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**NATIONAL STANDARD OF THE
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GB/T 33757.2-2024

**Energy saving ratio for distributed energy system of combined
cooling, heating and power-Part 2: Multi-energies hybrid driven
systems**

分布式冷热电能源系统的节能率 第2部分：多能源互补驱动系统

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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.

This document is part 2 of GB/T 33757 "Energy Savings of Distributed Cooling, Heating and Electricity Energy Systems". GB/T 33757 has been published. The following parts.

- Part 1: Fossil energy drive systems;
- Part 2: Multi-energy complementary drive system.

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 was proposed and coordinated by the National Technical Committee for Energy System Standardization (SAC/TC459).

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Introduction

Distributed energy systems have important practical significance and far-reaching strategic significance for building a clean, low-carbon, safe and efficient modern energy system.

GB/T 33757 "Energy Saving Rate of Distributed Cooling, Heating and Electricity Energy Systems" focuses on the statistical scope of energy saving rate of distributed cooling, heating and electricity energy systems. Range and calculation method.

GB/T 33757 aims to establish an energy-saving evaluation method for distributed cooling, heating and power energy systems, which is intended to consist of three parts.

- Part 1: Fossil energy driven systems. The purpose is to give the distributed cooling, heating and power systems driven by gas or liquid fossil energy.

Technical requirements, statistical scope and calculation method for energy saving rate of power source system.

- Part 2: Multi-energy complementary drive system. The purpose is to give gaseous or liquid fossil fuels, gaseous biomass fuels, hydrogen, Renewable energy generation (wind power, solar power, etc.), grid power (electricity from the public power grid), external industrial waste heat, solar thermal energy, etc.

Energy cascade utilization characteristics, multi-energy complementary utilization characteristics and renewable energy utilization characteristics of distributed cooling, heating and power energy systems driven by multi-energy complementary Analysis and evaluation methods for bioenergy utilization characteristics.

- Part 3: Non-fossil energy driven systems. The purpose is to provide a distributed cooling, heating and power energy system driven by pure renewable energy Technical requirements, statistical scope and calculation method of energy saving rate.

Energy saving rate of distributed cooling, heating and power energy system Part 2:
Multi-energy complementary drive system

1 Scope

This document specifies the system definition and statistical scope, calculation method, system Implementation steps and methods of systematic evaluation.

This document applies to gaseous or liquid fossil fuels, gaseous biomass fuels, hydrogen, renewable energy generation (wind power, solar power, etc.), Grid electricity (electricity from the public power grid, limited to being used as power for fans and water pumps), external industrial waste heat, solar thermal energy and other multi-energy complementary drive system.

This document is not applicable to systems powered by purely renewable energy sources.

2 Normative references

GB/T 2587

GB/T 2589

GB/T 3484

GB 17167

GB/T 19001

GB/T 28750

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Set up near users, various types of power generation driven by fossil energy, renewable energy and hydrogen energy, and cascade and complementary use of various input Energy and systems An energy system that generates electricity and waste heat to produce cold and/or heat, and outputs electricity, cold and/or heat to users locally.

Note. Hereinafter referred to as multi-energy system.

3.2

The statistical timing period is a continuous operating year of one cooling season and one heating season.

Note. Hereinafter referred to as reporting period.

3.3

The total energy consumption of the multi-energy system under operating conditions is calculated with a full operating year of 12 consecutive months as the observation period.