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# NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA



# GB/T 33973-2017

## Guide for the energy efficiency assessment of raw material yards in iron and steel enterprises

钢铁企业原料场能效评估导则

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## Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard is proposed by China Iron and Steel Association. This standard by the National Standardization Technical Committee Steel (SAC/TC183) centralized. This standard was drafted unit. Southern Metallurgical Engineering Technology Co., Ltd., Metallurgical Industry Information Standards Institute, Baoshan Iron and Steel Co., Ltd., Wuhan Iron and Steel Co., Ltd., Hunan Hualing Xiangtan Iron and Steel Co., Ltd., Anshan Iron and Steel Group Mining Co., Ltd. The main drafters of this standard Ye Lide, Niu Runzhi, Wang Xiujie, Wang Jiangwei, Qiu Jinhui, Guilin, Raytheon, Yu Wei Gang, Yanqi Hong, Gao Jingjun, Fu Xiufang, Deng Biao, Jiang Wei, Xu Hailun, Shi Chunli, Gao Junchi. Steel enterprise raw material market efficiency evaluation guidelines

## 1 Scope

China's national guide to assessing the energy efficiency of the raw material yard at an integrated steelworks. It specifies the terms and definitions, the basic principles, the assessment procedure, the boundaries and energy consumption accounting, the baseline and actual energy consumption, the energy efficiency indicators, the analysis and the optimisation measures. The raw material yard is where iron ore, coal, coke, limestone and fluxes arrive, are stacked, blended and reclaimed, and are fed to the sinter plant and the blast furnace. It looks like the least technical part of a steelworks and it is not: stacker-reclaimers, conveyors, screens, crushers and dust suppression run continuously across a site measured in square kilometres, and the electricity they draw is a real share of the plant total. It is also the part where energy is easiest to waste unnoticed, because no single machine is large enough to attract attention. Setting a boundary, a baseline and a set of indicators is what turns that diffuse consumption into something a plant can manage.

This standard specifies the terms and definitions, basic principles, assessment procedures, boundaries and energy consumption statistics of energy efficiency assessment of raw material yards of steel enterprises, Baseline energy consumption, actual energy

consumption, energy efficiency index, energy efficiency analysis and energy efficiency optimization measures. This standard applies to the iron and steel enterprises in the field of energy efficiency assessment and energy saving potential analysis.

## 2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB 17167 energy-using units of energy measurement equipment and management of general rules

GB/T 21368 Iron and steel enterprises energy measurement equipment and management requirements

GB/T 23331 energy management system requirements

GB/T 28924 steel enterprise energy efficiency index calculation guide

GB 50541 iron and steel enterprises raw materials yard process design specifications

## 3 Terms and definitions

GB/T 23331, GB/T 28924 and defined by the following terms and definitions apply to this document.

3.1 Modified baseline energy consumption modifiedbenchnarkofenergyconsumption Taking into account the actual objective situation of the assessment object, the benchmark energy consumption per unit of product after the revision of the benchmark energy consumption.

## 4 Basic principles

Energy efficiency assessment of raw material yard should follow the following basic principles.

a) The principle of lawful compliance The object of assessment should be consistent with national laws and regulations, in line with the requirements of the steel industry policy, in line with the relevant energy-saving emission reduction Standard requirements

b) The principle of efficient use of energy to promote the efficient use of energy and rational allocation, encourage enterprises to adopt advanced energy-saving technologies or management measures, Improve low-energy production links;

c) Focus on key principles Focus on key processes and equipment with high energy consumption and great potential for energy saving, focusing on the main Essential factor

d) The principle of scientific and reasonable, within the conditions permitted, excluding the

impact of incomparable factors to ensure the comparability of evaluation indicators and evaluation Analysis of the rationality.

## 5 Evaluation steps

Raw material yard energy efficiency assessment should include but not limited to the following steps.