Water
STANDARD

FOR PROJECTS

COMMERCIAL INTERIORS

AND

CORE & SHELL

Disclaimer

We are currently in our **intent stage** of our standard development process.

All of our standards go through the following phases during development:

1. **Intent**
   Share our intent and initial considerations with the wider community and receive feedback.

2. **Review**
   Peer review of specific concepts and numbers.

3. **Finalize**
   Final edits and polish before the standard is official.

The final standard might be different from what you see right now.

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3.2.0 The Intent of RESET Water

RESET Water standardizes the continuous monitoring requirements of water consumption and water quality in built environments to generate awareness around water conservation and improve water use efficiency and water quality.

The intent of the RESET Water Standard is to:

- Promote the continuous monitoring of water consumption and water quality in the built environment.
- Standardize how water consumption and water quality is measured in order to facilitate the benchmarking of projects.
- Advocate awareness and transparency around water by reporting the data to project occupants to foster education and understanding of water consumption and water quality for opportunities to improve upon baseline metrics.
- Raise public awareness of water consumption and the impact it has on the environment.
- Raise public awareness of water quality impacts on human health and comfort.
- Gamify the data to create incentives for better water usage and better water quality.

Ultimately, RESET Water strives to incentivize water visibility to enable faster feedback loops for improvement in water conservation, access, and quality.

3.2.1 What is RESET Water

The RESET Water Standard is a data-driven standard for evaluating the building performance, as it pertains to water, by standardizing the continuous monitoring requirements of water in built environments.

RESET is first and foremost a standard for data quality. Performance results are only as good as the data being assessed. RESET addresses data quality at the source and specifies requirements for the monitors and the deployment methodology in a project. RESET also makes sure the data is trusted and relevant by requiring monitors to be installed in the right way and to have plans for long term maintenance. Lastly, RESET sets requirements for how the data is reported and connected to guarantee transparency and access via analysis and reporting. The quality of data verifies that the data is true and reflects the actual situation.

Essentially, the RESET Water Standard takes into consideration aspects including monitor performance, deployment, and installation requirements, as well as data reporting and data platform requirements.

RESET Water is performance-based and will leverage the RESET Leaderboard, where projects will be benchmarked anonymously against each other with the goal of highlighting projects that excel so other projects can learn more about the solutions and services they leverage.

3.2.2 How RESET Water Works

RESET Water consists of three levels: Components, Indicators, and Data Parameters.

Components
Components are stand-alone sections within a standard that can be implemented and scored independently. In RESET Water, components include **Total Water** and, **General Water Quality**, and **Potable Water Quality**.

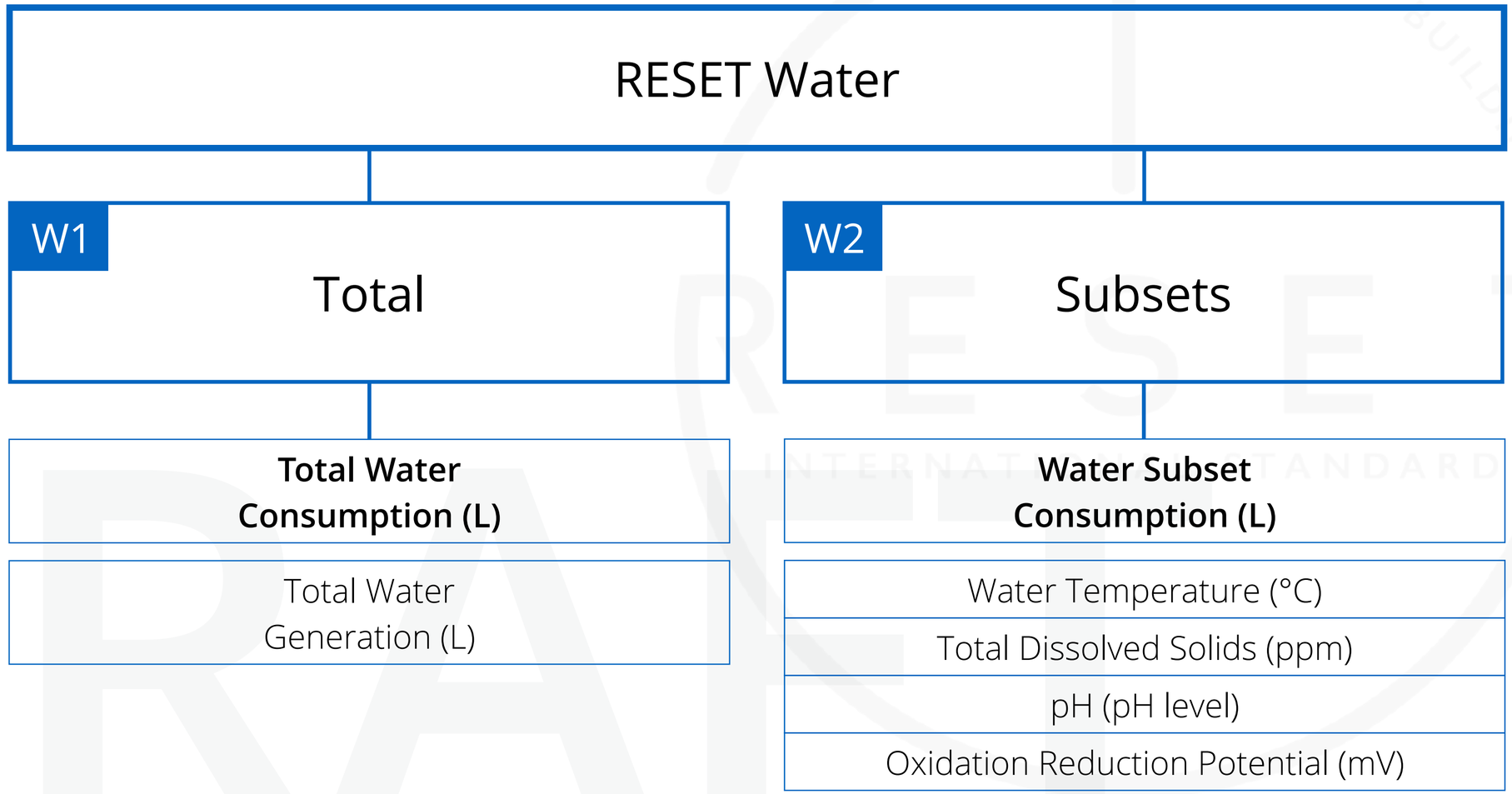
Indicators
Within each Component, there are Indicators, a specific water indicator that requires continuous monitoring within a Component. For example, the indicators in the Total Component includes **Total Water Consumption** and **Total Water Generation**.

Data Parameters
The **RESET Standards** are built on a foundational core comprised of three key data criteria: **Completeness**, **Quality**, and **Performance**. These three criteria all have their own unique requirements depending on the standard.

For **RESET** Water, each Data Parameter will have requirements and targets for the data collected via continuous monitoring.

3.2.3 Components and Indicators

RESET Water consists of three Components, targeting different aspects of a built environment. Each Component collects data via Indicators.



3.2.3.1 Components and Indicators

W1 Total

Total represents the total volume of water used (and if applicable, generated) by the project within the project boundary. Measuring Total Water allows project teams to see how much water is being used as well as when and why they are using it. The data collected is an essential step towards water efficiency and water conservation efforts.

Total is a compulsory component for **RESET** Water **Project** accreditation and requires that project teams meter total volume of water consumed in the project.
Optionally, total water generated (i.e. collected rainwater) can be monitored.

Indicators include:

- Total Water Consumption (L)

Optional indicators include:

- Total Water Generation (L)

3.2.3.2 Components and Indicators

W2 Subsets

Subsets represents the water consumption for water subsets within the project boundary. **Subsets** specifies the different categories of water consumption in a project. Continuous monitoring of water subsets allows project teams to see how much water is being used, when it is being used, and where it is being used. The data collected is an important step towards water efficiency and water conservation efforts.

Subsets is an optional component for **RESET Water Project** accreditation. It requires that project teams measure the water consumption within the defined water subset. Examples of subsets include “filtered drinking water”, “shower water”, “grey water”, etc.

Optionally, water quality metrics can be monitored to measure additives and/or other contaminants that can affect how water feels to the touch or smells. Water quality includes water temperature, TDS, pH, and ORP monitoring.

Indicators include:

- **Water Consumption (L)**

Optional indicators include:

- **Water Temperature (°C)**
- **Total Dissolved Solids (ppm)**
- **pH (pH level)**
- **Oxidation Reduction Potential (mV)**

3.2.4 Data Parameters and Requirements

RESET Water is, at its core, a data standard.

To maintain high quality, continuous monitoring data, there will be requirements and targets for each Indicator using three distinct data parameters:

1. Completeness
2. Data Quality
3. Performance

3.2.4.1 Completeness

Completeness represents the amount of data. Requirements and targets relate to how much data is collected and how much is lost. For example, if there is a large amount of data missing, it will not be reflective of the actual scenario.

Completeness for **RESET** Water defines the following:

1. Data Interval
2. Data Loss

3.2.4.1.1 Completeness
Data Interval

RESET Water requires data to be tracked through continuous monitoring.

Raw data from the monitors should be reported at an interval of no more than 30 minutes. Data is expected to be updated at least once every 24 hours.

3.2.4.1.2 Completeness
Data Loss

During continuous monitoring, it is possible for data loss to occur due to connectivity issues. RESET Water limits the amount of data that can be loss due to connectivity issues. There should be no more than 20% of data loss per month, based on operating days. A day is considered with the data loss if there are less than 4 data points for that day.

Refer to **RESET Data Analysis Methodology** (under development) for more information.

3.2.4.2 Data Quality

RESET is first and foremost a standard for data quality. Performance results are only as good as the data being assessed.

RESET addresses data quality at the source and specifies requirements for the monitors and the deployment methodology in a project. RESET also makes sure the data is trusted and relevant by requiring monitors to be installed in the right way and to have plans for long term maintenance. Lastly, RESET sets requirements for how the data is reported and connected to guarantee transparency and access via analysis and reporting. The quality of data verifies that the data is true and reflects the actual situation.

Data Quality represents the reliability and trustworthiness of the data provided for an Indicator. This involves confirming the monitoring hardware, data collection/provider software, and the way the monitors are installed.

Data Quality for RESET Water defines the following:

1. **Data Provider Requirements**
2. **Monitor Requirements**
3. **Monitor Installation Requirements**
4. **Monitoring Deployment Requirements**

These sections are available in the following pages.

3.2.4.2.1 Data Quality
Data Provider Requirements

Data Providers are responsible for collecting and aggregating data from monitoring hardware, into the cloud, according to **RESET** requirements.

Water data must be accessible to project occupants:

a. **RESET** Water **Projects** must provide project occupants access to daily water data. Project occupants include tenants, employees (full and part-time as well as maintenance and cleaning staff), guests and visitors who at any time occupy the project for more than one hour per day.

b. Acceptable methods of data access include, visual display screens in public, community or shared work areas, phone apps, web apps, graphic signage with http address or QR code that directly connects users to the app or website where the data can be viewed.

For the purposes of project certification, water data must report to the **RESET Cloud**:

c. Projects must use a **RESET** Water **Accredited Data Provider** that reports to the **RESET Cloud**. The data is to be collected and transferred to the **RESET Cloud** for assessment purposes.

For more information, please refer to the **RESET** Water **Accredited Data Provider Requirements** (under development).

3.2.4.2.2 Data Quality
Monitor Requirements

RESET Water requires continuous monitoring for water consumption.

For the water monitors, they must fulfill the following requirements:

1. All continuous monitoring water monitors will need to demonstrate the ability to stream data into the cloud to a data provider.
2. The data collected by water monitors for water consumption and generation need to be cumulative over time instead of recording the amount of water used between a certain period of time. This prevents data loss in the case of unstable connectivity.

Monitor Testing and Accreditation

RESET Water does not currently test or certify water monitors. Prior to project deployment, water monitors must be submitted, reviewed, and accepted by the RESET team for use on a case-by-case basis.

3.2.4.2.3 Data Quality
Monitor Installation Requirements

There are no monitor installation requirements for RESET Water.
(Note that requirements might be developed after initial pilots.)

The expectation is that monitors installed will be permanent and stable for long term usage. Considerations include:

- Installed permanently onto the water pipes.
- Connected to permanent power.
- Have internet connectivity.

3.2.4.2.4 Data Quality

Monitor Deployment Requirements

Monitor deployment for **RESET** Water is determined after defining an initial project boundary. The project boundary is defined as the space or region within the built environment that will be within the scope of monitoring.

Once the project boundary is defined, monitor deployment requirements include the following:

1. Monitoring must collect data that encompass all water used within the project boundary. This applies to all components and indicators.
2. For the component, **Subsets**, monitoring must collect only data that applies to that water subset within the project boundary.
3. **Fit for purpose allowance**: a side pipe can be used if necessary, in the incident that the water monitor is not designed for the total water volume or velocity of the pipe for which it is attempting to monitor. The water monitor will sample the water flowing through the side pipe, which should be representative of the main pipe.

For **RESET** Water **Projects**, monitor deployment requirements will be verified via the **Documentation Audit** and **Site Audit**.

3.2.4.3 Performance

Performance is the data provided for an Indicator in terms of its performance metrics. For RESET Water, there are no specific performance targets for a project to hit, but there will be analytics done to compare how the project performs over time, as well as a benchmarking leaderboard to compare projects against others in the RESET ecosystem.

Performance for RESET Water defines the following:

1. Performance Targets
2. Performance Analysis

3.2.4.3.1 Performance
Performance Targets

RESET Water currently does not have Performance Targets. Instead, projects will be compared against itself over time and via anonymous benchmarking with other projects in the **RESET Leaderboard**.

Benchmarking on the **RESET Leaderboard** will optimize for localized targets based on the best performing projects in the region.

For water quality metrics, recommended targets depending on the subset will be published.

3.2.4.3.2 Performance

Performance Analysis

RESET Water performance analysis compiles the data from continuous monitoring into daily and monthly averages. The averages are used to create monthly baselines that can be used to compare the project against itself over time and against other projects via benchmarking in the **RESET Leaderboard**.

Additional analysis to better understand how a project is performing can be done by collecting meta data, including the size of the project, occupancy, and operating hours.

3.2.5 Project Typologies

The **RESET** Water **Standard for Projects** can be applied to both **Commercial Interiors** and **Core & Shell** typologies and can be applied to both new construction and existing projects.

Commercial Interiors

The **RESET** Water **Standard for Commercial Interiors Projects** targets an interior space. This typology focuses on the evaluation of water consumption and water quality within a set project boundary of the built environment.

Core & Shell

The **RESET** Water **Standard for Core & Shell Projects** targets the building and the public spaces managed by the building operator. This typology focuses on the evaluation of water consumption and water quality for building systems and public spaces.

3.2.6 Implementation

When implementing according to the **RESET** Water **Standard**, use the following steps:

1. **Establish a Project Boundary**
   The project should be defined by a clear boundary such that the project is physically distinct from other spaces of the built environment.

2. **Choose Components and Indicators**
   Choose the components and indicators that you want to monitor. For components, a project can pursue **Total** only or **Total** + **Subsets**. After selecting the components, select the relevant and optional indicators for the project.

3. **Installation and Deployment**
   Plan the optimal placement of water flow and water quality monitors, in addition to consideration on how the data will get streamed to a cloud connected data provider.

4. **Leverage the Data**
   Leverage the continuous monitoring data to better understand how the project is performing and explore opportunities on optimization.

3.2.7 Project Accreditation Process

A **RESET** Water **Project** can be accredited by **RESET** when they go through the auditing process.

The auditing process includes 3 parts:

1. **Documentation Audit**
   The Documentation Audit verifies that all the basic data for a project is complete and fulfills requirements. A project will submit documentation that includes the address, project size, floor plans, the defined project boundary, and a full water map that shows where the all the piping and plumbing are and where the monitors will be installed. Additionally, there will be metadata required for better analysis, including expected occupancy and expected hours of occupancy or operation.

2. **Site Audit**
   The Site Audit verifies that all the information in the Documentation Audit is correct and that the monitors are installed correctly. There will be a walk through of the actual project and a quick review of where each monitor was installed in the project space.

3. **Data Audit**
   The Data Audit is a continuous audit to confirm the continued monitoring of a space where the data provider for the project streams the data to the **RESET Cloud**. The data will be included in the **RESET Leaderboard** for benchmarking.

Once the Documentation Audit is completed, the project will be a **RESET** Water **Pre-Accredited Project.** Once the Site Audit is completed and the Data Audit is in process, the project will be a **RESET** Water **Accredited Project.**

3.2.8 Next Steps

This is a special slide highlighting some of the next steps for the **RESET Water Standard**. This slide will likely not exist in the final draft.

In the second half of 2021, we will be:

1. Taking feedback and improving the standard.
2. Running pilots of the standard.
3. Compiling the list of categories in the Subsets component.
4. Reviewing water quality indicators in terms of relevance and access.
5. Reviewing water flow and water quality monitors that fulfill requirements.
6. Development of the the **RESET Cloud** to support **RESET Water**.
7. Development of the the **RESET Leaderboard** to support benchmarking for **RESET Water**.
8. Setting up the project accreditation process.
9. Preparing content for the **RESET AP** program.

If there are any questions, feedback, or concern, please don't hesitate to reach out to us at **info@reset.build**.

End of RESET Water STANDARD - DRAFT V1