

ICS 35.240.99

CCS L 70



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 47474-2026

**General technical requirements for the energy efficiency
operation platform of civil buildings**

民用建筑能效运行平台通用技术要求

Issued on: April 30, 2026

Implemented on: August 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

Foreword...	4
1 Scope...	6
2 Normative references...	6
3 Terms and definitions...	7
4 Abbreviations...	8
5 Overall functional architecture...	8
6 Basic requirements...	10
7 Building equipment and facilities layer...	11
7.1 General requirements...	11
7.2 Data acquisition...	11
7.3 Response and execution...	12
8 Foundational support layer...	12
8.1 General requirements...	12
8.2 Edge processing...	12
8.3 Computing, storage...	13
8.4 Network...	13
9 Platform support layer...	13
9.1 Data management...	13
9.2 Equipment management...	14
9.3 Space management...	14
9.4 Permission management...	14
10 Application layer...	15
10.1 Operations management...	15
10.2 Energy consumption management...	18
10.3 Carbon management...	20
10.4 Energy efficiency optimization...	20
11 Safety requirements...	21
11.1 General requirements...	21
11.2 Data security...	21
11.3 Safety management system...	22
11.4 Personnel management...	22
12 Operations and maintenance management...	22

12.1 General requirements...	22
12.2 Operations and maintenance terminal security...	22
12.3 Security maintenance...	23
12.4 System disaster recovery and backup...	23

1 Scope

GB/T 47474-2026 is the Chinese national standard covering the platform that runs a building's energy performance - the metering and sub-metering it collects, the models and baselines it compares against, the diagnostics that find waste and the control actions it can take. First edition, in force since 1 August 2026. It was issued on 30 April 2026 and has been in force since 1 August 2026, as a first edition. The document is under the responsibility of the Ministry of Housing and Urban-Rural Development. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document outlines the overall functional architecture of energy efficiency operation platform of civil building. It specifies the platform's basic requirements, as well as the building equipment and facilities layer, infrastructure support layer, platform support layer, application layer, security requirements, and operation and maintenance management. This document applies to the planning, construction, and operation and maintenance of energy efficiency operation platform of civil building.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 17166, General principle of energy audits

GB/T 22239, Information security technology -- Baseline for classified protection of cybersecurity

GB/T 34913, Classification and presentation of civil building energy use

GB/T 35273, Information security technology -- Personal information security specification

GB/T 35274, Data security technology -- Security capability requirements for big data services

GB/T 39786, Information security technology -- Baseline for information system cryptography application

GB/T 43697, Data security technology -- Rules for data classification and grading

GB 50314, Standard for design of intelligent building

GB/T 50378, Assessment standard for green building

GB/T 51161, Standards for energy consumption of building

GB/T 51285, Standard for the energy-efficient effect evaluation of building energy performance contracting

GB 51348, Standard for electrical design of civil buildings

GB/T 51366, Standard for building carbon emission calculation

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 civil building A general term for buildings used for habitation and public activities.

[Source: GB/T 50504-2009, 2.2.2]

3.2 energy efficiency operation platform of civil building An integrated energy management system that leverages digital technologies - such as the Internet of Things (IoT), big data, artificial intelligence (AI), and Building Information Modeling (BIM) - to aggregate multi-source, heterogeneous data, including energy consumption metering, environmental sensor readings, and equipment operating status, within civil buildings.

3.3 energy consumption of building Energy supplied from external sources during the building's operational phase, including energy consumed to maintain the indoor environment (such as heating, cooling, ventilation, air conditioning, and lighting) and energy used for various activities within the building (such as office operations, household appliances, elevators, and domestic hot water). [Source: GB/T 51161-2016, 2.0.1]

3.4 edge computing A computing architecture that places data processing and storage at the edge of the Internet of Things (IoT). [Source: GB/T 41780.1-2022, 3.1]

4 Abbreviations

The following abbreviations apply to this document. AI. Artificial Intelligence BACnet. Building Automation and Control Networks BIM. Building Information Model/Modeling COP. Coefficient of Performance ECI. Energy Cost Intensity EUI. Energy Use Intensity MQTT. Message Queuing Telemetry Transport NB-IoT. Narrow Band Internet of Things PC end. Personal Computer End PUE. Power Usage Effectiveness

5 Overall functional architecture

The overall functional architecture of the energy efficiency operation platform of civil

building consists of four horizontal functional layers and two vertical support systems. It comprises six components: the building equipment and facilities layer, the basic support layer, the platform support layer, the application layer, security requirements, and operations and maintenance management. Each horizontal layer depends on the layer beneath it, while security requirements and operations and maintenance management span all four horizontal layers vertically. Detailed descriptions of each component are provided below.

- The building equipment and facilities layer encompasses systems such as heating and cooling sources, air conditioning and ventilation, water supply and drainage, power supply and distribution, lighting, elevators and escalators, renewable energy, environmental monitoring, and building equipment monitoring and control. It supplies the platform with various data resources - including energy consumption, equipment operating status, and basic building information - and responds to and executes control commands issued by the upper layer.
- The foundational support layer encompasses edge processing, computing, storage, and networking, providing stable and efficient technical resource support for the upper-level platforms and applications.

Figure 1 -- Overall functional architecture of the energy efficiency operation platform of civil building

6 Basic requirements

The platform shall carry out full-lifecycle planning, construction, and operation and maintenance in accordance with standards such as GB 55015, GB/T 34913, GB 50314, GB/T 50378, GB/T 51161, GB/T 51285, GB 51348, GB/T 51366, and JGJ/T 288, and shall comply with the following provisions.

- a) Planning and design shall be based on the specific functional use of the civil building, the categories of energy consumption, and the characteristics of the energy-consuming equipment;
- b) For the collection of energy consumption data at the building equipment and facilities layer, it is advisable to utilize the existing functions of systems such as building equipment monitoring and building energy efficiency supervision to achieve data sharing;
- c) Transmission media and cables shall be selected based on requirements such as the signal transmission method, transmission distance, system security, and environmental conditions.

7 Building equipment and facilities layer

7.1 General requirements Possess the following basic communication and operations & maintenance capabilities.

- a) It shall support wired and wireless network connections as well as various mainstream communication protocols - such as Modbus, BACnet, MQTT, and NB-IoT - tailored to different application scenarios, and provide standardized interfaces;