

ICS 29.240.01

CCS F 10



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

GB/Z 44642-2024

Energy internet system - General

能源互联网系统 总则

Issued on: September 29, 2024

Implemented on: April 1, 2025

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

Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 Basic Principles	1
5 System form	2
4 References	5

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document is proposed and coordinated by the China Electricity Council. This document was drafted by: State Grid Shanghai Energy Internet Research Institute Co., Ltd., China Electric Power Research Institute Co., Ltd., State Grid Co., Ltd., National Industrial Information Security Development Research Center, Hunan University, Hebei Jizhong New Energy Technology Co., Ltd., China Petrochemical Corporation China Railway Electrification Survey and Design Institute Co., Ltd., Huaneng Jiangsu Integrated Energy Services Co., Ltd. company. The main drafters of this document are. Liu Haitao, Lu Yiming, Yan Sheng, Sheng Wanxing, Liang Ying, Yu Hui, Wei Tao, Lv Guangxian, Qin Zheng, Tu Chunming, Wu Ming, Ji Yu, Lü Zhipeng, Han Ziyu, Wang Xiaoqi, Li Hanqing, and Zhu Jing. General Principles of Energy Internet System

1 Scope

This document sets out the general principles of the energy internet system: what the term covers, the elements such a system is composed of, and how they relate to one another. The energy internet is China's framing for what happens when electricity, heat, gas and transport stop being separate infrastructures and start being scheduled together, with information flowing as freely as the energy. It is a policy direction as much as an engineering one, and a general document is where the vocabulary gets fixed before the specific standards are written on top of it. Issued on 29 September 2024 by SAMR and SAC as a guiding technical document, in force from 1 April 2025, under the technical jurisdiction of the China Electricity Council. At 7 000 words it is short and foundational: the

place to start for anyone reading the Chinese literature on integrated energy systems.

This document establishes the basic principles of the Energy Internet system and specifies the system form and other requirements. This document applies to the interconnection and interaction between the power system and gas, heating/cooling, electrified transportation and other systems.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document. GB /Z 41237-2022 Energy Internet System Terminology

3 Terms and definitions

The terms and definitions defined in GB /Z 41237-2022 and the following apply to this document.

3.1 Energy Internet energyinternet With electricity as the core, it integrates heat, cold, gas and other energy sources, comprehensively utilizes Internet and other technologies, and deeply integrates energy systems and information and communication systems. The system coordinates the production, transmission, distribution, storage, conversion, consumption and trading of multiple energy sources, and has the characteristics of high efficiency, cleanliness, low carbon and safety. Source Internet. [Source: GB /Z 41237-2022, 3.1.1, modified]

3.2 Energy Internet Systemenergyinternetsystem Energy Internet (3.1) entities that realize energy interconnection and conversion, data collection and analysis, operation monitoring and control, business applications and transactions system.

3.3 Micro energy grid One of the forms of Energy Internet (3.1).

Note. A micro energy network is an energy Internet (3.1) built in a relatively small area with clear boundaries, which can operate independently and also be interconnected. [Source: GB /Z 41237-2022, 3.1.2, modified]

3.4 Energy Station Energy production, storage and operation facilities that meet the various load demands of electricity, gas, heat, cold, etc. for end users within a certain area. [Source: GB /Z 41237-2022, 3.2.1, modified]

4 Basic Principles

4.1 Reasonable openness The energy internet system is an open system that integrates multiple energy systems, integrates multiple sources of information, integrates multiple

transactions, and coexists with multiple goals.

chinastandards.org · PREVIEW