the corresponding water stress value. All assets located within the same minor basin will receive the same baseline water stress classification.

For portfolio-level analysis, Aqueduct provides two Excel upload templates that allows Users to submit multiple properties using unique identifiers, a location name, and either location's address or geographic coordinates, depending on the template selected. Once uploaded, Aqueduct will generate the corresponding water stress classification based on the User's selection.

Other Tools

The remaining tools are optional water risk measurement tools that may be of interest to HWMI users, but are not components of the HWMI Methodology Standard or the HWMI tool.

World Wildlife Fund Water Risk Filter

The World Wildlife Fund (WWF) Water Risk Filter has been developed to help companies assess their water risks and provides mitigation responses at a facility (i.e., hotel) level.

The tool works by providing a high-level risk assessment based on the name of a facility, the industry, and its location. A detailed assessment can be obtained by completing a questionnaire about the facility's specifics. This detailed assessment includes underlying individual risk indicators relevant to the facility, water scarcity and pollution maps, and examples of mitigation responses based on the three highest risks associated with the facility.

The World Sustainable Hospitality Alliance Destination Water Risk Index (DWRI)

The Destination Water Risk Index (DWRI) rates destinations globally from low to high water-related

risk, to help prioritise action in destinations facing high water-related risks, including water scarcity. The DWRI (2nd edition, March 2023) is a joint initiative of Greenview, the Sustainable Hospitality Alliance, STR (a CoStar Group Company), and Ecolab, and includes 379 destinations across 63 countries. It incorporates nine risk metrics across three risk types: physical, financial, and market. DWRI outputs can be used as contextual, destination-level water risk information to inform water stewardship prioritisation and planning alongside HWMI water withdrawal and intensity results.

See the DWRI report for methodology, coverage, and detailed results.

Ecolab Water Risk Monetizer

The Smart Water Navigator Platform is an online tool that helps organizations understand their water-related risks, set water goals, and identify actions to address those risks. The platform evaluates how changes in water quantity and water quality could affect business operations and helps translate those risks into practical insights. The platform is designed to bridge the gap between what a company pays for water and the broader operational and financial risks that can arise from water scarcity or water quality issues. One feature of the Smart Water Navigator is the Water Risk Monetizer.

The Water Risk Monetizer tool helps businesses assess water-related risks in financial terms. It uses a model developed by Trucost to quantify the potential impacts of water scarcity on a business, expressed as a monetary value. The model uses local information on water scarcity to provide an output specific to the business.

The tool's output provides guidance on the full value of water at the business level (if supply and demand were accurately reflected in the cost of water withdrawal) and the estimated amount and likelihood of revenue that could be lost by the business due to the impact of water scarcity on operations.

Appendix 3: HWMI Claims/Communications Guidance

This appendix provides high-level guidance on communicating information based on calculations performed using the HWMI Methodology Standard. Any claims or statements referencing HWMI should be clear, relevant, and accurate, and should not be misleading about what has been calculated and (where applicable) what has been independently verified/assured.

HWMI is designed to measure and report water withdrawn per occupied room-night (ORN) (and per guest night, where data are available) and per area of meeting space per hour. Use of HWMI for calculations does not in itself confer, imply, or allow “green”, “sustainable”, “low-water”, or similar environmental claims about a hotel or hotel group. Use of the HWMI Methodology Standard does not imply endorsement, approval, certification, verification, or assurance by the World Sustainable Hospitality Alliance (WSHA).

Hotels that directly follow the core HWMI methodology may state that their water withdrawals are “calculated according to the HWMI Standard v2.0”.[10] Hotels that calculate water withdrawals using some HWMI elements and some elements from different methodologies can claim their water withdrawals are “calculated with reference to the HWMI Methodology Standard v2.0”. Where this wording is used, the User should disclose the main deviations from HWMI Methodology Standard v2.0. Additionally, the methodology version should be clearly marked, and hotels should refrain from comparing water withdrawals calculated utilizing different methodology versions, as there are limitations to direct cross-version comparison.

Verification- and assurance-related claims (including any statements about assurance status) are subject to WSHA’s assurance system and related claims rules to be published. Until WSHA’s assurance system is published and effective, all HWMI results shall be treated as self-reported and unassured.

[10] “HWMI Methodology Standard v2.0” in this language can be replaced with future version numbers or names, if changed at a future date.

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