



Energy

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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4.2.0 The Intent of RESET Energy

RESET **Energy** standardizes the continuous monitoring requirements of energy consumption in built environments and brings to the forefront the carbon operating costs of the built environment.

The intent of the RESET **Energy** Standard is to:

- Promote the continuous monitoring of energy consumption.
- Standardize how energy consumption is measured so projects can be compared and contrasted against each other similar spaces.
- Report the data to project occupants to foster understanding of how they use their energy and how to improve upon their baseline.
- Raise public awareness of energy consumption and the impact it has on the environment.
- Gamify the data to create incentives for better energy usage.

Ultimately, RESET **Energy** strives to incentivize carbon visibility to enable faster feedback loops for improvement.

4.2.1 What is RESET Energy

The **RESET Energy Standard** is a data-driven standard for evaluating the building performance, as it pertains to energy, by standardizing the continuous monitoring requirements of energy 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 Energy Standard** takes into consideration aspects including monitor performance, deployment, and installation requirements, as well as data reporting and data platform requirements.

RESET Energy is performance-based, but does not set any performance targets. Instead, **RESET Energy** 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.

4.2.2 How RESET Energy Works

RESET **Energy** 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 Energy**, components include **Total** and **Subsets**.

Indicators

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

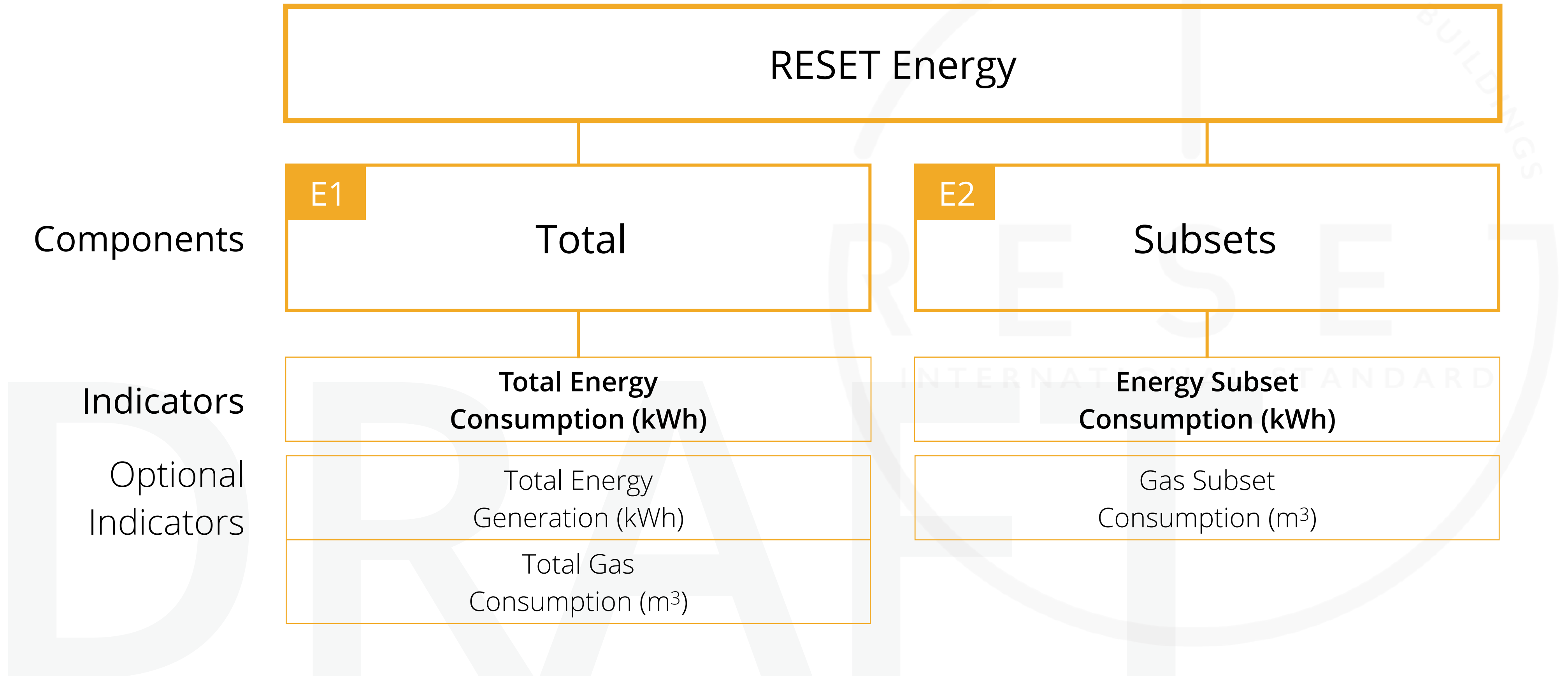
Data Parameters

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

4.2.3 Components and Indicators

RESET **Energy** consists of two Components, targeting different aspects of a built environment. Each Component collects data via Indicators.



4.2.3.1 Components and Indicators

E1 Total

Total represents the total energy consumption (and if applicable, generated) by the project within the project boundary. Continuous monitoring of total energy allows project teams to see how much energy is being used, as well as when it is being used. The data collected is an essential step towards energy efficiency and net zero targets.

Total is a compulsory component for **RESET Energy Project** accreditation and requires that project teams meter total volume of energy consumed in the project.

Optionally, total energy generation and total gas consumption can also be monitored.

Indicators include:

- Total Energy Consumption (kWh)

Optional indicators include:

- Total Energy Generation (kWh)
- Total Gas Consumption (m³)

4.2.3.2 Components and Indicators

E2 Subsets

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

Subsets is an optional component for **RESET Energy Project** accreditation. It requires that project teams meter the energy consumption within the defined energy subset. Examples of subsets include “lighting”, “HVAC”, “pantry”, “security systems”, “data room”, etc.

Optionally, gas consumption can be monitored as specific subsets.

Indicators include:

- Energy Subset Consumption (kWh)

Optional indicators include:

- Gas Subset Consumption (m³)

4.2.4 Data Parameters and Requirements

RESET **Energy** 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**

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4.2.4.1 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 Energy** defines the following:

1. **Data Interval**
2. **Data Loss**

4.2.4.1.1 Completeness Data Interval

RESET **Energy** 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.

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4.2.4.1.2 Completeness Data Loss

During continuous monitoring, it is possible for data loss to occur due to connectivity issues. **RESET Energy** limits the amount of data that can be lost 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.

4.2.4.2 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 **Energy** 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.

4.2.4.2.1 Data Quality

Data Provider Requirements

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

Energy data must be accessible to project occupants:

- a. **RESET Energy Projects** must provide project occupants access to daily energy 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, energy data must report to the **RESET Cloud**:

- c. Projects must use a **RESET Energy 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 Energy Accredited Data Provider Requirements** (under development).

4.2.4.2.2 Data Quality Monitor Requirements

RESET **Energy** requires continuous monitoring for energy consumption.

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

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

Monitor Testing and Accreditation

Because energy meters are already widely available in the market already, **RESET Energy** does not set standards or specifications the accuracy of energy monitors (until further notice), but the expectation is that the readings will be as accurate as the billing records of utility companies.

4.2.4.2.3 Data Quality

Monitor Installation Requirements

There are no monitor installation requirements for **RESET Energy**.
(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.
- Connected to permanent power.
- Have internet connectivity.

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4.2.4.2.4 Data Quality

Monitor Deployment Requirements

Monitor deployment for **RESET Energy** 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 energy (and optionally, gas) 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 energy subset within the project boundary.

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

4.2.4.3 Performance

Performance is the data provided for an Indicator in terms of its performance metrics. For **RESET Energy**, 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 Energy** defines the following:

- 1. Performance Targets**
- 2. Performance Analysis**

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4.2.4.3.1 Performance Performance Targets

RESET **Energy** 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.

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4.2.4.3.2 Performance

Performance Analysis

RESET **Energy** 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.

4.2.5 Project Typologies

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



Core & Shell

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

4.2.6 Implementation

When implementing according to the RESET Energy 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 energy and gas 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.

4.2.7 Project Accreditation Process

A RESET **Energy** 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 energy (and gas) map that shows where all the cabling and piping 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 Energy Pre-Accredited Project**. Once the Site Audit is completed and the Data Audit is in process, the project will be a **RESET Energy Accredited Project**.

4.2.8 Next Steps

This is a special slide highlighting some of the next steps for the **RESET Energy 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 energy and gas monitors that fulfill requirements.
5. Development of the the **RESET Cloud** to support **RESET Energy**.
6. Development of the the **RESET Leaderboard** to support benchmarking for **RESET Energy**.
7. Setting up the project accreditation process.
8. 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 **Energy** STANDARD - DRAFT V1

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