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温室气体核查意见书

授予

山东南山铝业股份有限公司中厚板分公司

必维认证（北京）有限公司（以下简称“必维”）受山东南山铝业股份有限公司中厚板分公司的委托，对山东南山铝业股份有限公司中厚板分公司报告的温室气体排放量进行独立的第三方核查，本核查意见适用于下文所述工作范围内的相关信息。

核查边界：

- 核查场所名称：山东南山铝业股份有限公司中厚板分公司
- 核查地址：山东省龙口市东海工业园
- 温室气体报告期限：2023 年 12 月 26 日 - 2024 年 12 月 25 日

组织边界：山东南山铝业股份有限公司中厚板分公司实施运营控制的活动和设施

报告边界：山东南山铝业股份有限公司中厚板分公司组织边界内，中厚板等产品的生产、销售及相关管理活动过程中产生的直接温室气体排放及其重要的间接温室气体排放

经核查的排放量：

- 类别1：直接温室气体排放：88,572.30 tCO₂e
 - 类别2：输入能源的间接温室气体排放（基于位置）：323,829.32 tCO₂e
输入能源的间接温室气体排放（基于市场）：297,402.32 tCO₂e
 - 类别3：运输的间接温室气体排放：763.42 tCO₂e
 - 类别4：组织使用产品的间接温室气体排放：3,664,918.14 tCO₂e
 - 类别5：与使用组织产品有关的间接温室气体排放：非重要间接排放，未量化
 - 类别6：其它来源的间接温室气体排放：非重要间接排放，未量化
- 经量化的总排放量（基于位置）：4,078,083.18 tCO₂e
经量化的总排放量（基于市场）：4,051,656.18 tCO₂e

限制性叙述：排除其他非重要间接温室气体排放

温室气体核查依据：

- ISO 14064-1:2018 温室气体 - 第1部分：组织层面温室气体排放和移除的量化和报告的要求及指南
- ISO 14064-3:2019 温室气体 - 第3部分：温室气体声明核查和审定规范及指南

保证等级：

- 合理保证

核查方法：

- 访谈相关人员；
- 评审提供的文件证据；
- 评估用于数据收集、汇总、分析和检查的量化方法和信息系统；
- 核查抽样场所和数据源。

核查结论：

认证机构地址：中国北京市东城区东长安街1号东方广场西一办公楼9层902室，邮编：100738
需进一步澄清本意见书的核查范围，可直接向本意见书持有者查询
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基于核查工作实施过程和核查发现，山东南山铝业股份有限公司中厚板分公司在盘查报告中提供的温室气体排放量数据，与ISO 14064-1:2018 温室气体 - 部分1：组织层面温室气体排放和移除的量化和报告的要求及指南是相符的。

独立、公正和胜任能力声明：

必维集团是一家拥有190多年历史，在质量、环境、职业健康安全和社会责任领域提供独立验证服务的机构。必维核查团队与山东南山铝业股份有限公司中厚板分公司及其管理人员不存在其它的商业关系，核查团队的核查活动是独立的、公正的，不存在任何利益冲突。必维集团在整个业务范围内实施商业道德准则，以确保员工在日常业务活动中保持最高的道德标准。

核查组长：侯溯源

核查日期：2025年03月11日

编号：EMICN100605A

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Greenhouse Gases Verification Opinion

is awarded to

SHANDONG NANSHAN ALUMINIUM CO., LTD. (SHEET/PLATE COMPANY)

Bureau Veritas Certification (Beijing) Co., Ltd. was engaged to conduct an independent verification of the greenhouse gases (GHG) emissions reported by Shandong Nanshan Aluminium Co., Ltd. (Sheet/Plate Company) for the period stated below. This verification opinion applies to the related information included within the scope of work described below.

Boundaries covered by the verification:

- Verification site name: Shandong Nanshan Aluminium Co., Ltd. (Sheet/Plate Company)
- Verification site address: Donghai Industrial Park, Longkou City, Shandong Province
- Reporting period covered: 26/12/2023 to 25/12/2024

Organizational boundaries: Activities and facilities of Shandong Nanshan Aluminium Co., Ltd. (Sheet/Plate Company) under operational control approach.

Reporting boundaries: GHG emissions generated in the production and sales of aluminum sheet/plate products and related management activities within the organizational boundaries, as well as significant indirect greenhouse gases emissions.

Emissions data verified under reporting boundaries:

- Category 1: Direct GHG emissions: 88,572.30 tCO₂e
- Category 2: Indirect GHG emissions from imported energy (location-based): 323,829.32 tCO₂e
Indirect GHG emissions from imported energy (market-based): 297,402.32 tCO₂e
- Category 3: Indirect GHG emissions from transportation: 763.42 tCO₂e
- Category 4: Indirect GHG emissions from products used by organization: 3,664,918.14 tCO₂e
- Category 5: Indirect GHG emissions associated with the use of products from the organization: Non-significant indirect emissions and not quantified
- Category 6: Indirect GHG emissions from other sources: Non-significant indirect emissions and not quantified

Total quantified emissions (location-based): 4,078,083.18 tCO₂e

Total quantified emissions (market-based): 4,051,656.18 tCO₂e

Limitations and exclusions: Excluding other non-significant indirect GHG emissions

GHG verification protocol used to conduct the verification:

- ISO 14064-1:2018 Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals
- ISO 14064-3:2019 Greenhouse gases - Part 3: Specification with guidance for the verification and validation of greenhouse gas statements

Level of assurance:

- Reasonable assurance

GHG verification methodology:

- Interview for relevant personnel;

Certification body address: Room 02, 9 / F, West Office Building 1, Oriental Economic and Trade City, Oriental Plaza, No.1 East Chang'an Street, Dongcheng District, Beijing, China. 100738

Further clarifications regarding the verification scope of this opinion may be obtained by consulting the organization.

To check this opinion validity please call: +86 10 59683663



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- Review of the documentary evidence;
- Evaluation of the methodology and information systems for data collection, aggregation, analysis and review;
- Audit of sampled sites and data to verify source.

Verification conclusion:

Based on the verification process and findings, the GHG emission data in the GHG inventory report from Shandong Nanshan Aluminium Co., Ltd. (Sheet/Plate Company) is in compliance with ISO 14064-1:2018 Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.

Statement of independence, impartiality and competence:

Bureau Veritas Group is an independent professional services company that specializes in Quality, Health, Safety, Social and Environmental management with over 190 years' history in providing independent assurance services.

No member of the verification team has a business relationship with Shandong Nanshan Aluminium Co., Ltd. (Sheet/Plate Company) and its directors or managers beyond that required by this assignment. We conducted this verification independently and to our knowledge there has been no conflict of interest.

Bureau Veritas Group has implemented a Code of Ethics across the business to maintain high ethical standards among staff in their day-to-day business activities.

Lead verifier: Stella Hou

No.: EMICN100605A

Version No.: No.1

Verification date: 11/03/2025

Issue date: 31/03/2025

Signed on behalf of
Bureau Veritas Certification (Beijing) Co., Ltd.